



#### **HUBBELL PREMISE WIRING**

A company committed to maintaining a tradition of excellence and delivering unmatched quality, innovation and reliability. No other company provides a broader range of products for every aspect of network connectivity.

Our reputation as an industry leader has been earned by developing high-performance systems and components.

Hubbell's product offering is continually expanding to provide performance and installation flexibility. Our products are designed to exceed current and existing standards, so you can feel confident you have selected a product that will last well into the future.

#### **HUBBELL ONE**

Hubbell's high performance products empower the enterprise by increasing productivity, reducing cost of ownership and leveraging new technologies for a competitive advantage. Our comprehensive infrastructure solutions provide best-in-class performance and one of the lowest total installed costs.

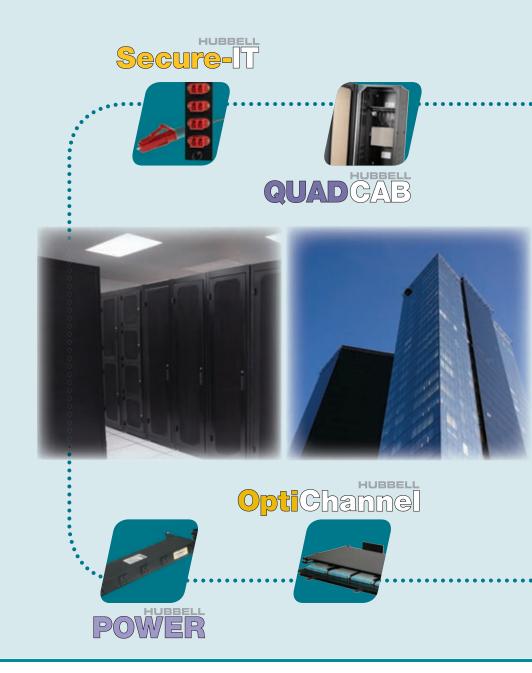
High performance connectivity through a single brand or open architecture, Hubbell One provides true choice without compromising performance.

Our systems are designed to maximize cabling system performance without sacrificing reliability. With Hubbell, the enterprise network runs with components that are third-party performance verified and backed by our 25-year MISSION CRITICAL® warranty.

How can one evolve the network to empower the entire enterprise?

The answer is

HUBBELL













#### **Best in Class Products**

Performance Leadership Durability and Reliability Extended Useful Life

#### **Installation Ease**

Reduced TCO

**Innovative Product** Upgrades Ease of Installation Labor Savings

#### Application/ **Customer Support**

Installation Guidelines Strategic Partnerships Mission Critical Warranty Third Party Verifications

#### Sustainability

Space Efficiency Reduction of Excess Waste Energy Efficiency RoHS Compliance

# NEXTFRAME







# SHIELD BOND













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TECHNICAL INFORMATION

# INTEGRATED

### **S**YSTEMS

Ethernet data rates continue to advance to support increasing volumes of information associated with streaming video, Internet and other digital media content. Transmission speeds have progressed from 10Mbps, to 100Mbps, to 1Gbps, to 10Gbps, and now 40/100 Gigabit Ethernet (GbE). The evolution in data rates has substantially impacted network cabling infrastructure design and deployment. To support today's high speed content demand, higher performing cabling systems are a necessity.

Hubbell solutions offer a fully integrated system of copper and fiber network cabling and components that are designed to exceed all applicable standards for performance and reliability. Hubbell cabling infrastructure offers the option of a complete end-to-end system utilizing Hubbell's connectivity and cable or an open architecture solution utilizing Hubbell's connectivity and cable from any of Hubbell's qualified cable partners. Either option delivers all the benefits that component-level performance can offer to end users, designers and specifiers.

Hubbell's cabling systems provide the confidence of third party component performance verification, along with a full 25-Year MISSION CRITICAL® System Warranty.

> Future performance, including PoE+ capability is also engineered into





# INTEGRATED SYSTEMS

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# NEXTSPEED

#### **CATEGORY 6A UTP**



NEXTSPEED® Ascent Category 6A solution is a tuned system of structured cabling components designed and balanced to work together to support bandwidth beyond 625MHz. NEXTSPEED® Ascent provides the highest level of reliability with a zero bit error rate of 10<sup>-13</sup>.

Catalan Na
Catalog No.
НЈ6Ахх
НЈ6Ахх25



XX = Color: AL (Almond), B (Blue), BK (Black), BN (Brown), EI (Electric Ivory), GL (Gold),
 GN (Green), GY (Gray), LA (Light Almond), OW (Office White), OR (Orange),
 P (Purple), R (Red), W (White), and Y (Yellow). Light Almond is the same color as Office White. See color chart on page V30.

NEXTSPEED® Ascent	Category	6A, Component	<b>Patch Panels</b>
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Format	Width (mm)	Color	Catalog No.
Standard	19" (483)	Black	HP6A¤¤U
Standard	19" (483)	Silver	HP6A¤¤US
Angled	19" (483)	Black	HP6A¤¤AU



mm = Port Size: 24 (24 ports); 48 (48 ports). See page E4 for additional sizes and catalog numbers.

#### **NEXTSPEED®** Ascent Category 6A, Patch Cords

Unit of Measure	Catalog No.
1 patch cord	НС6Аххуу
xx = Color: <b>B</b> (Blue), <b>BK</b> (Black), <b>BN</b> (Brown), <b>GN</b> (	

xx = Color: B (Blue), BK (Black), BN (Brown), GN (Green), GY (Gray), OR (Orange), P (Purple),
PK (Pink), R (Red), W (White), and Y (Yellow). See color chart on page V30.

yy = Standard Length: 01 (1'), 03 (3'), 05 (5'), 07 (7'), 10 (10'), 15 (15'), 20 (20').

Made-to-order lengths are available from 25ft to 100ft in 5ft increments.



NEXTSPEED® Ascent Category 6A Cable			
Color	Plenum Spool	Riser Spool	
Blue	C6ASPB	C6ASRB	
Gray	C6ASPGY	C6ASRGY	
White	C6ASPW	C6ASRW	
Yellow	C6ASPY	C6ASRY	

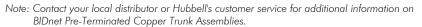


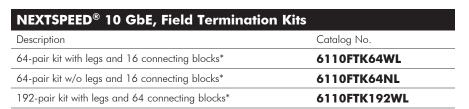
Note: All category rated cable is packaged in 1000 foot quantities. See Section F for additional cable requirements.

#### **NEXTSPEED®** Ascent Category 6A, Trunk Cable Assemblies

BIDnet Pre-Terminated Copper Trunk Assemblies are the ideal solution for data centers, open office and other applications where accuracy, reliability and performance are the most important factors.

- Simplifies installation time by 75%
- Reduces initial installation cost by 30%
- 100% factory tested and assembled
- Mission Critical 25-Year Warranty





Note: \*6-110, 4-pair connecting blocks. See page E14 for more information.





### **NEXTSPEED**

#### CATEGORY 6A SHIELDED





Hubbell is a Solution Developer Partner within the Cisco Developer Network Program



- Third Party Verified Category 6A ISO Component **Exceeds TIA and ISO Limits**
- Precision and Reliable Tool-Less Termination
- Designed for Critical, Bandwidth Intensive **10GBASE-T Applications**
- Bulk Packaging Reduces Excess Waste on the Job







- ETL verified to TIA-568-C.2 Category 6A component compliant
- ISO 11801 Class E<sub>∆</sub> component compliant (Category 6A)
- IEEE 802.3an
- IEEE 802.3at
- UL Listed 1863

Ascent Shielded Category 6A is a tuned system of structured cabling components designed and balanced to work together delivering headroom beyond 500MHz. Ascent Shielded systems provide the highest level of reliability with additional protection against ANEXT and other external noise sources.

NEXTSPEED® Shielded Category 6A Jacks			
Unit of Measure	A-Wired	B-Wired	
2 per bag	SJ6A2A	SJ6A2B	
24 per bag	SJ6A24A	SJ6A24B	



NEX	NEXTSPEED® Shielded Patch Panels, Unloaded						
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Туре	Color	Catalog No.	
24	1.75" (45)	19" (483)	1	Flat	Silver	PSJ24S	
24	1.75" (45)	19" (483)	1	Flat	Black	PSJ24BK	- 7
24	1.75" (45)	19" (483)	1	Angled	Black	PSJ24AU	_
48	1.75" (45)	19" (483)	2	Angled	Black	PSJ48AU	



Note: Jacks shown above are sold separately.

NEXTSPEED® Shielded Category 6A, Patch Cords		
Unit of Measure	Catalog No.	
1 patch cord	РС6Аххуу	
xx = Color: <b>B</b> (Blue), <b>BK</b> (Black), <b>GY</b> (Gray), and <b>Y</b> (Yellow).		

yy = Standard Length: **03** (3'), **05** (5'), **07** (7'), **10** (10'), **15** (15'), **20** (20'), **25** (25').

Made-to-order lengths are available from 30ft to 75ft in 5ft increments.



NEXTSPEED® Ascent 10GbE, FTP Cable, 4-Pair				
Color	Plenum Spool	Riser Spool		
Blue	C6AFTPSPB	C6AFTPSRB		
Gray	C6AFTPSPGY	C6AFTPSRGY		
White	C6AFTPSPW	C6AFTPSRW		
Yellow	C6AFTPSPY	C6AFTPSRY		



Note: All category rated cable is packaged in 1000 foot quantities.

#### **NEXTSPEED®** Ascent Shielded Category 6A, Trunk Cable Assemblies

BIDnet Pre-Terminated Copper Trunk Assemblies improve air flow in the datacenter, decrease installation time and will supply superior performance.

- Simplifies installation time by 75%
- Reduces initial installation cost by 30%
- 100% factory tested and assembled
- Mission Critical 25-Year Warranty

Note: Contact your local distributor or Hubbell's customer service for additional information on BIDnet Pre-Terminated Copper Trunk Assemblies.



#### CATEGORY 6 SYSTEM





Hubbell is a Solution Developer Partner within the Cisco Developer Network Program



- Third Party Verified Category 6 Component
- **Exclusive 1-Punch Termination Reduces Termination** Time by 75%
- PoE+ Ready
- Bulk Packaging Reduces Excess Waste on the Job



#### **Standards**





- ETL verified to TIA-568-C.2 Category 6 component compliant
- ISO 11801 Class  $E_{\rm A}$  component compliant (Category 6)
- IEEE 802.3an (TIA TSB-155)
- IEEE 802.3at
- UL Listed 1863



The NEXTSPEED® Category 6 system is designed to deliver headroom beyond 500MHz for dependable Multi-gigabit Ethernet applications. NEXTSPEED's extended bandwidth provides reliability with zero bit error rate performance for today's high speed digital communications.

NEXTSPEED® Category 6 Jacks	
Unit of Measure	Catalog No.
1 per bag	HXJ6xx*
25 per bag	HXJ6xx25



XX = Color: AL (Almond), B (Blue), BK (Black), BN (Brown), EI (Electric Ivory), GL (Gold),
 GN (Green), GY (Gray), LA (Light Almond), OW (Office White), OR (Orange),
 P (Purple), R (Red), TI (Telco Ivory), W (White), and Y (Yellow). Light Almond is the same color as Office White. See color chart on page V30.

#### **NEXTSPEED®** Category 6, Universal Patch Panels

Format	Width (mm)	Color	Catalog No.	
Standard	19" (483)	Black	P6ExxU	
Standard	19" (483)	White	P6E¤¤UW	
Angled	19" (483)	Black	P6¤¤AU	



**xx** = Port Size: **24** (24 ports); **48** (48 ports).

Note: See page E6 for additional sizes and catalog numbers.

#### **NEXTSPEED®** Category 6, Universal Patch Cords

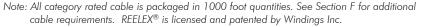
Unit of Measure	Catalog No.
1 patch cord	НС6ххуу

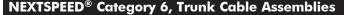


yy = Standard Length: **03** (3'), **05** (5'), **07** (7'), **10** (10'), **15** (15'), **20** (20'), **25** (25'). Made-to-order lengths are available from 30ft to 100ft in 5ft increments.



NEXTSPEED® Category 6, UTP Cable, 4-Pair*				
REELEX*	REELEX*			
Plenum Box	Riser Box			
C6RPB	C6RRB			
C6RPGY	C6RRGY			
C6RPW	C6RRW			
C6RPY	C6RRY			
	REELEX* Plenum Box  C6RPB  C6RPGY  C6RPW			





BIDnet assemblies provide simplicity for permanent links between switches, servers, patch panels, MUTOAs and zone distribution areas enabling easy MACs to the infrastructure.

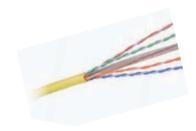
- Simplifies installation time by 75%
- Reduces initial installation cost by 30%
- 100% factory tested and assembled
- Mission Critical 25-Year Warranty

Note: Contact your local distributor or Hubbell's customer service for additional information on BIDnet Pre-Terminated Copper Trunk Assemblies.

NEXTSPEED® Category 6, Field Termination Kits		
Description	Catalog No.	
64-pair kit with legs and 16 connecting blocks*	6110FTK64WL	
64-pair kit w/o legs and 16 connecting blocks*	6110FTK64NL	
192-pair kit with legs and 64 connecting blocks* 6110FTK192WL		

Note:\*6-110, 4-pair connecting blocks. See page E14 for more information.











<sup>\*</sup>Electric Ivory and Orange available in 25-pack only.

# SPEEDGAIN CATEGORY 5E SYSTEM



SPEEDGAIN® Category 5e is a designed to support reliable Gigabit Ethernet performance. The SPEEDGAIN system is available in a variety of colors, lengths and configurations for multiple applications.

SPEEDGAIN® Category 5e Jacks	
Unit of Measure	Catalog No.
1 per bag	HXJ5Exx*
25 per bag	HXJ5Exx25



xx = Color: AL (Almond), B (Blue), BK (Black), BN (Brown), EI (Electric Ivory), GL (Gold),
 GY (Gray), GN (Green), LA (Light Almond), OW (Office White), OR (Orange),
 P (Purple), R (Red), TI (Telco Ivory), W (White), and Y (Yellow). Light Almond is the same color as Office White. See color chart on page V30. \*EI and OR available in 25-pack only.

#### SPEEDGAIN® Category 5e, Universal Patch Panels

Format	Width (mm)	Color	Catalog No.
Standard	19" (483)	Black	P5E¤¤U
Standard	19" (483)	White	P5E¤¤UW
Angled	19" (483)	Black	P5E¤¤AU



mm = Port Size: **24** (24 ports); **48** (48 ports).

See page E8 for additional colors and catalog numbers.

#### SPEEDGAIN® GbE Ethernet, Patch Panels

Torridi	widin (inin)	COIOI	Calalog 140.	Calalog 140.
Format	Width (mm)	Color	24 Port Catalog No.	48 Port Catalog No.



#### SPEEDGAIN® Category 5e, Universal Patch Cords

1 patch cord	НС5Еххуу
Unit of Measure	Catalog No.

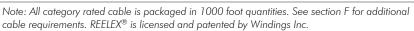
xxx = Color: **B** (Blue), **BK** (Black), **GY** (Gray), **GN** (Green), **OR** (Orange), **P** (Purple), **R** (Red), **W** (White), and **Y** (Yellow).

yy = Standard Length: **01** (1'), **03** (3'), **05** (5'), **07** (7'), **10** (10'), **15** (15'), **20** (20'). Made-to-order lengths are available from 25ft to 100ft in 5ft increments.



#### SPEEDGAIN® Category 5e, UTP Cable, 4-Pair

	REELEX®	REELEX®
Color	Plenum Box	Riser Box
Blue	C5EPRPB	C5EPRRB
Gray	C5EPRPGY	C5EPRRGY
White	C5EPRPW	C5EPRRW
Yellow	C5EPRPY	C5EPRRY





#### SPEEDGAIN® Category 5e, Trunk Cable Assemblies

BIDnet offers a "Green" approach to cabling by providing the exact lengths and number of connections, eliminating unwanted cable waste.

- Simplifies installation time by 75%
- Reduces initial installation cost by 30%
- 100% factory tested and assembled
- Mission Critical 25-Year Warranty

Note: Contact your local distributor or Hubbell's customer service for additional information on BIDnet Pre-Terminated Copper Trunk Assemblies.



#### SPEEDGAIN® Category 5e, Field Termination Kits

Description	Catalog No.
50-pair termination kit with 4-pair blocks	110BLK50FTK4
100-pair termination kit with 4-pair blocks	110BLK100FTK4
300-pair termination kit with 4-pair blocks	110BLK300FTK4

Note: See page E16 for more information on 4- and 5-pair Category 5e blocks.



# **OptiChannel** FIBER SOLUTIONS HUBBELL Advantage Third Party Verified for TIA 568C.3 Fiber Connections **Pre-Terminated Custom Fiber Solutions for Ease** of Installation Supporting 10/40/100 Gigabit Ethernet Applications High Speed Applications Over Smaller Cable O.D. Improves Airflow and Reduces Cable Congestion



- TIA-568-C.3 performance compliant
- Telcordia GR-326 end face geometry
- Telcordia GR-326 service life tests
- IEC61754-20 and TIA-604-10 intermateability

Hubbell's OptiChannel system is a comprehensive end-to-end fiber solution that supports high bandwidth datacenter applications including 10/40/100 Gigabit Ethernet. OptiChannel's high density modular design promotes efficiency, flexibility and maximum space utilization without compromising accessibility.

PROCLICK® Connectors	
Description	Catalog No.
12 LC, 50, OM3 multimode	FCLC900K50GM12
12 SC, 50, OM3 multimode	FCSC900K50GM12
100 LC, 50, OM3 multimode	FCLC900K50GM100

High Density Enclosures a	nd Compa	t LC-MPO	Cassettes
Description	Width	Color	Catalog No.
High density 144-port 1U enclosure	19' (483)	Black	FCRHD1UBK
High density 144-port 1U enclosure	19' (483)	Gray	FCRHD1UGY
Ultra compact 12-port LC cassette, 50, OM3	_		OCLCHD50G3

Standard SC/LC-MPO Cassettes	
Description	Catalog No.
SC duplex, 12-port, 50, OM3	OCSC50G
LC duplex, 12-port, 50, OM3	OCLC50G
LC duplex, 24-port, 50, OM3	OCLCD50G
LC quad, 24-port, 50, OM3	OCLCQ50G

Note: Standard LC-MPO cassettes are not compatible with the HD enclosures.

Trunks and High Density Patch Cord	s
Description	Catalog No.
LC to LC, 50, OM3 duplex, high density	HDPCLC50G3Myy Series
LC to SC, 50, OM3 duplex, high density	HDPCLCSC50G3Myy Series
LC-MSFP to LC, 50, OM3, duplex	MSFPLC50G3Myy Series
Replace yy with standard lengths of 1, 2, 3, 4, 5, 6, 8	or 10 meters.

#### **Fiber Trunk Cable Assemblies**

BIDnet pre-terminated fiber trunk assemblies are the ideal solution for data centers, open office and other applications where accuracy, reliability and performance are the most important factors.

- Simplifies installation time by 75%
- 100% factory tested and assembled
- Mission Critical 25-Year Warranty

Options	Fiber Type	Applications Supported
12-fiber MPO round	OM3/OM4	10/40 GbE
24-fiber MPO round	OM3/OM4	10/40/100 GbE
48-fiber MPO round	OM3/OM4	10/40/100 GbE

Note: Contact your local distributor or Hubbell's Customer Service for additional information on BIDnet pre-terminated fiber trunk assemblies See page J3 for fiber BIDnet assemblies.

Cable		
Description	Catalog No.	
Indoor, tight buffer distribution	HFC1 Series	See page K2
Indoor/outdoor loose tube	HFC2 Series	See page K5
Outdoor, loose tube	HFC3 Series	See page K6
Outdoor, loose tube, armored	HFC4 Series	See page K7
Outdoor, loose tube, armored, double jacket	HFC5 Series	See page K8
Distribution, interlock, armored	HFC15 Series	See page K4

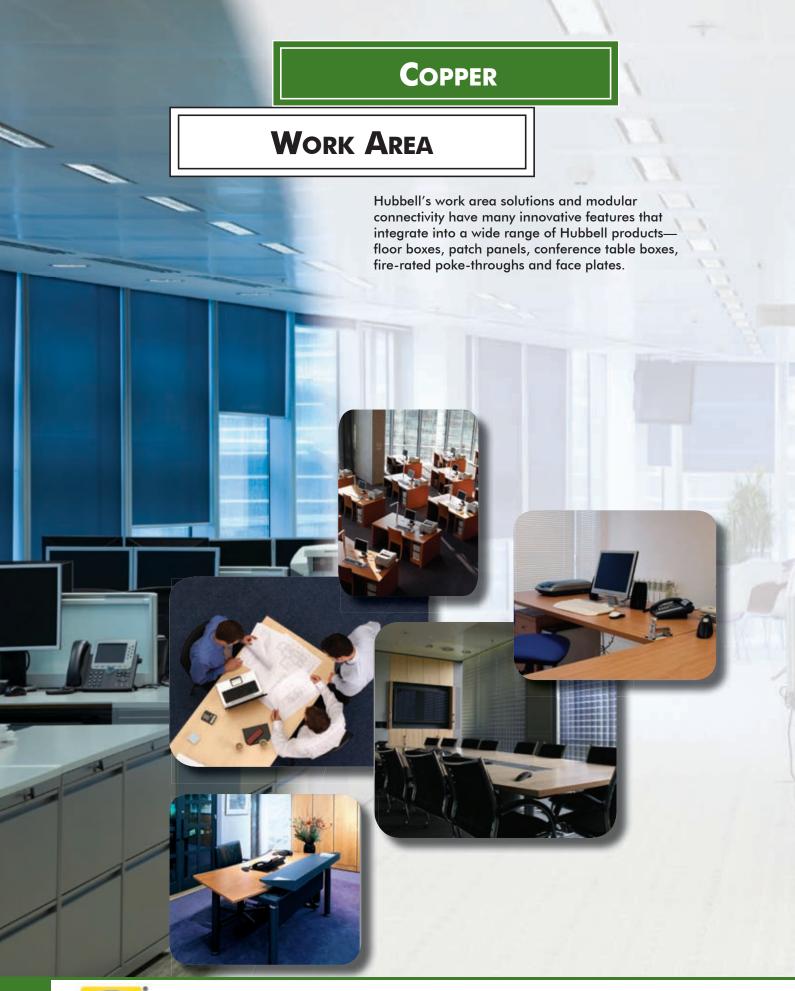














# WORK AREA

Product	Pag
NEXTSPEED® ASCENT CATEGORY 6A JACKS	. B3
NEXTSPEED® ASCENT CATEGORY 6A SHIELDED JACKS	. B4
XCELERATOR CATEGORY 6, 5E, 3 AND USOC JACKS	. B5
XCELERATOR MODULAR JACK ACCESSORIES	. B6
HUBBELL ISTATION REAR LOADING PLATES	. B7
Hubbell ISTATION Rear and Front Loading Plates.	. B8
HUBBELL ISTATION DECORATOR PLATES AND FRAMES	. B9
HUBBELL ISTATION DUPLEX PLATES AND FRAMES	. B10
HUBBELL ISTATION SECURE-IT PLATES	. B11
HUBBELL ISTATION FURNITURE PLATES AND ADAPTERS	. B12
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Hubbell ISTATION International Frames, Modules and Plates	. B15
HUBBELL ISTATION MODULAR ADAPTERS	. B16



#### **ASCENT CATEGORY 6A JACKS**



#### **Performance**

Zero-crosstalk contact structure provides the highest performance while maintaining true balance.

# Advantage

- Third Party Verified TIA and ISO
  Category 6A Component Compliant
- Exclusive 1-Punch Termination Reduces
  Termination Time by 75%
- 10 Gigabit Ethernet Assurance
- Bulk Packaging Reduces Excess Waste on the Job



#### Capacity

Small form factor allows up to 6 jacks in a single gang or 48 jacks in a 1-U panel.



#### **Strain Relief**

Locking IDC stuffer cap secures wires to ensure complete termination retention.



#### **IDC** Lacing

IDC towers have a blade feature to assist pair splitting during termination.

#### **Specifications**





- 4.5db min NEXT component margin @ 500MHz
- 1.5dB min NEXT component margin over ISO

#### **Standards/Listings/Verifications**

- TIA-568-C.2 Category 6A component
- ISO 11801 Class E<sub>A</sub> Category 6A component















#### **NEXTSPEED®** Ascent Category 6A Jacks

Unit of Measure Catalog No.

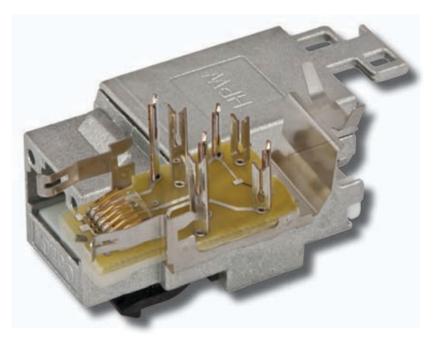
1 per bag HJ6Axx

25 per bag HJ6Axx25

xx = Color: AL (Almond), B (Blue), BK (Black), BN (Brown), EI (Electric Ivory), GL (Gold), GN (Green), GY (Gray), LA (Light Almond), OW (Office White), OR (Orange), P (Purple), R (Red), W (White), and Y (Yellow). Light Almond is the same color as Office White. See color chart on page V30.



#### **ASCENT CATEGORY 6A SHIELDED JACKS**



#### **Performance**

10GbE channel tested delivering 10dB of headroom @ 417MHz providing true 10GbE application assurance.



#### **Termination Cap**

Wiring technique compartmentalizes pairs, ensuring maximum headroom.



#### **Strain Relief**

Locking IDC stuffer cap secures wires to ensure complete termination retention.



**IDC Formation** 

Allows each pair to be segregated, to suppress pair-to-pair NEXT.



- Third Party Verified Category 6A ISO Component Compliant
- **Tool-Less Termination**
- Third Party Qualified 10GbE
- **Bulk Packaging Reduces** Excess Waste on the Job

#### **Specifications**





- Zinc die-cast construction provides enhanced protection
- Manufacturing: 100% factory tested

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 6A component
- ISO 11801 Class E<sub>A</sub> Category 6A component

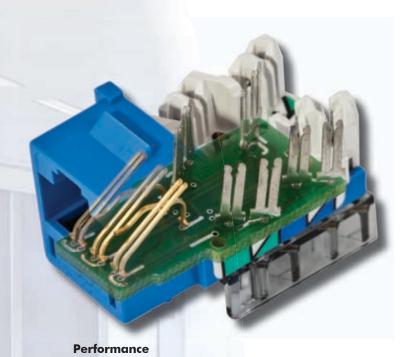
NEXTSPEED® Ascent Category 6A Shielded Jacks						
Unit of Measure	Category	A-Wired	B-Wired			
2 per box	6A	SJ6A2A	SJ6A2B			
24 per box	6A	SJ6A24A	SJ6A24B			



SPEEDGAIN® Category 5e Jacks						
Unit of Measure	Category	A-Wired	B-Wired			
2 per box	5e	SJ5E2A	SJ5E2B			
24 per box	5e	SJ5E24A	SJ5E24B			



#### CATEGORY 6, 5E, 3 AND USOC JACKS



Front to back contact structure provides enhanced NEXT performance and optimum balance.



**Labor Savings** 

Exclusive One Punch Tool, terminates within seconds.





**Universal Wiring** 

Two distinct labels eliminate wiring confusion, T568B or T568A.



**IDC** Lacing

IDC towers have a blade feature to assist pair splitting during termination.



- Third Party Verified Component Compliant
- Exclusive 1-Punch Termination Reduces
  Termination Time by 75%
- PoE+ Ready
- Bulk Packaging Reduces Excess Waste on the Job

#### **Specifications**







- TIA-568-C.2 Category 6 and 5e component
- ISO 11801 Class E/D Category 6 and 5e component









Xcelerator Jacks, NEXTSPEED® and SPEEDGAIN® Category 6, 5e, 3 and USOC Jacks						
Unit of Measure	Category 6	Category 5e	Category 3	RJ-25 (USOC)	Color	RJ-61 (USOC)
1 per bag	HXJ6xx*	HXJ5Exx*	НХЈ3хх	HXJUxx	Black	HXJU8BK
25 per bag	HXJ6xx25	HXJ5Exx25	HXJ3xx25	_	Office White	HXJU8OW

xx = Color: AL (Almond), B (Blue), BK (Black), BN (Brown), El (Electric Ivory), GL (Gold), GN (Green), GY (Gray), LA (Light Almond), OW (Office White), OR (Orange), P (Purple), R (Red), Tl (Telco Ivory), W (White), and Y (Yellow). Light Almond is the same color as Office White. See color chart on page V30.

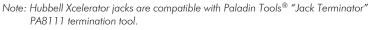
\*Electric Ivory and Orange available in 25-pack only.





#### **JACK ACCESSORIES**

Description	Catalog No.
1-punch Ascent tool with head, blades and HXTA termination aid	TX4P6A
1-punch Ascent tool replacement head	ТХ4Р6АН
1-punch Ascent tool replacement blades	TX4P6ABL
1-punch XJ tool with head, blades and HXTA termination aid	TX4P
1-punch XJ replacement head	TX4PH
1-punch XJ replacement blades	TX4PHBL
Punch down tool, 1-pair	TPDH
1-pair 110 blade	TBLH
Hand termination aid "Jack Knuckles" Xcelerator/Ascent	HXTA
Snap-X termination puck (bag of 25)	HXTP25
Ascent termination puck (bag of 25)	HJTP6A25





#### Jack Dust Covers XJ and HJ Series

Specifications	Description	Catalog No.	
Material: polypropylene	Jack dust covers HXJDC2		
Features/Benefits	Note: Cannot be used with SJ jack series.		

- Use with XJ and HJ jacks
- Mounts within the icon slots located above the RJ45 opening

atalog No.	-	T DESCRIPTION OF
IXJDC25	12.0	
jack series.		
	-	last life

#### **Jack Icons XJ and HJ Series**

•	ANSI/TIA.	-606-B	compatible
•	AINOI/ IIA:	-000-0	compandie

- ANSI/ HA-000-B compalible
- Flame-retardant material UL 94V-0

#### **Features/Benefits**

**Specifications** 

Color-coded icons snap easily onto the jack nose

Unit of Measure	Description		Catalog No.
100 per bag	Blank		lxx100
100 per bag	Computer		lxx100C
100 per bag	Telephone	90	lxx100T
N. C.	1 (1.1	1.0.	

Note: Cannot be used with SJ Jack Series.

xx = Color: **B** (Blue), **BK** (Black), **BN** (Brown), **EI** (Electric Ivory), **GN** (Green), **GY** (Gray), **OR** (Orange), **P** (Purple), **R** (Red), **W** (White), and **Y** (Yellow).



#### **Shielded Colored Dust Covers SJ Series**

100 per bag	IDCSxx
Unit of Measure	Catalog No.

 $\mathbf{x}\mathbf{x}$  = Color:  $\mathbf{B}$  (Blue),  $\mathbf{B}\mathbf{K}$  (Black),  $\mathbf{G}\mathbf{N}$  (Green),  $\mathbf{G}\mathbf{Y}$  (Gray),  $\mathbf{O}\mathbf{R}$  (Orange),  $\mathbf{P}\mathbf{K}$  (Pink),  $\mathbf{R}$  (Red),  $\mathbf{W}$  (White), and  $\mathbf{Y}$  (Yellow).

Paladin Tools $^{\circledR}$  is a registered trademark of Textron Inc.







#### REAR LOADING PLATES

Compatible with Hubbell Labeling System, see page U7.



- Designed to Flush Mount with Box Eliminator
- Adjustable Leveling Feature
- ANSI/TIA-606-B Compliant



#### **Specifications**



- Fits all Hubbell keystone connections (AV, data and fiber)
- Available in single and double gang
- All IFP plates are supplied with paper labels, clear screw covers, and color matched screw covers
- Secure; must remove plate to access connectivity

IFP Faceplates, Single Gang						
Ports	1-Port	2-Port	3-Port	4-Port	6-Port	
Unit of Measure	1 per bag					
Catalog No.	IFP11xx	IFP12xx	IFP13xx	IFP14xx	IFP16xx	



IFP11OW



IFP12OW



IFP13OW

FΡ	Facep	ates.	Doub	le (	Gana
	I decp	idics,	DUUR		Guilg

Ports	6-Port	9-Port	12-Port	
Unit of Measure	1 per bag	1 per bag	1 per bag	
Catalog No.	IFP26xx	IFP29xx	IFP212xx	





NS Faceplates, Single Gang, Without Label Fields

Ports	1-Port	2-Port	3-Port	4-Port	6-Port
Unit of Measure	1 per bag				
Catalog No.	NSP11xx	NSP12xx	NSP13xx	NSP14xx	NSP16xx

IFP26OW

IFP212OW

#### NS Faceplates, Single Gang, Midsize, Without Label Fields

Ports	1-Port	2-Port	3-Port	4-Port	6-Port
Unit of Measure	1 per bag				
Catalog No.	NSP101xx	NSP102xx	NSP103xx	NSP104xx	NSP106xx





#### NS Faceplates, Double Gang, Without Label Fields

Ports	4-Port	6-Port
Unit of Measure	1 per bag	1 per bag
Catalog No.	NSP24xx	NSP26xx

NSP111 NSP131

NSP261

#### Blank Wallplates

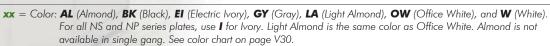
Diamik Wan	.p.a.co					
Standard					Midsize	
Gangs	1-Gang	2-Gang	3-Gang	4-Gang	1-Gang	2-Gang
Catalog No.	NP13xx	NP23xx	NP33xx	NP43xx	NPJ13xx	NPJ23xx



NP13I

#### Analed Faceplates, 4-Port, Single Gana

Catalog No.	AFP14EI	AFP14G	AFP14	AFP14W
Color	Electric Ivory	Gray	Office White	White





AFP14





#### **REAR AND FRONT LOADING PLATES**

Compatible with Hubbell Labeling System, see page U7.



- Designed to Flush Mount with Box Eliminator
- Adjustable Leveling Feature
- ANSI/TIA-606-B Compliant



#### **Specifications**

# c (UL) US

#### Keystone

• Fits all Hubbell keystone connections (AV, data and fiber)

#### **Modular Frames**

- IMSS plates available in 1-, 2-, 3- and 4-gang
- Fits all Hubbell iSTATION modules

Stainless Sta	eel Plates,	Single Ganç	J		
Ports	1-Port	2-Port	3-Port	4-Port	6-Port
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag	1 per bag
Catalog No.	SSF11	SSF12	SSF13	SSF14	SSF16







SSF11

SSF13

Stainless Steel Plates, Double Gang					
Ports	4-Port	6-Port	9-Port	12-Port	
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag	
Catalog No.	SSF204	SSF206	SSF209	SSF212	





Stainless Steel Plates with Label Fields, Single Gang						
Ports	1-Port	2-Port	3-Port	4-Port	6-Port	
Unit of Measure	1 per bag					
Catalog No.	SSFL11	SSFL12	SSFL13	SSFL14	SSFL16	



SSFL16

Stainless Steel Plates with Label Fields, Double Gang						
Ports	4-Port	6-Port	9-Port	12-Port		
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag		
Catalog No.	SSFL24	SSFL26	SSFL29	SSFL212		



SSFL212

Hubbell iSTATION Stainless Steel Plates, Front Loading							
Gangs	1-Gang	2-Gang	3-Gang	4-Gang			
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag			
Catalog No.	IMSS1	IMSS2	IMSS3	IMSS4			





IMSS1

IMSS2



#### **DECORATOR PLATES AND FRAMES**

Compatible with Hubbell Labeling System, see page U7.



- UL Listed for Power and Low-Voltage with Label Fields
- Nylon Plates Virtually Unbreakable
- ANSI/TIA-606-B Compliant



#### **Specifications**



- IFP126OW is the only decorator plate in the industry that is UL Listed for power and low-voltage with label fields
- Integrates with all Hubbell keystone connections (AV, data and fiber)
- ISF frames available in 2-, 3-, 4- and 6-port configurations

Decorator	Wallplates					
Standard, Nylo	n					
Gangs	1-Gang	2-Gang	3-Gang	4-Gang	5-Gang	6-Gang
Catalog No.	NP26xx	NP262xx	NP263xx	NP264xx	NP265xx	NP266xx
	nt Almond is the s	lack), <b>GY</b> (Gray), <b>I</b> same color as Offic	, ,,,	,,,	, ,	<b>W</b> (White).
Catalog No.	NPJ26xx	NPJ262xx	NPJ263xx	NPJ264xx	_	-
xx = Color: AL	(Almond), <b>BK</b> (B	lack), <b>GY</b> (Gray), <b>I</b>	(Ivory), LA (Light	Almond).		

Snap-On\*

Catalog No.

Catalog No. RCW1xx RCW2xx RCW3xx RCW4xx RCW5xx RCW6xx

xx = Color: AL (Almond), I (Ivory), LA (Light Almond), W (White).

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NP26OW



RCW11



SS262



IFP126OW

Decorator and IFP Cover Plates			
Decorator			
Gangs	1-Gang	1-Gang	2-Gang
Material	Brass	Stainless Steel	Brass

**SS26** 

Color Almond Gray Office White White

Catalog No. IFP126AL IFP126GY IFP126OW IFP126W



**SB26** 

IFP Decorator with Label Fields





**SB262** 



2-Gang

**SS262** 

Stainless Steel



Decorator C	utlet Frames,	Unloaded			
Ports	2-Port	3-Port	4-Port	6-Port	Blank
Unit Package	1 per bag	1 per bag	1 per bag	1 per bag	1 per bag
Catalog No.	ISF2xx	ISF3xx	ISF4xx	ISF6xx	NS620xx*

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White). Light Almond is the same color as Office White. See color chart on page V30.

\*Available in Almond and White only.



**B9** 



#### **DECORATOR PLATES AND FRAMES**

Compatible with Hubbell Labeling System, see page U7.



- UL Listed for Power and Low-Voltage with Label Fields
- Nylon Plates Virtually Unbreakable
- ANSI/TIA-606-B Compliant



#### **Specifications**



- IFP18OW is the only decorator plate in the industry that is UL Listed for power and low-voltage with label fields
- Integrates with all Hubbell keystone connections (AV, data and fiber)
- ISF frames available in 2- and 4-port configurations

Duplex Wallplates				
า				
1-Gang	2-Gang	3-Gang	4-Gang	
NP8xx	NP82xx	NP83xx	NP84xx	
NPJ8xx	NPJ82xx	_	_	
	1-Gang NP8xx	1-Gang 2-Gang  NP8xx NP82xx	1-Gang 2-Gang 3-Gang  NP8xx NP82xx NP83xx	

xx = Color: AL (Almond), BK (Black), GY (Gray), I (Ivory), LA (Light Almond), OW (Office White), and W (White). Light Almond is the same color as Office White. See color chart on page V30.





SS82

Stainless Steel Duplex and IFP Cover Plates			
Duplex			
Color/Finish	1-Gang	2-Gang	
Brass	SB8	SB82	
Stainless Steel	SS8	SS82	
IFP Duplex with	Label Fields		
Color	Almond	Office White	
Catalog No.	IFP18AL	IFP18OW	

п	l.	-2
п	7	٦
П		

Duplex 106 Outlet Frames			
Color	2-Port	4-Port	
Almond	BR106AL	Q106AL	
Black	BR106B	Q106B	
Electric Ivory	BR106E	Q106E	
Gray	BR106G	Q106G	
Light Almond	BR106LA	Q106LA	
Office White	BR106C	Q106O	
White	BR106W	Q106W	

Note: Light Almond is the same color as Office White. See color chart on page V30.



BR106B



Q106B





#### SECURE-IT PLATES

Compatible with Hubbell Labeling System, see page U7.



- NEMA 3R Rated (TWPF1GY)
- Multiple Labeling Options for Easy Station Identification
- Fiber and Multimedia Capabilities



#### **Specifications**



- The sliding cover provides protection and longer life
- Staggered, angled openings provide proper cable exit and bend radius
- Two methods to secure cover: screw, latch or both
- Enterprise and NEMA 3R weatherproof grade

Secure-IT™	Plates		
	Tamper-Res	sistant Face Plates	Weatherproof Face Plates
Gangs/Ports	Face Plate 1-Gang/4-Port	Cable-Thru Plate 1-Gang	Face Plate 1-Gang/4-Port
Black	TPF1BK	TPCP1BK	-
Gray	TPF1GY	TPCP1GY	TWPF1GY
Office White	TPF1OW	TPCP1OW	-
White	TPF1W	TPCP1W	_







TPF1OW

TPCP1GY

TWPF1GY

Box Eliminator	
Description	Catalog No.
Single-gang box eliminator used in place of an electrical box. Secures to a drywall opening providing a means to mount a single-gang plate.	BRBE1
Double-gang box eliminator used in place of an electrical box. Secures to a drywall opening providing a means to mount a double-gang plate.	BRBE2





BRBE2

630 Stainless Steel Wall Mount Phone Plates			
Stainless Steel, Single-Gang Wall Mount Phone Plate			
Includes	Flush Jack	Recessed Jack	
USOC gray jack, RJ25, 6-position	P630S1GJ6	P630SR1GJ6	
Category 5e, gray jack, RJ45, 8-position	P630S1GJ8	P630SR1GJ8	
Category 6, gray jack, RJ45, 8-position	P630S1GJC6	P630SR1GJC6	





P630S1GJ8

P630SR1GJ8



#### FURNITURE PLATES AND ADAPTERS

Compatible with Hubbell Labeling System, see page U7.



- Connectors Mounted Outside the Furniture Channel for Maximum Capacity
- Flexible Latch Provides
  Easy Mounting
- TIA-606-B Compliant



#### **Specifications**



- Work area and individual port identification labeling
- FP plate positions connectivity outside the furniture channel maximizing internal capacity







Furniture Plates (Steelcase <sup>®</sup> , Haworth <sup>®</sup> , HON <sup>®</sup> , Knoll <sup>®</sup> , etc.)			
Opening Size:	2.71" x 1.38"	2.71" x 1.38"	2.71" x 1.38"
Color	2-Port	4-Port	4-Port
Black	FP2BK	FP4BK	FP4BBK
Gray	FP2GY	FP4GY	FP4BGY

#### Furniture Reducing Adapter (Herman Miller®)

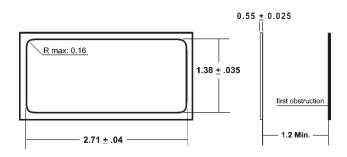
The HMRBxx adapter plate may be used with the FP2 or FP4 series furniture plates only for Herman Miller applications.

Opening Size:	2.982" x 1.882"
Black	HMRBBK
Gray	HMRBGY









Steelcase<sup>®</sup> is a registered trademark of Steelcase, Inc. Haworth<sup>®</sup> is a registered trademark of Haworth, Inc. HON<sup>®</sup> is a registered trademark of The HON Company. Knoll<sup>®</sup> is a registered trademark of Knoll, Inc. Herman Miller<sup>®</sup> is a registered trademark of Herman Miller, Inc.





#### **SURFACE MOUNT BOXES**

Compatible with Hubbell Labeling System, see page U7.



- Furniture and Surface Mounting
- Accepts Standard HXJ5 Jacks, Fiber and AV Connections
- ADA Compliant



#### **Specifications**



- Fiber storage in 4-, 6- and 12-port versions
- 4- and 6-port versions have ratcheting tabs for adjustable furniture mounting
- 1-, 2-, 4-, 6- and 12-port configurations

#### **POLYTRAK® Raceway Compatibility Chart**

Series	PT2	PP	PL	PW	PB	PS
ISB1					*	
ISB2					*	
ISB4			<b>A</b>		*	
ISB6					*	
ISB12					*	

<sup>\*</sup>Use PB3REDA transition fitting.

ISB Surface Mount Boxes				
Catalog No.				
ISB12xx				
ISB6xx				
ISB4xx				
ISB2xx				
ISB1xx				
	Catalog No.  ISB12xx  ISB6xx  ISB4xx  ISB2xx			

XX = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond),
 OW (Office White), and W (White). See color chart on page V30.
 Note: SJ shielded jacks are not compatible with ISB surface mount boxes.



ISB12OW (Loaded)



ISB6OW (Loaded)



ISB4OW (Loaded)



ISB2OW (Loaded)



ISB1 OW (Loaded)



# STATION

## AMO AND OFPPL MULTIMEDIA BOXES

Compatible with Hubbell Labeling System, see page U7.



- Raceway Compatible
- Integral Fiber Storage
- Excellent Use as a MUTOA



#### **Specifications**



- Multimedia compatible
- Capacities
  - 12 Snap Fit connectors
  - 12 fibers (ST or SC)
  - 24 fibers (LC quad)
- UL94-VO

AMO Base Unit Housing				
Description	Catalog No.			
Office white housing with 6 bracket locations	АМО			

Description (Color: Office White)	Catalog No.
SC duplex adapter, phosphor bronze, blue	AMOBSCD
LC quad adapter, phosphor bronze, blue	AMOLCQ
SC duplex adapter, zirconia	AMOBSCDSxx
LC quad adapter, zirconia	AMOLCQSxx
Blank for SC duplex or RC quad	AMOBSCDBNK
ST-style adapter, phosphor bronze, 2 included	AMOBST2
Blank adapter, 10 per bag	AMOBL10
Single jack adapter, 10 per bag	AMOBJ10
Dual jack adapter, 10 per bag	AMOB2J10
BNC adapter, ½" opening, 10 per bag	AMOBBN10
F-style adapter, 3/8" opening, 10 per bag	AMOBF10
RCA solder-type adapter, 1/4" opening, 10 per bag	AMOBRC10

xx = Color: AQ (Aqua), BE (Beige), BK (Black), EI (Electric Ivory), GN (Green), OR (Orange), R (Red), OW (Office White), and Y (Yellow). See color chart on page V30.

Note: Minimum order quantities apply.

See page C12 to C14 for more Audio/Video connectors and bulk connector options.

OFPPL Base Unit Housing and Bracket	
Description	Catalog No.
Office white housing, cover and mounting accessories	OFPPL
OFP bracket with 2 ST couplers, phosphor bronze	OFPBST2
OFP bracket, ST blank, 10-pack	
Note: SC duplex and LC quad connectors mount directly to the	OFPPL base.



AMO (Loaded)









## INTERNATIONAL FRAMES, MODULES AND PLATES

# Advantage

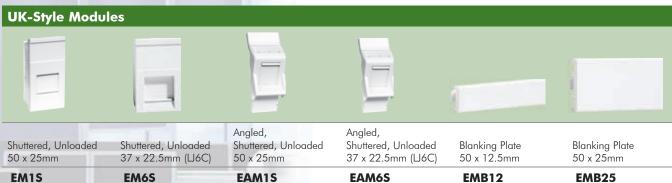
- Multimedia Compatible
- Easy Installation
- Provided in Different Port and Style Configurations

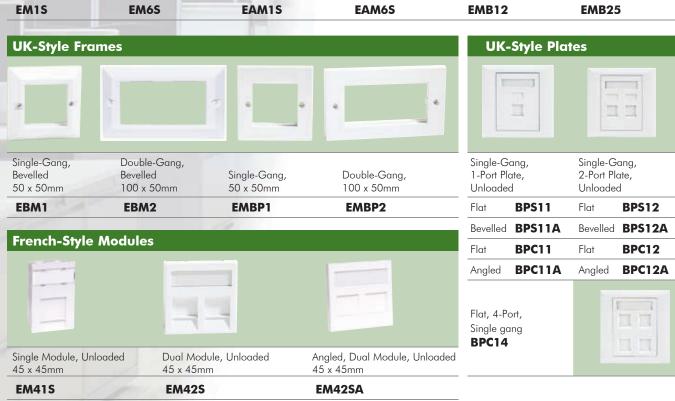


#### **Specifications**



- Hubbell's international frames, plates and modules provide angled and flat shuttered configurations compatible with standard international style back boxes and floor boxes
- Compatible with HJ, XJ and SF style AV and fiber connectors





# ISTATION

#### MODULAR ADAPTERS





- Plug-n-Play Installation
- Splitting and Bridging Application Adapter



Modular 851 Y adapter series

#### **Specifications**



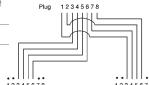
- Narrow profile designed to accommodate side-by-side positioning in high-density plate and panel applications
- Adapter's PCB design provides superior performance in applications requiring splitting or bridging of conductors

#### **Splitting Y Adapters**

Designed for connecting two pieces of voice, data or ancillary equipment to a USOC, RJ61 8-position jack.

Catalog No.

BR851241U

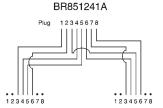


BR851241U

Converts a T568B wired RJ45 jack into two 2-pair jacks. Designed for connecting two pieces of voice, data or ancillary equipment.

Catalog No.

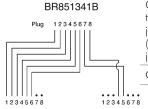
BR851241A



Converts a T568B wired RJ45 jack by splitting pairs 1, 2, and 3 to first 6 positions of jack (1), and pair 4 to positions 4 and 5 of jack (2).

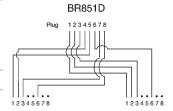
Catalog No.

BR851341B



Converts a T568B wired RJ45 jack to 2 10/100BASE-T wired RJ45 jacks. Pairs 2 and 3 are split to jack (1), and pairs 1 and 4 are split to jack (2).

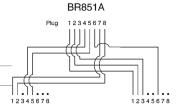
Catalog No. BR851D



Converts a T568B wired RJ45 jack to a voice wired application (pairs 1 and 4) jack (1), and a 10/100BASE-T application (pairs 2 and 3) wired 8-position jack (2).

Catalog No.

BR851A

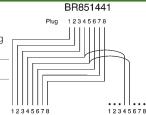


#### **Bridging Y Adapters**

Provides a station solution and an option for a speaker, power failure ringer or an ancillary devise requiring the use of pair 1.

Catalog No.

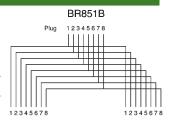
BR851441



Provides 2 RJ45 4-pair jacks in a parallel wiring formation, providing 2 access points to the circuit, adding a common station or in a daisy chain application.

Catalog No.

BR851B



# COPPER

# AUDIO/VIDEO

Hubbell iSTATION products provide a consistent and practical solution for delivering all types of connections. The Hubbell iSTATION system allows convergence by locating AV solutions where you need them:

- On the wall, in the wall
- On the furniture, in the furniture
- On the floor, in the floor
- On the surface
- On the rack, in the cabinet
- In the ceiling

The Hubbell iSTATION approach makes adding a connection effortless while maintaining a clean, uniform look.



PRODUCT	PAG
Extensive Voice/Data/Audio/Video Applications	C2
X-End AV Plug-n-Play System	C3
X-End AV Modules	C5
X-End AV Application Tails	C6
HUBBELL ISTATION HDMI CONNECTIONS	C7
HUBBELL ISTATION HDMI EXTENDERS & CABLES	C8
Hubbell iSTATION Digital Video Interface (DVI)/Display Port	C9
HUBBELL ISTATION D-STYLE CONNECTIONS	C10
HUBBELL ISTATION VGA ANALOG CONNECTIONS	C11
HUBBELL ISTATION AV CONNECTIONS	C12
HUBBELL ISTATION RCA AND F-CONNECTORS	C13
HUBBELL ISTATION RCA AND USB CONNECTORS	C14
HUBBELL ISTATION AUDIO/VIDEO MODULES	C15
HUBBELL ISTATION FRONT–LOADING, FRAMES	C17

# EXTENSIVE VOICE/DATA/AUDIO/VIDEO APPLICATIONS



#### On the Wall

Plates and Frames Refer to Sections B and C



#### In the Wall

Flat Panel/White Board Enclosures Refer to Section T



#### On the Furniture

Furniture Plates Refer to Section B



#### In the Furniture

Table Top Boxes Refer to Section Q



#### On the Floor

Floor Boxes Refer to Section Q



#### In the Floor

Fire-Rated Poke-Throughs Refer to Section Q



#### On the Surface

Metallic and Non-metallic Raceway Refer to Section R



#### On the Surface

Surface Mount Boxes Refer to Section B



#### On the Rack

UDX Modular Panels Refer to Section L



#### In the Cabinet

UDX Modular Panels Refer to Section N



#### In the Ceiling

Multimedia Enclosures Refer to Section M



#### **Along the Ceiling**

Enclosures Refer to Section M



# X-END

#### **AV PLUG-N-PLAY SYSTEM**





#### Capacity

Small form factor allows horizontal cable to easily be pulled through 3/4" conduit without any issue.



#### **Superior Strain Relief**

Over mold protects the cable and connectors during and after the installation, and secures the connection.



#### Versatility

Allows the user to swap out application patch cords and tails utilizing the same horizontal cable without change.



- Patented, Integrated AV System
- Eliminates Field Termination on the Job Site
- Supports Multiple Applications and Connector Configurations
- Made-to-Length Eliminates Cable Waste

#### **Specifications**



- 5 mini coax, 28AWG, 75 Ω
- Connector OD: .50"
- Cable OD: .32"
- 100% factory tested

#### Standards/Listings/Verifications

- UL Rated CMP and CMR
- Patch cord cable: UL Rated CM
- UL Listed: 1863



# **AV PLUG-N-PLAY SYSTEM**

The most innovative approach to VGA termination, saving valuable time during installation.

VGA Plug-n-	Play X-End Co	nnections,	15-Pin (F) to 8-F	Pin (F)
Description	X-End 8-Pin	15-Pin	1 per bag	10 per bag
Straight 180°	Female	Female	15S6P1	15S6P10
Angled 45°	Female	Female	15A6P1	15A6P10
Angled 90°	Female	Female	15N6P1	15N6P10
8" tail	Female	Female	15 <b>T</b> 6P1	15 <b>T</b> 6P10
8" tail plenum	Female	Male	15MP6P1	15MP6P10



15A6P1



15N6P1

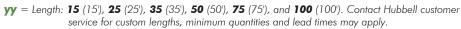


15MP6P1

AV Plug-n-Play X-End Horizontal Cable Runs						
Description	X-End 8-Pin	3.5mm	Color	Catalog No.		
Non-plenum, 8-pin	Male	_	Black	VGA6yyBK		
Plenum, 8-pin	Male	_	Black	VGA6PyyBK		
Non-plenum, 8-pin, with 3.5mm	Male	Male	Black	VGA36yyBK		
Plenum, 8-pin, with 3.5mm	Male	Male	Black	VGA36PyyBK		













**OPTISOK**® pulling grip contains and protects the X-End connector bundle and saves time and labor by making job easier while protecting the connectors from possible damage during the pull. The **OPTISOK** has been designed to pull cables through conduits, plenums, under-floor duct, office partitions and raised access floors.

Catalog No.
CCPS1
CCPS2





# **AV Modules**





X-End Keystone Snap Fit Connectors						
Description	Keystone 8-pin	X-End 8-pin	Color	Catalog No.		
Keystone, 4" tail	Female	Female	Black	SFAVCT		
Keystone, 90°	Female	Female	Black	SFAVCN	Ī	
Keystone, straight	Female	Female	Black	SFAVCS	Т	



X-End Plug-n-Play Modules	S			
Description	Modular Connections	X-End 8-pin	Unit	Catalog No.
S-video with 3.5mm audio	Female	Female	1 U	IMS3581xx
S-video with 2 RCA L/R audio	Female	Female	1 U	IMSRA81xx
3 RCA composite video w/L/R audio	Female	Female	1 U	IMR8P1xx
3 RCA component video	Female	Female	1 U	IMCR81xx
3 RCA composite S-video w/ L/R audio	Female	Female	1.5 U	IMSRC815xx
4 RCA component video w/ S/PDIF	Female	Female	1.5 U	IMCRD815xx
5 RCA component video w/ L/R audio	Female	Female	1.5 U	IMCAR815xx
3 RCA component w/ 3.5mm audio	Female	Female	1.5 U	IMC35815xx
3 RCA component with S-video	Female	Female	1.5 U	IMSCCR815xx
5-BNC RGBHV	Female	Female	1.5 U	IMB815xx
15-pin VGA w/ 3.5mm audio	Female	Female	1.5 U	IM153815xx
	The state of the s			





XX = Color: AL (Almond), BK (Black), El (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White). Light Almond is the same color as Office White. See color chart on page V30.







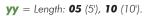


# AV APPLICATION TAILS

	Connector			
Description	Tail	X-End 8-Pin	Length	Catalog No.
S-video with 3.5mm audio	Male	Female	1ft tail	AVS35T1
S-video with 2 RCA L/R audio	Male	Female	1ft tail	AVSRAT1
3 RCA composite video with L/R audio	Male	Female	1ft tail	AVRCT1
3 RCA component Video	Male	Female	1ft tail	AVCRT1
3 RCA composite S-video with L/R audio	Male	Female	1ft tail	AVSRCT1
4 RCA component video with S/PDIF	Male	Female	1ft tail	AVCRDT1
5 RCA component video with LR audio	Male	Female	1ft tail	AVCART1
3 RCA component with 3.5mm audio	Male	Female	1ft tail	AVC35T1
3 RCA component with S-video	Male	Female	1ft tail	AVSCRT1
5-BNC RGBHV	Male	Female	1ft tail	AVBT1

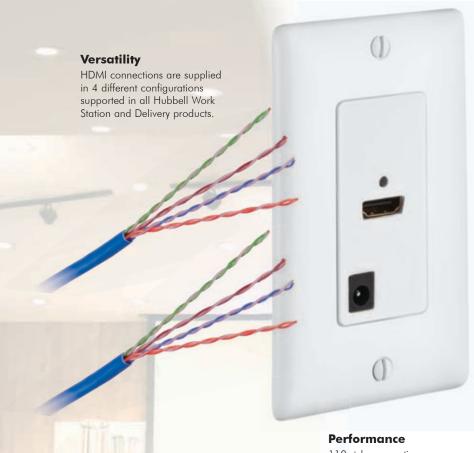


X-End AV Plug-n-Play Application Patching Runs					
Description	Connector Tail	X-End 8-Pin	Catalog No.		
S-video with 3.5mm audio	Male	Male	AVS35yy		
S-video with 2 RCA L/R audio	Male	Male	AVSRAyy		
3 RCA composite video with L/R audio	Male	Male	AVRCyy		
3 RCA component video	Male	Male	AVCRyy		
3 RCA composite S-video with L/R audio	Male	Male	AVSRCyy		
4 RCA component video with S/PDIF	Male	Male	AVCRDyy		
5 RCA component video with L/R audio	Male	Male	AVCARyy		
3 RCA component with 3.5mm audio	Male	Male	AVC35yy		
3 RCA component with S-video	Male	Male	AVSCRyy		
5-BNC RGBHV	Male	Male	AVByy		
15-Pin VGA	Male	Male	AV15Myy		
15-pin VGA with 3.5mm audio	Male	Male	AV1535yy		





# **HDMI** CONNECTIONS



110 style connections transport full 1080p video and flawless audio.



#### Capacity

Small form factor keystone opening allows up to 6 HDMI connections in a single gang.



#### Reliability

Locking interface ensures mated connection stays terminated.



#### **Flexibility**

4" connector tail provides flexibility for installations with capacity constraints.

# Advantage

**ISFH110xx Distance Limitations** 

24AWG

24AWG

23AWG

1080P over UTP, version 1.3

Note: Hubbell approved UTP cable.

UTP

UTP

UTP

Cat 5e

Cat 6A

Cat 6

Keystone, Coupler and 110 Style Connections

40 Meters

45 Meters

50 Meters

- Four-Inch Application Tail Provides Ease-of-Use for Capacity Issues
- Full High Definition 1080p Signal
- Assemblies Made-to-Length Eliminates Cable Waste

Dolby<sup>®</sup> is a registered trademark of Dolby Laboratories, Inc.

#### **Specifications**

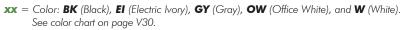


- HDMI (High Definition Media Interface) cables category 2 rated, 24AWG
- Connector: 19-pin, 2 micro-inch gold-plated
- Audio signal: PCM, DVD-audio, super audio CD, Dolby<sup>®</sup> TrueHD, DTS-HD master audio
- Video signal: 1080i, 1080p



# **HDMI EXTENDERS AND CABLES**

Hubbell iSTATION HDMI 110 UTP Extenders				
Description	Туре	DC	Installation	Catalog No.
110 UTP HDMI extender (pair)	Decorator	5 Volt	2 4-pair	ISFH110xx
110 UTP HDMI extender (pair)	Module	5 Volt	2 4-pair	IMH1102xx













<b>HDMI 1.4 Connectors</b>			
Unit of Measure	HDMI Keystone Feed Thru	HDMI Feed Thru Coupler	HDMI Feed Thru 3-Inch Tail
1 per bag	SFHC14xx	HDMIC14	HDMIT14

**xx** = Color: **BK** (Black) and **W** (White).



Black	НДРС03ВК	HDPC06BK	НДНууВК	HDLyyBK	НОСууВК		
Color	Patch Cords, 3'	24AWG 6'	Horizontal Cords, 24AWG (connector-to-connector)	Link Cords, 24AWG (connector-to-device)	Coupler Cords, 24AWG (coupler-to-device)		
HDMI	Non-Active Horizontal Patch Cords						

**yy** = Length: **10** (10'), **15** (15'), **20** (20'), **25** (25'), **30** (30'). Black and non-plenum only.



#### Blank HD15/9-Pin or HDMI Hubbell iSTATION Modules and Frames

IMBDS1xx	IMBDSA15xx	ISFB15xx	ISFB215xx	ISFBR15xx	NS801xx*	NS802xx*
Blank, 1U HD15/9-Pin or HDMI	Blank Angled, 1.5U HD15/9-Pin or HDMI	Blank HD15/9-Pin or HDMI	(2) Blank HD15/9-Pin or HDMI	(1) Recessed HD15/9-Pin or HDMI	HDMI Decorator Frames, 1-Port	HDMI Decorator Frames, 2-Port

\*XX = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White). \*I (Electric Ivory). See color chart on page V30.

# DIGITAL VIDEO INTERFACE (DVI)



#### Versatility

Connections are supplied in different configurations supported in all Hubbell Work Station and Delivery products.



- First VGA Front Mount Keystone
  Connector
- Hubbell One Design Provides
  Ease-of-Use for Compatibility
  and Integration
- Provides Transparent Analog
  Video Distribution

#### **DVI Specifications**



- Connectors: gold-plated 2μ"
- DVI I, DVI-D, DVI-A couplers
- Standard DVI distance limitation:
  - 15 feet 1920 x 1200
  - 50 feet 1280 x 1024

#### **VGA Specifications**

- Connectors: gold-plated  $2\mu''$
- Screw term contact: brass with nickel-plating
- HD15 GC connector female to female
- HD15 ST connection female to screw termination
- Signal performance: RGBHV







DVI Adapters/Couplers				
Unit of Measure	DVI-I Coupler	DVI to VGA Adapter	DVI to HDMI Adapter	
1 per bag	DVI1	DVI151	DVIHDMI1	

# VGA Analog Video Connections



#### X-End Connections, 15-Pin (F) to 8-Pin (F)

Unit of Measure	Straight 180°	Angled 45°	Angled 90°
1 per bag	15S6P1	15A6P1	15N6P1
10 per bag	15S6P10	15A6P10	15N6P10

See pages C3–C6 for more information on X-End.







Gender C	Changers, 9	and 15-Pin C	onnections
Unit of Measure	15-Pin, 90° F/F Coupler	HD 9-Pin F/F Coupler	HD 15-Pin F/F Coupler
1 per bag	15901	_	_
10 per bag	159010	9GC10	15GC10









#### Screw Terminal, 9 and 15-Pin Connections

#### VGA Style Cable 5-Mini Coax, 28AWG

Description	Color	Length	Catalog No.
Plenum, 5-mini coax	Black	250ft	AVCP250
Riser, 5-mini coax	Black	250ft	AVCR250









#### Blank HD15/9-Pin or HDMI Hubbell iSTATION Modules and Frames

IMBDS1xx	IMBDSA15xx	IMB15315xx	IMB153X2xx
or HDMI	or HDMI	(Screw termination or solder)	SJ+AV Conn
HD15/9-Pin	HD15/9-Pin	with 3.5mm Stereo Jack	with 3.5mm
Blank, 1 Unit	Angled, 1.5 Unit	HD15/9-Pin or HDMI	HD15/9-Pin or HDMI
	Blank	Blank, 1.5 Unit	Blank, 2 Unit

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), OW (Office White), and W (White). See color chart on page V30.











#### Blank HD15/9-Pin or HDMI Hubbell iSTATION Frames and DVI Modules

ISFB15xx	ISFB215xx	ISFBR15xx	IMBDVI15xx	IMBDVI1015xx
Blank HD15/9-Pin or HDMI	(2) Blank HD15/9-Pin or HDMI	(1) Recessed HD15/9-Pin or HDMI	Blank DVI Module, 1.5 Unit, 1 per bag	Blank DVI Module, 1.5 Unit, 10 per bag

XX = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White). Light Almond is the same color as Office White. See color chart on page V30.

# PRO AUDIO D-STYLE CONNECTIONS





#### Versatility

Pro Audio Connections are supplied with Hubbell iSTATION modules supporting XLR type applications in Work Area and Delivery products.

#### **Performance**

All Pro-Audio connections are provided with at least  $2\mu''$  of gold-plating in the contact area.

#### Reliability

XLR Screw term provides a quick and easy consistent field termination.

# Advantage

- True AV Integration
- Hubbell One Design Provides Ease-of-Use for Compatibility and Integration
- Provides Transparent Signal Distribution

#### Specifications



- Connectors: gold-plated 2 $\mu''$
- $\bullet$  Shell: XLR, ½", 1394 and USB zinc diecast
- Shell: speakON® polyamide













	A 1*		
Pro	Audio (	Connection	S

10 per bag	XLRST10	XLR10	14510	SC10	USB10	139410
Unit of Measure	XLR, 3-Pole Locking, Screw Term	XLR 3-Pole Locking, Solder	1/4" Locking Stereo, Solder	2-Pole speakON®, Solder	USB, A-to-B Pass-Thru	1394 FireWire, Pass-Thru





#### **Blank AV Panel Mount Module**

10 per bag	IMAVB15xx	_
Unit of Measure	Blank AV Panel Mount Module, 1.5 Unit	

#### **Loaded Pro AV Modules**

1 per bag	IMXLRM1xx	IM153X2xx*
Unit of Measure	Mini XLR, 3-Pole, Solder, 1 Unit	15-Pin Screw Term, 3.5mm Stereo Jack Screw Term, XLR Screw Term, 2 Unit

**XX** = Color: **AL** (Almond), **BK** (Black), **EI** (Electric Ivory), **GY** (Gray), **OW** (Office White), and **W** (White). See color chart on page V30. \*Available in Office White only.

speakON<sup>®</sup> is a registered trademark of Neutrik<sup>®</sup> AG.



# **AV KEYSTONE CONNECTIONS**











	3	.5ı	mr	n Si	ter	eo	Ja	cks
--	---	-----	----	------	-----	----	----	-----

1 per bag	SF35SJxx	SF35STxx	SF35FFxx	SF35GFFxx	SF35110BK	
Unit of Measure	3.5mm to Solder	3.5mm to Screw Terminal	9.5mm Pass-Thru, F/F Coupler	3.5mm Pass-Thru, Gold, F/F Coupler	3.5mm to 110 Termination	





#### S-Video Connections

1 per bag	SFSV110BK	SFSVBK	
Unit of Measure	S-video to 110 Termination	S-video Pass-Thru, F/F Coupler	







#### **BNC Connectors**

1 per bag	SFBxx	SFBGxx	
Unit of Measure	BNC Connector, Pass-Thru, F/F Coupler	BNC Connector, Pass-Thru, F/F Coupler, Gold	
		DNIC Commenter	



	Bulk 3.5mm Connectors, 10 per Bag			
Unit of Measure	Solder	Pass-Thru	Screw Termination	
10 per bag	35S10	35FF10	35ST10	











#### 1/4" Stereo jack

1 per bag	SF14SJxx	1 per bag	SFSPGBKxx	SFSPGRxx	SPPBK10	SPPR10
Measure	1/4", Solder	Measure	Screw Termination	Screw Termination	Black	Red
Unit of	Stereo Jack,	Unit of	Speaker Post, Gold, Black,	Speaker Post, Gold, Red,	Speaker Banand Screw Terminati	0 , ,

**Gold Speaker Post Connectors and Banana Plugs** 

**xx** = Color: **AL** (Almond), **BK** (Black), **EI** (Electric Ivory), **GY** (Gray), **OW** (Office White), and **W** (White). See color chart on page V30.

# RCA AND F-KEYSTONE CONNECTORS







#### F-Connector, Pass-Thru, F/F Coupler

Housing Color	Almond	Black	Electric Ivory	Gray	Light Almond	Office White	White
1 per bag.	SFFALX	SFFBX	SFFEX	SFFGX	SFFLAX	SFFX	SFFWX









#### F-Type Connectors

1 per bag	SFF3Gxx	SFFGxx	SFGRFxx*	SFRFGxx*	
Unit of Measure	F-Connector, Gold, 3 GHz, Pass-Thru, F/F Coupler	F-Connector, Gold, Pass-Thru, F/F Coupler	F-Connector, Gold, Recessed, Pass-Thru, F/F Coupler	RCA to F-Connector, Gold, Pass-Thru, F/F Coupler	

xx = Color: **AL** (Almond), **BK** (Black), **EI** (Electric Ivory), **GY** (Gray), **LA** (Light Almond), **OW** (Office White), and **W** (White). \*Not available in Almond. Light Almond is the same color as Office White. See color chart on page V30.









#### **Blank Connectors and Coupler**

10 per bag	SFBxx10	SFB10	SFSBxx10*	RG59A10
Unit of Measure	Connector	Connector	Connector	RG6 Female Coupler
	Blank	Blank Office White	Smooth Blank	RG59 Male to

XX = Color: AL (Almond), B (Black), E (Electric Ivory), G (Gray), LA (Light Almond), and W (White).
\*AL (Almond), BK (Black), EI (Ivory), GY (Gray), LA (Light Almond), and W (White).
See color chart on page V30.

F-Connector Plugs and Tools						
Termination Type	Cable Type	Unit of Measure	Catalog No.			
Compression	RG6	25 per bag	FRG625			
Compression	RG59	25 per bag	FRG5925			
Crimp	RG6	25 per bag	FRG6C25			
Push-on plug	RG59	25 per bag	RG59FPO			
	-	RA .				
Tools			Catalog No.			
Crimp tool frame (die	-sets sold separately)		UCT			
RG6 and RG59 crimp	die-set		CDTSRG659			
RG6 and RG59 comp	pression tool		COMPTRG659			



COMPTRG659

# **RCA** AND **D**ATA KEYSTONE CONNECTORS









#### **RCA Connectors**

Insulator Color	RCA 110			RCA Gold Pass-Thru, F,	/F Coupler
	Punch-Down Black Housing	RCA Solder Termination*	RCA Pass-Thru Recessed*	Office White Housing	Additional Housing Colors*
Black	_	SFRCBKxx	SFRCBKRxx	SFRCBKFF	SFRCBKFFxx
Blue	SFRC110B	SFRCBxx	SFRCBRxx	SFRCBFFOW	SFRCBFFxx
Green	SFRC110GN	SFRCGNxx	SFRCGNRxx	<b>SFRCGNFFOW</b>	SFRCGNFFxx
Orange	_	SFRCORXX	SFRCORRXX	SFRCORFFOW	SFRCORFFxx
Red	SFRC110R	SFRCRxx	SFRCRRxx	SFRCRFF	SFRCRFFxx
White	SFRC110W	SFRCWxx	SFRCWRxx	SFRCWFF	SFRCWFFxx
Yellow	SFRC110Y	SFRCYxx	SFRCYRxx	SFRCYFF	SFRCYFFxx

Note: \*For housing colors, replace XX with: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), and W (White). Light Almond is the same color as Office White. See color chart on page V30.











### 6-Pin DIN and RJ45 Connectors

White	-	-	SFC6W	SFC5EW	-
Gray	_	_	_	_	SF5ECOGY
Black	SF6PK	SF6PM	SFC6BK	SFC5EBK	_
Housing Color	6-Pin DIN, Keyboard, Pass-Thru, F/F Coupler	6-Pin DIN, Mouse, Pass-Thru, F/F Coupler	Category 6, Pass-Thru, F/F Coupler	Category 5e, Pass-Thru, F/F Coupler	Category 5e, Cross Over 10/100BASE-T, F/F Coupler









#### **USB Connectors**

Housing Color	USB 3.0, A to A, Pass-Thru, F/F, Coupler	USB 3.0, A to B, Pass-Thru, F/F, Coupler	USB 2.0, A to A, Pass-Thru, F/F, Coupler	USB 2.0, A to B, Pass-Thru, F/F, Coupler
Black	SFUSBAA3BK	SFUSBAB3BK	_	_
Blue	_	_	SFUSBAAB	SFUSBABB
Office White	_	_	SFUSBAAOW	SFUSBABOW
White	-	-	SFUSBAAW	SFUSBABW

# **AUDIO/VIDEO MODULES**



- 110 Style Audio/Video Modules
- Quick and Easy 110 Termination
- Provides Composite, Component and S-Video Transmissions



#### **Specifications**



- Connector:
  - Connector body: brass
  - Plating: nickel 100µ"
  - Contact: nickel over phosphorous bronze
- Material:
- Module: flame-retardant polymer UL 94V-0









#### 110 Audio Video Modules, 1.5 Unit

RCA component Video, L/R Audio, 110 Termination, 75 ft. max., Category 3, 5, 5e, 6, 6A UTP RCA component Video, 3.5mm Audio, 110 Termination, 75 ft. max., Category 3, 5, 5e, 6, 6A UTP RCA Composite Video, 3.5mm Audio, 110 Termination, 75 ft. max., Category 3, 5, 5e, 6, 6A UTP RCA component Video with S-video, 110 Termination, 75 ft. max., Category 3, 5, 5e, 6, 6A UTP

#### IMCAR11015xx

IMC3511015xx

IMR3511015xx

IMSC11015xx

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White).
Light Almond is the same color as Office White. See color chart on page V30.











#### 110 Audio Video Modules, 1 Unit

RCA component Video to 110 Termination, 1 Unit, 75 ft. max. High Definition, Category 3, 5, 5e, 6A UTP S-video, with Left/Right RCA Audio to 110 Termination, 1 Unit, 100' max. Category 3, 5, 5e, 6A UTP S-video, 3.5mm Stereo Audio Jack to 110 Termination, 1 Unit, 100' max. Category 3, 5, 5e, 6A UTP RCA Composite Video with Left/Right Audio to 110 Termination, 1 Unit, 100' max. Category 3, 5, 5e, 6A UTP

RCA Left/Right Audio 110 Termination, 1 Unit, 100' max. Category 3, 5, 5e, 6A UTP

IMCR1101xx

IMSR1101xx

IMSV351101xx

IMR1101xx

IMAR1101xx

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White).
Light Almond is the same color as Office White. See color chart on page V30.



# **AUDIO/VIDEO MODULES**





- Integrated Module System
- Easy Plug-n-Play Style Connections
- **Provides High Quality** Audio/Video Distribution



#### **Specifications**



- Connector:
- Connector body: brass nickel-plated 100μ"
- Performance:
  - Impedance: 75 Ohms - Mating cycles: 500+
- Material:
  - Module: flame-retardant polymer UL 94V-0









#### **Solder Audio Video Modules**

RCA component Video with Left/Right Audio or RGBHV, Solder, 1.5 Unit

RCA component, Video, Solder, 1 Unit

RCA Composite Video with Left/Right Audio, Solder, 1 Unit

RCA Composite Video, 3.5mm Stereo Audio Jack, Solder, 1 Unit

IMCRS15xx

IMCRS1xx

IM3RS1xx

**IMRSJ1xx** 













#### Gold Pass-Thru Audio Video Modules

RCA component, Video, Gold, Pass-Thru, F/F Coupler, 1 Unit

RCA Composite, Video with Left/Right Audio, Gold, Pass-Thru, F/F Coupler, 1 Unit

RCA Left/Right Audio with 3.5mm Stereo Audio Jack, Gold, Pass-Thru, F/F Coupler, 1 Unit

Speaker Post, Gold, Black and Red. Screw Termination

Speaker Banana Plugs, Gold, Screw Termination, 10 per Bag Black Red

IMCRF1xx

IM3RF1xx

IM35AR1xx

IMSP1xx

SPPBK10 SPPR10

XXX = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White). Light Almond is the same color as Office White. See color chart on page V30.

# FRONT-LOADING FRAMES



- Designed to Flush Mount with Box Eliminator
- Adjustable Leveling Feature
- ANSI/TIA-606-B Compliant
- Allows for Future Upgrades without Replacing Frame



#### **Specifications**



- Fits all Hubbell keystone connections (AV, data and fiber)
- Available in single and double-gang
- All IMF plates are supplied with paper labels, clear screw covers, and color matched screw covers

Hubbell iSTATION Modular Face Plate Frames			
Gangs	1-Gang	2-Gang	
Unit of Measure	1 per bag	1 per bag	
Catalog No.	IMF1xx	IMF2xx	

**XX** = Color: **AL** (Almond), **BK** (Black), **EI** (Electric Ivory), **GY** (Gray), **OW** (Office White), and **W** (White). See color chart on page V30.

IMF1OW	IMF2OW

F1OW	IMF.

Catalog No.	IMSS1	IMSS2	IMSS3	IMSS4		
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag		
Gangs	1-Gang	2-Gang	3-Gang	4-Gang		
Hubbell iSTATION Stainless Steel Plates						

Delivery Bezels and Modules					
Unit 1	Raceway Bezel	Hubbell iSTATION Bezel for Third-Party Raceway	Multi-Connect and Furniture Boxes		
Unit of Measure	1 per bag	1 per bag	1 per bag		
Color	Catalog No.	Catalog No.	Catalog No.		
Black		_	HBLIMFBK		
Electric Ivory		-	HBLIMFI		
Gray	KPIMBZGY	HWAPLGY	HBLIMFGY		
Office White	KPIMBZOW	HWAPLOW	_		
White	-	HWAPLW	HBLIMFWA		

1 1	1 1
	0
IMSS 1	IMSS2
1000	



PIMBZOW	HWAPLOW	HBLIMFW.

Third Darety	Descouren	Madulas 2 Part Unlegglad	
Inira Party	Raceway	Modules, 2-Port, Unloaded	
Unit of Measure	Ports	Color	Catalog No.
10 per bag	2	Black	HWM2KBK10
10 per bag	2	Ivory (equivalent to Hubbell Office White)	HWM2KI10
10 per bag	2	Gray	HWM2KGY10
10 per bag	2	White	HWM2KW10





HWM2KW10

HWM2KGY10

# FRONT-LOADING MODULES













	**************		
Hubbell	<b>iSTATION M</b> o	odules, U	nloaded

	Keystone 1-Port, Flat, 1 Unit	Keystone 2-Port, Flat, 1 Unit	Keystone 1-Port, Angled, 1.5 Unit	Keystone 2-Port, Angled, 1.5 Unit	Keystone Recessed Angled, 1-Port, 1.5 Unit	Keystone Recessed Angled, 2-Port, 1.5 Unit	
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag	1 per bag	1 per bag	
Catalog No.	IM1K1xx	IM2K1xx	IM1KA15xx	IM2KA15xx	IM1IA15xx*	IM2IA15xx*	











Catalog No	IMB05xx	IMB1xx	IMB15xx	IM1SCA15xx*	IM2SCA2xx*	
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag	1 per bag	
	Blank, 0.5 Unit	Blank, 1 Unit	Blank, 1.5 Unit	SC Angled, 1 Duplex, 1.5 Unit	SC Angled, 2 Duplex, 2 Unit	

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White).

Light Almond is the same color as Office White. See color chart on page V30. \*Not available in Almond.







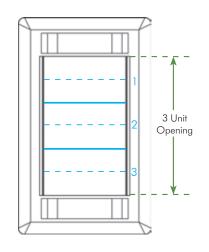


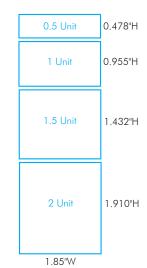
#### Blank HD15/9-Pin or HDMI Hubbell iSTATION Modules

Catalog No	IMBDS1xx	IMBDSA15xx	IMB15315xx	IMB153X2xx
Unit of Measure	1 per bag	1 per bag	1 per bag	1 per bag
	Blank, 1 Unit HD15/9-Pin or HDMI	Blank, Angled, 1.5 Unit HD15/9-Pin or HDMI	Blank, 1.5 Unit HD15/9-Pin or HDMI with 3.5mm Stereo Jack (Screw termination or solder)	Blank, 2 Unit HD15/9-Pin or HDMI with 3.5mm SJ+Pro AV Connections

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), OW (Office White), and W (White).
Light Almond is the same color as Office White. See color chart on page V30.

The Hubbell iSTATION Frames accept three units of module combinations in a single-gang opening. See diagram for details.

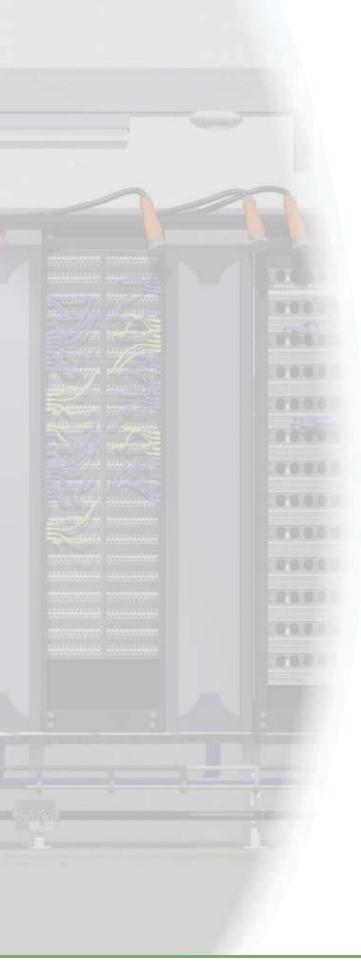




# COPPER







# **A**SSEMBLIES

Product	Pag
BIDNET PRE-TERMINATED COPPER TRUNK ASSEMBLIES	D3
NEXTSPEED® ASCENT 40Gb/s QSFP+ Passive Copper Assemblies	D5
NEXTSPEED® ASCENT CATEGORY 6A PATCH CORDS	D7
NEXTSPEED® ASCENT SHIELDED CATEGORY 6A PATCH CORDS	D8
NEXTSPEED® CATEGORY 6 PATCH CORDS	D9
SPEEDGAIN® CATEGORY 5E PATCH CORDS	D9
SPEEDGAIN® SHIELDED CATEGORY 5E PATCH CORDS	D9
25-PAIR CABLE ASSEMBLIES	D10
Testers and Tools	D11
Assemble-To-Order Cable Program	D12

### PRE-TERMINATED COPPER TRUNK ASSEMBLIES





#### **Strain Relief**

Locking IDC stuffer cap provides superior strain relief.



#### **Performance**

Application: qualified for 10 Gigabit Ethernet transmission IEEE 802.3an.



#### Reliability

100% factory tested in a controlled environment.



- MISSION CRITICAL® 25-Year Warranty\*
- Reduces Installation Time by More than 70%
- 100% Factory Tested and Terminated
- Made-to-Length Eliminates Cable Waste

\*Project must be registered in accordance with the Hubbell MISSION CRITICAL® Program.

### Standards/Listings/Verifications





- ANSI/TIA-568-C.2 Category 6A component compliant
- ISO 11801 Class D, E, and E<sub>A</sub> component compliant (Category 6A)
- Qualified for PoE+ IEEE 802.3at
- UL Listed 1863

# BIDnet

### PRE-TERMINATED COPPER TRUNK ASSEMBLIES



BIDnet pre-terminated copper trunk assemblies are the ideal solution for data centers, open office and other applications where accuracy, reliability and performance are the most important factors.

BIDnet assemblies provide simplicity for permanent links between switches, servers, patch panels, MUTOAs and zone distribution areas, enabling easy MACs to the infrastructure.

Jack to Open Jack to Jack Jack to Plug







All BIDnet pre-terminated cable assemblies are made-to-order items. Please call our inside sales team for lead-time and availability. See page J3 for fiber assemblies.

#### **Specifications**

#### Jacks

- Nose contact material: beryllium copper with precious metal plating over nickel under-plating
- Contact performance: confirmed over the full range of TIA plug deflection limits

#### Plugs

- Mechanical: cable to plug tensile strength: 20+ lbs Mating cycles: 2000+
- Material Plug body: polycarbonate UL 94-V0 Plug boot: PVC
- Contact: high strength copper alloy
- Plating: 50 micro-inch precious metal over 100 micro-inch under-plating

#### **Available Options**

Lengths: 10'-295'
Legs: 1, 4 and 6
Category: 5e, 6 and 6A
Connection: RJ45 jack; RJ45 plug;

RJ45 plug; open end

• Cable: Plenum, riser and LSZH

• UTP: Category 5e;

Category 6; Category 6A

FTP: Category 6 (10GbE)Color: Blue and white



# ASCENT 40 GBIT/S QSFP+

Safety

Insulated push surface for the installer.





#### **Ergonomic Design**

Ergonomic pull-to-release latch tether and an insulated grasp area.



**Rigidity** 

Constructed from Zinc Diecast.



#### **Technology**

EEPROM cable management interface programmed per the SFF8436 memory map.

#### **Specifications**

Cable construction:

- TwinAx: fully shielded differential pairs
- UL style CL2 or CM
- Characteristic impedance: 100. +/- 10 OHMS
- DC blocking caps (0.1uF) on Rx only
- EEPROM programmed per SFF8436
- IC module select buffer included

#### Plug material:

- Pads gold plated over nickel over copper base material.
- Shell and latch mechanism zinc die cast; nickel over copper plating.

#### Standards/Listings/Verifications

- IEEE 802.3ba 40Gb/s
- SFF-8436 specification for QSFP+
- EEPROM: SFF-8472
- InfiniBand Trade Association (IBTA)
  - Quad data rate (QDR-10Gbs)
  - Dual data rate (DDR-5Gbs)
- QSFP+ 6G SAS 2.1 (under development)



# ASCENT 40 GBIT/S QSFP+



#### **Applications**

- Data center
- InfiniBand 4X SDR, DDR, QDR
- Ethernet 10G,40G
- Rapid IO
- Myrinet 40G
- Top of Rack (Severto-Server)
- HPC Server Clusters
- Storage Area Networks (SANs)
- Enterprise Data Center Networks

				Cable	Min Bend		1.6.	n '	40	
	D		Length	Diameter	Radius	Wire	Infini		Gigabit	60
Catalog Number	Description	Туре	(Meters)	(mm)	(mm)	Gauge	DDR	QDR	Ethernet	SA
HC3040G05M	NEXTSPEED, Ascent, 40Gb/s, 30AWG, BK, 05M	Passive	0.5	6.20	30	30	Yes	Yes	Yes	Y
HC3040G1M	NEXTSPEED, Ascent, 40Gb/s, 30AWG, BK, 1M	Passive	1.0	6.20	30	30	Yes	Yes	Yes	<u>}</u>
HC3040G2M	NEXTSPEED, Ascent, 40Gb/s, 30AWG, BK, 2M	Passive	2.0	6.20	30	30	Yes	Yes	Yes	
HC3040G3M	NEXTSPEED, Ascent, 40Gb/s, 30AWG, BK, 3M	Passive	3.0	6.20	30	30	Yes	Yes	Yes	}
HC3040G4M	NEXTSPEED, Ascent, 40Gb/s, 30AWG, BK, 4M	Passive	4.0	6.20	30	30	Yes	Yes	Yes	)
HC3010G5M	NEXTSPEED, Ascent, DDR, 10Gb/s, 30AWG, BK, 5M	Passive	5.0	6.20	30	30	Yes	-	-	}
HC2840G05M	NEXTSPEED, Ascent, 40Gb/s, 28AWG, BK, 05M	Passive	0.5	7.80	40	28	Yes	Yes	Yes	`
HC2840G1M	NEXTSPEED, Ascent, 40Gb/s, 28AWG, BK, 1M	Passive	1.0	7.80	40	28	Yes	Yes	Yes	`
HC2840G2M	NEXTSPEED, Ascent, 40Gb/s, 28AWG, BK, 2M	Passive	2.0	7.80	40	28	Yes	Yes	Yes	`
HC2840G3M	NEXTSPEED, Ascent, 40Gb/s, 28AWG, BK, 3M	Passive	3.0	7.80	40	28	Yes	Yes	Yes	,
HC2840G4M	NEXTSPEED, Ascent, 40Gb/s, 28AWG, BK, 4M	Passive	4.0	7.80	40	28	Yes	Yes	Yes	\
HC2840G5M	NEXTSPEED, Ascent, 40Gb/s, 28AWG, BK, 5M	Passive	5.0	7.80	40	28	Yes	Yes	Yes	,
HC2810G6M	NEXTSPEED, Ascent, DDR, 10Gb/s, 28AWG, BK, 6M	Passive	6.0	7.80	40	28	Yes	-	-	`
HC2640G2M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 2M	Passive	2.0	9.80	50	26	Yes	Yes	Yes	`
HC2640G3M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 3M	Passive	3.0	9.80	50	26	Yes	Yes	Yes	,
HC2640G4M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 4M	Passive	4.0	9.80	50	26	Yes	Yes	Yes	,
HC2640G5M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 5M	Passive	5.0	9.80	50	26	Yes	Yes	Yes	`
HC2640G6M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 6M	Passive	6.0	9.80	50	26	Yes	Yes	Yes	`
HC2640G7M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 7M	Passive	7.0	9.80	50	26	Yes	-	-	`
HC2640G8M	NEXTSPEED, Ascent, 40Gb/s, 26AWG, BK, 8M	Passive	8.0	11.00	60	26	Yes	Yes	Yes	\
HC2440G3M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 3M	Passive	3.0	11.00	60	24	Yes	Yes	Yes	`
HC2440G4M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 4M	Passive	4.0	11.00	60	24	Yes	Yes	Yes	`
HC2440G5M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 5M	Passive	5.0	11.00	60	24	Yes	Yes	Yes	,
HC2440G6M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 6M	Passive	6.0	11.00	60	24	Yes	Yes	Yes	,
HC2440G7M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 7M	Passive	7.0	11.00	60	24	Yes	Yes	Yes	,
HC2440G8M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 8M	Passive	8.0	11.00	60	24	Yes	_	_	
HC2440G10M	NEXTSPEED, Ascent, 40Gb/s, 24AWG, BK, 10M	Passive	10.0	11.00	60	24	Yes			,



### **ASCENT CATEGORY 6A PATCH CORDS**





Strain Relief Plug and boot constructed from clear polycarbonate.



**Snagless Design** Easy to route and cable manage without latch getting caught.



**Technology** Double jacket increases intracable separation.



- Third Party Verified Category 6A Component **Exceeds TIA Limits**
- Plug Optimized for High Density Switch Port Count
- 10-Gigabit Application Assurance
- PoE+ Ready

#### **Specifications**



- Conductor: 26AWG

- Jacket: flame-retardant PVC - CM rated

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 6A component
- UL Listed 1863

NEXTSPEED® Ascent Category 6A Patch Cords				
Length	Catalog No.	Length	Catalog No.	
1'	НС6Ахх01	10'	HC6Axx10	
3'	НС6Ахх03	15'	НС6Ахх15	
5'	НС6Ахх05	20'	HC6Axx20	
7'	НС6Ахх07			



Made-to-order lengths are available from 25ft to 100ft in 5ft increments.



HC6AB20





# **ASCENT SHIELDED CATEGORY 6A PATCH CORDS**





#### **Durability**

Over-molded boot provides superior strain relief.



#### **High Performance**

Two piece conductor sled design optimizes pair separation and maximizes NEXT performance.



#### Reliability

100% factory tested in a controlled environment.



- Category 6A Component
- Slim-Line Boot Design for High Density Port Applications
- True 10GBASE-T Assurance
- PoE+ Ready

#### **Specifications**





- Plug construction
- Material
  - Plug body: polycarbonate UL 94V-0
  - Plug boot: PVC
  - Contact: high strength copper alloy
  - Plating: 50 micro-inch gold with 100 micro-inch under plating
- Mechanical
  - Cable to plug tensile strength: 20+ lb
  - Mating cycles: 2000+

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 6A
- UL Listed 1863

NEXTS	NEXTSPEED® Ascent Shielded Category 6A Patch Cords			
Length	Catalog No.	Length	Catalog No.	
3'	РС6А03хх	15'	PC6A15xx	
5'	PC6A05xx	20'	PC6A20xx	
7'	PC6A07xx	25'	PC6A25xx	
10'	PC6A10xx			

**xx** = Color: **B** (Blue), **BK** (Black), **GY** (Gray) and **Y** (Yellow). See color chart on page V30. Made-to-order lengths are available from 30ft to 75ft in 5ft increments.





# CATEGORY 6 AND 5E PATCH CORDS



- Third Party Verified Category 6 Component **Exceeds TIA Limits**
- Plug Optimized for High Density **Switch Port Count**
- Supports 10/100/1000BASE-T
- PoE+ Ready





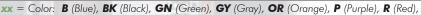


- Cable construction:
  - Conductor: 24AWG UTP
  - Jacket: flame-retardant PVC CM rated

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 5e and 6 components
- UL Listed 1863

NEXTSPEED® Category 6 Patch Cords				
Length	Catalog No.	Length	Catalog No.	
3'	НС6хх03	15'	HC6xx15	
5'	HC6xx05	20'	HC6xx20	
7'	НС6хх07	25'	HC6xx25	
10'	HC6xx10	GG # #		



**W** (White) and **Y** (Yellow). See color chart on page V30.

Made-to-order lengths are available from 30ft to 100ft in 5ft increments.



SPEEDGAIN® Category 5e Patch Cords				
Length	Catalog No.	Length	Catalog No.	
1'	HC5Exx01	10'	HC5Exx10	
3'	HC5Exx03	15'	HC5Exx15	
5'	HC5Exx05	20'	HC5Exx20	
7'	HC5Exx07			

xx = Color: B (Blue), BK (Black), GN (Green), GY (Gray), OR (Orange), P (Purple), R (Red), **W** (White) and **Y** (Yellow). See color chart on page V30.

Made-to-order lengths are available from 25ft to 100ft in 5ft increments.



SPEEDGAIN® Shielded Category 5e Patch Cords				
Length	Catalog No.	Length	Catalog No.	
3'	PS5E03xx	15'	PS5E15xx	
5'	PS5E05xx	20'	PS5E20xx	
7'	PS5E07xx	25'	PS5E25xx	
10'	PS5E10xx			

xx = Color: **B** (Blue) and **GY** (Gray). See color chart on page V30.



# 25-PAIR CABLE ASSEMBLIES

#### Gigabit, 25-Pair Cable Assemblies

UOM: 1 cable assembly supplied with mounting screws, male-to-male connectors and a choice of various connector configurations.

Gender	Connector Angles	Length	Catalog No.
Male to male	180° to 90°	5′	525G2105E
Male to male	180° to 90°	10′	525G2110E
Male to male	180° to 90°	15′	525G2115E
Male to male	180° to 180°	5′	525G2205E
Male to male	180° to 180°	10′	525G2210E
Male to male	180° to 180°	15′	525G2215E



525G2110E

Note: See page E11 for 1000BASE-T patch panels.

#### Fast Ethernet, 25-Pair Cable Assemblies

UOM: 1 cable assembly supplied with mounting screws, male-to-male connectors and a choice of various connector configurations.

Gender	Connector Angles	Length	100BASE-T Catalog No.
Male to male	180° to 90°	5′	525PS2105E
Male to male	180° to 90°	10′	525PS2110E
Male to male	180° to 90°	15'	525PS2115E
Male to male	180° to 180°	5′	525PS2205E
Male to male	180° to 180°	10'	525PS2210E
Male to male	180° to 180°	15′	525PS2215E
Male to male	180° to 110°	5′	525PS2305E
Male to male	180° to 110°	10'	525PS2310E
Male to male	180° to 110°	15′	525PS2315E



525PS2205E

Note: See page E11 for 100BASE-T patch panels.

#### Hydra "Octopus" Cable Assemblies

UOM: 1 cable assembly.

Wiring Format	25-Pair Connector	Plug Type	No. of Legs	Length	Catalog No.
T568B	180°	RJ45 Cat 5e	6	1m	525PS2R06-1ME
T568B	180°	RJ45 Cat 5e	6	2m	525PS2R06-2ME
T568B	180°	RJ45 Cat 5e	6	3m	525PS2R06-3ME
10/100B-T (1,2,3,6)	180°	RJ45 Cat 5e	12	1m	525PS2R12-1ME
10/100B-T (1,2,3,6)	180°	RJ45 Cat 5e	12	2m	525PS2R12-2ME
10/100B-T (1,2,3,6)	180°	RJ45 Cat 5e	12	3m	525PS2R12-3ME



525PS2R06-1ME



### **TESTERS AND TOOLS**

#### **Modular Plugs**

#### **Specifications**

#### Snap On Plug

- UL Listed
- 50 micro-inch gold-plated
- For solid cable

#### Modular Plugs

- UL Listed File
- 50 micro-inch gold-platedUL 94-V0 rated



#### Snap On Modular Plug

Description	Insulated Conductor Range	Catalog No.	
Description	Runge	Cululog 140.	
Snap on, 8-position modular plug	.032038	BRFTP4P	
	4762		

#### **Modular Plugs**

		Insulated Conductor		
Description	Category	Range	AWG	Catalog No.
8-position/8-contact, snagless	5e	.032038	24-26	BRMOD4PSN25



BRMOD4PSN25

#### **Continuity Tester**

#### **Features/Benefits**

- Compact size
- One button test results

#### **Specifications**

- Tests up to 320 feet
- Built-in BNC connector with F-connector

UOM: main and remote continuity test units, 2 F-connector adapters, 2 RJ45 shielded patch cables, 2 belt clips

Description	Catalog No.
Continuity Tester	TCT2



#### **Crimp Tool**

#### Features/Benefits

- Color-coded die-sets for different plug sizes
- Ratchet cycle assures no-fault crimps

#### **Specifications**

Parallel compression terminates to FCC specs — no misalignment

Description	Catalog No.
Complete tool kit in durable plastic case includes: crimp tool, 3 die-sets, UTP cable stripper. Die-sets include: RJ45, RJ22 and RJ11	UCTKIT
Crimp tool frame (die-sets sold separately)	UCT
RJ11 die-set	CDTSR11
RJ22 die-set	CDTSR22
RJ45 die-set (snagless or non-snagless)	CDTSR45
RJ45 die-set (non-snagless only)	CDTSR45S
RG6 and RG59 hex crimp die-set	CTDSRG659
Economy crimp tool — includes non-replaceable RJ11, RJ22 and RJ45 die-sets	ECT
RG6 and RG59 compression tool	COMPTRG659



CDTSR45

# BIDnet

### ASSEMBLE-TO-ORDER







- High Performance, Short Lead Time
- Custom-configured Assemblies Specific to the Job
- 100% Factory Tested and Assembled
- Made-to-length Assemblies Eliminate Cable Waste

Hubbell's Assemble-to-Order cable assembly program can deliver custom copper and fiber assemblies within a short period of time.

Knowing that every job and every application is different, we offer custom lengths, configurations and colors to custom fit any application.

Whether the application is Cat 5e or 6A, 25-pair, or multi-configured fiber trunk cables, Hubbell can satisfy custom cable assembly needs. Contact Customer Service to order—minimum quantities apply.

#### **Copper Patch Cords**

- Pre-terminated copper trunk assemblies
- Category 3, 5e, 6 and 6A
- Solid or stranded cable
- Single or double-ended
- Custom lengths
- Custom configurations
- Booted/non-booted
- Snagless or regular plug style
- 11 different colors

#### 110 and 25-pair

- Custom lengths
- Custom wiring
- Over molded
- Single- or double-ended

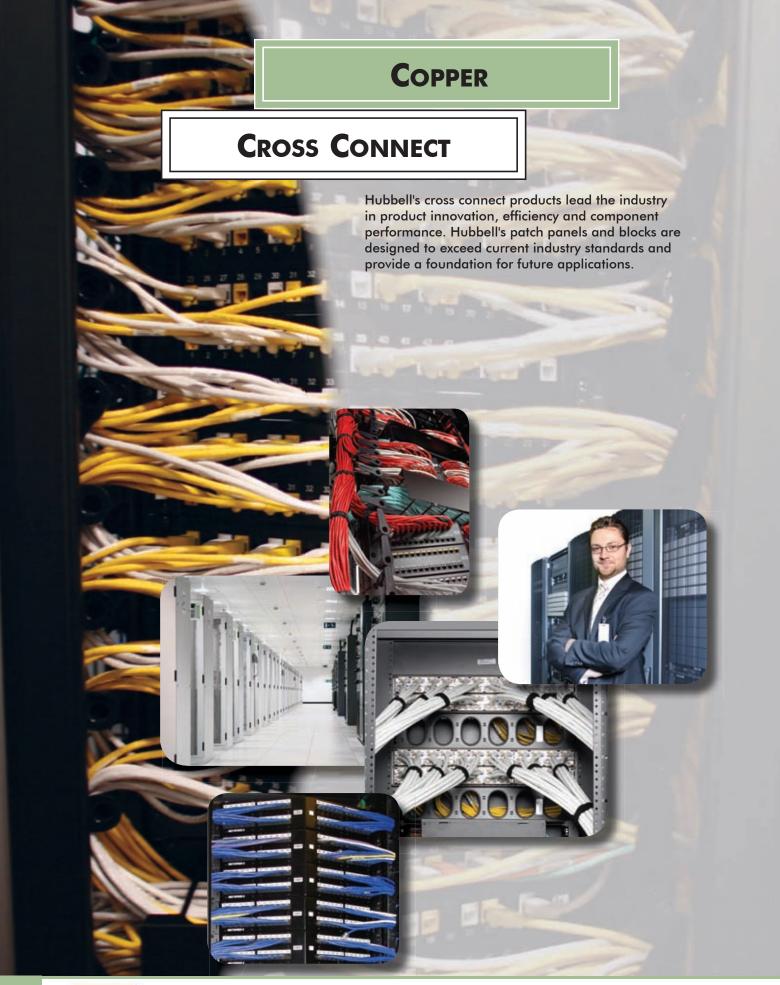
#### **Fiber Cords**

- Trunk cables multi-fiber cable
- Simplex
- Duplex
- Pigtails
- Singlemode
- Multimode
- MTP/MTO assemblies
- LC
- SC
- ST-style
- FC
- MT-RJ
- Angle polish
- Custom lengths

#### **Audio Video**

- X-END customs
- HD-15 SVGA style
- S-video
- BNC
- RCA
- 3.5mm

- Plenum
- Riser
- Multi-coax
- Multi-bundle application



# **CROSS CONNECT**

Product	PAGE
NEXTSPEED® ASCENT PATCH PANELS, CATEGORY 6A COMPONENT	.E3
NEXTSPEED® PATCH PANELS, CATEGORY 6 COMPONENT	. E5
SPEEDGAIN® PATCH PANELS, CATEGORY 5E COMPONENT	. E7
Hubbell iSTATION Multimedia and Keystone Patch Panels	.E9
SPEEDGAIN® GIGABIT ETHERNET PANELS	E11
Specialty Patch Panels	E12
Connecting Block System, Cat 6	E13
Connecting Block System, Cat 5e	E15
Block Rack Mount Kits, Cat 6/Cat 5e	E17
Block Wall Mount Kits, Cat 6/Cat 5e	E18
66 Block	E19



### **ASCENT CATEGORY 6A COMPONENT**



#### **Termination**

Stuffer caps lock in place, securing conductors in IDCs after termination.



Zero-crosstalk contact structure provides the highest performance while maintaining true balance.

**Performance** 



#### Capacity

Ideal for high density applications for easy patch cord routing.



#### **IDC** Lacing

IDC towers have an inner blade to assist in pair separation without performance disruption.



- Industry's Fastest Terminating Category 6A
  Patch Panel
- Angled Panel Eliminates the Need for Horizontal Cable Management
- 10GbE Application Assurance
- Universal Wiring Reduces Extra Parts on the Job Site

#### **Specifications**





- 4.5dB min NEXT margin over TIA 568-C.2 component at 500MHz
- 1.5dB min NEXT margin over ISO 11801 6A component requirements at 500MHz
- Supports permanent links: 2-90 meters
- Enhanced common mode design eliminates residual and reflected NEXT and ANEXT
- Designed and tested for 850mA of continuous current per conductor (1.7A per pair)

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 6A component
- $\bullet$  ISO 11801 Class  ${\rm E_A}$  Category 6A component





# **ASCENT CATEGORY 6A COMPONENT**

NEXTSI	PEED® Ascen	t Category	6A Patch P	anels	
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Color	Catalog No.
24	1.75" (45)	19" (483)	1	Black	HP6A24U
48	3.50" (89)	19" (483)	2	Black	HP6A48U
96	7.00" 178)	19" (483)	4	Black	HP6A96U
24	1.75" (45)	19" (483)	1	Silver	HP6A24US
48	3.50" (89)	19" (483)	2	Silver	HP6A48US
96	7.00" (178)	19" (483)	4	Silver	HP6A96US





NEX.	TSPEED® Asc	ent Category	6A Angled	Patch Panels
	Height	Width		
ο.	1 1 / 1	1 1 / \	D I II (	~ I

Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Color	Catalog No.
24	1.75" (45)	19" (483)	1	Black	HP6A24AU
48	3.50" (89)	19" (483)	2	Black	HP6A48AU

Note: HP6Axx angled panel protrudes 4.46" from the plane of the rack. Hubbell recommends one (1) extra inch of space between the door and panel angle.





#### **MUTOA, Category 6A** Catalog No. Description 12-port, Category 6A, MUTOA, universal, 89D HP6A12U

1-Punch Termination Tool	
Description	Catalog No.
Patch panel tool with head and blades	TX4PP
Patch panel tool replacement head (includes blades)	TX4PPH
Patch panel tool replacement blades	TX4PPBL

Rear Cable Management Bars		
Description	Туре	Catalog No.
Cable management bar and screws	19" Rack Mount	CMBR
Cable management bar, 4" bracket and screws	HPW Panel Mount	PCMBR4
Cable management bar, 6" bracket and screws	HPW Panel Mount	PCMBR6
Cable management bar, straight, with screws	19" Rack Mount	ECMBRS
Cable management bar, 3" with screws	19" Rack Mount	ECMBR3

Cable management bar, 6" with screws









**ECMBR6** 

19" Rack Mount



### **CATEGORY 6 COMPONENT**



6

30

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8

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#### **Durability**

Rolled edge construction eliminates flex during termination.



#### **Installation Ease**

Third hand location pin provides a hands free installation. Simplifies rack layout.



#### **IDC** Lacing

IDC towers have an inner blade to assist in pair splitting without perform-ance disruption.



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NEXTSPEED 6

Balanced PCB design delivers significant headroom over the TIA Category 6 standard up to 400MHz providing true application assurance.



- Industry's Fastest Terminating Category 6
  Patch Panel
- Angled Panel Eliminates the Need for Horizontal Cable Management
- Third Party Tested and Verified
- Universal Wiring Reduces Extra Parts on the Job Site

#### **Specifications**





- Component: third party verified for TIA-568-C.2 Category 6
- Current capacity: qualified for PoE+ IEEE 802.3at
- Manufacturing: 100% factory tested

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 6 component
- ISO 11801 Class E Category 6 component



# **CATEGORY 6 COMPONENT**

NEXT:	SPEED® Cate	gory 6 Patch	n Panels		
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Color	Catalog No.
24	1.75" (45)	19" (483)	1	Black	P6E24U
48	3.50" (89)	19" (483)	2	Black	P6E48U
96	7.00" (178)	19" (483)	4	Black	P6E96U
24	1.75" (45)	19" (483)	1	White	P6E24UW
48	3.50" (89)	19" (483)	2	White	P6E48UW
96	7.00" (178)	19" (483)	4	White	P6E96UW



P6E48U Front



P6E48U Rear



|--|

Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Color	Catalog No.
24	1.75" (45)	19" (483)	1	Black	P624AU
48	3.50" (89)	19" (483)	2	Black	P648AU

Note: HP6Axx angled panel protrudes 4.46" from the plane of the rack. Hubbell recommends one (1) extra inch of space between the door and panel angle.

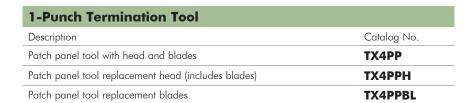


### **MUTOA, Category 6 Component**

Description Catalog No.



P612U





Rear Cable Management Bars		
Description	Туре	Catalog No.
Cable management bar and screws	19" Rack Mount	CMBR
Cable management bar, 4" bracket and screws	HPW Panel Mount	PCMBR4
Cable management bar, 6" bracket and screws	HPW Panel Mount	PCMBR6
Cable management bar, straight, with screws	19" Rack Mount	ECMBRS
Cable management bar, 3" with screws	19" Rack Mount	ECMBR3
Cable management bar, 6" with screws	19" Rack Mount	ECMBR6





# SPEEDGAIN

### **CATEGORY 5E COMPONENT**







Balanced PCB design delivers significant headroom over the TIA Category 5e standard up to 200MHz providing true application assurance.



#### **Durability**

Rolled edge construction eliminates flex during termination.



#### **Installation Ease**

Universal wiring panels can be terminated using T568B or T568A wiring formats.



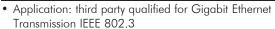
#### **Administration**

Accepts Hubbell laser printable label sheets and industry recognized 0.5 inch hand held printer tape.



- Industry's Fastest Terminating Category 5e
  Patch Panel
- In-Line IDC Termination
- Third Party Tested
- Universal Wiring Reduces Extra Parts on the Job Site

#### **Specifications**



• Manufacturing: 100% factory tested

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 5e component
- ISO 11801 Class D Category 5e component





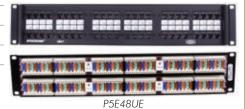


# **CATEGORY 5E COMPONENT**

SPEED	EDGAIN® Category 5e Patch Panels				
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Color	Catalog No.
24	1.75" (45)	19" (483)	1	Black	P5E24U
48	3.50" (89)	19" (483)	2	Black	P5E48U
96	7.00" (178)	19" (483)	4	Black	P5E96U
24	1.75" (45)	19" (483)	1	White	P5E24UW
48	3.50" (89)	19" (483)	2	White	P5E48UW
96	7.00" (178)	19" (483)	4	White	P5E96UW



P5E24UE



SPEED	GAIN® Cate	gory 5e Ang	gled Patch	<b>Panels</b>	
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Color	Catalog No.
24	1.75" (45)	19" (483)	1	Black	P5E24AU
48	3.50" (89)	19" (483)	2	Black	P5E48AU

Note: HP6Axx angled panel protrudes 4.46" from the plane of the rack. Hubbell recommends one (1) extra inch of space between the door and panel angle.



MUTOA, Category 5e Component	
Description	Catalog No.
12-port, Category 5e, MUTOA, universal, 89D	P5E12U



P5E12U

Rear Cable Management Bars					
Description	Туре	Catalog No.			
Cable management bar and screws	19" Rack Mount	CMBR			
Cable management bar, 4" bracket and screws	HPW Panel Mount	PCMBR4			
Cable management bar, 6" bracket and screws	HPW Panel Mount	PCMBR6			
Cable management bar, straight, with screws	19" Rack Mount	ECMBRS			
Cable management bar, 3" with screws	19" Rack Mount	ECMBR3			
Cable management bar, 6" with screws	19" Rack Mount	ECMBR6			





### MULTIMEDIA AND KEYSTONE PATCH PANELS





#### **Durability**

Rolled edge construction eliminates flex during termination.



#### **Keystone Design**

Rear-loading Hubbell keystone feature simplifies installation, allowing for MACs and provides migration path.



#### **Hubbell Pro Audio Design**

Allows for Pro Audio style connections to be placed into a patch panel for easy access in racks and cabinets.



- 1U High-Density 48-Port Panel Maximizes Rack Space
- Angle Panel Design Eliminates the Need for Cable Management
- Panel Allows for Endless Audio Video and **Data Applications**
- All Steel Construction

#### **Features**

- High density form factor saves space in the datacenter
- Fits all Hubbell HXJ and HJ jacks
- Opens up rack real-estate
- Color coding: jacks are available in 14 different color offerings for distinctive color-coding

#### **Specifications**

- Panel material: 2-piece welded construction
- Durable, black powder coat finish

#### Standards/Listings/Verifications

- Complies with TIA-310-D rack mount standard
- UL Listed 1863



UDX S	UDX Super, High-Density Panel									
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Туре	Color	Catalog No.				
48	1.75" (mm)	19" (483)	1	Flat	Black	UDX48E1U				
48	1.75" (mm)	19" (483)	1	Angled	Black	UDX48A1U				



Note: Only accepts HXJ/HJ6A jacks.

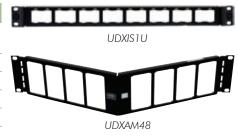
UDX I	Multimedia	<b>Jack Panels</b>	, Unloa	ıded		
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Туре	Color	Catalog No.
12	-	-	-	89D	Black	UDX1289*
24	1.75" (45)	19" (483)	1	Flat	Black	UDX24E
36	1.75" (45)	19" (483)	1	Flat	Black	UDX36E
48	3.50" (89)	19" (483)	2	Flat	Black	UDX48E
24	1.75" (45)	19" (483)	1	Angled	Black	UDXA24
48	3.50" (89)	19" (483)	2	Angled	Black	UDXA48
N . *D	, ,	0001 1 .				



Note: \*Pre-mounted on an 89D bracket.

Hubbe	II istation	l Patch Pan	els, Front-Loadi	ing, Un	loaded
Opening Size	Height Inches (mm)	Width Inches (mm)	No. of Total Units	Туре	Catalog No.
1 Unit	1.75" (45)	19" (483)	8-1 Unit Modules	Flat	UDXIS1U**
3 Units	3.50" (89)	19" (483)	24-1 Unit Modules	Flat	UDXIS2U
1 Unit	1.75" (45)	19" (483)	8-1 Unit Modules	Angled	UDXAM16**
3 Units	3.50" (89)	19" (483)	24-1 Unit Modules	Angled	UDXAM48

Note: \*\*Use only Hubbell iSTATION 1U modules. See section C for a complete listing of Hubbell iSTATION modules.



Pro-AV Panel Mount Patch Panels, Unloaded								
Opening Size	Height Inches (mm)	Width Inches (mm)	No. of Connectors	Туре	Catalog No.			
Pro-AV	1U (1.75")	19" (483)	16	Flat	PAV16			
Pro-AV	2U (3.50")	19" (483)	32	Flat	PAV32			
Pro-AV	1U (1.75")	19" (483)	16	Angled	PAVA16			
Pro-AV	2U (3.50")	19" (483)	32	Angled	PAVA32			
				,				

Note: See page C11 for Pro-AV panel mount (XLR type) connector information.

Note: Order jacks separately, see page B4 for a complete listing.



Angle	Angled Blank Panels and Cover								
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Туре	Color	Catalog No.			
Blank	1.75" (45)	19" (483)	1	Angled	Black	ABP175			
Blank	3.50" (89)	19" (483)	2	Angled	Black	ABP350			
-	-	-	-	Cover	Black	APC			



o Snie	o Snielaed Parch Panels, Uniodaed								
Ports	Height Inches (mm)	Width Inches (mm)	Rack Units	Туре	Color	Catalog No.			
24	1.75" (45)	19" (483)	1	Flat	Black	PSJ24BK			
24	1.75" (45)	19" (483)	1	Flat	Silver	PSJ24S			

PSJ24S	
11 \$ 11 \$ 11 \$ 11 \$ 10 10 10 10 1	
CMBR	
HOHONON II MAN	
PCMBR4	

Rear Cable Management Bars		
Description	Туре	Catalog No.
Cable management bar and screws	19" Rack Mount	CMBR
Cable management bar, 4" bracket and screws	HPW Panel Mount	PCMBR4
Cable management bar, 6" bracket and screws	HPW Panel Mount	PCMBR6

## SPEEDGAIN

## 100/1000 BASE-T ETHERNET PANELS





#### Capacity

25-pair cable much smaller profile than equivalent 6-cable bundle of 4-pair UTP.



#### Installation

"Plug-n-Play" connection within the datacenter easily interfacing between switches (RJ21X) or standard patch panels (RJ45).

# Advantage

- The Industry's Only 25-Pair Gigabit Ethernet Panel
- 6-Port Installation Using 25-Pair Cable Assemblies
- Third Party Tested
- 25-Pair Assemblies Remove Cable Congestion, Improving Air Flow

#### **Specifications**





- Application: third party qualified for Gigabit Ethernet Transmission IEEE 802.3
- Performance: TIA-568-C.2 Category 5e component
- Manufacturing: 100% factory tested
- Design: Gigabit Ethernet transmission, 100MHz

#### **Gigabit Ethernet 1000BASE-T Patch Panels**

Unit of Measure: 1 1000BASE-T patch panel, 4 mounting screws, 4 cable assembly screws. Height Ports Inches (mm) Inches (mm) Depth Connectors Color Catalog No. 1.75" (45) 19" (483) 24 1.2" (31) Female Black **PG24** 48 3.50" (89) 1.2" (31) Female Black **PG48** 19" (483)



#### Fast Ethernet 100BASE-T Patch Panels (Female 50-pin)

Unit of Measure: 1 100BASE-T patch panel, 4 mounting screws, 4 cable assembly screws.

Height Width

Ports Inches (mm) Inches (mm) Depth Connectors Color Catalog No.

Ports	Inches (mm)	Inches (mm)	Depth	Connectors	Color	Catalog No.
24	1.75" (45)	19" (483)	1.2" (31)	Female	Black	MCC24100BT19
48	3.50" (89)	19" (483)	1.2" (31)	Female	Black	MCC48100BT19

Note: See page D10 for cable assemblies.

Rear Cable Management Bars		
Description	Туре	Catalog No.
Cable management bar and screws	19" Rack Mount	CMBR
Cable management bar, straight, with screws	19" Rack Mount	ECMBRS
Cable management bar, 3" with screws	19" Rack Mount	ECMBR3
Cable management bar, 6" with screws	19" Rack Mount	ECMBR6



MCC48100BT19





## **SPECIALTY PATCH PANELS**





#### Installation

The cable management panel acts as a bench support during termination.



#### **Cable Management**

Integrated management provides an orderly, aesthetic, easy solution.



- Patented Hinge Design (U.S. Patent No. 5,765,698)
- The Cable Management Panel Acts as a Bench Support During Termination
- Third Party Tested and Verified Category 5e
- RoHS Compliant

#### Specifications





- Application: third party qualified for Gigabit Ethernet Transmission IEEE 802.3
- Component: third party qualified for Cat. 5e and 6
- Channel: third party verified for ISO 11801 Class D/E compliant

Pata	h Panels, l	Front Acces	s, Category	5e		
	Height	Width	Depth			
Ports	Inches (mm)	Inches (mm)	Inches (mm)	Wiring	Catalog No.	
12	2.5" (64)	10" (254)	1.5" (38)	T568B	P5E12BF	
12	2.5" (64)	10" (254)	1.5" (38)	T568A	P5E12AF	
24	3.5" (89)	19" (483)	1.5" (38)	T568B	P5E24BF	



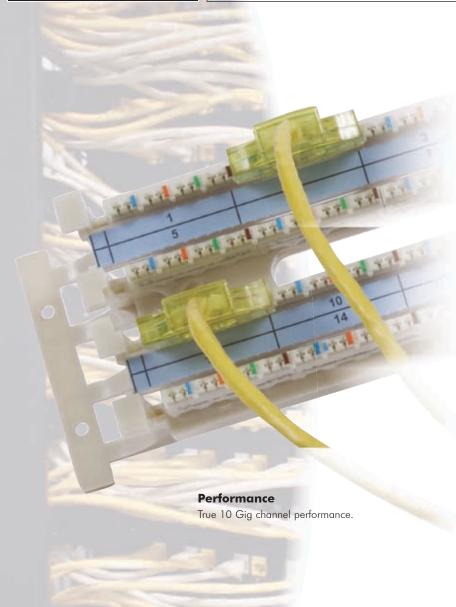
P5E24BF

Pata	Patch Panels, Hinged, Fold-Down, Category 6A, 6, and 5e								
ъ.	Height	Width	Depth	_	<b>C</b> .				
Ports	Inches (mm)	Inches (mm)	Inches (mm)	Туре	Category	Catalog No.			
48	7.0" (177)	19" (483)	7.5" (191)	Wall	6A	P6A48UF			
48	7.0" (177)	19" (483)	1.5" (38)	Rack	6A	P6A48UF19			
48	7.0" (177)	19" (483)	7.5" (191)	Wall	6	P648UF			
48	7.0" (177)	19" (483)	1.5" (38)	Rack	6	P648UF19			
48	7.0" (177)	19" (483)	7.5" (191)	Wall	5e	P5E48UF			
48	7.0" (177)	19" (483)	1.5" (38)	Rack	5e	P5E48UF19			





## 6-110 CONNECTING BLOCK SYSTEM





#### **Installation Ease**

Category 6 field terminated patch plugs allow custom length patch cords to be assembled in the field by utilizing a labor saving snap fit design.



#### **Termination**

Termination tool designed to seat and terminate all four pairs at once.



#### **IDC** Lacing

Cable access openings allow cables to be routed through the rear of the block directly to the point of termination.



- TIA-568-C.2 Category 6 Component
- Increased Channel Width Allows Cable to Maintain Proper Pair Twist
- 10GbE Channel Performance
- RoHS Compliant



#### **Specifications**

- TIA-568-C.2 Category 6 component
- Conductor size: solid or stranded 26-22 AWG
- cUL and UL Listed

Field Termination Kits, 6-110	
Description	Catalog No.
6-110/64-pair field termination kit with standoff legs	6110FTK64WL
6-110/64-pair field termination kit without standoff legs	6110FTK64NL
6-110/192-pair field termination kit with standoff legs	6110FTK192WL



#### **Features/Benefits**

- Cut designation on tool head aids proper orientation before termination.
- Ergonomic rubber handle for ease of use.
- Head and blades remove easily for fast replacement.

Termination Tool, 6-110/4-pair	
Description	Catalog No.
Termination tool, 4-pair, 6-110 (includes head and blades)	6110MPPDT
Replacement tool head, 6-110 (includes blades)	6110MPPDT1

Note: 6110 tool is not compatible with 1-punch termination tool.



Field Terminated Patch Plugs	
Unit of Measure: 1 patch plug base, 1 patch plug cover, 1 cable t	ie
Description	Catalog No.
Category 6, 6-110, 4-pair, yellow	6110FPP4PR

Factory Terminated Patch Cords			
Length	Color	6-110 to 6-110	6-110 to RJ45 (T568B)
3′	Yellow	6110PCL3	6119 <b>PCL</b> 3
5′	Yellow	6110PCL5	6119 <b>PCL</b> 5
7′	Yellow	6110PCL7	6119 <b>PCL</b> 7
9′	Yellow	6110PCL9	6119 <b>PCL</b> 9
12'	Yellow	6110PCL12	6119PCL12

Connecting Blocks, 6-110/4-pair	
Description	Catalog No.
Connecting blocks, 6-110/4-pair	6110CB4PR10

Connecting Blocks, 6-110/4-pair	
Description	Catalog No.
Connecting blocks, 6-110/4-pair	6110CB4PR10

Hubbell Labeling Solutions, Cross Connect, 6-110/110
The Hubbell labeling solution 110 laser-printable label sheets and covers can be mounted between each wiring channel to identify individual station ports or pair counts. See page U7
for more information.

Description	Catalog No.
Laser-printable label sheets, 6-110 /110, white	XPL11010W
Laser-printable label sheets, 6-110 /110, yellow	XPL11010Y
Laser-printable label sheets, 6-110 /110, blue	XPL11010B



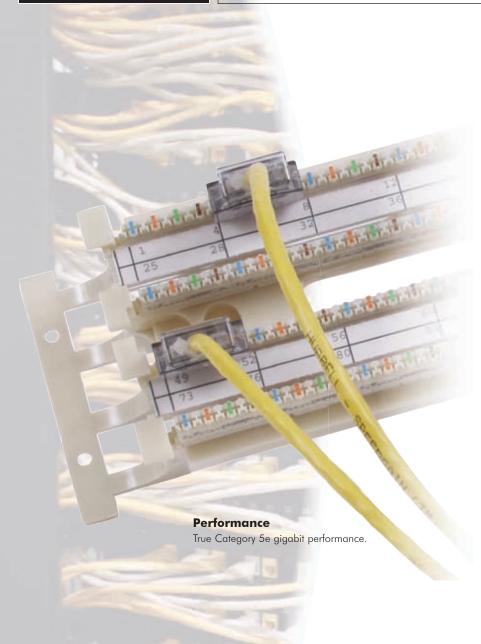




6110CB4PR10



## 110 CONNECTING BLOCK SYSTEM





#### **Installation Ease**

Category 5e field terminated patch plugs allow custom length patch cords to be assembled in the field by utilizing a labor saving snap fit design.



#### **Termination**

1-punch termination tool designed to seat and terminate all four pairs at once.



#### **IDC** Lacing

High definition color coding and tip and ring designation make conductor placement and termination simple.



- Category 5e Component Verified
- Access Openings Allow Cables to be Routed Directly to Point of Termination
- Gigabit Ethernet Assurance
- **RoHS Compliant**

#### **Specifications**





- TIA-568-C.2 Category 5e component
- Conductor size: solid or stranded 26-22 AWG
- cUL and UL Listed

Wiring Blocks, 110	
Description	Catalog No.
Wiring block, 110/50-pair with standoff legs	110BLK50BWL
Wiring block, 110/50-pair without standoff legs	110BLK50BNL
Wiring block, 110/100-pair with standoff legs	110BLK100BWL
Wiring block, 110/100-pair without standoff legs	110BLK100BNL
Wiring block, 110/300-pair with standoff legs	110BLK300BWL
Wiring block, 110/300-pair without standoff legs	110BLK300BNL

Field Termination Kits, 110	
Description	Catalog No
Field termination kit, 110/50-pair with 4-pair blocks	110BLK50FTK4
Field termination kit, 110/50-pair with 5-pair blocks	110BLK50FTK5
Field termination kit, 110/100-pair with 4-pair blocks	110BLK100FTK4
Field termination kit, 110/100-pair with 5-pair blocks	110BLK100FTK5
Field termination kit, 110/300-pair with 4-pair blocks	110BLK300FTK4
Field termination kit, 110/300-pair with 5-pair blocks	110BLK300FTK5

## Termination Tool, 110/5-pair

110/5-pair tool is designed to seat 110 connecting blocks and terminate and cut UTP cable on 110 wiring blocks.

Description	Catalog No
Termination tool, 110/5-pair (includes head and blades)	T5PPD110
Replacement tool head, 110/5-pair (includes blades)	T5PPD110H
Replacement tool blades, 110/5-pair	T5PPD110B

Field Terminated Patch Plugs	
Unit of measure: 1 patch plug base, 1 patch plug cover, 1 cable tie	
Description	Catalog No
Category 5e, 110, 4-pair, gray	110FPP4PR

Factory Terminated Patch Cords				
Length	Color	110 to 110	110 to RJ45 (T568B)	
3'	Yellow	PC110C5EL3	PC119C5EL3	
5'	Yellow	PC110C5EL5	PC119C5EL5	
7′	Yellow	PC110C5EL7	PC119C5EL7	
9′	Yellow	PC110C5EL9	PC119C5EL9	
12'	Yellow	PC110C5EL12	PC119C5EL12	

## **Connecting Blocks, 110** 110 connecting blocks are terminated to the 110 wiring blocks using the 110/5-pair termination tool. Available in 4- and 5-pair sizes.

Description	Catalog No
Connecting blocks, 110/4-pair (kit of 10)	110CB4PR10
Connecting blocks, 110/5-pair (kit of 10)	110CB5PR10

#### **Hubbell Labeling Solutions, Cross Connect, 6-110/110**

The Hubbell Labeling Solution 110 laser-printable label sheets/covers can be mounted between each wiring channel to identify individual station ports or pair counts. See page U7 for more information.

	1 3
Description	Catalog No
Laser-printable label sheets, 6-110 /110, white	XPL11010W
Laser-printable label sheets, 6-110 /110, yellow	XPL11010Y
Laser-printable label sheets, 6-110 /110, blue	XPL11010B



110BLK100FTK4



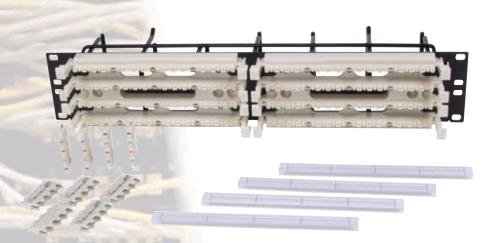




110CB4PR10



## **RACK MOUNT KITS**





- TIA-568-C.2 Category Rated 5e/6 Compliant
- Unique Third Hand Locating Pins Hold Panel in Place on Rack while Installing Screws
- 1 and 10 Gigabit Compliant
- RoHS Compliant

#### **Specifications**





- 110 wiring bases and blocks are made of fire-retardant plastic rated UL 94-V0
- Panel material: 14ga steel
- Finish: durable black powder coat
- TIA-310-E

Rack Mount Kits, 6-110, Category 6				
Description	Rack Units	Catalog No.		
Rack mount kit with troughs, 6-110, 128-pair	3U	6110RM1		
Rack mount kit without troughs, 6-110, 128-pair	2U	6110RM1NT		



Rack Mount Kits, 110, with Cable Management, Category 5e					
Description	Rack Units	Catalog No.			
Rack mount kit, 100-pair with 4-pair connecting blocks	2U	110RM14			
Rack mount kit, 100-pair with 5-pair connecting blocks	2U	110RM15			
Rack mount kit, 200-pair with 4-pair connecting blocks	3U	110RM24			
Rack mount kit, 200-pair with 5-pair connecting blocks	3U	110RM25			



### Rack Mount Kits, 110, without Cable Management, Category 5e

• •	•	, , ,	
Description	Rack Units	Catalog No.	
Rack mount kit, 100-pair with 4-pair connecting blocks	1U	110RM14NT	
Rack mount kit, 100-pair with 5-pair connecting blocks	1U	110RM15NT	
Rack mount kit, 200-pair with 4-pair connecting blocks	2U	110RM24NT	
Rack mount kit, 200-pair with 5-pair connecting blocks	2U	110RM25NT	





## **WALL MOUNT KITS**



- TIA Category 5e/6 Compliant
- Wall Mount Kits are Supplied Fully Assembled with Wiring Blocks
- IEEE 802.3 Compliant
- RoHS Compliant



### **Specifications**





- Material: 110 wiring bases and blocks are made of fire-retardant plastic rated UL 94-V0
- Tower material: rugged 16ga steel Finish: durable black powder coat

Wall Mount	Kits, 6-	110/1	10	
Unit of Measure:	6-110	110	Description	
	1	1	Wall mount tower frame	
	1	1	Bottom cable trough	
	3	-	6-110/64-pair wiring blocks without legs	
	-	3	100-pair wiring blocks without legs	
	48	-	6-110/4-pair connecting blocks	
	-	60	110/4-pair connecting blocks	
	-	12	110/5-pair connecting blocks	
	3	3	Cable management troughs without legs	
	6	6	Clear label holders	
	6	6	White paper designation strips	
Description				Catalog No.
Wall mount kit, Co	ategory 6, 6	-110/19	2-pair	6110WMK
Wall mount kit, Co	ategory 5e,	110/300	)-pair	110WMK



6110WMK

Cable Management Backboard				
Unit of Measure:	Quantity	Description		
	1	Wall mount cable management tower		
	1	Bottom cable trough		
	3	Cable management rings		
Description			Catalog No.	
Cable manageme	nt backboard		188BBR	

Cable Management Troughs				
Description	With Legs	Without Legs		
Cable management trough	110TRA	110TRB		





110TRB

Modular 66 Cross Connect Blocks, 66M				
Description	Block Size	Capacity	Catalog No.	
66M block, Category 5 with cover	4 x 50	50-pair	HPW66M150C5	
66M block	4 x 25	25-pair	HPW66M125	
66M block	4 x 50	50-pair	HPW66M150	
66M cover		-	HPW66MCVR	

#### **Features/Benefits**

- Designed to fill the requirements for data distribution using familiar quick-clips for termination
- Ability to transmit data rates up to 100 MHz

#### **Specifications**

• With 4 slots on each row, there is flexibility for various configurations



Modular 66 Cross Connect Blocks, 66B					
Description	Block Size	Capacity	Catalog No.		
66B block, split (3x) (includes cover)	6 x 6	6-pair	HPW66B36		
66B block cover for HPW66B 425 + 350	-	-	HPW66BCVR		
66M block	6 x 12	6-pair	HPW66B16		
66B block 25-pair, split (4x)	6 x 50	25-pair	HPW66B425		
66B block 50-pair, split (4x)	6 x 50	50-pair	HPW66B350		

#### Features/Benefits

- Designed for fast and easy termination incoming telephone cables
- The smaller connecting blocks satisfy the need for a block smaller than the 25-pair size

#### **Specifications**

 Stackable for increased plant flexibility



HPWB66B425

12- and 16-Port Blocks					
Description	Wiring	Jack Openings	Capacity	Catalog No.	
Modular 66 block	T568B	12-8 pos. jacks	50-pair	BR258066A	
Modular 66 block	USOC-RJ25	16-6 pos. jacks	50-pair	BR256066A	

#### **Features/Benefits**

- Supports installations not large enough to warrant a patch panel
- Designed with printed circuit boards for consistent electrical performance

#### **Specifications**

 Category 3 (12-port) performance listed by UL (89D bracket included)



BR258066A

#### **Modular 66 Cross Connect Block Accessories** Catalog No. Description Cable routing spool without screw **HPW66SPLA** Cable routing spool with screw **HPW66SPLB** 89B bracket (use to mount 66M series blocks) HPW89B 89D bracket (use to mount 66M series blocks) HPW89D Backboard (blue, for 89D and 89B brackets) HPW66BB Includes 2-89B brackets as shown 66B bracket (use to mount 66B series blocks) **HPW66BBRKT** Bridging clip (0.5" x 0.25") (pack of 100) HPW66BC100

#### Features/Benefits

- Cable routing spools provide control and dressing of distribution cables and jumper wires—available with or without screws
- Mounting holes are provided for use in a variety of mounting options

#### **Specifications**

 Material: mounting brackets molded of durable selfextinguishing thermoplastic



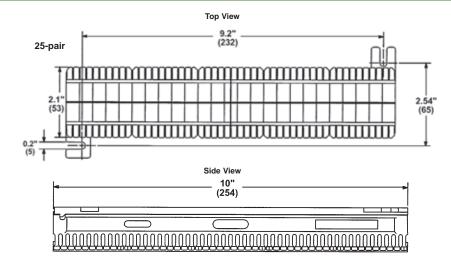
HPW89D



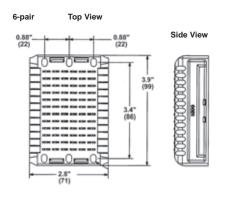
HPW66BC100

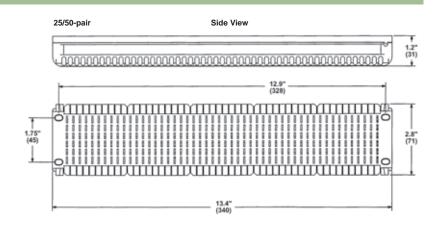


#### **Modular 66M Block**

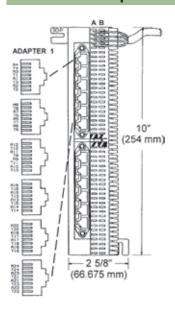


#### Modular 66B Block

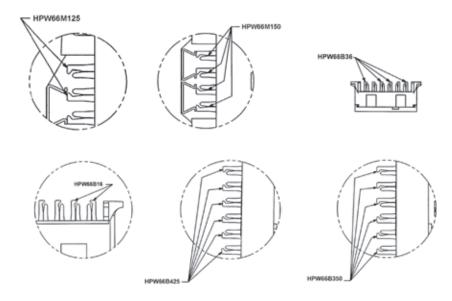




#### **Modular 66 Adapters**



## **Modular 66 Contact Configurations**







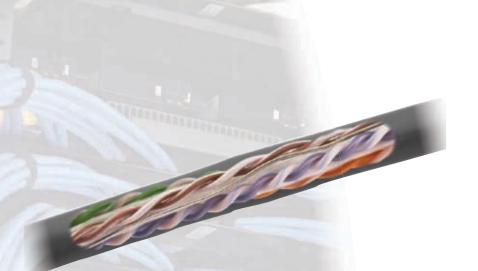
## **C**ABLE

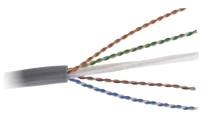
Product	PAGE
NEXTSPEED® ASCENT CATEGORY 6A UTP CABLE	F3
NEXTSPEED® ASCENT CATEGORY 6A FTP CABLE	F4
NEXTSPEED® CATEGORY 6 ENHANCED UTP CABLE	F5
NEXTSPEED® CATEGORY 6 UTP CABLE.	F5
NEXTSPEED® LINK 6 UTP CABLE	F5
SPEEDGAIN® CATEGORY 5E UTP CABLE	F6
CATEGORY 5E UTP CABLE	F6

www.hubbell-premise.com



## **CATEGORY 6A UTP CABLE**





#### **Flexibility**

Unique spline construction provides ease of termination – installation.

#### **Performance**

Patented cable design suppresses ANEXT delivering full 10GBase-T error free transmission.





# Advantage

- Third Party Verified TIA Category 6A Component Compliant
- Round Cable Construction Provides Easy Routing, Pulling and Cable Managing
- 10 Gigabit Ethernet Assurance
- Recycled Material Used on All Cartons

#### **Specifications**



- Application: third party qualified for 10 Gigabit Ethernet tansmission IEEE 802.3an
- Current capacity: qualified for PoE+ IEEE 802.3at
- NVP: plenum: 71%; riser: 68%

#### Standards/Listings/Verifications

- UL Verified TIA-568-C.2 Category 6A cable
- $\bullet$  ISO 11801 Class  $\rm E_A$  Category 6A cable
- UL Listed

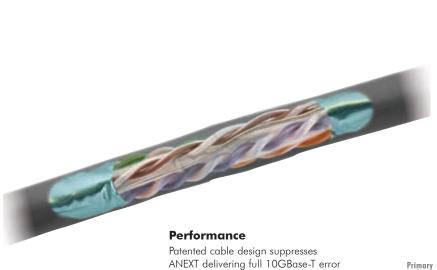
NEXTSPEED® Ascent Category 6A, UTP Cable, 4-Pair			
Color	Plenum Spool	Riser Spool	
Blue	C6ASPB	C6ASRB	
Gray	C6ASPGY	C6ASRGY	
White	C6ASPW	C6ASRW	
Yellow	C6ASPY	C6ASRY	
NI . All .		1000 (	

Note: All category rated cable is packaged in 1000 foot quantities.





## **CATEGORY 6A FTP CABLE**



free transmission.



#### **Flexibility**

Small OD construction provides increased capacity in cabling runways.

#### CABLE CONSTRUCTION





- Third Party Verified TIA Category 6A Component Compliant
- .290 OD Allows Increased Pathway Capacity Designed for Critical, Bandwidth Intensive 10GBASE-T Applications
- 10 Gigabit Ethernet Assurance
- Recycled Material Used on All Cartons

#### **Specifications**



- Application: third party qualified for 10 Gigabit Ethernet transmission IEEE 802.3an
- Current capacity: qualified for PoE and PoE+ IEEE 802.3at
- NVP: plenum: 70%; riser: 68%

#### Standards/Listings/Verifications

- UL Verified TIA-568-C.2 Category 6A cable
- ISO 11801 Class E<sub>A</sub> Category 6A cable
- UL Listed

NEXTSPEED	® Ascent Category 6	A, FTP Cable, 4-Pair	
Color	Plenum Spool	Riser Spool	
Blue	C6AFTPSPB	C6AFTPSRB	
Gray	C6AFTPSPGY	C6AFTPSRGY	
White	C6AFTPSPW	C6AFTPSRW	
Yellow	C6AFTPSPY	C6AFTPSRY	

Note: All category rated cable is packaged in 1000 foot quantities.







## CATEGORY 6 UTP CABLE



- Third Party Verified TIA Category 6 Cable
- Reverse Sequential Numbering
- PoE Assurance
- Recycled Material Used on All Cartons



#### Standards/Listings/Verifications



- UL Verified 568-C.2 Category 6 compliant
- ISO 11801 Class E Category 6
- UL Listed

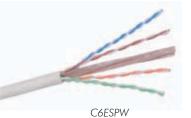
#### NEXTSPEED® Category 6 Enhanced UTP Cable, 4-Pair

#### Features/Benefits

- Sweep tested to 750MHz
- Headroom over TIA and ISO Category 6 requirements to 500MHz
- · Backward compatible to Category 5e, 5, and 3
- .235 OD provides easy cable routing for TSB-155 applications

#### **Specifications**

- · Conductor: 23 AWG solid bare copper
- Insulation: CMP: FEP, CMR: Polyolefin
- Jacket:
  - CMP: Low-Smoke PVC
  - CMR: PVC
- NVP: Plenum: 70%; Riser: 68%



Description	Plenum Spool	Riser Spool
Catalog No.	C6ESPxx	C6ESRxx

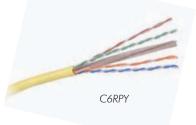
#### **NEXTSPEED®** Category 6 UTP Cable, 4-Pair

#### Features/Benefits

- Sweep tested to 550MHz
- Headroom over TIA and ISO Category 6 requirements
- · Backward compatible to Category 5e, 5, and 3
- .220 OD designed for efficient cable routing and bundling

- Conductor: 23 AWG solid bare copper
- Insulation: CMP: FEP, CMR: polyolefin
- Jacket:
  - CMP: low-smoke PVC
  - CMR: PVC
- NVP: plenum: 70%; riser: 68%

Catalog No.	C6RPxx	C6RRxx	
Description	Plenum Box	Riser Box	
	REELEX®	REELEX®	



#### **NEXTSPEED®** Link 6 UTP Cable

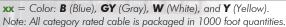
#### **Features/Benefits**

- Sweep tested to 450MHz
- Category 6 Component compliant
- · Backward compatible to Category 5e, 5, and 3
- .220 OD designed without cable spline for easy termination

#### **Specifications**

- · Conductor: 23 AWG solid bare copper
- Insulation: plenum: FEP; riser: HDPE
- Jacket: plenum: FRPVC; riser: PVC
- NVP: plenum: 70%; riser: 68%

C6RPExx	C6RRExx	
Plenum Box	Riser Box	
REELEX®	REELEX®	
	Plenum Box	Plenum Box Riser Box



REELEX® is licensed and patented by Windings Inc.







## CATEGORY 5E UTP CABLE



- Third Party Verified TIA Category 5e Cable
- Unique Carton Design Allows for Smooth Cable Payout
- **Active Application Assurance**
- Recycled Material Used on All Cartons





- ISO 11801 Class D Category 5e
- UL Listed

#### SPEEDGAIN® Category 5e UTP Cable, 4-Pair

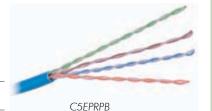
#### Features/Benefits

- Sweep tested to 400MHz
- Headroom over TIA and ISO Category 5e requirements
- Reverse sequential footage marking
- Backward compatible to Category 5 and 3

#### **Specifications**

- Conductor: 24 AWG solid bare copper
- Insulation: CMP: FEP, CMR: polyolefin
- Cable OD: .180
- Jacket:
  - CMP: low-smoke PVC
  - CMR: PVC
- NVP: plenum: 70%; riser: 68%

Catalog No.	C5EPRPxx	C5EPRRxx	
Description	Plenum Box	Riser Box	
	REELEX®	REELEX®	



#### Category 5e UTP Cable, 4-Pair

#### Features/Benefits

- Sweep tested to 350MHz
- Headroom over TIA and ISO Category 5e requirements
- Reverse sequential footage marking
- Backward compatible to Category 5 and 3

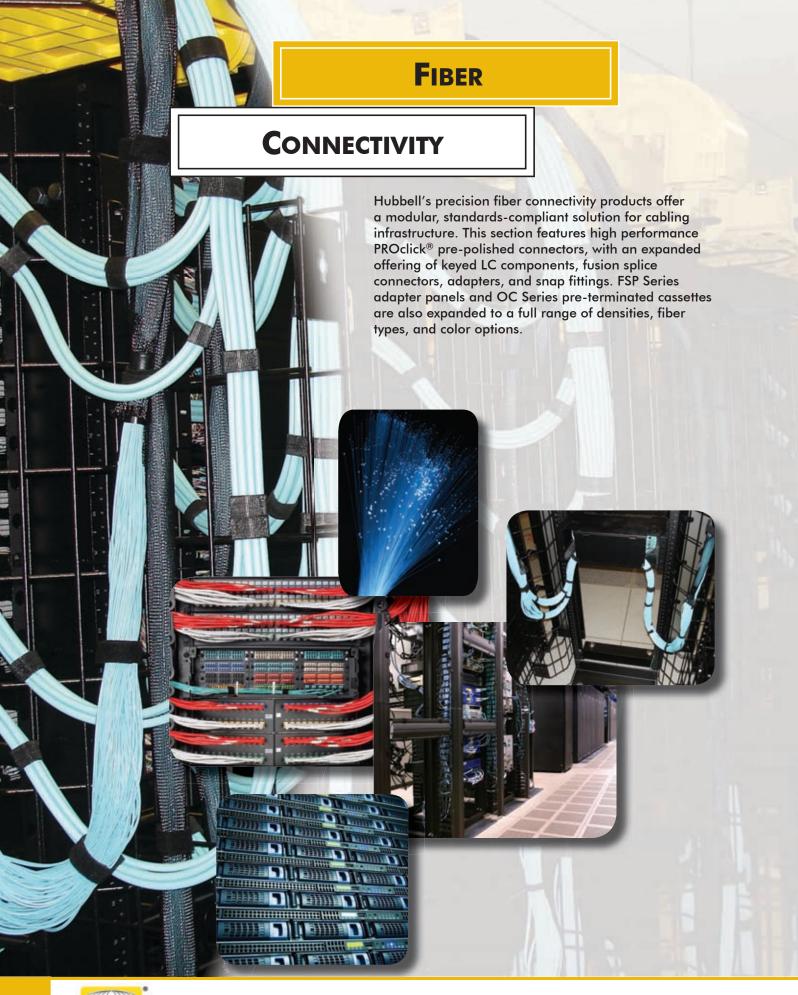
#### **Specifications**

- Conductor: 24 AWG solid bare copper
- Insulation: CMP: FEP, CMR: polyolefin
- Cable OD: .180
- Jacket:
  - CMP: low-smoke PVC
  - CMR: PVC
- NVP: plenum: 70%; riser: 68%

Description Plenum Box Riser Box	
REELEX® REELEX®	

xx = Color: B (Blue), GY (Gray), W (White), and Y (Yellow). Note: All category rated cable is packaged in 1000 foot quantities. REELEX® is licensed and patented by Windings Inc.



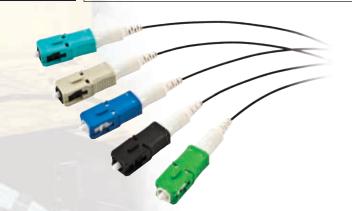




## **CONNECTIVITY**

PRODUCT	PAGE
PROCLICK® PRE-POLISHED CONNECTORS	G3
Crimp Style Non-Adhesive Connectors	G4
Adhesive Connectors	G5
FUSION SPLICE CONNECTORS	G6
Keystone Adapter Snap Fittings	G7
LC AND SC ADAPTERS	G8
SPECIALTY ADAPTERS	G9
MTP Cassettes and 12-Fiber Plug-n-Play Cords	G10
FSP Adapter Panels	G11
Termination Tools and Accessories	G13

## PROCLICK® PRE-POLISHED CONNECTORS





**Termination** 

Insert fiber and activate clamp in one simple motion.

# Advantage

- Precision Low Loss, High Yield Pre-Polished Connector
- Terminate in Less than 60 Seconds
- CSI Specifications, Drawings and Advanced Termination Tips Available
- RoHS Compliant and Bulk Packed in Recyclable Cartons

#### **Specifications**



- Insertion loss: 0.5dB (0.35dB typical), 0.75dB max
- Singlemode return loss: 55dB Typ, 40dB minimum
- Multimode return loss: 35dB Typ, 22dB minimum
- Operating temperature range: 0 °C to +70 °C
- Mating durability: 500 cycles < 0.1dB change
- Ferrule: zirconia ceramic, UPC polish

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

PROclick® L	.C Pre-Polishe	ed Conn	ectors	
Fiber Type	Cable Type	Color	12 Pack	100 Pack
50μM, OM3	900/250 μΜ	Aqua	FCLC900K50GM12	FCLC900K50GM100
50μM, OM2	900/250 μM	Black	FCLC900K50M12	FCLC900K50M100
62.5μM, OM1	900/250 μΜ	Beige	FCLC900K62M12	FCLC900K62M100
SM. OS2	900/250 µM	Blue	FCLC900KSM12	FCLC900KSM100



PROclick® S	C Pre-Polishe	ed Conne	ectors	
Fiber Type	Cable Type	Color	12 Pack	100 Pack
50μM, OM3	900/250 μΜ	Aqua	FCSC900K50GM12	FCSC900K50GM100
50μM, OM2	900/250 μΜ	Black	FCSC900K50M12	FCSC900K50M100
62.5μM, OM1	900/250 μΜ	Beige	FCSC900K62M12	FCSC900K62M100
UPC SM, OS2	900/250 μΜ	Blue	FCSC900KSM12	FCSC900KSM100
APC SM, OS2	900/250 μΜ	Green	FCSC900KASM12	-



2Click® ST F	2Click® ST Pre-Polished Connectors				
Fiber Type	Cable Type	Color	12 Pack	100 Pack	
50μM, OM3	900/250 μΜ	Aqua	FCST50GM12	-	
50μM, OM2	900/250 μM	Black	FCST50M12	-	
62.5μM, OM1	900/250 μM	Beige	FCST62M12	-	
SM, OS2	900/250 μM	Blue	FCSTSM12	-	
300000					

Note: See page G13 for termination tools and accessories. Cleave tool OFCLV3 is suitable for multimode only. Visual Fault locator OFVFLKT1 recommended during termination.

Precision cleave tool OFCLV4 or equivalent is required for singlemode terminations.





## CRIMP STYLE NON-ADHESIVE CONNECTORS





- Patented High Retention Crimp Technology
- **Quick and Easy 2-Minute Termination**
- 900 $\mu$  and 3.0mm Cable Applications
- RoHS Compliant and Bulk Packed in **Recyclable Cartons**

- Insertion loss: 0.5dB typical, 0.75dB max
- Multimode return loss: 20dB minimum
- Operating temperature range: 0 °C to +60 °C
- Mating durability: 500 cycles, <0.75dB
- Ferrule: zirconia ceramic
- Connector body: nickel plated brass
- SC connector body: engineering thermoplastic
- Strain relief boot: UL-VO rated polymer
- Crimp insert: nickel plated brass with polymer core
- Fiber crimp retention: > 3.0 lb

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

2QUICK® SC Connec	tors*	
Description	12 Pack	100 Pack
Multimode	FCSCMQ12R	FCSCMQ100R
Singlemode	FCSCSQ12R	FCSCSQ100R

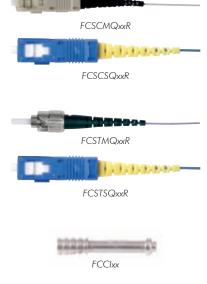
2QUICK® ST-Style Connectors*				
Description	12 Pack	100 Pack		
Multimode	FCSTMQ12RA	FCSTMQ100R		
Singlemode	FCSTSQ12R	FCSTSQ100R		

Crimp Inserts		
Description	12 Pack	100 Pack
Multimode/singlemode	FCCI12	FCCI100

Crimp Rings/3mm Boot**	
Description	Catalog No.
Multimode, 25 crimp sleeves and boots	OFPCRKM
Singlemode, 25 crimp sleeves and boots	OFPCRKS

<sup>\*</sup>Includes 1 connector, dust cap, black boot (MM) or yellow boot (SM) and crimp insert.

Note: OFCMT04 crimp tool required. Works for 900 micron and 3.0mm cable crimp ring. See page G13 for termination tools and accessories sold separately. Best to use OFTP02C tool kit with OFLFP lapping film for crimp style terminations.



**OFPCRKxx** 



<sup>\*\*</sup>SC/ST-style **2QUICK**® or Hubbell OptiChannel connectors, for 3mm jacketed cables, black boot (MM) or yellow boot (SM).

### **ADHESIVE CONNECTORS**



# Advantage

- Rugged Crimp Strain Relief for Harsh Environments
- Compatible with Heat Cure Epoxy for Fast-Cure Anaerobic Adhesive Termination
- 900μ and 3.0mm Cable Applications
- RoHS Compliant and Bulk Packed in Recyclable Cartons

#### **Specifications**

- Insertion loss: 0.5dB typical, 0.75dB max
- Multimode return loss: 20dB minimum
- Singlemode return loss: 26dB minimum
- Operating temperature range: 0 °C to +75 °C
- Mating durability: 500 cycles, <0.75dB
- Ferrule: zirconia ceramic
- Connector body: nickel plated brass
- SC connector body: engineering thermoplastic
- Strain relief boot: UL-VO rated polymer
- Crimp Insert: nickel plated brass with polymer core

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

Hubbell OptiChannel SC Connectors*			
Description	12 Pack	100 Pack	
Multimode	FCSCM12R	FCSCM100R	
Singlemode	FCSCS12R	FCSCS100R	

Hubbell	<b>OptiChannel</b>	<b>ST-Style</b>	Connectors*

Description	12 Pack	100 Pack
Multimode	FCSTM12R	FCSTM100R
Singlemode	FCSTS12R	FCSTS100R

#### **Hubbell OptiChannel LC Simplex Adhesive Connectors** (900µm only)

Description	Catalog No.
Multimode, 6 pack, LC connector, white boot and dust cap	FCLCMM
Singlemode, 6 pack, LC connector, white boot and dust cap	FCLCSM

Crimp Rings/3mm Boot**
------------------------

ermip kings/ommi boor	
Description	Catalog No.
Multimode, 25 crimp sleeves and boots	OFPCRKM
Singlemode, 25 crimp sleeves and boots	OFPCRKS

<sup>\*</sup>Includes 1 connector, dust cap, black boot (MM) or yellow boot (SM) and dust cap.

Note: OFCMT04 crimp tool required. Works for 900 micron buffer and 3.0mm cable crimp ring. See page G13 for termination tools and accessories sold separately.

Best to use OFTK05 or OFTP02C tool kit with OFLFP lapping film for crimp style terminations.





FCSTMxxR



FCSTSxxR



**FCLCxx** 



**OFPCRKxx** 

<sup>\*\*</sup>SC/ST-style **2QUICK**® or Hubbell OptiChannel connectors, for 3mm jacketed cables, black boot (MM) or yellow boot (SM).



## **FUSION SPLICE CONNECTORS**



- Highest Performing Field Termination
- Fusion Splice at the Point of Termination, **Eliminates Splice Trays and Enclosures**
- 900 $\mu$  Buffer Applications
- RoHS Compliant and Bulk Packed in Recyclable Cartons

- Insertion loss: 0.2dB typical, 0.5dB max
- Multimode return loss: 30dB minimum
- Singlemode UPC return loss: 55dB minimum
- Singlemode APC return loss: 65dB minimum
- Operating temperature range: 0 °C to +75 °C
- Mating durability: 500 cycles, <0.75dB
- Ferrule: zirconia ceramic, UPC or APC polish
- Optical fiber: pre-installed, factory epoxy-polished with precision cleaved tail, ready for splicing

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE



Hubbell OptiChannel Fusion Splice-On Connectors				
Fiber Type	LC (6 Pack)	SC (6 Pack)	ST-Style (6 Pack)	FC (6 Pack)
Multimode 62.5 (OM1)	FCLCF900M626PK	FCSCF900M626PK	FCSTF900M626PK	FCFCF900M626PK
Multimode 50 (OM2)	FCLCF900M506PK	FCSCF900M506PK	FCSTF900M506PK	FCFCF900M506PK
Multimode 50 (OM3)	FCLCF900M50G6PK	FCSCF900M50G6PK	FCSTF900M50G6PK	FCFCF900M50G6PK
Singlemode UPC (OS2)	FCLCF900SM6PK	FCSCF900SM6PK	FCSTF900SM6PK	FCFCF900SM6PK
Singlemode APC (OS2)	_	FCSCF900SMA6PK	-	FCFCF900SMA6PK

Note: Pack of 6 connectors, each in a protective capsule with cleave protector, extended dust cap, 900 µm boot, splice sleeve and plastic connector fixture. Compatible with fusion splicers having a removable fiber holder suitable for use with AFL, FITEL, and Sumitomo® fusion splicers.



Sumitomo® is a registered trademark of Sumitomo Electric Lightwave.





## **KEYSTONE ADAPTER SNAP FITTINGS**



- Premium Quality Components, Standard and Flush Mounting Options
- Wide Variety of Colors, Available in Phosphor Bronze or Zirconia Ceramic Sleeve Options
- CSI Specifications and Drawings Available
- RoHS Compliant

#### **Specifications**





- Mating durability: 500 cycles
- Phosphor bronze sleeves: multimode only
- Zirconia sleeves: singlemode or multimode
- SM/MM insertion loss: <0.50dB (0.25dB typical)
- Operating temperature: 0 °C to +75 °C

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS

#### **LC Duplex Flush Mount Keystone Adapter**

Description	Phosphor Bronze	Zirconia Ceramic
Blue LC duplex adapter (25 pack)	SFFLCxx	SFFLCSxx
Other color combinations	SFFLCyyxx	SFFLCSyyxx



### **LC Duplex Keystone Adapter**

Description	Phosphor Bronze	Zirconia Ceramic
Blue LC duplex adapter (25 pack)	SFLCxx	SFLCSxx
Other color combinations	SFLCyyxx	SFLCSyyxx



#### **SC Simplex Flush Mount Keystone Adapter**

Description	Phosphor Bronze	Zirconia Ceramic
Blue SC simplex adapter (25 pack)	SFFSCxx	SFFSCSxxx
Other color combinations	SFFSCyyxx	SFFSCSyyxx



#### **SC Simplex Keystone Adapter**

Description	Phosphor Bronze	Zirconia Ceramic
Blue SC simplex adapter (25 pack)	SFSCxx	SFSCSxx
Other color combinations	SFSCyyxx	SFSCSyyxx



#### **ST-Style to SC Simplex Keystone Adapter**

Description	Phosphor Bronze	Zirconia Ceramic
Blue ST/SC simplex adapter (25 pack)	SFSCSTxx	SFSCSTSxx
Other color	SFSCSTyyxx	SFSCSTSyyxx



#### **ST-Style Keystone Adapter**

, ,		
Description	Phosphor Bronze	Zirconia Ceramic
Black ST adapter (25 pack)	SFST	SFSTS
Other housing colors	SFSTxx	SFSTSxx



#### **MT-RJ Flush Mount Keystone Adapter**

Description	Catalog No.
Office White housing (25 pack)	FAMTRJK
Other housing colors	FAMTRJKxx



#### **MT-RJ Keystone Adapter**

Description	Catalog No.
Beige MT-RJ adapter (25 pack)	SFMTRJ
Other housing colors	SFMTRJxx



#### **MTP 12-Fiber Flush Mount Keystone Adapter**

Description	Catalog No.
Adapter and housing color combinations	SFFMTPyyxx



#### **SC/APC Simplex Keystone Adapter**

the state of the s	
Description	Zirconia Ceramic
Green SC/APC adapter (25 pack)	SFSCAOW
Other housing colors	SFSCAxx



xx = Housing Color: AL (Almond), BK (Black), G (Gray), EI (Electric Ivory), LA (Light Almond), OW (Office White), and W (White).



yy = Adapter Color: AQ (Aqua), BE (Beige), BK (Black), GN (Green), OR (Orange), R (Red), and Y (Yellow).



## LC AND SC ADAPTERS



- Premium Quality Components, Snap-In or **Screw Mounting Options**
- Wide Variety of Colors, Available in Phosphor Bronze or Zirconia Ceramic Sleeve Options
- CSI Specifications and Drawings Available
- **RoHS Compliant**

#### **Specifications**





- Mating durability: 500 cycles
- Phosphor bronze sleeves: multimode only
- Zirconia sleeves: singlemode or multimode
- SM/MM insertion loss: <0.50dB (0.25dB typical)
- Operating temperature: 0 °C to +75 °C

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS

LC Duplex Adapters and S	hutters		
Description	Recommended Cut-Out	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
Snap mount, clip installed (6 pack)	0.525" X 0.390"	FALCDMC6xx	FALCDSC6xx
Screw mount, clip installed, mounting screws included (6 pack)	0.525" X 0.390"	FALCDMS6xx	FALCDSS6xx
Snap-on design shutters (12 pack)	_	FSLCI	D12xx



<b>LC Quad Adapters and Sh</b>	utters		
Description	Recommended Cut-Out	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
Snap mount, clip installed (6 pack)	1.024" X 0.375"	FALCQMC6xx	FALCQSC6xx
Screw mount, clip installed, mounting screws included (6 pack)	1.024" X 0.375"	FALCQMS6xx	FALCQSS6xx
Snap-on design shutters (12 pack)	-	FSLC	Q12xx





SC Duplex Adapters and Shutters			
Description	Recommended Cut-Out	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
Snap mount, clip installed (6 pack)	1.024" X 0.375"	FASCDMC6xx	FASCDSC6xx
Screw mount, clip installed, mounting screws included (6 pack)	1.024" X 0.375"	FASCDMS6xx	FASCDSS6xx
Snap-on design shutters (12 pack)	_	FSSCD12xx	



SC Simplex Adapters and Shutters					
Description	Recommended Cut-Out	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves		
Snap mount, APC adapter, green (6 pack)	0.525" X 0.390"	_	FASCSAC6		
Snap mount, clip installed (12 pack)	0.525" X 0.390"	FASCSMC12xx	FASCSSC12xx		
Screw mount, clip installed, mounting screws included (12 pack)	0.525" X 0.390"	FASCSM12xx	FASCSS12xx		
Snap-on design shutters (12 pack)	_	FSSC	12xx		
xx = Color: AQ (Aqua), BE (Beige), BK	(Black), <b>B</b> (Blue), <b>GN</b>	(Green), OR (Orange), R	(Red), and <b>Y</b> (Yellow).		





## SPECIALTY ADAPTERS

ST-Style Adapters				
Description	Recommended Cut-Out	Color	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
Snap mount, clip installed, ST duplex*(6 pack)	Any SC duplex 1.024" x 0.375"	Beige Black Blue	FASTDMS6 FASTDMS6BK FASTDMPB6	– – FASTDSPB6
Bulkhead, package of 12 adapters, nuts and washers	Dia. 0.38", flat 0.31" (Double D)	Black Oxide	FASTMPB12	FASTSS12

<sup>\*</sup>These adapters can mount into unloaded FSP adapter panels (see page G12).



FASTDMPB6



FASTMPB12





FASTSCMPB6



FASTSCEMPB6

SC to ST-Style Simplex Adapters				
Description	Recommended Cut-Out	Color	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
Snap mount, clip installed (12 pack)	0.525" x 0.390" (SC simplex) or Dia. 0.38", flat 0.31" (Double D)	Aqua Beige Black Blue Orange Red	FASCSTSMC12 FASCSTSEMPB12	- - FASTSCSSC12 FASTSCSSC12OR FASTSCSSC12R
		Yellow	_	FASTSCSSC12Y



FC	Adapter

Description	Recommended Cut-Out	Snap Mount
Bulkhead, singlemode	Dia. 0.38", flat 0.31"	FAFCSSS6



#### **MT-RJ Adapters**

Description	Recommended Cut-Out	Color	Snap Mount
Snap mount,	0.525" x 0.390"	Aqua	FAMTRJC6AQ
clip installed	(SC simplex)	Beige	FAMTRJMPB6
(6 pack)		Black	FAMTRJC6BK











#### **MTP 12-Fiber Adapters**

Description	Color	Snap Mount	Screw Mount
Fits any SC simplex cut-out (6 pack)	Aqua	FAMTPAQ	FAMTPSAQ
	Beige	FAMTPBE	FAMTPSBE
	Black	FAMTPBK	FAMTPSBK
	Blue	FAMTPBL	FAMTPSBL

MTP Duplex 24-Fiber Adapters				
Description	Color	Snap Mount	Screw Mount	
Fits any SC duplex cut-out (6 pack)	Aqua Beige Black Blue	FAMTPDAQ FAMTPDBE FAMTPDBK FAMTPDBL	FAMTPDSAQ FAMTPDSBE FAMTPDSBK FAMTPDSBL	



## MTP CASSETTES & 12-FIBER PLUG-N-PLAY CORDS



- Compact Universal Design for Data
  Center or Cross Connect Applications
- Quick and Easy Plug-n-Play Installation
- 10 Gigabit Ethernet Assurance
- RoHS Compliant

#### **Specifications**

- Dimensions: 5.1" H x 1.1" W x 2.75" D
- Housing material: 16ga powder coated steel
- MTP connector: 12-fiber male receptacle on back side
- Alignment sleeve material: ceramic (all fiber types)
- MM total insertion loss: <1.5dB (test data included)
- SM total insertion loss: <1.1dB (test data included)
- SM return loss: >50dB

#### **Standards/Listings/Verifications**

- TIA-568-C.3
- Telcordia GR-326-CORE
- TIA-604-FOCIS













MTP 12-Fib	er Cas	sette					
Fiber Type	Color	SC Duplex	ST-Style	LC Duplex 12F	LC Duplex 24F*	LC Quad 24F*	MT-RJ
50μm, OM2	Black	OCSC50	OCST50	OCLC50	OCLCD50	OCLCQ50	OCRJ50
50μm, OM3	Aqua	OCSC50G	_	OCLC50G	OCLCD50G	OCLCQ50G	OCRJ50G
50μm, OM4	Aqua	_	_	OCLC50G4	OCLCD50G4	OCLCQ50G4	_
62.5μm, OM1	Beige	OCSC62	OCST62	OCLC62	OCLCD62	OCLCQ62	OCRJ62
SM, OS2	Blue	OCSCSM	OCSTSM	OCLCSM	OCLCDSM	OCLCQSM	_

<sup>\*24</sup> fibers, 2-12 fiber MTP connectors in rear.

Note: See section H for Keyed LC fiber cassettes.

See page 14 for ultra compact high density cassettes used in the FCRHD1U series enclosures.

MTP to MTP 12-Fiber Cords, OFNP Rated Plenum			
Fiber Type	Round Cords	Ribbon Cords	
50μm, OM3	FPCPMTP50G3Mxf	FPCMTP50GMxf	
50μm, OM4	FPCPMTP50G4Mxf	FPCMTP50G4Mxf	
50μm, OM2	FPCPMTP50Mxf	FPCMTP50Mxf	
62.5μm, OM1	FPCPMTP62Mxf	FPCMTP62Mxf	
SM. OS2	FPCPMTPSxf	FPCMTPSxf	



Round Cords

- x = Length in meters or feet (no zeros preceding value)
- **f** = Feet (leave blank for meters)

#### Round Cords

EXAMPLE: **FPCPMTP50G3M75F** (12-fiber round MTP, plenum, OM3, 75ft length) Add "A" at the end of the catalog number for armored cable (leave blank for non-armored).

#### Ribbon Cords:

Standard lengths: "X" = 10, 25, 50, 100 meters.

EXAMPLE: FPCMTP50GM25 (12-fiber ribbon MTP, plenum, OM3, 25 meter length)

Ribbon cords are non-armored only.

Note: Any length in meters or feet quoted and made to order. See page J3 for custom configured MTP trunks.



Ribbon Cords





## FSP ADAPTER PANELS



- Premium Quality High Performance Components
- Quick and Easy Snap-in Design to Fit any
  Suitable FCR, FPR, FCW or FTU Series Enclosures
- CSI Specifications and Drawings Available
- Wide Range of Adapter Types and High Density
   Options for Space Savings

#### **Specifications**

• Material: 16ga cold rolled steel

• Finish: durable black powder coat

• Dimensions: 1.1" W X 5.1" H

• SM/MM insertion loss: <0.50dB (0.25dB typical)

• Operating temperature: 0 °C to +75 °C

#### Standards/Listings/Verifications

• TIA-568-C.3

• TIA-604-FOCIS

LC Duplex		
Description	Phosphor Bronze Multimode Only	Zirconia Ceramic Singlemode/Multimode
LC 6-port (3 LC duplex)	FSPLCDM3xx	FSPLCDS3xx
LC 12-port (6 LC duplex)	FSPLCDM6xx	FSPLCDS6xx
LC 24-port (12 LC duplex)	FSPLCDM12xx	FSPLCDS12xx





LC Quad		
Description	Phosphor Bronze Multimode Only	Zirconia Ceramic Singlemode/Multimode
LC 12-port (3 LC quad)	FSPLCQM3xx	FSPLCQS3xx
LC 16-port (4 LC quad)	FSPLCQM6xx	FSPLCQS6xx
LC 24-port (6 LC quad)	FSPLCQM12xx	FSPLCQS12xx





Description	Phosphor Bronze Multimode Only	Zirconia Ceramic Singlemode/Multimode
SC 6-port (3 SC duplex)	FSPSCDM3xx	FSPSCDS3xx
SC 8-port (4 SC duplex)	FSPSCDM4xx	FSPSCDS4xx
SC 12-port (6 SC duplex)	FSPSCDM6xx	FSPSCDS6xx





SC to ST-Style Duplex		
Description	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
ST-SC 6-port, blue	FSPSCST3	FSPSCSTDS3
ST-SC 12-port, blue	FSPSCST6	FSPSCSTDS6



ST-Style Duplex		
Description	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
ST duplex, 6-port, blue	FSPSTD3	FSPSTDS3
ST duplex, 12-port, blue	FSPSTD6	FSPSTDS6





## FSP ADAPTER PANELS

FC Simplex		
Description	Color	Zirconia Ceramic Sleeves
FC 6-port (6 FC)	Nickel Plate	FSPFC6
FC 8-port (8 FC)	Nickel Plate	FSPFCSS8



ST-Style Simplex		
Description	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
ST-style 6-port	FSPST6	FSPSTSS6
ST-style 8-port	FSPST8	FSPSTSS8



SC Simplex, APC		
Description	Color	Zirconia Ceramic Sleeves
SC 6-port (6 SC)	Green	FSPSCA6
SC 8-port (8 SC)	Green	FSPSCA8



SC Simplex			
Description	Color	Phosphor Bronze Sleeves	Zirconia Ceramic Sleeves
SC 6-port (6 SC)	Blue	FSPSC6	FSPSCSS6
SC 8-port (8 SC)	Blue	FSPSC8	FSPSCSS8
SC 12-port (12 SC)	Blue	FSPSC12	FSPSCSS12



FSPSC6

MT-RJ		
Description	Color	Catalog No.
MT-RJ 6-port	Black	FSPMTRJ6
MT-RJ 8-port	Black	FSPMTRJ8



FSPMTRJ8

JACK-PACK®, Unloaded	
Description	Catalog No.
Keystone 4-port	FSPHD4X
Keystone 6-port	FSPHD6X*

\*Will not fit into FTU2 series, FTU4SP or FCR2U9SP enclosures.



FSPHD4X

MTP	
Description	Catalog No.
MTP simplex 6-port (72 fiber)	FSPMTPxx6
MTP duplex 8-port (96 fiber)	FSPMTPDxx4
MTP duplex 12-port (144 fiber)	FSPMTPDxx6
xx = Color: AQ (Aqua), BE (Beige), E	BK (Black), and B (Blue).



FSPMTPAQ6

FSP Adapter Panel, Blank	
Description	Catalog No.
FSP panel blank, snap-in	FSPB
FSP panel blank, snap-in	FSPB

FSPB

FSP Adapter Panels, Unloaded	
Description	Catalog No.
6 SC simplex or LC duplex	FSPSC6X
8 SC simplex or LC duplex	FSPSC8X
12 SC simplex or LC duplex	FSPSC12X
3 SC duplex or LC quad	FSPSCD3X
4 SC duplex or LC quad	FSPSCD4X
6 SC duplex or LC quad	FSPSCD6X
6 ST-style	FSPST6X
8 ST-style	FSPST8X









FSPSCD6X

## OptiChannel

## TERMINATION TOOLS AND ACCESSORIES

#### **Fiber Cleaver**

Description	Catalog No.
Single fiber multimode, tool kit	OFCLV3
Singlemode, tool kit with case	OFCLV4



#### **Complete Test Set, Multimode**

Includes: 1 power meter, 1 dual wavelength LED source, 1 soft pouch, batteries

Description	Catalog No.
Complete tester kit	OFPLK813A
Power meter dual wavelength	OFPM813
LED light source dual wavelength, multimode	OFLS813



OFLS813

#### Visual Fault Locator (ST, SC, LC)

Includes: batteries, LC adapter, holster, wrist strap and end protectors

Description	Catalog No.
Visual fault locator	OFVFLKT1
TIP. I lea a VEL during torm	ingtion for ontinum

TIP: Use a VFL during termination for optimum test results.



#### **Fiber Strip Tool**

Description	Catalog No.
900 micron buffered fiber	<b>OFSTRIP</b>



#### Microscope, 400X

Includes: built-in illuminator, batteries, SC/ST-style adapter, and soft pouch

Description	Catalog No.
SC/ST-style microscope	OFSCOPE1
LC adapter (400X microscope only)	FOADPTLC



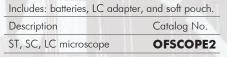
OFSCOPE1

#### **Universal Fiber Strip Tool**

Description	Catalog No.
900 micron buffered 250 fiber acrylate buffer, loose tube and PVC jackets	OFSTRIP2



#### Microscope, 200X (ST, SC, LC)





#### **Connector Installation Tool Pouch**

Includes: sapphire scribe, scribe guide, black permanent marker, carbon fiber scissors, strip template and polishing fixture, ruler, buffer/cable jacket stripper, 200X microscope assembly, crimp tool and die

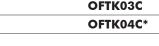
Description	Catalog No.
Tool pouch for SC/ST-style	OFTP02C
connectors	



#### Termination Kits for 2QUICK® and Hubbell OptiChannel Connectors

Includes: canned air, 10oz, tool pouch (OFTP02C) with fiber and cable preparation tools, wipes, heat cure epoxy, anaerobic adhesive and primer, polishing paper, polishing pad, heat-cure epoxy oven, safety glasses, syringes, needles, cure adapters and clips

Description	Catalog No.
Termination kit for SC/ST-style connectors, 16-Port (110V AC)	OFTK03C
Termination kit for SC/ST-style connectors, 8-Port (220V AC)	OFTK04C*





#### \*Does not contain canned air.

#### **Field Installation Tool Kit**

Includes: 1 tool kit which contains:

- OFSTRIP2 fiber strip tool
- OFCMT04 crimp tool
- Universal 2.5mm and 1.25mm polishing pucks
- Polishing plate
- 70 durometer polishing pad
- Polishing paper
- 200X microscope with 2.5mm and 1.25mm universal adapters
- Carbon fiber scissors
- Reversible blade carbide scribe
- Permanent marker

- Protective glasses
- Debris bottle for fiber safety
- Alcohol wipes
- Lint free cleaning wipes
- Water bottle
- Alcohol bottle
- 6" ruler
- 10" long x 7" wide x 6.25" high carrying case with the lid functioning as a portable work surface







# OptiChannel

## TERMINATION TOOLS AND ACCESSORIES

#### **Epoxy Adhesive Kit**

Includes: 6 tubes 1g, 6 syringes/needles

Description Catalog No.

**OFCEP** 

Easy mix (1g) tubes fit into syringes; superior bond strength; cures in 10 minutes at 90°C; eight month shelf life; 30 minute working time



#### **Loose Tube OSP Cable Break-Out Kits**

Includes: tube kit, break-out block and crimp bushing

Description	Catalog No.
6-fiber break-out kit	OFBOKT6
12-fiber break-out kit	OFBOKT12







#### **Angerobic Adhesive Kit**

Includes: Primer and adhesive, 10 syringes and 10 needles

Description	Catalog No.
Anaerobic adhesive kit cures in 6-10 seconds	OFCAP
Replacement bottle of primer only	OFPRIME



## Fiber Cable Management Radius Clips

Includes: pack of 4 self-adhering clips with bend radius control element

Description	Catalog No.
Cable clips	FBRMGTCLPK4



#### **Crimp Tool**

Dual hex cavity: .0178"/.0151"; flat crimp 0.052"; hex crimp 0.136"; hardened die

Description	Catalog No.
For <b>2QUICK</b> ® crimp and Hubbell OptiChannel SC/ST-style epoxy/anaerobic	OFCMT04



#### **LC Duplex Connector Extraction Tool**

Ideal for servicing high density interconnections Includes: 1 tool, individually packaged

Description	Catalog No.
Connector extraction tool	OFICDTOOL 1



#### **Epoxy Cure Adapters**

Includes: package of 6 o	adapters for heat cure oven
Description	Catalog No.
SC/ST-style	OFCA
LC	OFCALC



**OFCALC** 

#### **Hand Scribe Tool**

connectors; crimp dies (included) pre-set at factory

Includes: 1 tool and scribe guide Catalog No. Description Sapphire blade **OFSCRIBE** 

Scribe Guide		
Includes: package of 6		
Description	Catalog No.	
Suitable for SC, ST-style, or LC connectors	OFSG	



## **OPTISOK**

Bundle Size Range	Catalog No.
0.125-0.562"	CCPS1
0.250-0.750"	CCPS2
0.750-1.750"	CCPS3



#### **Polishing Puck**

Includes: 1 stainless steel puck, polished surface; SC/ST-style or LC compatible

Description	Catalog No.
SC/ST-style	OFPUCK
LC	OFPUCKLC



#### **Polishing Film**

Includes: 25 sheets of 5, 1, and 0.3 micron, 1 polishing pad

Description	Catalog No.
Replacement kit	OFLFP



## **Support Grips**

Cable Diameter Range, In. (cm)	Approx. Breaking Strength, Lb (N)	g Closed Mesh	Rod Closing Split Mesh
.18"25" (.4663)	300 (1,334)	022291000	022291016
.23"32" (.5881)	300 (1,334)	022291001	022291017
.30"39" (.7699)	300 (1,334)	022291002	022291018
.37"48" (.94-1.22)	300 (1,334)	022291003	022291019
.46"58" (1.17-1.47)	400 (1,779)	022291004	022291020
.56"71" (1.42-1.80)	600 (2,669)	022291005	022291021
.69"88" (1.74-2.24)	800 (3,558)	022291006	022291022



IMPORTANT: Consult factory support for safety and working load factors for wire mesh grips.





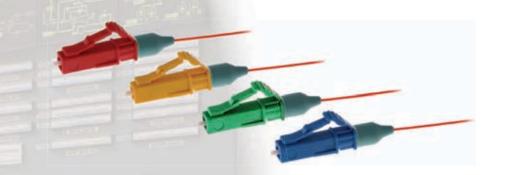


## FIBER KEYED LC

PRODUCT	Pag
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KEYED LC SNAP FITTINGS AND ADAPTERS	H5
KEYED LC ADAPTER PANELS AND MTP CASSETTES	H6



## **KEYED LC CONNECTORS**





**Installation Ease**Duplexing clips available separately for connector pairing.

## Advantage Advantage

- Keyed Specific by Color Code to Identify and Manage Restricted Network Deployments
- Cleave, Crimp, and Connect Termination for Quick Deployment
- Supported by the Mission Critical®
  Permanent Link Fiber Warranty
- RoHS Compliant

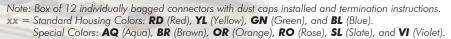
#### **Specifications**

- Insertion loss: 0.5dB (0.35dB typical), 0.75dB max
- Singlemode return loss: 55dB typical, 40dB min
- Multimode return loss: 35dB typical, 22dB min
- Operating temperature range: 0 °C to +70 °C
- Mating durability: 500 cycles < 0.2dB change
- Ferrule: zirconia ceramic, UPC polish

#### **Standards/Listings/Verifications**

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

<b>Hubbell OptiChannel</b>	<b>Keyed LC Pre-Polished C</b>	Connectors
Fiber type Boot Color		Catalog No.
50μM, OM3	Aqua	FCKLCP50GM12xx
50μM, OM2	Black	FCKLCP50M12xx
62.5μM, OM1	Beige	FCKLCP62M12xx
SM, OS2	Blue	FCKLCPSM12xx
LC duplex clip, black		FCKLCDCLP12BK









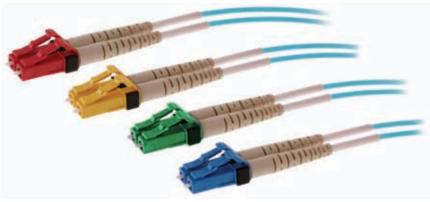
OFSTRIP2







## **KEYED LC PATCH CORDS**



# HUBBELL Advantage

- Keyed Specific by Color Code for Restricted Outlet and Panel Connections
- Compact 2.0mm Diameter Cable
- Supported by the Mission Critical® Permanent Link Fiber Warranty
- RoHS Compliant

#### **Specifications**

- Mated pair insertion loss:
   MM: <0.50dB (0.35dB typical)</li>
   SM: <0.35dB (0.15dB typical)</li>
- Return loss: SM >55dB, MM>26dB
- Ferrule material: zirconia ceramic
- Mating durability: 500 cycles
- Operating temperature: 0°C to +70°C

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

OptiChannel® Keyed LC 10Gk	3 Patch Cords	
Description	Cable Jacket Color	Catalog No.
MM 50, OM3, keyed LC to keyed LC	Aqua	KLCDFP50GMyyxx
MM 50, OM3, keyed LC to standard LC	Aqua	KLCDFPLC50GMyyxx
MM 50, OM3, keyed LC to standard SC	Aqua	KLCDFPSC50GMyyxx

Note: Individually bagged with dust caps installed and factory test data.

yy = Standard Lengths: 01, 02, 03, 05, and 10 meters.

xx = Standard Housing Colors: RD(Red), YL (Yellow), GN (Green), and BL (Blue). Special Colors: AQ (Aqua), BR (Brown), OR (Orange), RO (Rose), SL (Slate), and VI (Violet).



Standard SC

## OptiChannel® Yellow Keyed LC Patch Cords for High Security Networks Description Cable Jacket Color Catalog No.

Description	Cable Jacket Color	Catalog No.
MM 50, OM3, keyed LC to standard LC	Yellow	KLCDFPYLLC50GMyyYL
MM 50, OM3, keyed LC to standard SC	Yellow	KLCDFPYLSC50GMyyYL

Note: Individually bagged with dust caps installed and factory test data.

yy = Standard Lengths: 01, 02, 03, 05, 10, and 15 meters.



Standard SC

Contact Hubbell Premise Wiring for other configurations and special lengths custom quoted and made to order. Keyed LC trunk assemblies also custom made to order.





## **KEYED LC SNAP FITTINGS AND ADAPTERS**



## HUBBELL Advantage

- Keyed Specific by Color Code for Visual Identification of Restricted Network Outlets
- Flush and Modular Snap-Mount into Hubbell Plates, Housings or Raceway Outlets
- Supported by the Mission Critical® Permanent **Link Fiber Warranty**
- **RoHS Compliant**

#### **Specifications**



- Insertion loss: <0.5dB max, 0.25dB typical
- Singlemode return loss: 55dB typical, 40dB min
- Multimode return loss: 35dB typical, 22dB min
- Operating temperature range: 0 °C to +75 °C
- Mating durability: 500 cycles minimum
- Alignment sleeve material: zirconia ceramic

#### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

Hubbell OptiChannel Keyed LC Snap Fittings and Adapters	
Description	Catalog No.
Flush snap fitting, keyed LC	SFFKLCxxyy
Snap fitting, keyed LC	SFKLCxxyy
Adapters, keyed LC to keyed LC	FAKLCDSC6xx

Note: Individually bagged with dust caps installed.

Accessories shown on page H3.

xx = Standard Adapter Color: RD (Red), YL (Yellow), GN (Green), and BL (Blue). Special Color: AQ (Aqua), BR (Brown), OR (Orange), RO (Rose), SL (Slate), and VI (Violet).

yy = Housing Color: **AL** (Almond), **BK** (Black), **GY** (Gray), **EI** (Electric Ivory), **OW** (Office White), and **W** (White).





SFKLCRDOW







### **KEYED LC ADAPTER PANELS & MTP CASSETTES**





12-port shown; 24-port version also available.



- Keyed Specific by Color Code to Manage Restricted Backbone and Horizontal Infrastructure
- Easy, Snap-Mount into a Full Range of Hubbell Fiber Enclosures
- Supported by the Mission Critical® Permanent Link Fiber Warranty
- RoHS Compliant

### **Specifications**

- Mating durability: 500 cycles minimum
- Alignment sleeve material: zirconia ceramic

#### Adapter Panels

- Insertion loss: <0.5dB max, 0.25dB typical
- Singlemode return loss: 55dB typical, 40dB min
- Multimode return loss: 35dB typical, 22dB min
- Operating temperature range: 0 °C to +75 °C

#### Cassette Panels

- MTP connector: 12-fiber male receptacle on back side
- Total insertion loss: <1.50dB max, 1.0dB typical
- Insertion loss MTP end: 0.75dB max, 0.5dB typical
- Insertion loss LC port: 0.50dB max, 0.25dB typical
- Operating temperature range: 0 °C to +70 °C
- Dimensions: 5.1"H x 1.1" W x 2.75" D
- Housing material: 16ga powder coated steel

### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

Hubbell OptiChannel Keyed LC Adapter Panels						
Description	12-Port	24-Port				
Adapter panel, keyed LC duplex	FSPKLCDS6xx	FSPKLCDS12xx				

Note: Individually bagged with dust caps installed.

Standard Housing Colors: RD (Red), YL (Yellow), GN (Green), and BL (Blue).
Special Colors: AQ (Aqua), BR (Brown), OR (Orange), RO (Rose), SL (Slate), and VI (Violet).



FSPKLCDS6GN

Hubbell OptiChannel Keyed LC to MTP Cassette Panels						
Fiber Type	12-Port	24-Port				
62.5 μm, OM1	OCKLCD62S12xx	OCKLCD62S24xx				
50 μm, OM2	OCKLCD50S12xx	OCKLCD50S24xx				
50 μm, OM3	OCKLCD50GS12xx	OCKLCD50GS24xx				
SM, OS2	OCKLCDSS12xx	OCKLCDSS24xx				

Note: Individually bagged and boxed with dust caps installed and factory test data.

Accessories shown on page H3. Contact Hubbell Premise Wiring for the full line of keyed LC patch cords and custom MTP cords made to order.

xx = Standard Housing Colors: RD (Red), YL (Yellow), GN (Green), and BL (Blue). Special Colors: AQ (Aqua), BR (Brown), OR (Orange), RO (Rose), SL (Slate), and VI (Violet).



OCKLCD50GS12





## **E**NCLOSURES

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## **OptiChannel**

### FCR HD RACK MOUNT ENCLOSURES





Cable Management
Utilizes MTP custom made
trunk assemblies.



**High Density**Fits 144 LC ports in a 1U rack space.



**Efficiency**Advanced 3-drawer ultra compact design.

# Advantage

- Modular Plug-n-Play High Density 144 LC Ports in a 1U Rack Space
- Scalable Capacity for Future Expansion
  Using Compact LC to MTP Cassette Modules
- CSI Specifications, Drawings, and Application Tips Available
- Low Profile to Enhance Cooling Efficiency

### **Specifications**

- Capacity: (12) OCLCHD Series cassettes
- Material: 16ga cold rolled steel
- Finish: powder coated black or gray

### **Standards/Listings/Verifications**

- EIA-310-E
- TIA-568-C.3
- Telcordia GR-326-CORE
- TIA-604-FOCIS



## FCR HD RACK MOUNT ENCLOSURES

### **Hubbell OptiChannel High Density 144 Port 1U Enclosures**

Rack Units	Color	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Max LC Port Capacity	Catalog No.
1	Black	1.75" (44)	19" (483)	17" (432)	144	FCRHD1UBK
1	Gray	1.75" (44)	19" (483)	17" (432)	144	FCRHD1UGY



FCRHD1UBK

### **Hubbell OptiChannel Ultra Compact LC to MTP Cassettes**

### **Specifications**

- MM total insertion loss: <1.5dB max</li>
   SM total insertion loss: <1.1dB max</li>
- SM return loss: >50dB

- Material: 5052 aluminum
- Polarity: TIA-568-C.3, Type "A"

Port Count	Fiber Type	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Catalog No.	
12	50μm, OM3	0.5" (13)	3.5" (89)	5.2" (132)	OCLCHD50G3	-
	. ,	. ( /	· /	· /		_
12	50μm, OM4	0.5" (13)	3.5" (89)	5.2" (132)	OCLCHD50G4	
12	SM, OS2	0.5" (13)	3.5" (89)	5.2" (132)	OCLCHDSM	



<b>Hubbell OptiChannel</b>	High Density	Uni-Boot LC	Patch Cords,
OFNR Riser			

Connector Type	Fiber Type	Color	Catalog No.
LC to LC	50μm, OM3	Aqua	HDPCLC50G3Myy
LC to SC	50μm, OM3	Aqua	HDPCLCSC50G3Myy
LC to LC	50μm, OM4	Aqua	HDPCLC50G4Myy
LC to SC	50μm, OM4	Aqua	HDPCLCSC50G4Myy



**yy** = 1, 2, 3, 4, 5, 6, 8, 10 meters.

Note: See page J4 for 12-fiber MTP to MTP cords. See page J3 for custom configured MTP trunks.

MTP to MTP 12-Fiber Round Cords, OFNP Rated Plenum				
Fiber Type	Round Cords			
50μm, OM3	FPCPMTP50G3Mxf			
50μm, OM4	FPCPMTP50G4Mxf			
50μm, OM2	FPCPMTP50Mxf			
62.5µm, OM1	FPCPMTP62Mxf			
SM, OS2	FPCPMTPSxf			



Round MTP Cords

x = Length in meters or feet (no zeros preceding value)

**f** = Feet (leave blank for meters)



## FCR RACK MOUNT ENCLOSURES





**Cable Management**Enhanced front bend radius and cable management features.



**Administration**New clip-on labeling system.



**Flexibility**Enhanced inner tray for maximum flexibility.

## Advantage Advantage

- Enhanced Cable Management Labeling and Bend Radius Control Features
- One-Piece Removable Cover and Magnetic Door for Ease of Use
- CSI Specifications and Drawings Available
- Wide Range of Panel and Cassette Options for Maximum Utility

### **Specifications**

- Material: 16ga cold rolled steel
- Finish: durable black powder coat

### Standards/Listings/Verifications

- EIA-310-E
- TIA-569-C



## FCR RACK MOUNT ENCLOSURES

### **Hubbell OptiChannel Enhanced Rack Mounted Enclosures**

5 .		N 6 1 1	5 .	FSP	Splice	Max		
Rack	Height	Width	Depth	Panel	Tray	LC Port		
Units	Inches (mm)	Inches (mm)	Inches (mm)	Capacity	Capacity	Capacity	Catalog No.	
1	1.75" (44)	17" (432)	17" (432)	3	2	72	FCR1U3SP	
2	3.5" (89)	17" (432)	17" (432)	6	6	144	FCR2U6SP	
2	3.5" (89)	17" (432)	17" (432)	9	6	216	FCR2U9SP	
3	5.25" (133)	17" (432)	17" (432)	12	12	288	FCR3U12SP	
4	7.00" (178)	17" (432)	17" (432)	15	16	360	FCR4U15SP	



\*Add " $\mathbf{L}$ " to the catalog number for locking version.

Note: FCR2U9SP does not accept Plug-n-Play OC Series cassettes.



Front View, Labels

Hoight	\\/idth	Donth	FSP Papal	Splice	Max LC Port	
O		'	_	_ ′	_	Catalog No.*
		. ,				FCR1U3SPNA
1.75 (44)	17 (432)	17 (432)			/	FCKTU33FNA
3.5" (89)	17" (432)	17" (432)	6	6	144	FCR2U6SPNA
3.5" (89)	17" (432)	17" (432)	9	6	216	FCR2U9SPNA
5.25" (133)	17" (432)	17" (432)	12	12	288	FCR3U12SPNA
7.00" (178)	17" (432)	17" (432)	15	16	360	FCR4U15SPNA
	3.5" (89) 5.25" (133)	Inches (mm)         Inches (mm)           1.75" (44)         17" (432)           3.5" (89)         17" (432)           3.5" (89)         17" (432)           5.25" (133)         17" (432)	Inches (mm)         Inches (mm)         Inches (mm)           1.75" (44)         17" (432)         17" (432)           3.5" (89)         17" (432)         17" (432)           3.5" (89)         17" (432)         17" (432)           5.25" (133)         17" (432)         17" (432)	Height Inches (mm)         Width Inches (mm)         Depth Inches (mm)         Panel Capacity           1.75" (44)         17" (432)         17" (432)         3           3.5" (89)         17" (432)         17" (432)         6           3.5" (89)         17" (432)         17" (432)         9           5.25" (133)         17" (432)         17" (432)         12	Height Inches (mm)         Width Inches (mm)         Depth Inches (mm)         Panel Capacity         Tray Capacity           1.75" (44)         17" (432)         17" (432)         3         2           3.5" (89)         17" (432)         17" (432)         6         6           3.5" (89)         17" (432)         17" (432)         9         6           5.25" (133)         17" (432)         17" (432)         12         12	Height Inches (mm)         Width Inches (mm)         Depth Inches (mm)         Panel Capacity         Tray Capacity         LC Port Capacity           1.75" (44)         17" (432)         17" (432)         3         2         72           3.5" (89)         17" (432)         17" (432)         6         6         144           3.5" (89)         17" (432)         17" (432)         9         6         216           5.25" (133)         17" (432)         17" (432)         12         12         288



FCR3U12SPNA

\*All NAFTA versions supplied with lock.

Note: FCR2U9SPNA does not accept Plug-n-Play OC Series cassettes.



LBLKTFCR2U12

Accessories	
Description	Catalog No.
Label kit, 1U, with mounting clip (pack of 12)	LBLKTFCR1U12
Label kit, 2U, with mounting clip (pack of 12)	LBLKTFCR2U12
Label kit, 3U/4U, with mounting clip (pack of 12)	LBLKTFCR34U12
Cable management kit, bend radius clip (pack of 4)	FBRMGTCLPK4
Label mounting clip (pack of 12)	LBLCLPFCR12



HUBBELL

### **FPR RACK MOUNT ENCLOSURES**



Advantage

- Cost Effective 1U Design in Pre-Punched or FSP Panel Mounting Configurations
- Hinged Swing-Out Drawer for Easy
  Installation and Access
- CSI Specifications and Drawings Available
- Low Density 1U Space-Saving Design

FPR3SP loaded with FSPST6, FSPSCD3 and FSPSCD03 adapter panels.

### **Specifications**

- Material: 16ga cold rolled steel
- Finish: durable black powder coat
- Splice tray capacity: maximum 2

### Standards/Listings/Verifications

- EIA-310-E
- TIA-569-C
- TIA-604-FOCIS

### FPR - Pre-Punched Enclosures (Loaded)

Rack Units	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Connector Type	Port Capacity	No. of Adapters	Catalog No.*
1	1.75" (44)	17" (432)	11" (279)	ST-style	12	12	FPR012STM
1	1.75" (44)	17" (432)	11" (279)	ST-style	24	24	FPR024STM
1	1.75" (44)	17" (432)	11" (279)	SC duplex	12	6	FPR012SCM
1	1.75" (44)	17" (432)	11" (279)	SC duplex	24	12	FPR024SCM



### FPR - Pre-Punched Enclosures (Unloaded)

Rack	Height	Width	Depth	Connector	Port	No. of	
Units	Inches (mm)	Inches (mm)	Inches (mm)	Туре	Capacity	Adapters	Catalog No.*
1	1.75" (44)	17" (432)	11" (279)	ST-style	12	12	FPR012STX
1	1.75" (44)	17" (432)	11" (279)	ST-style	24	24	FPR024STX
1	1.75" (44)	17" (432)	11" (279)	SC duplex	12	6	FPR012SCX
1 /	1.75" (44)	17" (432)	11" (279)	SC duplex	24	12	FPR024SCX



Note: Contact Hubbell Premise Wiring for other configurations, custom made to order. See page G8 for screw-mount SC duplex and LC quad adapters.



### FPR - Pre-Punched Enclosures, FSP Panel Style (Unloaded)

Rack Units	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Panel Capacity	Maximum LC Port Capacity*	Catalog No.*
1	1.75" (44)	17" (432)	11" (279)	3	72	FPR3SP
1	1.75" (44)	17" (432)	11" (279)	3	72	FPR3SPNA*



FPR3SP loaded with FSP Series panels

\*NAFTA version.

Note: See page G11 for FSP adapter panels.



Description	Catalog No.
Protective bracket/cable management bar	FPRBRKT1







### FEUR RACK MOUNT ENCLOSURES





- Universal Economy 1U Rack Mount Design in Pre-Loaded Configurations
- Pull-Out Drawer for Convenient Access
- CSI Specifications and Drawings Available
- Low Density 1U Space-Saving Design

### **Specifications**



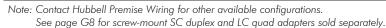


- Material: 16ga cold rolled steel
- Finish: durable black powder coat

### Standards/Listings/Verifications

- EIA-310-E
- TIA-569-C

FEUR Loaded Fiber Interconnection Shelf						
Adapter Type	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Port Capacity	No. of Adapters	Catalog No.
LC quad; MM	1.75" (44)	17" (432)	8.6" (218)	12	3	FEUR12LCM
LC quad; MM	1.75" (44)	17" (432)	8.6" (218)	24	6	FEUR24LCM
LC quad; MM	1.75" (44)	17" (432)	8.6" (218)	48	12	FEUR48LCM
ST-style; MM	1.75" (44)	17" (432)	8.6" (218)	12	12	FEUR12STM
ST-style; MM	1.75" (44)	17" (432)	8.6" (218)	24	24	FEUR24STM
SC duplex; MM	1.75" (44)	17" (432)	8.6" (218)	12	6	FEUR12SCM
SC dupley: MM	1 75" (44)	17" (//32)	11" (279)	24	12	EELID2/ISCM





FEUR24STM



### **FEUR Unloaded Fiber Interconnection Shelf**

Adapter Type	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Maximum LC Port Capacity	Rack Units	Catalog No.
FSP adapter panels	1.75" (44)	17" (432)	8.6" (218)	72	1	FEURFSP

Note: See page G8 for screw mount SC duplex and LC quad adapters sold separately. See page G11 for FSP adapter panels.



# **OptiChannel**

### **RACK MOUNT SPLICE ENCLOSURES**





FCR350SE splice enclosure shown with splice trays and cables installed (front cover removed and tray extended). Splice trays sold separately.

# Advantage

- Patented Gasketless Routing Knockouts
- Contractor-Friendly Installation, Labeling, Cable Management, and Splice Storage
- CSI Specifications and Drawings Available
- Wide Density Range to Consolidate Space

### **Specifications**

- Material: 16ga cold rolled steel
- Finish: durable black powder coat

### Standards/Listings/Verifications

- EIA-310-E
- TIA-569-C

### **Splice Enclosure and Hinged Rack Mount Splice Shelf**

Rack Units	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Splice Tray Capacity	Catalog No.*
1	1.75" (44)	17" (432)	11" (279)	2	FSS01S
2	3.5" (89)	17" (432)	11" (279)	6	FCR350SE
2	3.5" (89)	17" (432)	11" (279)	6	FSS02S



Note: Splice trays not included.

-		п			
	n	п	6	ray	/C
-	v	ш			•

No. of Fibers	Height Inches (mm)	Width Inches (mm)	Length Inches (mm)	Туре	Catalog No.*
12	.4" (10)	5" (127)	7" (178)	Fusion	STRAY12F
12	.4" (10)	5" (127)	7" (178)	Mechanical	STRAY12M
24	.4" (10)	5" (127)	10" (254)	Fusion	STRAY24F
24	.4" (10)	5" (127)	10" (254)	Mechanical	STRAY24M
144	.4" (10)	5" (127)	10" (254)	(12X12 Ribbon)	STRAY12RFS
144	.4" (10)	5" (127)	10" (254)	(12X12 Ribbon, Deep)	STRAY12RFSDP



### **Splice Protection Sleeves**

Fiber Type	Sleeve Length	Cleave Length	Sleeve Diameter After Shrink	Catalog No.
Single, up to 900 $\mu$ m coating	40mm	10mm	3.1 mm	FSHST401025
12-fiber ribbon	40mm	10mm	4.5mm	FRSHST401025





### **WALL MOUNT ENCLOSURES**



FCW4SP loaded with FSP Series panels



- Versatile Design for Remote Locations
- Double Door Partitioned Access with Top or Bottom Cable Entry

16" (406)

- CSI Specifications and Drawings Available
- Wide Range of FSP Series Panel Options

### **Specifications**

- Material: 16ga cold rolled steel
- Finish: durable black powder coat
- Accepts FSP Series panels

### Standards/Listings/Verifications

- EIA-310-E
- TIA-569-C

Catalog No. **FCW4SP** 

FCW12SP

(4) 10" (254)

FCW Wall	Mount Cal	oinets, Do	uble-Door	, NAFTA	Version	
FSP Adapter Panel Capacity	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Enclosure Color	Splice Tray Capacity	Catalog No.
4	12" (305)	14" (356)	3.25" (83)	Black	(2) 7" (178)	FCW4SPNA*
4	12" (305)	14" (356)	3.25" (83)	Red	(2) 7" (178)	FCW4SPRDNA*
12	16" (406)	14" (356)	6.50" (165)	Black	(4) 10" (254)	FCW12SPNA*

<sup>\*</sup>NAFTA version.

12

Note: For user's side, order separately either lock kit Catalog Numbers FLOCK1 or FLOCK2.



FCW Wall I	Mount Cab	uble-Door		
FSP Adapter	Height	Width	Depth	Splice Tray
Panel Capacity	Inches (mm)	Inches (mm)	Inches (mm)	Capacity
4	12" (305)	14" (356)	3.25" (83)	(2) 7" (178)

14" (356)

Note: For user's side, order separately either lock kit Catalog Numbers FLOCK1 or FLOCK2.

FTU Wall Mount Cabinets, Single-Door						
FSP Adapter	Height	Width	Depth	Splice Tray		
Panel Capacity	Inches (mm)	Inches (mm)	Inches (mm)	Capacity	Catalog No.	
1	5.75" (146)	9.2" (234)	16.4" (417)	0	FTU1SP	
2	8.5" (216)	10.6" (269)	2.5" (64)	0	FTU2SP	
4	11" (279)	13.6" (345)	2.5" (64)	(2) 7" (178)	FTU4SP	

6.50" (165)

Note: Use either lock kit; Catalog Numbers FLOCK1 or FLOCK2; order separately.

Accessories, Optional Lock Kit				
Catalog No.				
FLOCK1				
FLOCK2				











## **A**SSEMBLIES

PRODUCT	PAGE
FIBER TRUNK ASSEMBLIES	J3
FIBER PATCH CORDS	J5
Fiber Pigtails, Single and Bundled	J7
Specialty Patch Cords and Pigtails	J8

## BIDnet

### FIBER TRUNK ASSEMBLIES





#### **Custom Made to Order**

Configured to exact customer specifications.



### **Quality and Reliability**

Precision factory machinepolished epoxy terminations, 100% tested.



#### **Labor Savings**

Ideal solution for data centers, requiring no field termination.

# Advantage

- MISSION CRITICAL® 25-Year Warranty\*
  - Plug-n-Play Installation for Rapid Deployment
- 100% Factory Tested, Data Included
  - RoHS Compliant

\*Project must be registered in accordance with the Hubbell MISSION CRITICAL  $^{\textcircled{m}}$  program.

### Standards/Listings/Verifications

- TIA-568-C.0, C.1 and C.3
- Telcordia GR-326-CORE
- Telcordia GR-409
- TIA-604-FOCIS
- ANSI/ICEA S-83-596
- IEEE 802.3

### MTP Connector Specifications

- Gender: female has no alignment pins; male has pins
- MM insertion loss: <0.50 dB (standard loss)
- MM insertion loss: <0.35 dB (low loss)
- $\bullet\,$  SM insertion loss: <0.55 dB (0.35 dB typical)
- SM return loss: >50 dB
- MM return loss: >26 dB
- Standard polarity: TIA-568-C.3, Type "A"

### **Single Fiber Connector Specifications**

- MM insertion loss: <0.50 dB (0.35 dB typical)
- SM insertion loss: <0.35 dB (0.15 dB typical)
- SM UPC return loss: >50 dB
- SM APC return loss: >65 dB
- MM return loss: >26 dB
- Ferrule material: zirconia ceramic
- Mating durability: 500 cycles



### FIBER TRUNK ASSEMBLIES

#### MTP Fiber Cords

### **Available Options**

- Connectors: MTP female
- Fiber types: 62/OM1, 50/OM2, 50/OM3, 50/OM4, SM/OS2
- Fiber strand count: 12, 24, 48, 72, 96 and 144 fibers
- Cable: plenum, riser, or LSZH (armored or non-armored)
- Polarity: TIA-568C.3 Type A, B, or C



### **MTP Male and Gender Change Cords**

### **Available Options**

- Connectors: MTP female or MTP male
- Fiber types: 50/OM3, 50/OM4, SM/OS2
- Fiber strand count: 12, 24, 48, 72, 96 and 144 fibers
- Cable: plenum, riser, or LSZH (armored or non-armored)
- Polarity: TIA-568C.3 Type A, B, or C



### 40 Gb/s and 100 Gb/s MTP Fiber Cords

### **Available Options**

- Connectors: MTP female, 12-fiber or 24-fiber
- Fiber types: 50/OM3, 50/OM4
- 40 Gb/s fiber strand count: 12, 24, 48, 72, 96 and 144 fibers
- 100 Gb/s fiber strand count: 24 and 48 fibers
- Cable: plenum, riser, or LSZH
- Polarity: 40GBASE-SR4 or 100GBASESR10
- Lengths: 1 to 150 meters (3 to 500 ft) channel
- Application limits:
- OM3 40G/100G limit: 100 m (328 ft) - OM4 40G/100G limit: 150 m (492 ft)



### **Distribution Trunks and Pigtails**

### **Available Options**

- Connectors: LC, MSFP, keyed LC, SC, SC/APC, ST, FC, FC/APC
- Fiber types: 62/OM1, 50/OM2, 50/OM3, 50/OM4, SM/OS2
- Fiber strand count: 6, 12, 24, 48, 72, and 96 fibers
- Cable: plenum, riser, or LSZH (armored or non-armored)
- Fan-out options: 900 micron buffer

### **Transition Assemblies**

### **Available Options**

- Connectors: MTP female to LC or SC duplex
- Fiber types: 50/OM3, 50/OM4, SM/052
- Fiber strand count: 12, 24 and 48 fibers
- Cable: plenum, riser, or LSZH (armored or non-armored)
- Polarity: TIA-568C.3, Type A,B or C



### **Mesh Bundle Trunks (2.0mm Duplex Zip Cord)**

### **Available Options**

- Connectors: LC, MSFP, keyed LC, SC, SC/APC, ST, FC, FC/APC
- Fiber types: 62/OM1, 50/OM2, 50/OM3, 50/OM4, SM</OS2
- Fiber strand count: 6, 12, 24, 48, 72, and 96 fibers
- Cable: plenum, riser, or LSZH
- Outer sheath: polyester mesh



### **Distribution Fan-Out Trunks and Pigtails**

### **Available Options**

- Connectors: LC, MSFP, keyed LC, SC, SC/APC, ST, FC, FC/APC
- Fiber types: 62/OM1, 50/OM2, 50/OM3, 50/OM4, SM/OS2
- Fiber strand count: 6, 12, 24, 48, 72 and 96 fibers
- Cable: plenum, riser, or LSZH (armored or non-armored)
- Fan-out: 2.0mm furcation tubing

All BIDnet fiber trunk assemblies are custom made-to-order items. Please call our insides sales team for price and lead time. Refer to product data sheets for nomenclature and detailed design information. Application limits apply to available lengths.

### FIBER PATCH CORDS



## Advantage

- Premium Quality Cable and Components, 100% Factory Tested
- Individually Bagged with Dust Caps and Factory Test Data Included, Ready to Install
- Custom Configurations Quoted and Made to Order
- Space-Saving 2.0mm Jacket, RoHS Compliant

### **Specifications**

- Mated pair insertion loss:
   MM: <0.50 dB (0.35 dB typical)</li>
   SM: <0.35 dB (0.15 dB typical)</li>
- Return loss: SM >55 dB, MM >26 dB
- Ferrule material: zirconia ceramic
- Mating durability: 500 cycles

### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE

SC Duplex to SC Duplex









### **SC to SC Patch Cords**

Duplex/Multimode		
	Cable Color	Catalog No.
SC to SC, 62.5, OM1	OR	DFPCSCSCCyyMM
SC to SC, 50, OM2	OR	DFPCSCSCDyyMM
SC to SC, 50, OM3	AQ	DFPCSCSCEyyMM
Duplex/Singlemode		1331
SC to SC, SM, OS2	YL	DFPCSCSCSyySM
	1111 . 10.	

Replace yy with standard lengths of 1, 2, 3, 5 or 10 meters.

### ST-Style to ST-Style Patch Cords

Duplex/Multimode		
	Cable Color	Catalog No.
ST to ST-style, 62.5, OM1	OR	DFPCSTSTCyyMM
ST to ST-style, 50, OM2	OR	DFPCSTSTDyyMM
Duplex/Singlemode		
ST to ST-style, SM, OS2	YL	DFPCSTSTSyySM
Panlaga 355 with standard law	athon f 1 2 2	F or 10 maters

Replace yy with standard lengths of 1, 2, 3, 5 or 10 meters.

MT-RJ to MT-RJ Duplex MM MT-RJ Duplex to ST-style Duplex MM



### **MT-RJ Patch Cords**

### Duplex/Multimode

	Cable Color	Catalog No.
MT-RJ to MT-RJ, 62.5, OM1	BL/OR	DFPCRJRJCyyMM
MT-RJ to ST-style, 62.5, OM1	BL/OR	DFPCRJSTCyyMM
MT-RJ to SC, 62.5, OM1	BL/OR	DFPCRJSCCyyMM

Replace yy with standard lengths of 1, 2, 3 or 5 meters.

SC Duplex to ST-style Duplex



### ST-Style to SC Patch Cords

### Duplex/Multimode

	Cable Color	Catalog No.
ST-style to SC, 62.5, OM1	OR	DFPCSTSCCyyMM
ST-style to SC, 50, OM2	OR	DFPCSTSCDyyMM
Duplex/Singlemode		
ST-style to SC, SM, OS2	YL	DFPCSTSCSyySM

Replace yy with standard lengths of 1, 2, 3, 5 or 10 meters.



### FIBER PATCH CORDS

LC Patch Cords		
Duplex/Multimode		
	Cable Color	Catalog No.
LC to LC, 62.5, OM1	OR	DFPCLCLCCyyMM
LC to ST-style, 62.5, OM1	OR	DFPCLCSTCyyMM
LC to SC, 62.5, OM1	OR	DFPCLCSCCyyMM
LC to LC, 50, OM2	OR	DFPCLCLCDyyMM
LC to SC, 50, OM2	OR	DFPCLCSCDyyMM
LC to LC, 50, OM3	AQ	DFPCLCLCEyyMM
LC to SC, 50, OM3	AQ	DFPCLCSCEyyMM
LC to LC, 50, OM4	AQ	DFPCLCLCFyyMM
LC to sC, 50, OM4	AQ	DFPCLCSCFyyMM
Duplex/Singlemode		
LC to LC, singlemode, OS2	YL	DFPCLCLCSyySM
LC to ST-style, singlemode, OS2	YL	DFPCLCSTSyySM
LC to SC, singlemode, OS2	YL	DFPCLCSCSyySM

Replace yy with standard lengths of 1, 2, 3 or 5 meters.

High Density LC Uniboot Patch Cords					
Description	Cable Color	Catalog No.			
LC to LC, 50, OM3	AQ	HDPCLC50G3Myy			
LC to SC, 50, OM3	AQ	HDPCLCSC50G3Myy			
LC to LC, 50, OM4	AQ	HDPCLC50G4Myy			
LC to SC, 50, OM4	AQ	HDPCLCSC50G4Myy			

Replace yy with standard lengths of 1, 2, 3, 4, 5, 6, 8 or 10 meters.

MSFP to LC Patch Cords		
Description	Cable Color	Catalog No.
MSFP to LC, 50, OM3	AQ	MSFPLC50G3Myy
MSFP to LC, 50, OM4	AQ	MSFPLC50G4Myy

Replace yy with standard lengths of 1, 2, 3, 4, 5, 6, 8 or 10 meters.



LC Duplex to LC Duplex













### FIBER PIGTAILS, SINGLE AND BUNDLED



- Premium Quality Cable and Components, 100% Factory Tested
- Fusion Splicing Eliminates Connector Field Termination. Factory Test Data Included
- Custom Configurations Quoted and Made to Order
- RoHS Compliant

#### **Specifications**

Mated pair insertion loss:
 MM: <0.50 dB (0.35 dB typical)</li>
 SM: <0.35 dB (0.15 dB typical)</li>

- Return loss: SM >55 dB, MM >26 dB, SM/APC >65 dB
- Ferrule material: zirconia ceramic
- Mating durability: 500 cycles
- Operating temperature: 0°C to +75°C

### Standards/Listings/Verifications

- TIA-568-C.3
- TIA-604-FOCIS
- Telcordia GR-326-CORE









Single Fiber Pigtails, 900 Micron Buffer, 3 Me
--

	9	,				
Fiber Type	Buffer Color	LC	SC	ST-Style	MT-RJ	SC/APC
MM 62.5, OM1	Orange	FPLCC3MM	FPSCC3MM	FPSTC3MM	FPRJC3MM	_
MM 50, OM2	Orange	FPLCD3MM	FPSCD3MM	FPSTD3MM	FPRJD3MM	_
MM 50, OM3	Aqua	FPLCE3MM	FPSCE3MM	FPSTE3MM	FPRJE3MM	_
MM 50, OM4	Aqua	FPLC4F3MM	FPSC4F3MM	FPSTF3MM	_	_
Singlemode, OS2	Yellow	FPLCS3SM	FPSCS3SM	FPSTS3SM	_	_
Singlemode, OS2	Green	-30 P N	_	_	_	FPSCAS3SM



### 6 and 12-Fiber Pigtail Bundles, 900 Micron Buffer, 3 Meter Length

### Catalog No. FPBKRXCNM

FPBK = Fiber Pigtail Bundle Kit

R = Riser

 $\mathbf{X} = 6$  for 6-strand

 $\mathbf{X} = 12$  for 12-strand

C = Connector type: (LC, SC, SCA, ST, FC, FCA)

N = Fiber type

1 for 62.5 micron (OM1) multimode

2 for 50 micron (OM2) multimode

3 for 50 micron (OM3) multimode

4 for 50 micron (OM4) multimode

6 for singlemode (OS2)

**M** = Multimode (Use S for singlemode)

### Example: FPBKR6LC6S

Buffer Color Code Sequence: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua



## Fiber Ribbon Fan-Out Pigtails, 24" Break-Out

### Catalog No. FRPTRXXCNMLXF

FRPT = Fiber Ribbon Pigtail Trunk (fan-out)

R = Rise

**RJ** = Riser/un-jacketed ribbon

**XX** = Fiber count (12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144)

**C** = Connector type: (LC, SC, SCA, ST, FC, FCA)

**N** = Fiber type

1 for 62.5 micron (OM1) multimode

2 for 50 micron (OM2) multimode

3 for 50 micron (OM3) multimode

4 for 50 micron (OM4) multimode

6 for singlemode (OS2)

M = Multimode (Use S for singlemode)

L = Length delimiter

X = Length overall

F = Feet (leave blank for meters)

### Example: FRPTR48LC6SL25F

Buffer Color Code Sequence: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua

Note: Contact Hubbell Premise Wiring for custom configurations, quoted and made to order. Refer to product data sheets for nomenclature and detailed design information.





### SPECIALTY PATCH CORDS AND PIGTAILS



- How to Specify a Custom Assembly
- Specify patch cord or pigtail
- Specify flame rating (OFNR or OFNP)
- Choose 2.0mm jacket or 900 micron buffer cable
- For 900mm pigtails, specify buffer color
- Select connector type each end
- Select fiber type
- Specify overall length

Contact Hubbell Customer Service to configure a high performance factory-tested patch cord or pigtail custom made to order. Also refer to standard configurations available in stock lengths.

#### **Available Connector Options**

- LC
- ST
- SC
- SC/APC
- ST-style
- FC
- FC/APC
- MTRJ male
- MTRJ female
- Keyed LC: Yellow, Red, Blue, or Green

#### **Available Fiber Options**

- 62.5/OM1 legacy multimode
- 50/OM2 multimode
- 50/OM3 laser optimized multimode
- 50/OM4 laser optimized multimode
- OS2 singlemode

### **Available Cable Options**

- Plenum OFNP, simplex or duplex
- Riser OFNR, simplex or duplex

#### Standard 2.0mm Cable Jacket Colors

- 62.5/OM1: Orange
- 50/OM2: Orange
- 50/OM3: Aqua
- 50/OM4: Aqua
- SM/OS2: Yellow



- Quick Response Quote and Delivery Made to Order
- Custom Configured Assemblies to any Length,
  Connector Combination, or Fiber Type
- 100% Factory Tested, Data Included
- RoHS Compliant, Small Form 2.0mm Cable

### **Specifications (Per End)**

- MM insertion loss: <0.50 dB (0.35 dB typical)
- SM insertion loss: <0.35 dB (0.15 dB typical)
- SM UPC return loss: >50 dB
- SM APC return loss: >65 dB
- MM return loss: >26 dB
- Ferrule material: zirconia ceramic
- Mating durability: 500 cycles

All BIDnet fiber trunk assemblies are custom made-to-order items. Please call our insides sales team for price and lead time. Refer to product data sheets for nomenclature and detailed design information. Application limits apply to available lengths.





## **C**ABLE

Hubbell's premium quality fiber cable completes the end-to-end channel solution, offering a single source advantage to specification writers, contractors, and end users. Made to order with the industry's highest performing optical fiber, Hubbell's fiber cable provides total integration of connectivity, enclosures, and pre-terminated assemblies into a single-source infrastructure solution, backed by the Mission Critical 25-Year Warranty.

Product	PA
Indoor Cable	K2
Indoor Multi-Unit Cable	КЗ
Indoor Interlock Armored Cable	K4
Indoor/Outdoor Cable	K5
OUTDOOR CABLE	K6
OUTDOOR ARMORED CABLE	K7
Outdoor Armored Double Jacket Cable	K8



### INDOOR CABLE



### **Cable Jacket and Buffer Color Codes**

- Orange:  $62.5 \,\mu\text{m}$  OM1 and  $50 \,\mu\text{m}$ OM2 multimode
- Aqua: 50  $\mu$ m OM3 and 50  $\mu$ m OM4 laser optimized multimode
- Yellow: singlemode
- Buffer position/color codes: 1-Blue, 2-Orange, 3-Green, 4-Brown, 5-Slate, 6-White, 7-Red, 8-Black, 9-Yellow, 10-Violet, 11-Rose, 12-Aqua

### **Specifications**





- Strand count: 2 to 24 strands
- Fiber coating: color coded 900 μm PVC tight buffer over 250  $\mu$ m acrylate
- Temperature range
  - Storage:  $-40^{\circ}$  F to  $+176^{\circ}$  F ( $-40^{\circ}$  C to  $+80^{\circ}$  C)
  - Installation:  $+14^{\circ}$  F to  $+122^{\circ}$  F (-10° C to  $+50^{\circ}$  C)

All fiber cables are priced and sold by meters. To convert feet to meters, divide

feet by 3.281. Spool size varies by cable

diameter and spooled length. Minimum

order quantity is 1,000 meters. Cable is

Note: See Hubbell HFC1M-Series Multi-Unit

Premise Wiring for quote and delivery.

delivered by length ordered. Excess cable on

spool is excluded from the length ordered.

Distribution Cables for fiber strand counts greater than 24 strands. Special strand counts available

on a custom made-to-order basis. Contact Hubbell

- Operation: -4° F to +176° F (-20° C to +80° C)

### Standards/Listings/Verifications

- Telcordia GR-409
- ANSI/ICEA S-83-596
- TIA-492-series detailed fiber requirements
- TIA-568-C-series requirements
- Riser cables: UL 1666/CSA FT-4
- Plenum cables: NFPA-262/UL910/CSA FT-6

**Delivery** 

### **Hubbell OptiChannel Indoor Fiber Cable**

Ordering Information

Catalog No. HFC1xxxyn

xxx = Fiber Strand Count **002**=2, **004**=4, **006**=6, **008**=8, **012**=12

'R' for Riser, 'P' for Plenum, 'Z' for LSZH

'6' for 62.5 µm OM1 Multimode

Critical<sup>®</sup> Applications

of Installation

Cable Design

Cable Construction Provides Ease

10 GbE Application Assurance for

all Standards-Supported Lengths

**RoHS Compliant Flame-Retardant** 

- '5' for 50 µm OM2 Multimode
- '3' for 50 µm OM3 Multimode 10 GbE
- '4' for 50 µm OM4 Multimode 10 GbE
- 'S' for Singlemode

Example: HFC1012R5

### **New 24-Strand Non-Unitized Indoor Cable**

Ordering Information

Catalog No.

'R' for Riser, 'P' for Plenum, 'Z' for LSZH

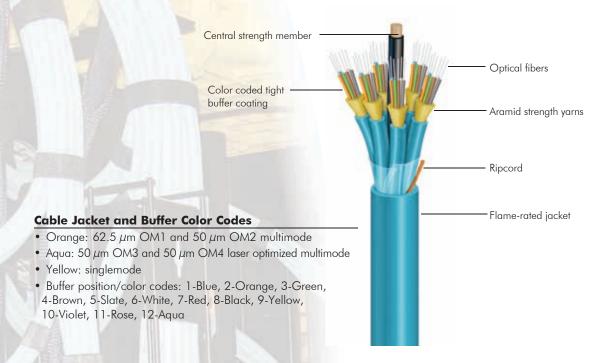
'6' for 62.5 μm OM1 Multimode

- - '5' for 50 μm OM2 Multimode
  - '3' for 50 μm OM3 Multimode 10 GbE
  - '4' for 50 μm OM4 Multimode 10 GbE
  - 'S' for Singlemode

HFC1024yn



### INDOOR MULTI-UNIT CABLE





- High Bandwidth for Mission Critical **Applications**
- Flexible Cable Construction Provides Ease of Installation
- 10 GbE Application Assurance for all Standards-Supported Lengths
- RoHS Compliant, Flame-Retardant Cable Design

### **Specifications**





- Strand count: 24 to 144 strands
- $\bullet$  Fiber coating: color coded 900  $\mu$ m PVC tight buffer over 250  $\mu$ m acrylate
- Temperature range
  - Storage:  $-40^{\circ}$  F to  $+176^{\circ}$  F ( $-40^{\circ}$  C to  $+80^{\circ}$  C)
  - Installation:  $+14^{\circ}$  F to  $+122^{\circ}$  F (-10° C to  $+50^{\circ}$  C)
  - Operation: -4° F to +176° F (-20° C to +80° C)

### Standards/Listings/Verifications

- Telcordia GR-409
- ANSI/ICEA S-83-596
- TIA-492 Series and TIA-568-C requirements
- Riser cables: UL 1666/CSA FT-4
- Plenum cables: NFPA-262/UL910/CSA FT-6

### **Hubbell OptiChannel Indoor Multi-Unit Fiber Cable**

Ordering Information

**M** = Multi-unit (12 fibers per tube)

Catalog No.

No. of units

HFC1Myyxxxrn

xxx =Fiber strand count **024**=24, **048**=48, **072**=72, **144**=144

'R' for Riser, 'P' for Plenum

'6' for 62.5 μm OM1 multimode

'5' for 50 μm OM2 multimode

'3' for 50  $\mu$ m OM3 multimode 10 GbE

'4' for 50 µm OM4 multimode 10 GbE

'S' for singlemode

Example: HFC1M04048R5

### **Delivery**

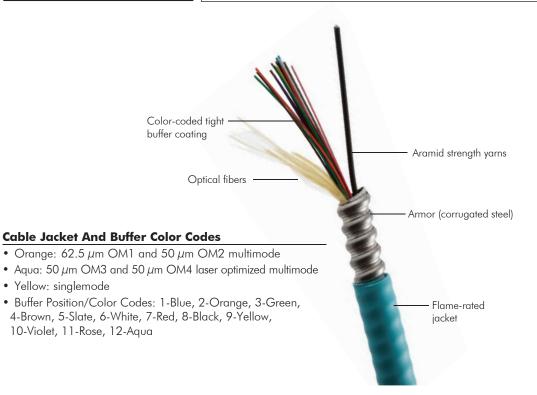
All fiber cables are priced and sold by meters. To convert feet to meters, divide feet by 3.281. Spool size varies by cable diameter and spooled length. Minimum order quantity is 1,000 meters. Cable is delivered by length ordered. Excess cable on spool is excluded from the length ordered.

Note: See Hubbell HFC1 series distribution cables for fiber strand counts less than 24 strands.





### INDOOR INTERLOCK ARMORED CABLE





• Yellow: singlemode

- Supported by the Mission Critical Permanent Link Fiber Warranty
- Eliminates Inner Duct to Save Space, Installation Time, and Reduce Cost
- 10 GbE Application Assurance for all Standards-Supported Lengths
- **RoHS Compliant Flame-Retardant** Cable Design

### **Specifications**





- Strand count: 2 to 72 strands
- Fiber coating: color coded 900 μm PVC tight buffer over 250  $\mu$ m acrylate
- Temperature range
  - Storage:  $-40^{\circ}$  F to  $+176^{\circ}$  F ( $-40^{\circ}$  C to  $+80^{\circ}$  C)
  - Installation: +14° F to +122° F (-10° C to +50° C)
  - Operation: -4° F to +176° F (-20° C to +80° C)

### Standards/Listings/Verifications

- Telcordia GR-409
- ANSI/ICEA S-83-596
- TIA-492 series detailed fiber requirements
- TIA-568-C series requirements
- Riser cables: UL 1666/CSA FT-4
- Plenum cables: NFPA-262/UL910/CSA FT-6

### **Hubbell OptiChannel Indoor Interlock Armored Fiber Cable**

Ordering Information

Catalog No.

xxx = Fiber strand count**002**=2,**004**=4,**006**=6,**008**=8,**012**=12

HFC15xxxrn

'R' for Riser, 'P' for Plenum, 'Z' for LSZH

'6' for 62.5  $\mu$ m OM1 multimode

024 = 24,048 = 48,072 = 72

'5' for 50 μm OM2 multimode

'3' for 50  $\mu$ m OM3 multimode 10 GbE

'4' for 50  $\mu$ m OM4 multimode 10 GbE

'S' for singlemode

Example: HFC15012R5

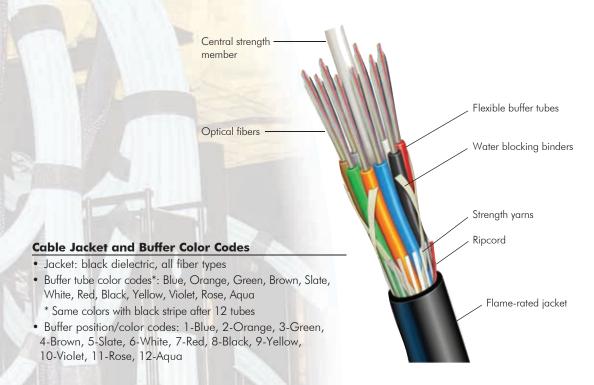
### **Delivery**

All fiber cables are priced and sold by meters. To convert feet to meters, divide feet by 3.281. Spool size varies by cable diameter and spooled length. Minimum order quantity is 1,000 meters. Cable is delivered by length ordered. Excess cable on spool is excluded from the length ordered.





### INDOOR/OUTDOOR CABLE





- High Bandwidth for Mission Critical Applications
- Gel-Free Cable Construction Provides
  Flexibility During Installation
- 10 GbE Application Assurance for all Standards-Supported Lengths
- RoHS Compliant, Flame-Retardant
  Cable Design

### Specifications





- Strand count: 2 to 48 strands
- Fiber coating: color coded 250  $\mu$ m acrylate
- Temperature range
  - Storage:  $-40^{\circ}$  F to  $+176^{\circ}$  F ( $-40^{\circ}$  C to  $+80^{\circ}$  C)
  - Installation:  $+14^{\circ}$  F to  $+176^{\circ}$  F (-10° C to  $+80^{\circ}$  C)
- Operation: -4° F to +176° F (-20° C to +80° C)

### Standards/Listings/Verifications

- Telcordia GR-409 and GR-20
- ANSI/ICEA S-87-640
- ANSI/ICEA S-104-696
- TIA-492 and TIA-568-C series requirements
- Riser cables: UL 1666/CSA FT-4
- Plenum cables: NFPA-262/UL910/CSA FT-6

### **Hubbell OptiChannel Indoor Multi-Unit Fiber Cable**

Ordering Information

Catalog No.

**xxx** = Fiber strand count **002**=2, **004**=4, **006**=6, **008**=8, **012**=12, **HFC2**xxxrnBK

**024**=24, **048**=48

'R' for Riser, 'Z' for LSZH

=  $^{\prime}$ 6 $^{\prime}$  for 62.5  $\mu$ m OM1 multimode

'5' for 50  $\mu$ m OM2 multimode

 $^{\prime}$ 3 $^{\prime}$  for 50  $\mu$ m OM3 multimode 10 GbE

'4' for 50 μm OM4 multimode 10 GbE

'S' for singlemode

Example: HFC2012R5BK

### **Delivery**

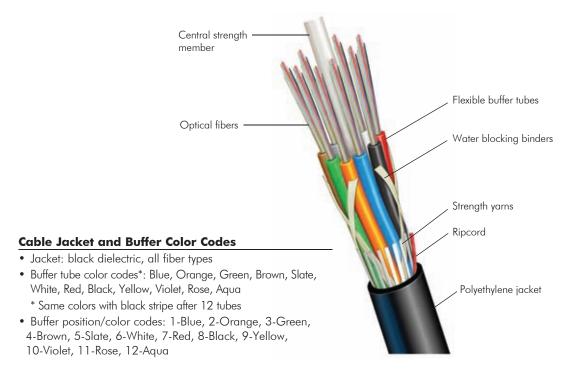
All fiber cables are priced and sold by meters. To convert feet to meters, divide feet by 3.281. Spool size varies by cable diameter and spooled length. Minimum order quantity is 1,000 meters. Cable is delivered by length ordered. Excess cable on spool is excluded from the length ordered.

Note: Strand counts 72 to 288 strands available on a custom make-to-order basis. Contact Hubbell Premise Wiring for quote and delivery.





### **OUTDOOR CABLE**





- High Bandwidth for Mission Critical Applications
- Gel-Free Cable Construction Provides Flexibility During Installation
- 10 GbE Application Assurance for all Standards-Supported Lengths
- RoHS Compliant Design

### **Specifications**





- Strand count: 4 to 48 strands
- ullet Fiber coating: color coded 250  $\mu$ m acrylate
- Temperature range
  - Storage:  $-40^{\circ}$  F to  $+167^{\circ}$  F ( $-40^{\circ}$  C to  $+75^{\circ}$  C)
  - Installation: -22° F to +140° F (-30° C to +60° C)
  - Operation:  $-40^{\circ}$  F to  $+158^{\circ}$  F ( $-40^{\circ}$  C to  $+70^{\circ}$  C)

#### Standards/Listings/Verifications

- Telcordia GR-20
- ANSI/ICEA S-87-640
- ANSI/ICEA S-104-696
- TIA-492 and TIA-568-C series requirements
- TIA-758 OSP cabling requirements

### **Hubbell OptiChannel Outdoor Fiber Cable**

Ordering Information

Catalog No.

**xxx** = Fiber strand count: **004**=4, **006**=6, **012**=12,

HFC3xxxBKn

**024**=24, **048**=48

'6' for 62.5  $\mu$ m OM1 multimode

'5' for 50  $\mu$ m OM2 multimode

 $^{\prime}$ 3 $^{\prime}$  for 50  $\mu$ m OM3 multimode 10 GbE

'4' for 50  $\mu$ m OM4 multimode 10 GbE

'S' for singlemode

Example: HFC3012BK3

### **Delivery**

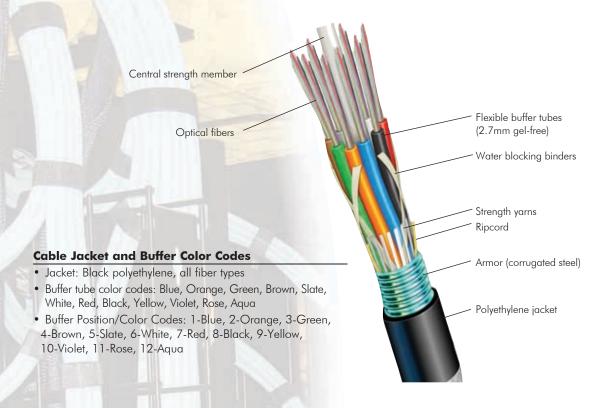
All fiber cables are priced and sold by meters. To convert feet to meters, divide feet by 3.281. Spool size varies by cable diameter and spooled length. Minimum order quantity is 1,000 meters. Cable is delivered by length ordered. Excess cable on spool is excluded from the length ordered.

Note: Strand counts 72 to 288 strands available on a custom make-to-order basis. Contact Hubbell Premise Wiring for quote and delivery.





### **OUTDOOR ARMORED CABLE**





- High Bandwidth for Mission Critical
  Applications
- Gel-Free Cable Construction Provides Flexibility During Installation
- 10 GbE Application Assurance for all Standards-Supported Lengths
- RoHS Compliant Design

### **Specifications**





- Strand count: 4 to 48 strands
- Fiber coating: color coded 250  $\mu$ m acrylate
- Temperature range
  - Storage:  $-40^{\circ}$  F to  $+167^{\circ}$  F ( $-40^{\circ}$  C to  $+75^{\circ}$  C)
  - Installation: -22° F to +140° F (-30° C to +60° C)
  - Operation: -40° F to +158° F (-40° C to +70° C)

### Standards/Listings/Verifications

- Telcordia GR-20
- ANSI/ICEA S-87-640
- ANSI/ICEA S-104-696
- TIA-492 and TIA-568-C series requirements
- TIA-758 OSP Cabling requirements

### **Hubbell OptiChannel Indoor Multi-Unit Fiber Cable**

Ordering Information

Catalog No.

**xxx** = Fiber strand count: **004**=4, **006**=6, **012**=12,

HFC4xxxBKn

- **024**=24, **048**=48
- '6' for 62.5 μm OM1 multimode
- '5' for 50  $\mu$ m OM2 multimode
- '3' for 50  $\mu$ m OM3 multimode 10 GbE
- '4' for 50 μm OM4 multimode 10 GbE
- 'S' for singlemode

Example: HFC4012BK3

### **Delivery**

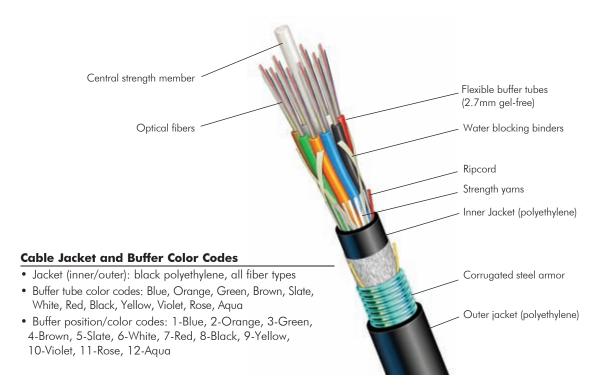
All fiber cables are priced and sold by meters. To convert feet to meters, divide feet by 3.281. Spool size varies by cable diameter and spooled length. Minimum order quantity is 1,000 meters. Cable is delivered by length ordered. Excess cable on spool is excluded from the length ordered.

Note: Strand counts 72 to 288 strands available on a custom make-to-order basis. Contact Hubbell Premise Wiring for quote and delivery.





### OUTDOOR ARMORED DOUBLE JACKET CABLE





- High Bandwidth for Mission Critical Applications
- Gel-Free Cable Construction Provides Flexibility During Installation
- 10 GbE Application Assurance for all Standards-Supported Lengths
- RoHS Compliant Design

### **Specifications**





- Strand count: 4 to 48 strands
- ullet Fiber coating: color coded 250  $\mu$ m acrylate
- Temperature range
  - Storage: -40° F to +167° F (-40° C to +75° C)
  - Installation: -22° F to +140° F (-30° C to +60° C)
  - Operation: -40° F to +158° F (-40° C to +70° C)

### Standards/Listings/Verifications

- Telcordia GR-20
- ANSI/ICEA S-87-640
- ANSI/ICEA S-104-696
- TIA-492 and TIA-568-C series requirements
- TIA-758 OSP cabling requirements

### **Hubbell OptiChannel Outdoor Fiber Cable**

Ordering Information

Catalog No.

HFC5xxxBKn

**xxx** = Fiber strand count: **004**=4, **006**=6, **012**=12,

**024**=24, **048**=48

'6' for 62.5  $\mu$ m OM1 multimode

'5' for 50  $\mu$ m OM2 multimode

 $^{\prime}$ 3 $^{\prime}$  for 50  $\mu$ m OM3 multimode 10 GbE

'4' for 50  $\mu$ m OM4 multimode 10 GbE

'S' for singlemode

Example: HFC5012BK3

### **Delivery**

All fiber cables are priced and sold by meters. To convert feet to meters, divide feet by 3.281. Spool size varies by cable diameter and spooled length. Minimum order quantity is 1,000 meters. Cable is delivered by length ordered. Excess cable on spool is excluded from the length ordered.

Note: Strand counts 72 to 288 strands available on a custom make-to-order basis. Contact Hubbell Premise Wiring for quote and delivery.







## CABLE MANAGEMENT

Product	Pag
XXL Organizers Vertical Cable Management	L3
Network Hardware Management System	L7
3" and 6" Equipment Racks	L11
VERTICAL CABLE MANAGEMENT	L13
VERTICAL CABLE MANAGEMENT ACCESSORIES	L15
HORIZONTAL CABLE MANAGEMENT	L17
HORIZONTAL CABLE MANAGEMENT ACCESSORIES	L19
LADDER RACK	L21
Wall Mount Hinged Brackets	L23
WIRE BASKET TRAYS	L25

www.hubbell-premise.com

### XXL ORGANIZERS VERTICAL CABLE MANAGEMENT





#### **Aesthetics**

Customizable door panels provide a personalized appearance.



### **Cable Routing**

3" and 6" patch cord management spools can be placed along the vertical rail to ensure alignment and bend radius.



### Versatility

Large capacity channels provide a streamlined routing path for cable dressing.



- Designed to Provide Maximum Cable Capacity
- Easy Front and Rear Access for Routing and **Installing Cable Bundles**
- Accommodates High Density (Active Equipment) Port Count
- Open Design Provides Maximum Airflow, **Reducing Energy Costs**

### **Specifications**





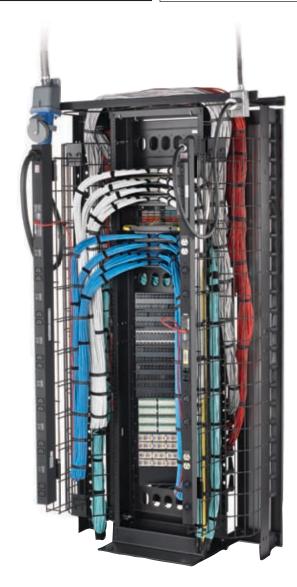
- Material
  - Management organizer: steel rod web construction
  - Door: aluminum
  - Door hinges: steel
- Finish: durable black powder coat

### **Standards/Listings/Verifications**

UL Listed 1863

## NEXTFRAME

### XXL ORGANIZERS VERTICAL CABLE MANAGEMENT



### Capacity

XXL Vertical managers will hold thousands of category rated patch cords and horizontal cables.



### **Simplicity**

Y-Frame construction enhances cable management, providing multiple tie off locations to organize cable routing.



### **Flexibility**

Mounting plates provide an easy way to install power strips.



### Mounting

XXL organizers are designed with a universal mounting hole pattern to mount with most industry relay racks.

## **NEXTFRAME**

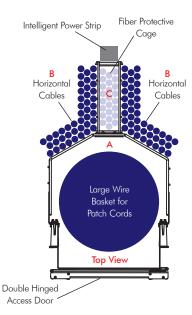
## XXL ORGANIZERS VERTICAL CABLE MANAGEMENT



Separates horizontal cable from one rack bay to the next.



Vertical frame allows for convenient cable management.



Maximizes cable capacity

Simplifies organizing cables into neat bundles and securing them in place.

				Front Area 'A' (Square Inches)		Rear Area 'B' (Square Inches)			Rear Inside 'C' (Square Inches)						
Catalog No.	Channel Width In (mm)		Spool Depth In. (mm)	Sq. In.	.25 Dia. Cables	.29 Dia. Cables	.34 Dia Cables	Sq. In.	.25 Dia. Cables	.29 Dia. Cables	.34 Dia Cables	Sq. In.	.25 Dia. Cables	.29 Dia. Cables	.34 Dia Cables
XS0610	6" (152)	13.5" (343)	3" (76)	70	569	423	308	34	276.59	205.55	150	25	206	153	111
XS0615	6" (152)	15.5" (394)	7.75" (197)	86	705	524	381	34	276.59	205.55	150	25	206	153	111
XS1010	10" (254)	14.13" (359)	3" (76)	118	965	717	522	76	623.41	463.30	337	25	206	153	111
XS1015	10" (254)	18.88" (479)	7.75" (197)	154	1255	933	679	76	623.41	463.30	337	25	206	153	111
XS1510	15" (381)	14.13" (359)	3 (76)"	179	1459	1084	789	130	1056.94	785.48	571	25	206	153	111
XS1515	15" (381)	18.88" (479)	7.75" (197)	238	1943	1444	1050	130	1056.94	785.48	571	25	206	153	111



## XXL ORGANIZERS VERTICAL CABLE MANAGEMENT





Panel shown with logo

XXL organizers can be customized by changing the color of the inserts and by adding a logo or image. Contact Hubbell Customer Service for a complete quotation 1-800-626-0005.

XXL Series Vertical Organizers								
Insert Color	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Catalog No.				
Silver	84" (2134)	6" (152)	14.125" (359)	XS0610				
Silver	84" (2134)	6" (152)	18.875" (479)	XS0615				
Silver	84" (2134)	10" (254)	14.125" (359)	XS1010				
Silver	84" (2134)	10" (254)	18.875" (479)	XS1015				
Silver	84" (2134)	15" (381)	14.125" (359)	XS1510				
Silver	84" (2134)	15" (381)	18.875" (479)	XS1515				
Black	84" (2134)	6" (152)	14.125" (359)	XS0610BK				
Black	84" (2134)	6" (152)	18.875" (479)	XS0615BK				
Black	84" (2134)	10" (254)	14.125" (359)	XS1010BK				
Black	84" (2134)	10" (254)	18.875" (479)	XS1015BK				
Black	84" (2134)	15" (381)	14.125" (359)	XS1510BK				
Black	84" (2134)	15" (381)	18.875" (479)	XS1515BK				

NEXTFRAME® 3" and 6" Equipment Racks									
		Height	Width	Depth					
Finish	Rack Units	Inches (mm)	Inches (mm)	Inches (mm)	Catalog No.				
Black	45	84" (2134)	19" (483)	3" ( 76 )	HPW84RR19				
Black	45	84" (2134)	23" (584)	3" ( 76 )	HPW84RR23				
Black	45	84" (2134)	19" (483)	6" ( 152 )	HPW84RR19D				





HPW84RR19D

### **NETWORK HARDWARE MANAGEMENT SYSTEM**





Simplified Straightforward, structured, comprehensive system.



Installation Integrated vertical management with racking system consolidates hardware infrastructure components.



Strength 1400lb load capacity and 100% utilization of rack space.

# Advantage

Innovative iFRAME® column system integrates grounding and bonding,

and equipment racking.

Design

- Patented Network Hardware Management System
- Fewer Parts than a Standard Rack
- iFRAME® Reduces Traditional Rack Footprint
- Designed to Optimize Airflow

### **Specifications**

- 14ga cold-rolled steel
- Rails tapped #12-24
- Suitable for 400 front and 400 rear UTP cables
- Static load capacity: 1,400lb

### Standards/Listings/Verifications

- UL 1863 Listed
- EIA 310-D compliant universal mounting

## **IFRAME**

## **NETWORK HARDWARE MANAGEMENT SYSTEM**



### **Flexibility**

The modularity of the system allows additional racks to be installed by adding more  $iFRAME^{\circledast}$  columns at a later date.



**Cable Management**Spools snap in place; locations at every rack position.



**Efficiency**Columns mount on 2 foot pitch to align with floor and ceiling grids.



**Versatility iFRAME®** column system easily mounts to the floor with just four bolts.

L8

### NETWORK HARDWARE MANAGEMENT SYSTEM

### iFRAME® Column System - Telecomm Rack Installation Simplified



4-post iFRAME®

### iFRAME® Column

Contents: 1 iFRAME® column weldment, 1 bottom alignment installation aid and 1 iFRAME® top plate floor template, 1 full height front cover with 4 heavy-duty floor anchor washers dual-acting hinges and 2 dual-acting front cover hinges (not included in IS7E), 20 #12-24 x 5/8" dog point machine screws, 4 4" gates (Catalog No. VCG4) and washers, 12 snap in place cable routing spools, and 1 assembly hardware kit.

RackInches (mm)		Width	Rail Depth	Overall Depth						
Overall	Usable	In. (mm)	In. (mm)	In. (mm)	Hole Type	Color	Catalog No.			
Use: Without Raised Floor										
84" (2134)	78.8" (2002)	5" (13)	3" (8)	14.17" (360)	12-24 Threaded	Black	IS7			
84" (2134)	78.8" (2002)	10" (25)	3" (8)	14.17" (360)	12-24 Threaded	Black	IS710			
84" (2134)	78.8" (2002)	15" (38)	3" (8)	14.17" (360)	12-24 Threaded	Black	IS715			
Square Ho	les with Ca	ge Nuts								
84" (2134)	78.8" (2002)	5" (13)	3" (8)	14.17" (360)	Square	Black	IS7M6			
84" (2134)	78.8" (2002)	10" (25)	3" (8)	14.17" (360)	Square	Black	IS7M610			
Use: As the Rear Columns in 4-Post Applications										
84" (2134)	78.8" (2002)	5" (13)	3" (8)	14.17" (360)	12-24 Threaded	Black	IS7E			
	Inche   Overall	Inches (mm)	Inches (mm)       Width         Overall       Usable       Width         Without Raised Floor         84" (2134)       78.8" (2002)       5" (13)         84" (2134)       78.8" (2002)       10" (25)         84" (2134)       78.8" (2002)       15" (38)         Square Holes with Cage Nuts         84" (2134)       78.8" (2002)       5" (13)         84" (2134)       78.8" (2002)       10" (25)         As the Rear Columns in 4-Post	Note	Note	Note	Note			

Note: Order two columns for the first rack in a line, then order only one column for each additional rack.

### **iFRAME®** Column Seismic

Contents: 1 iFRAME® column weldment, 1 bottom alignment installation aid and 1 iFRAME® top plate floor template, 1 full height front cover with 4 heavy-duty floor anchor washers dual-acting hinges and 2 dual-acting front cover hinges (not included in IS7E), 20 #12-24 x 5/8" dog point machine screws, 4 4" gates (Catalog No. VCG4) and washers, 12 snap in place cable routing spools, and 1 assembly hardware kit.

Rack	Height Rack Inches (mm)		. Width	Rail Depth	Overall Depth			
Units	Overall	Usable	In. (mm)	In. (mm)	In. (mm)	Hole Type	Color	Catalog No.
Use:	Without Ro	aised Floor						
45	84" (2134)	78.8" (2002)	5" (13)	3" (8)	14.17" (360)	12-24 Threaded	Black	IS7Z4



Shown: door open, door closed



# **NETWORK HARDWARE MANAGEMENT SYSTEM**

### **Cable Management Spools**



Description	Catalog No.
Package of 50 spools 3", black	ICKSS
Package of 50 spools and screws, 6", black	ICKSS6
Package of 50 spools and screws, 9", black	ICKSS9

### **Top Ladder Rack**



Color	Ladder Dimensions	Stringer Dimensions	Catalog No.
Black	2" H x 12" W	1 1/2" x 3/8"	ICKL

### Spacer Kit, 23"

Contents: top for 23" column spacing and bottom for 23" column spacing



Color	Catalog No.
Black	ICK23

### **Power Kit**

Contents: 4" square work box, 20A receptacle L5-20R - TWIST-LOCK<sup>®</sup>/ face plate, assembly hardware kit



Description	Receptacle Color	Receptacle	Catalog No.
<b>iFRAME</b> <sup>®</sup> power kit	Black	HBL2310	ICKP20
<b>iFRAME®</b> power kit with isolated ground	Orange	IG2310	ICKP20IG

### Category 6A Rear Cable Management Kit

Contents: 12" W x 6' L ladder rack sticks (Catalog No. HLS0612B), 12" W x 24" L **iFRAME®** top ladder, 27" W x 24" L **iFRAME®** top ladder, wall mounting kit (Catalog No. HLX0612), T-splice kit (Catalog No. HLTK) and mounting brackets



ICKC shown installed

Color	Catalog No.
Black	ICKC

### 4-Post Rack Kit

Contents: adjustable brackets (for spacing columns front to rear) and assembly hardware kit



Description	Catalog No.
For 27" to 39" equipment mounting depth.	ISK4P

# Power Strip Mounting Brackets for 5" Wide iFRAME® Columns

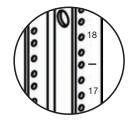
Contents: mounting brackets and assembly hardware kit



Description	Catalog No.
Mounting Brackets	ICKPM

# **EQUIPMENT RACKS**





### **Efficiency**

Rack mount unit is individually numbered for easy equipment



### **Rigidity**

6" rack supplies additional support for larger cable bundling and Category 6A applications.



### Versatility

Available in a variety of sizes and mounting configurations, NEXTFRAME® racks provide easy access to cabling and equipment.

### **Specifications**





- Rack material: aluminum
- Finish: durable black powder coat or mill finish
- Weight capacity: 500lb when properly secured to floor
- Floor mount two post rack supports 19" EIA wide rack-mount equipment

### **Standards**

- UL Listed 1863
- EIA-310-D compliant



Site Waste

Universal Mounting Hole Pattern

Minimal Packaging Reduces Construction



# 3" AND 6" EQUIPMENT RACKS

3" Equipment Rack							
Rack Units	Height Inches (mm)	Width Inches (mm)	Rail Depth Inches (mm)	Hole Type	Color	Catalog No.	
24	48" (1219)	19" (483)	3" (76)	#12-24 Threaded	Black	HPW48RR19*	
24	48" (1219)	23" (584)	3" (76)	#12-24 Threaded	Black	HPW48RR23*	
36	68.5" (1676)	19" (483)	3" (76)	#12-24 Threaded	Black	HPW66RR19*	
45	84" (2134)	19" (483)	3" (76)	#12-24 Threaded	Black	HPW84RR19*	
45	84" (2134)	23" (584)	3" (76)	#12-24 Threaded	Black	HPW84RR23*	
48	89.7" (2286)	19" (483)	3" (76)	#12-24 Threaded	Black	HPW90RR19*	
48	89.7" (2286)	23" (584)	3" (76)	#12-24 Threaded	Black	HPW90RR23	
51	96" (2438)	19" (483)	3" (76)	#12-24 Threaded	Black	HPW96RR19*	
51	96" (2438)	23" (584)	3" (76)	#12-24 Threaded	Black	HPW96RR23*	



HPW84RR19

<sup>\*</sup>Add "ML" at end of Catalog No. for Mill Finish.

3" Eq	3" Equipment Rack with 6" Wide Z-Channels									
Rack Units	Height Inches (mm)	Width Inches (mm)	Rail Depth Inches (mm)	Z Depth Inches (mm)	Cover Style	Color	Catalog No.			
45	84" (2134)	19" (483)	3" (76)	6" (152)	Hinged	Black	CS1976H			
45	84" (2134)	19" (483)	3" (76)	6" (152)	Clip On	Black	CS1976			
45	84" (2134)	19" (483)	3" (76)	6" (152)	Clip On	Aluminum	CS1976A			



CS1976A

6" Ec	juipment Ro	ack				
Rack Units	Height Inches (mm)	Width Inches (mm)	Rail Depth Inches (mm)	Hole Type	Color	Catalog No.
45	84" (2134)	19" (483)	6" (152)	#12-24 Threaded	Black	HPW84RR19D



4-Pos	4-Post, 19" Equipment Rack							
Rack Units	Overall Height Inches (mm)	Usable Height Inches (mm)	Overall Width Inches (mm)	Depth Inches (mm)	Hole Type	Color	Catalog No.	
45	84" (2134)	79" (2007)	20.2" (513)	24" (610)	#12-24 Threaded	Black	SF841924T	
45	84" (2134)	79" (2007)	20.2" (513)	29.23" (742)	#12-24 Threaded	Black	SF841929T	
45	84" (2134)	79" (2007)	20.2" (513)	36" (914)	#12-24 Threaded	Black	SF841936T	
45	84" (2134)	79" (2007)	20.2" (513)	24" (610)	Square	Black	SF841924	
45	84" (2134)	79" (2007)	20.2" (513)	29.23" (742)	Square	Black	SF841929	
45	84" (2134)	79" (2007)	20.2" (513)	36" (914)	Square	Black	SF841936	



# **NEXTFRAME**

# VERTICAL CABLE MANAGEMENT





### Management

Cable management spools can be located along the length of the channel (front and back) for proper location of cable routing.



### **Rigidity**

Z-channel design provides superior strength supporting the increased weight of cable bundles.



### Versatility

Hinged door swings from the left and the right for easy access to patch cables in either rack.



- Z-Channel Design Allows Cables to Pass Through for Easy Routing
- Quick and Easy Assembly
- Separates and Organizes
- Minimal Packaging Reduces Construction Site Waste

### **Specifications**





- Channel material: Z-channel: 14ga cold rolled steel
- Cover material: 16ga cold rolled steel
- Finish: durable black or aluminum color powder coat finish

### **Standards**

- Packaged to meet Telcordia GR-63-CORE transportation requirements
- U.S. Patent No. 6,347,714



## VERTICAL CABLE MANAGEMENT ACCESSORIES

### **Vertical Organizers**

### Z-Channel, 6" with Cover

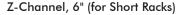
Contents: VS76(A): 2 Z-channels 38.5" H x 6" W x 10.5" D 2 covers 38.5" W x 6" W VS86(A): 1 Z-channel and 1 cover for: lower, 45.38" H x 6" W x 10.5" D

upper, 38.5" H x 6" W

4 gates

24 spools 4 ½"-13 x 1" bolts with nuts and washers

Rack Height Inches (mm)	Black Catalog No.		
7' (2134) or 7.5' (2286)	VS76*		
8' (2438)	VS86*		



Contents: 1 Z-channel 38.5" H x 6" W x 10.5" D

 $2\frac{1}{2}$  -13 x 1" bolts with nuts and washers

4' (1219) and 5.5' (1676) VS46\*

### Z-Channel, 41/2" Wide, 0.25" Dia.

Contents: 2 Z-channels, 38.50" x 4.5" x 10.5"

24 spools

4 1/2"-13 x 1" bolts with nuts and washers

7' (2134) **VS74** 

### C-Channel, 31/4" Wide

Contents: 2 C-channels 38.5" H x 3.25" W x 10.5" D

24 spools

 $4\frac{1}{2}$ "-13 x 1" bolts with nuts and washers

7' (2134) VS73\*

\*Add "A" at end of Catalog No. for Aluminum.

### **Hinge Kit**

Contents: 2 hinges and fasteners



Black	VCKH
Color	Catalog No.

Note: Gates not provided; order separately.

### **Joining Kit**

Contents: 1 joining plate

 $4 #12-24 x \frac{5}{8}$  screws, nuts, washers 4  $\frac{1}{2}$ "-13 x 1" bolts w/ nuts and washers

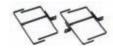


Color Catalog No.	Black	VCJK
	Color	Catalog No.

### **Vertical Rings**

VS73

Contents: 2 vertical rings 1 mounting kit



MCCVMR2 MCCVMR22

Description	Catalog No.
Bracket, one side	MCCVMR2
Bracket, between racks	MCCVMR22

### **Vertical Organizers with Hinged Covers**

Contents: 2 Z-channels 38.5" H x 12.5" D

2 38.5" covers

4 hinges and gates

24 spools

 $4 \frac{1}{2}$  -13 x 1" bolts with nuts and washers

Color	Rack Heigh	6" Wide	4½" Wide	31/4" Wide
	In. (mm) t	Catalog No.	Catalog No.	Catalog No.
Black	7' (2134)	VS76H	VS74H	VS73H

### **Cable Management Spools**



Description	Catalog No.
Package of 50 spools 3", black	ICKSS
Package of 50 spools and screws, 6", black	ICKSS6
Package of 50 spools and screws, 9", black	ICKSS9

### **Covers**

Content	s: 1 cover			
Cover Width	38.5" H Black Catalog No.	45.38" H Black Catalog No.	45.38" H Aluminum Catalog No.	
6"	VSC6*	VSC6L	VSC6LA	
4"	VSC4	VSC4L	VSC4LA	
3"	VSC3*	VSC3L	VSC3LA	VSC6

\*Add "A" at end of Catalog No. for Aluminum.

### **Fiber Spools**

Contents: 5 sets of fiber spools

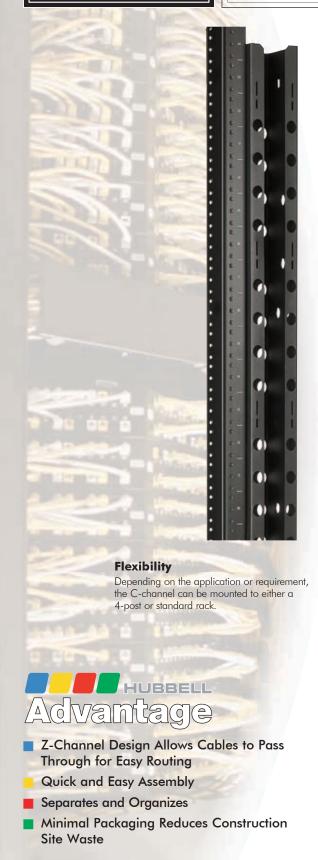


Black	VCF610
Color	Catalog No.



# NEXTFRAME

# VERTICAL CABLE MANAGEMENT





### Management

Cable management spools can be located along the length of the channel for proper location of cable routing.



### **Protection**

C-channel design provides added protection of the fiber and copper cable bundles.



### Versatility

Hinged door swings from the left and the right for easy access to patch cables in either rack.

### **Specifications**





- Channel material: Z-channel: 14ga cold rolled steel
- Cover material: 16ga cold rolled steel
- Finish: durable black or aluminum color powder coat finish

### **Standards**

- Packaged to meet Telcordia GR-63-CORE transportation requirements
- U.S. Patent No. 6,347,714





# VERTICAL CABLE MANAGEMENT ACCESSORIES

3" Equipment Rack with 6" Wide C-Channels							
Rack Units	Height Inches (mm)	Width Inches (mm)	Rail Depth Inches (mm)	C Depth Inches (mm)	Cover Style	Color	Catalog No.
45	84" (2134)	19" (483)	3" (76)	6" (152)	Hinged	Black	CS1976H
45	84" (2134)	19" (483)	3" (76)	6" (152)	Clip On	Black	CS1976
45	84" (2134)	19" (483)	3" (76)	6" (152)	Clip On	Aluminum	CS1976A



### **C-Channel Vertical Organizers**

Contents: 2 C-channels 38.5" H x 3.25" W x 10.5" D $^*$ 

24 spools

4 ½"-13 x 1" bolts with nuts and washers

Rack Height	Black
Inches (mm)	Catalog No.
7′ (2134)	VS73*

\*Add "A" at end of Catalog No. for Aluminum.

### **Joining Kit**

Contents: 1 joining plate

 $4 \#12-24 \times \frac{5}{8}$ " screws, nuts, washers  $4 \frac{1}{2}$ "- $13 \times 1$ " bolts w/ nuts and washers



Black	VCJK
Color	Catalog No.

### **Vertical Organizers with Hinged Covers**

Contents: 2 Z-channels 38.5" H x 12.5" D

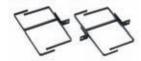
2 38.5" covers 4 hinges and gates

24 spools

 $4 \frac{1}{2}$ "-13 x 1" bolts with nuts and washers

### **Vertical Rings**

Contents: 2 vertical rings 1 mounting kit



Description	Catalog No.
Bracket, one side	MCCVMR2
Bracket, between racks	MCCVMR22

### **Covers**

\*Add "A" at end of Catalog No. for Aluminum.

### **Cable Management Spools**



Description	Catalog No.
Package of 50 spools 3", black	ICKSS
Package of 50 spools and screws, 6", black	ICKSS6
Package of 50 spools and screws, 9", black	ICKSS9

### **Hinge Kit**

Contents: 2 hinges and fasteners



Black	VCKH
Color	Catalog No.

Note: Gates not provided; order separately.

### **Fiber Spools**

Contents: 5 sets of fiber spools



Color	Catalog No.
DICK	VCF610



# NEXTFRAME

## HORIZONTAL CABLE MANAGEMENT





### Versatility

Large capacity 3-RMU organizer protects fiber, patch cords and cable bundles when used as pass through.



### **Options**

Horizontal cable organizers come in a wide variety of sizes, depths and heights to meet your application needs.



### **Organization**

Hinged cover provides an aesthetic finish and easy access to organize patch cords.



- All Steel Construction Rugged, Non-Flammable, No Fasteners to Wear or Break, No Fussing with Fingers
- Components Snap Together Quickly
  Without the Use of Tools
- Modular Components Easily Configured in Field to Adapt to Demanding Applications
- "Green" Design Minimizes Weight and Steel Content

### **Specifications**



- Panel material: 14ga cold rolled steel
- Cover material: 16ga cold rolled steel
- Ring: 0.225" diameter steel rod
- Durable, black powder coat

### Standards

- GR-63-CORE transportation requirements
- U.S. Patent No. 6,215,069

# HORIZONTAL CABLE MANAGEMENT

Duct	Panels				
Rack Units	Height Inches (mm)	Width Inches (mm)	Front Ring Depth Inches (mm)	Rear Ring Depth Inches (mm)	Catalog No.
1U	1.75" (44)	19" (483)	1.75" (44)	-	HC119CE1N
1U	1.75" (44)	19" (483)	3.50" (89)	_	HC119CE3H <sup>1</sup>
1U	1.75" (44)	19" (483)	3.50" (89)	6.00" (152)	HC119GC36 <sup>3</sup>
1U	1.75" (44)	19" (483)	6.00" (152)	_	HC119CE6H1
2U	3.50" (89)	19" (483)	1.75" (44)	_	HC219CE1N
2U	3.50" (89)	19" (483)	3.50" (89)	_	HC219CE3N
2U	3.50" (89)	19" (483)	3.50" (89)	6.00" (152)	HC219GC36 <sup>3</sup>
2U	3.50" (89)	19" (483)	3.50" (89)	6.00" (152)	HC219GC36P <sup>3</sup>
2U	3.50" (89)	19" (483)	6.00" (152)	_	HC219CE6N
2U	3.50" (89)	19" (483)	3.50" (89)	4.60" (117)	HC219CR3N <sup>2</sup>
2U	3.50" (89)	19" (483)	3.50" (89)	4.60" (117)	HC219CC3N⁴
3U	5.25" (133)	19" (483)	3.50" (89)	_	HC319CE3N
3U	5.25" (133)	19" (483)	6.00" (152)	_	HC319CE6N



HC219CC3N (front and rear cover shown)

HC219CE3N (front cover only)

Enha	nced Panels				
Rack Units	Height Inches (mm)	Width Inches (mm)	Front Ring Depth Inches (mm)	Rear Ring Depth Inches (mm)	Catalog No.
1U	1.75" (44)	19" (483)	3.50" (89)	_	HC119ME3N
1U	1.75" (44)	19" (483)	6.00" (152)	_	HC119ME6N
2U	3.50" (89)	19" (483)	3.50" (89)	_	HC219ME3N
2U	3.50" (89)	19" (483)	6.00" (152)	_	HC219ME6N
3U	5.25" (133)	19" (483)	3.50" (89)	_	HC319ME3N
3U	5.25" (133)	19" (483)	6.00" (152)	_	HC319ME6N



<sup>&</sup>lt;sup>1</sup>Heavy-duty version; no pass-through holes. <sup>2</sup>Includes rear wire frame.

<sup>&</sup>lt;sup>3</sup>Includes rear wire frame and rear cover; no pass-through holes. <sup>4</sup>Includes rear wire frame, cover and pass-thru holes.



# HORIZONTAL CABLE MANAGEMENT

Basic Panels				
Rack Units	Height Inches (mm)	Width Inches (mm)	Front Ring Depth Inches (mm)	Catalog No.
1U	1. <mark>75"</mark> (44)	19" (483)	1.75" (44)	HC119MS1N
1U	1.75" (44)	19" (483)	3.50" (89)	HC119MS3N
2U	3.50" (89)	19" (483)	1.75" (44)	HC219MS1N
2U	3.50" (89)	19" (483)	3.50" (89)	HC219MS3N
2U	3.50" (89)	23" (584)	1.75" (44)	HC223MS1N





HC219ME3S

## **Cable Manager with Wire Saddles**

Contents: 1 panel assembly with cover(s), 4 #12-24 x 5/8 dog-nosed screws, 4 #12 nylon flat washers

Rack Units	Height Inches (mm)	Width Inches (mm)	Ring Depth Inches (mm)	Catalog No.
1U	1.75" (44)	19" (483)	3.50" (89)	HC119ME3S*
2U	3.50" (89)	19" (483)	1.75" (44)	HC219ME3S

<sup>\*</sup>HC119ME3S includes only wire saddles and rings for vertical cable management.



HC219CE3P

### Plastic Finger Duct Organizer

Contents: 1 panel assembly with cover(s), 4 #12-24 x 5/8" dog-nosed screws, 4 #12 nylon flat washers

Rack Units	Height Inches (mm)	Width Inches (mm)	Front Duct Depth Inches (mm)	Rear Duct Depth Inches (mm)	Catalog No.
1U	1.75" (44)	19" (483)	3" (76)	5" (127)	HC119CC3P
1U	1.75" (44)	19" (483)	3" (76)	_	HC119CE3P
2U	3.50" (89)	19" (483)	3" (76)	5" (127)	HC219CC3P
2U	3.50" (89)	19" (483)	3" (76)	<b>-</b>	HC219CE3P



### 19" Filler Panels

Contents: 1	Contents: 1 panel and 4 first screws				
Rack Units	Height Inches (mm)	Color	Flat Catalog No.	Angled Catalog No.	
1U	1.75" (44)	Black	MCCBP175	ABP175	
2U	3.50" (89)	Black	MCCBP350	ABP350	
4U	7.00" (178)	Black	MCCBP700	-	







# HORIZONTAL CABLE MANAGEMENT ACCESSORIES

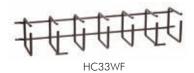
Front/Rear Cover Contents: 1 cover		
1U	1.75" (45)	HC119C
2U	3.50" (89)	HC219C
3U	5.25" (133)	HC319C



Vertical Management Rings	
Contents: 2 rings, 1 kit mounting hardware	
Depth Inches (mm)	Catalog No.
3.50" (89)	HC23VR2
6" (152)	HC26VR2



Rear Wire Frame		
Contents: 1 rear wire frame		
Depth Inches (mm)	Catalog No.	
4.6" (117)	HC33WF	
6" (152)	HC36WF	



Plastic Cable Management Rings		
Contents: 4 rings		
Description	Catalog No.	
Non-adhesive	MCCPSR4	
Adhesive	MCCPSRA4	



Extender Brackets, 23"	
Contents: 2 brackets, 1 kit of mounting hardware	
Color	Catalog No.
Black	BREXTB235





# CABLE MANAGEMENT ACCESSORIES

## VELCRO® Brand ONE-WRAP® Cable Ties

Contents: one 10-pack of straps

Length Inches (mm)	Straps per Puck	Max. Bundle Diameter Inches (mm)	Catalog No.
8" (203)	10	2.5" (64)	HPWCVFxx8

**xx** = Color: **BK** (Black), **BL** (Blue), **OR** (Orange), **RD** (Red) and **YL** (Yellow).



Bulk VELCRO® Pucks				
Width Inches (mm)	Length Feet (mm)		Unit of Measure	Catalog No.
1" (25)	10' (3048)	Cut to length	10-pack	HPWCVFBK120
0.625" (16)	75' (22,860)	Cut to length	Each	HVFBK5875
0.5" (13)	75' (22,860)	Cut to length	Each	HVFBK575
0.5" (13)	75' (22,860)	Rip to length	Each	HVFBK575S
0.5" (13)	600' (182,880)	Cut to length	Each	HVFBK5600



## Basic VELCRO® Brand Fasteners

Contents: one	10-pack of straps		
Length Inches (mm)	Color	Max. Bundle <mark>Di</mark> ameter Inches (mm)	Catalog No.
22" (559)	Black	7.5" (191)	MCCMV22BK10
9" (229)	See below	2.5" (64)	MCCMV9xx10
5" (127)	See below	1.4" (36)	MCCMV5xx10

**XX** = Color: **BK** (Black), **BL** (Blue), **OR** (Orange), **PK** (Pink), **RD** (Red) and **YL** (Yellow).



## Screw-Mount, Reusable Cable Ties

Contents: one	10-pack of straps		
Length Inches (mm)	Color	Max. Bundle Diamete Inches (mm)	er Catalog No.
9" (229)	Black	2.5" (64)	MCCMV9BS10
9" (229)	Orange	2.5" (64)	MCCMV9OS10



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# CABLE MANAGEMENT ACCESSORIES

### **VELCRO®** Brand Vertical Cable Manager

Inexpensively manage cables on relay racks and cabinets.

Catalog No.

**HVVCM** 



### **VELCRO®** Brand "J" Hook

Catalog No. **HVJH** 



### **VELCRO® Brand Work Station Manager**

Easily manage cable congestion at the work station.

Catalog No. **HVWM** 



### **VELCRO®** Brand Pads and Loops

Catalog No. **HVPL** 



### **VELCRO® Brand Saddle Cable Ties**

VELCRO® Width Inches	Length Inches (mm)	Max. Loop Diameter Inches (mm)	Screw Type	Catalog No.
1/2"	8" (203)	2.16" (55)	Rack	HVSCTR
1/2"	8" (203)	2.16" (55)	Wood	HVSCTW



### **Rack Label Kit**

Contents: 3 self-adhesive strips, black label with white lettering (numbers 01 through 60)

Dimensions: 35" H x 0.25" W

Catalog No.



VELCRO<sup>®</sup> is a registered trademarks of Velcro Industries B.V.

**RRLABEL** 



# LADDER RACK



# Advantage Advantage

- Modular System Easily Configured for New and Existing Cable Routing
- Mounts to Floors, Walls, Ceilings, Equipment Racks and Cabinets
- Tip: Secure Ladder to Cabinet Tops Using J-Bolt Kit and Drilling Holes as Required
- RoHS Compliant

### **Specifications**

- Material: 16ga tubular Steel
- Durable powder coat
- Stringer dimensions: 0.375" W x 1.5" H
- Rung spacing: 9.0"
- Weight capacity: 45lb/foot

Straight Section				
Width	6′ (1	829) Length	10' (	3048) Length
Inches (mm)	Black	Gray	Black	Gray
6" (152)	HLS0606B	HLS0606G	HLS1006B	HLS1006G
12" (305)	HLS0612B	HLS0612G	HLS1012B	HLS1012G
18" (457)	HLS0618B	HLS0618G	HLS1018B	HLS1018G
24" (610)	HLS0624B	HLS0624G	HLS1024B	HLS1024G

Note: Please order straight sections in multiples of 10 pieces. Width = outside to outside dimensions.



90° Turns			
Width Inches (mm)	Inside Radius 90° Black	Flat Turns 90° Black	Outside Radius 90° Black
6" (152)	HLI0690B	HLF0690B	HLO0690B
12" (305)	HLI1290B	HLF1290B	HLO1290B
18" (457)	HLI1890B	HLF1890B	HLO1890B
24" (610)	HL12490B	HLF2490B	HLO2490B
Width	Inside Radius 90°	Flat Turns 90°	Outside Radius 90°
Inches (mm)	Gray	Gray	Gray
6" (152)	HLI0690G	HLF0690G	HLO0690G
12" (305)	HLI1290G	HLF1290G	HLO1290G
18" (457)	HLI1890G	HLF1890G	HLO1890G
24" (610)	HLI2490G	HLF2490G	HLO2490G





# LADDER RACK ACCESSORIES

### **Butt Splice Kit**

Finish: black powder coat

Catalog No. **HLBSK** 





### **Protective End Caps**

Catalog No. **HLECPK2** 



### Cable Radius Drop

	_		
Finish: black powder coat			
Ladder Width Inches (mm)	Actual Width Inches (mm)	Catalog No.	
6" (152)	4.5" (114)	HLCD06*	
12" (305)	10.75" (273)	HLCD12	
18" (457)	16.75" (425)	HLCD18	
Stringer	7.5" (191)	HLCDS	



### **Swivel Splice Kit**

Color	Catalog No.
Black	HLSSK



### **T-Junction Splice Kit**

Cataloa No	HLTK



*Can also be mounted on string
--------------------------------

### **Cable Retaining Fence Posts**

Nom. Height Inches (mm)	Actual Height Inches (mm)	Catalog No.
6" (152)	8.3" (211)	HLP06xx
8" (203)	10.4" (264)	HLP08xx
10" (254)	12.4" (315)	HLP10xx



## **Triangle Wall Support**

Width Inches (mm)	Catalog No.
6" (152)	HLTSB06xx
12" (305)	HLTSB12xx
18" (457)	HLTSB18xx
24" (610)	HLTSB24xx





### **Ceiling Mounting Kit**

Description	Catalog No.
Ceiling mounting kit with two 6' x 0.625Ø threaded rods	HLCMK
Brackets only	HLCF



## **Vertical Wall Bracket**

Finish: black powder coat	
Catalog No.	HLVWBK



### Foot Kit

Finish: black powder coat	
Catalog No.	HLRF





### **Wall Angle Support**

Color: Black	
Width Inches (mm)	Catalog No.
6–12" (152–305)	HLX0612*
18" (457)	HLX1518*
24" (610)	HLX24*

\*Add "G" to Catalog No. for Gray.



**HLJB** Catalog No.



### **Wall/Rack Mounting Kit**

Contents: 1 HLMPK19, 1 HLX0612, 1 40" L x 12" W ladder section

Black	HLWRK
Color	Catalog No.



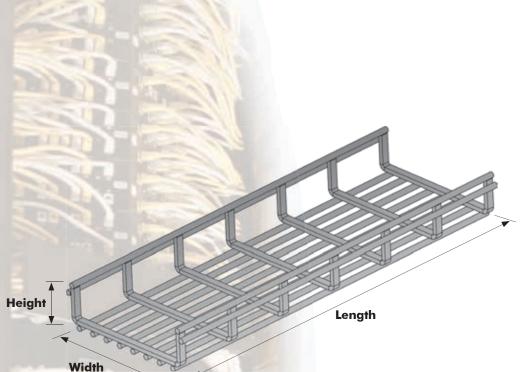
# **Mounting Kit to Relay Rack**

Color: Black	Catalog No.
3" rack	HLMPK19
6" rack	HLMPK19D





# WIRE TRAY FOR OVERHEAD





### **Configurable**

Tray can be installed overhead or under raised floors.



### **Ease of Use**

Splice kit installs easily for joining tray sections and building corners.





Flat Style Cross sectional view of cross members.

### Versatility

Shaped cross bars have more surface area and reduce pressure/strain on cables.



- All Wire Trays are UL Classified and can be Used in Grounding
- Can be Installed in Overhead or **Underfloor Applications**
- Shaped Cross Members Reduce Cable Strain
- 100% Recycled Steel Content

### **Specifications**



- Wire diameters: 0.197" (5mm)
- Pre-galvanized finish (standard)
  - ASTM A641 steel
- Black powder coat finish
- ASTM A510 steel
- Other colors available

### **Standards**

- UL/Cul certified painted tray
- No removal of any paint during installation required



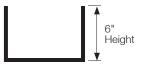
# WIRE TRAY FOR OVERHEAD



			- ugo	
Pre-Galv	anized Wire	e Trays		
Height Inches (mm)	Width Inches (mm)	Length Inches (mm)	Round Wire Tray Catalog No.	Flat Style Wire Tray Catalog No.
2" (51)	4" (102)	118" (3000)	HPWW0204	HPWW0204S
2" (51)	6" (152)	118" (3000)	HPWW0206	HPWW0206S
2" (51)	8" (203)	118" (3000)	HPWW0208	HPWW0208S
2" (51)	12" (305)	118" (3000)	HPWW0212	HPWW0212S
2" (51)	16" (406)	118" (3000)	HPWW0216	HPWW0216S
2" (51)	18" (457)	118" (3000)	HPWW0218	HPWW0218S
2" (51)	20" (508)	118" (3000)	HPWW0220	HPWW0220S
2" (51)	22" (559)	118" (3000)	HPWW0222	HPWW0222S
2" (51)	24" (610)	118" (3000)	HPWW0224	HPWW0224S
2" (51)	26" (660)	118" (3000)	HPWW0226	HPWW0226S
2" (51)	28" (711)	118" (3000)	HPWW0228	HPWW0228S
2" (51)	30" (762)	118" (3000)	HPWW0230	HPWW0230S
2" (51)	32" (813)	118" (3000)	HPWW0232	HPWW0232S
4" (102)	4" (102)	118" (3000)	HPWW0404	HPWW0404S
4" (102)	6" (152)	118" (3000)	HPWW0406	HPWW0406S
4" (102)	8" (203)	118" (3000)	HPWW0408	HPWW0408S
4" (102)	12" (305)	118" (3000)	HPWW0412	HPWW0412S
4" (102)	16" (406)	118" (3000)	HPWW0416	HPWW0416S
4" (102)	18" (457)	118" (3000)	HPWW0418	HPWW0418S
4" (102)	20" (508)	118" (3000)	HPWW0420	HPWW0420S
4" (102)	22" (559)	118" (3000)	HPWW0422	HPWW0422S
4" (102)	24" (610)	118" (3000)	HPWW0424	HPWW0424S
4" (102)	28" (711)	118" (3000)	HPWW0428	HPWW0428S
6" (152)	8" (203)	118" (3000)	HPWW0608	HPWW0608S
6" (152)	12" (305)	118" (3000)	HPWW0612	HPWW0612S
6" (152)	16" (406)	118" (3000)	HPWW0616	HPWW0616S
6" (152)	18" (457)	118" (3000)	HPWW0618	HPWW0618S
6" (152)	20" (508)	118" (3000)	HPWW0620	HPWW0620S
6" (152)	22" (559)	118" (3000)	HPWW0622	HPWW0622S
6" (152)	24" (610)	118" (3000)	HPWW0624	HPWW0624S
8" (203)	8" (203)	118" (3000)	HPWW0808	HPWW0808S
8" (203)	12" (305)	118" (3000)	HPWW0812	HPWW0812S
8" (203)	16" (406)	118" (3000)	HPWW0816	HPWW0816S
8" (203)	18" (457)	118" (3000)	HPWW0818	HPWW0818S
		118" (3000)	HPWW0820	









Note: All dimensions are +/- 0.25".

For Black powder coated, add "**BK**" at the end of the Wire Tray Catalog No. \*Additional colors available.





# WIRE TRAY ACCESSORIES



Plastic In	sert with Si	des	
Height	Width	Length	
Inches (mm)	Inches (mm)	Inches (mm)	Catalog No.
2" (51)	4" (102)	118" (3000)	HPWWPS020410
2" (51)	6" (152)	118" (3000)	HPWWPS020610
2" (51)	8" (203)	118" (3000)	HPWWPS020810
2" (51)	12" (305)	118" (3000)	HPWWPS021210
2" (51)	16" (406)	118" (3000)	HPWWPS021610
2" (51)	18" (457)	118" (3000)	HPWWPS021810
2" (51)	20" (508)	118" (3000)	HPWWPS022010
2" (51)	22" (559)	118" (3000)	HPWWPS022210
2" (51)	24" (610)	118" (3000)	HPWWPS022410
2" (51)	26" (660)	118" (3000)	HPWWPS022610
2" (51)	28" (711)	118" (3000)	HPWWPS022810
2" (51)	30" (762)	118" (3000)	HPWWPS023010
2" (51)	32" (813)	118" (3000)	HPWWPS023210
4" (102)	4" (102)	118" (3000)	HPWWPS040410
4" (102)	6" (152)	118" (3000)	HPWWPS040610
4" (102)	8" (203)	118" (3000)	HPWWPS040810
4" (102)	12" (305)	118" (3000)	HPWWPS041210
4" (102)	16" (406)	118" (3000)	HPWWPS041610
4" (102)	18" (457)	118" (3000)	HPWWPS041810
4" (102)	20" (508)	118" (3000)	HPWWPS042010
4" (102)	22" (559)	118" (3000)	HPWWPS042210
4" (102)	24" (610)	118" (3000)	HPWWPS042410
4" (102)	28" (711)	118" (3000)	HPWWPS042810
6" (152)	8" (203)	118" (3000)	HPWWPS060810
6" (152)	12" (305)	118" (3000)	HPWWPS061210
6" (152)	16" (406)	118" (3000)	HPWWPS061610
6" (152)	18" (457)	118" (3000)	HPWWPS061810
6" (152)	20" (508)	118" (3000)	HPWWPS062010
6" (152)	22" (559)	118" (3000)	HPWWPS062210
6" (152)	24" (610)	118" (3000)	HPWWPS062410
8" (203)	8" (203)	118" (3000)	HPWWPS080810
8" (203)	12" (305)	118" (3000)	HPWWPS081210
8" (203)	16" (406)	118" (3000)	HPWWPS081610
8" (203)	18" (457)	118" (3000)	HPWWPS081810
8" (203)	20" (508)	118" (3000)	HPWWPS082010



Plastic Inserts			
Width Inches (mm)	Length Inches (mm)	Catalog No.	
4" (102)	118" (3000)	HPWWP0410	
6" (152)	118" (3000)	HPWWP0610	
8" (203)	118" (3000)	HPWWP0810	
12" (305)	118" (3000)	HPWWP1210	
16" (406)	118" (3000)	HPWWP1610	
18" (457)	118" (3000)	HPWWP1810	
20" (508)	118" (3000)	HPWWP2010	
24" (610)	118" (3000)	HPWWP2410	



<b>Metal Ins</b>	erts	
Width Inches (mm)	Length Inches (mm)	Catalog No.
4" (102)	59" (1500)	HPWWBM0405
6" (152)	59" (1500)	HPWWBM0605
8" (203)	59" (1500)	HPWWBM0805
12" (305)	59" (1500)	HPWWBM1205
16" (406)	59" (1500)	HPWWBM1605
18" (457)	59" (1500)	HPWWBM1805
20" (508)	59" (1500)	HPWWBM2005
24" (610)	59" (1500)	HPWWBM2405

Note: All dimensions are +/- 0.25". \*Additional colors available.





# WIRE TRAY ACCESSORIES







Supports				
Width Inches (mm)	Shelf Support Catalog No.	Center Support Catalog No.	Ceiling Support Catalog No.	Tern Support Catalog No.
4" (102)	HPWWSSP04	HPWWCSP04	-	-
6" (152)	HPWWSSP06	HPWWCSP06	-	HPWWTST06
8" (203)	HPWWSSP08	HPWWCSP08	-	HPWWTST08
12" (305)	HPWWSSP12	HPWWCSP12	HPWWGSP12	HPWWTST12
16" (406)	HPWWSSP16	HPWWCSP16	HPWWGSP16	HPWWTST16
18" (457)	HPWWSSP18	HPWWCSP18	HPWWGSP18	HPWWTST18
20" (508)	HPWWSSP20	HPWWCSP20	HPWWGSP20	HPWWTST20
24" (610)	HPWWSSP24	HPWWCSP24	HPWWGSP24	HPWWTST24







Brackets		
Width Inches (mm)	L Bracket Catalog No.	C Bracket Catalog No.
4" (102)	HPWWLBT04	HPWWCBT04
6" (152)	HPWWLBT06	-
8" (203)	HPWWLBT08	HPWWCBT08
12" (305)	HPWWLBT12	HPWWCBT12
16" (406)	HPWWLBT16	-
18" (457)	HPWWLBT18	HPWWCBT18
20" (508)	HPWWLBT20	_
24" (610)	HPWWLBT24	_

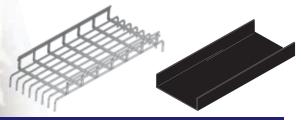
Pre-Galve	anized Cover	S
Width Inches (mm)	Length Inches (mm)	Catalog No.
4" (102)	59" (1500)	HPWWC0405
6" (152)	59" (1500)	HPWWC0605
8" (203)	59" (1500)	HPWWC0805
12" (305)	59" (1500)	HPWWC1205
16" (406)	59" (1500)	HPWWC1605
18" (457)	59" (1500)	HPWWC1805
20" (508)	59" (1500)	HPWWC2005
24" (610)	59" (1500)	HPWWC2405

Accessories					
Description	Catalog No.	Description	Catalog No.		
Splice kit	HPWWSKT	Vertical down	HPWWVDN		
Washer support	HPWWWST	Cable guides	HPWWCG		
Bar splice	HPWWBSP	Rack attachment	HPWWRAT		
Corner splice	HPWWCSP	Fitting attachment	HPWWFIT02		
Trapeze support	HPWWTZS	Fitting attachment	HPWWFIT45		
Radius down	HPWWRDN04	Conduit attachment	HPWWCAT		
Radius down	HPWWRDN06	Sidecar	HPWWSCR		
Radius down	HPWWRDN12	Electrical box	HPWWEBX		





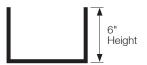
# WIRE TRAYS FOR RAISED FLOORS

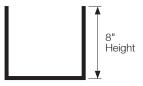


				•
Pre-Galv	anized Wire	Trays and l	nserts	
Height Inches (mm)	Width Inches (mm)	Length Inches (mm)	Round Wire Tray Catalog No.	Plastic Insert with Sides Catalog No.
2" (51)	6" (152)	24"(610)	HPWU020602	HPWWPS020610
2" (51))	6" (152)	48"(1219)	HPWU020604	HPWWPS020610
2" (51))	6" (152)	72"(1829)	HPWU020606	HPWWPS020610
2" (51)	12" (305)	24"(610)	HPWU021202	HPWWPS021210
2" (51)	12" (305)	48"(1219)	HPWU021204	HPWWPS021210
2" (51)	12" (305)	72"(1829)	HPWU021206	HPWWPS021210
2" (51)	22" (559)	24"(610)	HPWU022202	HPWWPS022210
2" (51)	22" (559)	48"(1219)	HPWU022204	HPWWPS022210
2" (51)	22" (559)	72"(1829)	HPWU022206	HPWWPS022210
4" (102)	6" (152)	24"(610)	HPWU040602	HPWWPS040610
4" (102)	6" (152)	48"(1219)	HPWU040604	HPWWPS040610
4" (102)	6" (152)	72"(1829)	HPWU040606	HPWWPS040610
4" (102)	12" (305)	24"(610)	HPWU041202	HPWWPS041210
4" (102)	12" (305)	48"(1219)	HPWU041204	HPWWPS041210
4" (102)	12" (305)	72"(1829)	HPWU041206	HPWWPS041210
4" (102)	22" (559)	24"(610)	HPWU042202	HPWWPS042210
4" (102)	22" (559)	48"(1219)	HPWU042204	HPWWPS042210
4" (102)	22" (559)	72"(1829)	HPWU042206	HPWWPS042210
6" (152)	6" (152)	24"(610)	HPWU060602	-
6" (152)	6" (152)	48"(1219)	HPWU060604	-
6" (152)	6" (152)	72"(1829)	HPWU060606	-
5" (152)	12" (305)	24"(610)	HPWU061202	HPWWPS061210
6" (152)	12" (305)	48"(1219)	HPWU061204	HPWWPS061210
6" (152)	12" (305)	72"(1829)	HPWU061206	HPWWPS061210
5" (152)	22" (559)	24"(610)	HPWU062202	HPWWPS062210
6" (152)	22" (559)	48"(1219)	HPWU062204	HPWWPS062210
6" (152)	22" (559)	72"(1829)	HPWU062206	HPWWPS062210
8" (203)	12" (305)	24"(610)	HPWU081202	HPWWPS081210
3" (203)	12" (305)	48"(1219)	HPWU081204	HPWWPS081210
3" (203)	12" (305)	72"(1829)	HPWU081206	HPWWPS081210
8" (203)	22" (559)	24"(610)	HPWU082202	-
8" (203)	22" (559)	48"(1219)	HPWU082204	-
8" (203)	22" (559)	72"(1829)	HPWU082206	-
Flat	22" (559)	24"(610)	HPWU002202	_









Note: All dimensions are +/- 0.25".

For Black powder coated, add "**BK**" at the end of the Wire Tray Catalog No. \*Additional colors available.



# WIRE TRAY ACCESSORIES

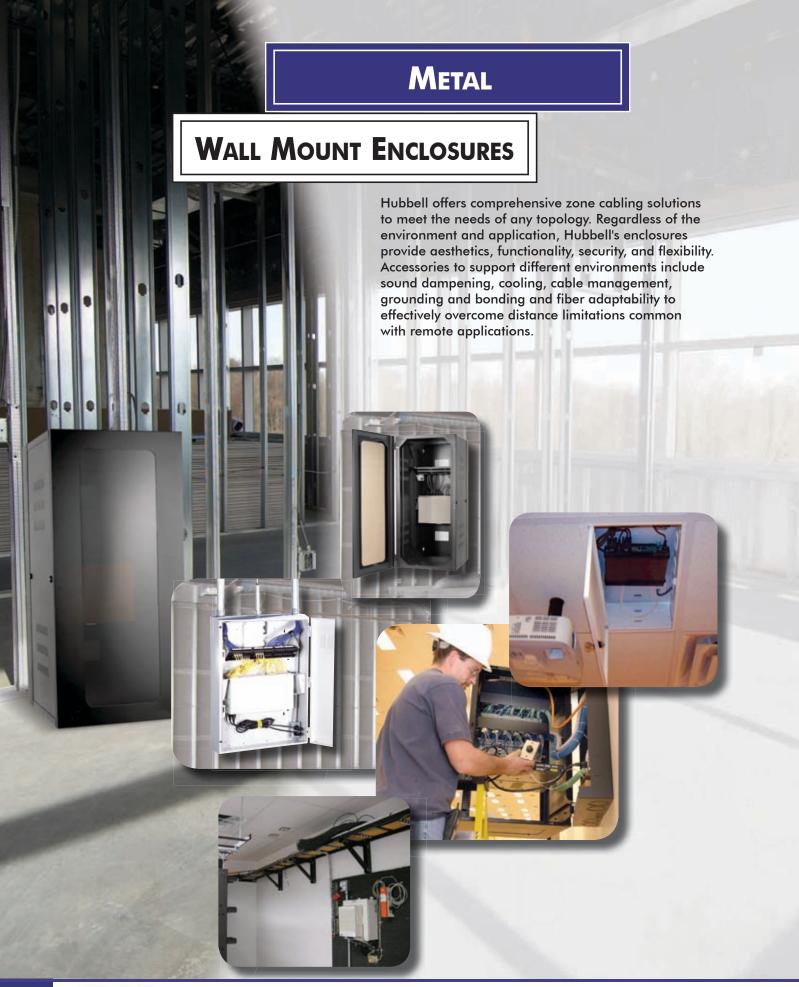


Underfloor Supp	ort	
Description	Width Inches (mm)	Catalog No.
Underfloor Support	4" (102)	HPWWUST04
Underfloor Support	6" (152)	HPWWUST06
Underfloor Support	8" (203)	HPWWUST08
Underfloor Support	10" (254)	HPWWUST10
Underfloor Support	12" (305)	HPWWUST12
Underfloor Support	14" (356)	HPWWUST14
Underfloor Support	16" (406)	HPWWUST16
Underfloor Support	18" (457)	HPWWUST18
Underfloor Support	20" (508)	HPWWUST20
Underfloor Support	22" (559)	HPWWUST22
Underfloor Support	24" (610)	HPWWUST24
Underfloor Support	26" (660)	HPWWUST26
Underfloor Support	28" (711)	HPWWUST28
Underfloor Support	30" (762)	HPWWUST30
Underfloor Fitting	22" (559)	HPWWUFT22

Pre-Galvanized Covers				
Width Inches (mm)	Length Inches (mm)	Catalog No.		
4" (102)	59" (1500)	HPWWC0405		
6" (152)	59" (1500)	HPWWC0605		
8" (203)	59" (1500)	HPWWC0805		
12" (305)	59" (1500)	HPWWC1205		
16" (406)	59" (1500)	HPWWC1605		
18" (457)	59" (1500)	HPWWC1805		
20" (508)	59" (1500)	HPWWC2005		
24" (610)	59" (1500)	HPWWC2405		

Accessories	
Description	Catalog No.
Splice kit	<b>HPWWSKT</b>
Ground hold down, 50 pack	HPWWGHD50
Pedestal clamp	HPWWPCL
Pedestal kit	HPWWPKT
6" underfloor C bracket	HPWWUCB06
12" underfloor C bracket	HPWWUCB12
Vertical up	HPWWVUP







# WALL MOUNT ENCLOSURES

Product	Pag
QUADCAB® WALL MOUNT CABINETS AND ACCESSORIES	M3
RE-BOX® WALL MOUNT CABINETS AND ACCESSORIES	M7
RE-BOX® Consolidation Point Enclosure	M9
NEXTFRAME® WALL MOUNT SWING FRAME	M13
NEXTFRAME® HORIZONTAL CABLE MANAGEMENT	M14
RE-BOX® Consolidation Point Enclosure	M15
RE-BOX® AV CEILING ENCLOSURE	M16
RE-BOX® ZONE BOXES	M17
<b>RE-BOX</b> ® Security Boxes for Wireless Access Points	M18

# QUADCAB

# **WALL MOUNT CABINETS**



### Utility

QUADCAB® enclosures allow for vertical mounting of patch panels and active equipment on back panel expanding the cabinets usable space.



### Versatility

Constructed in a broad range of sizes adapting to zone cabling applications.



### **Durability**

Rugged hinge plates provide improved closing/locking performance and reduced sagging under heavy loads.



**Load Capacity** QUADCAB® has a 400lb load capacity.

# Advantage

- Cabinet Maintains Structural Integrity when Fully Loaded at 400lb
- Cabinet Installs in Modular Sections
- Rear Wall Easily Configured to Accept 19" Panels, 110 Blocks, AV Splitters, and More
- Wall Mount Cabinets Optimize Floor Space

### **Specifications**

- Material:
  - Rear section, center section: 14ga cold rolled steel
  - Top/bottom hinge cover panel: 11ga cold rolled steel
  - Front door: 18ga cold rolled steel
  - Hinged mounting plates (rear door): 11ga cold rolled steel
- Finish: powder coat black
- 19" rack-style rails tapped #12-24 per EIA-310-D



# WALL MOUNT CABINETS AND ACCESSORIES

### **QUADCAB®** Wall Mount Cabinets

Contents: 1 rear section (arrives disassembled facilitating installation)

1 front door

2 19" mounting angles

- 1 center section with 2 CH751 locks
- 2 top/bottom cover plates
- 2 hinge pins
- 2 security cotter pins

	2 17 mooning drigies			2 security content pins			
Rack Units	Height	Width	Depth	Door Style	Color*	RWU**	Catalog No.
12	24" (610)	22.6" (574)	20" (508)	Window	Black	2	HSQ24
12	24" (610)	22.6" (574)	26" (660)	Window	Black	2	HSQ2426
12	24" (610)	22.6" (574)	36" (914)	Window	Black	2	HSQ2436
12	24" (610)	22.6" (574)	20" (508)	Solid	Black	2	HSQ24S
12	24" (610)	22.6" (574)	26" (660)	Solid	Black	2	HSQ24S26
12	24" (610)	22.6" (574)	36" (914)	Solid	Black	2	HSQ24S36
19	36" (914)	22.6" (574)	20" (508)	Window	Black	4	HSQ36
19	36" (914)	22.6" (574)	26" (660)	Window	Black	4	HSQ3626
19	36" (914)	22.6" (574)	36" (914)	Window	Black	4	HSQ3636
19	36" (914)	22.6" (574)	20" (508)	Solid	Black	4	HSQ36S
19	36" (914)	22.6" (574)	26" (660)	Solid	Black	4	HSQ36S26
19	36" (914)	22.6" (574)	36" (914)	Solid	Black	4	HSQ36S36
26	48" (1219)	22.6" (574)	20" (508)	Window	Black	6	HSQ48
26	48" (1219)	22.6" (574)	26" (660)	Window	Black	6	HSQ4826
26	48" (1219)	22.6" (574)	36" (914)	Window	Black	6	HSQ4836
26	48" (1219)	22.6" (574)	20" (508)	Solid	Black	6	HSQ48S
26	48" (1219)	22.6" (574)	26" (660)	Solid	Black	6	HSQ48S26
26	48" (1219)	22.6" (574)	36" (914)	Solid	Black	6	HSQ48536



HSQ48



Note: \*For Office White, add "W" to the end of the Catalog No.

### **Equipment Shelf, Cantilevered**

For use with all QUADCAB® enclosures

Contents: 1 shelf and mounting

hardware kit



Description	Dimensions	Color	Catalog. No.
Solid	3.5"H x 17"W x 14"D	Black	MCCCS19
Perforated	3.5"H x 17"W x 14"D	Black	MCCCS19P

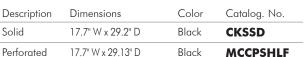
### **Equipment Shelf, Stationary**

For use with 36" deep QUADCAB®

enclosures

Contents: 1 shelf and mounting

hardware kit



### Fan Kit

Increases ventilation.

Contents: 1 fan tray assembly, (2 fans -

57 CFM each) wired and mounting hardware kit



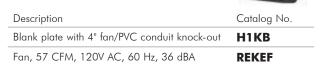
Description	Catalog No.
114 CFM, 120 VAC, 60 Hz, 36 dBA	HWKF120
114 CFM, 230 VAC, 50 Hz, 36 dBA	HWKF230

### Fan Plate/Fan

Increases ventilation

Contents: 1 fan, 1 wire guard, 4 lock nuts, screws, and washers

and 1 cord with 6' plug



<sup>\*\*</sup>RWU = Rear Wall Unit.

## WALL MOUNT CABINET ACCESSORIES



### **Front Door**

Replacement front doors for QUADCAB® enclosures.

Contents: 1 door, 1 window (on Plexiglas® doors

only), 2 hinge barrels, right and left hinges, 4 lock nuts and 4 carriage bolts



Catalog. No	Н	Q	K	χĮ	1	1	t

= "S" for solid metal door or "W" for window door.

**hh** = Height: **24** for 24"H, **36** for 36"H, or **48** for 48"H.

= Finish: standard finish is Black; for White add **W** at end.

### **Reusable Dust Filter**

Dust filter for air intake when using fans. Recommended use with gasket kit.

Contents: 2 filters with pre-assembled adhesive VELCRO® fasteners



Catalog. No.	HWKFF*

\*Two kits are needed for 3' and 4' cabinets.

### **Mobile Base**

Use to convert QUADCAB® wall mount cabinet to floor standing cabinet.

Contents: 1 mobile base, 4 swivel

casters, 4 leveling feet,

	mounting	hardware k	kit	6
Description			Catalog	. No.

20" depth	HSQKMB20
26" depth	HSQKMB26
36" depth	HSQKMB36

### **Lock Kits**

Use to change lock style to meet specific applications.

Contents: 2 assembly locks and keys (except CKL716). CKL716 includes NSQ tool



Description	Catalog. No.	
CH751 keyed lock kit	CKL751	
333 keyed lock kit	CKL333	
Bellcore 716 bit lock	CKL716	
Cat60 keyed lock kit	CKLCAT60	
Cat70 keyed lock kit	CKLCAT70	

### **Rear Rail Kit**

Use to support rear of deep, active equipment or to adapt to accept cage nuts.

Contents: 2 19" mounting rails, mounting hardware kit, 20 screws and washers

Description	Catalog. No.
24"xM6	HWK6M6
36"xM6	HWK9M6
48"xM6	HWK12M6
24"x#12-24	HWK241224
36"x#12-24	HWK361224
48"x#12-24	HWK481224



### **DIN Rail Communications Kit**

Communications DIN rail utility box kit (unloaded).



**HIDRUBCKIT** Catalog. No.

See page B9 for decorator and duplex frames.

### **Gasket Kit**

Use to enhance protection against dust and water, and performance of fan and filter.

Contents: 1 roll adhesive-backed

foam gasket



Length	Use	Catalog. No.
30"	HSQXX	HWKGT

### MT10 Adapter

Mates PS3 large capacity, 3-channel, surface raceway to the top of **RE-BOX**® cabinets. Routes both electrical and communications cables.

Contents: base, cover and cover

hardware kit



Catalog.	No.	REKMIIO

Plexiglas® is a registered trademark of Altuglas International, Arkema Group. VELCRO® is a registered trademark of Velcro Industries B.V.





# WALL MOUNT CABINET ACCESSORIES

### **Grounding Kit**

Contents: Ground strap with ring

terminations



Catalog. No. **REKEGS** 

### **Thermostat**

Contents: thermostat, adhesive-backed mounting bracket and

wiring harness



Catalog. No. CTK

### **Patch Panel Mounting Bracket**

Use to mount 19" patch panels to rear wall. Provides front access to rear for easy termination.

Contents: 2 brackets (left and right)



Rack Units	Catalog. No.
4	REK19
2	REK19L

### **Equipment Mounting Bracket**

Provides 19" mounting for hubs and other active equipment to rear wall.

Contents: 2 brackets (left and right)



Rack Units	Catalog. No.
5	REKZ
3	REKZL

Note: Account for depth of equipment.

### 3/4" Plywood Backboard

Provides universal mounting for wall mounted brackets, blocks, splitters, hubs and other devices. Mounts to rear wall.

Contents: 0.75" APA grade AC plywood painted

fire-retardant white, 2 mounting brackets, 1 assembly hardware kit



Dimensions	RWU	Catalog. No.
20"x19"	2	REKBB20
30"x19"	3	REKBB30
40"x19"	4	REKBB40

### **20A Power Kit**

Occupies left or right side of 1 rear panel space.

Contents: Hubbell surge-protected duplex

receptacle with audible alarm (HBL5262IS), single-gang work box, 6' Hubbell POLYTUFF® non-metallic conduit, stainless steel face plate, and assembly

hardware kit





# RE-BOX

# REMOTE EQUIPMENT CABINETS, COMMERCIAL



### **Efficiency**

The integrated louvers are designed to dissipate 160W of heat – industry maximum without requiring a fan



- Concentric Knockouts for Conduit and Rectangular Knockouts for Metal and PVC Raceway
- Door Lifts Off When Open for Easy Installation, Hinge Easily Reversed in the Field (Requires Catalog No. REKI)
- Flexible Mounting for Active Equipment Including Hubs and UPSs
- Distributing Network Equipment Lessens the Heat Load in the Telecom Room



### **Flexibility**

Top set bottom hinging for patch panel and mounting (RE2 = 2U; RE4 = 4U).



### **Adaptability**

Accepts maximum depth of 14" for active components (RE2, 2U and RE4, 5U) or 22" (RE4X).



### Capacity

Large openings designed for category 6A cable routing.

### **Specifications**

- Tamper resistant per Telcordia™GR-487-CORE
- Ventilation pattern complies with UL 60950
- Designed to meet NEMA 2
- Load capacity: 100 lb
- 16ga cold rolled steel welded construction
- Weight: RE4 = 50.6lb; RE2 = 45.1lb

### Standards/Listings/Verifications

• UL 1863



# REMOTE EQUIPMENT CABINETS, COMMERCIAL

### **RE-BOX**<sup>®</sup> – Commercial Equipment Cabinet

### Pre-Configured Version

Contents: base/rear section with welded 19" brackets for 2 hubs, front door with 2 locks (NSQ tool), a set of 19" extension brackets for 3 additional hubs (RE4xx only) and a set 19" bottom hinge brackets for patch panels

Switch Capacity	Max. Switch Depth	Height	Width	Depth	Color	Catalog No.
2U	14" (356)	32" (813)	24.2" (615)	7" (178)	Light gray	RE2
2U	14" (356)	32" (813)	24.2" (615)	7" (178)	Black	RE2B
5U	14" (356)	32" (813)	24.2" (615)	10" (254)	Light gray	RE4
5U	14" (356)	32" (813)	24.2" (615)	10" (254)	Black	RE4B
5U	22" (559)	42" (1067)	24.2" (615)	10" (254)	Light gray	RE4X
5U	22" (559)	42" (1067)	24.2" (615)	10" (254)	Black	RE4XB



Contents: 1 base/rear section and 1 front door with 2 locks (NSQ tool) (IDF24 has only 1 lock

Rack Width Units	Height	Width	Depth	Color	Catalog No.
2U	24" (600)	24.2" (615)	10" (254)	Light Gray	IDF24
4U	32" (813)	24.2" (615)	10" (254)	Light Gray	IDF32
6U	42" (1067)	24.2" (615)	10" (254)	Light Gray	IDF42



### **RE-BOX® 10GbE Cable Entry Pre-Configured Version**

Same as standard pre-configured  $RE\text{-BOX}^{\circledR}$  except top conduit knockouts replaced with adjustable, high cable capacity grommet plate.

Contents: base/rear section with welded 19" brackets for 2 hubs, front door with 2 locks (NSQ tool), a set of 19" extension brackets for 3 additional hubs (RE4xx only) and a set 19" bottom hinge brackets for patch panels

Switch Capacity	Height	Width	Depth	Color	Catalog No.
2U	32" (813)	24.2" (615)	7" (178)	Light Gray	RE210G
5U	32" (813)	24.2" (615)	10" (254)	Light Gray	RE410G



RE410G

# RE-BOX

# REMOTE EQUIPMENT CABINETS, INDUSTRIAL



### **Environmental**

Protects commercial network equipment located in harsh environments.



### **Flexibility**

Rear mounting panel with equipment mounting brackets.



### Versatility

Available in UL versions Type NEMA 3R, 12, 4, 4X and 13.



### Capacity

Field-configurable to suit multiple applications.



- Industry's First RE-BOX® Wall Mount Cabinet for Harsh Environments
- Modular Backboard System Eliminates Time Consuming Field Engineering
- Easily Adapts Commercial Network Equipment to Harsh Environments
- Distributing Network Equipment Lessens the Heat Load in the Telecom Room

### **Specifications**

- 14ga steel body and door.
- Continuous plasma-welded seams
- Poured-on polyurethane gasket on door
- ANSI 61 gray polyester inside and out over phosphatized surfaces
- Usable depth: 11.59"; nominal depth: 12"
- Dust and watertight to NEMA 12

### Standards/Listings/Verifications

- UL Listed to UL 508 Type 12 enclosures UL File #E64791
- cUL Certified Types 4 and 12 cUL File #LL66078
- NEMA/EEMAC Types 4, 12, and 13
- JIC EL-1-7





# REMOTE EQUIPMENT CABINETS, INDUSTRIAL

### **User-Configurable Version**

Contents: enclosure

### NEMA Rated 3R Enclosure - Cold Rolled Steel with Powder Coat

Height	Width	Depth	Color	Catalog No.
24" (610)	24" (610)	12" (305)	Gray	IR2U3RG
36" (914)	24" (610)	12" (305)	Gray	IR3U3RG

### NEMA Rated 4R Enclosure - Cold Rolled Steel with Powder Coat

Height	Width	Depth	Color	Catalog No.
24" (610)	24" (610)	12" (305)	Gray	IR2UG
36" (914)	24" (610)	12" (305)	Gray	IR3UG
48" (1219)	24" (610)	12" (305)	Gray	IR4UG

### NEMA Rated 4x Enclosure – Stainless Steel with Powder Coat

Height	Width	Depth	Color	Catalog No.
24" (610)	24" (610)	12" (305)	Brushed Steel	IR2USS
36" (914.4)	24" (610)	12" (305)	Brushed Steel	IR3USS



### **Pre-Configured Version**

Contents: enclosure, bottom-hinged patch panel bracket, 4U (REK19) and an equipment mounting bracket, 5U (REKZ)

### NEMA Rated 4/12/13 Enclosure - Cold Rolled Steel with Powder Coat

Height	Width	Depth	Color	Catalog No.
36" (914)	24" (610)	12" (305)	Gray	IR3PG
48" (1219)	24" (610)	12" (305)	Gray	IR4PG

### **Consolidation Point Enclosure**

Contents: enclosure

Use to house and secure small switches, wireless access points and cross connect products in harsh environments.

### **Specifications**

- Body and door fabricated from 14ga 304 stainless steel (HICPSS); 14ga cold rolled steel (HICP412G)
- Continuous plasma-welded seams
- 1/4-turn, oil-tight latches on door
- Poured-in polyurethane gasket on door
- ANSI 61 gray polyester inside and out over phosphatized surfaces (HICP412G)

### NEMA Rated 4X Enclosure – Stainless Steel with Brushed Finish

Height	Width	Depth	Color	Catalog No.
12" (305)	12" (305)	8" (203)	Gray	HICPSS

### NEMA Rated 4/12 Enclosure - Cold Rolled Steel with Powder Coat

Height	Width	Depth	Color	Catalog No.	
12" (305)	12" (305)	8" (203)	Gray	HICP412G	





## WALL MOUNT CABINET ACCESSORIES

### **Fan Kit**

Enhances ventilation.

Contents: 57-CFM fan, finger guard, disconnect power cord, 2-prong plug, foam baffle, adhesive-backed baffle, #6-32 mounting screws and

assembly bracket



Catalog No.

**REKF** 

Note: Order 1 per RE2; Order 2 per RE4, RE4X, IDF.

### **Economy Fan**

Increases ventilation.

Contents: 1 fan, 1 wire guard, 4 lock

nuts, screws, and washers and 1 cord with 6' plug



Description

Catalog No.

Fan, 125V/7A

**REKEF** 

### **Fan Filter Kit**

Cabinet dust filter for air intake when using fans (for RE4, RE4X, IDF only).

Contents: mounting bracket, foam filters, and assembly

hardware kit



Catalog. No.

REKFF

### **Padlock Hasp Kit**

Use to secure the door with the user supplied padlock.

Contents: 2 padlock hasps,

four 1/4"-20 carriage bolts,

hex nuts and washers

Catalog. No.

**REKH** 

### **Conversion Kit**

Use to convert an RE2 to an RE4 for added space.

Contents: RE4 door, two RE4 extender

brackets, and two 4U bottom hinged patch panel brackets

Color Catalog. No. Gray **REKU** Black **REKUB** 



### **Gasket Kit**

Use to enhance protection against dust and water, and performance of fan and filter.

Contents: 1 roll adhesive-backed

foam gasket



Length	Use	Catalog. No.
10"	REXX, IDFXX	REKG

### **Recessed Mounting Kit**

Use where recessed mounting is desired. Louvered section at bottom enhances cabinet ventilation.

Contents: trim ring, 1/4" x 5/8" sheet metal screws and  $#12-24 \times 1\frac{1}{4}$ " pan head screws

Height	Catalog. No.
24"	REKR24
32"	REKR32
42"	REKR42



### **Joining Kit**

Use to join cabinets, side-by-side or top to bottom.

Contents: shroud and mounting

hardware kit

Description	Catalog. No.
Top-to-bottom kit; use with all RE-BOX® cabinets	REKTJ
Side-by-side kit; use with IDF24, IDF24L	REKSJ20
Side-by-side kit; use with RE2, RE4, IDF32	REKSJ30
Side-by-side kit: use with RE4X, IDF42	REKSJ40



### **Sound Dampening Kit**

Use to dampen noise generated from active equipment in cabinet.

Contents: Dow® Quash™ foam pieces,

pre-cut to line cabinet interior

Catalog. No. **REKS** 



Dow<sup>®</sup> Quash<sup>™</sup> is a registered trademark of The Dow Chemical Company.

### **Left Hand Hinge Kit**

Contents: 2 sets left hand RE-BOX® door hinges use to reverse door



Catalog. No. **REKI** 



# RE-BOX

## WALL MOUNT CABINET ACCESSORIES

For use with QUADCAB® (HSQ series), Commercial RE-BOX® (IDF series), and HI-Impact RE-BOX® (IR Series) enclosures.

### **Patch Panel Mounting Bracket**

Use to mount 19" patch panels to rear wall. Provides front access to rear for easy termination.

Contents: 2 brackets (left and right)



Rack Units	Catalog. No.
4	REK19
2	REK19L

### **Equipment Mounting Bracket**

Provides 19" mounting for hubs and other active equipment to rear wall.

Contents: 2 brackets (left and right)



Rack Units	Catalog. No.
5	REKZ
3	REKZL

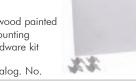
Note: Account for depth of equipment.

### 3/4" Plywood Backboard

Provides universal mounting for wall mounted brackets, blocks, splitters, hubs and other devices. Mounts to rear wall.

Contents: 0.75" APA grade AC plywood painted

fire-retardant white, 2 mounting brackets, 1 assembly hardware kit



Dimensions	RWU	Catalog. No.	A
20"x19"	2	REKBB20	
30"x19"	3	REKBB30	
40"x19"	4	REKBB40	

### **20A Power Kit**

Occupies left or right side of 1 rear panel space.

Contents: Hubbell surge-protected duplex

receptacle with audible alarm (HBL5262IS), single-gang work box, 6' Hubbell POLYTUFF® non-metallic conduit, stainless steel face plate, and assembly hardware kit

naraware k



Catalog. No.	REKP

### 110/66 Block Mounting Rails

Provides mounting for 110 and 66 blocks. Mounts to rear wall.

Contents: two 110/66 block mounting rails

and 20 #10-24 x ½" screws



Catalog. No. **REK110** 

### **Fiber Optic Bracket**

Accepts one fiber FSP adapter panel. Occupies no rear panel spaces.

Contents: fiber optic bracket



Catalog. No. REKFP

### **Panel Bracket for FSP Adapter**

Use with adapter panels (see page G11).
Snap mounts into structured cabling enclosures.

Contents: bracket



Catalog. No. **NSOFSB** 

### MT10 Adapter

Mates PS3 large capacity, 3-channel, surface raceway to the top of **RE-BOX**® cabinets. Routes both electrical and communications cables.

Contents: base, cover and cover

hardware kit

Catalog. No. **REKMT10** 



Use with residential structured cabling modules shown on page T7 and with NSOFSB.

Contents: bracket



Catalog. No. **REKHS** 

# WALL MOUNT SWING FRAME





### **Flexibility**

Left or right door mounting, quick release hinge pin.



### **Cable Management**

Integrated loop management ties along the back rail.



### Versatility

Swing racks are available in various sizes to accommodate today's applications.



**Environmental** 

the need for cooling.

- Supports Heavy or Deep Equipment in Locations with Limited Floor Space
- Quick Release Latches Rack Frame Hinges Left and Right
- Cable Tie Slots Along Both Sides and **Inside Top and Bottom**
- Ships Knocked-Down to Conserve Transportation

### **Specifications**

- Material: 16ga braces; 12ga equipment frame
- Finish: durable black powder coat
- 70lb load capacity
- 16" on center mounting for easy attachment to standard wall studs
- 3" deep rack uprights

### Standards/Listings/Verifications

• EIA-310-D universal spacing tapped #12-24 front and back

### **Wall Mount Swing Frame**

Contents: 1 rack frame

1 kit mounting hardware (50 - 12/24 screws)

Rack Units	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Finish	Catalog No.
12	24" (610)	20.7" (526)	18" (457)	Black	HPWWMR24
19	36" (914)	20.7" (526)	18" (457)	Black	HPWWMR36
26	48" (1219)	20.7" (526)	18" (457)	Black	HPWWMR48



## HORIZONTAL CABLE MANAGEMENT





- Jumbo Openings in Sides and Rear
- Bottom Hinging Uses Less Space to Open
- Side Hinging Allows Complete Access to the Rear of Components
- Enhanced Cable Management Multiple Tie-Off Points for Both Nylon and VELCRO® Brand Ties

### **Specifications**

- 16ga steel construction
- Finish: durable black powder coat
- Wall mount holes on 16" centers
- Width: 19"
- Load capacity:
  - 4 and 6 rack units: 50lb
  - 1 and 2 rack units: 25lb

### Standards/Listings/Verifications

• EIA-310-D universal spacing tapped #12-24

## Wall Mount Bracket, Bottom-Hinged

Contents: assembled bottom-hinged wall bracket

Rack Units	Height	Width	Depth	Catalog No.
1	1.75" (45)	19" (483)	4" (102)	HPWWB1U4
2	3.50" (89)	19" (483)	4" (102)	HPWWB2U4
2	3.50" (89)	19" (483)	8" (203)	HPWWB2U8
4	7.00" (178)	19" (483)	4" (102)	HPWWB4U4
4	7.00" (178)	19" (483)	8" (203)	HPWWB4U8
6	10.50" (267)	19" (483)	4" (102)	HPWWB6U4
6	10.50" (267)	19" (483)	8" (203)	HPWWB6U8
6	10.50" (267)	19" (483)	18" (457)	HPWWB6U18



### **Wall Mount Bracket, Side-Hinged**

Contents: assembled side-hinged wall bracket

Rack Units	Height	Width	Depth	Catalog No.
2	3.50" (89)	19" (483)	4" 102)	BRMCCMB19X35X4
4	7.00" (178)	19" (483)	4" (102)	BRMCCMB19X7X4
2	3.50" (89)	19" (483)	8" (203)	BRMCCMB19X35X8
4	7.00" (178)	19" (483)	8" (203)	BRMCCMB19X7X8

 $VELCRO^{\circledR}$  is a registered trademark of Velcro Industries B.V.



# **CONSOLIDATION POINT ENCLOSURE**



**Flexibility** Top and bottom entrances for cabling, easily mounts

to 16" on center studs.



Capacity Pre-threaded mounting rails accept: 110 blocks with legs, 89D brackets.



Versatility Mounting for 2 FSP or JACK-PACK® adapter panels accommodates fiber and copper form factors.



- Security for Remote Locations
- Flexible Mounting, Between Studs, Surface Mounted, Below Raised Floor or Directly to Wall and Partitions
- Consolidation Point for Open Offices, Small Horizontal Closets and Multimedia Ready
- Wall Mount Cabinets Help Optimize Floor Space

### **Specifications**

- - Enclosure 16ga cold rolled steel
  - Cover: 20ga cold rolled steel
- Finish:
  - Enclosure: zinc galvanized
  - Cover: powder coat
- Rails tapped #10-24

### Standards/Listings/Verifications

UL 1863 listed

Consolidation Point Enclosure with Solid Cover					
Color	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Catalog No.	
Electrical Ivory	21" (533)	14.5" (368)	4.5" (114)	CPEI	
Black	21" (533)	14.5" (368)	4.5" (114)	СРЕВ	



### **Consolidation Point Enclosure Accessories**

FLOCK1

Description	Color	Catalog No.
Trim ring	Electrical Ivory	CPKTRI
Trim ring	Black	CPKTRB
Description		Catalog No



Description	Color	Catalog No.
Louvered cover	Electrical Ivory	CPKLDI
Louvered cover	Black	CPKLDB





Lock kit

## RE-BOX

## **AV CEILING ENCLOSURE**



#### **Aesthetics**

Flush mounted, white enclosure for consistent look when mounted in the ceiling.

### **Flexibility**

Designed to neatly manage multiple applications inside one enclosure.

#### Reliability

Loaded with 2 Hubbell 20 Amp duplex receptacles and a 2-gang back box.



- Designed for Power, Data and Active AV Devices in the Ceiling
- Easily Installs into a Standard 2' Ceiling Tile Grid (2' x 1')
- Manages Active AV Devices (Crestron®, Extron® and FSR®) for Signal Routing to Projectors
- 100% Steel Construction

### **Specifications**

Surface finish: white powder coatEnclosure: 18ga cold rolled steel

• Slide latch: high impact thermal plastic (ABS)

· Mounting brackets: 18ga welded steel

AV Ceiling Enclosure						
Contents: enclosure, 2-20A duplex receptacles and 2-gang back box						
Description	Color	Catalog No.				
AV ceiling enclosure	White	AVCE1P				

FPTV Connection Enclosure						
Description	Color	Catalog No.				
2-gang in-wall enclosure	White	NSAV62M				
Steel cover for NSAV6 series	White	NSAV6C				

For additional information about the FPTV Enclosure see page T3.



AVCE1P



NSAV62M

Accessories	
Description	Catalog No.
Data kit (15-pin VGA 6ft BK, 9-pin serial cable 6ft BK, RCA composite 6ft BK, Cat 6 6ft and 1ft W and Cat 6 shielded 1ft and 15ft W and 10ft of 1" black VELCRO® Brand hook-and-loop fastener)	AVCE1KIT
Thermostat kit	CTK2
Fan kit	REKEF

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REKEF



## RE-BOX

## ZONE BOXES ACCESS FLOOR AND IN-CEILING





- Remote TR for Mini Backbone and CP Applications
- Flexible Mounting Options
- Rated for Plenum Environments
- Ceiling and Floor Enclosures Optimize Space



#### Installation

Cable entry behind the connecting hardware, exits from the face.



### Capacity

Large cable duct allows for high density cable installations.

### **Specifications**

- Aluminum enclosure, .060
- Tapped holes in brackets: #12-24
- Floor box
  - Mounts in standard 24" x 24" raised floor panel spaces
- · Ceiling box:
  - Active equipment max. dimensions: 3.5" x 15.5" x 19"
  - Mounts in standard 24" x 24" drop ceiling panel spaces
  - Structural mounting hardware supplied by installer

### **Standards/Listings/Verifications**

- Plenum rated, UL listed, file no. E129878
- UL VO flame rating on ABS trim ring

### **Access Floor Box**

Contents: enclosure, fire-rated foam kits for cable entries and exits, leveler bolts, support brackets and cable entry port covers

Description	Rack Units	Max. Port Capacity	External Dims. H x W x D	Internal Dims. H x W x D	Weight Lb	Min. Floor Depth	Cable Entry Dims.	Catalog No.
Floor box	4	96	4.12" x 21.9" x 21.9"	4" x 21" x 21"	14	6"	3.5" x 11"	ZAFB4U6
Floor box	8	192	7.12"x 21.9" x 21.9"	7" x 21" x 21"	15	8"	3.5" x 11"	ZAFB8U8
Floor box cover	-	_	22" x 22"	-	5	-	_	ZAFBC

Note: ZAFBC uses key no. 2233.

### **In-Ceiling Box**

Contents: enclosure, knob assemblies, fire-rated foam kit for cable entries and exits, support brackets, hinged door plate, equipment mounting assemblies and 9 CFM, 12 volt fan and transformer (active unit only)

Description	Rack Units	Max. Port Capacity	External Dims H x W x D	Door Weight	Weight Capacity Lb	Total Weight Lb	Cable Entry Description	Catalog No.
Passive zone ceiling box	5	120	12" x 24" x 24"	25	38	75	6" x 3"	ZCB5UP
Active zone ceiling box	7	120 plus 2U active equip	12" x 24" x 24"	25	39	75	3.5" x 11"	ZCB7UA
Zone ceiling box lock kit	-	- 17	_	-	-	-	-	ZCBLKIT
Spare zone ceiling box lock key	-		_	_	_	_	_	KEY333



### **SECURITY BOXES FOR WIRELESS ACCESS POINTS**





Mounts in standard 24" x 24" drop ceiling panel spaces.



#### Versatility

Mounting for 2 FSP or JACK-PACK® adapter panels accommodates fiber and copper form factors.

### Flexibility

Pre-threaded mounting rails accept: 110 blocks with legs, 89D brackets.

# HUBBELL Advantage

- Locked and Secure for Remote Locations
- Flexible Mounting Options
- Wireless Access Point (WAP) Applications
- Ceiling and Wall Mount Enclosures Optimize Space

### **Specifications**

- Ceiling box
  - Material: aluminum .060
  - Plenum rated
  - Accepts most standard, low voltage wireless access points
  - Accommodates sized ceiling tiles on the doors
- Wall box
- Vented, steel enclosure
- Finish: durable powder coat
- Cable entry/exit: four 7/8" round knock-out openings on sides, top and bottom
- Cable entry/exit: one 1-3/8" knock-out on back

### Standards/Listings/Verifications

• UL listed, file no. E129878 (ceiling box)

### **Wireless Access Point Ceiling Box**

Contents: enclosure, lockable knob assembly, fire-rated foam kit for cable entries and exits, cable entry port and cover (factory installed), and hinged door equipment mounting plate (factory installed)

Description	Mounting Plate Dims. H x W	External Dimensions H x W x D	Door Weight Capacity Lb	Total Capacity Lb	Cable Entry Dimensions	Catalog No.
Universal WAP enclosure	9.7" x 5.25"	4" x 10" x 12.7"	15	20	6.5" x 1.2"	WBC1
Cisco® Aironet® 1200 series	_	10" x 10.5" x 13.2"	15	20	6.5" x 1.2"	WBC12

Note: WBC1 uses key no. 2233. WBC12 uses key no. C346A.

### **Wireless Access Point Wall Box**

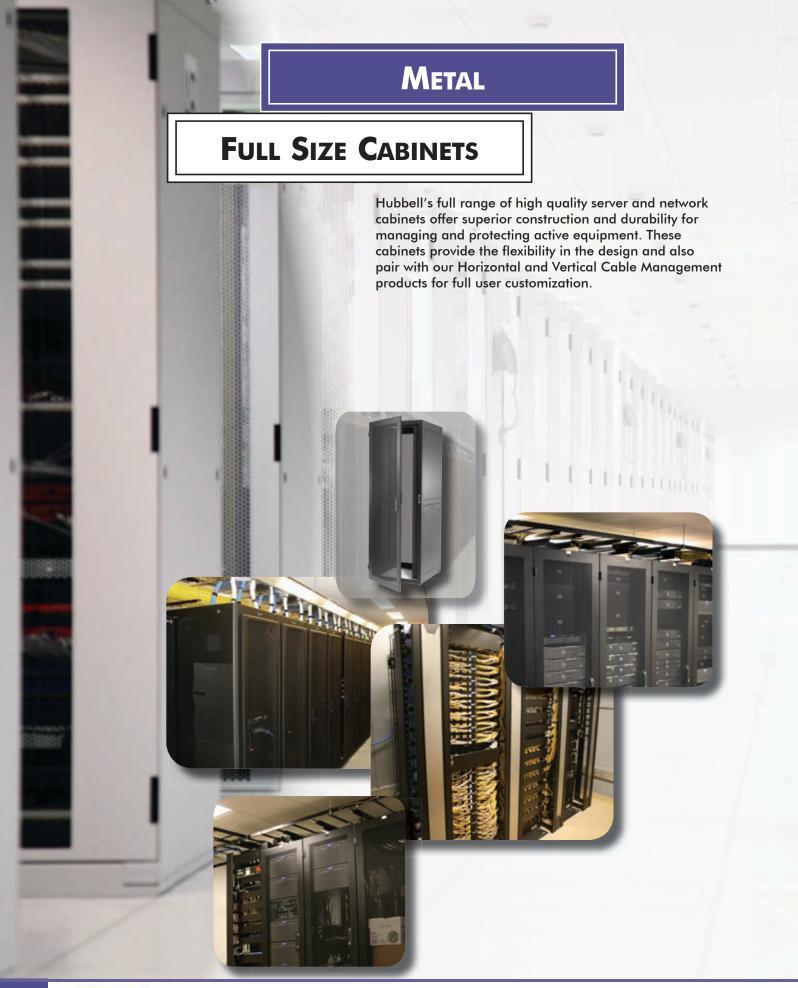
Contents: enclosure, lockable knob assembly, #10 x 1 pan head screws, conical screw anchors, flat steel washers and drill template

Description	External Dimensions H x W x D	Weight Lb	Color	Catalog No.
Wall box	8" x 11" x 3"	1.5	Office White	WBW1OW
Wall box	8" x 11" x 3"	1.5	Black	WBW1BK
Spare wall box lock k	сеу			<b>KEY333</b>

Note: WBW1OW and WBW1BK uses Key No. 333.

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## FULL SIZE CABINETS

Product	Pag
FULL SIZE CABINETS	. N3
Network Cabinets	. N5
NETWORK CARINET ACCESSORIES	N6

## ENCLOSURES

## FULL SIZE CABINETS



**Flexible** 

These Network Cabinets offer a high degree of flexibility and ease when managing cables.



- New and Efficient Design for Today's Requirements
- Standard EIA-310-D Mounting Hole Pattern
- High Structural Integrity for Active Equipment
- Enhanced Air Flow Design, Minimizes Power Consumption



**Identification**RMU identification markings.



**Efficiency**Perforated front and read doors to optimize air flow.



Flexibility
Vertical rails have cutouts that allow for mounting power strips and other accessories.

### **Specifications**

- Cold rolled steel
- 12ga vertical rails
- 14ga sides and doors
- Black powder coated
- Integrated lock, single front and rear doors
- · Leveling feet
- 50 cage nuts per server cabinet
- 2,000lb static load capacity
- Locks are standard on doors and sides
- #12-24 threaded hole configuration

### Standards/Listings/Verifications

- UL 1863
- EIA-310-D Hole Spacing



## FULL SIZE CABINETS



Access

The Network Cabinets allow for maximizing the quantity of cables within the cabinet while still allowing access to gear.



**Adjustable** 

The vertical mounting rails are adjustable in 0.5" increments.



**Configurable** 

The bottom is open for unrestricted cable entry.



**Adaptable** 

The top allows for cable entry, cooling options and direct ladder rack mounting.



## FULL SIZE CABINETS

Network Cabinet									
Туре	Rack Units	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Color	Catalog No.			
Standard w/sides	43	80" (2032)	30" (762)	32" (813)	Black	H2N8032			
Standard w/sides	43	80" (2032)	30" (762)	36" (914)	Black	H2N8036			
Standard w/sides	45	84" (2134)	30" (762)	32" (813)	Black	H2N8432			
Standard w/sides	45	84" (2134)	30" (762)	36" (914)	Black	H2N8436			
Seismic Z4 w/sides	43	80" (2032)	30" (762)	32" (813)	Black	H2N8032Z4			
Seismic Z4 w/sides	43	80" (2032)	30" (762)	36" (914)	Black	H2N8036Z4			
Seismic Z4 w/sides	45	84" (2134)	30" (762)	32" (813)	Black	H2N8432Z4			
Seismic Z4 w/sides	45	84" (2134)	30" (762)	36" (914)	Black	H2N8436Z4			
Standard w/o sides	43	80" (2032)	30" (762)	32" (813)	Black	H2N8032E			
Standard w/o sides	43	80" (2032)	30" (762)	36" (914)	Black	H2N8036E			
Standard w/o sides	45	84" (2134)	30" (762)	32" (813)	Black	H2N8432E			
Standard w/o sides	45	84" (2134)	30" (762)	36" (914)	Black	H2N8436E			



Server Cabinet								
Туре	Rack Units	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Color	Catalog No.		
Standard w/sides	43	80" (2032)	24" (610)	42" (1067)	Black	H2S8042		
Seismic Z4 w/sides	43	80" (2032)	24" (610)	42" (1067)	Black	H2S8042Z4		
Standard w/o sides	45	80" (2032)	24" (610)	42" (1067)	Black	H2S8042E		



### **Joining Kits**

Contents: 6 each of the following: 1/4''-20 x 1/2'' hex bolts, 1/4'' lock washers, 1/4'' flat washers, 1/4''-20 hex nuts.

Catalog. No. HPWJKIT



19" Filler Panels			
Contents: 1 panel and 4 HPW	screws.		
Height	1.75"H (1U)	3.50"H (2U)	7.00" H (4U)
Flat Catalog No.	MCCBP175	MCCBP350	МССВР700
Angled Catalog No.	ABP175	ABP350	-







## FULL SIZE CABINET ACCESSORIES

### **Equipment Shelves, Cantilevered**

Content: Stationary 16ga shelf, #12-24 mounting hardware

Туре	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Load Capacity	Catalog. No.
Solid	3.5" (89)	17" (432)	14" (356)	50lb	MCCCS19
Perforated	3.5" (89)	17" (432)	14" (356)	50lb	MCCCS19P
Solid	7.0" (178)	19" (483)	20" (508)	200lb	MCCCWS19HD







MCCCWS19HD





### **Equipment Shelves, Center-Weighted**

Content: Stationary 16ga shelf, #12-24 mounting hardware

Туре	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Load Capacity	Catalog. No.
Solid	3.5" (89)	17" (432)	19" (483)	75lb	MCCCWS19

### Horizontal Grounding Bar for 19" Rack

Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)		Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
.25" (6)	.75" (19)	19" (483)	8	#6-32	4	0.25" (6)	HBBBHR19

### Horizontal Grounding Bar for 19" Rack

Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)		Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
.25" (6)	5/8 (16)	36" (914)	16	1/4-20	3	.25 (6) x .5 (12) Slot	HBBBVR36

### **Caster Kit**

Catalog. No.

H2KMB



### **Network Cabinet Fan Kit, 460 CFM**

Enclosure will accept 2 Fan Kits

Catalog. No.

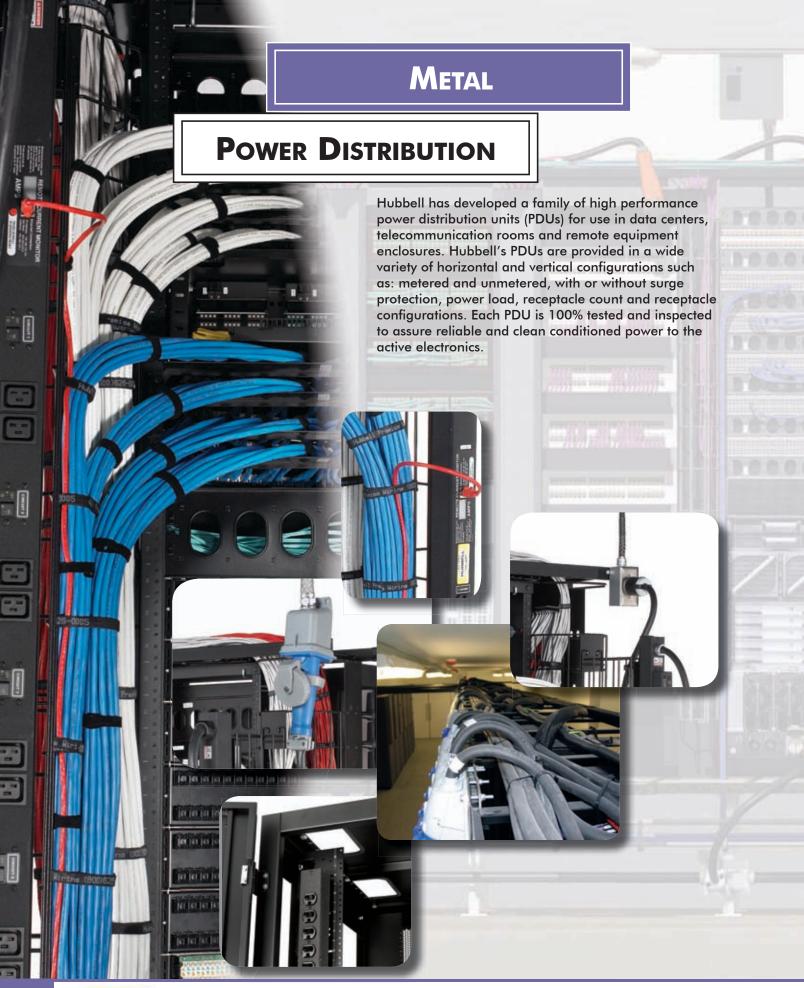
**H2KNF** 



### **Vertical Cable Management Bar**

Size	Catalog. No.
for 80" cabinet	H280CM
for 84" cabinet	H284CM







## POWER DISTRIBUTION

Product	PAGE
VERTICAL POWER STRIPS	.03
HORIZONTAL POWER STRIPS, RACK MOUNT	.05
Intelligent Power Strips.	.07

## **VERTICAL POWER STRIPS**



### **Equipment Safeguard**

Added surge protection provides the reliability needed to protect the mission critical equipment investment.



- Constructed with Hubbell Premium Receptacles
- Multiple Bracket Options to Suit Every Application
- Steady, Reliable Uninterrupted Conditioned Power
- Environmental and Power Consumption Monitoring



### Configurability

Available in single phase and 3-phase options specifying IEC or standard NEMA plugs.



### **Flexibility**

Customize each power strip circuit with 15, 20, 30, 40 and 50A receptacles.



### **Administration**

Environmental and power consumption monitoring assuring 24/7 uptime.

### **Specifications**

- Housing material: cold-rolled steel
- Housing finish: black powder coat
- AC voltage: 120V or 250V
- Current rating: 15, 20, 30 or 60A
- Outlets: NEMA 5-15R or 5-20R or IEC C-13 or C-19
- Input plug cord: 10' cable with NEMA plug, IEC 320 C-20 inlet, or 60A IEC 309 plug
- Surge protection:
- Protection modes: L-N, L-G, N-G
- Joule rating: 720



## VERTICAL POWER STRIPS



### Power Strips, Vertical Mount

Contents: 1 strip, 1 kit mounting hardware, universal i	mounting br	rackets
---	-------------	---------

Electrical Specification	Receptacle Type	Outlets Front	Plug Type	No. of Circuits	Surge Protected	Switch	Current Monitor	Catalog No.
15A-120V	NEMA 5-15R	10	NEMA 5-15P	1	No	No	No	PR104
20A-120V	NEMA 5-20R	10	NEMA 5-20P	1	No	No	No	PR10420
15A-120V	NEMA 5-15R	20	NEMA 5-15P	1	No	No	No	PR206
20A-120V	NEMA 5-20R	20	NEMA 5-20P	1	No	No	No	PR20620
20A-120V	NEMA 5-20R	20	NEMA 5-20P	1	No	No	No	PR20620TL****
20A-120V	NEMA 5-20R	20	NEMA 5-20P	1	No	Yes	Yes	PR20820DRTL*
30A-120V	NEMA 5-20R	20	NEMA L5-30P	1	No	No	No	PR20830
20/16A/circuit 120V	NEMA 5-20R	20	NEMA 5-20P	2	No	No	No	PR20820A**
20/16A-120/250V	IEC 320C-13	20	IEC 320 C20	1	No	No	No	PR20820I***
30/24A-250V	IEC 320C-13	24	NEMA L6-30P	1	No	No	No	PR24

<sup>\*</sup>PR20820DRTL features a digital current meter and a 20A Twist-Lock® plug.

<sup>\*\*\*\*</sup>PR20620TL includes a Twist-Lock® plug.

Mounting Brackets for Vertical Power Strips	
Description	Catalog No.
L-brackets: turned "in" for rack/rail mounting; turned "out" extend mounting options an additional 8 inches	PRSLB4
For left, right, front or back rail mounting; may be installed in conjunction with other equipment mounted in the same "U" space	PREZB



PREZB



<sup>\*\*</sup>PR20820A features (2) 20A circuts each fed by 10' cable with NEMA 5-20 plug.

<sup>\*\*\*</sup>PR20820I includes an IEC 320 (C-20) inlet for power input.

## HORIZONTAL POWER STRIPS, RACK MOUNT





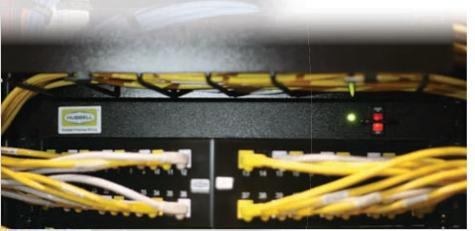
#### **Configurations**

Available standard 15A and 20A front and rear mounting options.



### **Reliability**

Standard horizontal front mounting 10-20A IEC320-C13 receptacles for active equipment in cabinet rear.





#### **Flexibility**

Transformer spaced power strip, recessed 8-15A receptacles, 4 on front and 4 on rear.

### **Equipment Safeguard**

Added surge protection provides the reliability needed to protect the mission critical equipment investment.

## Advantage Advantage

- Manufactured Premium Hubbell Receptacles
- Easy to Install with Multiple Bracket Options
- Surge Protection
- Environmental and Power Consumption Monitoring

### **Specifications**

- Housing material: cold-rolled steel
- Housing finish: black powder coat
- AC voltage: 120V or 250V
- Current rating: 15, 20, 30 or 60A
- Outlets: NEMA 5-15R or 5-20R or IEC C-13 or C-19
- Input plug cord: 10' cable with NEMA plug, IEC 320 C-20 inlet, or 60A IEC 309 plug
- Surge protection:
- Protection modes: L-N, L-G, N-G
- Joule rating: 720

## HORIZONTAL POWER STRIPS, RACK MOUNT











**Power Strips, Horizontal** 

Delivery: 1 strip, 1 kit mounting hardware

Electrical	Receptacle	Ou	ıtlets	Mounting	Surge	Transformer		Current	
Specification	Туре	Front	Rear	Style	Protected	Spaced	Switch	Monitor	Catalog No.
15A-120V	NEMA 5-15R	0	10	Flush	No	No	Yes	No	HPWPWR
20A-120V	NEMA 5-15R	0	10	Flush	Yes	No	Yes	No	MCCPSS19
15A-120V	NEMA 5-15R	4	4	Recess	Yes	Yes	No	No	MCCPSS19TS
20A-120V	NEMA 5-20R	0	10	Flush	No	No	No	No	PR10120
20/16A, 120/250V	IEC 320C-13	10	0	Flush	No	No	No	No	PR10720
15A-120V	NEMA 5-15R	0	6	Flush	No	No	No	No	PR0615
20A-120V	NEMA 5-20R	0	10	Flush	No	No	Yes	Yes	PR1020*
60A-250V	IEC 320C-19	0	3	Adjustable	No	N/A	CB/ Switch	No	PR0360**

 $<sup>^*</sup>PR10720$  includes an IEC 320 (C-20) inlet for power input. Vertical mount brackets are also included.

### **Mounting Brackets for Horizontal Power Strips**

Description	Catalog No.
Adjustable mount brackets; allows numerous recess or flush mount options.	PRAMB
Panel mount brackets; ideal for zero 'U' mounting applications by effectively allowing the unit to be hung from a cross beam or flat surface.	PRPMB

Туре	Catalog No.	Integral Fixed Brackets	Pre-Assembled Brackets Included	Optional Brackets Available
19" Rack Mount	HPWPWR MCCPSS19 PR10120 PR0615 PR1020	Flush Mount	N/A	N/A
Rack	MCCPSS19TS	N/A	Recess Mount	PRAMB PRPMB
19"	PR10720	N/A	Flush Mount and PRSLB4	PREZB
	PR0360	N/A	PRAMB	PRPMB

<sup>\*\*</sup>PR0360 features 10' cable with IEC 60A 2P/3W plug.

## INTELLIGENT POWER STRIPS

THE STATE



### 60, 80, 120A/250V Solutions

for the most demanding data center applications.

#### **Power**

for those most demanding, multiple blade server applications.

### **Remote Monitoring**

to maximize uptime and life span of active equipment.

### **User-Defined**

current thresholds.

#### Local

current meter.

### **Application Support**

for applications with a mix of power receptacles
— NEMA and IEC.

#### **Numerous**

power cord types.

### **Vertical Mounting Arrangements**

ideally suited for data center and cabinet applications.



- Advanced Monitoring and Alert Capabilities to Help Ensure the Maximum Life Span for Active Equipment
- 3-Phase WYE Configurations Support Multiple Voltage (120/208) Applications and Minimize Input Cabling
- Support for the Simple to the Most Advanced Data Center Applications
- Local and Remote Monitoring Optimize Power Consumption

### **Specifications**

- Housing material: cold-rolled steel
- Housing finish: durable, black powder coat
- FCC Part 15, Class A conformance
- Web based GUI
- SNMP v1
- AC voltage: 125, 250, 120/208
- Current rating: 20, 30, 60, 80, 120A
- Phase: single, 3~ WYE, 3~ DELTA
- Frequency: 50/60Hz
- Input plug type: various, NEMA, straight blade, TWIST-LOCK®, Pin and Sleeve, none – conduit connection access provided
- Receptacles: various NEMA and IEC

### Standards

• UL and cUL Listed 60950



## **Power Strips**

Meta	I PLUGTRA	AK® 5ft Base	e and Cover		Boxes and Fitt	ings	
Amp	Circuits	# Single Receptacles	Receptacle Spacing Inches (mm)	Catalog No.	Description	Catalog No.	
15	Single	10	6 (15)	HBL20GB506xx	One-gang device box	HBL2048xx	
15	Single	5	12 (31)	HBL20GB512xx			
15	Two	5	12 (31)	HBL20GBA512xx	Two-gang device box	HBL20482xx	
15	IG/Single	5	12 (31)	HBL20IG512xx	device box		
20	Single	10	6 (15)	HBL24GB506xx	Internal corner	HBL2017TC*	
20	Single	5	12 (31)	HBL24GB512xx	coupling		
20	Two	5	12 (31)	HBL24GBA512xx	External elbow	HBL2018Cxx	

		and Cover	\K® 6ft Base	PLUGTRA	Meta
Tee	Catalog No.	Receptacle Spacing Inches (mm)	# Single Receptacles	Circuits	Amp
Entro	HBL20GB606xx	6 (15)	12	Single	15
end f	HBL20GB609xx	9 (23)	8	Single	15
	HBL20GB612xx	12 (31)	6	Single	15
Large end t	HBL20GB618xx	18 (46)	4	Single	15
	HBL20GBA609xx	9 (23)	8	Two	15
Blanl	HBL20GBA612xx	12 (31)	6	Two	15
	HBL20GBA618xx	18 (46)	4	Two	15
Cove	HBL20IG606xx	6 (15)	12	IG/Single	15
	HBL24GB606xx	6 (15)	12	Single	20
Supp	HBL24GB612xx	12 (31)	6	Single	20
	HBL24GB618xx	18 (46)	4	Single	20
Cou	HBL24GBA612xx	12 (31)	6	Two	20
	HBL24GBA618xx	18 (46)	4	Two	20

Internal corner coupling	HBL2017TC*
External elbow	HBL2018Cxx
Flat elbow	HBL2011xx
Tee	HBL2015xx
Entrance end fitting	HBL2010A2xx
Large entrance end fitting	HBL2010A3xx
Blank end fitting	HBL2010Bxx
Cover clip	HBL2006xx
Supporting clip	HBL2003SC*
Coupling	HBL2001C*

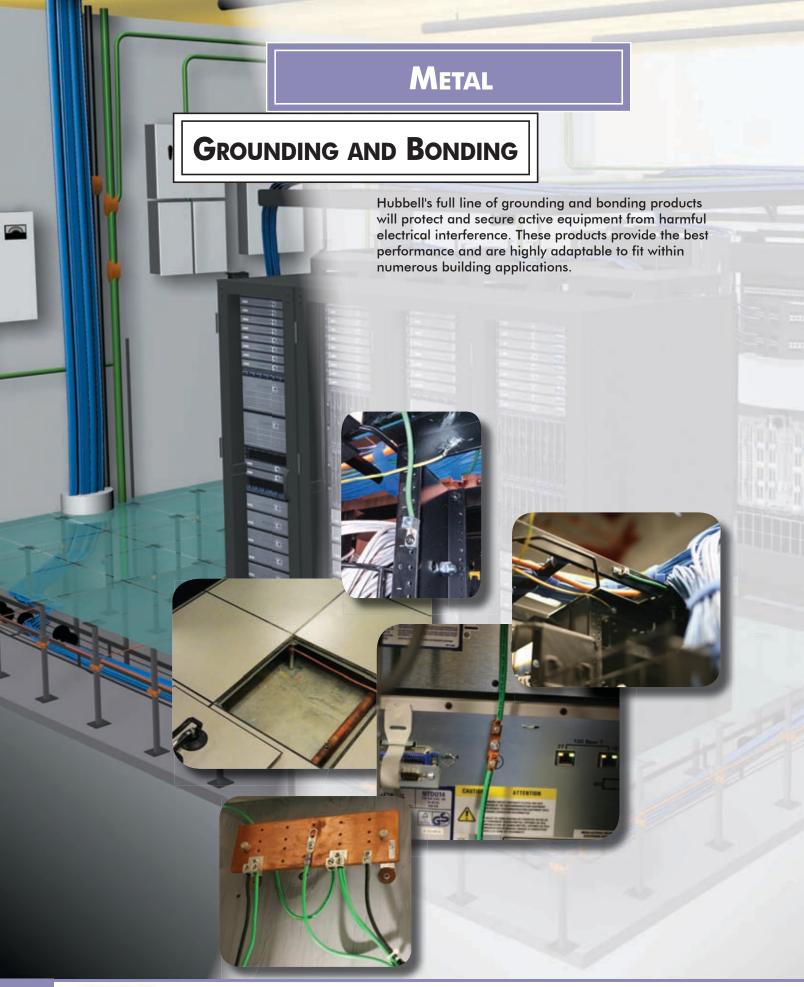
\*Finish: galvanized steel.

Portable <i>I</i>	Metal PLUGTRAK $^{0}$				
Amp	Circuits	# Single Receptacles	Length Inches (mm)	Cord Length Feet (mm)	Catalog No.
15	Single	6	40" (1016)	6' (1829)	HBL20C215xx
15	Single	8	64" (1626)	6' (1829)	HBL20C315xx

**xx** = Color: **IV** (Ivory) and **GY** (Gray).

Note: Hubbell Metal PlugTrak is supplied with two HBL2010BIV (Ivory) or HBL2010BGY (Gray) Blank End Fittings and one HBL2001C. Outlets match raceway color. "IG" Isolated receptacles are Orange.







# GROUNDING AND BONDING

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Data Center Grounding	. P9
Structural Grounding	.P11
RACK AND CABINET GROUNDING	.P13
Power Strip Grounding	.P15
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Grounding Accessories and Tools	.P18



## GROUNDING AND BONDING NETWORK



### **Grounding and Bonding System**

The grounding network in any building is responsible for directing electricity, static noise and built up charges to an outside discharge away from people and equipment.

The grounding products featured here are designed around the ANSI-J-STD-607-B, Commercial Building Grounding (Earthing) and Bonding requirements for telecommunications.

This standard specifies the requirements for a uniform telecommunications grounding and bonding infrastructure that shall be followed within commercial buildings where telecommunications equipment will be installed.

According to the ANSI-J-STD-607-B Standard\*, TBB Conductor size is directly related to the length of ground wire run. See the chart below for selecting the appropriate AWG size of wire.

TBB Conductor Size vs. Length			
TBB/GE Linear Length Feet (m)	TBB/GE Size (AWG)		
Less than 13' (4)	6		
14–20' (4 -6)	4		
21–26' (6–8)	3		
27–33' (8–10)	2		
34–41' (10–13)	1		
42–52' (13–16)	1/0		
53–66' (16–20)	2/0		
37–84' (20–26)	3/0		
85–105' (26–32)	4/0		

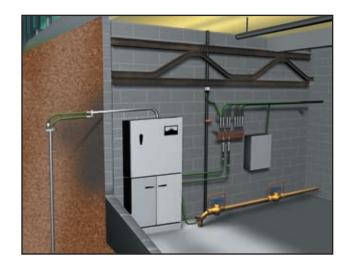
<sup>\*</sup>Reference ANSI-J-STD-607-B for more information.



### GROUNDING AND BONDING NETWORK

### **Service Entry**

The service entry location houses the last destination within the building before an electrical current leaves the building. The Telecommunications Main Grounding Busbar (TMGB) connects the external grounding rod to Telecommunications Bonding Backbone (TBB) located throughout the building.



### **Telecommunications Room**

The grounding products in this section focus grounding noise that travels along cables. These rooms are located throughout the building, there can be multiple rooms per floor in many different sizes.



### **Data Center**

The grounding and bonding network in these rooms will ground the active equipment to the infrastructure. There is a significant need for grounding in this room to prevent equipment failure and increase overall equipment performance.



## SHIELDBOND

## SERVICE ENTRANCE GROUNDING



The service entrance is where the unwanted electrical charge leaves the structure. These products are generally larger and heavier for the environment in which they are located.



- Strong Background in Grounding (BURNDY®)
- Full Product Line Offering to Ground Every Component
- High Strength Products for the Rugged Service Area
- Safe for the Environment



**Flexibility** 

Ground wire connectors allow for building and expanding the grounding system.



Quality

Telecommunication Main Grounding Busbar (TMGB) connects the backbone pathways to the earth ground rod.



Robust

Pipe clamps allow for grounding to the building plumbing system.



## SERVICE ENTRANCE GROUNDING













Compression Lugs						
		Single Hole Lu	9		Double Hole Lu	g
Wire Size	Straight	45 Degree	90 Degree	Straight	45 Degree	90 Degree
6 AWG	HGBL06S	HGBL06S45	HGBL06S90	HGBL06D	HGBL06D45	HGBL06D90
4 AWG	HGBL04S	HGBL04S45	HGBL04S90	HGBL04D	HGBL04D45	HGBL04D90
2 AWG	HGBL02S	HGBL02S45	HGBL02S90	HGBL02D	HGBL02D45	HGBL02D90
1 AWG	HGBL01S	-	-	HGBL01D	-	-
1/0 AWG	HGBL10S	_	_	HGBL10D	-	_



TMGB Telecommunication	tions Main (	Grounding B	usbar		
Dimensions Inches (mm)	Hole1 Qty	Hole1 Size Inches (mm)	Hole2 Qty	Hole2 Size Inches (mm)	Catalog No.
0.25 x 4 x 16" (6 x 102 x 406)	16	0.44" (11)	8	0.44" (11)	HBBB14416G
0.25 x 4 x 16" (6 x 102 x 406)	16	0.44" (11)	16	0.24" (6)	HBBB14416H
0.25 x 4 x 20" (6 x 102 x 508)	34	0.44" (11)	34	0.25" (6)	HBBB14420J





Ground V	Vire Connectors	
Wire Min.	Wire Max.	Catalog No.
8 AWG	1/0 AWG	HGBKSA10
6 AWG	2/0 AWG	HGBKVSW26

<b>Bonding Connector</b>	
Contents: 100 SHIELDBOND connectors,	Catalog No.
1 field installation tool kit	BC285SB100





Pipe	Grounding	g Clamps	
Pipe Dia.	Ground Wire Min.	Ground Wire Max.	Catalog No.
1"	4 AWG	2/0 AWG	HGBGAR1526
1.5"	4 AWG	2/0 AWG	HGBGAR1626
2"	4 AWG	2/0 AWG	HGBGAR1726
2.5"	4 AWG	2/0 AWG	HGBGAR1826
3"	4 AWG	2/0 AWG	HGBGAR1926
3.5"	4 AWG	2/0 AWG	HGBGAR2026

Braided J	umper		
Length Inches (mm)	Width Inches (mm)	Hole Diameter Inches (mm)	Catalog No.
12" (305)	0.94" (24)	0.375" (10)	HGBBD12
18" (457)	0.94" (24)	0.375" (10)	HGBBD18
24" (610)	0.94" (24)	0.375" (10)	HGBBD24

# SHIELDBOND

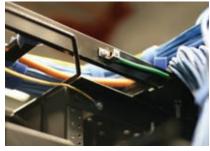
### TELECOMMUNICATIONS ROOM GROUNDING



The telecommunications rooms are located throughout the building and can be as small as a closet to a fully populated room. The focus in these rooms is to eliminate electrical static the will travel on cables or generated by equipment.



- Constructed with Hubbell Premium Products
- Multiple Bracket Options to Suit Every Application
- High Strength Products for the Rugged Service Area
- Increases Safety



### **User Friendly**

Grounding terminals are frequently used for creating connections on ladder rack.



### Intuitive

Grounding strips are easily installed on racks or inside of cabinets.



### Configurability

Grounding kits are user configurable to meet the many needs of compression lug type and wire length.





## TELECOMMUNICATIONS ROOM GROUNDING













	Single Hole Lug				Double Hole Lu	g
Wire Size	Straight	45 Degree	90 Degree	Straight	45 Degree	90 Degree
6 AWG	HGBL06S	HGBL06S45	HGBL06S90	HGBL06D	HGBL06D45	HGBL06D90
4 AWG	HGBL04S	HGBL04S45	HGBL04S90	HGBL04D	HGBL04D45	HGBL04D90
2 AWG	HGBL02S	HGBL02S45	HGBL02S90	HGBL02D	HGBL02D45	HGBL02D90
1 AWG	HGBL01S	-	-	HGBL01D	-	-
1/0 AWG	HGBL10S	-	-	HGBL10D	-	-

### **Grounding Kit Configurator**

Contents: green coated #6 AWG copper wire, selected lugs, and the appropriate number of #12-24 and M6 screws

= Single lug, 1 #12-24 and M6 screw

D = Double lug, 2 #12-24 and M6 screws

DF = Double 45 lug, 2 #12-24 and M6 screws DN = Double 90 lug, 2 #12-24 and M6 screws

Base		Length		
Catalog No.	Lug 1	In. (mm)	Lug 2	
HGRKT	S	<b>10</b> " (254)	S	
	D	<b>20</b> " (508)	D	
		<b>30</b> " (762)	DF	
		<b>144</b> " (3658)	DN	

Example: HGRKTS20DN: grounding kit with single lug, 20" of #6 AWG wire, double 90 degree lug, 3 #12-24 and M6 screws.



### **Bonding Connector**

Contents: 100 SHIELDBOND connectors, 1 field installation tool kit

Catalog No.

BC285SB100

### **Ground Wire Connectors**

Wire Min	Wire Max	Catalog No.
8 AWG	1/0 AWG	HGBKSA10
6 AWG	2/0 AWG	HGBKVSW26











### **Grounding Terminals**

Catalog No.	HGBKA6U	HGBBGBL4	<b>HGBKLU35</b>	HGBCL501
Description	Al Standoff	Al Side Mount	Cop Standoff	Cop Side Mount
Material	Aluminum	Aluminum	Copper	Copper
Mounting Hole I.D.	0.25" (6)	0.22" (6)	0.19"(5)	0.22" (6)
Wire Diameter Min.	14 AWG	14 AWG	14 AWG	14 AWG
Wire Diameter Max.	6 AWG	4 AWG	6 AWG	4 AWG

### TGB Telecommunications Grounding Busbar

Dimensions Inches (mm)	Hole1 Qty	Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
0.25 x 2 x 10" (6 x 51 x 254)	16	0.28" (7)	-	-	HBBB14210A
0.25 x 2 x 24" (6 x 51 x 610)	36	0.28" (7)	_	_	HRRR14224R



Grounding Bar					
Dimensions Inches (mm)	Hole1 Qty	Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
0.25 x 0.75 x 19" (6 x 19 x 483)	8	#6-32	4	0.25" (6)	HBBBHR19
0.25 x 0.63 x 36" (6 x 16 x 914)	16	1/4-20	3	0.25 x 0.5" (6 x 13) Slot	HBBBVR36



# SHIELDBOND

## **DATA CENTER GROUNDING**



Grounding and bonding in the data center is very important when protecting active equipment from dangerous electrical charges. The focus in this room is to safely ground charges and move the charge safely to the service entrance.



- Strong Background in Grounding (BURNDY®)
- Multiple Bracket Options to Suit Every Application
- High Performance Products to Ensure Protection
- Safe for the Environment



#### **Protection**

Grounding kits are available and user configurable to meet many needs and protect active equipment.



### **Options**

Telecommunication Busbars (TBB) are available in convenient sizes to meet the unique requirements of each data center.



### Secure

Connecting racks and cabinets to the raised floor structure provides a secure solution.



### **DATA CENTER GROUNDING**













Compression Lugs								
		Single Hole Lug			Double Hole Lug			
Wire Size	Straight	45 Degree	90 Degree	Straight	45 Degree	90 Degree		
6 AWG	HGBL06S	HGBL06S45	HGBL06S90	HGBL06D	HGBL06D45	HGBL06D90		
4 AWG	HGBL04S	HGBL04S45	HGBL04S90	HGBL04D	HGBL04D45	HGBL04D90		
2 AWG	HGBL02S	HGBL02S45	HGBL02S90	HGBL02D	HGBL02D45	HGBL02D90		
1 AWG	HGBL01S	_	_	HGBL01D	_	_		
1/0 AWG	HGBL10S	_	_	HGBL10D	_	_		



### **Grounding Kit Configurator**

Contents: green coated #6 AWG copper wire, selected lugs, and the appropriate number of #12-24 and M6 screws

S = Single lug, 1 #12-24 and M6 screw
D = Double lug, 2 #12-24 and M6 screws
DF = Double 45 lug, 2 #12-24 and M6 screws

DN = Double 90 lug, 2 #12-24 and M6 screws

Base Length Catalog No. In. (mm) Lug 2 Lug 1 **HGRKT** S S 10" (254) 20" (508) D **30**" (762) DF 144" (3658) DN

Example: **HGRKTS20DN:** grounding kit with single lug, 20" of #6 AWG wire, double 90 degree lug, 3 #12-24 and M6 screws.

### **Bonding Connector**

Contents: 100 **SHIELDBOND** connectors, 1 field installation tool kit

Catalog No.

BC285SB100



Ground V	Vire Connectors	
Wire Min.	Wire Max.	Catalog No.
8 AWG	1/0 AWG	HGBKSA10
6 AWG	2/0 AWG	HGBKVSW26

TGB Telecommuni	cations	Groundi	ng Bus	bar	
Dimensions Inches (mm)	Hole1 Qty	Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
0.25 x 2 x 10" (6 x 51 x 254)	16	0.28" (7)	_	_	HBBB14210A
0.25 x 2 x 24" (6 x 51 x 610)	36	0.28" (7)	_	_	HBBB14224B



Grounding Bar					
Dimensions Inches (mm)	Hole1 Qty	Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
0.25 x 0.75 x 19" (6 x 19 x 483)	8	#6-32	4	0.25" (6)	HBBBHR19
0.25 x 0.63 x 36" (6 x 16 x 914)	16	1/4-20	3	0.25 x 0.5" (6 x 13) Slot	HBBBVR36

# SHIELDBOND

## STRUCTURAL GROUNDING



Structural grounding contains the products needed for grounding the stationary and structural components located within the telecommunications rooms and data center.



**Ease of Use**Our raised floor grounding products work with square and round profiles of raised floor structures.



**Robust**Grounding braids are available in many different configurations and withstand an abusive environment.

## Advantage Advantage

- Strong Background in Construction and Electrical Products
- Full Line of Grounding Solutions
- High Strength Products for the Rugged Structural Needs
- Ensure Building Safety





## STRUCTURAL GROUNDING







Raised Floor Clamp	)S		
Catalog No.	HGBGXP1828RF	HGBGRF4C3	HGBGP1526G1
Pedestal Size	0.75" (19) – 1.5" (38)	0.75" (19) – 1" (25)	1" (25) – 1.25" (32)
Pedestal Type	Round or Square	Round or Square	Round
Ground Wire Min.	6 AWG	8 AWG	4 AWG
Ground Wire Max.	4/0 AWG	2 AWG	2/0 AWG





Ground \	Wire Connectors	
Wire Min.	Wire Max.	Catalog No.
8 AWG	1/0 AWG	HGBKSA10
6 AWG	2/0 AWG	HGBKVSW26

<b>Bonding Connector</b>	
Contents: 100 <b>SHIELDBOND</b> connectors,	Catalog No.
1 field installation tool kit	BC285SB100

Braided	Jumper		
Length In. (mm)	Width In. (mm)	Hole Diameter In. (mm)	Catalog No.
12" (305)	0.94" (24)	0.375" (10)	HGBBD12
18" (457)	0.94" (24)	0.375" (10)	HGBBD18
24" (610)	0.94" (24)	0.375" (10)	HGBBD24

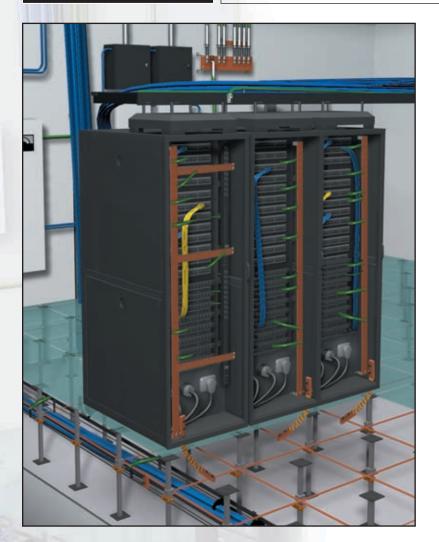


 $Note: Reference \ the \ ANSI-TIA-607-B \ Standard \ to \ ensure \ proper \ adherence \ to \ the \ standards.$ 



# SHIELDBOND

## RACK AND CABINET GROUNDING



Safely and Securely ground active equipment to the Racks and Cabinets while grounding these to the grounding backbone system.



- Knowledge of Grounding Solutions (BURNDY®)
- Multiple Mounting Options to Suit Every Application
- High Performance Products to Ensure Protection
- Safe for Active Equipment



### **Flexibility**

Grounding strips are easily installed on racks or inside of cabinets that have TIA-310-D, 19" spacing.



#### Configurability

Grounding kits are available for equipment as well as cabinet doors.



### **Installation Ease**

Grounding braids are available in many different configurations and withstand an abusive environment.





## RACK AND CABINET GROUNDING









Grounding Terminals						
Catalog No.	HGBKA6U	HGBBGBL4	HGBKLU35	HGBCL501		
Description	Al Standoff	Al Side Mount	Cop Standoff	Cop Side Mount		
Material	Aluminum	Aluminum	Copper	Copper		
Mounting Hole I.D.	0.25" (6)	0.22" (6)	0.19"(5)	0.22" (6)		
Wire Diameter Min.	14 AWG	14 AWG	14 AWG	14 AWG		
Wire Diameter Max.	6 AWG	4 AWG	6 AWG	4 AWG		



### **Grounding Kit Configurator**

Contents: green coated #6 AWG copper wire, selected lugs, and the appropriate number of #12-24 and M6 screws

S = Single lug, 1 #12-24 and M6 screw

D = Double lug, 2 #12-24 and M6 screws

DF  $\,=\,$  Double 45 lug, 2 #12-24 and M6 screws

DN = Double 90 lug, 2 #12-24 and M6 screws

Base Catalog No.	Lug 1	Length In. (mm)	Lug 2
HGRKT	S	<b>10</b> " (254)	S
	D	<b>20</b> " (508)	D
		<b>30</b> " (762)	DF
		<b>144</b> " (3658)	DN

Example: **HGRKTS20DN:** grounding kit with single lug, 20" of #6 AWG wire, double 90 degree lug, 3 #12-24 and M6 screws.

### **Bonding Connector**

Contents: 100 **SHIELDBOND** connectors, 1 field installation tool kit

Catalog No.

BC285SB100



Ground V	Vire Connectors	
Wire Min.	Wire Max.	Catalog No.
8 AWG	1/0 AWG	HGBKSA10
6 AWG	2/0 AWG	HGBKVSW26

Grounding Bar					
Dimensions Inches (mm)	Hole1 Qty	Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
0.25 x 0.75 x 19" (6 x 19 x 483)	8	#6-32	4	0.25" (6)	HBBBHR19
0.25 x 0.63 x 36" (6 x 16 x 914)	16	1/4-20	3	0.25 x 0.5" (6 x 13) Slot	HBBBVR36

Braided	Jumper		
Length In. (mm)	Width In. (mm)	Hole Diameter In. (mm)	Catalog No.
12" (305)	0.94" (24)	0.375" (10)	HGBBD12
18" (457)	0.94" (24)	0.375" (10)	HGBBD18
24" (610)	0.94" (24)	0.375" (10)	HGBBD24





# SHIELDBOND

## POWER STRIP GROUNDING



Proper grounding of the power strip will ensure electrical charges do not travel to the active equipment.



- Quality Manufacturing
- Integrated with Premium Power Strips
- Steady and Reliable Electrical Discharge
- Increases Safety



#### Ease of Use

Grounding strips are easily installed on racks or Inside of cabinets that have TIA-310-D, 19" spacing.



### Configurability

Grounding kits are available for equipment as well as cabinet doors.



### Robust

Grounding Braids are available in many different configurations and withstand an abusive environment.





## POWER STRIP GROUNDING









Grounding Terminals						
Catalog No.	HGBKA6U	HGBBGBL4	HGBKLU35	HGBCL501		
Description	Al Standoff	Al Side Mount	Cop Standoff	Cop Side Mount		
Material	Aluminum	Aluminum	Copper	Copper		
Mounting Hole I.D.	0.25" (6)	0.22" (6)	0.19"(5)	0.22" (6)		
Wire Diameter Min.	14 AWG	14 AWG	14 AWG	14 AWG		
Wire Diameter Max.	6 AWG	4 AWG	6 AWG	4 AWG		



### **Grounding Kit Configurator**

Contents: green coated #6 AWG copper wire, selected lugs, and the appropriate number of #12-24 and M6 screws

S = Single lug, 1 #12-24 and M6 screw
D = Double lug, 2 #12-24 and M6 screws
DF = Double 45 lug, 2 #12-24 and M6 screws
DN = Double 90 lug, 2 #12-24 and M6 screws

Base Catalog No.	Lug 1	Length In. (mm)	Lug 2
HGRKT	S	10" (254)	S
	D	<b>20</b> " (508)	D
		<b>30</b> " (762)	DF
		<b>144</b> " (3658)	DN

Example: **HGRKTS20DN:** grounding kit with single lug, 20" of #6 AWG wire, double 90 degree lug, 3 #12-24 and M6 screws.

### **Bonding Connector**

Contents: 100 **SHIELDBOND** connectors, 1 field installation tool kit

Catalog No.

BC285SB100

Grounding Bar					
Dimensions Inches (mm)	Hole1 Qty	Hole1 Size	Hole2 Qty	Hole2 Size	Catalog No.
0.25 x 0.75 x 19" (6 x 19 x 483)	8	#6-32	4	0.25" (6)	HBBBHR19
0.25 x 0.63 x 36" (6 x 16 x 914)	16	1/4-20	3	0.25 x 0.5" (6 x 13) Slot	HBBBVR36

Braided	Jumper		
Length In. (mm)	Width In. (mm)	Hole Diameter In. (mm)	Catalog No.
12" (305)	0.94" (24)	0.375" (10)	HGBBD12
18" (457)	0.94" (24)	0.375" (10)	HGBBD18
24" (610)	0.94" (24)	0.375" (10)	HGBBD24







### LADDER RACK GROUNDING



Grounding the ladder rack will help eliminate electrical signals that travel with cables.



Ease of Use

Grounding terminals allow for any existing ladder rack to be grounded.

### **Grounding Kit Configurator**

Contents: green coated #6 AWG copper wire, selected lugs, and the appropriate number of #12-24 and M6 screws

S = Single lug, 1 #12-24 and M6 screw
D = Double lug, 2 #12-24 and M6 screws
DF = Double 45 lug, 2 #12-24 and M6 screws

DN = Double 90 lug, 2 #12-24 and M6 screws

Base Catalog No.	Lug 1	Length In. (mm)	Lug 2
HGRKT	S	10" (254)	S
	D	<b>20</b> " (508)	D
		<b>30</b> " (762)	DF
		<b>144</b> " (3658)	DN

Example: **HGRKTS20DN:** grounding kit with single lug, 20" of #6 AWG wire, double 90 degree lug, 3 #12-24 and M6 screws.









#### **Grounding Terminals HGBKA6U HGBBGBL4 HGBKLU35 HGBCL501** Catalog No. Al Standoff Al Side Mount Cop Standoff Cop Side Mount Description Aluminum Aluminum Material Copper Copper Mounting Hole I.D. 0.25" (6) 0.22" (6) 0.19"(5) 0.22" (6) 14 AWG 14 AWG 14 AWG 14 AWG Wire Diameter Min 4 AWG Wire Diameter Max 6 AWG 4 AWG 6 AWG



- Strong Background in Grounding
- The Solution for New or Existing Structures
- High Quality Casting and Machined Components
- Provide Safety for the Building





## **GROUNDING ACCESSORIES AND TOOLS**



### PENETROX™ A

PENETROX A consists of a natural based vehicle in which zinc particles are suspended for aluminum-to-aluminum, aluminum-to-copper applications.

Catalog No. HGBP8A

### PENETROX™ E

PENETROX E consists of a natural based vehicle in which copper particles are suspended for copper-to-copper applications.

Catalog No. **HGBPENE8** 



### **Crimp Tool**

Mechanical rotating crimp tool for aluminum lugs and splices from #8 - 4/0 AWG aluminum and copper conductors. Dies are integrated in the tool head and are rotated to the appropriate lug size.

Catalog No. HMRC840



### **Compression Tool Kit**

Mechanical tool kit is a basic tool for crimping terminals ranging from 8 AWG to 4/0 AWG. Adjusting for the size of terminal is done my rotating a dial located on the tool head.

Catalog No. HMY2911

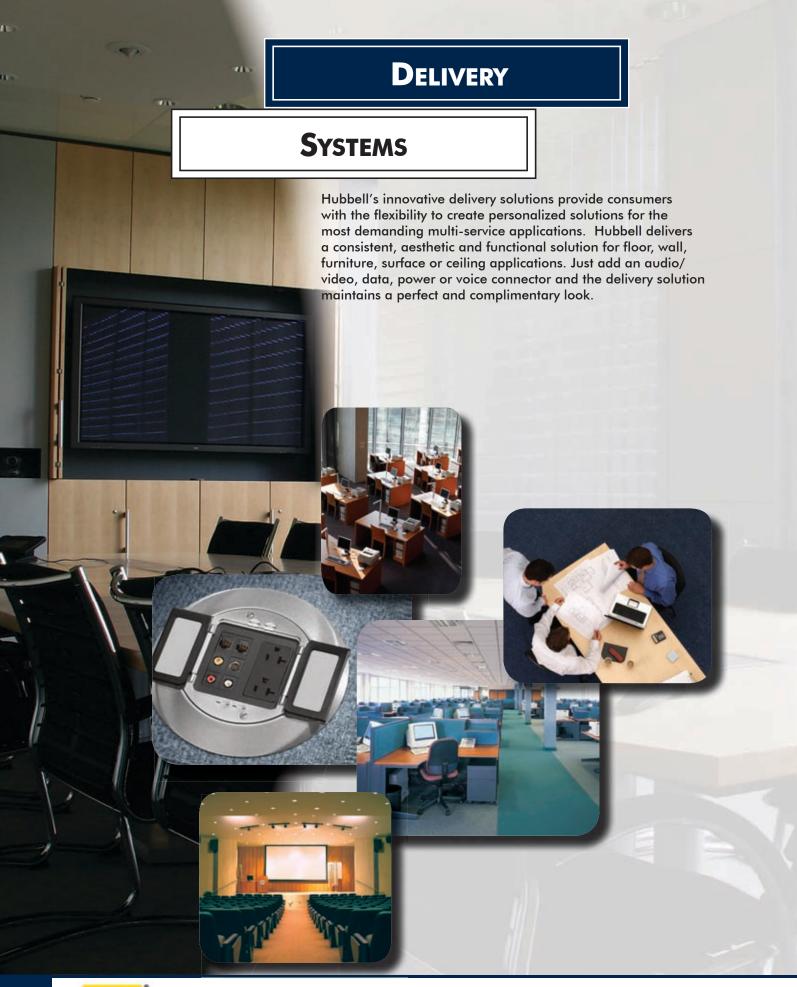


### Torque Wrench

Torque wrench incorporates an easy-to-read scale measured in inch pounds (in-lb) that can be easily matched to the recommended torque of each of our mechanical connector products. (Sockets not included.)

Description	Catalog No.
30-150 ln	HBTW30150
150-750 ln	HBTW150750







# **DELIVERY SYSTEMS**

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Recessed Concrete Floor Boxes	Q7
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RESIDENTIAL FLUSH FLOOR BOXES FOR WOODEN FLOORS	Q12
RESIDENTIAL NON-METALLIC FLOOR BOX FOR CONCRETE FLOORS	Q13
Furniture and Work Surface Connectivity Boxes	Q14
Multi-Connect Recessed Wall Boxes and Flanges	Q17
Recessed AV In-Wall and Ceiling Enclosures	Q18
Hubbell SystemOne One-Piece Poke-Throughs	Q19
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Under Cabinet/Counter Power Distribution	Q29
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ALUMINUM SERVICE POLES	Q31



# Hubbell SystemOne Floor Box Family



#### **Non-Metallic**

Non-corrosive plastic parallel conduit hubs reduce labor and material cost, facilitating easier wire pull.



**Cast Iron** 

Corrosion resistant for on-grade applications.



**Stamped Steel** 

Economical and light weight for above-grade applications.



**Stamped Steel AV** 

Accommodates high-capacity multimedia applications including an oversized 1½" N.P.T. threaded data hub.



- Designed to Accommodate Multi-Service Applications with the Wide Offering of Hubbell SystemOne Sub-Plates
- Common/Exchangeable Sub-Plates
- Cut Box After Pour for Final Leveling
- RoHS Compliant

#### **Specifications**



- Minimum pour depth 3" (S1PFB) or 3½" (S1CFB, S1SFB, S1SFBAV)
- Standard 1" power entry
- Approved for use in City of Chicago



# **Hubbell SystemOne Floor Boxes**

Dimensions Inches (mm)	Cast Iron	Steel	Steel AV	Non-Metallic
A B C C	100	100		
Metal Non-Metallic	S1CFB*	S1SFB*	S1SFBAV*	S1PFB
Min. Depth of Pour	3.50" (89)	3.50" (89)	3.50" (89)	3.00" (76)
Adjustability	Fully	Fully	Fully	Fully
Cubic Inch (cm³) Capacity	156.0 cu. in. (2556 cm <sup>3</sup> )	175.7 cu. in. (2879 cm³)	177.5 cu. in. (2910 cm³)	100 cu. in. (1639 cm <sup>3</sup> )
Dimensions – A	3.00" (76)	3.00" (76)	3.00" (76)	6.00" (152)
Dimensions – B	7.26" (184)	7.50" (191)	7.50" (191)	5.58" (142)
Dimensions – C	7.45" (189)	7.38" (187)	7.38" (187)	8.76" (222)
Dimensions – D (Inside Diameter)	5.00" (127)	5.00" (127)	5.00" (127)	5.00" (127)
Power Entries	1" N.P.T. Access Holes	3/4", 1" Concentric KO	3/4", 1" Concentric KO	1" Conduit Hub
Data Entries	1½" N.P.T. Access Holes	3/4", 1", 11/4" Concentric KO	1½" Threaded Hub (included)	1½" Conduit Hub
Concrete Cover Included	1	1	<b>✓</b>	/
Closure Plugs Included	✓	_	<b>✓</b>	<b>√</b>
Reducers	_	_	_	✓ (see below)
Accepts Hubbell SystemOne Universal Cover	1	✓	1	1
Cover Mounting Clips Included	1	1	1	1
Non-Metallic Low Voltage Divider Included (S1DIV1)	1	✓	✓	1

\*S1CFB, S1SFB, S1SFBAV are approved for use in the City of Chicago.

Note: UL File Number E92074 CSA File Number LR18416  ${f S1PFB}$  reducers included: Qty (2) combo plug/reducers 1" to 3/4"

Qty (2) reducers 11/2" to 1"

Qty (2) reducers 11/2" to 3/4"

Qty (2) plugs 11/2"

#### **Hubbell SystemOne Universal Covers**

Description	Catalog No.
Carpet	S1CFC <sub>xx</sub>

Tile S1TFC<sub>xx</sub>

 $\mathbf{xx} = \text{Color: } \mathbf{AL} \text{ (Aluminum Finish), } \mathbf{BRS} \text{ (Brass}$ Finish), **BL** (Black), **GY** (Gray) and I (Ivory).



S1 CFCLAL



S1TFCLAL

Floor Box Accessories	
Description	Catalog No.
Abandonment plate, black	S1AP4BL
Abandonment plate, gray	S1AP4GY
Replacement side by side divider	S1DIV1



S1FBCLIP5PK Replacement universal cover mounting clips











S1FBCLIP5PK





<sup>\*</sup>For use with S1SFBAV ONLY. Permits feed-through applications. S1SFBAV floor box includes one (1) threaded hub.



# Hubbell SystemOne Universal Covers



#### **Performance**

Hubbell's modular sub-plate design allows users to economically upgrade Hubbell SystemOne fire-rated poke-throughs and floor boxes to accommodate future moves, adds and changes.



**Common Theme** 

Same covers for both floor boxes and fire-rated poke-throughs.



**Universal Wiring** 

Hubbell 4x4: four 20 amp, 125 volt receptacles and four keystone openings for category rated applications.



Low Profile

Flange meets ADA requirements; hinged doors open 180 degrees.



- Features ScrubShield® Technology that Exceeds UL 514 Scrub Water Exclusion Requirements
- The Universal Carpet or Tile Flange can be Used for Hubbell SystemOne Floor Boxes and Fire-Rated Poke-Throughs
- Locking Studs Allow Each Door to be Secured Independently
- RoHS Compliant





- Five architectural finishes brass, aluminum, black, grey and ivory
- Durable cast aluminum construction

ScrubShield
Complies with UL514 A & C





## **Hubbell SystemOne Sub-Plates**

Style Line® Decorator/GFCI (2) Style Line® Decorator openings for power and/or datacom

3 Non-Metallic 3.5 Metal



Catalog No.

Description **Duplex/Duplex** 

(2) Duplex openings for power and/or datacom applications.



Catalog No.

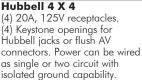
Duplex/Style Line® Decorator

(1) Duplex and (1) Style Line® Decorator opening for power and/or datacom applications.

3 Non-Metallic 3.5 Metal



applications.





**Carpet Furniture Feed** Cover/Flange<sup>\*</sup> (1) ¾" and (1) 1½" N.P.T. access holes for power and/ or datacom applications.

Universal cover not required.

Includes carpet flange.

3 Non-Metallic 3.5 Metal



**Tile Furniture Feed** Cover/Flange\*

(1) 3/4" and (1) 11/2" N.P.T. access holes for power and/or datacom applications. Universal cover not required. Includes tile flange.



Provided with 15 ft. wire leads Provided with 30 ft. wire leads



Aluminum Fin. S1SPFFAL Brass Fin. Black Non-Metallic Gray

**S1SPFFBRS** S1SPFFBL **S1SPFFGY** 

Aluminum Fin. Brass Fin. Black Non-Metallic Gray



Single Receptacle + Data

Opening for 20 or 30A Twist-Lock® receptacle (1.56" OD) and (2) Keystone openings for Hubbell jacks or flush AV connectors.



3.5 Metal

Hubbell DataCom + Power (1) 20A, 125V receptacle and 3-unit recessed Hubbell iSTATIONopening for data, voice, and AV applications.



**Hubbell DataCom + Duplex** (1) Duplex opening, (2) flush Keystone openings and 1.5 unit recessed Hubbell iSTATION opening for data, voice and



**Hubbell DataCom +** Style Line® Decorator

(1) Style Line® Decorator opening, (2) flush Keystone openings and 1.5 unit recessed Hubbell iSTATION opening for data, voice and AV applications.



**5** 

3.5

4

**Hubbell DataCom** 1 unit flush Hubbell

iSTATION opening and 3-unit recessed Hubbell iSTATION opening for data, voice, and AV applications.



**5** 

4.5

3.5 Metal

Active Multimedia + Power

Single 20A, 125V receptacle; (2) flush Keystone openings; (1) rectangúlar Style Line Decorator opening to accommodate active multimedia modules or low voltage outlet frames.



S1SPAMM20

(5)

Extron® or FSR + Power (1) 20A, 125V receptacle.

Recessed opening for (3) single Extron® MAAP series adapter plates or FSR IPS plates.



S1SPEXT1

Extron® or FSR + Power (1) 20A, 125V receptacle. Recessed opening for (1) single Extron® MAAP and (2) single AAP series adapter plates or FSR IPS plates.



Extron® or FSR Single-Service

Recessed opening for (2) single Extron® MAAP and (2) single AAP series adapter plates or FSR IPS plates.



Extron® AAP + Power

(1) 20A, 125V receptacle. (2) flush Keystone and recessed opening for (2) single Extron® AAP Series adapter plates.



S1SPEXT4



Signifies minimum depth of concrete pour in inches for Metal Floor Boxes (S1CFB, S1SFB and S1SFBAV) and Non-Metallic Floor Box (S1PFB). Note: \*Furnished with two screw-in flexible metal conduit connectors..

#### **Sub-Plate Accessories** Replacement threaded conduit plugs 11/2" plug S1FP15xx S1FP15BL 3/4" plug S1FP34xx xx = Color: AL (Aluminum Finish), BRS (Brass Finish), BL (Black) and GY (Gray). See V30 for color chart. S1FP34BI \*Used with S1SPFFxx and S1SPFFTxx only. Sub-plate is supplied with plugs.

Extron® is a registered trademark of Extron Electronics.

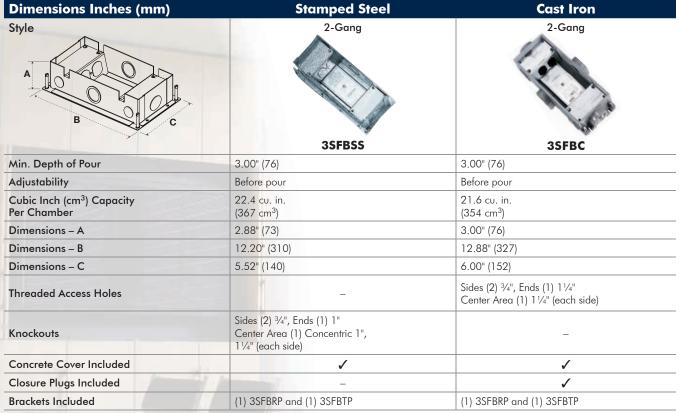






## Recessed 2-Gang Concrete Floor Boxes





Note: UL File Number E31999. CSA File Number LR18416.

#### **Accessories**

#### On-Grade Barrier

The on-grade barrier is intended for use on installations at grade level. This accessory is installed prior to the concrete pour and provides a barrier between the soil. The on-grade barrier comes with leveling feet and anchor points.

#### **CFBOGPAN4**





Pour Pan Dimensions: 15.75 in. sq. 4 in. depth

#### Floor Box Covers with Carpet Recess

Reinforced non-metallic cover 3SFBCxxA

xx = Color: BK (Black), BR (Brown), GY (Gray) and I (Ivory).



3SFBCBBKA

Brackets					
3SFBRP	3SFBDS	3SFBS	3SFBB	<b>3SFBTP</b>	<b>3SFBIM</b>
1,00				0000	T
Duplex Knockout	Style Line <sup>®</sup> Decorator Opening	Single Receptacle Opening (1.39" boss dia.)	Blank	Voice/Data (2) Jack Knockouts (.6" x .75")	3-Unit iSTATION Opening (See Section C for module options)







# Recessed 4- and 8-Gang Concrete Floor Boxes



Dimensions Inches (m	m)	Stamped Steel		Cast Iron
Style	4-Gang Deep	4-Gang Shallow	8-Gang Deep	4-Gang Shallow
A CO	00 001)	to Out	100 04	
	HBLCFB301BASE	HBLCFB401BASE	HBLCFB501BASE	HBLCFB401CB
Min. Depth of Pour	4.25" (108)	3.00" (76)	5.25" (133)	3.25" (83)
Adjustability	Before pour	Before pour	Before pour	Before pour
Cubic Inch (cm³) Capacity Per Chamber	29.5 cu. in. (483 cm³)	25.5 cu. in. (418 cm³)	49.5 cu. in. (811 cm³)	25.5 cu. in. (418 cm <sup>3</sup> )
Dimensions – A	4.0" (102)	2.63" (67)	5.13" (130)	3.13" (80)
Dimensions – B	10.0" (254)	10.0" (254)	10.0" (254)	10.0" (254)
Dimensions – C	10.0" (254)	10.0" (254)	10.0" (254)	10.0" (254)
Threaded Access Holes – Per Chamber	_	_	-	(2) 1"
Knockouts – Per Chamber	(1) Concentric ½", ¾" (1) Concentric ¾", 1" (1) 1¼"	(3) Concentric ½", ¾"	(1) Concentric ½", ¾" (1) Concentric ¾", 1" (1) 1¼"	-
Concrete Cover Included	✓	✓	✓	/
Closure Plugs Included	-	_	-	/

Note: UL File Number E197203. CSA File Number LR702145.

#### Floor Box Covers with Carpet Recess

Die cast metal cover and flange assembly

**HBLTCGNTSW** Granite Black **HBLTCGNTBKSW** 



**HBLTCGNTSW** 

#### **Accessories**

#### On-Grade Barrier

The on-grade barrier is intended for use on installations at grade level. This accessory is installed prior to the concrete pour and provides a barrier between the soil. The ongrade barrier comes with leveling feet and anchor points.

Pour Pan Dimensions: 15.75 in. sq. 4 in. depth





#### **Hubbell Screw Type Face Plates\*\*** HBLST302Sxx HBLDE301Sxx







Style Line® Decorator



Toggle





Single Receptacle (1.56" Boss Dia.)

#### HBLTL319Sxx



Single Receptacle (1.39" Boss Dia.)

#### HBLBL300Sxx



Blank

#### **HBLIMFSxx**



3-Unit Hubbell iSTATION (See Section C for module options)



Hubbell 6-Port

xx = Color: BK (Black), GY (Gray), I (Ivory) and WA (White).

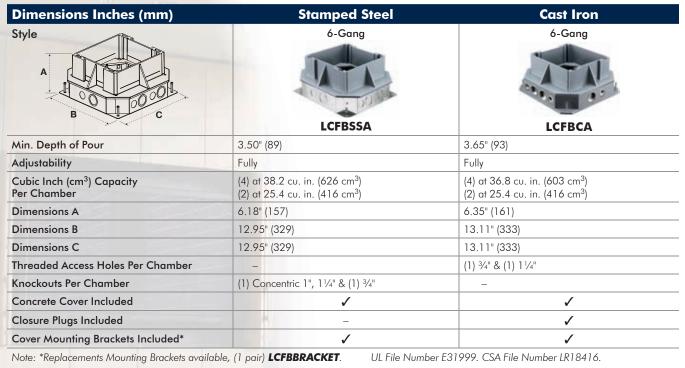






### Recessed 6-Gang Concrete Floor Boxes





## On-Grade Barrier

Intended for use on installations at grade level. Installed prior to the concrete pour and provides a barrier between the soil. The on-grade barrier comes with leveling feet and anchor points.





Pour Pan Dimensions: 15.75 in. sq. 4 in. depth

Floor Box Covers Recessed Floor Box Covers					
Smooth metallic cover, flange and cable doors; for carpet applications	Cover Dimensions 10.30" x 10.30"	LCFBCxxTC			
Metallic cover, flange and cable doors for carpet applications, carpet insert required	Cover Dimensions 10.30" x 10.30"	LCFBCxxC			
Smooth metallic cover and cable doors for tile applications	Cover Dimensions 8.31" x 7.70"	LCFBCxxT			
Reinforced non-metallic cover, flange and cable doors; for carpet applications, carpet insert required	Cover Dimensions 10.30" x 10.30"	LCFBCxxA	<b>T</b>		

xx = Color: AL (Aluminum Finish), BRS (Brass Finish), BK (Black) and GY (Gray). \*\*= Color: BK (Black), BR (Brown), GY (Gray) and I (Ivory).

Face Plates				
LCFBP8	LCFBP26	LCFBP720	LCFBIM	LCFBP14
0.0				
Duplex	Style Line <sup>®</sup> Decorator Opening	Single Receptacle (for 1.56" boss dia.)	3-Unit Hubbell iSTATION (See Section C for module options)	Blank







## Recessed 7- and 11-Gang Concrete Floor Boxes



<b>Dimensions Inches</b>	(mm) CFB7G S	eries	CFB11	G Series
Style		Gang	11-	Gang
A B OC C	CFB7G4 CFB7G6		CFB11G4	CFB11G6
Min. Depth of Pour	4.08" (104)	6.08" (154)	4.08" (104)	6.08" (154)
Adjustability	Before Pour	Before Pour	Before Pour	Before Pour
Dimensions: A B C	4.08" (104) 10.0" (254) 12.2" (310)	6.08" (154) 10.0" (254) 12.2" (310)	4.08" (104) 13.5" (343) 12.2" (310)	6.08" (154) 13.5" (343) 12.2" (310)
Trade Size Knockouts: Sidewalls	(4) x 1", 11/4" Concentric	(4) x 1", 11/4", 11/2" Concentric		(4) x 1", 11/4", 11/2" Concentric
Back	(3) x 1", 11/4", 11/2" Concentric; (1) x 2"	(3) x 1", 1½", 1½" Concentric; (1) 2"	(2) 3/4", 1" Concentric; (4) 1", 11/4", 11/2" Concentric, (1) 2"	(2) 3/4", 1" Concentric; (4) 1", 11/4", 11/2" Concentric, (1) 2"
Bottom	(4) x 1", 11/4", 11/2" Concentric	(4) x 1", 11/4", 11/2" Concentric	(5) 1", 1¼", 1½" Concentric; (2) ¾", 1" Concentric	(5) 1", 11/4", 11/2" Concentric; (2) 3/4", 1" Concentric
Side View Depth behind mounting plate	X: 1.01" Y: 2.41" Z: 3.51"	X: 2.37" Y: 3.77" Z: 3.65"	X: 1.02" Y: 2.42" Z: 3.50"	X: 2.37" Y: 3.81" Z: 3.72"
Accepts industry standard size wallplates (sold separately)	(1) 1-Gang (1) 2-Gang (1) 4-Gang	(1) 1-Gang (1) 2-Gang (1) 4-Gang	(2) 1-Gang (1) 3-Gang (1) 6-Gang	(2) 1-Gang (1) 3-Gang (1) 6-Gang
Interior Configuration	1-Gang	2-Gang	1-Gang	3-Gang 6-Gang

Note: UL File Number E31999. CSA File Number LR18416.

#### **On-Grade Barrier**

Intended for use on installations at grade level. Installed prior to the concrete pour and provides a barrier between the soil. The on-grade barrier comes with leveling feet and anchor points.





Pour Pan Dimensions: 15.75 in. sq. 4 in. depth

Floor Box Covers	CFB7G Series		CFB11	G Series
	Brass	Aluminum	Brass	Aluminum
Flange and cover;	1/4" E	dging	1/4"	Edging
Beveled edge for carpet	CFB7CVRBRS	CFB7CVRALU	CFB11CVRBRS	CFB11CVRALU
Flange and cover;	½" <b>E</b>	dging	1/4"	Edging
Square edge for tile	CFB7TBRS	CFB7TALU	CFB11TBRS	CFB11TALU

Note: Covers provide a recess for floor covering insert.







## **Unloaded Raised Access** Floor Boxes and Face Plates





<b>Dimensions Inche</b>	s (mm)	Metallic Cover		Non-Metallic Cover	Metallic Cover
Style	4-Gang Deep	4-Gang Shallow	8-Gang Deep	4-Gang Deep	3-Gang Power and 1-Gang Low Voltage
A 0 0 0 C	1	- Control	Sept of the sept o		
Cover Color Black Gray	AFB301BK* AFB301GNT*	AFB401BK* AFB401GNT*	AFB501BK* AFB501GNT*	HBLAFB101BK* HBLAFB101GNT*	AFB801BK <sup>†</sup> AFB801GNT <sup>†</sup>
Max. Floor Thickness	2.75" (70)	1.88" (48)	3.75" (95)	2.00" (51)	2.62" (67)
Cubic Inch (cm³) Capacity Per Gang	31.3 cu. in. (513 cm <sup>3</sup> )	25.3 cu. in. (414 cm <sup>3</sup> )	55.6 cu. in. (911 cm <sup>3</sup> )	(2) 22.5 cu. in. (369 cm <sup>3</sup> ) (2) 20.5 cu. in. (336 cm <sup>3</sup> )	(2) 17.1 cu. in. (280 cm <sup>3</sup> ) (1) 15.9 cu. in. (260 cm <sup>3</sup> )
Dimensions A	4.00" (102)	2.62" (67)	5.12" (130)	5.18" (132)	6.12" (155 )
Dimensions B	10.00" (254)	10.00" (254)	10.00" (254)	9.00" (229)	-
Dimensions C	10.00" (254)	10.00" (254)	10.00" (254)	7.00" (178)	_
Cover Flange Dim.	12.00" x 12.00"	12.00" x 12.00"	12.00" x 12.00"	10.62" x 8.62"	10.0" Diameter
Knockouts: Sides	(1) ½", (2) ½" & ¾", (4) 1¼" trade size	(1) ½", (6) ½" & ¾" trade size	(1) ½", (2) ½" & ¾", (4) 1¼" trade size	(4) ½" & (4) ¾", (4) ¾" & 1" trade size	(1) ½", (2) ¾" & 1" trade size
Knockouts: Bottom	(4) 3/4" & 1" trade size	(4) 3/4" & 1" trade size	(4) 3/4" & 1" trade size	(4) 3/4" & 1" trade size	(3) ½" & ¾" trade size
Cover and Flange Included (Carpet or Tile Application)	/	1	1	✓	1
Floor Tile Cut-Out	10.38" x 10.38"	10.38" x 10.38"	10.38" x 10.38"	9.00" x 7.00"	8.375" Diameter

Replacement Metallic Cover and Flange						
Description	Dimensions	Color	Catalog No.			
Cover and flange	12"W x 12"L	Gray	HBLTCGNT			
Cover and flange	12"W x 12"L	Black	HBLTCGNTBK			



**HBLTCGNT** 

Replacement Non-M	Replacement Non-Metallic Cover and Flange					
Description	Dimensions	Color	Catalog No.			
Cover and flange	7"W x 9"L	Gray	HBLAFB101TCGNT*			
Cover and flange	7"W x 9"L	Black	HBLAFB101TCBK*			

Note: UL File Number E31999. CSA File Number LR702145.

• For City of Chicago approved versions, use following: HBLAFB301BASEC, HBLAFB401BASEC and HBLAFB501BASEC. Cover must be ordered separately (i.e., HBLTCGNT and HBLTCGNTBK). These versions do not include knockouts and meet construction requirements for CCEA-2000. AFB covers are reversible for both carpet recess and flush tile applications. \*Insert for flush tile applications included. Remove insert for carpet recess.

† One faceplate required for data gang only. Cut-out for duplex receptacles included with AFB801.



HBLAFB101TCGNT\*

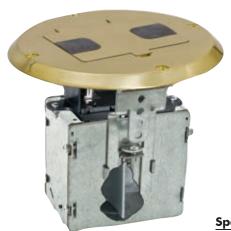
obell Screw Type Face	Plates		
HBLST302Sxx	HBLDE301Sxx	HBLTO310Sxx	HBLTL318Sxx
18			•
Duplex	Style Line <sup>®</sup> Decorator	Toggle	Single Receptacle (1.56" Boss Dia.)
HBLTL319Sxx	HBLBL300Sxx	HBLIMFSxx	HBL317Sxx
Single Receptacle	Blank	3-Unit Hubbell iSTATION	Hubbell
(1.39" Boss Dia.)		(See Section C for module options)	6-Port







## **Residential Flush Floor Boxes** for Wooden Floors





- Recessed Receptacle Design Minimizes Plug Protrusion Allowing Furniture to be Located Over the Plug
- Pre-Assembled Flange and Cover for Fast Installation
- Cut Box After Pour for Height Adjustment
- **RoHS Compliant**

#### **Specifications**





- UL Listed for scrub water
- 3/4" height adjustment after installation
- Metal construction box and cover
- 4½" knockouts (500 series)

uminum uminum uminum	Clear Lacquer Stainless Paint Almond Paint Black Paint Chestnut Brown Paint	RF515BR RF515SS RF515AL RF515BK	Aluminum Aluminum Aluminum Aluminum	Brass Plated Chrome Plated Copper Plated Nickel Plated	RF515BP RF515CH RF515CU
nminum	Almond Paint Black Paint	RF515AL RF515BK	Aluminum	Copper Plated	RF515CU
uminum	Black Paint	RF515BK			
			Aluminum	Nickel Plated	
uminum	Chestnut Brown Paint				RF515NI
		RF515BN			
lid Brass	Clear Lacquer	RF506BR	Aluminum	Brass Plated	RF506BP
Jminum	Stainless Paint	RF506SS	Aluminum	Chrome Plated	RF506CH
Jminum	Almond Paint	RF506AL	Aluminum	Copper Plated	RF506CU
Jminum	Black Paint	RF506BK	Aluminum	Nickel Plated	RF506NI
uminum	Chestnut Brown Paint	RF506BN			
lid Brass	Clear Lacquer	RF509BR			
li li	minum minum minum minum d Brass	minum Almond Paint minum Black Paint minum Chestnut Brown Paint d Brass Clear Lacquer  (3) ½ inch knockouts: one of	minum Stainless Paint RF506SS minum Almond Paint RF506AL minum Black Paint RF506BK minum Chestnut Brown Paint RF506BN	minum Stainless Paint RF506SS RF506AL Aluminum Almond Paint RF506BK RF506BK Minum Chestnut Brown Paint RF506BN Aluminum Aluminum Chestnut Brown Paint RF506BN  d Brass Clear Lacquer RF509BR	minum Stainless Paint RF506SS Aluminum Chrome Plated Aluminum Black Paint RF506BK RF506BK Aluminum Chestnut Brown Paint RF506BN Aluminum Chestnut Brown Paint RF506BN  d Brass Clear Lacquer RF509BR  (3) ½ inch knockouts: one on bottom; Steel —



RF515BR



RF506BR



**RF201R** 

Rating

15 Amp

20 Amp

S.	_48	2
4	di.	
2	1 31	и,
1446	180	5



<b>Drop-In</b>	Floor Box	for Structure	al Wood Floors	
Description				

Description	Material
Drop-in floor box; mounts in 2.50 inch hole opening; includes solid brass cover;	Solid Brass
single 125V tamper-resistant receptacle; optional device mounts for two voice/data video ports; suitable for feed through circuitry; impact resistant box	Solid Brass





# Residential Non-Metallic Floor Box for Concrete Floors



- Recessed Receptacle Design
  Minimizes Plug Protrusion
  Allowing Furniture to be
  Located Over the Plug
- Pre-Assembled Flange, Cover and Leveling Ring for Quick Installation
- Cut Box After Pour for Height Adjustment
- RoHS Compliant



#### **Specifications**



- UL Listed for scrub water
- Single ordered service when used with low voltage divider
- 4" minimum concrete pour
- Parallel PVC hubs for 1" and 3/4" conduit

Floor Box For Structural Concrete Floors				
Description	Material	Color	Catalog No.	
Flange and hinged door cover assembly; includes tamper-resistant	Solid Brass	_	RF406BR	
luplex receptacle 15A 125V; gasket; floor leveling PVC ring; high impact and chemically resistant nylon; factory pre-assembled for easy drop-in installation	Thermoplastic	Almond	RF406AL	
	Thermoplastic	Black	RF406BK	
	Thermoplastic	Chestnut Brown	RF406BN	
	Thermoplastic	Gray	RF406GY	
Flush fit assembly, same as above	Solid Brass	_	RF409BR	
Floor box with concrete protective cover; accepts ¾ in. and I in. schedule 40 and schedule 80 PVC conduit; includes round box (4 <sup>7</sup> /8 in. dia. x 6.0 in. deep); four reducers; closure plugs; and concrete cover with locator flag	PVC	Gray	RF400	
Hinged nylon replacement door cover; includes neoprene	Solid Brass	_	RF407BR	
gasket to seal plug openings; replacement cover for	Thermoplastic	Almond	RF407AL	
RF406 series	Thermoplastic	Black	RF407BK	
	Thermoplastic	Chestnut Brown	RF407BN	
	Thermoplastic	Gray	RF407GY	
Low voltage divider; for use in PVC box RF400; when JLOAD® multimedia outlet is used	Thermoplastic	Gray	RF408	



RF406BK



RF400





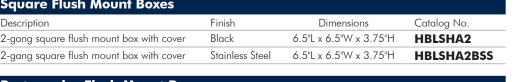




## **Furniture and Work Surface Connectivity Boxes**



Square Flush Mount Boxes			
Description	Finish	Dimensions	Catalog No.
2-gang square flush mount box with cover	Black	6.5"L x 6.5"W x 3.75"H	HBLSHA2
2-gang square flush mount box with cover	Stainless Steel	6.5"L x 6.5"W x 3.75"H	HBLSHA2BSS





HBLSHA2

es		
Finish	Dimensions	Catalog No.
Black	10.75"L x 4.06"W x 3.5"H	HBLPHA2
Stainless Steel	10.75"L x 4.06"W x 3.5"H	<b>HBLPHA2BSS</b>
Black	10.75"L x 6.5"W x 3.5"H	HBLPHA4
Stainless Steel	10.75"L x 6.5"W x 3.5"H	HBLPHA4BSS
	Finish Black Stainless Steel Black	Finish         Dimensions           Black         10.75"L x 4.06"W x 3.5"H           Stainless Steel         10.75"L x 4.06"W x 3.5"H           Black         10.75"L x 6.5"W x 3.5"H



HBLPHA2

Surface Mount Boxes			
Description	Finish	Dimensions	Catalog No.
2-gang surface mount box	Black	4.19"L x 4.81"W x 2.44"H	HBLCON2
3-gang surface mount box	Black	6.19"L x 4.81"W x 2.44"H	HBLCON3



HBLCON2

Recessed Mount Boxes			
Description	Finish	Dimensions	Catalog No.
4-gang recessed mount	Black	10.25"L x 7.0"W x 5.88"H	HBLMIR2
8-gang recessed mount	Black	31.0"L x 10.25"W x 5.88"H	HBLMIR4





HBLMIR2

Under Desk Mount Boxes			
Description	Finish	Dimensions	Catalog No.
2-gang under desk mount	Black	9.19"L x 3.0"W x 2.88"H	HBLMAR2
3-gang under desk mount	Black	13.69"L x 3.0"W x 2.88"H	HBLMAR3

#### Hubbell – Screw Type Face Plates

#### **HBLIMFSBK** HBL317SBK HBLST302SBK HBLDE301SBK HBLBL300SBK



Duplex

Style Line®

Decorator Opening



Blank



3-Unit Hubbell iSTATION (See Section C for

module options)



Hubbell 6-Port

HBLMAR2



TTBKSBK



TTBXLRBK



TTBDS1BK



TTBDS2BK

Low Voltage Only		
Description	Dimensions	Catalog No.
Table top box; 2 inch diameter hole; (1) keystone opening; keystone modules sold separately	2.19" Diameter	TTBKSxx
Table top box; 2 inch diameter hole; (1) XLR microphone jack installed	2.19" Diameter	TTBXLRxx

Pre-Wired Dual-Service		
Description	Dimensions	Catalog No.
Table top box; 3.5 inch diameter hole; (1) pre-wired 15A outlet with 9 foot power supply cord; (1) 3.5mm screw terminal audio jack; (1) 15-pin gender changer F/F; (2) keystone openings; keystone modules sold separately	3.88" Diameter	TTBDS1xx
Table top box; 3.5 inch diameter hole; (2) pre-wired 15A outlets with 9 foot power supply cord; (2) keystone openings; keystone modules sold separately	3.88" Diameter	TTBDS2xx

xx = Finish: BK (Black Anodized Aluminum), AL (Clear Anodized Aluminum) and BR (Solid Brass). See Section C for AV and datacom options.



# Furniture and Work Surface Connectivity Boxes



# Square Lift-Up Style Description Finish Dimensions Catalog No. Two (2) pre-wired 15A outlets with 6ft power supply cord; 1-Unit opening for Hubbell iSTATION modules. Unit rotates up when in use and down to conceal services when not in use. 5.75"L x 5.39"W x 4.25"H WSBC21UBK



WSBC21	UBI
--------	-----

Description	Finish	Dimensions	Catalog No.
One (1) pre-wired 15A outlet with 9ft power supply cord; one (1) RJ-45 jack installed with 6ft patch cord	Black Brushed Stainless Steel	3.7"L x 3.7"W x 2.93"H	WSBA11BK WSBA11BSS
Two (2) pre-wired 15A outlets with 9ft power supply cord (power only)	Black Brushed Stainless Steel	3.7"L x 3.7"W x 2.93"H	WSBA2BK WSBA2BSS



Under Table Mount			
Description	Finish	Dimensions	Catalog No.
Two (2) pre-wired 15A outlets with 9ft power supply cord; one (1) low voltage plate included with 1-unit opening for Hubbell iSTATION modules	Black	6.50"L x 1.75"W x 2.25"H	WSBD21UBK

Work Surface Mount			
Description	Finish	Dimensions	Catalog No.
One (1) pre-wired 15A outlet with 9ft power supply cord; one (1) Hubbell keystone opening	Black Silver	3.57"L x 2.19"W x 2.50"H	WSBE11BK WSBE11SV
Two (2) pre-wired 15A outlets with 9ft power supply cord; two (2) Hubbell keystone openings	Black Silver	6.32"L x 2.19"W x 2.50"H	WSBE22BK WSBE22SV
Three (3) pre-wired 15A outlets with 9ft power supply cord; one (1) low voltage plate included with 1-unit opening for Hubbell iSTATION modules	Black Silver	8.25"L x 2.19"W x 2.50"H	WSBE31UBK WSBE31USV
Mounting bracket with thumb screw (optional)	-	-	WSBECLAMP



WSBD21UBK



10.000			
Recessed Concealed Services			
Description	Finish	Dimensions	Catalog No.
Two (2) pre-wired 15A outlets with 6ft power supply cord; one (1) low voltage plate included with 1-unit opening for Hubbell iSTATION modules; two (2) additional 1-unit openings provided in base of unit	Black Brushed Anod, Alum. Brushed Stainless Steel	8.98"L x 5.47"W x 2.97"H	WSBB23UBK WSBB23UBAL WSBB23UBSS
Four (4) pre-wired 15A outlets with 6ft power supply cord; two (2) 1-unit opening for Hubbell iSTATION modules provided in base of unit	Black Brushed Anod. Alum. Brushed Stainless Steel	8.98"L x 5.47"W x 2.97"H	WSBB43UBK WSBB43UBAL WSBB43UBSS
Empty enclosure with one (1) duplex opening, one (1) low voltage plate included with 1-unit opening for Hubbell iSTATION modules; two (2) additional 1-unit openings provided in base of unit; intended for field wiring	Black	8.98"L x 5.47"W x 2.97"H	WSBBHWBK



WSBB23UBK



# Furniture and Work Surface Connectivity Boxes



Description	Finish	Dimensions	Catalog No.
Two (2) pre-wired 15A outlets with 6ft power supply cord; Two (2) Hubbell Keystone openings.	Black Silver	8.62"L x 3.0"W x 2.25"H	WSBF22BK WSBF22SV
Flush Grommet Cover with dust shield.	Black Silver Brushed Aluminum Brushed Stainless Steel	5.68"L x 3.39"W x 0.96"H	WSBFGROMBK WSBFGROMSV WSBFGROMBAI WSBFGROMBSS



WSBF22BK



**WSBFGROMSV** 









**Pre-Wired Work Surface Elite Series** 

Recessed Concealed Ser	vices		
Description	Finish	Dimensions	Catalog No.
Four (4) pre-wired 15A outlets with 6ft power supply cord; three (3) low voltage plates included with 1-unit opening for Hubbell iSTATION modules	Black Silver Clear Anodized Black Anodized	15.0"L x 9.0"W x 6.25"H	WSBG43UBK WSBG43USV WSBG43UBAL WSBG43UBBA



WSBG43USV (cover doors shown open)

Pop-Up Style*			
Description	Finish	Dimensions	Catalog No.
Base unit with four (4) pre-wired 15A outlets with 6ft power supply cord; two (2) low voltage plates included with 1-unit opening for Hubbell iSTATION modules	-	8.90"L x 8.90"W x 13.9"H	WSBH42U*
Trim ring and decorative round top	Black	5.25" Diameter	WSBHTRBK
Trim ring and decorative round top	Brushed Stainless Steel	5.25" Diameter	WSBHTRBSS
Note: *WSBH42U is CSA Certified on	ly.		



WSBH42U WIII WSBHTRBK

Replacement Low Voltag	e Data Plates		
Description	Finish	Dimensions	Catalog No.
Non-metallic low voltage plate, blank	Black	3.18"L x 1.88"W	WSBPLATE1
Non-metallic low voltage plate, 1-unit Hubbell iSTATION cut-out	Black	3.18"L x 1.88"W	WSBPLATE2



WSBPLATE1



WSBPLATE2



# Multi-Connect Recessed Wall Boxes and Flanges

Multi-Service Recessed Wall Boxes for Drywall Appli	cations	to Total	- Ti Ti
Description	Catalog No.	100	1
Multi-service recessed wall box, 1-gang, for drywall applications	HBLWSCS1		- 140 UA
Multi-service recessed wall box, 2-gang, for drywall applications	HBLWSCS2A	and and	2-Gang
Multi-service recessed wall box, 3-gang, for drywall applications	HBLWSCS3A	1-Gang	z-Gung
Multi-service recessed wall box, 4-gang, for drywall applications	HBLWSCS4A	20,71-12	Tankta Tank
Multi-service recessed wall box, 6-gang, for drywall applications	HBLWSCS6A	-	
Barrier for use with above boxes when used in multi-service applications	HBLSCSBW	***	i a mile
Low Voltage Recessed Wall Boxes for Drywall Applic	ations	3-0	Sang
Description	Catalog No.	5-0	rang
Low voltage recessed wall box, 2-gang, for drywall applications	HBLWSCS2MMO	mater mater	171-1-171-
Low voltage recessed wall box, 3-gang, for drywall applications	HBLWSCS3MMO		
Low voltage recessed wall box, 4-gang, for drywall applications	HBLWSCS4MMO	10000	
Low voltage recessed wall box, 6-gang, for drywall applications	HBLWSCS6MMO	4-G	Gang
Multi-Service Recessed Wall Boxes for Masonry App	lications		3
Description	Catalog No.	- Land Control of the	ten ten la
Multi-service recessed wall box, 1-gang, for masonry applications	HBLWSCS1MBD	90 AL AL	AL - AL - AL
Multi-service recessed wall box, 2-gang, for masonry applications	HBLWSCS2MBD	***	In the second
Multi-service recessed wall box, 3-gang, for masonry applications	HBLWSCS3MBD	6-0	Gang
Multi-service recessed wall box, 4-gang, for masonry applications	HBLWSCS4MBD		
Multi-service recessed wall box, 6-gang, for masonry applications	HBLWSCS6MBD		
Barrier for use with above boxes when used in multi-service applications	HBLSCSBMBD		
Wall Box Flanges – Trim Rings		1-Gang	2-Gan
Description	Catalog No.		
For 1-gang box	HBLTRIM1Wxx		
	HBLTRIM2Wxx	0.0	1.0
For 2-gang box		3-Gang	4-Gan
For 2-gang box For 3-gang <mark>box</mark>	HBLTRIM3Wxx	3	
	HBLTRIM3Wxx HBLTRIM4Wxx		

HBLST302Sxx	HBLDE301Sxx	HBLTO310Sxx	HBLTL318Sxx
Duplex	Style Line® Decorator	Toggle	Single Receptacle (1.56" Boss Dia.)
HBLTL319Sxx	HBLBL300Sxx	HBLIMFSxx	HBL317Sxx
Single Receptacle	Blank	3-Unit Hubbell iSTATION	Hubbell
(1.39" Boss Dia.)		(See Section C for module options)	6-Port

 $\mathbf{xx} = \text{Color: } \mathbf{BK} \text{ (Black), } \mathbf{GY} \text{ (Gray), } \mathbf{I} \text{ (Ivory) and } \mathbf{WA} \text{ (White)}.$ 





## Recessed AV In-Wall and Ceiling Enclosures



FPTV Connection Enclosure					
Description	Color	Catalog No.			
2-gang in-wall enclosure	White	NSAV62M			
Steel cover for NSAV6 series	White	NSAV6C			



Power Kits (For use with NSAV62M only)				
Description	Color	Catalog No.		
Standard power kit	White	NSOKP		
Surge protected power kit	Blue	NSOKPS		



AV Connectors and Plates		
Description	Color	Catalog No.
1-gang decorator plate	White	NP26W
1-gang iSTATION plate	White	IMF1W
1-gang 4-port keystone plate	White	NSP14W
1-port HDMI frame	White	NS801W
2-port HDMI frame	White	NS802W
HDMI snap fit	Black	SFHCBK
F-connector snap fit	White	NSF70W
USB A-to-B snap fit	White	SFUSBABW
Cat 6 snap fit jack	White	NSJ6W



Note: See Section C for AV and datacom options.

AV Ceiling Enclosure		
Description	Color	Catalog No.
AV ceiling enclosure	White	AVCE1
AV ceiling enclosure, plenum rated	White	AVCE1P
N .	011 (0) 004 1 1	1 10 1 1 1

Note: Enclosure includes: enclosure 24" x 12" x 8", (2) 20A duplex receptacles and 2-gang back box.



AVCE1



# Hubbell SystemOne One-Piece Poke-Throughs





**Multiple Sub-Plates** Allow for use of most standard and third party devices.



**Fire Rating** Fire barrier expands during fire conditions to maintain the floor's fire rating up to four hours.



**Unique Cover Design** Durable cast aluminum construction available in black, gray, brass, aluminum and ivory powder coat finishes.



- UL Listed for Use in 1 4 Hour Fire Rated Floors at 100% Rated Fill
- **Excellent Solution for Retrofit and New Construction**
- Features ScrubShield® Technology That Exceeds UL514 Scrub Water **Exclusion Requirements**
- **RoHS Compliant**

#### **Specifications**



- UL installation spacing minimum two feet on center, not more than one per 65 square feet of floor area in each span
- SystemOne Fire-Rated Poke-Throughs are approved for use in the City of Chicago
- Meets ADA standards for accessible design, section 4.3.8

ScrubShield. Complies with UL514 A & C





# **Hubbell SystemOne** One-Piece Poke-Throughs

#### **Hubbell SystemOne 4-Inch Core Hole - One-Piece Poke Throughs**

All Hubbell SystemOne 4-inch core, one-piece poke-throughs include the sub-plate and cover to simplify your order

and reduce installation time. Units are also available available for purchase separately.	•		1 , ,
Description	Color	Catalog No. without Junction Box	Catalog No. with Junction Box*
One-Piece 4X4 Poke-Through	Aluminum Finish	S1PT4X4AL	S1PT4X4ALJ
Assembled-unit includes:	Brass Finish	S1PT4X4BRS	S1PT4X4BRSJ
<ul> <li>Hubbell SystemOne 4X4 floor fitting (\$1PT4X4FIT)</li> </ul>	Black/Brass Finish	S1PT4X4BRS3	S1PT4X4BRS3J
<ul> <li>4X4 sub-plate (\$1\$P4X4)</li> </ul>	Black	S1PT4X4BL	S1PT4X4BLJ
Finish flange and universal carpet cover assembly	Gray	S1PT4X4GY	S1PT4X4GYJ







#### One-Piece Dual Style Line® Decorator Poke-Through Assembled-unit includes:

Keystone openings accept Hubbell modular jacks, X-END connectors and flush multimedia Snap Fit connectors. Receptacles feature single or two circuit wiring and isolated

- Hubbell SystemOne dual channel floor fitting (S1PTFIT)
- Dual Style Line® Decorator opening sub-plate (S1SP)
- · Finish flange and universal carpet cover assembly (S1CFCxx)
- 4-hour fire classification

(S1CFCxx)

ground capability.

• 4-hour fire classification

Style Line® Decorator openings accept two Style Line® Decorator or one surge or GFCI receptacle and one Style Line® Decorator receptacle. Outlet frames can be used to convert the application to a 6-port multi-service or a 12-port all communication solution. Fitting is 4-hr rated at 100% fill to accommodate (12) Cat 6A cables (0.330" diameter).

Aluminum Finish Brass Finish Black Gray



S1PTAL S1PTALJ **S1PTBRSJ S1PTBRS** S1PTBLJ S1PTBL **S1PTGY** S1PTGYJ



#### One-Piece Modular AV Poke-Through Assembled-unit includes:

- Hubbell SystemOne AV floor fitting (\$1PTAVFIT)
- 20A, 125V power and 3-unit Hubbell iSTATION sub-plate (S1SP3IM)
- Finish flange and universal carpet cover assembly S1CFCxx)
- 4-hour fire classification

The Hubbell iSTATION's recessed opening can accommodate datAVoice/audio and video solutions including 15-pin VGA, RCA, S-Video, 3.5mm stereo, X-END, HDMI and XLR microphone jacks.

Aluminum Finish Brass Finish Black Gray



S1PT3IMAL S1PT3IMBRS S1PT3IMBL S1PT3IMGY





#### **One-Piece Furniture Feed Poke-Through** Assembled-unit includes:

- Hubbell SystemOne AV floor fitting (\$1PTAVFIT)
- Hubbell SystemOne Furniture Feed Cover Plate (S1SPFFxx)
- 4-hour fire classification

This solution provides one 3/4 in. conduit for power and one 11/2 in. conduit for low-voltage. Furnished with two screw-in flexible metal conduit connectors.

Aluminum Finish Brass Finish Black Gray



S1PTFFAL **S1PTFFBRS S1PTFFBL S1PTFFGY** 







Note: \*Junction box factory installed on through floor fitting.

ScrubShield. Complies with UL514 A & C





# Hubbell SystemOne Through Floor Fittings



#### **Hubbell SystemOne 4-Inch Core, Three-Piece Units**

Description

Catalog No.
without Junction Box

Catalog No. with Junction Box\*

S1PT4X4FIT

**S1PTAVFIT** 

S1PT4X4FITJ



#### **Dual Channel Through Floor Fitting**

Through floor fitting with two 1 in. E.M.T. conduit stems to feed power and/or communication services. For use with Hubbell SystemOne universal covers and all Hubbell sub-plates except \$1\$P4X4 and \$1\$PTL series. Universal cover and sub-plate ordered separately. 4-hour fire classification.

Through floor fitting with two 3/4 in. E.M.T. for communications and one 3/4 in. E.M.T. for power. For use with Hubbell SystemOne Universal Covers and S1SP4X4 and S1SPTL series sub-plates only. Universal cover and sub-plate ordered separately. 4-hour fire classification.

S1PTFIT S1PTFITJ

#### **AV Through Floor Fitting**

**4X4 Through Floor Fitting** 

Through floor fitting with one ¾ in. E.M.T. conduit stem for power and one 1½ in. E.M.T. conduit stem for communication services. Ideal for demanding, high capacity audio/video and data requirements. For use with Hubbell SystemOne universal covers and all Hubbell sub-plates except S1SP4X4 and S1SPTL series. Universal cover and sub-plate ordered separately. 4-hour fire classification.

S1TFC<sub>xx</sub>

Note: \*Junction box factory installed on through floor fitting.

# S1PTAVFITJ

# Hubbell SystemOne Universal Covers

Tile

- Cast aluminum construction
- Durable powder coat finish

Description	Catalog No.
Carpet	S1CFC <sub>xx</sub>

xx = Color: AL (Aluminum Finish), BRS (Brass Finish), BL (Black), GY (Gray) and I (Ivory).



S1CFCLAL



SITFCLAL

#### **Poke Through Accessories**

Description

#### **Abandonment Plates**

Used to cover abandoned SystemOne Fire-Rated Poke-Throughs or Floor Boxes.



Black S1AP4BL Gray S1AP4GY

#### Fire-Rated Closure Plug

Used to seal a 4-inch core hole when the FRPT is no longer required and the through-floor fitting is removed. Maintains the floor's 1–4 hour fire rating.



Black S

S1FRP4BL S1FRP4GY

#### **Power Junction Box**

For use with SystemOne Fire-Rated Poke-Throughs. Provides 27.0 cubic inches.
(1) 3/4 and (1) 1" E.M.T. connector supplied.

Trade size knockouts:

Top (1) 1 inch
Bottom (1) ¾ inch
Sides (2) ½ inch
(1) ¾ inch



**S1FRPTJB** 







### **Hubbell SystemOne Sub-Plates**



Style Line® Decorator/GFCI

(2) Style Line® Decorator openings for power and/or datacom applications.



Catalog No.

Description Duplex/Duplex

(2) Duplex openings for power and/or datacom applications.



Catalog No.

Description

Duplex/Style Line® Decorator (1) Duplex and (1) Style Line® Decorator opening for power and/or datacom applications.



S1SPDUSL

Hubbell 4 X 4

(4) 20A, 125V receptacles. (4) Keystone openings for Hubbell jacks or flush AV connectors. Power can be wired as single or two circuit with isolated ground capability.



S1SP4X4

**Carpet Furniture Feed** Cover/Flange\* (1) 3/4" and (1) 1 1/2" N.P.T.

access holes for power and/ or datacom applications. Universal cover not required. Includes carpet flange.



**Tile Furniture Feed** Cover/Flange\*

(1) 3/4" and (1) 11/2" N.P.T. access holes for power and/or datacom applications. Universal cover not required. Includes tile flange.



Provided with 15 ft. wire leads Provided with 30 ft. wire leads

S1SP4X415 S1SP4X430 Aluminum Fin. S1SPFFAL Brass Fin.

S1SPFFBRS Black S1SPFFBL Gray **S1SPFFGY** 

Brass Fin. Black

Gray

Aluminum Fin. S1SPFFTAL S1SPFFTBRS S1SPFFTBL S1SPFFTGY

Single Receptacle + Data

Opening for 20 or 30A Twist-Lock® receptacle (1.56" OD) and (2) Keystone openings for Hubbell jacks or flush AV connectors.



Hubbell DataCom + Power

(1) 20A, 125V receptacle and 3-unit recessed Hubbell iSTATIONopening for data, voice, and AV applications.



**Hubbell DataCom + Duplex** 

(1) Duplex opening, (2) flush Keystone openings and 1.5 unit recessed Hubbell iSTATION opening for data, voice and AV applications.



Hubbell DataCom + Style Line® Decorator

(1) Style Line® Decorator opening, (2) flush Keystone openings and 1.5 unit recessed Hubbell iSTATION opening for data, voice **S1SPSL2IM** and AV applications.



**Hubbell DataCom** 

1 unit flush Hubbell iSTA-TION opening and 3-unit recessed Hubbell iSTATION opening for data, voice, and AV applications.



Active Multimedia + Power

Single 20A, 125V receptacle; (2) flush Keystone openings; (1) rectangular Style Line® Decorator opening to accommodate active multimedia modules or low voltage outlet frames.



S1SPAMM20

Extron® or FSR + Power (1) 20A, 125V receptacle.

Recessed opening for (3) single Extron® MAAP series adapter plates or FSR IPS plates.



S1SPEXT1

Extron® or FSR + Power

(1) 20A, 125V receptacle. Recessed opening for (1) single Extron® MAAP and (2) single AAP series adapter plates or FSR IPS plates.



Extron® or FSR Single-Service

Recessed opening for (2) single Extron® MAAP and (2) single AAP series adapter plates or FSR IPS plates.



Extron® AAP + Power

(1) 20A, 125V receptacle. (2) flush Keystone and recessed opening for (2) single Extron® AAP Series adapter plates.



Note: \*Furnished with two screw-in flexible metal conduit connectors. See Section C for complete offering of Hubbell jacks and frames. † See page Q23 for FRPT Configuration Chart.

#### **Sub-Plate Accessories**

Description

**Replacement Threaded Conduit Plugs** Used with S1SPFFxx and S1SPFFTxx ONLY.

Sub-plate is supplied with plugs.



3/4" Plug

Catalog No.

S1FP15xx

S1FP34xx

xx = Color: AL (Aluminum Finish), BRS (Brass Finish), BK (Black), and GY (Gray). See page V30 for color

Extron® is a registered trademark of Extron Electronics.

Description

Black Style Line® decorator blank frame.

Catalog No.



2100BK

ScrubShield. Complies with UL514 A & C





# Hubbell SystemOne Configuration Chart



Approved for	r use in the City of Chicago.		Floor I	Boxes*		4" Core Hole		
(except S1PF	В)	Non-Metallic		Metal		Fire-R	lated Poke-Th	roughs
		J.	SIGN		-		F	7
Sub-Plates S1SP	Style Line® Decorator/GFCI	S1PFB	3.5	3.5	\$1\$FBAV 3.5	S1PTFIT ✓+	S1PT4X4FIT	S1PTAVFI
S1SPDU	Duplex/Duplex	B 3	3.5	3.5	3.5	(Single-Service)	X	1
S1SPDUSL	Duplex/Style Line® Decorator	D 3	3.5	3.5	3.5	(Single-Service)  + (Single-Service)	X	(Multi-Service
S1SP4X4	Hubbell 4 X 4		4	4	4	(Single-Service)	<b>/</b> +	/ (Multi-Service
S1SPTL	Twist-Lock® Receptacle + Data		4	4	4	X	<b>/</b> +	X
S1SP3IM	Hubbell DataCom + Power	<b>D 5</b>	5	5	5	1	X	<b>/</b> +
S1SP4IM	Hubbell DataCom	3.5	3.5	3.5	3.5	1	X	<b>/</b> +
S1SPDU2IM	Hubbell DataCom + Duplex	<b>b 5</b>	5	5	5	<b>✓</b>	X	<b>/</b> +
S1SPSL2IM	Hubbell DataCom + Style Line® Decorator	<b>D</b> 5	5	5	5	1	X	<b>/</b> +
S1SPFFxx (Carpet) S1SPFFTxx (Tile)	Furniture Feed Cover/Flange (Replace "x" with BRS (brass finish), AL (aluminum finish), BL (black) or GY (gray).	3	3.5	3.5	3.5	<b>✓</b>	X	<b>/</b> +
S1SPEXT1	Extron® or FSR® MAAP + Power	<b>a</b>	4	4	4	1	X	<b>/</b> +
S1SPEXT2	Extron® or FSR® AAP/MAAP + Power	9	4	4	4	1	X	<b>/</b> +
S1SPEXT3	Extron or FSR® Datacom	4.5	4.5	4.5	4.5	1	X	<b>/</b> +
S1SPEXT4	Extron or FSR® AAP + Flush Keystone + Power	) 4	4	4	4	1	X	<b>/</b> +
S1SPAMM20	Active Multimedia + Flush Keystone + Power	5	5	5	5	1	X	<b>/</b> +
S1CFCxx SystemOne Carpet Cover	SystemOne Floor Boxes and FRPTs use SystemOne Universal Covers (Replace "xx" with BRS (Brass			th of concrete Floor Boxes.	pour in inches	Recommended Floor Fitting	Alternative Floor Fitting	Not Compatible
<b>S1TFCxx</b> SystemOne Tile Cover	Finish), AL (Aluminum Finish), BL (Black), GY (Gray) or I (Ivory).	Extron® is a registered FSR® is a registered			onics.			







## 2X2 Flush FRPT **3-Inch Core Hole Units**



PT2X2BRS3



#### 2X2 Flush FRPT, One-Piece Units (PT2X2FIT)

		•			
Description	Color	Catalog No.	Description	Color/Material	Catalog No.
2X2 Poke-Through Non-metallic Cover	Black Gray Black Gray	PT2X2BL PT2X2GY PT2X2IGBL* PT2X2IGGY*	2X2 Poke-Through	Black/Brass Brass Finish/Brass Black/Brass Brass Finish/Brass	PT2X2BRS3 PT2X2BRS PT2X2IGBRS3* PT2X2IGBRS*
Pre-wired 20A duple receptacle and (2) Co     Painted aluminum for	ategory 5e data jacks	7	Pre-wired 20A dup receptacle and (2)     Solid brass flange	olex Style Line® Category 5e data jacks	

Note: \*Includes pre-wired 20A isolated ground duplex Style Line® receptacle.

#### 2X2 Flush FRPT, Two-Piece Units

• Approved for use in the City of Chicago

Description

Multi-Channel Through-Floor Fitting with (1) ¾ in. E.M.T. stem with junction box for power and (2) ½ in. E.M.T. stems for low voltage.



PT2X2GY

#### PT2X2FIT



#### Specifications:

- 1-4 hour fire rating (1-3) hour for steel floor units and concrete topping, D900 Series Design)
- For  $2\frac{1}{4}$  in. to 7 in. floor thickness
- UL installation spacing minimum 2 ft. on center and not more than one per  $6\bar{5}$  sq. ft. of floor area
- · Approved for use in the City of Chicago

• Approved for use in the City of Chicago

Service Fittings						
Description	Color	Catalog No.	Description	Color/Material	Catalog No.	
2X2 Service Fitting Non-metallic Cover	Black Gray	PT2X2SFBL PT2X2SFGY	2X2 Poke-Through Non-metallic Cover	Black/Brass Brass Finish/Brass	PT2X2SFBRS3 PT2X2SFBRS	
<ul> <li>Pre-wired 20A duple receptacle and (2) Co data jacks</li> <li>Painted aluminum flo</li> </ul>	ategory 5e		Pre-wired 20A dup receptacle and (2) data jacks Solid brass flange			

PT2X2SFBL PT2X2SFBRS3

Accessories			
Description	Color/Material	Catalog No.	
Non-Metallic Replacement Covers	Brass Finish Black	PT2X2CBRS PT2X2CBL	
	Gray	PT2X2CGY	

PT2X2CBL

Note: See page Q28 for 3 inch closure plug.







## Flush Duplex FRPT





#### 2X2 Flush Duplex FRPT, One-Piece Units (PT7FSD) Description Color Catalog No. Color/Material Description Catalog No. Flush Poke-Through Flush Brass Poke-Through All Brass Black **PT7FSDBLA** PT7FSDBRS2A **PT7FSDBRA** Brown Black/Brass PT7FSDBRS3A Gray **PT7FSDGYA** All Brass PT7IGFSDBRSA\* Ivory **PT7FSDIA** PT7IGFSDGYA\* Gray PT7IGFSDIA\* Ivory Complete assembled unit includes: Complete assembled unit includes: Pre-wired 20A duplex receptacle • Pre-wired 20A duplex receptacle Non-metallic flip lid cover with • All brass or black non-metallic (2) ½ in. diameter low voltage cover option feed-through holes • Flip lid cover with (2) ½ in. diameter low voltage feed-through holes Painted aluminum flange • Solid brass flange

Note: \*Includes pre-wired 20A isolated ground duplex receptacle.

#### Flush FRPT, Two-Piece Units

Description Catalog No.

Multi-Channel Through-Floor Fitting with (1) 3/4 in. E.M.T. stem for power and

(2) ½ in. low voltage feed-through holes.

PT7FSD (with Junction Box) PT73SD (without Junction Box)



Specifications:

- 1-4 hour fire rating (1-3) hour for steel floor units and concrete topping, D900 Series Design)
- For  $2\frac{1}{4}$  in. to 7 in. floor thickness
- UL installation spacing minimum 2 ft. on center and not more than one per 65 sq. ft. of floor area

Service Fittings						
Description	Color	Catalog No.	Description	Color/Material	Catalog No.	
Flush Aluminum Service Fitting	Black Brown Gray Ivory	FRFBLA FRFBRA FRFGYA FRFIA	2X2 Poke-Through	Solid Brass	FRFBRS2A	
Complete assembled unit includes:  • Pre-wired 20A duplex receptacle  • Non-metallic flip lid cover with (2) ½ in. diameter low voltage feed-through holes  • Painted aluminum flange		<ul> <li>Complete assembled</li> <li>Pre-wired 20A du</li> <li>Solid brass flip lid</li> <li>(2) ½ in. diamete feed-through hole</li> <li>Solid brass flange</li> </ul>	plex receptacle   cover with  r low voltage  es			

Description	Color	Catalog No.	Description	Color/Material	Catalog No.
Non-Metallic Replacement Covers	Black Brown Gray Ivory	PFBRCBLA PFBRCGYA PFBRCIA	All Brass Replacement Covers	Solid Brass	BRS2RCA

Note: See page Q28 for 3-inch FRPT accessories.







## **Flush Furniture Feed FRPT**



#### Large Capacity, Single-Service Flush Furniture Feed FRPT, Two-Piece Units

Description	Catalog No.	Description	Color/Material	Catalog No.
Large Capacity, Single-Service Through Floor Fitting with (1) 2 in. E.M.T. stem. Will accommodate up to 36 Category 5e cables.	PT2FIT	Large Capacity Cover/Flange	Brass Finish Black Gray	FF2BRS FF2BK FF2GY

#### Specifications:

- 1- to 2-hour fire rating
- Single-Service, Power or Data
- For 21/4 to 7 in. floor thickness
- UL installation spacing minimum 2 ft. on center and not more than 1 per 65 sq. ft. of floor area
- Approved for use in the City of Chicago



Specifications:

- Cover/flange with 11/4 in. and 2 in. trade size combination knockout
- Painted aluminum cover and flange
- Approved for use in the City of Chicago



Note: \*Includes pre-wired 20A isolated ground duplex Style Line® receptacle.

Description	Color	Catalog No.	Description	Color	Catalog No.
3-Service Furniture Feed Poke-Through	Black Gray Ivory	PT73FFSDBK PT73FFSDGY PT73FFSDI	Single-Service Furniture Feed Poke-Through	Gray Ivory	PT7FFSDGY PT7FFSDI
Complete assembled uni  PT73SD floor fitting  Aluminum cover with threaded hubs for low (1) ¾ in. threaded hub  Painted aluminum flai	(2) ½ in. v voltage and o for power		Complete assembled u PT71SD floor fitting Aluminum cover wit to accept a ¾ in. co Painted aluminum f	th (1) KO onnector	

Description	Catalog No.	Description	Catalog No.
3-Service Furniture Feed Through- Floor Fitting with (1) ¾ in. E.M.T. stem for power and (2) ½ in. low voltage conduit holes. Specifications:	PT73SD	Single-Service Furniture Feed Through-Floor Fitting with (1) ¾ in. E.M.T. stem for power or low voltage applications. Specifications:	PT71SD
<ul> <li>1 – 4 hour fire rating (1 – 3 hour for steel floor units and concrete topping, D900 Series Design)</li> </ul>	7	<ul> <li>For 2½ to 7 in. floor thickness</li> <li>UL installation spacing – minimum 2 ft. on center and not more than 1 per 65 sq. ft. of floor area</li> </ul>	7

Description	Color	Catalog No.	Description	Color	Catalog No.
3-Service Furniture Feed Service Fitting	Black Gray Ivory	FRF3BK FRF3GY FRF3I	Single-Service Furniture Feed Service Fitting	Brass Finish Black Gray	FRF1BRS FRF1BK FRF1GY
Complete assembled uni  Aluminum cover with threaded hubs for low (1) 3/4 in. threaded hu  Painted aluminum fla	(2) ½ in v voltage and b for power		Complete assembled u  • Aluminum cover wit to accept a ¾ in. co  • Painted aluminum f	h (1) KO onnector	

Note: See page Q28 for 3-inch FRPT accessories.







# Painted Pedestal FRPT Two-Piece Units





#### 3-Inch Core Hole, Two-Piece Unit 2-Inch Core Hole Two-Piece Unit Catalog No. Description Catalog No. Description Large Capacity Multi-Service Pedestal PT7XC Multi-Service Pedestal Through-Floor **PT27A** Through-Floor Fitting with (1) 11/4 in. Fitting with (1) 11/4 in. E.M.T. stem for E.M.T. stem for low voltage and (1) ½ in. low voltage and (1) ½ in. E.M.T. stem E.M.T. stem for power applications. for power applications. Specifications: Specifications: • 1 – 4 hour fire rating (1 – 3 hour for • 1-4 hour fire rating (1-3) hour for steel floor units and concrete topping, steel floor units and concrete topping, D900 Series Design) D900 Series Design) For 21/4 in. to 7 in. floor thickness For $2\frac{1}{4}$ in. to 7 in. floor thickness Approved for use in the City of Chicago Approved for use in the City of Chicago

Note: \*Includes pre-wired 20A isolated ground duplex receptacle.

Pedestal Service Fittings (Order 1 plate per gang)								
Description	Color/Material	Catalog No.	Description	Color	Catalog No.	Description	Color	Catalog No.
2-Gang	Alum. Finish Black Gray	FR280ALA FR280BKA FR280GYA	4-Gang	Black Gray	FR480BKA FR480GYA	6-Gang	Black Gray	FR680BKA FR680GYA
Use with PT2:			× x	27A or PT7XC.  FR480GYA		Use with PT2	7A or PT7XC.	,5535

- Painted aluminum housing with low voltage barrier(s); plates and devices sold separately
- For additional barriers, use Catalog No. FRBR1 (see page Q28)
- UL Listed and CSA Certified

Pedestal F	ace Plates	(Order 1 plate per gang)			
Description	Color/Material	Catalog No.	Description	Color/Material	Catalog No.
Duplex	Black Gray	SS2309DBKA SS2309DGYA	Furniture Feed (¾ in. KO)	Alum. Finish Black Gray	SS2309FALA SS2309FBKA SS2309FGYA
Style Line®/ GFCI	Black Gray	SS2309SLBKA SS2309SLGYA	Furniture Feed (1 in. KO)	Black Gray	SS2309F1BKA SS2309F1GYA
Single Rec. (1.39 in. OD)	Black Gray	SS2309SBKA SS2309SGYA	Bushed Data Opening (1 in. ID)	Black Gray	SS2309TBKA SS2309TGYA
Blank	Alum. Finish Black Gray	SS2309BALA SS2309BBKA SS2309BGYA		uminum plates and CSA Certifi	







## **Brushed Aluminum** Pedestal FRPT





#### **Through-Floor Fitting Pedestal Service Fitting** Description Catalog No. Description Color/Material Catalog No. Brushed Aluminum Large Capacity Multi-Service Pedestal PT7XC 2-Gang Pedestal FR80AL Through-Floor Fitting with (1) 11/4 in. Service Fitting For use with PT7XC only. E.M.T. stem for low voltage and (1) ½ in. E.M.T. stem for power applications. Specifications: Specifications: • 1-4 hour fire rating (1-3) hour for Brushed aluminum housing steel floor units and concrete topping, with low voltage barrier. Plates D900 Series Design). and devices sold separately. • For 21/4 in. to 7 in. floor thickness. Approved for use in the City of Chicago.

Description	Color	Catalog No.	Description	Color/Gang	Catalog No.
Closure Plug Textured aluminum plug seals 3 in. core hole when FRPT is no longer required and is removed. Maintains the floor's 1 – 4 hour fire rating. UL Listed and CSA Certified.	Gray	FRP250	PT7XC Extension Kit Extends PT7XC FRPT to accommodate between 7 in. and 13 in. floor thickness.	_	EXT13
Flush FRPT Abandonment Plate Use with PT7FSD, PT73SD or PT71SD only. Covers the opening when FRPT is abandoned. Service fitting is removed and through-floor fitting remains.	Gray Ivory	AP2GY AP2I	Pedestal FRPT Abandonment Plate Use with PT27A or PT7XC only. Covers the opening when FRPT is abandoned. Service fitting is removed and through-floor fitting remains.	Gray/2-gang Gray/2-gang	AP22 AP42
Multi-Service Furniture Feed Replacement Inserts Use as a replacement cover for PT73FFSD series, or to convert installed PT7FSD series into furniture feed FRPTs. Includes (2) ½ in. threaded hubs for low voltage and (1) ¾ in. threaded hub for power. (UL Listed only.)	Gray Ivory	FF3GY FF3I	Replacement Low Voltage Barrier Use with FR280, FR480, and FR680 pedestal service fittings only when additional power/low voltage separation is required.	_	FRBR1

Plates					
Description	Catalog No.		Description	Catalog No.	
Duplex	SS309D		Furniture Feed (¾ in. KO)	\$\$309\$F*	, 0,
Style Line®/ GFCI	SS309DS		Furniture Feed Blank	SS309BF*	
Single Rec. (1.39 in. OD)	SS309S	300	Bushed Data Opening (1 in. ID)	SS309T	, ,
Blank	SS309B	9 9	• 302/304 Stainles (SS309SF & SS30 • UL Listed and CS	09BF are Aluminum).	

Note: \*For furniture feed applications using **\$\$309\$F**, a **\$\$309\$BF** blank must be used for second plate.

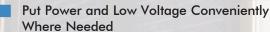






# Under Cabinet/Counter Power Distribution







- Custom Configurable, Accepts Any **Decorator Style Device**
- **RoHS Compliant**

#### **Specifications**



- Boxes comply with the NEC® for kitchen receptacles, with placement not more than 20 inches above the counter surface.
- Stamped steel
- Low profile
- UL Listed E31999 and CSA Certified under cabinet boxes

escription	Color/Material	Dimensions	Catalog No.
im Box	Stainless Steel White Metal White Nylon	1.55" H x 5.57" W x 3.40" D	RU100SS RU100W RU170W*
FCI Fit Box	Stainless Steel White Metal White Nylon	1.95" H x 5.57" W x 3.40" D	RU200SS RU200W RU270W*



RU100W



Note: \*Steel box with nylon cover.

# **Vertical Mount Horizontal Mount** Optional

NEC® is a registered trademark of the National Fire Protection Association (NFPA).



## JLOAD® Multimedia Outlet



- Patented JLOAD Multimedia Outlet
  Provides Low Voltage and Power in the
  Same Frame
- Accepts Any Snap Fit Jack Configuration (See Section C)
- Isolates Low Voltage and Power in the Same Box
- RoHS Compliant



#### **Specifications**



- UL Listed tamper resistant receptacle
- Unique mounting strap for use with RI600 box
- Minimum spacing for power and low voltage

Note: Requires unique box shown below.

#### JLOAD® Multimedia Outlet

Description	Color		QG DW 20A 125V NEMA 5-20R UI/CSA
JLOAD® multimedia outlet, specifically designed to provide power, Cat. 5e and coaxial in a single gang box; requires JLOAD® multimedia box RJ600; perfect for HDTV and computer use where a combination of power and data are needed; includes decorator frame, one Cat. 5e, one F-connector and one power receptacle 125V with voltage divider	Almond	RJ650ALTR	RJ620ALTR
	Black	RJ650BKTR	RJ620BKTR
	Gray	RJ650GYTR	RJ620GYTR
	Ivory	RJ650ITR	RJ620ITR
	Light Almond	RJ650LATR	RJ620LATR
	White	RJ650WTR	RJ620WTR
JLOAD® multimedia outlet, includes decorator frame with two open ports for custom configuration and one power receptacle 125V with voltage divider	Almond	RJ65ALTR	RJ62ALTR
	Black	RJ65BKTR	RJ62BKTR
	Gray	RJ65GYTR	RJ62GYTR
	Ivory	RJ65ITR	RJ62ITR
	Light Almond	RJ65LATR	RJ62LATR
	White	RJ65WTR	RJ62WTR
JLOAD® multimedia box, 3 inches deep with seven ½-inch knockouts, non-metallic sheathed cable clamps on each side; screw in mounting to stud	Steel	RJ600	RJ600



RJ620WTR

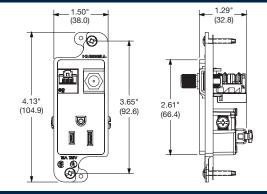


RJ62WTR



RJ600

#### **JLOAD®** Dimensions





## **Aluminum Service Poles**



- Attractive and Durable Poles Effectively Distribute Power and Data
- Two Style Line® Knockouts are Provided for Data Outlets
- Three Service Capability with a Divider to Separate Power and Low Voltage
- **RoHS Compliant**



#### **Aluminum Service Poles**

Aluminum service poles; gray or ivory painted and clear anodized aluminum; Style Line® duplex receptacles and two Style Line® knockouts for communications; includes ceiling trim mounting plate and scuff boot.

Description	Height Ft (m)	Gray	lvory	Clear Anodized Alum.
Three service; two 20A 125V Style Line®	10' 2" (3.10)	HBLPP10A	HBLPP10AI	HBLPP10AAL
duplex receptacles; one circuit	12' 2" (3.71)	HBLPP12A	HBLPP12AI	HBLPP12AAL
	15' 2" (4.62)	HBLPP15A	HBLPP15AI	HBLPP15AAL
Three service; one orange isolated ground 20A 125V Style Line® duplex receptacle; one 20A 125V Style Line® duplex receptacle; two circuits	10′ 2″ (3.10)	HBLPP10IGA	HBLPP10IGAI	-
Three service; two orange isolated ground 20A 125V Style Line® duplex receptacles; one isolated ground surge suppression 20A 125V duplex receptacle; one circuit	10′ 2″ (3.10)	HBLPP10SA	HBLPP10SAI	-
Three service; blank pole; divider; four	10' 2" (3.10)	HBLPPOA	HBLPPOAI	HBLPPOAAL
Style Line® device knockouts	12' 2" (3.71)	HBLPPO12A	HBLPPO12AI	HBLPPO12AAL
	15' 2" (4 62)	HRI DDO15A	HRI DDO15AI	HRI DDO15AAI

#### **Accessories**

Adjustable T-bar assembly for mounting poles in middle of ceiling ATB tile (requires PPTRIM1 trim kit)

Replacement service pole trim kit (off white) PPTRIM1

Note: Style Line $^{\circledR}$  communication outlets, modular jacks, and data connectors are sold separately. See sections B and C.

#### **Specifications**

Material: extruded aluminum; .05" thick (1.27mm) Finish: gray, ivory or clear anodized aluminum Conductors: #12 AWG stranded copper

Receptacles: (see drawings below) Listing: UL Listed

	Voice Data Channel*						
Wiring Capacity (at 40% fill)	Cat. 5e	Cat. 6	Cat. 6A	Power Channel**			
HBLPP10A; HBLPP12A; HBLPP15A: HBLPP10IGA	26	11	9	41			
HBLPP10SA; HBLPP10SAI	8	6	3	41			
HBLPPOA, HBLPPO12A, HBLPPO15A (with barrier)	26	11	9	41			

<sup>\*</sup>Pole wiring capacity (telephone fill): Cat. 5 UTP (1.96 sq. ft.).



HBLPP10AI



HBLPP10IGA



HBLPP1 OSAI





PPTRIM1



<sup>\*\*#12</sup> THHN stranded.



# **Custom Service Pole Configurations**

#### **Custom Poles**

Using the chart below, you are able to create a custom service pole.

Position Selections

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
S	P	1	0	0	2	1	1	В	В	В	Х	Х	Х	C	1

#### Example: SP100211BBBXXXCI

10 feet 02 inches, (2) rectangular Style Line® knockouts for data, (3) HBL2162 duplex receptacles, (2) circuits (first 2 receptacles on Circuit #1, remaining receptacles on Circuit #2), Ivory

#### Worksheet

Position Selections

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
S P														

Position 1 & 2: Height to the nearest foot	08-22 feet	
Position 3 & 4: Height in inches up to 11"	00-11 inches	
Position 5, 6, 7, 8, 9, 10, 11, 12: Starting at Position 5 select datacom knockouts/device frames followed by power receptacle/power knockout options. if the service pole is power only, select receptacle options starting at Position 5. Empty positions should be filled with an "X" to designate an empty field.  Note: If power receptacles are chosen, then power knockouts may not be chosen in the same service pole.	Power Selections 6 - Rectangular Style Line® knockout (for blank poles only) 7 - ½" N.P.T. knockout (0.875" diameter, for blank poles only) 8 - ¾" N.P.T. knockout (1.109" diameter, for blank poles only) A - 5362, 20A, 125V AC, duplex B - HBL2162, 20A, 125V AC, Style Line® duplex C - IG5362, 20A, 125V AC, I.G. duplex D - IG2162, 20A, 125V AC, I.G. Style Line® duplex G - HBL4700, 15A, 125V AC, I.G. Twist-Lock® duplex H - IG4700, 15A, 125V AC, I.G. Twist-Lock® single J - IG5361, 20A, 125V AC, I.G. Twist-Lock® single K - HBL310, 20A, 125V AC, I.G. single K - HBL310, 20A, 125V AC, Twist-Lock® single N - HBL2310, 20A, 250V AC, Twist-Lock® single O - HBL2620, 30A, 250V AC, Twist-Lock® single R - HBL4710, 15A, 125V AC, I.G. Twist-Lock® single R - HBL4710, 15A, 250V AC, duplex T - IG5662, 15A, 250V AC, duplex T - IG5661, 15A, 250V AC, single V - IG5661, 15A, 250V AC, I.G. single W - HBL5462, 20A, 250V AC, duplex	12 4.7: 10 4.7: 4.7: 4.7: 4.7: 6 4.7: 6 4.7: 6 4.7: 6 4.7: 6 4.7: 6 4.7: 6 4.7: 6 4.7:
Position 13: Power Circuits	<ul> <li>Z - No circuits (should only be selected when the service poles has ONLY data and/or power knockouts)</li> <li>A - All devices on a single circuit</li> <li>B - 2 circuits, first receptacle on Circuit #1, remaining receptacles on Circuit #2</li> <li>C - 2 circuits, first 2 receptacles on Circuit #1, remaining receptacles on Circuit D - 2 circuits, first 3 receptacles on Circuit #1, remaining receptacles on Circuit F - 2 circuits, first 4 receptacles on Circuit #1, remaining receptacles on Circuit F - 2 circuits, first 5 receptacles on Circuit #1, remaining receptacles on Circuit F - 2 circuits, first 6 receptacles on Circuit #1, remaining receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit #1, remaining receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit #1, remaining receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles on Circuit F - 2 circuits, first 7 receptacles Circuits F - 2 circuits F -</li></ul>	#2 #2 #2 #2 #2
Position 14: Color	I - Ivory G - Gray W -White K - Black A - Aluminum with clear anodized finish	





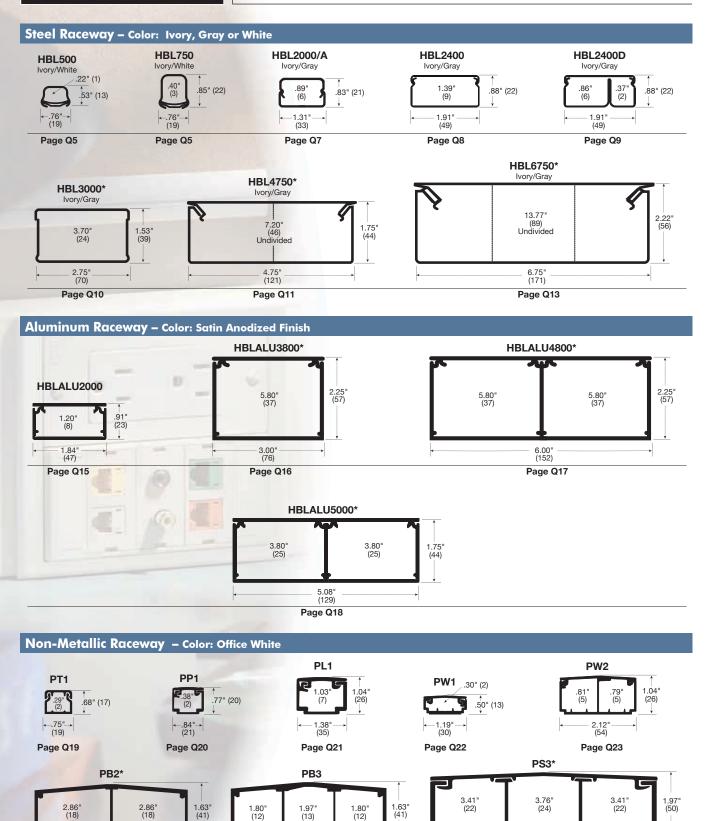
# RACEWAY

Product	Pagi
Raceway Profiles – Quick Reference Guide	R3
RACEWAY SYSTEMS — FEATURES AND BENEFITS	R4
HBL500 AND HBL750 SERIES STEEL RACEWAY	R5
HBL2000 SERIES STEEL RACEWAY	R7
HBL2400 SERIES STEEL RACEWAY	R8
HBL2400D Series Steel Raceway with Dimder	R9
HBL3000 SERIES STEEL RACEWAY	R10
HBL4750 SERIES STEEL RACEWAY	R11
HBL6750 SERIES STEEL RACEWAY	R13
HBLALU2000 AND HBLALU3800 SERIES ALUMINUM RACEWAY	R15
HBLALU4800 AND HBLALU5000 SERIES ALUMINUM RACEWAY	R17
PREMISETRAK® (PT1) Series Non-Metallic Raceway	R19
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## RACEWAY PROFILES - QUICK REFERENCE GUIDE



4.50" (114)

Page Q24

6.70" (170)

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4.50" (114)

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## RACEWAY SYSTEMS - FEATURES AND BENEFITS

#### **Metal Raceway**

- Hubbell **HANDI-SCREW**® eliminates difficult to install long screws for easier installation.
- All Metal Raceway has been designed to accept all Category 5e, 6 and 6A rated cabling.
- More color options available for architects and interior designers.
- Ideal for high speed data cabling applications, such as: Category 6A and fiber.



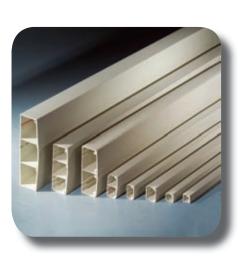
#### **Aluminum Raceway**

- Satin anodized finish.
- External, internal, flat and tee fittings available to accommodate all types of applications.
- Split covers allow access to one service at a time.
- Low profile bezel cover accommodates Hubbell iSTATION modules.



#### Non-Metallic Raceway

- Sizes range from single channel  $PREMISETRAK^{(B)}$  to three channel Super  $BASETRAK^{(B)}$  for all types of surface raceway requirements.
- Single and two channel latching raceways are dual-rated for both power and data applications, reducing inventory requirements.
- Boxes have three cut-aways that can be utilized with WALLTRAK<sup>®</sup>, LANTRAK<sup>®</sup> and PREMISETRAK<sup>®</sup> (latching) systems.
- Full capacity in-line boxes eliminate the need to de-rate the wire fill capacity due to the intrusion of devices into the raceway channel.

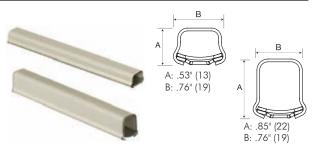


# DELIVERY

# HBL500 AND HBL750 SERIES STEEL RACEWAY

Raceway	Color	Base and Cover, 10ft	Base and Cover, 5ft
HBL500	lvory	HBL50010IV	HBL5005IV
	White	HBL50010W	HBL5005W
HBL750	lvory	HBL75010IV	HBL7505IV
	White	HBL75010W	HBL7505W

Note: Ivory Metal Raceway uses Almond (AL) Plates, Frames, Devices, Jacks and Snap fits.















Raceway Fittings	Color	Internal Elbow	External Elbow	90° Flat Elbow	45° Flat Elbow	Mounting Strap	Connection Cover	Bushing
HBL500	lvory White	HBL517IV -	HBL518IV –	HBL511IV -	HBL512IV -	HBL504IV HBL504W	HBL506IV HBL506W	HBL502B
HBL750	lvory White	HBL717IV HBL717W	HBL718IV HBL718W	HBL711IV HBL711W	HBL712IV	HBL704IV HBL704W	HBL706IV HBL706W	HBL702B











Raceway			wisted Elbows ns at right angles	— Internal Elbow	External Elbow	Flat Elbow
Fittings	Color	Right Elbow	Left Elbow	1½" Bend Radius	1½" Bend Radius	1½" Bend Radius
HBL500 or HBL750	lvory White	HBL5711RHIV HBL5711RHW	HBL5711LHIV HBL5711LHW	HBL5717BRIV	HBL5718BRIV	HBL5711BRIV









Raceway Fittings	Color	Tee Fitting 1½" Bend Radius	Tee Fitting	For connecting HBL500 or HBL750 Raceway from ceiling or corner	Coupling Galvanized Steel	Support Clip	Transition Fitting <sup>®</sup> Wiremold <sup>®</sup> to Hubbell, Ivory
HBL500 or	Ivory	HBL5715BRIV	<b>HBL5715IV</b>	HBL5719IV	HBL5701C	HBL5703IV	HBL500TFIV
HBL750	White	-	HBL5715W	HBL5719W	HBLS/UIC	HBL5703W	HBL750TFIV











Raceway	Color	Elbow Box Connector Right angles to boxes with ½" KO	Elbow Conduit Connector Right angles to ½" conduit	Combination ½" Connector No offsetting needed to 3¼" or 4" box	Adjustable Offset Connector with two ½" KOs	Entrance Connector ¾" KO and ¾" Chase Nipple
HBL500 or	lvory	HBL5783IV	HBL5784IV	HBL5785IV	HBL5786IV	HBL5786AIV
HBL750	White	-	-	HBL5785W	HBL5786W	HBL5786AW

Note: \*For transitioning from either Wiremold® V500 to Hubbell HBL500 Raceway or Wiremold® V700 to Hubbell HBL750 Raceway. Wiremold® is a registered trademark of The Wiremold Company.













Special Nipple Grounding **Conduit Connector Box Connector** For ½" Trade Size Clamp For ½" Conduit **Flexible Section** KOs Raceway 18" long, Ivory 1/2" Male 3/4" Male 1/2" Female 3/4" Female HBL500 or HBL5700FIV HBL5781 **HBL5781A** HBL5782C HBL5782A HBL5709GC **HBL5780** 



HBL750

Ivory

White

White

HBL5744IV









Raceway	Armored Cable Connector	Ground Clamp	EMT ½"* Connector
HBL500 or HBL750	HBL5790B	HBL5709	HBL5791

Raceway Tools	Cutter	Replacement Blade	Bender	Touch-Up Pen, Ivory	
HBL500	HBL605CUT	HBL605K	HBL600B	HDI IWED	
HBL750	HBL607CUT	HBL607K	HDLOUUD	HBLIWEP	

					HBL/50 HBL607CUT HBL607K			
Device	e Box*1.75" De	∍p						
Color	1-Gang	2-Gang	3-Gang		4-Gang	5-Gang	6-Gang	
lvory White	HBL5748IV HBL5748W	HBL57482IV HBL57482W	HBL574 HBL574		HBL57484IV -	HBL57485IV -	HBL57486IV -	
Shallo	ow Device Box 1	l.38" Deep			Deep Device B	ox 2.25" Deep		
Color	1-Gang	2-Gang	3-Gang		1-Gang	2-Gang	3-Gang	
lvory White	HBL5747IV HBL5747W	HBL57472IV HBL57472W	HBL574 -	73IV	HBL5744SIV HBL5744SW	HBL5744S2IV HBL5744S2W	HBL5744S3IV -	
Extra 2.75"	Deep Device Bo Deep	х		Extens 1.38"	sion Box Open Ba Deep	se	Exten. Box 1.75" Deep	
Color	1-Gana	2-Gana 3-G	ana	1-Gar	na 2-Gana	3-Gang	1-Gana	

MARKET	opposition.
1700	100
71	
14.00	
100	
N. P.	100.20

White	HBL5744W	HBL57442W	
Round	d Extension B	ox Open Base	
Color	4.75" Dia.	5.5" Dia.	6.375" Dia.
lvory	HBL5737IV	HBL5737AIV	HBL5739AIV
White	HBL5737W	HBL5737AW	_

**HBL57442IV HBL57443IV** 

	HBL57512IV HBL57512W	HBL57513IV -
Round Fixtu	re Box Solid Bo	ıse

5.5" Dia.



**HBL5736W** 

HBL5751AIV **HBL5751AW** 



Outlet Box For use with Color 3" Dia. HBL5733IV	lvorv	HBL5733IV	HBL5731IV
	Color		



**Fanbox** Fans up to 50 lbs. HBL5738AFIV

HBL5738AFW

4.75" Dia.

**HBL5738IV** 

**HBL5738W** 



HBL5738AIV HBL5739IV

HBL5738AW HBL5739W

6.375" Dia.

**Round Fixture Box for Audible** Alarms

**HBL5739AABIV** 

HBL5739AABW



**Device Box Device Box Low-Profile** 1/2" side KOs 1.13" Deep Color 1.75" Deep HBL5748SIV **HBL5745IV** Ivory

**HBL5748SW** 



**Blank Extension Box Open Base HBL5760IV** 



**Utility Box** 1/2" KO **HBL57242IV** 



Color	Alarm Device Box 1.38" Deep	Alarm Device Box Extra Deep 2.75"
lvory	HBL5752IV	HBL5753IV
Red	HBL5752R	HBL5753R

**HBL5745W** 



**Distribution Box** Mounting screw centers of 2.75", 3.5", 4.06"

**HBL5735IV** 



Note: \*All Boxes use HBL5791 for connecting 1/2" EMT to all HBL5700 Series round and rectangular having a 1/2" trade size KO. \*\*For use with HBL5735IV, HBL5737IV, HBL5737AIV, HBL5739AIV, HBL5738IV, HBL5738AIV and HBL5739IV.

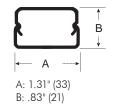




# **HBL2000 Series Steel Raceway**



Color	Base and Cover*, 5ft	Base, 5ft	Cover, 5ft
lvory	HBL2000BCIV	HBL2000B5IV	HBL2000CIV
Gray	HBL2000BCGY	HBL2000B5GY	HBL2000CGY



Note: \*Cover is .025" thick for up to 300V AC applications. Ivory metal raceway uses Almond (AL) plates, frames, devices, jacks and snap fits.









Color	90° Flat Elbow	90° Flat Elbow 1½" Bend Radius	Tee Fitting	Tee Fitting 1½" Bend Radius	External Elbow Coupling		Internal Elbow 1½" Bend Radius
lvory	HBL2011IV	HBL2011BRIV	HBL2015IV	HBL2015BRIV	HBL2018CIV	HBL2018BRIV	HBL2017BRIV
Gray	HBL2011GY	HBL2011BRGY	HBL2015GY	HBL2015BRGY	HBL2018CGY	HBL2018BRGY	HBL2017BRGY











Color	Blank End Fitting	Entrance End Fitting ½" KOs	Entrance End Fitting Large Capacity ½" and ¾" KOs	Cover Clip to hide seams in cover	Flush Plate Adaptor	Transition Fitting Wiremold® to Hubbell
lvory	HBL2010BIV	HBL2010A2IV	HBL2010A3IV	HBL2006IV	HBL2051HIV	HBL2000TFIV
Gray	HBL2010BGY	HBL2010A2GY	HBL2010A3GY	HBL2006GY	HBL2051HGY	HBL2000TFGY













Color/ Material	Side Reducing Connector to HBL500	End Reducing Connector to HBL500	Coupling	Internal Corner Coupling	Wire Clip	Support Clip	Ground Clamp
lvory Galv. Steel	HBL2089IV	HBL2089EIV	_ HBL2001C	– HBL2017TC	– HBL2000WC	– HBL2003SC	– HBL2009GC





Raceway Tools	Raceway Cutter	Replacement Cutter Blade Set
HBL2000	HBL620C	HBL620BCK



Color	Device Box 1-Gang, 1.75" Deep	Device Box 2-Gang, 1.75" Deep
lvory Gray	HBL2048IV HBL2048GY	HBL20482IV HBL20482GY

Color	Touch-Up Paint Pen
lvory	HBLIWEP
Gray	HBLGWEP



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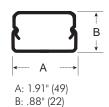


### **HBL2400 Series Steel Raceway**



lvory	HBL2400BCIV	HBL2400BIV	HBL2400B10IV	HBL2000CIV	
Color	Cover, 5ft	Base, 5ft	Base, 10ft	Cover, 5ft	

Note: Ivory metal raceway uses Almond (AL) plates, frames, devices, jacks and snap fits.











90° Flat Elbow 1½" Bend Radius Color **HBL2411IV** Ivory

**Tee Fitting** 1½" Bend Radius **HBL2415IV** 

**External Elbow** 1½" Bend Radius

**Internal Elbow** 1½" Bend Radius

**HBL2418IV HBL2417IV** 













Blank End Color **Fitting** HBL2410BIV **Entrance End** Fitting
½" KOs

**Entrance End Fitting** Large Capacity
1/2" and 3/4" KOs

Cover Clip to hide seams in cover

Flush Plate Adaptor

Transition Fitting Wiremold® to Hubbell

Ivory

HBL2410AIV

HBL2410CIV

HBL2406IV

HBL2451HIV

**HBL2400TFIV** 









Color/ Material lvory

**Side Reducing** Connector to HBL500

**End Reducing** Connector to HBL2000

Coupling

**Wire Clip** 

**Ground Clamp** 

**HBL2489IV HBL2420REDIV** Galv. Steel HBL2400WC **HBL2401C** HBL2409GC





1.75" Deep HBL20482IV	
2-Gang,	
Device Box	

Raceway Replacement Tools **Raceway Cutter Cutter Blade Set** HBL2400 **HBL624CUT** HBL624BCK



Color	1-Gang, 1.75" Deep	2-Gang, 1.75" Deep
lvory	HBL2048IV	HBL20482IV
Gray	HBL2048GY	HBL20482GY

Color	Touch-Up Paint Pen
lvory	HBLIWEP
Gray	HBLGWEP



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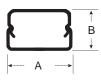


# **HBL2400D Series Steel Raceway with Divider**



Color	Base, 10ft	Cover, 5ft
lvory	HBL2400BDIV	HBL2400CIV

Note: Ivory Metal Raceway uses Almond (AL) Plates, Frames, Devices, Jacks and Snap fits.



A: 1.91" (49) B: .88" (22)









lvorv	HBL2411DFOIV
Color	1½" Bend Radius
	90° Flat Elbow

**Tee Fitting** 1½" Bend Radius HBL2415DFOIV

**External Elbow** 1½" Bend Radius

**Internal Elbow** 1½" Bend Radius

HBL2418DFOIV HBL2417DFOIV









Color	Blank End Fitting
Ivory	HBL2410BDIV

**Entrance End Fitting** Large Capacity 3⁄4" and 1" KOs **HBL2410DFOIV** 

Cover Clip to hide seams in cover

Transition Fitting Wiremold® to Hubbell

HBL2406IV **HBL2400DTFIV** 





(27)	-
38	
28	
No.	Section 2



Color	Coupling	Ground Clamp
lvory	HBL2401DC	HBL2409GC

	Device Box 1-Gang with Divider,
Color	2.75" Deep

Device Box 2-Gang with Divider, 2.75" Deep

Ivory HBL2444DIV HBL2444D2AIV

Raceway Tools	Raceway Cutter	Replacement Cutter Blade Set
HBL2400	HBL624CUT	HBL624BCK
HBL3000	HBL630B (Base) HBL630C (Cover)	HBL630BDK (Base) HBL630CDK (Cover)



Color	Touch-Up Paint Pen
Ivory	HBLIWEP
Gray	HBLGWEP

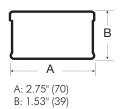




## **HBL3000 Series Steel Raceway**



Color	Base, 10ft	Cover, 5ft	7.5" Precut Cover For mounting devices on 12" centers	19.5" Precut Cover For mounting devices on 24" centers
lvory Gray	HBL3000BIV HBL3000BGY	HBL3000CEIV HBL3000CEGY	HBL3000C075IV HBL3000C075GY	HBL3000C195IV HBL3000C195GY



Note: Ivory Metal Raceway uses Almond (AL) Plates, Frames, Devices, Jacks and Snap fits.













Color	90° Flat Elbow	Tee Fitting	External Corner Coupling	Internal Corner Coupling	Cover Clip to hide seams	Support Clip
lvory Gray	HBL3011EIV HBL3011EGY	HBL3015EIV HBL3015EGY	HBL3018AEIV HBL3018AEGY	HBL3017TCEIV HBL3017TCEGY	HBL3006EIV HBL3006EGY	HBL3003IV HBL3003GY













	Entrance End Fitting ½" KOs	Entrance End Fitting ½", ¾", 1" KOs	Blank End Fitting ½", ¾" KOs	Connector to connect to flush boxes	Connector to connect to surface boxes	Reducer HBL3000 to HBL2000
Ivory	HBL3010AEIV	HBL3010CIV	HBL3010BIV	HBL3014CIV	HBL3086IV	HBL3200REDIV
Gray	HBL3010AEGY	HBL3010CGY	HBL3010BGY	HBL3014CGY	HBL3086GY	HBL3200REDGY













Color	Transition Fitting Wiremold® to Hubbell	Tap-Off ½" and ¾" KOs	Wire Clip Galvanized Steel	Coupling Galvanized Steel	Heavy-Duty Coupling Galv. Steel	1½" Trade Size Conduit Connector
lvory Gray	HBL3000TFIV HBL3000TFGY	HBL3046H2IV HBL3046H2GY	- HBL3000WCGY	- HBL3001GY	- HBL3001AGY	- HBL3082GY













Color Ivory Gray	Plates  - HBL3007CGY	1.39" HBL3027AEIV HBL3027AEGY	1.58"  HBL3033JEIV  HBL3033JEGY	HBL3036HEIV	Plate HBL3040CEIV HBL3040CEGY	Duplex Opening HBL3043BEIV HBL3043BEGY
				Blank Cover Plate		Cover Plate









Color	Cover Plate & Brackets High Strain/Vibration Duplex Opening		Extension Cover for Shallow 30A & 50A Devices and Standard Device Plates
lvory	HBL3046BEIV	HBL3048RIV	HBL3051LEIV
Gray	HBL3046BEGY	HBL3048RGY	HBL3051LEGY

Note: All cover plates except HBL3046BE include HBL3007CGY device bracket. Wiremold® is a registered trademark of The Wiremold Company.





olor	Deep HBL30442IV	all sides HBL3028IV
	Switch and Receptacle Box 2-Gang, 2.75"	Utility Box Cover has twist- outs on

Note: See page R9 for HBL3000 series cutter tools.





# DELIVERY

### **HBL4750 Series Steel Raceway**

Color	Base, 10ft	Cover, 5ft
lvory	HBL4750B10IV	HBL4750CIV
Gray	HBL4750B10GY	HBL4750CGY

Note: Ivory metal raceway uses Almond (AL) plates, frames, devices, jacks and snap fits.





A: 4.75" (121) B: 1.75" (44)







Color	Internal or External Elbow 45°	Internal Elbow Divided 1¼" Bend Radius	Internal Elbow Undivided	Inverted Connects vertical run with horizontal run		External Elbow Undivided
lvory	HBL4712TXIV	HBL4717DFOIV	HBL4717IV	HBL4717NIV	HBL4718DFOIV	HBL4718IV
Gray	HBL4712TXGY	HBL4717DFOGY	HBL4717GY	HBL4717NGY	HBL4718DFOGY	HBL4718GY



ı	Color	Flat Elbow Divided 1¼" Bend Radius	Flat Elbow Undivided	Tee Fitting Divided 1½" Bend Radius	Tee Fitting Undivided	Wall Box Connector for back feeding raceway	Bridge Fitting to bridge raceway over obstruction
	lvory	HBL4711DFOIV	HBL4711IV	HBL4715DFOIV	HBL4715IV	HBL4714AIV	HBL4775DKITIV
	Gray	HBL4711DFOGY	HBL4711GY	HBL4715DFOGY	HBL4715GY	HBL4714AGY	HBL4775DKITGY



Undivided, <sup>3</sup>⁄<sub>4</sub>", 1 and 1<sup>1</sup>⁄<sub>4</sub>" KOs Fitting (2) ½" KOs to surface type panel boxes 11/4" Bend Radius, **HBL4750** to to hide seams 3/4", 1 and 11/4" KOs **HBL3000** Color in cover HBL4710BIV HBL4710DFOIV **HBL4710IV HBL4774AIV** HBL4756AIV HBL4786AIV Ivory Gray HBL4710BGY HBL4710DFOGY **HBL4710GY** HBL4774AGY HBL4756AGY HBL4786AGY



### **HBL4750 SERIES STEEL RACEWAY**











Color	Device Mounting Bracket*
lvory	HBL4750IV

**HBL4750GY** 

**Vertical Mount Device** Plate use 1-Gang **Commercial Plate HBL4747CVMIV** 

**HBL4747CVMGY** 

**Vertical Mount Device** Plate use 2-Gang Commercial Plate HBL4747CVM2IV

HBL4747CVM2GY

**Transition** Fitting\*\* **HBL4750TFIV** HBL4750TFGY

**Tap-Off Fitting** 2-Gang HBL4746H2IV HBL4746H2GY

Note: \*Use 1-Gang KP plates shown on page R27.

\*\*For transitioning Wiremold® 4000 Raceway to Hubbell HBL4750 Raceway.











	2	2-Gang Dev	ice Cover	Plate

1.39" Opening 1 Blank

Single Round 1.58" Opening 1 Blank **HBL4747JXIV** 

2 Duplex Openings HBL4747BBIV

1 Duplex Opening 1 Modular Furniture with 2 keystone twist-outs

**HBL4747BFIV** 

1 Duplex Opening Opening 1 Blank

**HBL4747BXIV** 

Ivory Gray

Color

Gray











**2-Gang Device Cover Plates 1 Decorator Opening** 1 Modular Furniture 1 Decorator

with 2 keystone twist-outs

1 Duplex Opening 1 Decorator Opening Commercial Plate

1-Gang Device Plate 1 Blank use 1-Gang

2-Gang Device Plate use 2-Gang Commercial Plate

Ivorv Gray

Color

**HBL4747RXIV** HBL4747RXGY

**Opening** 

1 Blank

**HBL4747RFIV** HBL4747RFGY **HBL4747BRIV HBL4747BRGY**  **HBL4747C1IV HBL4747C1GY**  HBL4747C2IV **HBL4747C2GY** 











### **4-Gang Device Cover Plates**

2 Decorator **Openings** Color 2 Blanks

2 Duplex Openings 2 Decorator Openings Openings

**4 Duplex Opening** 

2 Duplex Openings 2 Modular Furniture with 2 keystone twist-outs

2 Duplex Openings 2 Blanks

Ivory Gray

HBL47472RRXXIV HBL47472RRXXGY

HBL47472BBRRIV HBL47472BBRRGY HBL47472BBBBIV HBL47472BBBBGY HBL47472BBFFIV HBL47472BBFFGY

Color

Ivory

Gray

HBL47472BBXXIV HBL47472BBXXGY





**HBLIWEP** 

**HBLGWEP** 

**Base Cutter Cover Cutter** For Cutting Base of **For Cutting Cover of Raceway Tools HBL4750 Raceway** HBL4750 Raceway Cutter HBL640B HBL640C Replacement Blade HBL640BDK **HBL640CDK** 

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# HUBBELL

### **HBL6750 SERIES STEEL RACEWAY**

Color	Base, 10ft	Cover, 5ft
lvory	HBL6750B10IV	HBL6750CIV
Gray	HBL6750B10GY	HBL6750CGY

Note: Ivory metal raceway uses Almond (AL) plates, frames, devices, jacks and snap fits.





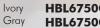
A: 6./5"	(1/1)
B: 2.22"	(56)

	31.5" Precut Cover
	For mounting devices
Color	on 36" centers
_	LIDI (TEOGOLEN)

19.5" Precut Cover For mounting devices on 24" centers

13.5" Precut Cover For mounting devices on 18" centers

7.5" Precut Cover For mounting devices on 12" centers



HBL6750C195IV HBL6750C315IV HBL6750C315GY HBL6750C195GY HBL6750C135IV HBL6750C135GY HBL6750C075IV HBL6750C075GY











Calu Staal	HDI 47EADAC
Material	<b>Painted Steel</b>
	Divider 5ft

**Divider Clip** use every 2.5ft

Coupling to couple together raceway

to hold conductors in place

Wire Clip

**Internal Corner** Coupling

Galv. Steel HBL6750DAGY

HBL6751DAGY

HBL6751AC

HBL6750WCGY

HBL6717TCAGY













	Internal or
	External
Color	Elbow 45°

**Internal Elbow** Divided 11/4" Bend Radius

Internal Elbow **Undivided** 

**Internal Elbow** Connects vertical run Divided with horizontal run

**External Elbow** 11/4" Bend Radius

**External Elbow** Undivided

Ivory Gray

Ivory

Gray

HBL6717DFOIV HBL6717DFOGY **HBL6717IV** HBL6717GY HBL6717NIV HBL6717NGY HBL6718DFOIV HBL6718DFOGY

**HBL6718IV HBL6718GY** 



**HBL6711DFOIV** 

**HBL6711DFOGY** 

HBL6712TXIV

HBL6712TXGY











Flat Elbow Divided Color 11/4" Bend Radius

Flat Elbow **Undivided HBL6711IV**  **Tee Fitting Divided** 11/4" Bend Radius

Tee Fitting **Undivided HBL6715IV** HBL6715DFOIV HBL6715DFOGY HBL6715GY **Wall Box** Connector for back feeding raceway

HBL6714AIV

HBL6714AGY

Transition Fitting\* Wiremold® to Hubbell

HBL6750TFIV

HBL6750TFGY



**HBL6711GY** 



Color

Blank End **Fitting** (3) ½" KOs

**Entrance End Fitting Divided** 11/4" Bend Radius, 3/4", 1 and 11/4" KOs

**Entrance End Fitting** Undivided, <sup>3</sup>/<sub>4</sub>", 1 and 1<sup>1</sup>/<sub>4</sub>" KOs 90° Take-Off Connector for connecting **HBL6750** to **HBL4750** 

Cover to hide seams in cover

**Connection Panel Connector** for connecting panel boxes HBL6786IV

Ivory Gray HBL6710BIV HBL6710BGY **HBL6710DFOIV** HBL6710DFOGY

**HBL6710IV HBL6710GY**  **HBL6774AIV** HBL6774AGY HBL6756AIV HBL6756AGY to surface type

HBL6786GY

Note: \*For transitioning Wiremold® 6000 Raceway to Hubbell HBL6750 Raceway. Wiremold® is a registered trademark of The Wiremold Company.





### HBL6750 SERIES STEEL RACEWAY









Color	Device Mounting Bracket*

**3-Gang Device Plate** 1-Gang Device Opening, 2 Blanks\*\*

**3-Gang Device Plate** 2-Gang Device Opening, 1 Blank\*\*

3-Gang Tap-Off Fitting (6) ½" and ¾" KOs

Ivory **HBL6750IV** Gray

HBL6750GY

**HBL6747C1IV HBL6747C1GY** 

**HBL6747C2IV** HBL6747C2GY

HBL6746HHHIV HBL6746HHHGY

Note: \*Use 1-gang KP plates shown on page R27.

\*\*Use with commercially available device plates (not included).









3-Gang De	vice Cover	<b>Plates</b>
-----------	------------	---------------

Single Round 1.39" Opening 2 Blanks
HBL6747AXXI\



3 Duplex **Openings** HBL6747BBBIV

2 Duplex Openings 1 Modular Furniture with 2 keystone twist-outs

Gray HBL6747AXXGY

2 Blanks







HBL6747BBFIV



	2 Decorator Opening
r Opening	1 Modular Furniture

with 2 keystone twist-outs

1 Duplex Opening **2 Decorator Openings** 

Ivory Gray

Color

HBL6747BXXIV HBL6747BXXGY

1 Duplex Opening

2 Blanks HBL6747RXXIV HBL6747RXXGY

1 Decorato

**HBL6747RRFIV HBL6747RRFGY**  HBL6747BRRIV **HBL6747BRRGY** 











#### **6-Gang Device Cover Plates**

	4 Decorator
	Openings
olor	2 Blanks

2 Duplex Openings 4 Decorator Openings Openings

**6 Duplex Opening** 

4 Duplex Openings 2 Modular Furniture with 2 keystone twist-outs

**4 Duplex Openings** 2 Blanks

Ivory Gray **HBL67473RRRRXXIV** HBL67473RRRXXGY

HBL67473BBRRRRIV HBL67473BBRRRRGY

HBL67473BBBBBBIV HBL67473BBBBBBBGY HBL67473BBBBFFIV HBL67473BBBBFFGY

HBL67473BBBBXXIV HBL67473BBBBXXGY





Raceway Tools
Cutter

**Base Cutter** For Cutting Base of HBL6750 Raceway

**Cover Cutter** For Cutting Cover of HBL6750 Raceway

HBL660C HBL660CDK

Lutter	HBL660B
Replacement blade	HBL660BDK

Color **Touch-Up Paint Pen HBLIWEP** Ivorv Gray **HBLGWEP** 



# **HBLALU2000 Series Aluminum Raceway**



Anodized Aluminum HBLALU2000B10

Cover, 5ft

HBLALU2000C5



A: 1.84" (47) B: .82" (21)

C: 1.84" (47)









Anodized Aluminum

Color

90° Internal Elbow **HBLALU2017\*** 

HBLALU2011\*

90° External Elbow **HBLALU2018\*** 

**HBLALU2015\*** 

Note: \*HBLALU01 couplings included.



**Blank End** 











Color Anodized Aluminum **Fitting** HBLALU2010B

**Entrance End** Fitting HBLALU2010A

**Cover Clip** (Stainless Steel) HBLALU2006

**Couplings (Pair)** to join lengths of base HBLALU2001

Wire Clip **HBLALU2000WC**  Grounding Adapter (Steel) HBLALU2009









Color

1-Gang Device Box, Standard

2-Gang Device Box, Standard

1-Gang Device Box, Deep

2-Gang Device Box, Deep

**Fixture Box with Solid Base** 

Anodized Aluminum HBLALU2047

**HBLALU20472**)

HBLALU2044

**HBLALU20442** 

HBLALU2038



# **HBLALU3800 Series Aluminum Raceway**





Color	Base, 10ft	Cover, 5ft
Anodized Aluminum	HBLALU3800B10	HBLALUC5



A: 3.00" (76) B: 2.10" (53) C: 3.00" (76)













Color	90° Internal Elbow	Inverted Internal Elbow	90° Flat Elbow	90° External Elbow	Tee Fitting	Internal Corner Coupling
Anodized Aluminum	HBLALU3817*	HBLALU3817N*	HBLALU3811*	HBLALU3818*	HBLALU3815*	HBLALU17A

Note: \*HBLALU01 couplings included.













Color	Blank End Fitting	Entrance End Fitting ½" and ¾" KOs	Cover Clip to hide seams in cover	Couplings (Pair) to join lengths of base	Wire Clip	Grounding Adapter
Anod. Alum.	HBLALU3810B	HBLALU3810B1	_	HBLALU01	<b>HBLALUWC</b>	-
Stainless Steel	-	-	HBLALU3806	-	-	HBLALU09











Color	Single Receptacle Cover Plate 1.39"	Single Receptacle Cover Plate 1.58"	Single Receptacle Cover Plate 2.13"	Duplex Receptacle Cover Plate	Toggle Switch Cover Plate
Anodized Aluminum	HBLALUE HBLALU34NBM (Base Mounted Device)	HBLALUF HBLALU34FBM (Base Mounted Device)	HBLALUJ HBLALU34JBM (Base Mounted Device)	HBLALUDR HBLALU34DRBM (Base Mounted Device)	HBLALUN HBLALU34NBM (Base Mounted Device)

-4	1	
	b	







Color	Rectangular Style Line® Cover Plate	Blank Cover Plate	Hubbell iSTATION Cover Plate use the KPIMBZGY	Hubbell iSTATION Cover Plate use the IMF1GY
Anodized Aluminum	HBLALUG HBLALU34GBM (Base Mounted Device)	HBLALUBL	HBLALULPB	HBLALULPBA

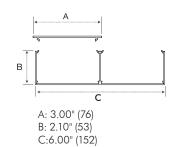
Note: Cover plates and base mount cover design can be used for both the HBLALU3800 and HBL4800 series.



## **HBLALU4800 Series Aluminum Raceway**



Color Base, 10ft Cover, 5ft **HBLALUC**5 Anodized **HBLALU4800B10** Aluminum















Color	Elbow
Anodized	ΗΒΙΔΙ U4

Internal Elbow

90° Flat Elbow

90° External Elbow

**Tee Fitting** 

**Internal Corner** Coupling

4817\*

HBLALU4817N\* HBLALU4811\*

**HBLALU4818\*** 

**HBLALU4815\*** 

**HBLALU17A** 

Note: \*HBLALU01 couplings included.











	Blank End
	Fitting
Color	(Two Chann

Fitting (Two Channel) ½" and ¾" KOs

Cover Clip to hide seams in cover

HBLALU4806

Couplings (Pair) to join lengths of base

Wire Clip

**Grounding Adapter** 

Anod. Alum. Stainless Steel

HBLALU4810B

HBLALU4810B2

**HBLALU01** 

**HBLALUWC** 

**HBLALU09** 



No exposed screw holes. Receptacle is securely mounted to the raceway base rather than the cover.

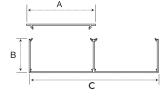




## **HBLALU5000 Series Aluminum Raceway**







Color

Base, Two Channel, 10ft Cover, Single Channel, 5ft

Channel, 5ft

Cover, Two

A: 2.54" (65) B: 1.66" (42) C: 5.08" (129)

Anodized Aluminum

HBLALU5000B10

**HBLALUC57** 

HBLALU2C57





Inverted









Available in PRE-WIRED

Color Anodized **HBLALU5017\*** 

90° Internal Elbow

**Internal Elbow** 

90° Flat Elbow HBLALU5017N\* HBLALU5011\* 90° External Elbow **HBLALU5018\*** 

Tee Fitting **HBLALU5015\*** 

Internal Corner Coupling HBLALU5717A

Aluminum

Note: \*HBLALU5701 couplings included.













Color

**Blank End** Fitting (Two Channel)

**Entrance End** Fitting (Two Channel) 1/2" and 3/4" KOs

Cover Clip to hide seams in cover

**Couplings (Pair)** to join lengths of base

**Wire Clip** 

Grounding Adapter

Anod. Alum. Stainless Steel HBLALU5010B

HBLALU5010B2

HBLALU5006

HBLALU5701

**HBLALU57WC** 

HBLALU5709







Color Anodized Aluminum

Cover Plate 1.39" **HBLALU57E HBLALU57EBM** (Base Mounted Device)

Single Receptacle

Single Receptacle

Cover Plate 1.58"

**HBLALU57F HBLALU57FBM** (Base Mounted Device) Duplex Receptacle Cover Plate

**HBLALU57DR HBLALU57DRBM** (Base Mounted Device)

Toggle Switch Cover Plate

**HBLALU57N** HBLALU57BM (Base Mounted Device)



Color Anodized

Aluminum

Rectangular Style Line® **Cover Plate** 

HBLALU57G **HBLALU57GBM** (Base Mounted Device) Blank **Cover Plate** 

**HBLALU57BL** 

**Hubbell iSTATION Cover Plate** use the KPIMBZGY

**HBLALU57LPB** 



# PREMISETRAK® (PT1) Non-Metallic Raceway (Non-Latching)







A: .68" (17) B: .75" (19)









Color	Internal Elbow	External Elbow	Flat Elbow	Tee	
Office White	PT1IE (Cover only)	PT1EE (Cover only)	PT1FE (Cover only)	PT1TC (Cover only)	



Conduit Adapter/	



Color	Ceiling Fitting	Splice Cover	End Cap
Office White	PT12CA (Base + Cover)	PT1SC (Cover only)	PT1EC (Cover only)







Color	Low-Profile Box* 1-Gang	Standard Box* 1-Gang	Deep Box* 1-Gang	
Office White	PT12LPB	PT12SBA	PT12DBA	





Color	Deep Box* 2-Gang	Round Lighting Fixture Box*	
Office White	PT12TGB	PT12LFB	



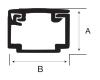


# PREMISETRAK® (PP1) Non-Metallic Raceway (Latching)

Color	Base and Cover, 5ft without Adhesive	Base and Cover, 7ft without Adhesive
Office White	PP1BC5	PP1BC7







A: 0.77" (20) B: 0.84" (21)



Color	Internal Elbow
Office White	PP1IE (Cover only)
Office White	PP1IFRC (Base + Cover)



External Elbow		
PP1EE (Cover only)		
<b>PP1EEBC</b> (Base + Cover)		



**Flat Elbow PP1FE** (Cover only) **PP1FEBC** (Base + Cover)



PP1TC (Co	ver only)
PP1TCBC	(Base + Cover









Color	Conduit Adapter/ Ceiling Fitting	Splice Cover	End Cap	Safety Strap	
Office White	<b>PLP1CACF</b> (Base + Cover)	PP1SC (Cover only)	PP1EC	PP1SS	





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Color	Low-Profile Box* 1-Gang	Standard Box* 1-Gang	Deep Box* 1-Gang	
Office White	PDB12LP	PDB12S	PDB12D	



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Color	Deep Box*Undivided	Deep Box*Divided	Round Lighting
	2-Gang	2-Gang	Fixture Box*
Office White	PDB12TGLV	PDB12TGD	PDB12LF

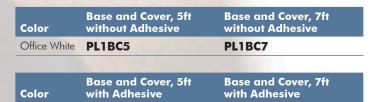




PL1ABC5

Office White

# LANTRAK® (PL1) Non-Metallic Raceway (Non-Latching)







A: 1.04" (26) B: 1.38" (35)





PL1ABC7





Color	Internal Elbow	External Elbow	Flat Elbow	Tee
Office White	PL1IE (Cover only) PL1IEBC (Base + Cover)	PL1EE (Cover only) PL1EEBC (Base + Cover)	PL1FE (Cover only) PL1FEBC (Base + Cover)	PL1TC (Cover only) PL1TCBC (Base + Cover)







Color	Conduit Adapter/ Ceiling Fitting	Splice Cover	End Cap	Safety Strap
Office White	PLP1CACF (Base + Cover)	PL1SC (Cover only)	PL1EC	PL1SS







Color	Low-Profile Box* 1-Gang	Standard Box* 1-Gang	Deep Box* 1-Gang	
Office White	PDB12LP	PDB12S	PDB12D	







Color	Deep Box*Undivided	Deep Box*Divided	Round Lighting
	2-Gang	2-Gang	Fixture Box*
Office White	PDB12TGLV	PDB12TGD	PDB12LF



# DELIVERY

# WALLTRAK® (PW1) Low-Profile, Non-Metallic Raceway (Latching)

Color	Base and Cover, 5ft without Adhesive	Base and Cover, 7ft without Adhesive
Office White	PW1BC5	PW1BC7
Color	Base and Cover, 5ft with Adhesive	Base and Cover, 7ft with Adhesive
Office White	PW1ABC5	PW1ABC7













Color	Internal Elbow	External Elbow	Flat Elbow	Tee
Office White	PW1IE (Cover only)	PW1EE (Cover only)	PW1FE (Cover only)	PW1TC (Cover only)













Color	Low-Profile Box* 1-Gang	Standard Box* 1-Gang	Deep Box* 1-Gang	
Office White	PW1LPB	PW1SBA	PW1 DBA	



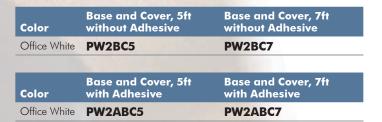


Color	Deep Box* 2-Gang	Round Lighting Fixture Box*	
Office White	PW1TGB	PW1LFB	

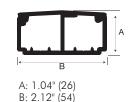




# WALLTRAK® (PW2) Non-Metallic Raceway (Latching)













00101	Inicinal Liber
Office White	PW2IE (Cover only) PW2IEBC (Base + Cover)

PW2EE (Cover only)
PW2EEBC (Base + Cover)

PW2FE (Cover only)
PW2FEBC (Base + Cover)

PW2TC (Cover only)
PW2TCBC (Base + Cover)











Color	Conduit Adapter/ Ceiling Fitting	Reducer (from PW2 to PP1)	Splice Cover	End Cap	Safety Strap
Office White	PW2CACF (Base + Cover)	PW2RED (Base + Cover)	PW2SC (Cover only)	PW2EC	PW2SS









Color	Low-Profile Box*
Color	1-Gung
Office White	PDR12LP

Standard Box\* 1-Gang PDB12S\*\*

Deep Box\* 1-Gang PDB12D\*\*

Divider 1-Gang PDB1DIV









Color	Deep Box*Undivided 2-Gang
Office White	PDB12TGLV

Deep Box\*Divided 2-Gang

PDB12TGD\*\*

Round Lighting Fixture Box\*

PW1LFB

Divider 2-Gang PDB2DIV

Note: \*See page R30 for recommended plate to box compatibility.

\*\*Order divider separately for 1-gang or 2-gang box.

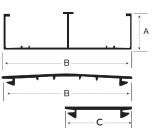




# BASETRAK® (PB2) Non-Metallic Raceway (Non-Latching)







Available in PRE-WIRED

A: 1.42" (36) B: 4.50" (114) C: 2.22" (56)









Color	Internal Elbow	External Elbow	Flat Elbow	Tee
Office White	PB3IEBCA (Base + Cover)	PB3EEBCA (Base + Cover)	PB3FEBCA (Base + Cover)	PB3TCBCA (Base + Cover)









Color	Conduit Adapter/ Ceiling Fitting	Reducer (from PB2 to PW2)	Transition Fitting (from PB2 to PW2, PL1, or PP1)	Surface Panel Connector
Office White	PB2CACF (Base + Cover)	PB3REDA (Base + Cover)	<b>PB3TRBC</b> (Base + Cover)	PB3SPCA (Cover only)







Color	Splice Cover	End Cap	Safety Strap
Office White	PB3SC (Cover only)	РВЗЕСА	PB3SS





Color	Inline Box* 2-Gang	Wire Clip	
Office White	PB2IND2G	PB2WC	

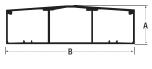


# DELIVERY

# BASETRAK® (PB3) Non-Metallic Raceway (Non-Latching)







A: 1.63" (41) B: 4.50" (114)







Color	Internal Elbow	External Elbow	Flat Elbow	Tee
Office White	PB3IE (Cover only)	PB3EE (Cover only)	PB3FE (Cover only)	
_	PB3IEBCA (Base + Cover)	PB3EEBCA (Base + Cover)	PB3FEBCA (Base + Cover)	<b>PB3TCBCA</b> (Base + Cover)









Color	Conduit Adapter/ Ceiling Fitting	Reducer (from PS3 to PB3)	Transition Fitting (from PB3 to PW2, PL1, or PP1)	Transition Fitting (from BT3 old style to PB3 new style)	Splice Cover
Office White	PB3CACF	PB3REDA	PB3TRBC	BTPB3TF	PB3SC
	(Base + Cover)	(Base + Cover)	(Base + Cover)	(Cover only)	(Cover only)









Color	Inline Box* 1-Gang	Inline Box* 2-Gang	End Cap	Surface Panel Connector	Safety Strap
Office W	hite PB3IND	PB3IND2G	<b>РВЗЕСА</b>	PB3SPCA	PB3SS









Color	Full Capacity Box* 1-Gang	Full Capacity Box* 2-Gang	Full Capacity Box* 3-Gang	Wire Clip
Office White	PB3FCIB	PB3FCIB2G	PB3FCIB3G	PB3WC



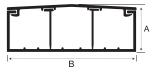


# BASETRAK® (PB3) Non-Metallic Raceway (Non-Latching)



Color	Base and Cover, 10ft	Base and Cover, 5ft
Office White	PS3BC10	PS3BC5





A: 1.97" (50) B: 6.70" (170)









Color	Internal Elbow	External Elbow	Flat Elbow	Tee
Office White	PS3IE (Cover only)	PS3EE (Cover only)	PS3FE (Cover only)	
	<b>PS3IEBC</b> (Base + Cover)	<b>PS3EEBC</b> (Base + Cover)	<b>PS3FEBC</b> (Base + Cover)	<b>PS3TCBC</b> (Base + Cover)









Color	Conduit Adapter/ Ceiling Fitting	Reducer (from PS3 to PB3)	Surface Panel Connector	Splice Cover
Office White	<b>PS3CACF</b> (Base + Cover)	<b>PS3RED</b> (Base + Cover)	PS3SPC	<b>PS3SC</b> (Cover only)









Color	Inline Box* 3-Gang	End Cap	Wire Clip	Safety Strap	
Office White	PS3IND	РВЗЕСА	PS3WC	PS3SS	







Color	Full Capacity Box* 1-Gang	Full Capacity Box* 2-Gang	Full Capacity Box* 3-Gang	
Office Wh	nite PS3FCIB	PS3FCIB2G	PS3FCIB3G	





# NON-METALLIC RACEWAY FACE PLATES AND FRAMES























### 1-Gang "KP" Plates

Office White Almond Gray	KP8 KP8AL KP8GY	KP26 KP26AL KP26GY	KP7 KP7AL KP7GY					KP2140 KP2140AL KP2140GY			KPIMBZOW KPIMBZAL KPIMBZGY
Color	Duplex	Decorator	Single Receptacle (1.41" ID)	Single Receptacle (1.60" ID)	Toggle	Blank	Coax (2)	Jack/Coax	Jacks (2)	Jacks (3)	KP Module Bezel**

Note: \*Ivory metal raceway uses Almond (AL) plates, frames, devices, jacks and snap fits; non-metallic raceway uses Office White (OW or no suffix) plates and frames.

\*\*Accepts all Hubbell iSTATION modules located in section C.



Front loading plate will accept any modules in three unit combinations. Angled fixtures to be used in bottom opening only.

See section C for complete Hubbell iSTATION module offering.



### **2-Gang "KP" Plates** (For use with PT12TGB and PW1TGB only)

Color	Duplex,	Decorator,	Toggle,	Blank,
	2-Gang	2-Gang	2-Gang	2-Gang
Office White	KP82	KP262	KP2	KP24
Almond	KP82AL	KP262AL	KP2AL	KP24AL
Gray	KP82GY	KP262GY	KP2GY	KP24GY



Color	Plate Frame 1-Gang	Plate Frame 2-Gang
Office White	IMF1OW	IMF2OW
Almond	IMF1AL	IMF2AL
Gray	IMF1GY	IMF2GY











### Keystone "IFP Plates"

Color	1-Gang, 2-Port	1-Gang, 3-Port	1-Gang, 4-Port	1-Gang, 6-Port	2-Gang, 6-Port	2-Gang, 9-Port	2-Gang, 12-Port
Office White	IFP12OW	IFP13OW	IFP14OW	IFP16OW	IFP26OW	IFP29OW	IFP212OW
Almond	IFP12AL	IFP13AL	IFP14AL	IFP16AL	_	-	-
Gray	IFP12GY	IFP13GY	IFP14GY	IFP16GY	_	_	_

















#### **Communication Plates and Frames**

			Decorat	or Keystone			Duplex Keystone			
Color	Decorator	2-Port	3-Port	4-Port	6-Port	Duplex	2-Port	4-Port		
Office V Almond Gray	Vhite IFP126OW IFP126AL IFP126GY	ISF2OW ISF2AL ISF2GY	ISF3OW ISF3AL ISF3GY	ISF4OW ISF4AL ISF4GY	ISF6OW ISF6AL ISF6GY	IFP18OW IFP18AL IFP18GY	BR106C BR106AL BR106G	Q106O Q106AL Q106G		



### PRE-WIRED RACEWAY

**Our Pre-Wired Raceway Systems** will accommodate your power and data requirements as your facility changes over time. Pre-Wired Raceways provide you with the benefit of keeping your fast track projects on schedule and help complete the job on time! Our Pre-Wired Raceway solutions will save up to 45% of the installation time needed for field installing component raceway parts.

Pre-Wired Raceways are available in:

- Steel (Ivory and Gray)
- Aluminum
- Non-Metallic (Office White)

Hubbell's Pre-Wired Raceway is pre-wired with "power" wiring and devices. Once installed on the job, the pre-wired power raceway system can easily be cabled with voice, data and audio/video services by a qualified and certified cabling installer.



#### Save Time and Money, Completing the Job Quicker and on Schedule, with Hubbell.

#### With Standard Raceway...



Unpack, identify and sort component parts.

Deliver components to work area for assembly and installation.



Measure and cut. Clean and de-burr sharp edges. Secure to the wall and fasten.



Pull wire. Label and bundle each raceway circuit. Install receptacles and test.

#### With Hubbell Pre-Wired Raceway...



Pallet delivered to your worksite, labeled by room, floor area and/or building.



Unpack and install!



Installed in half the time!





#### **Project Support and Documentation**

- A local and factory support team is there to assist in defining bills of material and project quotes, so costs can be budgeted accordingly.
- A project engineer, located at the factory, is assigned to your project as a direct point of contact.

#### Manufacturing and Testing

- Precisely measured, cleanly cut, wired and assembled to your specifications.
- The wiring harness is then bundled and labeled for circuit identification for ease of installation.
- Assembly is tested for assured continuity and 100% quality inspected before kitting.





#### Installs in a Snap

- Raceway ducts are kitted, labeled, and shipped by room, area or floor locations.
- Just remove raceway from the packaging and secure to the wall
- Make power connections, snap on covers, test and you are done!





# METAL RACEWAY WIRE FILL CAPACITY CHART

	a junean e			Power		Vo	ice			Data				(Multimo	
			14 AWG	N/T90 N 12 AWG	ylon) 10 AWG	4-Pair	25-Pair	Type RG59U	(Co) Cat. 5e	pper Cab Cat. 6	les) Cat. 6A	Cat. 6 STP	Fiber (2) or (4) Fiber Round	Optic Cab Fiber Optic	Fiber Optic
		Wire O.D.	0.444	0.40	0.404	0.40	0.44	0.040	0.04	0.05			Cable	Jumpers	Zip Cord
		(in):	0.111	0.13	0.164	0.19	0.41	0.242	0.21	0.25	0.35	0.29	0.19	0.118	.12 x .24
Series		(sq. in.): Channel Area (sq. in.)	0.0097 Wire	0.0133 Fill Cap	0.0211 acity	0.0283 40%	0.1320 40%	40%	0.0346 40%	40%	0.0962 40%	40%	0.0283 40%	0.0109	40%
HBL500		0.22	7	5	3	3	1	2	3	2	1	1	3	8	3
HBL750		0.40	12	9	5	6	1	3	5	3	2	2	6	15	6
HBL2000		0.89	7	7	0	13	3	8	10	7	4	5	13	33	12
HBL2000A		0.86	35	26	16	11	2	7	9	7	4	5	13	33	12
HBL2400		1.39	57	41	26	19	4	12	16	11	5	8	19	51	19
HBL2400D	Channel- A	0.86	26	19	11	12	2	7	9	7	3	5	12	31	11
АВ	Channel- B	0.37	11	9	6	5	1	3	4	3	1	2	5	13	5
HBL3000		3.70	152	111	70	52	11	32	43	30	15	22	52	136	51
HBL4750	No Barriers	7.20	296	216	136	102	22	63	83	59	30	44	102	264	100
АВ	Barrier Centered Ch. A	3.10	127	93	58	44	9	27	36	25	13	19	44	114	43
ALD	Barrier Centered Ch. B	3.30	127	93	58	47	10	29	38	27	14	20	47	121	46
АВ	Barrier Offset Ch. A	2.10	86	63	39	30	6	18	24	17	9	13	30	77	29
	Barrier Offset Ch. B	4.30	176	129	81	61	13	37	50	35	18	26	61	158	60
HBL6750	No Barriers	13.77	566	412	259	195	42	120	159	112	57	83	195	505	191
	Barrier Offset <sup>1</sup> /3 Ch. A	4.59	189	138	86	65	14	40	53	37	19	28	65	168	64
АВ	Barrier Offset <sup>2</sup> /3 Ch. B	9.18	379	278	173	130	28	80	106	75	38	56	130	337	128
HBLALU2000		1.20	49	36	22	16	3	10	13	9	4	7	16	44	16
HBLALU3800		5.80	214	156	98	82	18	50	67	47	24	35	82	213	81
HBLALU4800	Center Barrier/ Both Channels	11.60	428	312	196	164	35	101	134	95	48	70	164	426	161
	Center Barrier/ 1 Channel	5.80	214	156	98	82	18	50	67	47	24	35	82	213	81
HBLALU5000	Center Barrier/ Both Channels	7.60	312	228	142	106	22	64	86	60	30	46	106	278	104
	Center Barrier/ 1 Channel	3.80	156	114	71	53	11	32	43	30	15	23	53	139	52
HBLALU7620	2 Barriers with 3 Equal Channels/Total	15.00	618	450	282	210	45	129	171	120	60	90	210	549	207
	2 Barriers with 3 Equal Channels/ 1 Channel	5.00	206	150	94	70	15	43	57	40	20	30	70	183	69

Note: Pathway (Raceway) fill shall be 40% maximum. Raceway fittings and outlets/receptacles reduce the cross section of the raceway system, thus reducing overall cable fill capacity.

#### **Physical Properties**

Material Steel

Anodized aluminum

Metal PLUGTRAK® Specifications

Receptacle rating NEMA 5-15R and NEMA 5-20R Wire #12 AWG stranded copper

Receptacle face Thermoplastic

#### **Codes/Standards**

TIA/EIA 569B UL Standard UL 5

Listings E253976 /E253830 /E253833

CSA Standard C22.2 no. 62 Certification LR87514





# NON-METALLIC RACEWAY WIRE FILL CAPACITY CHART

				Non-	Metal	lic Ra	cewa	y Wire	Fill (	Capa	cities				
			(T.III	Power		Vo	ice		(0	Data	1		/8.0 - IA* I	Data	- 0-1-1>
				IN/T90 N 12	yion) 10	4 Dois	25-Pair	Time		oper Cab Cat.		Cat. 6		e Fiber Opti	
			14 AWG	AWG	AWG	4-Pair	25-Pair	Type RG59U	Cat. 5e	6	Cat. 6A	STP	(2) or (4) Fiber Round Cable	Jumpers	Fiber Optic Zip Cord
		Wire O.D. (in.):	0.111	0.13	0.164	0.19	0.41	0.242	0.21	0.25	0.35	0.29	0.19	0.118	.12 x .24
		Wire Area (sq. in.):	0.0097	0.0133	0.0211	0.0283	0.1320	0.0460	0.0346	0.0491	0.0962	0.0660	0.0283	0.0109	0.0288
Series	Channel	Channel Area (sq. in.)	Wire	Fill Cap	acity	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
PT1	Α	0.29	5	8	5	4	1	3	3	2	1	2	4	11	4
PP1	Α	0.38	12	11	8	5	1	3	4	3	2	2	5	14	5
PL1	Α	1.03	42	34	22	15	3	9	12	8	4	6	15	38	14
PW1	Α	0.30	6	10	4	4	0	2	3	2	1	2	4	11	4
PW2	A+B	1.60	41	36	22	23	5	14	18	13	7	10	23	59	22
AB	Α	0.81	12	22	12	11	2	7	9	7	3	5	11	30	11
	В	0.79	12	22	10	11	2	7	9	6	3	5	11	29	11
PB2	A+B	5.72	60	36	45	81	17	50	66	47	24	35	81	210	79
AB	A or B	2.86	42	30	28	40	9	25	33	23	12	17	40	105	40
PB3	A+B+C	5.57	60	36	45	79	17	48	64	45	23	34	79	204	77
ABC	A or C	1.80	42	30	28	25	5	16	21	15	7	11	25	66	25
	В	1.97	42	30	28	28	6	17	23	16	8	12	28	72	27
PS3	A+B+C	10.58	72	66	78	150	32	92	122	86	44	64	150	388	147
ABC	A or C	3.41	42	36	42	48	10	30	39	28	14	21	48	125	47
	В	3.76	42	36	42	53	11	33	43	31	16	23	53	138	52

Note: Pathway (raceway) fill shall be 40% maximum. Raceway fittings and outlets/receptacles reduce the cross section of the raceway system, thus reducing overall cable fill capacity.

Non-Metalli		PS3 Series				PB3 Series				PB2 PDB12			eries	PT12 & P		
Plate Style	Sample Catalog	IND	FCIB	FCIB2G	FCIB3G	IND	IND2G	FCIB	FCIB2G	FCIB3G	Series IND2G	IP S	TGD	TGLV	Series LP(B), S(BA),	TGB
ridic Style	Number		1 CID	T CIDZO	1 CIDOC	" 10	111020	I CID	T CIDZO	1 CIDOC	111020	D,	100	IOLV	D(BA)	100
1-Gang KP Series Plate	КР8	Х	Х	х	Х	Х	Х	Х	Х	Х	х	X	Х		X	
1-Gang KP Series Bezel	KPIMBZ	Х	χ	Х	X	Х	X	Х	Х	X	Х	Х	X		Х	
1-Gang Standard Data Plate	IFP12OW		Х	Х	Х	Х		Х	Х	X		Х			Х	
1-Gang Hubbell iSTATION Plate Frame	IMF1OW		Х	х	х	Х		Х	х	х		х			Х	
Style Line® Data Plate	IFP126OW		Х	Х	Х	х		Х	Х	Х		Х			Х	
Duplex Data Plate	IFP18OW		Х	Х	Х	Х		Х	Х	Х		Х			Х	
2-Gang Hubbell iSTATION Plate Frame	IMF2OW													х		Х
2-Gang Standard Data Plate	IFP29OW													х		Х
2-Gang KP Series Plate	KP82															Х

Note: Hubbell Office White plates and devices color match all non-metallic raceway systems.

### **Physical Properties**

(When tested in accordance with UL 5A)
Impact resistance 5ft lbs.

Crush resistance 300 lbs.
Temperature range -25.6° to 158° F
Flame rating UL94V-0

Material UV Stabilized PVC

#### **Codes/Standards**

EIA/TIA 569A
UL Standard UL 5A
Listings E118895 / E119190
CSA Standard C22.2 no. 62
Certified LR87514

#### **PLUGTRAK®** Specifications

Receptacle rating NEMA 5-15R & 5-20R
Wire #12 AWG stranded copper

Receptacle face Thermoplastic





# Non-Metallic Raceway Selection Guide

				<b></b>				
Raceway	PREMI	SETRAK®	LANTRAK®	WAL	LTRAK®	BASI	TRAK®	SUPER BASETRAK
Raceway style	Non-Latching	Latching	Latching	Latching	Latching	2-Piece	2-Piece	2-Piece
Profile dimensions	.75" x .68"	.84" x .77"	1.38" x 1.04"	1.19" x .5"	2.12" x 1.04"	4.5" x 1.63"	4.5" x 1.63"	6.7" x 1.97"
No. of channels	1	1	1	1	2	2	3	3
5' base and cover	PT1BC5	PP1BC5	PL1BC5	PW1BC5	PW2BC5			
5' base and cover, adhesive	PT1ABC5	PP1ABC5	PL1ABC5	PW1ABC5	PW2ABC5			
7' base and cover	PT1BC7	PP1BC7	PL1BC7	PW1BC7	PW2BC7			
7' base and cover, adhesive	PT1ABC7	PP1ABC7	PL1ABC7	PW1ABC7	PW2ABC7			
5' base only						PB2B5		
10' base only						PB2B10		
5' one-piece cover						PB2C5		
10' one-piece cover						PB2C10		
5' split cover						PB2SPL5		
10' split cover						PB2SPL10		
5' base and cover							PB3BC5	PS3BC5
10' base and cover	. (1						PB3BC10	PS3BC10
Fittings	PREMI	SETRAK®	LANTRAK®	WAL	LTRAK®	BASI	TRAK®	SUPER BASETRAK
Flat elbow cover	PT1FE	PP1FE	PL1FE	PW1FE	PW2FE		PB3FE	PS3FE
Flat elbow*		PP1FEBC	PL1FEBC		PW2FEBC	PB3FEBCA	PB3FEBCA	PS3FEBC
Internal elbow cover	PT1IE	PP1IE	PL11E	PW1IE	PW2IE		PB3IE	PS3IE
Internal elbow*		PP1IEBC	PL11EBC		PW2IEBC	PB3IEBCA	PB3IEBCA	PS3IEBC
External elbow cover	PT1EE	PP1EE	PL1EE	PW1EE	PW2EE		PB3EE	PS3EE
External elbow*	-/89/	PP1EEBC	PL1EEBC		PW2EEBC	PB3EEBCA	РВЗЕЕВСА	PS3EEBC
Tee cover	PT1TC	PP1TC	PL1TC	PW1TC	PW2TC			
Tee cover*	PT1SC	PP1TCBC	PL1TCBC		PW2TCBC	РВЗТСВСА	РВЗТСВСА	PS3TCBC
Splice cover		PP1SC	PL1SC	PW1SC	PW2SC	PB3SC	PB3SC	PS3SC
Security strap, 2-hole		PP1SS	PL1SS		PW2SS	PB3SS	PB3SS	PS3SS
End cap	PT1EC	PP1EC	PL1EC	PW1EC	PW2EC	РВЗЕСА	РВЗЕСА	PS3EC
Conduit adapter/ ceiling fitting	PT12CA	PLP1CACF	PLP1CACF	PW1CA	PW2CACF	PB2CACF	PB3CACF	PS3CACF
Wire clips						PB2WC	PB3WC	PS3WC
Surface panel connector						PB3SPCA	PB3SPCA	PS3SPC
Transition fitting (BaseTrak to wall/LAN/ PremiseTrak)						PB3TRBC	PB3TRBC	
Reducers					PW2RED	PB3REDA	PB3REDA	PS3RED
Transition fitting BT3 to PB3							BTPB3TF	

<sup>\*</sup>Indicates 11/4" bend radius base and cover fitting.

#### **Physical Properties**

(When tested in accordance with UL 5A)

Impact resistance Crush resistance Temperature range Flame rating Material 5ft lbs. 300 lbs. -25.6° to 158° F UL94V-0 UV Stabilized PVC

#### **Codes/Standards**

EIA/TIA 569A UL Standard UL 5A Listings E1188

Listings E118895 / E119190
CSA Standard C22.2 no. 62
Certified LR87514





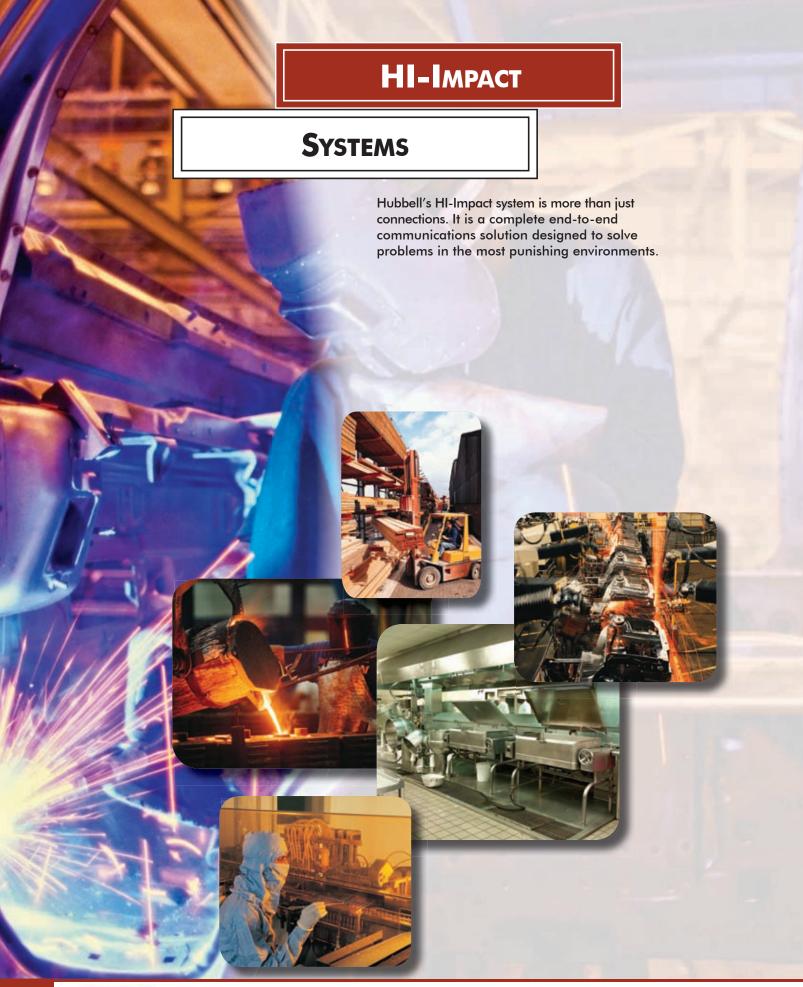
# Non-Metallic Raceway Selection Guide

	PREMIS	SETRAK®	LANTRAK®	WALI	_TRAK®	BASE	TRAK®	SUPER BASETRAK®
Low-profile 1-gang	PT12LPB	PDB12LP	PDB12LP	PW1LPB	PDB12LP			
Standard profile 1-gang	PT12SBA	PDB12S	PDB12S	PW1SBA	PDB12S			
Deep profile 1-gang	PT12DBA	PDB12D	PDB12D	PW1DBA	PDB12D			
Divided 2-gang (multi-service capable)		PDB12TGD	PDB12TGD		PDB12TGD			
Communications only 2-gang		PDB12TGLV	PDB12TGLV	PDB12TGLV				
2-gang	PT12TGB			PW1TGB				
Round lighting fixture box	PT12LFB	PDB12LF	PDB12LF	PW1LFB	PDB12LF			
Multi-service pass-thru divider tunnel 1-gang					PDB1DIV			
Multi-service pass-thru divider tunnel 2-gang					PDB2DIV			
ISB surface housings		ISB 1, 2, 4, 6, 12	ISB 4, 6, 12		ISB 4, 6, 12			
AMO multimedia housing			АМО		АМО			
Inline 1-gang							PB3IND	
Inline 2-gang (multi-service capable)						PB2IND2G	PB3IND2G	
Inline 3-gang (multi-service capable)								PS3IND
Full capacity raise inline 1-gang							PB3FCIB	PS3FCIB
Full capacity raise inline 2-gang							PB3FCIB2G	PS3FCIB2G
Full capacity raise inline 3-gang (multi-service capable)							PB3FCIB3G	PS3FCIB3G
Hubbell iSTATION module bezel	KPIMBZOW	KPIMBZOW	KPIMBZOW	KPIMBZOW	KPIMBZOW	KPIMBZOW	KPIMBZOW	KPIMBZOW

	R	ecoi	nme	ended	l Plat	e to	Вох	Com	patib	ility S	electio	n Cha	rt			
	Non-Metallic Raceway Box Series			PS3 Boxes			PB3 Boxes				PB2 Boxes PDB12 Boxes			oxes	PT12 & PW1 Boxes	
Plate Style	Sample Catalog No.	IND	FCIB	FCIB2G	FCIB3G	IND	IND2G	FCIB	FCIB2G	FCIB3G	IND2G	LP, S, D	TGD	TGLV	LPB, SBA, DBA	TGB
1-gang KP series plate	KP8	1	1	✓	✓	1	✓	1	✓	✓	<b>√</b>	1	1		✓	
1-gang KP series bezel	KPIMBZ	1	1	✓	1	1	1	1	✓	1	1	1	1		✓	
1-gang IFP data plate	IFP12OW		1	✓	1	1		1	✓	1		1			✓	
1-gang Hubbell iSTATION IMF plate frame	IMF10W		1	✓	1	1		1	<b>✓</b>	<b>✓</b>		1			1	
2-gang Hubbell iSTATION IMF plate frame	IMF2OW													1		1
2-gang IFP data plate	IFP29OW													1		1
2-gang KP series plate	KP82															1

Note: Hubbell office white plates and devices color match all non-metallic raceway systems.







# HI-IMPACT SYSTEMS

PRODUCT	Pag
COPPER CONNECTORS	S3
Patch Cords	\$4
PLATES, BOXES AND COVERS	\$5
POLYTUFF® Non-metallic Conduit and Fittings	\$5
WEATHERPROOF COVERS.	\$6
EQUIPMENT CABINETS	S7
Surface Mount Boxes.	S8
DIN RAIL UTILITY BOX	\$8

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**Performance** 

performance (6 and 5e).

Patented IP67 Connector Interface

Cleaning Agents and Petroleum

Resistant to UV, Common Chemicals,

Standard Hubbell Xcelerator Jack Termination

Housing is Reusable for Performance Upgrades

### **COPPER CONNECTORS**





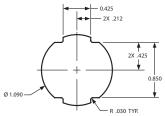
#### **Durability**

Rugged construction for the most punishing environments.



#### Interface

User-friendly quick connect positive indication when fully engaged.



#### Installation

Standard ¾" conduit knockout simplifies installation.

### **Specifications**



- Vibration: frequency range: 10-500Hz
- Acceleration: 5g (operational)
- Mating cycles: 750 minimum
- HI-Impact housing: Valox®, UL 94V-0

#### Standards/Listings/Verifications

- TIA-568-C.2 Category 6 and 5e component
- IEEE 802.3AT PoE+ (DTE Power)
- Ingress protection: IP67 (dust/water)

HI-Impact Copper Connectors	
Contents: 1 housing, 1 jack (see below), 1 flat bulkhead gasket, and 1 retaining nut.	
Description	Catalog No.
HI-Impact Category 6 connector (UTP)	HI6
HI-Impact Category 5e connector	HI5E
HI-Impact in-line coupler, Category 6	HI6C
HI-Impact in-line coupler, Category 5e	HI5EC
Protective cap	HIC







Valox® is a trademark of SABIC Innovative Plastics.

### **PATCH CORDS**





- Field-Terminable Cords and Connectors Allow Installation and Configuration On-Site
- Supports Different Media Types: Voice/Data/Video
- Patch Cords are Made to Custom Lengths with Reusable Housings



#### **Durability**

HI-Impact shell provides the ultimate protection your harsh environment demands.



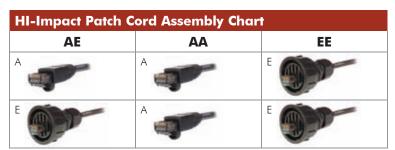
#### Performance

All Assemblies are 100% performance tested to the latest standard for Category rated performance (6 and 5e).



#### **Flexibility**

The patch cords are available in a large variety of lengths and styles to accommodate the various applications and combinations requested.



### **Specifications**

- HI-Impact housing temperature range: -25°C to 70°C
- HI-Impact housing: Valox®, UL 94V-0

#### **Standards/Listings/Verifications**

- TIA-568-C.2 Category 6 and 5e component
- IEEE 802.3AT PoE+ (DTE Power)
- Ingress protection: IP67 (dust/water)

HI-Impact Patch Cords	
Description	Catalog No.
HI-Impact Category 6 RJ-45 to standard RJ-45	HI6yyAE
HI-Impact Category 6 RJ-45 on both ends	HI6yyEE
Standard Category 6 RJ-45 on both ends	HI6yyAA
HI-Impact Category 6 plug connector, UTP	HI6P
HI-Impact Category 6 plug, 25-pk, RJ45 UTP stranded	HIP625
HI-Impact RJ45 plug boot, 25-pk, Black	HICB25BK
HI-Impact Category 6 bulk patch cable, 100'	HIPC6100
HI-Impact coupler housing, connectors not included	нісн
Substitute "yy" with 03, 05, 07, 10, 15, 20, 25, 30, 35, 40	), 45, 50 to

indicate length in feet. Valox® is a trademark of SABIC Innovative Plastics.





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### HUBBELL HI-Im

## PLATES, BOXES AND COVERS



- IP55 Rated for Dust and Liquids (HISFxx)
- Pre-Punched, Keyed Opening for HI Connector
- Single and Double Gang Offerings
- **Gasketed to Protect from Elements**

#### **Specifications**

#### **Stainless Steel Plates**

- Thickness: .04" (.9) nominal
- Material: smooth metal 302/304; super stainless steel 17-19%; chrome, 8% nickel
- Gasket material: UL closed-cell foam

#### Thermoplastic Plates

- Flammability: UL 94-V0, 94-5VA classification
- Material: Valox®
- Gasket material: UL closed-cell foam

Plates					
Port Size	Gang	Stainless Steel	Color	IP Rating	Thermoplastic 4-Point FS/FD
1	1	HISF11	Gray	55	HI14GY
1	1		Yellow	55	HI114PY
2	1	HISF12	Gray	55	HI24GY
2	1	( <del>-</del>	Yellow	55	HI124PY
2	2	HISF22		55	
4	2	HISF24		55	





HISF11

HI114PY

Weatherproof Device Box								
Knockout	Protection Level	Color	Catalog No.					
1/2"	NEMA 3R	Gray	HIWP05GY					
3/4"	NEMA 3R	Gray	HIWP75GY					



ш	FI	7	71

Cast Aluminum Device Box with Lugs						
Hub	Color	Catalog No.				
1/2" 3/4"	Gray Gray	HIFD1L HIFD2L				



HIPT

Punch Tool	
Description	Catalog No.
HI-Impact connector opening punch tool	HIPT



4	
1	1
111	

G1050

Description	Size	Color	Length	Catalog No.	
Non-metallic conduit	1/2"	Gray	100'	G1050	
Non-metallic conduit	3/4"	Gray	100'	G1075	
	1000				
LIQUIDTIGHT Non-Metallic Fittings					





Size Description Catalog No. Straight male 1/2" Gray P050NGYA 3/4" Straight male Gray P075NGYA SWIVELLOK® male 1/2" PS0509NGY Gray SWIVELLOK® male 3/4" Gray PS0759NGY

Color

Valox® is a trademark of SABIC Innovative Plastics.

HI-Impact POLYTUFF® Non-Metallic Conduit



### WEATHERPROOF COVERS



#### 1-Gang Weatherproof Covers for Vertical Mounting

Dimensions Height x Width x Depth

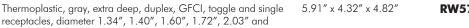
Catalog No

Thermoplastic, gray, duplex, GFCI, toggle and single receptacles, diameter 1.34", 1.40", 1.60", 1.72", 2.03" and 2.15"

5.91" x 4.32" x 2.84"

RW57300





RW57350



IP66





Description









**Dimensions** Height x Width x Depth Description

5.91" x 4.32" x 2.84"

Catalog No. RW57400







diameter 1.34", 1.40", 1.60", 1.72", 2.03" and 2.15"

Thermoplastic, gray, duplex, GFCI, toggle and single receptacles,





RW57350

RW57400

#### 2-Gang Weatherproof Covers for Vertical Mounting

Dimensions Description Height x Width x Depth Catalog No. Thermoplastic, gray, duplex, GFCI, toggle and single receptacles, diameter 1.34", 1.40", 1.60", 1.72", 2.03" and 2.15" 5.94" x 5.54" x 2.84" RW57750









Thermoplastic, gray, duplex, GFCI, toggle and single receptacles, diameter 1.34", 1.40", 1.60", 1.72", 2.03" and 2.15" 5.94" x 5.54" x 4.82"

RW57900









Thermoplastic, gray, single receptacles, diameter 1.34", 1.40", 1.60", 1.72", 2.03" and 2.15"

5.94" x 5.54" x 4.82"

RW57950



RW57750

RW57900



Note: Required by the NEC® for while-in-use outdoor power distribution. Thermoplastic covers provide protection for use in wet locations with the cover closed, NEMA® 3R rated. Meets NEC 406.8 – receptacles in damp or wet locations. Holes for padlocks are .40 inch.

 $NEC^{\$}$  is a registered trademark of the The National Electrical Code.  $NEMA^{\$}$  is a registered trademark of The National Electrical Manufacturers Association.



RW57950



# HI-Impact

### **EQUIPMENT CABINETS**



- Corrosion-Resistant NEMA 4X Stainless Steel
  Withstands Years of Abuse
- Consolidation Point Cabinets Provide an Easy Solution to House Active Equipment
- For Secure Environments an Optional Lock is Available
- Solid Steel Construction

#### **Specifications**

- Body is fabricated from 14 gauge 304 stainless steel and door is 14 gauge 316 stainless steel
- Plasma-welded, continuous seams
- 1/4-turn, oil-tight latches on door
- · Poured-in polyurethane gasket on door

HI-Impact RE-BOX <sup>®</sup> Industrial Cabinet							
Height	Width	Depth	1311			NEMA	
Inches (mm)	Inches (mm)	Inches (mm)	Material	Finish	Color	Rating	Catalog No.
24" (610)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	3R	IR2U3RG
36" (914)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	3R	IR3U3RG
24" (610)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	4/12/13	IR2UG
36" (914)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	4/12/13	IR3UG
48" (1219)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	4/12/13	IR4UG
36" (914)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	4/12/13	IR3PG*
48" (1219)	21" (533)	12" (309)	Cold Rolled Steel	Powder Coat	Gray	4/12/13	IR4PG*
24" (610)	21" (533)	12" (309)	Stainless Steel	Brushed	Stainless	4X	IR2USS
36" (914)	21" (533)	12" (309)	Stainless Steel	Brushed	Stainless	4X	IR3USS

Note: Please see page M10 for features and specifications. See page M11 for RE-BOX® accessories.

IR4UG

Hubbell's HI-Impact NEMA 4X and 4/12 consolidation point cabinets are designed for harsh environments where oil, dirt, dust and moisture are present. The HI-Impact consolidation point cabinet is a perfect solution to house and secure small switches, wireless access points and cross connect products in harsh environments such as factory floors, convention centers, correctional facilities, and commercial kitchens.

HI-Impa	ct Consol	idation P	oint Cabinet				
Height	Width	Depth	F 15 10 1				
Inches (mm)	Inches (mm)	Inches (mm)	Material	Finish	Color	Rating	Catalog No.
12" (309)	12" (309)	7" (178)	Cold Rolled Steel	Powder Coat	Gray	4/12/13	HICP412G
12" (309)	12" (309)	7" (178)	Stainless Steel	Brushed	Stainless	4X	HICPSS



HICP412G

Lock Kit	
Use to change lock style to meet specific applications.  Contents: 2 assembly locks and keys	
Description	Catalog No.
CH751 keyed lock kit	CKL751





<sup>\*</sup>Pre-configured version contents: 1 enclosure; 1 bottom-hinged patch panel bracket, 4U (REK19); and 1 equipment mounting bracket, 5U (REKZ), 1 HI-Impact RE-BOX® back panel.

# HI-Impact

### **SURFACE MOUNT BOXES**



- Corrosion-Resistant Surface Mount Boxes
  Withstand Years of Abuse and Wash Down
- Locate Connectivity Easily with Multiple Options
- Provides Environmental Protection for Remote Ethernet Devices
- HI-CB All Steel Construction



HI24XGY Loaded

The HI-Impact surface mount boxes provide an easy way to mount and protect connectivity in punishing environments, supporting all HI-Impact media types.

If your application requires stainless steel, NEMA 4/12 or NEMA 4X, in different port configurations, the HI-Impact surface mount boxes will suit your environmental needs.

HI-Impact Surface Mount Boxes						
Ports	Material	Finish	Color	NEMA Rating	Catalog No.	
1	Thermoplastic	_	Gray	4X	HI14XGY	
2	Thermoplastic	_	Gray	4X	HI24XGY	
4	Thermoplastic	_	Gray	4X	HI44XGY	
6	Thermoplastic	_	Gray	4X	HI64XGY	
1	Steel	Powder Coat	Gray	4/12/13	HI1CB2G	
2	Steel	Powder Coat	Gray	4/12/13	HI2CB2G	
1	Stainless Steel	Brushed	Stainless Steel	4X	HI1CBSS	
2	Stainless Steel	Brushed	Stainless Steel	4X	HI2CBSS	



HI24XGY



•

HI1 CBSS

### **DIN RAIL UTILITY BOX**

Hubbell's HI-Impact DIN Rail Utility Boxes offer a labor saving way to provide utility power and/or communications to any control cabinet. Installing the DIN Rail Utility Box is as easy as snapping the box vertically onto a 35mm DIN Rail and connecting the line, neutral and ground wires to the terminal block for power or punching down Hubbell jacks for communications.

#### **Features/Benefits**

- Labor savings
- DIN rail compatible
- Easy delivery of power or data
- Quick and easy installation

DIN Rail Utility Box	
Description	Catalog No.
Communications DIN rail utility box kit (unloaded)	HIDRUBCKIT
Note: See page B9 for decorator and duplex frames.	



HIDRUBCKIT



# NETSELECT®

# **SOLUTIONS**





# NETSELECT® SOLUTIONS

Product	Pag
NETSELECT® IN-WALL AV DELIVERY	. T3
NETSELECT® HDMI PRODUCTS	. T4
NETSELECT® NETWORK ENCLOSURES	. T5
NETSELECT® NETWORK MODULES	. T7
NETSELECT® AUDIO/VIDEO MODULES	. T8
NETSELECT® Accessories	. T9
NETSELECT® CONNECTIVITY	. T10
NETSELECT® DECORATOR FRAMES	. T11
NETSELECT® MOLDED-IN VOICE/DATA/VIDEO	. T12
NETSELECT® MOLDED-IN PLATES	. T13
NETSELECT® TELEPHONE WALL JACKS	. T14



HUBBELL

Stud or Sheetrock Mounting Flexibility

Steel Construction for Residential MDU

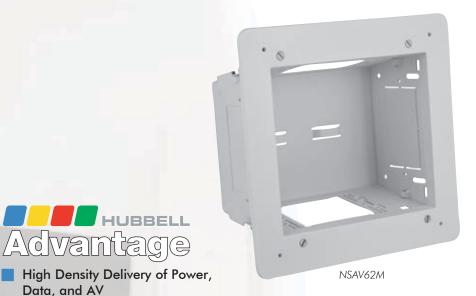
and Commercial Applications

Easily Reconfigured to Adapt to

Data, and AV

**New Applications** 

## IN-WALL AV DELIVERY



## **Flexibility**

2-gang enclosure with two additional 3-unit Hubbell iSTATION AV mounting locations.

#### Installation

Stud or sheetrock mounting integrated into the enclosure. No need for extra hardware.

#### **Aesthetics**

ABS trim ring quickly cleans up sheetrock rough-in.

## **Specifications**



- 18ga cold rolled steel base
- White powder coat finish
- High impact ABS trim ring

## Standards/Listings/Verifications

- cULus 1863 listed
- UL VO flame rating on ABS trim ring

FPTV Connection Enclosure						
	Height	Width	Depth			
Description	Inches (mm)	Inches (mm)	Inches (mm)	Color	Catalog No.	
2-gang in-wall enclosure	8.16" (207)	7.92" (201)	3.37" (86)	White	NSAV62M	
Steel cover for NSAV6 series	7.2" (183)	7.2" (183)	0.05" (1)	White	NSAV6C	

Power Kits		
Description	Color	Catalog No.
Standard power kit	White	NSOKPTR
Surge protected power kit	Blue	NSOKPS

0			
	N:	SAV6C	

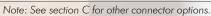
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AV Connectors and Plates		
Description	Color	Catalog No.
HDMI snap fit	Black	SFHCBK
F-connector snap fit	White	NSF70W
USB A-to-B snap fit	White	SFUSBABW
Cat. 6 snap fit jack	White	NSJ6W
1-gang decorator plate	White	NP26W
1-gang Hubbell iSTATION plate	White	NSIMF1W
1-gang 4-port keystone plate	White	NSP14W



**SFHCBK** 

NSJ6W





# ENCLOSURE

## IN-CEILING AV DELIVERY



AVCE1

#### **Durability**

All steel rugged construction provides the ultimate strength for installation.

#### **Flexibility**

Designed to neatly manage multiple applications inside one enclosure.

## Reliability

Loaded with two Hubbell 20 Amp duplex receptacles and a 2-gang back box.

1



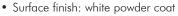
- Designed for Power, Data and Active AV Devices in the Ceiling
- Easily Installs into a Standard 2' Ceiling Tile Grid (2' x 1')
- Manages Active AV Devices (Creston, Extron and FSR) for Signal Routing to Projectors
- 100% Steel Construction

**HDMI Cords** 

HDMI

**HDMI Device Patch Cords** 

## **Specifications**





• Slide latch: high impact thermal plastic (ABS)

• Mounting brackets: 18ga welded steel

AV Ceiling Enclosure							
Description	Rating	Enclosure Dimensions	Color	Catalog No.			
AV ceiling enclosure	Non-plenum	24"(610) x 12" (305) x 8" (203)	White	AVCE1			
AV ceiling enclosure	Plenum	24"(610) x 12" (305) x 8" (203	White	AVCE1P			

Note: Enclosure Includes: (2) 20 amp duplex receptacles and 2-gang back box.



HDMI Products			
Description	1-Gang, 1-Port	1-Gang, 2-Port	
HDMI, decorator frame, female to female	NS801xx	NS802xx	

**XX** = Color: **AL** (Almond), **BK** (Black), **GY** (Gray), **I** (Ivory), **LA** (Light Almond), and **W** (White).



Ν	S	8	U.	2	M

yyft	HDLyyBK	yyft	<b>HDCyyBK</b>
HDMI (24 AWG)	Catalog No.	HDMI (24 AWG)	Catalog No.
Link Cords (C	Connector to Device)	Coupler Cord	s (Coupler to Device)
6ft	HDPC06BK		
3ft	HDPC03BK	yyft	HDHyyBK
(24 AVVG)	Catalog No.	(24 AVVG)	Catalog No.

HDMI

yy = Length in feet: 10 (10ft), 15 (15ft), 20 (20ft), 25 (25ft), 30 (30ft); black and non-plenum only.



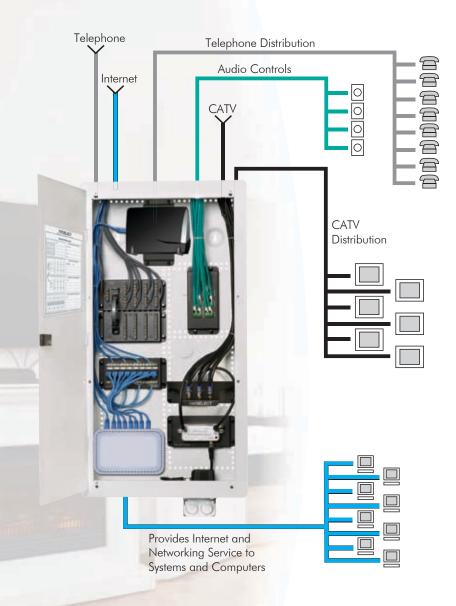
HDPC06BK



**Horizontal Cords (Connector to Connector)** 



## **NETWORK ENCLOSURES**





Hinged cover can be mounted to swing from either side.



Horizontal and vertical module mounting holes for maximum flexibility.



Additional nylon push pins provided to assist module mounting.



- High-Performance Connectivity with Uncompromising Aesthetics
- Modular System Makes Custom Configurations Effortless
- Supports Single Family, High Rise MDU, Small Office, and Hospitality Applications

## **Specifications**





- Material: 20-18ga steel
- Finish: white, powder coat
- UL and cULus Listed 1863



## **NETWORK ENCLOSURES**

## **Network Enclosures**

## Pre-Configured Network System

Pre-Configured Network System	_	NSOBNK14	
Description	Placement	Catalog No.	
	No. ot Module	!	

Basic home network kit includes:

- One box with hinged cover NSOBOX14,
- One primary 8-port telephone module NSOPTM8,
- One four way coaxial splitter module NSOVM4



## 10 Inch Network Enclosure for MDU and Modular Applications

Description	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	No. of Module Placement	Catalog No.
With Hinged Cover	11.55" (293)	15.65" (398)	4.08" (104)	3	NSOBX10
With Panel Cover	11.07" (281)	-	4.08" (104)	3	NSOBX10BC
10"H Box only	10.07" (256)	14.38" (365)	3.96" (101)	3	NSOBX10B
Hinged Door	11.55" (293	15.65" (398)	0.58" (15)	_	NSOBX10D
Panel Cover	11.07" (281)	15.50" (594)	0.20" (5)	_	NSOBX10C



## 14 Inch Network Enclosure

Description	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	No. of Module Placement	Catalog No.
With Hinged Cover	15.55" (395)	15.65" (398)	4.08" (104)	5	NSOBOX14
With Panel Cover	15.10" (384)	15.54" (395)	4.08" (104)	5	NSOBOX14BC
14"H Box only	14.00" (356)	14.38" (365)	3.96" (101)	5	NSOBOX14B
Hinged Door	15.55" (395)	15.65" (398)	0.33" (8)	_	NSOBOX14D
Vertical Door	15.55" (395)	15.65" (398)	0.52" (15)	_	NSOBOX14DL
Panel Cover	15.11" (384)	15.54" (395)	0.20" (5)	_	NSOBOX14C
2"D Extension Bracket with ventilation and					
WiFi KO	15.30" (389)	15.57" (395)	2.00" (51)		NSOBOX14X2



## 28 Inch Network Enclosure

Description	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	No. of Module Placement	Catalog No.
With Hinged Cover	29.55" (751)	_	_	11	NSOBOX28
With Panel Cover	29.13" (740)	15.54" (395)	4.08" (104)	11	NSOBOX28BC
28"H Box only	28.00" (711)	14.38" (365)	3.96" (101)	11	NSOBOX28B
Hinged Door	29.55" (751	15.65" (398)	0.33" (8)	_	NSOBOX28D
Vertical Door*	29.55" (751	15.65" (398)	0.52" (15)	_	NSOBOX28DL
Panel Cover	29.29" (744)	15.54" (395)	0.20" (5)	_	NSOBOX28C
2"D Extension Bracket with ventilation and WiFi KOs	29.3" (744)	15.57" (395)	2.00" (51)	-	NSOBOX28X2



Description	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	No. of Module Placement	Catalog No.
With Hinged Cover	48.94" (1243)	14.94" (379)	4.07" (103)	21	NSOBOX48*

<sup>\*</sup>Door covers rough-in, no trim ring provided.







## **NETWORK MODULES**





- Category 6 Networking Module Component
- Hoizontal or Vertical Module **Mounting Options**
- DSL, VolP and Ethernet Ready







- Meets FCC Part 68 standard
- Finish: black, powder coat
- Material: 18ga steel or high impact plastic
- UL and cULus Listed 1863
- All data and phone modules 568A wired

Description	Units	Catalog No.
Combo module, 6-port telephone panel and 6-port coaxial splitter with optional 6-port Category 5e panel provides voice, video, and data distribution n a space efficient package; perfect for use with NSOBOX10 and NS790xx olates to quickly establish a comprehensive home network	3	-
6-port telephone and video 6-port telephone, video and Category 5e 6-port Category 5e data upgrade kit		NSOTVM6 NSOTVDM6 NSODK6
Primary telephone module, 8-port phone outlets with up to 4 incoming ines for voice, fax or modem applications in a protected PCB module; pre-mounted push pins snap the module quickly into place; RJ31X interface ack included for security system connection; RJ45 jack interfaces with optional NSOETM8 telephone expansion module for additional extensions	1	NSOPTM8
Expansion telephone module, 8-port adds an additional 8 phone outlets with up to 4 incoming lines when used with the primary telephone module; premounted push pins snap the module quickly into place; includes RJ45 jumper cord to connect with NSOPTM8 primary telephone module	1	NSOETM8
Category 5e data module, 8-port supports Gigabit Ethernet for up to 8 Cat. 5e data lines with front 110 punch-down terminations in a protected PCB module; pre-mounted push pins snap the module quickly into place	1	NSODM8
Category 6 data module, 8-port supports enhanced transmission speeds beyond Gigabit Ethernet; future-proof for tomorrows applications		NSODM8C6
Multiport patchable telecom module terminates lines via modular plug to accommodate flexibility, by changing plug locations; reconfigure where phone ines go at the panel level; allows data lines to be converted to voice, with the move of a patch cord; includes nine RJ45 jumper cords	2	NSOMTM24
Combination module 6-port telephone and 1-port Category 5e data provides pasic telephone and data delivery in a small package; allows data lines to be converted to voice, with the move of a patch cord	1	NSO6P1DM



NSOTVDM6



NSOPTM8



NSOETM8



NSODM8



NSOMTM24



NSO6P1DM



## **AUDIO/VIDEO MODULES**





- netSELECT® Video Modules Support Bidirectional Signal by Splitting to 4, 6, or 8 Separate Work Areas
- Pre-Mounted Push Pins Snap the Module Quickly into Place
- Supports Digital and Analog Video

## **Specifications**





- Finish: black, powder coat
- UL and cULus Listed 1863

Description	Units	Catalog No.
4-way coaxial splitter modules, one incoming line, four outgoing 1 Ghz, basic unit 2.3 Ghz, enhanced capability	1	NSOVM4 NSOVM42G
6-way coaxial splitter modules, one incoming line, six outgoing 1 Ghz, basic unit 2.3 Ghz, enhanced capability	1	NSOVM6 NSOVM62G
8-way coaxial splitter modules, one incoming line, eight outgoing 1 Ghz, basic unit 2.3 Ghz, enhanced capability	1	NSOVM8 NSOVM82G
Fixed video amplifier module, 10dB, provides video signal amplification for incoming cable feeds recommended for use when more than four outputs are installed or when signal level is low; provides 10dB forward path gain and supports current digital cable systems and modems with a passive return; pre-mounted push pins snap the module quickly into place; include RG-59 cable jumper to connect amplifier to passive video splitter		
120 Volt rated		NSOVAMP
8 room audio module, distributes audio from an amplifier to matching volume controllers; supports up to eight rooms of audio; power handling -200W RMS@20° C; requires impedance matching volume controls (see page T9)	1	NSOAM8
Blank module plate, allows mounting of active components (i.e. switches, routers) or other devices (66 blocks, audio components) onto a modular platform; can be custom drilled or used with two self-adhesive VELCRO® strips included to mount components onto module; pre-mounted push pin snap the module quickly into place	1 s	NSOBM



NSOVM4



NSOVM6



NSOVM8



NSOVAMP



NSOAM8



VELCRO® is a registered trademark of Velcro Industries B.V.





## **Accessories**

- netSELECT® accessories enhance system capabilities
- Volume controls expand home audio applications
- Cabinet mounted receptacle kits provide convenient power to the enclosure
- Audio controls available in slide or rotary
- Receptacles available in surge and standard kits

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Accessories			
Description	Color	Catalog No.	
Slide audio volume controller Decorator styling Power handling – 70W RMS@20° C Impedance matching for up to 8 pairs of speakers Includes both ivory and white slides and frames	lvory/White	NSOSAVC	NSOSAVC
Rotary audio volume controller Power handling – 70W RMS@20° C Impedance matching for up to 8 pairs of speakers Includes both ivory and white knobs and frames	Ivory/White	NSORAVC	
Standard power kit Includes duplex receptacle 15A 125V NEMA 5-15R electrical steel box and wallplate		NSOKPTR	NSORAVC
Surge suppression power kit Includes surge receptacle 15A 125V NEMA 5-15R, 240 joules/15,000A protection per mode, electrical steel box and wallplate		NSOKPS*	
Chromed steel lock kit Includes two keys Eliminates unwanted tampering		FLOCK1*	NSOKPS
Panel bracket adapter For use with adapter panels shown below and FSP series modules on page G11. Snap mounts into structured cabling enclosures		NSOFSB	FLOCKI
F-connector adapter panel with six populated coaxial connectors	7	FSPFP6X	NSOFSB
Keystone adapter panel with six blank openings for jacks and snap fits	<u> </u>	FSPHD6X	FSPFP6X
WiFi antenna kit Attaches to extension brackets 7dB gain for better coverage		NSOKA*	FSPHD6X
Note: *Not UL or cULus Listed.			NSOKA



## CONNECTIVITY





- Reliable, Efficient Design
- **Inline Terminations**
- **1**0/100/1000 BASE-T Assurance
- Eco-Friendly Bulk Packaging Reduces Excess Waste on the Job



- TIA 568-C.2 Category 5e/6 component compliant
- cULus Listed

Univ	Universal Consolidation Blocks and Patch Panels							
Ports	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)	Туре	Category	Catalog No.		
12	10.00" (254)	3.30" (84)	1.79" (45)	Consolidation Block	5e	NS5E12U		
24	1.72" (44)	19.00" (483)	1.24" (31)	Patch Panel	5e	NS5E24U		
48	3.47" (88)	19.00" (483)	1.24" (31)	Patch Panel	5e	NS5E48U		
12	10.00" (254)	3.30" (84)	1.79" (45)	Consolidation Block	6	NS612U		
24	1.72" (44)	19.00" (483)	1.21" (31)	Patch Panel	6	NS624U		
48	3.47" (88)	19.00" (483)	1.21" (31)	Patch Panel	6	NS648U		



NS5E12U



NS612U







	Modular Snap Fit			
Cat. 6 Jack (single)	Cat. 6 Jack (25 pack)	Modular Snap Fit Cat. 5e Jack (single)	Modular Snap Fit Cat. 5e Jack (25 pack)	Modular Snap Fit USOC Jack
NSJ6AL	NSJ6AL25	NSJ5EAL	NSJ5EAL25	NSJUAL
NSJ6BK	NSJ6BK25	NSJ5EBK	NSJ5EBK25	NSJUBK
NSJ6B	NSJ6B25	NSJ5EB	NSJ5EB25	NSJUB
NSJ6GY	NSJ6GY25	NSJ5EGY	NSJ5EGY25	NSJUGY
NSJ6GN	NSJ6GN25	NSJ5EGN	NSJ5EGN25	NSJUGN
NSJ6I	NSJ6125	NSJ5EI	NSJ5EI25	NSJUI
NSJ6LA	NSJ6LA25	NSJ5ELA	NSJ5ELA25	NSJULA
NSJ6OR	NSJ6OR25	NSJ5EOR	NSJ5EOR25	NSJUOR
NSJ6R	NSJ6R25	NSJ5ER	NSJ5ER25	NSJUR
NSJ6W	NSJ6W25	NSJ5EW	NSJ5EW25	NSJUW
NSJ6Y	NSJ6Y25	NSJ5EY	NSJ5EY25	NSJUY
	NSJ6BK NSJ6B NSJ6GY NSJ6GN NSJ6I NSJ6LA NSJ6OR NSJ6R NSJ6R	NSJ6BK NSJ6BK25 NSJ6B NSJ6B25 NSJ6GY NSJ6GY25 NSJ6GN NSJ6GN25 NSJ6I NSJ6I25 NSJ6LA NSJ6LA25 NSJ6OR NSJ6OR25 NSJ6R NSJ6R25 NSJ6W NSJ6W25	NSJ6BK NSJ6BK25 NSJ5EBK NSJ6B NSJ6B25 NSJ5EB NSJ6GY NSJ6GY25 NSJ5EGY NSJ6GN NSJ6GN25 NSJ5EGN NSJ6I NSJ6I25 NSJ5EI NSJ6LA NSJ6LA25 NSJ5ELA NSJ6OR NSJ6OR25 NSJ5EOR NSJ6R NSJ6R25 NSJ5ER NSJ6W NSJ6W25 NSJ5EW	NSJ6BK         NSJ6BK25         NSJ5EBK         NSJ5EBK25           NSJ6B         NSJ6B25         NSJ5EB         NSJ5EB25           NSJ6GY         NSJ6GY25         NSJ5EGY         NSJ5EGY25           NSJ6GN         NSJ6GN25         NSJ5EGN         NSJ5EGN25           NSJ6I         NSJ6I25         NSJ5EI         NSJ5EI25           NSJ6LA         NSJ6LA25         NSJ5ELA         NSJ5ELA25           NSJ6OR         NSJ6OR25         NSJ5EOR         NSJ5EOR25           NSJ6R         NSJ6R25         NSJ5ER         NSJ5ER25           NSJ6W         NSJ6W25         NSJ5EW         NSJ5EW25

Note: See page D9 for HC6 and HC5E patch cords.



## **DECORATOR FRAMES**

Decorator frames provide a stylized look for that finishing touch. This allows all devices to match. Multimedia jacks insert into frame for custom configuration.

- Elongated strap for better wall box mounting
- High impact-resistant thermoplastic frame
- UL Listed 1863 Communication Circuit Accessory and CSA Certified













## **Decorator Frames**

Adapter .406"  Ports 2-Port 3-Port 4-Port 6-Port (10.3) Dia. Hole Adapter Blank	Catalog No.	NS612xx	NS613xx	NS614xx	NS616xx	NS621xx*	NS620xx*
	Ports	2-Port	3-Port	4-Port	6-Port		Adapter Blank

xx = Color: AL (Almond), BK (Black), GY (Gray), I (Ivory), LA (Light Almond), and W (White). \*Available in I (Ivory) and W (White) only. See page V30 for color chart.

Note: Use NS621 with rotary dimmers or to pull through AV or telephone cable. Use NS620 to fill an extra decorator opening or to create customized openings.











## Multimedia Face Plates, 1-Gang

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Ports	1-Port	2-Port	3-Port	4-Port	6-Port	
Catalog No.	NSP11xx	NSP12xx	NSP13xx	NSP14xx	NSP16xx	

## Midsize

Catalog No.	NSP101xx	NSP102xx	NSP103xx	NSP104xx	NSP106xx
Ports	1-Port	2-Port	3-Port	4-Port	6-Port

xx = Color: AL (Almond), BK (Black), GY (Gray), I (Ivory), LA (Light Almond), and W (White). See page V30 for color chart.



## **Multimedia Face Plates, 2-Gang**

#### Standard

Catalog No.	NSP24xx	NSP26xx
Ports	4-Port	6-Port

xx = Color: AL (Almond), BK (Black), GY (Gray), I (Ivory), **LA** (Light Almond), and **W** (White). See page V30 for color chart.

#### **Blank Connector**

#### Smooth

Catalog No. SFSB<sub>xx</sub>10

xx = Color: AL (Almond), BK (Black), GY (Gray), EI (Ivory), LA (Light Almond), and W (White). See page V30 for color chart.





## MOLDED-IN VOICE/DATA/VIDEO

Designed to complement decorator styling, these frames offer voice, Category 5e and Coaxial video in different combinations.

- High impact-resistant thermoplastic frame
- Meets FCC part 68
- UL Listed 1863 Communication Circuit Accessory and CSA Certified









## **Molded-In Voice Data Decorator Frames**

				2 Jack Vo	ice Data Frame
Jack	One RJ11 Jack One RJ11 Jack	One RJ11 Jack	Duplex RJ11 Jack	RJ11 Jack	Category 5e
Position	6-Position	6-Position	6-Position	6-Position	8-Position
Conductors	4-Conductor	6-Conductor	6-Conductor	4-Conductor	8-Conductor
Terminations	Screw	Screw	Screw	Screw	110 IDC
Catalog No.	NS770xx	NS771xx*	NS772xx**	NS	5784xx

xx = Color: AL (Almond), BK (Black), No suffix (Brown), GY (Gray), I (Ivory), LA (Light Almond), and W (White).
\*Not available in Black or Gray. \*\*Not available in Black, Brown or Gray. See page V30 for color chart.









## **Molded-In Voice Data Decorator Frames**

Catalog No.	NS780xx*	NS782xx*	NS783xx*	NS785xx
Terminations	Screw	Screw	Screw	Screw
Туре	Female to Female	Female to Female	Female to Female	Female to Female
F-Connector	Single F-Type Coupler Bulkhead	Duplex F-Type Coupler Bulkhead	One F-Type Coupler Bulkhead	One F-Type Coupler Bulkhead
Jack			One RJ11 Jack, 6-Position, 4-Conductor	One Cat. 5e 110 Punch-Down

**xx** = Color: **AL** (Almond), **BK** (Black), No suffix (Brown), **GY** (Gray), **I** (Ivory), **LA** (Light Almond), and **W** (White).
\*Not available in Black, Brown or Gray. See page V30 for color chart.





## MOLDED-IN PLATES

Designed for voice, these devices provide an economical alternative to wall phone outlet placement.

- High impact-resistant thermoplastic plate
- Convenient screw down terminals

- Meets FCC part 68
- UL Listed 1863 Communication Circuit Accessory and CSA Certified

















## Molded-In Plates for Voice, 1-Gang

Standard
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Jack	One RJ11 Jack	One RJ11 Jack	Duplex RJ11 Jack	Duplex RJ11 Jack
Position	6-Position	6-Position	6-Position	6-Position
Conductors	4-Conductor	6-Conductor	4-Conductor	6-Conductor
Terminations	Screw	Screw	Screw	Screw
Catalog No.	NS730xx	NS732xx	NS742xx <sup>1</sup>	NS744xx <sup>1</sup>

#### Mid-Size

Jacks	One RJ11 Jack	Duplex RJ11 Jack
Position	6-Position	6-Position
Conductors	4-Conductor	4-Conductor
Terminations	Screw	Screw
Catalog No.	NS735xx	NS745xx <sup>2</sup>

xx = Color: AL (Almond), No suffix (Brown), I (Ivory), LA (Light Almond), and W (White). <sup>1</sup>Not available in Brown. <sup>2</sup>Available in **I** (Ivory) and **W** (White) only. See page V30 for color chart.



















## Molded-In Plates for Voice and CATV/Satellite, 1-Gang

### Standard

Cataloa No.	NS748xx	NS747xx	NS750xx	NS752xx	NS790xx*
Туре	Female to Female	Female to Female	Female to Female	Female to Female	Female to Female
Conductors	6-Conductor	4-Conductor	_	_	4-Conductor
Position	6-Position	6-Position	_	-	6-Position
F-Connector	One F-Type Coupler Bulkhead	One F-Type Coupler Bulkhead	One F-Type Coupler Bulkhead	Duplex F-Type Coupler Bulkhead	One F-Type Coupler Bulkhead
Jack	One RJ11 Jack	One RJ11 Jack	_	_	One Cat. 5e 110 Punch Down, One RJ11 Jack

## Mid-Size

Catalog No.	NS755xx	N\$751xx
Туре	Female to Female	Female to Female
Conductors	6-Conductor	-
Position	6-Position	-
F-Connector	One F-Type Coupler Bulkhead	One F-Type Coupler Bulkhead
Jack	One RJ11 Jack	

xx = Color: AL (Almond), I (Ivory), LA (Light Almond), and W (White). \*Also available in BK (Black), No suffix (Brown), and GY (Gray). See page V30 for color chart.



IETS

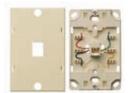
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## TELEPHONE WALL JACKS

Designed for voice applications, these jacks provide an economical alternative modular jack based solution.

- Available in high impact-resistant thermoplastic or stainless steel
- Meets FCC part 68
- UL Listed 1863 Communication Circuit Accessory and CSA Certified







Terminations Catalog No.	Punch-Down (Tool Included)  N\$721xx*	Screw NS722xx	Screw <b>NS725xx</b>	
Conductors	4-Conductor	4-Conductor	6-Conductor	
Position	6-Position	6-Position	6-Position	
Jack	Wall Phone Jack Quick Connect	Wall Phone Jack	Wall Phone Jack	

xx = Color: AL (Almond), I (Ivory), LA (Light Almond), and W (White). \*Not available in Light Almond. See page V30 for color chart.



**SS** = Stainless Steel.

Telephone surface mount jacks are available in 4or 6-conductor configurations for voice. Alternatively, multimedia surface mount boxes can be custom loaded for computer and media use.

- High impact-resistant thermoplastic
- Mounts using screws or double sided tape (both included)
- Meets FCC part 68
- UL Listed 1863 Communication Circuit Accessory and CSA Certified









Telephone \	Wall Jacks			
Description	Telephone Surface Mount Jack	Telephone Surface Mount Jack	Multimedia 1-Port Surface Mount Box, Jack Not Included*	Multimedia 2-Port Surface Mount Box, Jack Not Included*
Position	6-Position	6-Position	_	_
Conductors	4-Conductor	6-Conductor	-	_
Terminations	Screw	Screw	_	_
Catalog No.	NS760xx*	NS761xx*	ISB1xx	ISB2xx

xx = Color: AL (Almond), BK (Black), EI (Electric Ivory), GY (Gray), LA (Light Almond), OW (Office White), and W (White).
\*NS Series is only available in I (Ivory) and W (White). See page V30 for color chart.

\*cULus Listed 1863 - Communication Circuit Accessory. Use multimedia jacks and AV connectors, see section C for complete list.



# HUBBELL

## **T**ools

Hubbell tools and testers are constructed with premium materials providing reliability and precision terminations. Each tool has an ergonomic design that optimizes termination and saves valuable time on the job site.



Product	PAG
1-Punch Termination Tool	U2
110 Termination Tools	U3
MISCELLANEOUS TOOLS	U5
Tester and Tool Kits	U6
HUBBELL LABELING SOLUTIONS	U7

# Htools

## 1-Punch Termination Tool



#### **Easy Termination**

Comfortable, ergonomic tool handle.

#### **Precision**

Polarized tool head, eliminates confusion.

#### Compatability

Interchangeable heads: provides ease-of-use with just 1 tool (XJ jack, P6E/P6A panel, 110 block).

# Advantage

- Patented Termination Tool Designed to Punch-Down all 4-Pairs in "1-Punch" and Cut Off the Excess Wires
- Reduces Termination Time by 75%
- Consistent, Reliable Termination Every Time
- RoHS Compliant

## **Specifications**

- High impact handle with ergonomic grip
- Common handle for XJ and HJ 5-pair block and Cat 6A/6E panel
- Replaceable blade, cartridges

Termination Tools and Accessories	
1-Punch Tool for XCELERATOR™ Jacks	
Description	Catalog No.
1-punch Ascent HJ tool with head, blades and HXTA termination aid	TX4P6A
1-punch Ascent HJ tool replacement head	ТХ4Р6АН
1-punch Ascent HJ tool replacement blades	TX4P6ABL
1-punch XJ tool with head, blades and HXTA termination aid	TX4P
1-punch XJ replacement head (includes blades)	TX4PH
1-punch XJ replacement blades (includes blades)	TX4PHBL
Hand termination aid "Jack Knuckles" Xcelerator/Ascent	НХТА
Snap-X termination puck (bag of 25)	HXTP25
Ascent termination puck (bag of 25)	HJTP6A25
1-Punch Tool for P6E and P6A Series Patch Panels	
Description	Catalog No.
Patch Panel tool with head and blades	TX4PP
Patch Panel tool replacement head (includes blades)	TX4PPH
Patch Panel tool replacement blades	TX4PPBL
Note: Hubbell Xcelerator jacks are compatible with Paladin Tools® "Iac	k Torminator"

Note: Hubbell Xcelerator jacks are compatible with Paladin Tools® "Jack Terminator" PA8111 termination tool.



Paladin Tools® is a registered trademark of Textron Inc.



HXTA

# H tools

## **10 TERMINATION TOOLS**

## Termination Tool, 6-110/4-pair, Category 6

This termination tool is designed to seat 6-110/4-pair connecting blocks and terminate/cut UTP cable on 6-110 wiring blocks.

Note: Not compatible with one-punch tool.

#### **Features**

- · Cut designation on tool head aids proper orientation before termination
- Ergonomic rubber handle
- · Head and blades remove easily for fast replacement

Description	Catalog No.
Termination tool, 4-pair, 6-110	6110MPPDT
Replacement tool head, 6-110	6110MPPDT1





6110MPPDT1

## 1-Punch Termination Tool, 110/5-pair, Category 5/5e

The 110 5-pair impact tool is designed to seat 110 connecting blocks and terminate and cut UTP cable on 110 wiring blocks. Saving time and money, it makes large termination jobs small by greatly reducing the number of punch cycles.

#### **Features**

- High impact handle with ergonomic grip
- Replaceable punch-down head and cartridge blades
- Terminates 26-22 AWG solid and stranded wires with single insulation
- Common handle for 5-pair/110, jack and panel 1-punch
- Twist and lock head

Description	Catalog No.
Punch-down tool, 5-pair head	T5PPD110
Replacement 110, 5-pair head	T5PPD110H
Replacement 110, 5-pair blades	T5PPD110B

Note: Replacement head can be used with Hubbell 1-Punch or 5-pair tool handle. Not compatible with 6-110.







T5PPD110B

## 1-Pair Punch-Down Tool Features/Benefits · Cuts punch time in half by terminating a pair at a time

#### **Specifications**

- Terminates 28-22AWG solid/stranded wire
- Adjustable high and low impact settings

	<ul><li>Iwist and lock blades</li><li>Insulated, rubber-embedded handle</li></ul>	
Description	Catalog No.	
Punch-down tool with blade	TPDH	
Replacement blade	TBLH	



## Punch-Down Tool, 110

Features/Benefits	Specifications

- Comfortable ergonomic grip
- High visibility colors
- Lanyard holes in the handle end
- Latching blade storage cover.
- Terminates 28-22AWG solid/stranded wire
- Adjustable high and low impact settings
- Twist and lock blades
- Insulated, rubber-embedded handle

Earching blade storage cover	instituted, respect embedded namale
Description	Catalog No.
Punch-down tool with 110 blade	TPD110
Replacement 110 blade	TBL110
Replacement 66 blade	TBL66



# Htools

## 110 TERMINATION TOOLS

## **Lighted Punch-Down Tool**

## **Features/Benefits**

- Comfortable ergonomic grip
- High visibility colors
- Latching blade storage cover
- Illuminates termination area

## **Specifications**

- Terminates 28-22AWG solid/stranded wire
- Integral illuminating light
- Batteries included
- Built-in, fold-out pick, hook and spludger
- Adjustable high and low impact settings
- Twist and lock blades
- Insulated, rubber-embedded handle

Description	Catalog No.
Lighted punch-down tool with 110 blade	TPDL110
Replacement 110 blade	TBL110
Replacement 66 blade	TBL66
Replacement light and batteries	TPDLITE



**TPDLITE** 

## **Crimp Tools**

#### Features/Benefits

- Universal frame (Cat. No. UCT) accepts interchangeable dies to crimp different plugs
- Complete ratchet cycle release assures no-fault crimps

## **Specifications**

- Parallel compression (Cat. No. COMPTRG659) terminates to FCC specs; no misalignment
- Integral wire cutter/stripper; cuts and strips cable without another tool (Cat. No. ECT)

Description	Catalog No.
Complete tool kit in hard, plastic case includes crimp tool, 4 die-sets, UTP cable stripper; die-sets include RJ45, RJ22 and RJ11	UCTKIT
Crimp tool frame (die-sets sold separately)	UCT
RJ11 die-set	CDTSR11
RJ22 die-set	CDTSR22
RJ45 die-set	CDTSR45
RJ45 die-set (snagless)	CDTSR45S
RG6 and RG59 hex crimp die-set	CDTSRG659
Economy crimp tool; includes non-replaceable RJ11, RJ22 and RJ45 die-sets	ECT
RG6 and RG59 compression tool	COMPTRG659



COMPTRG659

## MISCELLANEOUS TOOLS

## **Communications Cable Stripper/Cutter**

## Features/Benefits

- Strips round Cat 5e and 6 UTP/STP
- Cuts cable
- Strips flat cables
- Compact size
- High-visibility for quick locating

#### **Specifications**

- · Strips round cables with diameters of 0.145" to 0.275"
- Cuts round UTP/STP cables up to 0.350"
- · Non-metallic body
- Adjusting screw for varied cable diameters to avoid scoring interior conductor insulation

Description Catalog No. Communications cable stripper/cutter TCS3



## **Coax Cable Stripper**

#### Features/Benefits

- Self-regulating tension
- Pre-set for common strip lengths
- · Adjust cutting depth for varying cable thickness with the included hex key

## **Specifications**

- Non-metallic body
- Pre-set strip length: 0.0236" outer jacket
- RG59, RG6 and RG6 Quad CATV "F"





## Screwdriver, 4-Bit

## Features/Benefits

- Ergonomic, insulated handle
- · Chrome, nut driving shaft
- Hard, durable driving bits

## • High-visibility red dots for easy locating

## Description

## **Specifications**

- 2 slotted bits, #4 and #6
- 2 Philips bits, #2 and #3
- ½" nut driving shaft

Catalog No.

Screwdriver, 4-bit TSD4



#### **Nut Driver/Stripper**

## Features/Benefits

- Non-metallic handle
- Easy to use strip notches
- 2 nut drivers
- Slim profile

## **Specifications**

- Nut driver sizes are 3/8" and 7/16"
- Strips outer jacket of AWG 22/4 and 24/4
- Strips inner insulation of AWG 22 and AWG 24
- Overall length: 77/8"

Description Catalog No. Nut driver/stripper TW38716





## Htools

## TESTER AND TOOL KITS

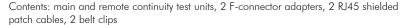
## **Cable Continuity Tester**

## **Features/Benefits**

- · Compact size
- One button test results
- Automatic shut off
- 9 volt battery included

## **Specifications**

- Tests up to 320 feet
- · Built-in BNC connector with F connector
- Coax cable types tested: 50-750hm RG58, RG59, RG6, RG6 quad, Belden<sup>®</sup> 8281, RG8 AND RG11







## Tool Kit, 3-Piece

#### Features/Benefits

- Punch-down tool with 110 and 66 blades and rubber-embedded handle
- Durable, black, nylon belt pouch
- Belt pouch fits up to 3" belt

#### **Specifications**

 Punch-down tool for 28-22 AWG solid or stranded wire; twist and lock 110 and 66 blades

Contents: 1 punch-down tool with 110 and 66 blade, 1 pair snips, and 1 belt pouch

Description	Catalog No.
Tool kit, 3-piece	тк3



## Tool Kit, 8-Piece

## Features/Benefits

- Punch-down tool with 110 and 66 blades; and rubber-embedded handle
- Durable, black, nylon belt pouch
- Belt pouch fits up to 2½" belt (slide on style)

### **Specifications**

- Punch-down tool for 28-22 AWG solid or stranded wire; twist and lock 110 and 66 blades
- Screwdriver:
  - #4 and #6 slotted
  - #2 and #3 Philips bits
- Stripper works on UTP and STP cables
- Snap-X has removable lanyard

Contents: 1 punch-down tool, 110 blade, 66 blade, snips, 4-bit screwdriver, UTP/STP cable striper/cutter, Maglite™, Belt pouch, and Snap-X termination aid

Description	Catalog No.
Tool kit, 8-piece	TK8



Belden® is a registered trademark of Belden Networking, Inc. Maglite™ is a trademark of Mag Instruments, Inc.



## **HUBBELL LABELING SOLUTIONS**





- Meets TIA/EIA-606-A Labeling Administration Standards
- Labor Savings: Installer May Produce and Print Labels Before Installation
- Saving Job Files Reduces Potential for Error and Eliminates the Time to Re-Enter Information when Changes and Additions are Required
- RoHS Compliant

### **Features/Benefits**

- Makes closets and work stations look professional with clearly marked connections and leaves an impression of quality workmanship
- In ever-changing work environments, clearly marked connections will make moves, adds, and changes easier by eliminating mistakes and wasted time

To purchase visit our website at wear bubbell premise some	VDCOET	
Description	Catalog No.	
Hubbell Labeling Solutions Software		

#### **Patch Panel and Rack Labels**

Contents: Package of 10 label sheets, 8.5" x 11".

## **Laser-Printable Label Sheets and Covers**

Offer extensive labeling options for the front of Hubbell patch panels.

5 1			
Description	Identifies	Label Sheets Catalog No.	Extra Label Holders Catalog No.
Adhesive patch panel 8-port front labels	1600 ports	XPLPPA10W	-
Patch panel 8-port adapter paper labels; use with label holders supplied with panel	1440 ports	XPLPP10W*	XPHPP50
Patch panel ID paper labels; use with supplied vertical ID label holders	180 panels	XPLPPID10W	XPHPPID1U10 (for 1U) XPHPPID2U10 (for 2U)
*Standard color is White. For other colors	replace " <b>W</b> " wit	h " <b>Y</b> " = Yellow or " <b>B</b> "	= Blue.
Description	Identifies	Label Sheets Catalog No.	Extra Label Holders Catalog No.
1" x 6" rack and cabinet identification labels	-	XPLRC10W	XPHRC10





XPLPPA10W

## **Port Identification**

Pre-printed numbering strips are made of a durable black polycard material with a pressure sensitive adhesive back. Port numbering strips provide the capability to consecutively number separate patch panels up to 480.

Contents: 60 8-port strips

Adhesive pre-printed number strips 1-480	480 ports	XPL1TO480
Description	Identifies	Catalog No.





# Hlabel

## **HUBBELL LABELING SOLUTIONS**

# Multimedia Panel Labels Contents: package of 10, 8.5" x 11" paper sheets Labels Label Sheets Extra Label Holders Description per sheet Catalog No. Catalog No. Paper 8-port front label strips (use with label holders supplied with panel) XPLUDX2410W XPHUDX2410



Note: Use XPLFOSEPAW labels for the UDX36 multimedia panel.

Cross Connect, 110 and 6-110 Labels									
Contents: package of 10, 8.5" x 11	Contents: package of 10, 8.5" x 11" paper sheets								
Description	Labels per sheet	Label Sheets Catalog No.	Extra Label Holders Catalog No. (10-pk)						
Paper index strip, white	18	XPL11010W	XPH11010						
Paper index strip, blue	18	XPL11010B	XPH11010						
Paper index strip, yellow	18	XPL11010Y	XPH11010						



Face Plate and Port Labels									
Contents: package of 10, 8.5" x 11" paper sheets									
Description	Labels per sheet	Label Sheets Catalog No.	Extra Label Holders Catalog No.						
Paper face plate labels, white	63	XPLFP10W	-						
Adhesive face plate labels, white	120	XPLFPA10W	-						
Adhesive face plate labels, clear	120	XPLFPA10C	-						
Adhesive port icon labels, white	325	XPLIPA10W	-						
Adhesive port icon labels, clear	325	XPLIPA10C	-						



## Cable Labels

strand fiber cables

#### Features/Benefits **Specifications** • Self-laminating, laser-printable cable • TIA/EIA-606-A standard compliant labels are designed to identify all sizes of wire and cables quickly, clearly and economically Labels Label Description per sheet Cable OD Catalog No. For 2-4 strand fiber cables 63 0.11 to 0.21 XPLCBLA1 For 4-pair copper UTP and 2-12 49 0.11 to 0.21 XPLCBLA2 strand fiber cables For 25-pair copper UTP and 24-132 0.31 to 0.70 **XPLCBLA3**

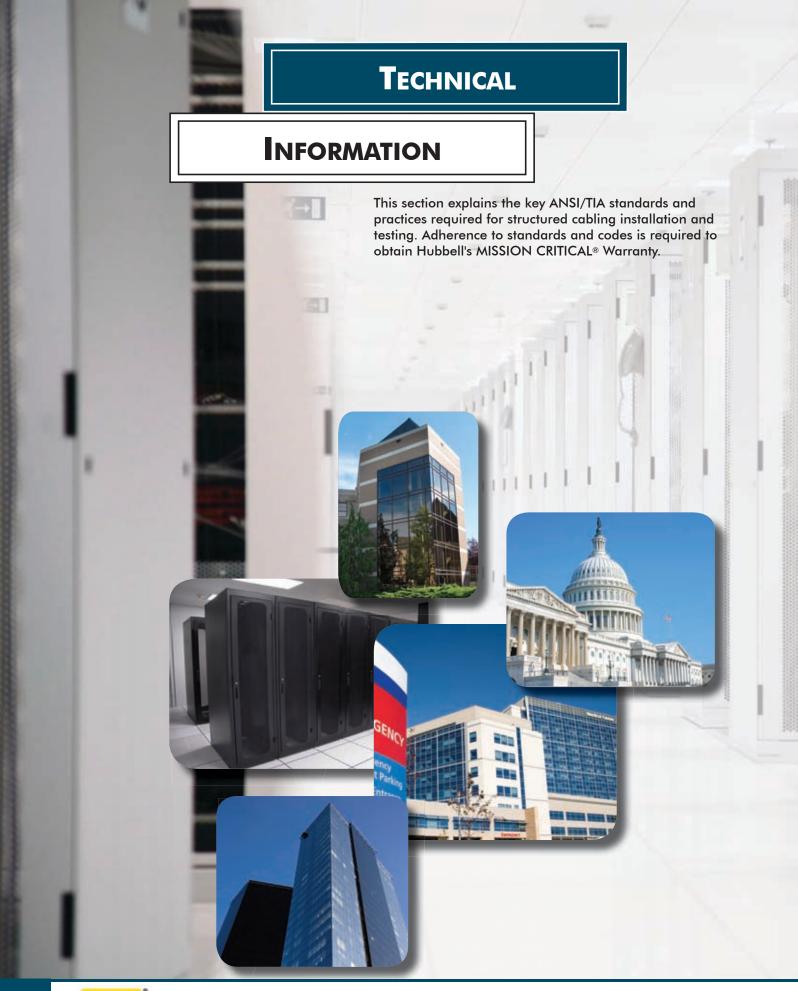


# Fiber Adapter Panel Labels Contents: package of 10, 8.5" x 11" paper sheets Labels Label Sheets Extra Label Holders Description per sheet Catalog No. Catalog No. Adhesive labels for fiber six-packs, white 38 XPLFOSEPAW\* -





<sup>\*</sup>Cannot be used with the high-density versions of the FSP adapter panels.





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## WEB BASED TECHNICAL RESOURCES

## **Online Videos**

- Product
- Applications
- Instructional
- Continuing Education



## **Detailed Specifications**

- BIM Models
- Visual Stencils
- Customer Drawings
- Specification Text



## **Literature Library**

- Datasheets
- Brochures
- White Papers
- Application Guides



## **WEB BASED TECHNICAL RESOURCES**



## **UL/ETL Certified Laboratory**

- Component Testing
- Link/Channel Testing
- Active Network Testing
- Mechanical Testing



## MISSION CRITICAL® Training

- Shielded and Unshielded Cabling
- Fiber Optic
- Audio/Video
- Standards



## **Partnerships**

- Cisco® Developer Network
- Extreme Networks<sup>®</sup>
- Mohawk®
- Hitachi Cable Manchester® (HCM)

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## Introduction: Structured Cabling Standards Evolution

Industry standards are published design and performance requirements that are approved by industry ballot among cable and component manufacturers. The objective of cabling standards is to promote global inter-connectivity of equipment from diverse manufacturers. Since the release of IEEE 802.3an 10-Gigabit Ethernet (10GbE) standard in 2006, evolution of ANSI/TIA-568 structured cabling standards has achieved a new level of performance, defined as Category 6A, or Augmented Category 6. The Category 6A cabling performance requirements of Addendum ANSI/TIA-EIA-568-B.2-10 were officially ratified in February 2008.

In addition to the release of Category 6A requirements, the ANSI/TIA-568-B series of standards have been superseded by ANSI/TIA-568-C series. The new 568-C series incorporates all previously published addenda, plus a new section of generic cabling guidelines. 568C.0. These new developments are also presented in this section.



As an active contributor to and leader in cabling standards organizations such as TIA and IEEE, Hubbell manufactures products that exceed all applicable standards. Compliance to industry standards is a long-term commitment by Hubbell Premise Wiring.

Global industry standards offer the following advantages:

- Interoperability of connecting hardware components
- Backward compatibility
- Open systems architecture
- Ease of migration to new performance levels
- Multi-vendor choice to the end-user

Compliance to standards also applies to MISSION CRITICAL® objectives. MISSION CRITICAL® is defined as the delivery of long-term, uninterrupted service at stated performance levels.

This is the philosophy of Hubbell's 25-year MISSION CRITICAL® warranty. For more information about the Hubbell MISSION CRITICAL® training and installer certification, go to: **www.hubbell-premise.com** 

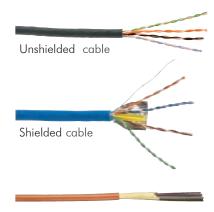


## ANSI/TIA-568-C

The ANSI/TIA-568-C series of standards is a family of our individual documents.

- ANSI/TIA-568-C.0: "Generic Telecommunications Cabling for Customer Premises".
- ANSI/TIA-568-C.1: "Commercial Building Telecommunications Cabling Systems Standard".
- ANSI/TIA-568-C.2: "Balanced Twisted Pair Telecommunications Cabling Systems Standard".
- ANSI/TIA-568-C.3: "Optical Fiber Telecommunications Cabling Systems Standard".

ANSI/TIA-568-C.0 defines the overall premises infrastructure for copper and fiber cabling. Detailed requirements for cabling installation and field-testing are also included. TIA-568-C.1 provides detailed design requirements for horizontal and backbone cabling infrastructure and distribution facilities. TIA-568-C.2 and C.3 establish component level testing and performance requirements for copper and fiber connecting hardware respectively.



Multimode fiber cable

#### ANSI/TIA-568-C.0 and C.1: Horizontal Cabling (previously 568-B.1)

The horizontal cabling in a building is a single floor cable distribution from the horizontal cross connect (HC) in the telecommunications room (TR or TE) to the work area (WA) outlet.

## **Recognized Horizontal Cables**

- 4-pair  $100\Omega$  unshielded or shielded balanced twisted pair, Category 3, 5e, 6, and 6A
- Multimode optical fiber cabling: 850mm, laser optimized 50/125µm recommended
- Singlemode optical fiber cabling

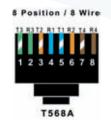
#### Horizontal Cable Minimum Bend Radius and Pull Force

- 4-Pair balanced twisted pair: 4 times cable diameter
  - Maximum pull force: 25lb
- Fiber cable: 10 times cable diameter

#### **Recognized Connectors**

- 8-position RJ45 modular jack and plug
  - Pin/pair assignments configured T568A or T568B
- 568SC and ST-style fiber connectors
- SFF fiber connectors: LC and MT-RJ







## **Horizontal Cabling Topology and Design Notes**

Each outlet connection in the work area has an individual cable run (link) from the TR. This represents a star topology shown in the diagram. This arrangement is most convenient for moves, adds and changes (MACs). Any horizontal cable link is limited to 90 meters in length. Locate the TR centrally on each floor to equalize cable run lengths. As a rule, use 40% max fill for cable pathways. Allow one work area per 100 square foot of floor space for design purposes.

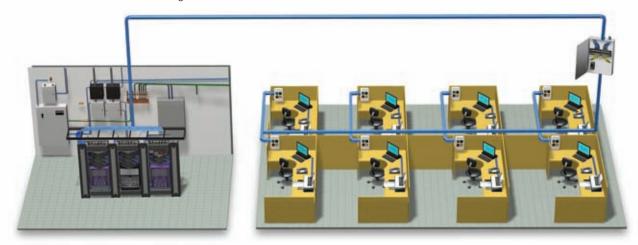


## **ANSI/TIA-568-C: Horizontal Cabling**

#### **Consolidation Point**

The consolidation point is an optional interconnection that is allowed in the horizontal cabling between the TR and the work area.

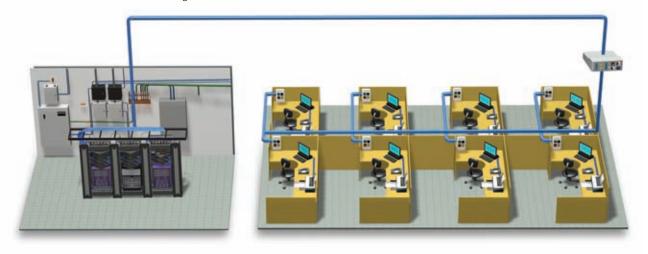
- The consolidation point must be mounted to a permanent building structure in an area free from obstructions or furniture.
- Cross connections are not allowed in the consolidation enclosure.
- Due to the effect of NEXT on multiple connections in close proximity, this standard recommends locating all consolidation points at least 15m (49ft) away from the TR. Most Hubbell systems do not have this restriction.
- Consolidation points and transition points cannot be combined in any single horizontal link.
- Each consolidation point should serve a maximum of 12 work areas, with consideration for future growth.
- Administration should follow the guidelines of ANSI/TIA-606-B.



## The Multi-User Telecommunications Outlet Assembly (MUTOA)

The MUTOA contains multiple telecommunications outlet connectors to service a cluster of individual work areas.

- A combination of solid conductor 4-pair UTP cables and fiber optic cables may be run from the TR to the MUTOA.
- The MUTOA is permanently mounted to a building structure that is in close proximity to a cluster of work areas.
- A MUTOA allows horizontal cabling to remain intact when the open-office layout plan is changed.
- · Work area cables are either fiber patch cords or stranded conductor copper cords with a modular plug on each end.
- Length of all work area cables from the MUTOA must be labeled on both ends. Maximum length is 20 meters for horizontal runs less than 70 meters.
- Each MUTOA should serve a maximum of 12 work areas.
- Administration should follow the guidelines of ANSI/TIA-606-B.



## FIBER DISTANCES CHART

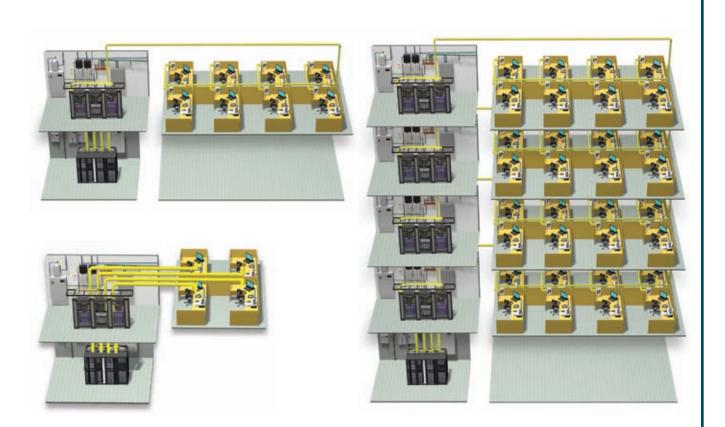
		Maximum	Supporta	ble Dista	nce (m)	Maximum Channel Attenuation (dB)					
Ethernet	Wave length		Multin	node		Single-		Multin	node		Single- mode OS2
Application	(nm)	62.5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	mode OS2	62.5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	
10/100BASE-SX	850	300	300	300	300	NST	4.0	4.0	4.0	4.0	NST
1000BASE-SX	850	220	550	1000	1100	NST	2.6	3.6	4.5	4.8	N/A
1000BASE-LX	1300	550	550	550	550	5000	2.3	2.3	2.3	2.3	4.7
10GBASE-S	850	26	82	300	550	NST	2.6	2.3	2.6	3.1	NST
10GBASE-L	1310	NST	NST	NST	NST	10000	NST	NST	NST	NST	6.0
10GBASE-E	1550	NST	NST	NST	NST	40000	NST	NST	NST	NST	11.0
10GBASE-LX4	1300	300	300	300	550	NST	2.5	2.0	2.0	2.0	NST
10GBASE-LX4	1310	N/A	N/A	N/A	N/A	10000	N/A	N/A	N/A	N/A	6.6
40GBASE-SR4	850	N/A	N/A	100	150	NST	N/A	N/A	1.9	1.5	NST
100GBASE-SR10	850	N/A	N/A	100	150	NST	N/A	N/A	1.9	1.5	NST
40GBASE-LR4	1310	NST	NST	NST	NST	10000	N/A	N/A	N/A	N/A	6.7
100GBASE-LR4	1310	NST	NST	NST	NST	10000	N/A	N/A	N/A	N/A	6.3

Note: **S** = Short wavelength, **L** = Long wavelength, **E** = Extended wavelength **NST** = Non-standard, **N/A** = Not applicable

**LX4** = Multiplex (4) Wavelengths

SR4 = Short Range, 4-Channels (4 X 10G pairs) SR10 = Short Range, 10-Channels (10 X 10G pairs)

**LR4** = Multiplex (4) Wavelengths



## ANSI/TIA-568-C.1: BACKBONE CABLING

A backbone distribution system is the part of a premises distribution system that provides connection between equipment rooms (ERs), telecommunication rooms (TRs), telecommunication enclosures (TEs), and telecommunication services entrance facilities (EFs).



UTP cable



FTP cable



Multimode fiber cable



### **Recognized Backbone Cables**

#### **Twisted Pair Copper Cable**

- Data: 100Ω solid conductor 24AWG UTP, FTP or Screened Twisted Pair (ScTP) (Cat 6A, Cat 6 or Cat 5e)
- Voice:  $100\Omega$  solid conductor 24AWG UTP (Cat 3 or Cat 5e)
- Multi-pair cable (25-pair, 50-pair)

#### **Multimode Fiber Optic Cable**

- 62.5/125µm fiber
- 50/125µm fiber
- 50/125µm fiber (laser optimized)

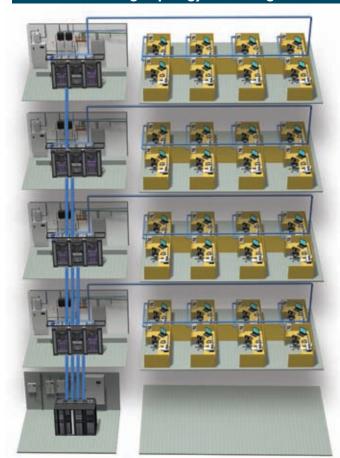
## **Singlemode Fiber Optic Cable**

• 9/125μm fiber

#### **Backbone Cable Minimum Bend Radius**

- 4-pair 100Ω UTP: 4x cable diameter
- Multi-pair (25-50 pair): 10X cable diameter
- Fiber cable: 15x cable diameter (with load)/10X (no load)
- OSP fiber cable: 20x cable diameter (with load)/10X (no load)

## **Backbone Cabling Topology and Design Notes**



For the simplest design, the HC on each floor receives a home run backbone cable from the MC in the ER. This represents a star topology. Multiple buildings in a campus form a Hierarchical star topology from the central MC facility. Codes require non-fire rated OSP backbone cable to extend no longer than 50 ft into the building without conduit. Firestopping is required for wall or floor penetrations of backbone sleeves or slots. Properly support vertical cables, and do not exceed manufacturer's vertical rise limits. Consider diverse and redundant cable paths for disaster recovery. If possible, vertically align TRs on multiple floors to simplify the backbone pathways.

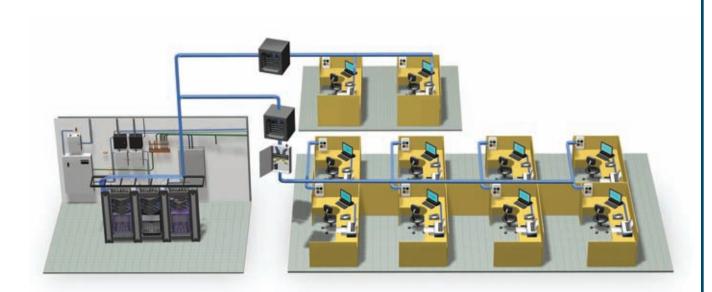


# ANSI/TIA-568-C.1: BACKBONE AND HORIZONTAL CABLING STRUCTURE

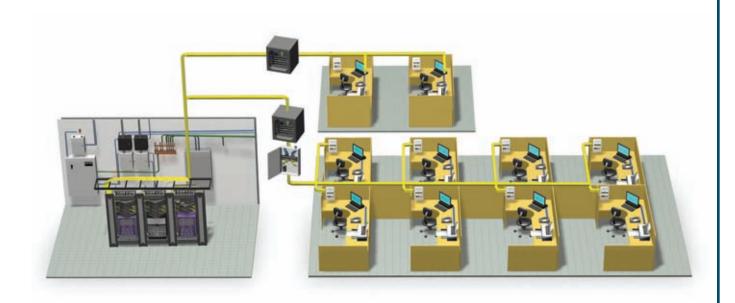
A backbone cabling structure shall have no more than two levels of cross-connections. A two-level backbone and the relationship with horizontal cabling is shown below.

## **Application Notes**

• Backbone distances are application dependent. Maximum distances for balanced twisted pair are based on data transmission. A 90-meter maximum distance applies to balanced twisted pair data transmission at a bandwidth of 5-16 MHz for Category 3, 100 MHz for Category 5e, 1-250 MHz for Category 6 and 1-500 MHz for Category 6A.



Note: Fiber distances are based on data transmission. See table on page V8 for data applications.



## ANSI/TIA-568-C.1: WORK AREA

The work area is the terminal end of the structured cabling network. This is the space for interaction of people with computers, phones and other IP devices on a local area network (LAN).

- A minimum of two telecommunications outlet connectors are required at each work area:
  - First outlet (mandatory): 4-pair 100Ω UTP or FTP cable and connector (Category 5e minimum recommended)
  - Second Outlet:
    - 4-pair 100Ω UTP cable and connector (minimum Category 5e; Category 6 is recommended)
    - 2-fiber 62.5/125μm or 50/125μm optical fiber cable and connectors: SC, ST-style, or SFF recommended
- One horizontal transition point or consolidation point is permitted.
- Bridges, taps, or splices are not allowed in category rated copper wiring.
- Additional outlets are recommended. Double gang box is best for service loop storage.
- Maximum length for work area cords is 5 meters.
- Splitters are not allowed in optical fibers.
- Separation from electrical wiring and pathways shall be according to ANSI/TIA-569-C.
- Work area telecommunications outlet boxes should be located near an electrical outlet (within 3 feet) and installed at the same height, if appropriate.
- For cable count and pathway capacity, use 1 work area per 100 square feet of floor space as a general rule. Always factor in future growth for all pathways.



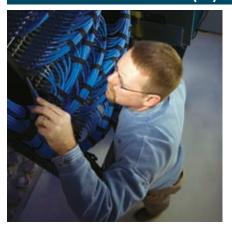






## **ANSI/TIA-568-C.1**

#### **Telecommunications Room (TR)**



The Telecommunications Room (TR) is an enclosed space for management and termination of backbone and horizontal cross connections. The TR typically provides the horizontal cabling to all of the work areas on a single floor of a building. The TR is centrally located, and isolated from EMI (electromagnetic interference), with proper grounding and lighting. The TR may also contain other active equipment, power, or security devices. Backbone cabling feeds each TR in a building from the main cross-connect (MC) in the Equipment Room (ER).

#### Basic requirements:

- Minimum (1) TR per floor
- No carpet or suspended ceilings
- Minimum (2) walls covered with 3/4" A/C plywood
- Dedicated, unswitched electrical power
- (1) TR serves up to 10,000 square feet of floor space
- Temperature and humidity control

## **Equipment Room (ER)**



The Equipment Room (ER) is a centralized space for housing the core electronic equipment, such as computer servers, routers, switches, etc. The backbone cabling originates from the ER, which serves the entire building or campus. The ER may function as a TR, and also may contain an entrance facility. Stringent electrical and environmental requirements apply to the design of an ER to provide a suitable operating environment for active network equipment. ERs should be supplied with non-switched, conditioned power with back-up. ERs should not be located near mechanical rooms, electrical distribution panels, or wet/dirty areas.

#### Basic requirements:

- Minimum (1) ER per building
- No carpet, suspended ceiling permitted
- Dedicated, unswitched electrical power; back-up and surge protection
- (1) ER serves up to 20,000 square feet of floor space
- Temperature and humidity control
- Double doors for entrance

## **Entrance Facility (EF)**



The Entrance Facility (EF) is located where the access provider and interbuilding network cables enter the building. Outside plant cables, typically from underground, are terminated inside the entrance facility. This location is known as the demarcation point – the transition from access provider to customerowned cable. A combination of electrical, fire, building, municipal, and FCC codes apply to the EF. The EF may share other functions, including fire and security alarms, CCTV, CATV, PBX, etc.

#### Basic requirements:

- Dry environment
- Proper back-boarding for equipment
- Secure location
- Access to building electrical service ground
- Circuit protection

## ANSI/TIA-568-C.2: BALANCED TWISTED PAIR **CABLING COMPONENTS**

This standard specifies electrical performance requirements for installed UTP cable and connecting hardware for each recognized category. Category 6A with extended frequency and additional parameters (ANEXT) is included. Performance categories, bandwidth, and field test parameters are listed in the

Table 1: Categories of Transmission Performance and Field Test Parameters

	Insertion			Wire	Delay		Return				
Category	Loss	NEXT	Length	Мар	Skew	ELFEXT	Loss	PSACR	PSELFEXT	PSNEXT	ANEXT
Cat 3 (16 MHz)	✓	1	1	1							
Cat 5e (100 MHz)	1	1	✓	1	✓	✓	✓	✓	✓	✓	
Cat 6 (250 MHz)	✓	1	1	1	/	1	/	/	1	✓	
Cat 6A (500 MHz)	1	1	✓	1	✓	1	✓	/	✓	✓	1

# ANSI/TIA-568-C.2: Balanced Twisted Pair Cabling and Components The tables below incorporate enhanced performance requirements for UTP cables and connecting hardware: Category 3, 5e, 6, and 6A.

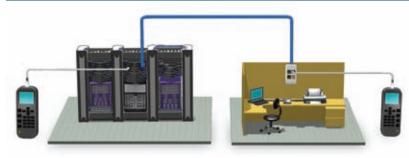
Perman	ent Link P	erform	ance									
	Insertion	Loss			Return L	oss			NEXT Loss			
Frequency	Cat 5e	Cat 6	Cat 6A	Frequency	Cat 5e	Cat 6	Cat 6A	Frequency	Cat 5e	Cat 6	Cat 6A	
(MHz)	(dB)	(dB)	(dB)	(MHz)	(dB)	(dB)	(dB)	(MHz)	(dB)	(dB)	(dB)	
1.0	2.1	1.9	1.9	1.0	19.0	19.1	19.1	1.0	60.0	65.0	65.0	
4.0	3.9	3.5	3.5	4.0	19.0	21.0	21.0	4.0	54.8	64.1	64.1	
8.0	5.5	5.0	5.0	8.0	19.0	21.0	21.0	8.0	50.0	59.4	59.4	
10.0	6.2	5.5	5.5	10.0	19.0	21.0	21.0	10.0	48.5	57.8	57.8	
16.0	7.9	7.0	7.0	16.0	19.0	20.0	20.0	16.0	45.2	54.6	54.6	
20.0	8.9	7.9	7.8	20.0	19.0	19.5	19.5	20.0	43.7	53.1	53.1	
25.0	10.0	8.9	8.8	25.0	18.0	19.0	19.0	25.0	42.1	51.5	51.5	
31.25	11.2	10.0	9.8	31.25	17.1	18.5	18.5	31.25	40.5	50.0	50.0	
62.5	16.2	14.4	14.1	62.5	14.1	16.0	16.0	62.5	35.7	45.1	45.1	
100.0	21.0	18.6	18.0	100.0	12.0	14.0	14.0	100.0	32.3	41.8	41.8	
200.0	-	27.4	26.1	200.0	-	11.0	11.0	200.0	-	36.9	36.9	
250.0	-	31.1	29.5	250.0	-	10.0	10.0	250.0	-	35.3	35.3	
300.0	-	-	32.7	300.0	-	-	9.2	300.0	-	-	34.0	
400.0	-	-	38.5	400.0	-	-	8.0	400.0	-	-	29.9	
500.0	-	-	43.8	500.0	-	-	8.0	500.0	-	-	26.7	

Channel Performance											
	Insertion L	oss			Return Lo			NEXT Loss			
Frequency	Cat 5e	Cat 6	Cat 6A	Frequency	Cat 5e	Cat 6	Cat 6A	Frequency	Cat 5e	Cat 6	Cat 6A
(MHz)	(dB)	(dB)	(dB)	(MHz)	(dB)	(dB)	(dB)	(MHz)	(dB)	(dB)	(dB)
1.0	2.2	2.1	2.3	1.0	17.0	19.0	19.0	1.0	60.0	65.0	65.0
4.0	4.5	4.0	4.2	4.0	17.0	19.0	19.0	4.0	53.5	63.0	63.0
8.0	6.3	5.7	5.8	8.0	17.0	19.0	19.0	8.0	48.6	58.2	58.2
10.0	7.1	6.3	6.5	10.0	17.0	19.0	19.0	10.0	47.0	56.6	56.6
16.0	9.1	8.0	8.2	16.0	17.0	18.0	18.0	16.0	43.6	53.2	53.2
20.0	10.2	9.0	9.2	20.0	17.0	17.5	17.5	20.0	42.0	51.6	51.6
25.0	11.4	10.1	10.2	25.0	16.0	17.0	17.0	25.0	40.3	50.0	50.0
31.25	12.9	11.4	11.5	31.25	15.1	16.5	16.5	31.25	38.7	48.4	48.4
62.5	18.6	16.5	16.4	62.5	12.1	14.0	14.0	62.5	33.6	43.4	43.4
100.0	24.0	21.3	20.9	100.0	10.0	12.0	12.0	100.0	30.1	39.9	39.9
200.0	-	31.5	30.1	200.0	-	9.0	9.0	200.0	-	34.8	34.8
250.0	-	35.9	33.9	250.0	-	8.0	8.0	250.0	-	33.1	33.1
300.0	-	-	37.4	300.0	-	-	7.2	300.0	-	-	31.7
400.0	-	-	43.7	400.0	-	-	6.0	400.0	-	-	28.7
500.0	-	-	49.3	500.0	-	-	6.0	500.0	-	-	26.1

	Return Lo	SS		NEX	N	NEXT Loss - Category 6A						
requency	Cat 5e	Cat 6	Cat 6A	Frequency		Cord Limit (d	IB)	Frequency	C	ord Limit (d	dB)	
(MHz)	(dB)	(dB)	(dB)	(MHz)	2m	5m	10m	(MHz)	1 m	2m	5m	10
1.0	25.0	25.0	20.0	1.0	65.0	65.0	65.0	1.0	65.0	65.0	65.0	65
4.0	25.0	25.0	23.0	4.0	65.0	65.0	65.0	4.0	65.0	65.0	65.0	65
8.0	25.0	25.0	24.5	8.0	65.0	65.0	64.8	8.0	65.0	65.0	65.0	64
10.0	25.0	25.0	25.0	10.0	65.0	64.5	62.9	10.0	65.0	65.0	64.5	62
16.0	25.0	25.0	25.0	16.0	62.0	60.5	59.0	16.0	62.6	62.0	60.5	59
20.0	24.0	25.0	25.0	20.0	60.1	58.6	57.2	20.0	60.7	60.1	58.6	57
31.25	23.1	23.1	23.3	25.0	58.1	56.8	55.4	25.0	58.8	58.2	56.8	55
62.5	20.1	20.1	20.7	31.25	56.2	54.9	53.6	31.25	56.9	56.3	54.9	53
100.0	18.0	18.0	19.0	62.5	50.4 46.4	49.2 45.3	48.1	62.5	51.0	50.4	49.2	48
200.0	-	15.0	16.4	125	44.5	43.5	42.7	100.0	47.0	46.4	45.4	44
250.0	-	14.0	15.6	150	43.0	42.1	41.4	200	41.1	40.7	39.9	39
300.0	-	-	14.9	175	41.8	40.9	40.2	250	39.3	38.9	38.1	37
400.0	-	-	13.8	200	40.6	39.8	39.3	300	36.4	36.2	35.9	35
500.0	-	-	13.0	225	39.7	38.9	38.4	400	31.8	31.9	32.1	32
				250	38.8	38.1	37.6	500	28.2	28.4	29.0	29

# ANSI/TIA-568-C.2: BALANCED TWISTED PAIR PERMANENT LINK AND CHANNEL FIELD TESTING

## **Permanent Link**



The permanent link test configuration includes a length of horizontal cable and one connector attached to each end (see diagram). One optional consolidation point connection is also permitted. The permanent link runs from the cross-connect panel in the TR to the work station outlet. The permanent link overall length must not exceed 90m (295ft).

## Channel



The channel test configuration includes a length of horizontal cable up to 90 meters, a work area cord, and two patch cord cross connections (see diagram). One optional consolidation point connection is also permitted in the channel. The channel overall length must not exceed 100m (328ft).

## **Hubbell Approved Field Testers for UTP and Optical Fiber Cabling**

The Hubbell MISSION CRITICAL® warranty program recognizes the field testers and associated test adapters below. These testers function in a bidirectional mode, with automatic data acquisition and storage.

	Field Tester Model		Permanent Link Adapter	Channel Adapter	110 Block T568A Wiring	110 Block T568B Wiring	Cat 6A AXT Test Kit
E	Fluke DTX Series 1800 and 1200	Cat 5e/ Cat 6	DTX-PLA001 w/DSP-PM06	DTX-CHA001	DTX-PLA001 w/DSP-PM13A	DTX-PLA001 w/DSP-PM13B	PLA002
		Cat 6A	DTX-PLA0025	DTXCHAOO1AS	N/A	N/A	DTX-10GKIT
	Fluke DSP Series 4000, 4100 and 4300	Cat 5e/ Cat 6	DSP-LIA101S w/DSP-PM06	DSP-LIA012S	DSP-PM13A	DSP-PM13B	
		Cat 6A	N/A	N/A	N/A	N/A	N/A
	Fluke OMNIScanner and OMNIScanner 2	Cat 5e/ Cat 6	OMNI-LIA101S w/DSP-PM06	8262-42	OMNI-LIA101S w/DSP-PM13A	OMNI-LIA101S w/DSP-PM13B	
000		Cat 6A	N/A	N/A	N/A	N/A	N/A
憲	Agilent Wirescope 350 and FrameScope 350	Cat 5e/ Cat 6	N2604A-101	N2604A-100	N2604A-065	N2604A-066	
	Wirescope Pro	Cat 6A	N2644A-101	N2644A-100	N/A	N/A	N2648A-100
_ 🛋	ldeal Lantek 6 and Lantek 7	Cat 5e/ Cat 6	HPW PCX6 Patch Cord	0012-00-0629	1019-00-1112 (Kit)	1019-00-1112 (Kit)	
	Lantek 6A-7G	Cat 6A	HPW PS6 Series Patch Cord	Supplied in unit	N/A	N/A	LANTEK 10GBKIT

# ANSI/TIA-568-C.0 AND C.3: OPTICAL FIBER CABLING AND COMPONENTS

This standard incorporates optical, mechanical, and environmental performance requirements for installed fiber optic cables and connectors.

- The optical fiber cable construction shall consist of 50/125μm, 62.5/125μm multimode fibers, or 9/125μm singlemode optical fibers.
- Installed optical fiber cabling and connection hardware shall meet the requirements of ANSI/TIA-568-C.3, and applicable sections of ANSI/TIA-568-C.1.

## Performance Specifications for Multimode and <u>Singlemode Fiber Optic Connectors</u>

- Maximum insertion loss is 0.75dB for mated pair connectors of all types. Maximum splice loss is 0.3dB.
- Maximum return loss is 20dB for multimode and 26dB for singlemode fiber.
- All fiber links are tested individually.

#### **568SC Standard Fiber Connector**

- Most widely recognized connector for multimode and singlemode applications.
- Each channel in a duplex SC interconnect are referred to as Position "A" and Position "B".
- A 62.5/125 multimode SC connector housing or adapter shall be beige.
- A 50/125 multimode SC connector housing or adapter shall all be agua.
- A singlemode SC connector or adapter shall be blue.

### **Small Form Factor Connectors (SFF)**

- Approved for use in main cross connects, horizontal and backbone cabling, consolidation points, and the work area.
   Use for high-density applications.
- SFF connector type "LC" is recommended most.

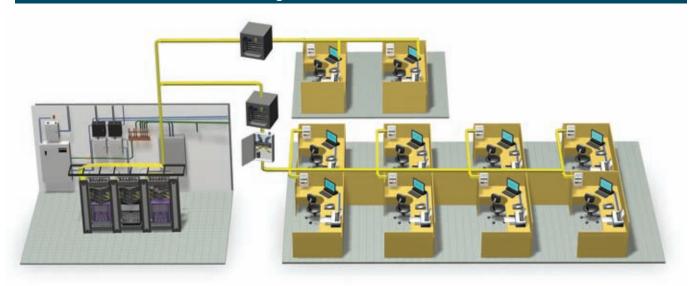
## Minimum Bend Radius and Maximum Pulling Tension

- 2 and 4 fiber cables for horizontal cabling shall not exceed a minimum of 25mm (1") bend radius with no applied load.
- 2 and 4 fiber cables for horizontal cabling shall not exceed a minimum of 50mm (2") bend radius with a maximum applied load of 222N (50lbf).
- All other indoor fiber cables shall not exceed a minimum bend radius of 10 times the cable outside diameter (O.D.) with no applied load, and 15 times the cable O.D. with the rated load applied.
- Outside plant fiber cables shall not exceed a minimum bend radius of 10 times the cable O.D. with no applied load, and 20 times the cable O.D. with the rated load applied.
- Outside plant cables shall have a minimum pull strength of 2670N (600lbf).
- Drop cables shall have a minimum pull strength of 1335N (300 lbf).
- Workstation (patch cord) cables shall have a minimum pull strength of 50N (11lbf).

## Fiber Cable Transmission Performance Parameters

Optical fiber	Wavelength	Max. Attenuation	Bandwidth
	0		
cable type	(nm)	(dB/km)	(MHz-Km)
50/125μm	850	3.5	500
Multimode	1300	1.5	500
50/125μm	850	3.5	2000
Laser Optimized	1300	1.5	500
62.5/125μm	850	3.5	160
Multimode	1300	1.5	500
Singlemode	1310	1	N/A
Inside Plant	1550	1	N/A
Singlemode	1310	0.5	N/A
Outside Plant	1550	0.5	N/A

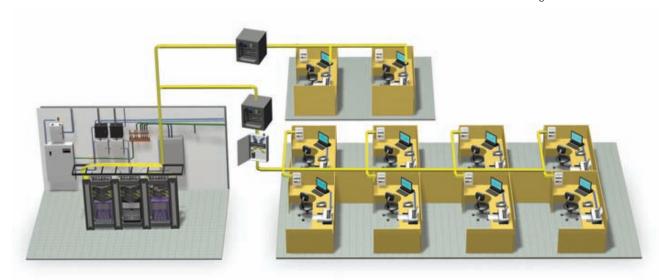
## **Backbone and Horizontal Fiber Cabling Structure**



# ANSI/TIA-568-C.0 AND C.3: OPTICAL FIBER CABLING AND COMPONENTS

#### **Fiber Link Testing**

An optical fiber link test configuration includes a length of passive horizontal or backbone cable with a connector attached to each end. Consolidation point connections are permitted within the system loss budget. Each individual link segment in a fiber backbone or horizontal run must be tested. The total link insertion loss is the sum of the individual link segment losses.



#### **Recommended Optical Fiber Installation Practices**

#### **Cable Runs**

- Use inner duct through conduit and sleeves to protect cables from abrasion.
- Conduit fill rules apply: 40% maximum fill and no more than (2) 90° bends in a single run.
   A 50% conduit fill is permitted for a single cable.
- Maintain proper bend radius in all locations. Use a bend radius drum for strain relief and support.
- Vertical cables must be supported by the internal strength member.
- Do not use clamps or staples to support cables.
- Use the proper pulling method, and do not exceed the cable tensile load rating.
   Consult the cable manufacturer.

## **Stripping and Cable Prep**

- Use the proper cable strip tools to avoid damage to fibers.
- Use the ripcord to remove cable jacket.
- Never use a utility knife for scoring the cable or sheath.
- Establish all break-out locations before connectorization.

#### Connectorization

- Use a VFL when terminating pre-polish connectors.
- Terminate and test in small batches.
- Relieve all cable weight from the installed connectors.
- Always clean and inspect connector end face before mating into the adapter.
- Check several channels with an OTDR to verify cable installation is free of micro-bends.

### **Service Loops**

- Leave several large coils of main run cable at each end of the run.
- Leave approximately 2-3 meters of buffered fiber coiled in fiber enclosures.
- Leave 1 meter of buffered fiber coiled behind wall outlets.











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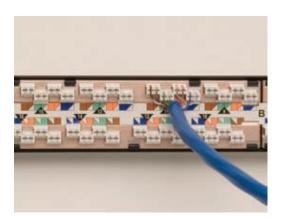
# RECOMMENDED BALANCED TWISTED PAIR INSTALLATION PRACTICES

- Use the proper strip tool for the cable jacket. Do not cut into the conductor pairs.
- For best results, use the zip cord and peel away the cable jacket.
- Position the stripped cable jacket as close as possible to the termination point to minimize exposure of the twisted pairs.
- Maintain the natural twist of all conductor pairs as close as possible to the termination point. For Category 5e, 6 and 6A wiring, the maximum length of untwisted pairs is 0.5". Minimum untwisting optimizes return loss performance.
- Never uncoil UTP cable from a stationary spool. Permanent kinks will result from straightening, and NEXT failures may occur. Unwind the cable by rotating the spool with steady speed and tension. Also avoid scraping and kinking when feeding into conduit or raceway.
- Store cable slack for wall outlets above the ceiling for future re-termination.
- Use proper supports and spacing to minimize sag in horizontal runs. Long runs should use cable trays. Do not overload cable supports and trays.
- Do not exceed 40% cable fill ratio in any pathway.
- Avoid EMI by maximizing the separation distance from high voltage circuits, transformers, motors, etc. For shared pathways, use partitioned raceway with 2" minimum separation from power wiring.
- Do not run UTP cables over heater ducts or hot water ducts. High temperatures may degrade performance and deteriorate the cable jacket.
- Centralize TRs to equalize the horizontal cable runs on each floor. Maximum horizontal distance is 90 meters.
- Never use staples to position and manage cables.
- Use good cable management practices to maintain proper bend radius.
- For Category 6 and 6A cabling, store service loops in a figure-8 pattern to minimize cross-talk and EMI noise pick-up.
- All grounding and bonding shall be according to ANSI/TIA-607-B.

## **Category 6A Installation Practices**

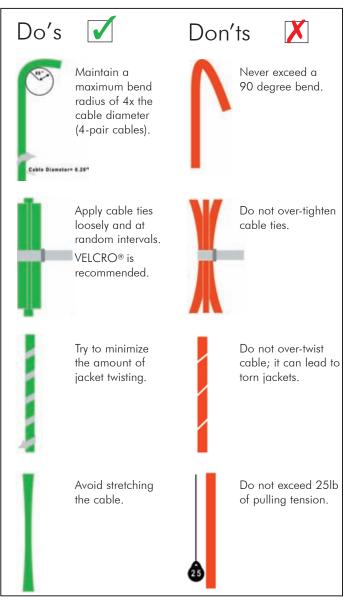
Refer to Hubbell 10GbE cabling guidelines online.

Note: Larger cable diameters will have an impact on design, pathway fill capacity, and cable deployment.



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# **ANSI/TIA-569-C: Telecommunications Pathways** AND SPACES

The applications below are supported by this standard.

#### 569C: Surface (Perimeter) Raceway Systems

- May contain work area outlets at desired locations.
- Include the base channel, cover, fittings and outlet accessories.
- May be either single channel or multi-channel with dividers.
- Are designed to maintain 25mm (1in) minimum cable bend radius.
- Can be installed as baseboard, chair rail, or ceiling runs with vertical feeders.
- Support single or multiple room distribution.
- Should be sized at 40% max cable fill to accommodate future expansion.

Note: Metallic raceway systems shall be properly bonded to ground per J-STD-607-A. Never combine power and data cabling within a single raceway channel.



## **569C: Furniture Pathways and Spaces**

- Separation requirements apply for power and data cabling.
- Furniture pathways shall have a minimum cross section area of 9.5 cm<sup>2</sup> (1.5 in<sup>2</sup>).
- This specification is based on a work area cluster serving four persons with three outlet connections each.

Note: The usable cross sectional area may be reduced by bend radius limits of the installed cables..



#### 569C: Access Floor Pathways and Spaces

- Standard access floors shall have a minimum of 150mm (6in) finished floor height.
- A floor height of 200mm (8in) is the recommended clearance for cable trays.
- The free space above any cable tray or raceway under an access floor must allow for easy removal of covers.
- Connecting hardware is prohibited below the access floor, however a consolidation point is permitted as an exception.
- Locate penetration points and floor outlets away from office traffic.
- All standards apply for separation of power and data cables.

#### 569C: Poke-Through Fittings

- A poke-through device is used for penetration of building cabling through above-grade structural floors. Typically available in flush or raised configurations.
- Maintain fire rating of the floor after installation.
- Provide power and/or data service ports in limited capacity.

Note: Consult a structural engineer before penetrating load-bearing floors.



## 569C: In-Floor Systems

- Typically specifies embedded ducting in concrete or cellular floor configurations.
- Design of these systems applies to new building constructions.

#### 569C: Multi-Tenant Pathways and Spaces

- Specifies common equipment and telecommunications rooms.
- Also includes provisions for shared access and service provider spaces.

#### 569C: Cable Trays and Wireways

• Describes various pre-fabricated structures for supporting and routing cables.

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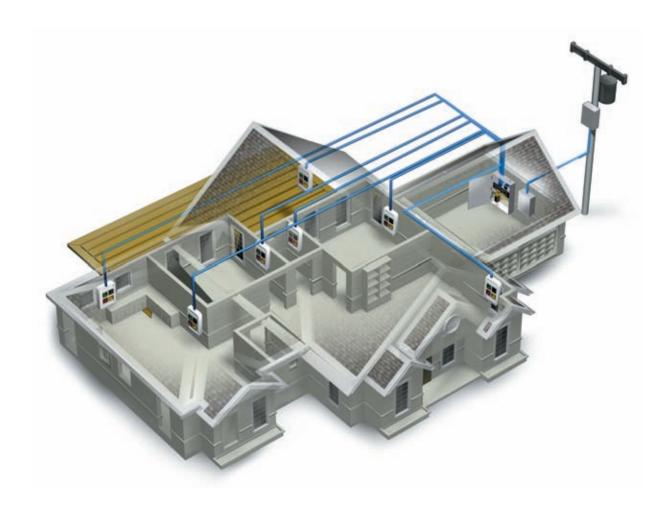
# ANSI/TIA-570-B: RESIDENTIAL TELECOMMUNICATIONS CABLING STANDARD

This standard specifies cabling infrastructure for distribution of telecommunications services in single or multi-tenant dwellings. Residential cabling begins at the interface with the access provider, known as the Demarcation Point. The in-house cable distribution follows a star topology. Cabling for audio, security, and home controls have been added to this standard in the addenda listed below.



There are two grades of residential cabling:

- Grade 1: Minimum requirement
  - One 4-pair UTP Category 5e minimum cable and connecting hardware
  - One  $75\Omega$  series 6 coaxial cable and connecting hardware
- Grade 2: Advanced multimedia (recommended)
  - Two 4-pair UTP Category 5e minimum cable and connecting hardware
  - Two  $75\Omega$  coaxial cables and connecting hardware
  - One pair of cabled multimode optical fibers (optional)



# ANSI/TIA-606-B: Administration Standard for Commercial Telecommunications Infrastructure

This standard establishes basic guidelines for identification, labeling, and record keeping. These practices are essential for continued operation and maintenance of a cabled network. The advantages of identifying and documenting all elements of the cabling infrastructure are:

- Improved traceability of the network connections, paths, and locations
- Moves, adds and changes (MACs) are easily implemented
- Maintenance and troubleshooting is simplified

# Key Elements of the Network that Require Identifier Labels and Records:

- Connecting hardware and splices
- Cables
- Telecommunications pathways (conduit, firestops, etc.)
- Telecommunications spaces (EF, ER, TR, WA)
- Grounding and bonding locations (TMGB, TGB, TBB)
- Equipment
- Building
- Outside plant (OSP) cables and pathways

#### **Four Classes of System Administration:**

- Class 1: single building, 1 TR
- Class 2: single building, multiple TRs
- Class 3: campus with OSP
- Class 4: multi-campus/multi OSP

### **Requirements for Records**

- Drawings and documents must be backed up and secured by the building administration.
- Moves, adds and changes (MACs) must be documented with a change order.
- MACs must be updated in the permanent records.
- All identifier information must be cross-referenced in the permanent records.

#### **Requirements for Labels**

- All labels must use a traceable, permanent identifier.
- Each cable and pathway must be labeled on both ends.
- All labels shall meet UL969 legibility, defacement and adhesion requirements.
- Station connections may be labeled on the face plate.
- All jack, connector and block hardware can be labeled on the outlet or panel.

## **Requirements for Identifiers**

- Identifiers should have a logical alphanumeric code.
- The code number should link to detailed permanent records.
- Standard 606-B color codes should be used for all crossconnect fields.

### **606-B Color Coding**

Demarcation point (Po

Demarcation point (Pantone 150C) – Central Office

Green

Network connections on customer's side (Pantone 353C)

Purple

Common equipment (Pantone 246C) - PVBX, LANs

White

1st level backbone - Main to Intermediate

Grav

2nd level backbone (Pantone 422C) – Intermediate to Telecom

DI.

Horizontal cabling (closet end only) (Pantone 291C) – Work Area

Brown

Inter-building backbone (Pantone 465C) – Campus Environment

Yellow

Auxiliary circuits (Pantone 101C) – Alarm, Security, etc.

Red

Key telephone systems (Pantone 184C)

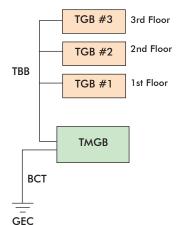


# ANSI/TIA-607-B: COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS



This standard specifies grounding and bonding design and distribution methods for commercial buildings. Proper earth grounding of the building structure and wiring is a requirement of the National Electric Code (NEC). Bonding all electrical and telecommunications equipment to the primary grounding electrode conductor (GEC) is essential for maximizing performance and safety. Note: Bonding to water pipes is now a code violation.

Bonding telecommunications equipment, facilities, and cabling to the primary grounding electrode is accomplished using the following major elements:



- Grounding Electrode Conductor (GEC)
- Bonding Conductor (BC)
- Telecommunications Main Grounding Busbar (TMGB)
- Telecommunications Bonding Backbone (TBB)
- Telecommunications Grounding Busbar (TGB)

J-STD-607-A specifies the TMGB and TGB as a pre-drilled solid copper bar that extends the GEC for connecting the TBB. The TBB is typically a 6AWG stranded copper conductor that joins the copper TGBs on each floor of the building. A TGB is located in every TR and ER in the building. J-STD-607A also recommends surge protection devices for active telecommunications equipment.

Note: The GEC is the largest grounding conductor and extends into the earth to a specified depth.

- The TBB should be continuous with no splices.
- Connections to the TBB must use listed compression fittings.

# ANSI/TIA-862A: BUILDING AUTOMATION SYSTEMS CABLING STANDARD FOR COMMERCIAL BUILDINGS

This standard establishes guidelines for structured cabling of low-voltage building automation systems (BAS). BAS wiring and control systems are converging with telecommunications infrastructures. NEC allows power-limited BAS systems to share the pathways and spaces with telecommunications infrastructure. LAN cabling is therefore not limited to voice and data transmission, and BAS applications present a new opportunity. Converging BAS with telecommunications are driving new industry standards. Designers must consider BAS cabling when sizing pathways and spaces in a building.

#### **Key Advantages of Converging BAS and Telecom Cabling**

- Project responsibility is reduced to a single team.
- The building design and system administration is simplified.
- Consolidation of service, equipment, and cabling facilities is achieved.
- Common pathways and bonding points create a centralized infrastructure.
- Cabling installation and practices of ANSI/TIA-568-C can be utilized.

#### **Basic Cabling Requirements for BAS**

- The horizontal cabling, installation, and BAS outlet connector shall meet ANSI/TIA-568-C.1.
- A distributed or centralized star topology should be used.
- Recognized cables for BAS horizontal and backbone:
  - 100 Ohm balanced twisted pair cable (ANSI/TIA-568-C.2)
  - Multimode or singlemode optical fiber (ANSI/TIA-568-C.3)
- The BAS outlet may be connected from an HC or an optional CP.
- Shared pathways of BAS/telecom cables must be code and capacity compliant.
- For use with balanced twisted pair cable, the BAS device operating voltage and current are limited per ANSI/TIA-862A, Annex "A".
- Separation of services is recommended in ANSI/TIA-862A, Annex "B". Shared cable sheath of BAS and telecommunications wiring is not recommended.



# ANSI/TIA-942A: TELECOMMUNICATIONS INFRASTRUCTURE STANDARDS FOR DATA CENTERS

TIA-942A defines a data center as a building or portion of a building dedicated to housing large scale computer rooms and support facilities. Data centers are highly protected facilities that typically serve large private institutions or public service providers. Engineering design considerations for data centers include: architectural layout, space allocation, power, cooling, security, floor loading, telecommunications cabling distribution, and disaster avoidance/recovery.

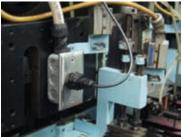
Data centers have a high level of fault tolerance, with (4) tiers of redundancy for all critical systems and support functions. Higher tiers are inclusive of lower tiers of redundancy, and provide increased levels of protection from service interruptions caused by specific events, such as fire or earthquakes. A Tier 4 facility provides maximum service availability, and is also the most costly construction.



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# ANSI/TIA-1005-A: INDUSTRIAL

# TELECOMMUNICATION INFRASTRUCTURE





The official standard is developed by the TIA/TR-4.9 Industrial Telecommunications Infrastructure Subcommittee. This standard defines the requirements for cabling, connectors, pathways, and spaces designed to operate in harsh environments.

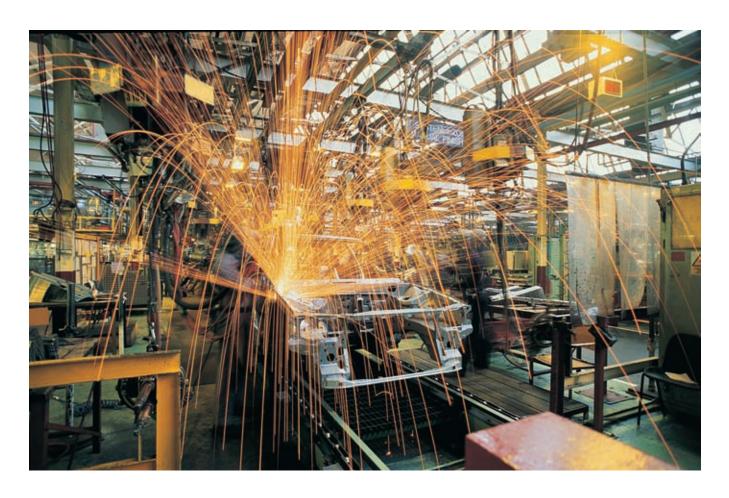
For the Industrial Ethernet application, the basic performance and reliability sections of ANSI/TIA-568-C apply. Additional requirements are defined in TIA-1005A to incorporate harsh environments.

TR-42.9 has established four conditions (MICE) TIA-568-C.0 that define the industrial environment:

- Mechanical (shock, vibration, impact, etc.)
- Ingress (contamination influx)
- Climate (temperature, humidity, UV exposure, etc.)
- Electromagnetic (conducted and radiated interference): Industrial Ethernet components are rated to withstand these conditions under specific levels of severity. The level of severity is determined by the application.
- Ingress Protection (IP) codes are a two-digit code with the following criteria:
  - First digit: degree of protection from human contact with hazardous elements inside an enclosure, or from influx of foreign matter.
  - Second digit: degree of protection of equipment inside enclosures from the influx of water.

Example: IP67 (6 = first digit, 7 = second digit)

Note: The higher the number, the higher the degree of protection from human contact and influx of water.



# STANDARD UTP WIRING CONVENTIONS

#### **Horizontal UTP Cable and Patch Cords**

- Solid copper 4-pair 24 AWG UTP is specified for distribution cabling. Stranded UTP is specified for patch cords for flexibility. Shielded cable is not commonly used in the U.S. Splices bridge taps are not permitted.
- Cable, connectors and patch cords shall be marked with the performance category.
   Always match performance categories of cables and components throughout the infrastructure.
- All cable, cords and connecting hardware shall meet performance requirements of ANSI/TIA-568-C.2. Hubbell assures this compliance with all products and cable partners.

#### **COLOR CODING:**



white-blue/blue white-orange/orange white-green/green white-brown/brown

#### **Backbone UTP Cable**

- Solid copper 4-pair and 25-pair UTP is specified. An overall shield is optional.
- Performance category markings and compliance to ANSI/TIA-568-C.1 and 568-C.2 is required.
- Circuits with incompatible signals should be partitioned in separate binder groups. Prior to making shared sheath circuit assignments, consult the equipment manufacturer for signal characteristics (i.e., frequency, amplitude, voltage, etc.).
- · Tip conductor insulation colors are matched to the binder group. Ring conductor insulation colors correspond the pair.

## **Recognized Connector and Wiring Configurations**

- 8-position modular jack/plug
- 8-position modular panel/plug
- T568A wiring or T568B wiring options
- Cat 5e, Cat 6 or Cat 6A recommended





#### **RJ-45 ANSI/TIA-568 Wiring Conventions**

Two wiring standards were adopted. Both configurations are based on maximum transmission performance.



#### T568A

- 1: Green/White
- 2: Green
- 3: Orange/White
- 4: Blue
- 5: Blue/White
- 6: Orange
- 7: Brown/White
- 8. Brown
- Preferred method
- Directly compatible with 2-pair voice and token ring systems utilizing 6-position connectors



#### T568F

- 1: Orange/White
- 2: Orange
- 3: Green/White
- 4: Blue
- 5: Blue/White
- 6: Green
- 7: Brown/White 8: Brown
- Optional method
- AT&T® standard
- Directly compatible with AT&T phone systems

 $AT\&T^{\$}$  is a registered trademark of AT&T Inc.



# STANDARD UTP WIRING CONVENTIONS

## **USOC Conventions**

Universal Service Ordering Codes (USOC) are a series of Registered Jack (RJ) wiring configurations developed by the Bell System<sup>®</sup> for connection of customer premises equipment to the network. FCC regulations govern these configurations.



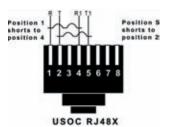












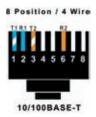


#### **Color Coding**

TIP	RING
Pair 1 T1 – White/Blue	Pair 1 R1 - Blue
Pair 2 T2 – White/Orange	Pair 2 R2 – Orange
Pair 3 T3 – White/Green	Pair 3 R3 - Green
Pair 4 T4 – White/Brown	Pair 4 R4 – Brown

#### **LAN Wiring Conventions**

Local area network (LAN) standards designed to operate over UTP specify pin/pair assignments on modular connectors for various signal transmission protocols. While ANSI/TIA-568A and 568B conventions support all these designations, there are some cases where the user chooses to cable only the number of pairs required to support these applications.



- 10 Mbps Ethernet over UTP
- Uses only two pairs
- 100 Mbps Ethernet



- 4/16 Mbps token ring over copper
- Uses only two pairs



- 100 Mbps FDDI over copper
- Uses only two pairs



- 1000 Mbps Ethernet over UTP
- Uses all four pairs

# STANDARD UTP WIRING CONVENTIONS

# **Block Wiring**

Standard color codes for 25-pair UTP cable are specified in the chart below.

Wire/Color Code	Tip and Ring	Pair Number	50 Pin Positions	66 or 110 Block Positions
white/blue blue/white	Tip 1 Ring 1	Pair 1	26 1	1 2
white/orange orange/white	Tip 2 Ring 2	Pair 2	27 2	3 4
white/green green/white	Tip 3 Ring 3	Pair 3	28 3	5 6
white/brown brown/white	Tip 4 Ring 4	Pair 4	29 4	7 8
white/slate slate/white	Tip 5 Ring 5	Pair 5	30 5	9 10
red/blue blue/red	Tip 6 Ring 6	Pair 6	31 6	11 12
red/orange orange/red	Tip 7 Ring 7	Pair 7	32 7	13 14
red/green green/red	Tip 8 Ring 8	Pair 8	33 8	15 16
red/brown brown/red	Tip 9 Ring 9	Pair 9	34 9	17 18
red/slate slate/red	Tip 10 Ring 10	Pair 10	35 10	19 20
black/blue blue/black	Tip 11 Ring 11	Pair 11	36 11	21 22
black/orange orange/black	Tip 12 Ring 12	Pair 12	37 12	23 24
black/green green/black	Tip 13 Ring 13	Pair 13	38 13	25 26
black/brown brown/black	Tip 14 Ring 14	Pair 14	39 14	27 28
black/slate slate/black	Tip 15 Ring 15	Pair 15	40 15	29 30
yellow/blue blue/yellow	Tip 16 Ring 16	Pair 16	41 16	31 32
yellow/orange orange/yellow	Tip 17 Ring 17	Pair 17	42 17	33 34
yellow/green green/yellow	Tip 18 Ring 18	Pair 18	43 18	35 36
yellow/brown brown/yellow	Tip 19 Ring 19	Pair 19	44 19	37 38
yellow/slate slate/yellow	Tip 20 Ring 20	Pair 20	45 20	39 40
violet/blue blue/violet	Tip 21 Ring 21	Pair 21	46 21	41 42
violet/orange orange/violet	Tip 22 Ring 22	Pair 22	47 22	43 44
violet/green green/violet	Tip 23 Ring 23	Pair 23	48 23	45 46
violet/brown brown/violet	Tip 24 Ring 24	Pair 24	49 24	47 48
violet/slate slate/violet	Tip 25 Ring 25	Pair 25	50 25	49 50

# AUDIO VIDEO CABLING

AV line signal-level cabling and connectors are an integral part of structured horizontal cabling. Low voltage AV cabling may share the same pathways and wall outlet boxes with twisted pair or fiber data cabling. However, according to NEC 2005 Article 725.56(F), Class 1 audio power cables are prohibited from sharing the same pathway with any other Class 2 or Class 3 low voltage control wiring or network cables.

#### **Common AV Media Interface Connectors**

VGA 15-pin

HDMI 15-pin

RCA Component



RJ-45 USB

S-Video





RCA Composite



RCA feed-through

## **Types of AV Cable Media**

• Co-axial: RG6, RG59

DVI

• 15-wire: VGA/HDMI

• 2-wire audio: 26 to 14 AWG

• 4-pair balanced UTP or FTP

USBHDMI

• Display port



# AV Cable Distance Limits and Other Considerations

Total channel distances are limited for specific applications. USB channel lengths should not exceed 5.0 meters. Fire wire channel lengths should not exceed 4.5 meters. Horizontal cabling installations should allow for proper bend radius inside outlet boxes and behind walls.

Shared pathways with other communications or low voltage cabling should be analyzed for any potential signal interference issues.

## Installation Tips

3.5mm Stereo Jack

- Do not exceed cable minimum bend radius when installing connectors. Contact cable manufacturer for bend radius specifications.
- Soldering: Use the proper wire and solder temperature. Note: A "cold solder" will cause termination failures.
- Screw terminal: Strip wire insulation to proper length. Capture all strands neatly during insertion.

#### Two Basic Forms of Audio Signal

- Analog audio: sound waves are modulated into a continuous electrical signal.
- Digital audio: analog audio signal is encoded into digital bits.

#### **Two Basic Forms of Video Signal**

- Composite Video (low resolution)
  - Three color components delivered by one single cable; no audio content
  - Max resolution: 480i
- Component Video (high resolution)
- Red/Green/Blue (RGB) color components delivered by three separate cables, with audio content
- Resolution up to 1080i

HPW Product Compatibility Chart	Port Configurations						
Product	1	2	3	4	6	9	12
Hubbell iSTATION Module, 1U Flat	✓	✓	_	-	_	-	_
Hubbell iSTATION Module, 1.5U Angled	✓	✓	_	-	_	-	_
Hubbell iSTATION Module, 1.5U Recessed, Angled	✓	✓	_	-	_	-	_
IFP Plates, 1-Gang	✓	✓	✓	✓	✓	-	_
IFP Plates, 2-Gang	_	_	_	-	✓	<b>✓</b>	✓
Tamper-Proof Plates	-	-	_	/	-	-	-
Stainless Steel Plates, 1-Gang	✓	<b>✓</b>	1	/	<b>✓</b>	-	_
Stainless Steel Plates, 2-Gang	-	-	_	-	<b>✓</b>	<b>✓</b>	<b>✓</b>
ISM Surface Mount Housings	✓	✓	_	/	<b>✓</b>	-	✓
ISF Outlet Frames	_	<b>✓</b>	✓	/	<b>✓</b>	-	_
Quad 106 Outlet Frames	-	✓	_	/	_	-	_
Furniture Plates	_	✓	_	✓	_	_	_
OFPPL Multimedia Plate	-	_	-	✓	_	_	_
AMO Multimedia Housing	✓	✓	✓	✓	✓	✓	✓
UDX Jack Panels, 1U, 24-port	✓	✓	✓	✓	<b>✓</b>	✓	<b>✓</b>
UDX Jack Panels, 1U, 36-port	✓	1	<b>✓</b>	1	<b>✓</b>	<b>✓</b>	<b>✓</b>

# **APPLICATION GUIDES: CABLING CHANNEL SOLUTIONS**

# Category 5e/6/6A Solution (without Consolidation Point)

## Applications Supported

- ♦ 10BASE-T
- **♦ 100BASE-T**
- **♦ 1000BASE-T**
- **♦ 10GBASE-T**

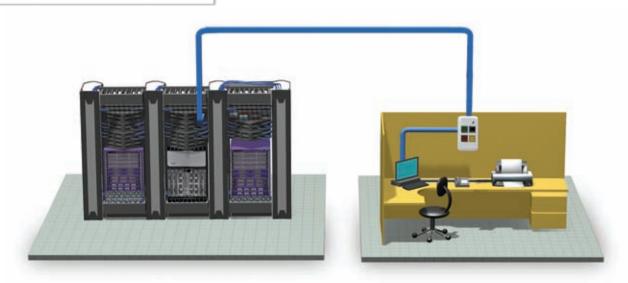
- ◆ Token Ring
- **◆ ATM 155**
- ◆ TP PMD

♦ ISDN

◆ VoIP

#### **Hubbell Solutions**

Product	Cat 6A Solution	Cat 6 Solution	Cat 5e Solution
1 Patch Cord	PC6A Series	PCX6 Series	PCX5E Series
2 Patch Panel	HP6A Series	P6E or PXJ Series	P5E Series
3 Plates	IFP or IMF Series	IFP or IMF Series	IFP or IMF Series
④ Jack(s)	HJ6A	HXJ6	HXJ5E
5 Cable	C6A Series	C6 Series	C5E Series



# Category 5e/6 Solution (with Consolidation Point)

### Applications Supported

- ♦ 10BASE-T
- **♦ 100BASE-T**
- ◆ 1000BASE-T
- **♦ ISDN**
- Token Ring
- ◆ ATM 155
- ◆ TP PMD
- VoIP

### **Hubbell Solutions**

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Product	Cat 6 Solution	Cat 5e Solution
1 Patch Cord	PCX6 Series	PCX5E Series
2 Patch Panel	P6E or PXJ Series	P5E Series
3 Plates	IFP or IMF Series	IFP or IMF Series
4 Jack(s)	HXJ6	HXJ5E
5 or 110 Block	6110 Series	110BLK Series
6 Cable	C6 Series	C5E Series



# **APPLICATION GUIDES: CABLING CHANNEL SOLUTIONS**

# 25-Pair UTP

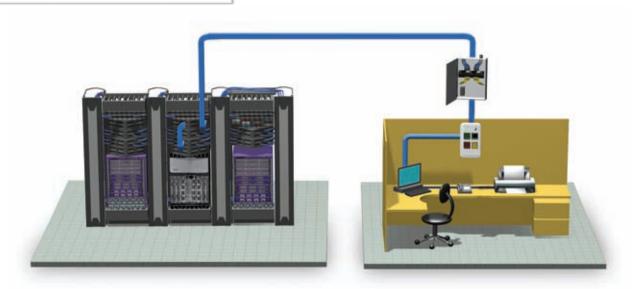
## Applications Supported

- ♦ 10BASE-T
- **♦ 100BASE-T**

## **Hubbell Solutions**

Pro	oduct	100BASE-T	10BASE-T
1	25-Pair Cable Assembly	525PS Series	Customer Supplied
2	Patch Panel	MCCxx100BT19*	
3	Patch Cord	PCX6 Series	PCX5E Series
4	Plate	IFP or IMF Series	IFP or IMF Series
(5)	Jack(s)	HXJ6 Series	HXJ5E Series

\*xx changes with port capacity, length or style, depending on the product.



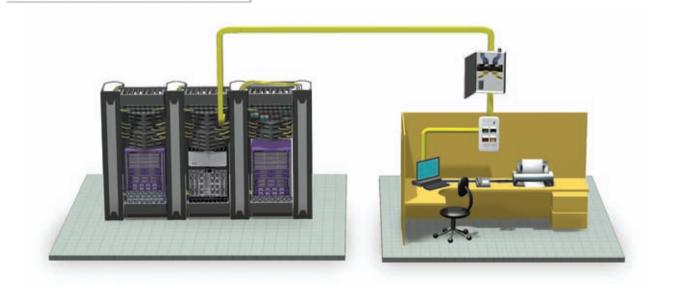
# **Fiber Solutions**

### Applications Supported

- → 1000BASE-SX/LX
- ◆ ATM (Fiber)
- **♦ 10GBASE-SX/LX**

## **Hubbell Multimode Solutions**

Proc	duct	Fiber Solution
1	Patch Cord	DFPSC Series
2	Patch Panel	FPR/FCR Series
3	Plates	IFP, IMF or AFP Series
4	Fiber connector	Hubbell OptiChannel or 2CLICK® Series



# **PRODUCT COLOR CHARTS**



#### **Jack Colors AL**=Almond **BK**=Black **B**=Blue **BN=Brown GY**=Gray EI=Electric Ivory **GL**=Gold GN=Green LA=Light Almond **OW**=Office White **P**=Purple **OR**=Orange **Y**=Yellow R=Red TI=Telco Ivory **W**=White



# Plates, Frames, Modules, Snapfits and Surface Mount Box Colors

<b>AL</b> =Almond	<b>BK</b> =Black	EI=Electric Ivory	<b>GY</b> =Gray
<b>LA</b> =Light Almond	<b>OW</b> =Office White	<b>W</b> =White	



# **Fiber Adapter Colors for AMO Box**

<b>AQ</b> =Aqua	<b>BE</b> =Beige	<b>BK</b> =Black	EI=Electric Ivory	GN=Green
<b>OR</b> =Orange	R=Red	<b>Y</b> =Yellow		



# **Patch Cord Colors**

<b>BK</b> =Black	<b>B</b> =Blue	<b>GY</b> =Gray	<b>GN</b> =Green	<b>OR</b> =Orange
<b>P</b> =Purple	<b>R</b> =Red	<b>W</b> =White	<b>Y</b> =Yellow	

# **Residential Flush Floor Box Covers**



## **Hubbell SystemOne Universal Covers**



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110CB5PR10         E16         525PS2215E         D10         AMOBSCD         B14         AVRCT1           110FPP4PR         E16         525PS2305E         D10         AMOBSCDBNK         B14         AVS3505           110RM14         E17         525PS2310E         D10         AMOBSCDSAQ         B14         AVS3510           110RM15NT         E17         525PS2315E         D10         AMOBSCDSBE         B14         AVS3511           110RM15NT         E17         525PS2R06-1ME         D10         AMOBSCDSBK         B14         AVSCR05           110RM24         E17         525PS2R06-2ME         D10         AMOBSCDSGN         B14         AVSCR10           110RM24NT         E17         525PS2R16-3ME         D10         AMOBSCDSGN         B14         AVSCR11           110RM25         E17         525PS2R12-1ME         D10         AMOBSCDSOR         B14         AVSRA05           110RM25         E17         525PS2R12-2ME         D10         AMOBSCDSOR         B14         AVSRA10           110TRA         E18         6110CB4PR10         E14         AMOBSCDSR         B14         AVSRC05           110TRB         E18         6110FFK192WL         A4,E14         AMOBSCDS         <	
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110RM14         E17         525PS2310E         D10         AMOBSCDSAQ         B14         AVS3510           110RM14NT         E17         525PS2315E         D10         AMOBSCDSBE         B14         AVS35T1           110RM15         E17         525PS2R06-1ME         D10         AMOBSCDSBK         B14         AVSCR05           110RM15NT         E17         525PS2R06-2ME         D10         AMOBSCDSEI         B14         AVSCR10           110RM24         E17         525PS2R06-3ME         D10         AMOBSCDSGN         B14         AVSCR11           110RM24NT         E17         525PS2R12-1ME         D10         AMOBSCDSOR         B14         AVSRA05           110RM25         E17         525PS2R12-2ME         D10         AMOBSCDSOW         B14         AVSRA10           110RM25NT         E17         525PS2R12-3ME         D10         AMOBSCDSR         B14         AVSRA11           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AVSRC05           110WK         E18         6110FFK92WL         A4,E14         AMOBSCDSY         B14         AVSRC10           15A6P1         C4,C10         6110FFK64WL         A4,E14         AMOLCQSBE	
110RM14NT         E17         525PS2315E         D10         AMOBSCDSBE         B14         AVS35T1           110RM15         E17         525PS2R06-1ME         D10         AMOBSCDSBK         B14         AVSCR05           110RM15NT         E17         525PS2R06-2ME         D10         AMOBSCDSEI         B14         AVSCR10           110RM24         E17         525PS2R06-3ME         D10         AMOBSCDSGN         B14         AVSCR11           110RM24NT         E17         525PS2R12-1ME         D10         AMOBSCDSOR         B14         AVSRA05           110RM25         E17         525PS2R12-2ME         D10         AMOBSCDSOW         B14         AVSRA10           110RM25NT         E17         525PS2R12-3ME         D10         AMOBSCDSR         B14         AVSRA10           110TRA         E18         6110CB4PR10         E14         AMOBSCDSR         B14         AVSRC05           110WMK         E18         6110FPP4PR         E14         AMOBSCDSY         B14         AVSRC10           14S10         C11         6110FTK64NL         A4,E14         AMOLCQ         B14         AVSRC11           15A6P1         C4,C10         6110FTK64WL         A4,E14         AMOLCQSBE	
110RM15         E17         525P\$2R06-1ME         D10         AMOBSCDSBK         B14         AVSCR05           110RM15NT         E17         525P\$2R06-2ME         D10         AMOBSCDSEI         B14         AVSCR10           110RM24         E17         525P\$2R06-3ME         D10         AMOBSCDSGN         B14         AVSCR11           110RM24NT         E17         525P\$2R12-1ME         D10         AMOBSCDSOR         B14         AVSRA05           110RM25         E17         525P\$2R12-2ME         D10         AMOBSCDSOW         B14         AVSRA10           110RM25NT         E17         525P\$2R12-3ME         D10         AMOBSCDSR         B14         AVSRA10           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AVSRC05           110TRB         E18         6110FPP4PR         E14         AMOBSCDSY         B14         AVSRC10           110WMK         E18         6110FTK64NL         A4,E14         AMOLCQ         B14         AVSRC11           15A6P1         C4,C10         6110FTK64WL         A4,E14         AMOLCQSBE         B14         BPC11           15A6P10         C4,C10         6110MPPDT         E14,U3         AMOLCQSBE	
110RM15NT         E17         525P\$2R06-2ME         D10         AMOBSCDSEI         B14         AVSCR10           110RM24         E17         525P\$2R06-3ME         D10         AMOBSCDSGN         B14         AVSCR11           110RM24NT         E17         525P\$2R12-1ME         D10         AMOBSCDSOR         B14         AVSRA05           110RM25         E17         525P\$2R12-2ME         D10         AMOBSCDSOW         B14         AVSRA10           110RM25NT         E17         525P\$2R12-3ME         D10         AMOBSCDSR         B14         AVSRA10           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AVSRC05           110TRB         E18         6110FPP4PR         E14         AMOBSCDSY         B14         AVSRC10           110WMK         E18         6110FFK64NL         A4,E14         AMOLCQ         B14         AVSRC10           15A6P1         C4,C10         6110FTK64NL         A4,E14         AMOLCQSAQ         B14         BC285SB100           15A6P10         C4,C10         6110MPPDT         E14,U3         AMOLCQSBE         B14         BPC11A           15GC10         C10         6110MPPDT1         E14,U3         AMOLCQSEI	
110RM24.         E17         525P\$2R06-3ME         D10         AMOBSCDSGN         B14         AVSCRT1           110RM24NT         E17         525P\$2R12-1ME         D10         AMOBSCDSOR         B14         AV\$RA05           110RM25         E17         525P\$2R12-2ME         D10         AMOBSCDSOW         B14         AV\$RA10           110RM25NT         E17         525P\$2R12-3ME         D10         AMOBSCDSR         B14         AV\$RA11           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AV\$RC05           110TRB         E18         6110FPP4PR         E14         AMOBSCDSY         B14         AV\$RC10           110WMK         E18         6110FFK64VL         A4,E14         AMOLCQ         B14         AV\$RC10           14\$10         C1         6110FTK64NL         A4,E14         AMOLCQ\$AQ         B14         BC285SB100           15A6P1         C4,C10         6110FTK64WL         A4,E14         AMOLCQ\$BE         B14         BPC11           15A6P10         C4,C10         6110MPPDT         E14,U3         AMOLCQ\$BE         B14         BPC11A           15GC10         C10         6110MPPDT1         E14,U3         AMOLCQ\$EI <t< td=""><td></td></t<>	
110RM24NT         E17         525PS2R12-1ME         D10         AMOBSCDSOR         B14         AVSRA05           110RM25         E17         525PS2R12-2ME         D10         AMOBSCDSOW         B14         AVSRA10           110RM25NT         E17         525PS2R12-3ME         D10         AMOBSCDSR         B14         AVSRA11           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AVSRC05           110TRB         E18         6110FPP4PR         E14         AMOBST2         B14         AVSRC10           110WMK         E18         6110FTK192WL         A4,E14         AMOLCQ         B14         AVSRCT1           14S10         C11         6110FTK64NL         A4,E14         AMOLCQSAQ         B14         BC285SB100           15A6P1         C4,C10         6110FTK64WL         A4,E14         AMOLCQSBE         B14         BPC11           15A6P10         C4,C10         6110MPPDT         E14,U3         AMOLCQSBK         B14         BPC11A           15GC10         C10         6110MPPDT1         E14,U3         AMOLCQSEI         B14         BPC12	
110RM25.         E17         525PS2R12-2ME         D10         AMOBSCDSOW         B14         AVSRA10           110RM25NT         E17         525PS2R12-3ME         D10         AMOBSCDSR         B14         AVSRA11           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AVSRC05           110TRB         E18         6110FPP4PR         E14         AMOBST2         B14         AVSRC10           110WMK         E18         6110FTK192WL         A4,E14         AMOLCQ         B14         AVSRCT1           14S10         C11         6110FTK64NL         A4,E14         AMOLCQSAQ         B14         BC285SB100           15A6P1         C4,C10         6110FTK64WL         A4,E14         AMOLCQSBE         B14         BPC11           15A6P10         C4,C10         6110MPPDT         E14,U3         AMOLCQSBK         B14         BPC11A           15GC10         C10         6110MPPDT1         E14,U3         AMOLCQSEI         B14         BPC12	
110RM25NT         E17         525PS2R12-3ME         D10         AMOBSCDSR         B14         AVSRAT1           110TRA         E18         6110CB4PR10         E14         AMOBSCDSY         B14         AVSRC05           110TRB         E18         6110FPP4PR         E14         AMOBST2         B14         AVSRC10           110WMK         E18         6110FTK192WL         A4,E14         AMOLCQ         B14         AVSRCT1           14S10         C11         6110FTK64NL         A4,E14         AMOLCQSAQ         B14         BC285SB100           15A6P1         C4,C10         6110FTK64WL         A4,E14         AMOLCQSBE         B14         BPC11           15A6P10         C4,C10         6110MPPDT         E14,U3         AMOLCQSBK         B14         BPC11A           15GC10         C10         6110MPPDT1         E14,U3         AMOLCQSEI         B14         BPC12	
110TRA       E18       6110CB4PR10       E14       AMOBSCDSY       B14       AVSRC05         110TRB       E18       6110FPP4PR       E14       AMOBST2       B14       AVSRC10         110WMK       E18       6110FTK192WL       A4,E14       AMOLCQ       B14       AVSRCT1         14S10       C11       6110FTK64NL       A4,E14       AMOLCQSAQ       B14       BC285SB100         15A6P1       C4,C10       6110FTK64WL       A4,E14       AMOLCQSBE       B14       BPC11         15A6P10       C4,C10       6110MPPDT       E14,U3       AMOLCQSBK       B14       BPC11A         15GC10       C10       6110MPPDT1       E14,U3       AMOLCQSEI       B14       BPC12	
110TRB       E18       6110FPP4PR       E14       AMOBST2       B14       AVSRC10         110WMK       E18       6110FTK192WL       A4,E14       AMOLCQ       B14       AVSRCT1         14S10       C11       6110FTK64NL       A4,E14       AMOLCQSAQ       B14       BC285SB100         15A6P1       C4,C10       6110FTK64WL       A4,E14       AMOLCQSBE       B14       BPC11         15A6P10       C4,C10       6110MPPDT       E14,U3       AMOLCQSBK       B14       BPC11A         15GC10       C10       6110MPPDT1       E14,U3       AMOLCQSEI       B14       BPC12	
110WMK       E18       6110FTK192WL       A4,E14       AMOLCQ       B14       AVSRCT1         14S10       C11       6110FTK64NL       A4,E14       AMOLCQSAQ       B14       BC285SB100         15A6P1       C4,C10       6110FTK64WL       A4,E14       AMOLCQSBE       B14       BPC11         15A6P10       C4,C10       6110MPPDT       E14,U3       AMOLCQSBK       B14       BPC11A         15GC10       C10       6110MPPDT1       E14,U3       AMOLCQSEI       B14       BPC12	
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FALCDSS6BE		FAMTRJKG		FASCSS12OR		FCKLCP50M12RO FCKLCP50M12SL	
FALCDSS6BK		FAMTRJKLA		FASCSS12R FASCSS12Y		FCKLCP50M12VI	
		FAMTRJKOW		FASCSSC12AQ			
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RCW5LA	B9	RF506BK	Q12	\$1AVHUB15	Q4	S1PTGYJ	Q20
RCW5W	B9	RF506BN	Q12	S1CFB	Q4	S1SFB	Q4
RCW6AL	B9	RF506BP	Q12	S1CFCAL	Q4,Q21	S1SFBAV	Q4
RCW6I	B9	RF506BR	Q12	S1CFCBL	Q4,Q21	S1SP	Q6,Q22
RCW6LA	B9	RF506CH	Q12	S1CFCBRS		S1SP3IM	Q6,Q22
RCW6W	B9	RF506CU	Q12	S1CFCGY		S1SP4IM	Q6,Q22
RE2	M8	RF506NI	Q12	\$1CFCI	Q4,Q21	S1SP4X4	Q6,Q22
RE210G	M8	RF506SS	Q12	\$1DIV1	Q4	S1SP4X415	Q6,Q22
RE2B	M8	RF509BR	Q12	S1FBCLIP5PK	Q4	S1SP4X430	Q6,Q22
RE4	M8	RF515AL	Q12	S1FP15AL	Q6,Q22	S1SPAMM20	Q6,Q22
RE410G	M8	RF515BK	Q12	S1FP15BL	Q6,Q22	S1SPDU	Q6,Q22
RE4B	M8	RF515BN	Q12	S1FP15BRS	Q6,Q22	S1SPDU2IM	Q6,Q22
RE4X	M8	RF515BP	Q12	\$1FP15GY	Q6,Q22	S1SPDUSL	Q6,Q22
RE4XB	M8	RF515BR	Q12	S1FP34AL	Q6,Q22	S1SPEXT1	Q6,Q22
<b>REK110</b>	M12	RF515CH	Q12	S1FP34BL	Q6,Q22	S1SPEXT2	Q6,Q22
<b>REK19</b>	M6,M12	RF515CU	Q12	S1FP34BRS	Q6,Q22	S1SPEXT3	Q6,Q22
<b>REK19L</b>	M6,M12	RF515NI	Q12	S1FP34GY	Q6,Q22	S1SPEXT4	Q6,Q22
REKBB20	M6,M12	RF515SS	Q12	S1FRP4BL	Q21	S1SPFFAL	Q6,Q22
REKBB30	M6,M12	RG59A10	C13	S1FRP4GY	Q21	S1SPFFBL	Q6,Q22
<b>REKBB40</b>	M6,M12	RG59FPO	C13	S1FRPTJB	Q21	S1SPFFBRS	Q6,Q22
REKEF	M4,M11	RJ600		S1PFB	•	S1SPFFGY	Q6,Q22
REKEGS		RJ620ALTR	Q30	S1PT3IMAL	Q20	S1SPFFTAL	Q6,Q22
<b>REKF</b>	M11	RJ620BKTR		S1PT3IMALJ		S1SPFFTBL	
REKFF	M11	RJ620GYTR	Q30	S1PT3IMBL	Q20	S1SPFFTBRS	Q6,Q22
REKFP	M12	RJ620ITR	Q30	S1PT3IMBLJ	Q20	S1SPFFTGY	Q6,Q22
REKG	M11	RJ620LATR	Q30	S1PT3IMBRS	Q20	S1SPSL2IM	Q6,Q22
REKH	M11	RJ620WTR	Q30	S1PT3IMBRSJ	Q20	S1SPTL	Q6,Q22
REKHS		RJ62ALTR		S1PT3IMGY	Q20	S1TFCAL	Q4,Q21
REKI	M11	RJ62BKTR	Q30	S1PT3IMGYJ	Q20	S1TFCBL	Q4,Q21
REKMT10	M5,M12	RJ62GYTR	•	S1PT4X4AL	Q20	S1TFCBRS	
<b>REKP</b>	M6,M12	RJ62ITR	Q30	S1PT4X4ALJ	Q20	S1TFCGY	. ,
REKR24		RJ62LATR	•	S1PT4X4BL		S1TFCI	
REKR32		RJ62WTR	•	S1PT4X4BLJ	•	SB26	
REKR42		RJ650ALTR	Q30	S1PT4X4BRS	Q20	SB262	В9
<b>REKS</b>		RJ650BKTR		S1PT4X4BRS3		SB8	
REKSJ20		RJ650GYTR		S1PT4X4BRS3J	Q20	SB82	
REKSJ30		RJ650ITR		S1PT4X4BRSJ		SC10	
REKSJ40		RJ650LATR		S1PT4X4FIT		SF14SJAL	
REKTJ		RJ650WTR		S1PT4X4FITJ		SF14SJBK	
REKU		RJ65ALTR		S1PT4X4GY		SF14SJEI	
REKUB		RJ65BKTR		S1PT4X4GYJ		SF14SJGY	
REKZ		RJ65GYTR		S1PTAL		SF14SJOW	
REKZL		RJ65ITR		S1PTALJ		SF14SJW	C12
RF151R	Q12	RJ65LATR	Q30	S1PTAVFIT	Q21	SF15ST	C10
RF201R	•	RJ65WTR	Q30	S1PTAVFITJ	Q21	SF35110BK	C12
RF400	Q13	RRLABEL	L22	S1PTBL	Q20	SF35FFAL	C12

SF35FFEI         C12         SFF3GGY         C13         SFFMTPyyW         G7         SFLCSyy           SF35FFGW         C12         SFF3GGW         C13         SFFSCBL         G7         SFLCSyy           SF35FFW         C12         SFF3GW         C13         SFFSCER         G7         SFLCSyy           SF35FFW         C12         SFF3GW         C13         SFFSCER         G7         SFLCSyy           SF35GFFAL         C12         SFFALX         C13         SFFSCER         G7         SFLCyy           SF35GFFBK         C12         SFFBX         C13         SFFSCOW         G7         SFLCyyE           SF35GFFBK         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCyyE           SF35GFFW         C12         SFFGBK         C13         SFFSCSBK         G7         SFLCyyE           SF35GFFW         C12         SFFGEY         C13         SFFSCSB         G7         SFLCyyE           SF35GFFW         C12         SFFGEY         C13         SFFSCSB         G7         SFLCyyE           SF35SFFW         C12         SFFGEY         C13         SFFSCSB         G7         SFLCyyE           SF35SIBK         C	EI
SF35FFGY         C12         SF73GLA         C13         SFFSCAL         G7         SFLCSyy           SF35FFW         C12         SFF3GW         C13         SFFSCBK         G7         SFLCSyy           SF35FFW         C12         SFF3GW         C13         SFFSCB         G7         SFLCSyY           SF35GFFAL         C12         SFFAX         C13         SFFSCG         G7         SFLCYY           SF35GFFBK         C12         SFFBX         C13         SFFSCBAL         G7         SFLCYYS           SF35GFFBY         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCYYS           SF35GFFGY         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCYYS           SF35GFFW         C12         SFFGEK         C13         SFFSCSBK         G7         SFLCYYS           SF35SJBK         C12         SFFGL         C13         SFFSCSB         G7         SFLCYYS           SF35SJBK         C12         SFFGLA         C13         SFFSCSOW         G7         SFMTRJ           SF35SJBW         C12         SFFGW         C13         SFFSCSYPAL         G7         SFMTRJ           SF35STBW         C12<	LA
SF35FFOW.         C12         SFF3GOW         C13         SFFSCBK         G7         SFLCSyy           SF35FFW         C12         SFF3GW         C13         SFFSCEI         G7         SFLCSYY           SF35GFFAL         C12         SFFALX         C13         SFFSCEG         G7         SFLCYY           SF35GFFBK         C12         SFFEX         C13         SFFSCLA         G7         SFLCYYS           SF35GFFBK         C12         SFFEX         C13         SFFSCOW         G7         SFLCYYS           SF35GFFGY         C12         SFFGAL         C13         SFFSCSBK         G7         SFLCYYS           SF35GFFW         C12         SFFGER         C13         SFFSCSBK         G7         SFLCYYS           SF35SJAL         C12         SFFGER         C13         SFFSCSG         G7         SFLCYYS           SF35SJBK         C12         SFFGLA         C13         SFFSCSG         G7         SFLCYYS           SF35SJBK         C12         SFFGLA         C13         SFFSCSOW         G7         SFMTRJ           SF35SJBK         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJBW         C12<	OW G7 W G7 L G7 K G7 I G7 G G7 G G7 G G7 A G7 J G7 A G7 A G7 A G7 A G7 A G7
SF35FFW         C12         SFF3GW         C13         SFFSCEI         G7         SFLCS/yy           SF35GFFAL         C12         SFFALX         C13         SFFSCG         G7         SFLCW           SF35GFFBK         C12         SFFBX         C13         SFFSCAL         G7         SFLCyyA           SF35GFFBK         C12         SFFGAL         C13         SFFSCSW         G7         SFLCyyB           SF35GFFW         C12         SFFGAL         C13         SFFSCSBK         G7         SFLCyyC           SF35GFFW         C12         SFFGEI         C13         SFFSCSW         G7         SFLCyyC           SF35GFFW         C12         SFFGEI         C13         SFFSCSW         G7         SFLCyYC           SF35GFW         C12         SFFGLA         C13         SFFSCSW         G7         SFLCyYC           SF35SIBK         C12<	W
SF35GFFAL         C12         SFFALX         C13         SFFSCG         G7         SFLCW/YA           SF33GFFBK         C12         SFFBX         C13         SFFSCAL         G7         SFLCyyB           SF35GFFEY         C12         SFFEX         C13         SFFSCOW         G7         SFLCyyB           SF35GFFOY         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCyyB           SF35GFFW         C12         SFFGBK         C13         SFFSCSBK         G7         SFLCyyB           SF35GFFW         C12         SFFGEI         C13         SFFSCSG         G7         SFLCyyB           SF35SJAL         C12         SFFGEY         C13         SFFSCSG         G7         SFLCyyB           SF35SJBK         C12         SFFGOW         C13         SFFSCSOW         G7         SFMTRJ           SF35SJBW         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJW         C12         SFFGW         C13         SFFSCSYBK         G7         SFMTRJ           SF35STBK         C12         SFFKLCAQyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBW	G7 L G7 K G7 K G7 G
SF35GFFBK         C12         SFFBX         C13         SFFSCIA         G7         SFLCyyR           SF35GFFEI         C12         SFFEX         C13         SFFSCOW         G7         SFLCyyE           SF35GFFGY         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCyyE           SF35GFFW         C12         SFFGBK         C13         SFFSCSEI         G7         SFLCyyC           SF35GFFW         C12         SFFGEI         C13         SFFSCSG         G7         SFLCyyC           SF35SJAL         C12         SFFGGY         C13         SFFSCSG         G7         SFLCyyC           SF35SJBK         C12         SFFGW         C13         SFFSCSUA         G7         SFLCyyC           SF35SJEI         C12         SFFGW         C13         SFFSCSW         G7         SFMTDJ           SF35SJW         C12         SFFGX         C13         SFFSCSypAL         G7         SFMTDJ           SF35STAL         C12         SFFKLCAGyy         H5         SFFSCSypE         G7         SFMTDJ           SF35STBK         C12         SFFKLCAGYY         H5         SFFSCSypE         G7         SFMTDJ           SF35STBK         <	L
SF35GFFEI         C12         SFFEX         C13         SFFSCOW         G7         SFLCyyE           SF35GFFGY         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCyyE           SF35GFFW         C12         SFFGBK         C13         SFFSCSBK         G7         SFLCyyC           SF35GFFW         C12         SFFGEI         C13         SFFSCSE         G7         SFLCyyC           SF35SJAL         C12         SFFGCY         C13         SFFSCSG         G7         SFLCyyC           SF35SJBK         C12         SFFGW         C13         SFFSCSW         G7         SFLCyyC           SF35SJBK         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJGY         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJOW         C12         SFFKLCAQYY         H5         SFFSCSYYAL         G7         SFMTRJ           SF35STBK         C12         SFFKLCBBLY         H5         SFFSCSYYAL         G7         SFMTRJ           SF35STBK         C12         SFFKLCBRY         H5         SFFSCSYYAL         G7         SFMTRJ           SF35STBW	K
SF35GFFGY         C12         SFFGAL         C13         SFFSCSAL         G7         SFLCyyE           SF35GFFOW         C12         SFFGBK         C13         SFFSCSBK         G7         SFLCyyC           SF35GFFW         C12         SFFGEI         C13         SFFSCSE         G7         SFLCyyC           SF35SJAL         C12         SFFGGY         C13         SFFSCSG         G7         SFLCyyC           SF35SJBK         C12         SFFGGW         C13         SFFSCSOW         G7         SFMTRJ           SF35SJBI         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJW         C12         SFFGW         C13         SFFSCSWAL         G7         SFMTRJ           SF35SJW         C12         SFFKLCAQyy         H5         SFFSCSyyBL         G7         SFMTRJ           SF35STBL         C12         SFFKLCBLyy         H5         SFFSCSyyBL         G7         SFMTRJ           SF35STBK         C12         SFFKLCBLYy         H5         SFFSCSyyG         G7         SFMTRJ           SF35STBY         C12         SFFKLCBLYy         H5         SFFSCSyyG         G7         SFMTRJ           SF35STGY	G7 G
SF35GFFOW         C12         SFFGBK         C13         SFFSCSBK         G7         SFLCyyC           SF35GFFW         C12         SFFGGF         C13         SFFSCSE         G7         SFLCyYC           SF35SJAL         C12         SFFGGY         C13         SFFSCSG         G7         SFLCyYC           SF35SJBK         C12         SFFGA         C13         SFFSCSLA         G7         SFLCyYC           SF35SJBK         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJGY         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJOW         C12         SFFGX         C13         SFFSCSyyAL         G7         SFMTRJ           SF35STBW         C12         SFFKLCBLYY         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBK	G
SF35GFFW         C12         SFFGEI         C13         SFFSCSEI         G7         SFLQYYL           SF35SJAL         C12         SFFGGY         C13         SFFSCSG         G7         SFLQYY           SF35SJBK         C12         SFFGAA         C13         SFFSCSUA         G7         SFLQYY           SF35SJBY         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJGY         C12         SFFGW         C13         SFFSCSWAL         G7         SFMTRJ           SF35SJW         C12         SFFGCX         C13         SFFSCSyyAL         G7         SFMTRJ           SF35SJW         C12         SFFKLCAQyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBK         C12         SFFKLCBLyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBK         C12         SFFKLCBRyy         H5         SFFSCSyyB         G7         SFMTRJ           SF35STGY         C12         SFFKLCRDyy         H5         SFFSCSyyB         G7         SFMTRJ           SF35STGW         C12         SFFKLCRDyy         H5         SFFSCSYBW         G7         SFMTRJ           SF35STGW <td>A</td>	A
SF35SJAL         C12         SFFGGY         C13         SFFSCSG         G7         SFLCyyC           SF35SJBK         C12         SFFGLA         C13         SFFSCSUA         G7         SFLCyyW           SF35SJBK         C12         SFFGOW         C13         SFFSCSOW         G7         SFMTRJ           SF35SJGY         C12         SFFGW         C13         SFFSCSWAL         G7         SFMTRJ           SF35SJOW         C12         SFFGX         C13         SFFSCSyyAL         G7         SFMTRJ           SF35SJW         C12         SFFKLCAGyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBL         C12         SFFKLCBLyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBK         C12         SFFKLCBRyy         H5         SFFSCSyyG         G7         SFMTRJ           SF35STOW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFMTRJ           SF36STOW         C12         SFFKLCROyy         H5         SFFSCSYYW         G7         SFMTRJ           SF36STW         C12         SFFKLCROyy         H5         SFFSCYYW         G7         SFRC110           SF36TY	W
SF35SJBK         C12         SFFGLA         C13         SFFSCSUA         G7         SFLCDYV           SF35SJEI         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJGY         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJW         C12         SFFGX         C13         SFFSCSyyAL         G7         SFMTRJ           SF35SJW         C12         SFFKLCBLyy         H5         SFFSCSyyEL         G7         SFMTRJ           SF35STBK         C12         SFFKLCBLyy         H5         SFFSCSyyE         G7         SFMTRJ           SF35STBK         C12         SFFKLCBRyy         H5         SFFSCSyyG         G7         SFMTRJ           SF35STBK         C12         SFFKLCGNyy         H5         SFFSCSyyAL         G7         SFMTRJ           SF35STBW         C12         SFFKLCORyy         H5         SFFSCSyyW         G7         SFMTRJ           SF35STW         C12         SFFKLCRDy         H5         SFFSCSyyW         G7         SFMTRJ           SF36CFY         C14         SFFKLCRDy         H5         SFFSCSYYW         G7         SFMTRJ           SF35STW <td><b>/</b></td>	<b>/</b>
SF35SJEI         C12         SFFGOW         C13         SFFSCSW         G7         SFMTRJ           SF35SJGY         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ           SF35SJOW         C12         SFFGX         C13         SFFSCSyyBL         G7         SFMTRJ           SF35SJW         C12         SFFKLCAQyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STAL         C12         SFFKLCBLyy         H5         SFFSCSyyBK         G7         SFMTRJ           SF35STBK         C12         SFFKLCBRyy         H5         SFFSCSyyG         G7         SFMTRJ           SF35STBK         C12         SFFKLCGNyy         H5         SFFSCSyyG         G7         SFMTRJ           SF35STGY         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFMTRJ           SF35STW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFMTRJ           SF35STW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFRC110           SF36STGY         C14         SFFKLCSLyy         H5         SFFSCyyW         G7         SFRC110           SF	G7 <b>AL</b> G7
SF35SJGY         C12         SFFGW         C13         SFFSCSW         G7         SFMTRJ/SF35SJW           SF35SJW         C12         SFFGX         C13         SFFSCSyyAL         G7         SFMTRJ/SF35SJW           SF35SJW         C12         SFFKLCAQyy         H5         SFFSCSyyBK         G7         SFMTRJ/SF35STAL           SF35STAL         C12         SFFKLCBLyy         H5         SFFSCSyyG         G7         SFMTRJ/SF35STBK           SF35STBK         C12         SFFKLCBRyy         H5         SFFSCSyyG         G7         SFMTRJ/SF35STB           SF35STGY         C12         SFFKLCORyy         H5         SFFSCSyyW         G7         SFMTRJ/SF35STW           SF35STW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFMTRJ/SF35STW           SF35STW         C12         SFFKLCROyy         H5         SFFSCW         G7         SFRC110           SF35STW         C12         SFFKLCSLyy         H5         SFFSCW         G7         SFRC110           SF35STW         C12         SFFKLCSLyy         H5         SFFSCW         G7         SFRC110           SF36CGY         C14         SFFKLCSLyy         H5         SFFSCWyAL         G7	<b>AL</b> G7
SF35SJOW.         C12         SFFGX.         C13         SFFSCSyyAL.         G7         SFMTRJI           SF35SJW.         C12         SFFKLCAQyy.         H5         SFFSCSyyBK.         G7         SFMTRJI           SF35STAL.         C12         SFFKLCBLyy.         H5         SFFSCSyyEI.         G7         SFMTRJI           SF35STBK.         C12         SFFKLCBRyy.         H5         SFFSCSyyG.         G7         SFMTRJI           SF35STBK.         C12         SFFKLCGRyy.         H5         SFFSCSyyUA.         G7         SFMTRJI           SF35STGY.         C12         SFFKLCRDyy.         H5         SFFSCSyyOW.         G7         SFMTRJI           SF35STW.         C12         SFFKLCRDyy.         H5         SFFSCSyyOW.         G7         SFMTRJI           SF35STW.         C12         SFFKLCROyy.         H5         SFFSCSYYW.         G7         SFRC110           SF35STW.         C12         SFFKLCROyy.         H5         SFFSCSYW.         G7         SFRC110           SF36COGY.         C14         SFFKLCSLyy.         H5         SFFSCSYW.         G7         SFRC110           SF6PM.         C14         SFFKLCSLyy.         H5         SFFSCYYAL.         G7	
SF355JW         C12         SFFKLCAQyy         H5         SFFSCSyyBK         G7         SFMTRJI           SF355TAL         C12         SFFKLCBLyy         H5         SFFSCSyyEI         G7         SFMTRJI           SF355TBK         C12         SFFKLCBRyy         H5         SFFSCSyyG         G7         SFMTRJI           SF355TBI         C12         SFFKLCGNyy         H5         SFFSCSyyLA         G7         SFMTRJI           SF355TGY         C12         SFFKLCORyy         H5         SFFSCSyyW         G7         SFMTRJI           SF355TW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFMTRJI           SF355TW         C12         SFFKLCRDyy         H5         SFFSCSYYW         G7         SFMTRJI           SF355TW         C12         SFFKLCRDyy         H5         SFFSCSYYW         G7         SFRC110           SF355TW         C12         SFFKLCRDyy         H5         SFFSCSYYW         G7         SFRC110           SF365TY         C12         SFFKLCRDyy         H5         SFFSCSYYW         G7         SFRC110           SF365TY         C14         SFFKLCSLYY         H5         SFFSCSYYW         G7         SFRC110	<b>3K</b> G7
SF35STAL.         C12         SFFKLCBLyy         H5         SFFSCSyyEI         G7         SFMTRJI           SF35STBK         C12         SFFKLCBRyy         H5         SFFSCSyyG         G7         SFMTRJI           SF35STEI         C12         SFFKLCGNyy         H5         SFFSCSyyLA         G7         SFMTRJI           SF35STGY         C12         SFFKLCORYY         H5         SFFSCSyyOW         G7         SFMTRJI           SF35STW         C12         SFFKLCRDYY         H5         SFFSCSyyW         G7         SFRC110           SF35STW         C12         SFFKLCSLYY         H5         SFFSCSYYW         G7         SFRC110           SF5ECOGY         C14         SFFKLCSLYY         H5         SFFSCYYAL         G7         SFRC110           SF6PK         C14         SFFKLCSLYY         H5         SFFSCYYAL         G7         SFRC110           SF6PM         C14         SFFKLCYLYY         H5         SFFSCYYBK         G7         SFRC110           SF841924         L12         SFFLCAL         G7         SFFSCYYBK         G7         SFRCBB           SF841929T         L12         SFFLCBK         G7         SFFSCYYW         G7         SFRCBB	· · · · · · · · · · · · · · · · · · ·
SF35STBK         C12         SFFKLCBRYY         H5         SFFSCSYYG         G7         SFMTRJI           SF35STEI         C12         SFFKLCGNYY         H5         SFFSCSYYLA         G7         SFMTRJI           SF35STGY         C12         SFFKLCRDYY         H5         SFFSCSYYW         G7         SFMTRJI           SF35STW         C12         SFFKLCRDYY         H5         SFFSCSYYW         G7         SFRC110           SF5ECOGY         C14         SFFKLCROYY         H5         SFFSCW         G7         SFRC110           SF6PK         C14         SFFKLCSLYY         H5         SFFSCYPAL         G7         SFRC110           SF6PM         C14         SFFKLCYLYY         H5         SFFSCYPBK         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCYPBK         G7         SFRCBA           SF841929         L12         SFFLCAL         G7         SFFSCYPW         G7         SFRCBE           SF841929T         L12         SFFLCEI         G7         SFFSCYPW         G7         SFRCBE           SF841936         L12         SFFLCG         G7         SFGRFAL         C13         SFRCBF           SFAVC	<b>II</b> G7
SF35STEI         C12         SFFKLCGNyy         H5         SFFSCSyyLA         G7         SFMTRJG           SF35STGY         C12         SFFKLCORyy         H5         SFFSCSyyOW         G7         SFMTRJG           SF35STW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFRC110           SF35STW         C12         SFFKLCROyy         H5         SFFSCW         G7         SFRC110           SF5ECOGY         C14         SFFKLCSLyy         H5         SFFSCYyAL         G7         SFRC110           SF6PK         C14         SFFKLCVlyy         H5         SFFSCYYBK         G7         SFRC110           SF6PM         C14         SFFKLCYLyy         H5         SFFSCYYBK         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCYYBK         G7         SFRC110           SF841929         L12         SFFLCAL         G7         SFFSCYYBK         G7         SFRCBBI           SF841936         L12         SFFLCBI         G7         SFFSCYYBK         G7         SFRCBFI           SF841936T         L12         SFFLCB         G7         SFGRFBK         C13         SFRCBFI <td< td=""><td><b>G</b> G7</td></td<>	<b>G</b> G7
SF35STGY         C12         SFFKLCORyy         H5         SFFSCSyyOW         G7         SFMTRJI           SF35STOW         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFRC110           SF35STW         C12         SFFKLCROyy         H5         SFFSCW         G7         SFRC110           SF5ECOGY         C14         SFFKLCSLyy         H5         SFFSCYyAL         G7         SFRC110           SF6PK         C14         SFFKLCVLyy         H5         SFFSCYYBK         G7         SFRC110           SF6PM         C14         SFFKLCYLyy         H5         SFFSCYYBK         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCYYB         G7         SFRCBA           SF841924T         L12         SFFLCAL         G7         SFFSCYYB         G7         SFRCBB           SF841929         L12         SFFLCBK         G7         SFFSCYYBW         G7         SFRCBF           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBF           SFAVCN         C5         SFFLCBAL         G7         SFGRFBL         C13         SFRCBF           SFAVCS	<b>A</b> G7
SF35STOW.         C12         SFFKLCRDyy         H5         SFFSCSyyW         G7         SFRC110           SF35STW.         C12         SFFKLCROyy         H5         SFFSCW.         G7         SFRC110           SF5ECOGY.         C14         SFFKLCSLyy         H5         SFFSCyyAL         G7         SFRC110           SF6PK.         C14         SFFKLCVIyy         H5         SFFSCyyBK         G7         SFRC110           SF6PM.         C14         SFFKLCYLyy         H5         SFFSCyyBK         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCyyG         G7         SFRCBA           SF841924T         L12         SFFLCAL         G7         SFFSCyyG         G7         SFRCBBI           SF841929         L12         SFFLCBK         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936T         L12         SFFLCB         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCBA         G7         SFGRFBK         C13         SFRCBFI           SFAVCS </td <td><b>DW</b> G7</td>	<b>DW</b> G7
SF35STW         C12         SFFKLCROyy         H5         SFFSCW         G7         SFRC110           SF5ECOGY         C14         SFFKLCSLyy         H5         SFFSCyyAL         G7         SFRC110           SF6PK         C14         SFFKLCVIyy         H5         SFFSCyyBK         G7         SFRC110           SF6PM         C14         SFFKLCYLyy         H5         SFFSCyyBK         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCyyG         G7         SFRCBA           SF841924T         L12         SFFLCAL         G7         SFFSCyyLA         G7         SFRCBBI           SF841929         L12         SFFLCBK         G7         SFFSCyyW         G7         SFRCBEI           SF841936         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936T         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SFAVCN         C5         SFFLCAL         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10 <t< td=""><td><b>N</b> G7</td></t<>	<b>N</b> G7
SF5ECOGY         C14         SFFKLCSLyy         H5         SFFSCyyAL         G7         SFRC110           SF6PK         C14         SFFKLCVIyy         H5         SFFSCyyBK         G7         SFRC110           SF6PM         C14         SFFKLCYLyy         H5         SFFSCyyEI         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCyyG         G7         SFRCBA           SF841924T         L12         SFFLCAL         G7         SFFSCyyG         G7         SFRCBB           SF841929         L12         SFFLCBK         G7         SFFSCyyW         G7         SFRCBE           SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBF           SF8419366         L12         SFFLCG         G7         SFFWX         C13         SFRCBF           SF8419367         L12         SFFLCA         G7         SFGRFAL         C13         SFRCBF           SFAVCN         C5         SFFLCSA         G7         SFGRFBK         C13         SFRCBF           SFAVCS         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBF           SFB10         C13 </td <td><b>DB</b> C14</td>	<b>DB</b> C14
SF6PK         C14         SFFKLCVIyy         H5         SFFSCyyBK         G7         SFRC110           SF6PM         C14         SFFKLCYLyy         H5         SFFSCyyEI         G7         SFRC110           SF841924         L12         SFFLAX         C13         SFFSCyyG         G7         SFRCBAI           SF841924T         L12         SFFLCAL         G7         SFFSCyyGA         G7         SFRCBBI           SF841929         L12         SFFLCBK         G7         SFFSCyyW         G7         SFRCBEI           SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCA         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCA         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFB10         C13         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFBAL         C12<	<b>OGN</b> C14
SF6PM         C14         SFFKLCYLyy         H5         SFFSCyyEI         G7         SFRC11C           SF841924         L12         SFFLAX         C13         SFFSCyyG         G7         SFRCBAI           SF841924T         L12         SFFLCAL         G7         SFFSCyyLA         G7         SFRCBBI           SF841929         L12         SFFLCBK         G7         SFFSCyyOW         G7         SFRCBFI           SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCB         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCA         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBFI	<b>DR</b> C14
SF841924         L12         SFFLAX         C13         SFFSCyyG         G7         SFRCBA           SF841924T         L12         SFFLCAL         G7         SFFSCyyLA         G7         SFRCBBI           SF841929         L12         SFFLCBK         G7         SFFSCyyOW         G7         SFRCBFI           SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCB         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCB         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFIA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBFI	<b>)W</b> C14
SF841924T         L12         SFFLCAL         G7         SFFSCyyLA         G7         SFRCBBI           SF841929         L12         SFFLCBK         G7         SFFSCyyOW         G7         SFRCBEI           SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCLA         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCOW         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBFI	<b>DY</b> C14
SF841929         L12         SFFLCBK         G7         SFFSCyyOW         G7         SFRCBEI           SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCLA         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCOW         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBFI	<b>L</b> C14
SF841929T         L12         SFFLCEI         G7         SFFSCyyW         G7         SFRCBFI           SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCLA         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCOW         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBFI	<b>K</b> C14
SF841936         L12         SFFLCG         G7         SFFWX         C13         SFRCBFI           SF841936T         L12         SFFLCA         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCOW         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	C14
SF841936T         L12         SFFLCIA         G7         SFGRFAL         C13         SFRCBFI           SFAVCN         C5         SFFLCOW         G7         SFGRFBK         C13         SFRCBFI           SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	<b>FAL</b> C14
SFAVCN.         C5         SFFLCOW.         G7         SFGRFBK.         C13         SFRCBFI           SFAVCS.         C5         SFFLCSAL.         G7         SFGRFEI.         C13         SFRCBFI           SFAVCT.         C5         SFFLCSBK.         G7         SFGRFGY.         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	<b>BK</b> C14
SFAVCS         C5         SFFLCSAL         G7         SFGRFEI         C13         SFRCBFI           SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	<b>El</b>
SFAVCT         C5         SFFLCSBK         G7         SFGRFGY         C13         SFRCBFI           SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	<b>GY</b> C14
SFB10         C13         SFFLCSEI         G7         SFGRFLA         C13         SFRCBFI           SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	<b>·LA</b> C14
SFBAL         C12         SFFLCSG         G7         SFGRFOW         C13         SFRCBG	<b>OW</b> C14
	<b>W</b>
CEDALIA CIO CERCOLA C7 CECDEM CIO CEDCOM	<b>Y</b> C14
STRUCK G/ STRUCK G/ STRUCK	<b>AL</b>
	<b>BK</b> C14
	<b>El</b> C14
••	<b>FF</b> C14
	<b>FFAL</b>
	<b>FFBK</b> C14
"	<b>FFEI</b>
"	FFGY C14
,,	<b>FFLA</b> C14
,,	<b>FFW</b> C14
	<b>GY</b> C14
,,	<b>LA</b>
"	<b>RAL</b> C14
"	<b>RBK</b> C14
<i>11</i>	<b>REI</b> C14
,,	<b>RGY</b> C14
,,	<b>RLA</b> C14
"	<b>RW</b> C14
***	<b>W</b> C14
***	<b>A</b> C14
**	<b>AL</b> C14
<i></i>	<b>3K</b> C14
SFF3GBK	<b>I</b> C14

SPRICEBRY	CATALOG NO.	Page	CATALOG NO.	Page	CATALOG NO.	Page	CATALOG NO.	Page
SPRCENN	SFRCBRGY	C14						
SPECONE	SFRCBRLA	C14	SFRCWAL	C14	SFSCEI	G7	SFSPGRAL	C12
SRECONAL 14 SPRCWFF 14 SPSCOW 67 SFSPORCY 12 SPRCOND 12 SPRC	SFRCBRW	C14	SFRCWBK	C14	SFSCG	G7	SFSPGRBK	C12
SPRCONBIR   C  14   SPRCWFFEL   C  14   SPSCSEL   G  SPSPOROW   C  12   SPRCONFEL   C  14   SPRCWFFER   C  14   SPSCSER   G  SPSTOR   C  12   SPRCONFER   C  14   SPRCWFFER   C  14   SPSCSER   G  SPSTAL   G  S	SFRCBW	C14	SFRCWEI	C14	SFSCLA	G7	SFSPGREI	C12
SPRCONFEL C14 SPRCWFFEL C14 SPSCSBK G7 SPSCEW C12 SPSCONFEL C14 SPRCWFFEL C14 SPSCSG G7 SFSTAL G7 SPSCONFER C14 SPRCWFFLA C14 SPSCSGW G7 SFSTEL G7 SPSCONFER C14 SPRCWFFLA C14 SPSCSGW G7 SFSTEL G7 SPSCONFER C14 SPRCWFFLA C14 SPSCSTAL G7 SFSTAL G7 SPSCONFER C14 SPRCWFFLA C14 SPSCSTAL G7 SFSTAL G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTAL G7 SFSTAL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTE G7 SPSTAL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTE G7 SPSTAL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTAL G7 SPSTAL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTAL G7 SPSTAL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTAL G7 SPSTSAL G7 SPSTSAL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTAL G7 SPSTSAL G7 SPSTSEL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTAL G7 SPSTSEL G7 SPSTSEL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTS G7 SPSTSEL G7 SPSTSEL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTS G7 SPSTSEL G7 SPSTSEL G7 SPSTSEL G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWRAL C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSTS G7 SPSTS G7 SPSCONFER C14 SPRCWFRA C14 SPSCSTS G7 SPSTS G7 SPSTS G7 SPSTS G7 SPST	SFRCGNAL	C14	SFRCWFF	C14	SFSCOW	G7	SFSPGRGY	C12
SPECONFEAL   C  14   SPECWFFE   C  14   SPECSE   G7   SFSTIA   G7   SPECONFER   C  14   SPECWFFE   C  14	SFRCGNBK	C14	SFRCWFFAL	C14	SFSCSAL	G7	SFSPGROW	C12
FIRCORNIFAL   C	FRCGNEI	C14	SFRCWFFBK	C14	SFSCSBK	G7		
FIRCONFIFE	FRCGNFFAL	C14	SFRCWFFEI	C14	SFSCSEI	G7	SFST	G7
FRECORPER   C  14	FRCGNFFBK	C14	SFRCWFFGY	C14	SFSCSG	G7	SFSTAL	G7
FRICORIFFO	FRCGNFFEI	C14			SFSCSLA	G7	SFSTBK	G7
FRCGNIFIA	FRCGNFFGY	C14			SFSCSOW	G7		
FRCONFOW   C14   SFRCWRAL   C14   SFSCSTEK   G7   SFSTIA   G7   FRCONFFW   C14   SFRCWRRK   C14   SFSCSTE   G7   SFSTOW   G7								
PRICORIFY   C14								
REGNOY CI   SPECWREK CI   SPECSTO G   SPSTS. G   G   FREGONIA. CI   SPECSTIAL G   G   SPSTSAL								
REGGNIA. C14 SPRCWRE C14 SPECTIA. G7 SFSTSAL G7 FREGRINAL C14 SPECTRAL C13 SPECTRAL C14 SPECTRAL C14 SPECTRAL C13 SPECTRAL C14 SPECTRAL C14 SPECTRAL C14 SPECTRAL								
FREGNRIAL   C.14   SPRCWRCY   C.14   SPSCSTOW.   G.7   SFSTSBK   G.7								
FRCORNEK								
FRCGNRE								
FRCGNRGY								
RECORIAL C14 SFRCYSL C14 SFSCTSG G7 SFSTSOW G7 SFCRGNRW C14 SFRCYBK C14 SFSCTSGW G7 SFSTSW G7 SFCGNW C14 SFRCYBK C14 SFSCTSGW G7 SFSTW G7 SFCGNW C14 SFRCYBE C14 SFSCTSGW G7 SFSTW G7 SFCGNBL C14 SFRCYBE C14 SFSCTSGW G7 SFSTW G7 SFCGNBL C14 SFRCYBE C14 SFSCTSGW G7 SFSTW G7 SFCGNBL C14 SFRCYBE C14 SFSCTSGW G7 SFSV110BK C12 SFCGNBL C14 SFRCYBE C14 SFSCTSGW G7 SFSVBAABABK C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBAABBK C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBAABB C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBAABB C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBAABW C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBAABW C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBAABW C14 SFRCORBE C14 SFRCYFFEL C14 SFSCTSGWBL G7 SFUSBABW C14 SFRCORBE C14 SFRCYFFW C14 SFSCTSGWBL G7 SFUSBABW C14 SFRCORBE C14 SFRCYFFW C14 SFSCTSGWBL G7 SFUSBABBW C14 SFRCORBE C14 SFRCYFFW C14 SFSCTSGWBL G7 SFUSBABBW C14 SFRCORBE C14 SFRCYFFW C14 SFSCTSGWBL G7 SFUSBABW C14 SFRCORBE C14 SFRCYFW C14 SFSCTSGWBL G7 SFUSBABW C14 SFRCORBE C14 SFRCYFW C14 SFSCTSGWBL G7 SFUSBABW C14 SFRCORBE C14 SFRCYFW C14 SFSCTSGWBL G7 SFUSBABW C14 SFRCORBE C14 SFRCGWBL C14								
FRCORNW					0.000.02.			
FRCORNW C14 SFRCYEL C14 SFSCSTSOW G7 SFSTW G7 FRCORAL C14 SFRCYFF C14 SFSCSTSW G7 SFSV110BK C12 FRCORBAL C14 SFRCYFFAL C14 SFSCSTSW G7 SFSV110BK C12 FRCORB C14 SFRCYFFAL C14 SFSCSTSW G7 SFSVBK C12 FRCORE C14 SFRCYFFBK C14 SFSCSTSWBK G7 SFSVBK C14 FRCORFAL C14 SFRCYFFBK C14 SFSCSTSWBK G7 SFUSBAA3BK C14 FRCORFAL C14 SFRCYFFB C14 SFSCSTSWBK G7 SFUSBAA3BK C14 FRCORFFAL C14 SFRCYFFBY C14 SFSCSTSWBK G7 SFUSBAAB C14 FRCORFFB C14 SFRCYFFW C14 SFSCSTSWBK G7 SFUSBAAW C14 FRCORFFC C14 SFRCYFFW C14 SFSCSTSWBW G7 SFUSBAAW C14 FRCORFFC C14 SFRCYFFW C14 SFRCYFW G7 SFUSBABBW C14 FRCORFFW C14 SFRCYFW C14 SFRCYFW G7 SFUSBABBW C14 FRCORFFW C14 SFRCYBAL C14 SFSCSTSWBW G7 SFUSBABW C14 FRCORFFW C14 SFRCYBAL C14 SFSCSTW G7 SFUSBABW C14 FRCORFFW C14 SFRCYBAL C14 SFSCSTW G7 SFUSBABW C14 FRCORFFW C14 SFRCYBAL C14 SFSCSTW G7 SFUSBABW C14 FRCORFFW C14 SFRCYBAL C14 SFSCSTWBW G7 SFUSBABW C14 FRCORFW C14 SFRCYBAL C14 SFSCSTWBW G7 SFUSBABW C14 FRCORFW C14 SFRCYBAL C14 SFSCSTWBW G7 SFUSBABW C14 FRCORFW C14 SFRCYBAL C14 SFSCSTWBW G7 SFUSBABW C14 FRCORBAL C14 SFRCYBAL C14 SFSCSTWBW G7 SJSE24B B4 FRCORBAL C14 SFRCYBAL C14 SFSCSTWBW G7 SJSE24B B4 FRCORBAL C14 SFRCYBAL C14 SFSCSTWBW G7 SJSE2AB B4 FRCORBAL C14 SFRCYBAL C14 SFRCYBAL C14 SFSCSTWBW G7 SJSE2AB B4 FRCORBAL C14 SFRCYBAL C14 SFRCYBW C15 SFSCSTWBW G7 SJSE2AB A6 B4 FRCORBW C14 SFRGBAL C13 SFSCSYBW G7 SJSE2AB A6 B4 FRCORBW C14 SFRGBAL C13 SFSCSYBW G7 SJSE2AB A6 B4 FRCORBW C14 SFRGBAL C13 SFSCSYBW G7 SJSE2AB A6 B4 FRCORBW C14 SFRGBAL C13 SFSCSYBW G7 SS2309BBKA C27 FRCREFIC C14 SFRGBAL C13 SFSCSYBW G7 SS2309BBKA C27 FRCREFIC C14 SFRGBAL C13 SFSCSYBW G7 SS2309BBKA C27 FRCREFIC C14 SFRBBALO C13,TI1 SFSCYBW G7 SS2309BBKA C27 FRCREFIC C14 SFSBBALO C13,TI1 SFSCYBW G7 SS2309BBKA C27 FRCREFIC C14 SFSBBALO C13,TI1 SFSCYBW G7 SS2309BBKA C27 FRCREFIC C14 SFSBBALO C13,TI1 SFSCYBW G7 SS23								
FRCORAL. C14 SFRCYFF. C14 SFSCSTSW G7 SFSV110BK. C12 FRCORBK. C14 SFRCYFFBK. C14 SFSCSTSYJRL. G7 SFSVBK. C12 FRCORE C14 SFRCYFFBK. C14 SFSCSTSYJRK. G7 SFUSBAADSK. C14 FRCORFFBK. C14 SFRCYFFBK. C14 SFSCSTSYJRK. G7 SFUSBAADSK. C14 FRCORFFBK. C14 SFRCYFFBF C14 SFSCSTSYJR. G7 SFUSBAADSK. C14 FRCORFFBK. C14 SFRCYFFB. C14 SFSCSTSYJR. G7 SFUSBAADW. C14 FRCORFFBK. C14 SFRCYFFLA. C14 SFSCSTSYJR. G7 SFUSBAADW. C14 FRCORFFGY. C14 SFRCYFFW. C14 SFSCSTSYJR. G7 SFUSBABSK. C14 FRCORFFGY. C14 SFRCYFW. C14 SFSCSTSYJW. G7 SFUSBABSK. C14 FRCORFFLA. C14 SFRCYRW. C14 SFSCSTSYJW. G7 SFUSBABSK. C14 FRCORFFW. C14 SFRCYAL. C14 SFSCSTW. G7 SFUSBABBW. C14,G7 FRCORFFW. C14 SFRCYRL. C14 SFSCSTW. G7 SFUSBABW. C14,G7 FRCORFFW. C14 SFRCYRL. C14 SFSCSTW. G7 SFUSBABW. C14,G7 FRCORFW. C14 SFRCYRL. C14 SFSCSTW. G7 SFUSBABW. C14,G7 FRCORFW. C14 SFRCYRL. C14 SFSCSTW. G7 SISE24A. B4 FRCORRAL. C14 SFRCYRL. C14 SFSCSTYJW. G7 SISE24A. B4 FRCORRAL. C14 SFRCYRL. C14 SFSCSTYJW. G7 SISE24B. B4 FRCORRAL. C14 SFRCYRL. C14 SFSCSTYJW. G7 SISE24B. B4 FRCORRAL. C14 SFRCYRL. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRAL. C14 SFRCYRW. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRAL. C14 SFRCYRW. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRY. C14 SFRCYRW. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRY. C14 SFRCYW. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRY. C14 SFRCYW. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRY. C14 SFRCYW. C14 SFSCSTYJW. G7 SISE2A. B4 FRCORRY. C14 SFRGRL. C13 SFSCSYJW. G7 SISE2AB. A6,B4 FRCORRW. C14 SFRFGRL. C13 SFSCSYJW. G7 SS23099BLA. Q27 FRCRFFL. C14 SFSBL10 C13,T11 SFSCSYJW. G7 SS2309FBLA. Q								
FRCORBK								
FRCOREI   C14								
FRCORFFAL   C14   SFRCYFFE   C14   SFSCSTSyyE   G7   SFUSBABB   C14								
FRCORFFBK								
FRCORFFEI					• • • • • • • • • • • • • • • • • • • •			
FRCORFFGY					• • • • • • • • • • • • • • • • • • • •			
FRCORFFLA					• • • • • • • • • • • • • • • • • • • •			
FRCORFFOW   C14   SFRCYLA   C14   SFSCSTW   G7   SFUSBABOW   C14   FRCORFFW   C14   SFRCYRAL   C14   SFSCSTYYAL   G7   SFUSBABW   C14,00					• • • • • • • • • • • • • • • • • • • •			
FRCORFFW					• • •			
FRCORGY.         C14         SFRCYRBK         C14         SFSCSTyyBK.         G7         SJ5E24A         B4           FRCORAL         C14         SFRCYREI         C14         SFSCSTyyEI         G7         SJ5E2A         B4           FRCORRAL         C14         SFRCYREY         C14         SFSCSTyG         G7         SJ5E2A         B4           FRCORRBK.         C14         SFRCYRW         C14         SFSCSTyyOW         G7         SJ6A2A         A6,B4           FRCORRGY.         C14         SFRCYW         C14         SFSCSTyYW         G7         SJ6A2A         A6,B4           FRCORRY         C14         SFRFGAL         C13         SFSCSYYW         G7         SJ6A2B         A6,B4           FRCORRW         C14         SFRFGBL         C13         SFSCSYYBL         G7         SJ6A2B         A6,B4           FRCORRW         C14         SFRFGBL         C13         SFSCSYYBL         G7         SPD8K10         C12,C           FRCCRAL         C14         SFRFGBL         C13         SFSCSYYBL         G7         SPD8K10         C12,C           FRCRBK         C14         SFRFGW         C13         SFSCSYYBL         G7         SPD8K10         C12,C								
FRCORLA							SFUSBABW	C14,Q18
SFRCORRAL   C14	FRCORGY	C14			SFSCSTyyBK	G7	SJ5E24A	B4
FRCORRBK.         C14         SFRCYRLA         C14         SFSCSTyLA         G7         SJ5E2B.         B4           FRCORREI         C14         SFRCYRW.         C14         SFSCSTyyOW.         G7         SJ6A24A         A6,B4           FRCORRY.         C14         SFRCYW.         C14         SFSCSTYYW.         G7         SJ6A24B         A6,B4           FRCORRW.         C14         SFRFGBL.         C13         SFSCSYYAL.         G7         SJ6A2B         A6,B4           FRCORW.         C14         SFRFGBK.         C13         SFSCSYYBK.         G7         SJ6A2B         A6,B4           FRCORW.         C14         SFRFGBK.         C13         SFSCSYYBK.         G7         SJ6A2B         A6,B4           FRCORW.         C14         SFRFGBY.         C13         SFSCSYYBK.         G7         SPPBK10         C12,C           FRCRBK.         C14         SFRFGBY.         C13         SFSCSYYBK.         G7         SS2309BALA         Q27           FRCREI.         C14         SFRFGBW.         C13         SFSCSYYBW.         G7         SS2309BBKA.         Q27           FRCREF.         C14         SFRFGW.         C13         SFSCSYYW.         G7         SS2309BBKA.							SJ5E24B	B4
FRCORREI         C14         SFRCYRW         C14         SFSCSTYYOW         G7         SJ6A24A         A6,84           FRCORRGY         C14         SFRCYW         C14         SFSCSW         G7         SJ6A24B         A6,84           FRCORRW         C14         SFRFGBL         C13         SFSCSW         G7         SJ6A24A         A6,84           FRCORRW         C14         SFRFGBK         C13         SFSCSyyAL         G7         SJ6A2B         A6,84           FRCORW         C14         SFRFGBK         C13         SFSCSyyAL         G7         SD6A2B         A6,84           FRCORW         C14         SFRFGBK         C13         SFSCSYyAL         G7         SPPR10         C12,C           FRCRFAL         C14         SFRFGGY         C13         SFSCSyyG         G7         SPPR10         C12,C           FRCRFEI         C14         SFRFGW         C13         SFSCSyyLA         G7         SS2309BALA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyLA         G7         SS2309BBKA         Q27           FRCRFF         C14         SFSBAL10         C13,711         SFSCYYW         G7         SS2309BBKA         Q27								
FRCORRGY.         C14         SFRCYW.         C14         SFSCSTyyW.         G7         SJ6A24B         A6,B4           FRCORRIA.         C14         SFRFGAL.         C13         SFSCSW.         G7         SJ6A2A.         A6,B4           FRCORW.         C14         SFRFGBK.         C13         SFSCSyyAL.         G7         SPBK10.         C12,C           FRCORW.         C14         SFRFGEI.         C13         SFSCSyyBK.         G7         SPPBK10.         C12,C           FRCRAL.         C14         SFRFGEY.         C13         SFSCSyyBK.         G7         SPPBK10.         C12,C           FRCREI.         C14         SFRFGHA.         C13         SFSCSyyBK.         G7         SPPBK10.         C12,C           FRCREI.         C14         SFRFGHA.         C13         SFSCSyyBK.         G7         SS2309BBKA.         Q27           FRCRFF.         C14         SFRFGW.         C13         SFSCSyyOW.         G7         SS2309BBKA.         Q27           FRCRFFE.         C14         SFSBBK10.         C13,T11         SFSCSyyW.         G7         SS2309BBKA.         Q27           FRCRFFE.         C14         SFSBBK10.         C13,T11         SFSCyyW.         G7								
FRCORRLA         C14         SFRFGAL         C13         SFSCSW         G7         SJ6A2A         A6,84           FRCORW         C14         SFRFGBK         C13         SFSCSyyAL         G7         SJ6A2B         A6,84           FRCORW         C14         SFRFGEI         C13         SFSCSyyBK         G7         SPPBK10         C12,0           FRCRAL         C14         SFRFGGY         C13         SFSCSyyBK         G7         SPPBK10         C12,0           FRCREI         C14         SFRFGAL         C13         SFSCSyyG         G7         SPPR10         C12,0           FRCREI         C14         SFRFGAL         C13         SFSCSyyG         G7         SS2309BALA         Q27           FRCREI         C14         SFRFGW         C13         SFSCSyyGW         G7         SS2309BBKA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyW         G7         SS2309BBKA         Q27           FRCRFFLA         C14         SFSBBK10         C13,711         SFSCSyyW         G7         SS2309PBKA         Q27           FRCRFFE         C14         SFSBGY10         C13,711         SFSCyyBK         G7         SS2309FBKA         Q27 <td>FRCORREI</td> <td> C14</td> <td>SFRCYRW</td> <td> C14</td> <th>SFSCSTyyOW</th> <td> G7</td> <th>SJ6A24A</th> <td> A6,B4</td>	FRCORREI	C14	SFRCYRW	C14	SFSCSTyyOW	G7	SJ6A24A	A6,B4
FRCORRW         C14         SFRFGBK         C13         SFSCSyyAL         G7         SJ6A2B         A6,B4           FRCORW         C14         SFRFGEI         C13         SFSCSyyBK         G7         SPPBK10         C12,C           FRCRAL         C14         SFRFGGY         C13         SFSCSyyEI         G7         SPPR10         C12,C           FRCRBK         C14         SFRFGA         C13         SFSCSyyG         G7         SS2309BALA         Q27           FRCREI         C14         SFRFGW         C13         SFSCSyyUA         G7         SS2309BBKA         Q27           FRCRFFAL         C14         SFRFGW         C13         SFSCSyyW         G7         SS2309BBKA         Q27           FRCRFFAL         C14         SFSBAL10         C13,T11         SFSCSyyW         G7         SS2309BBKA         Q27           FRCRFFEI         C14         SFSBBK10         C13,T11         SFSCW         G7         SS2309DBKA         Q27           FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCYYW         G7         SS2309FBKA         Q27           FRCRFFEY         C14         SFSBLA10         C13,T11         SFSCYPJK         G7         SS2309FBKA	FRCORRGY	C14	SFRCYW	C14	SFSCSTyyW	G7	SJ6A24B	A6,B4
FRCORW         C14         SFRFGEI         C13         SFSCSyyBK         G7         SPPBK10         C12,C           FRCRAL         C14         SFRFGGY         C13         SFSCSyyEI         G7         SPPR10         C12,C           FRCRBK         C14         SFRFGA         C13         SFSCSyyG         G7         SS2309BALA         Q27           FRCREI         C14         SFRFGOW         C13         SFSCSyyGW         G7         SS2309BBKA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyGW         G7         SS2309BBKA         Q27           FRCRFFAL         C14         SFSBAL10         C13,T11         SFSCSyyW         G7         SS2309BBKA         Q27           FRCRFFEK         C14         SFSBBK10         C13,T11         SFSCYyW         G7         SS2309DBKA         Q27           FRCRFFEY         C14         SFSBBY10         C13,T11         SFSCYyBL         G7         SS2309FBKA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCYyBL         G7         SS2309FBKA         Q27           FRCRFFW         C14         SFSBW10         C13,T11         SFSCYyBL         G7         SS2309FBKA	FRCORRLA	C14	SFRFGAL	C13	SFSCSW	G7	SJ6A2A	A6,B4
FRCORW         C14         SFRFGEI         C13         SFSCSyyBK         G7         SPPBK10         C12,C           FRCRAL         C14         SFRFGGY         C13         SFSCSyyEI         G7         SPPR10         C12,C           FRCRBK         C14         SFRFGLA         C13         SFSCSyyG         G7         SS2309BALA         Q27           FRCREI         C14         SFRFGOW         C13         SFSCSyyLA         G7         SS2309BBKA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyOW         G7         SS2309BBKA         Q27           FRCRFFAL         C14         SFSBAL10         C13,711         SFSCSyyW         G7         SS2309BBKA         Q27           FRCRFFBK         C14         SFSBBK10         C13,711         SFSCW         G7         SS2309DBKA         Q27           FRCRFFEI         C14         SFSBBY10         C13,711         SFSCYYAL         G7         SS2309FBKA         Q27           FRCRFFLA         C14         SFSBLA10         C13,711         SFSCYYAL         G7         SS2309FBKA         Q27           FRCRFFW         C14         SFSBW10         C13,711         SFSCYYBL         G7         SS2309FBKA<	FRCORRW	C14	SFRFGBK	C13	SFSCSyyAL	G7	SJ6A2B	A6,B4
FRCRAL         C14         SFRFGGY.         C13         SFSCSyyEI         G7         SPPR10         C12,C           FRCRBK         C14         SFRFGLA         C13         SFSCSyyG         G7         SS2309BALA         Q27           FRCREI         C14         SFRFGOW         C13         SFSCSyyUA         G7         SS2309BBKA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyOW         G7         SS2309BGYA         Q27           FRCRFFAL         C14         SFSBAL10         C13,T11         SFSCSyyW         G7         SS2309DBKA         Q27           FRCRFFBK         C14         SFSBBK10         C13,T11         SFSCW         G7         SS2309DBKA         Q27           FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCYAL         G7         SS2309FBKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCYBK         G7         SS2309FBKA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCYBK         G7         SS2309FBKA         Q27           FRCRFFW         C14         SFSBW10         C13,T11         SFSCYBE         G7         SS2309FB	FRCORW	C14	SFRFGEI	C13	SFSCSyyBK	G7	SPPBK10	C12,C16
FRCREI         C14         SFRFGOW         C13         SFSCSyyLA         G7         SS2309BBKA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyOW         G7         SS2309BGYA         Q27           FRCRFFAL         C14         SFSBAL10         C13,T11         SFSCSyyW         G7         SS2309DBKA         Q27           FRCRFFBK         C14         SFSBBK10         C13,T11         SFSCW         G7         SS2309DGYA         Q27           FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCyyAL         G7         SS2309F1BKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK         G7         SS2309F1BKA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCyyBK         G7         SS2309F1AL         Q27           FRCRFFW         C14         SFSBW10         C13,T11         SFSCyyB         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyB         G7         SS2309FBKA         Q27           FRCRAL         C14         SFSCABK         G7         SFSCYyW         G7         SS2309S	FRCRAL	C14	SFRFGGY	C13				
FRCREI         C14         SFRFGOW         C13         SFSCSyyLA         G7         SS2309BBKA         Q27           FRCRFF         C14         SFRFGW         C13         SFSCSyyOW         G7         SS2309BGYA         Q27           FRCRFFAL         C14         SFSBAL10         C13,T11         SFSCSyyW         G7         SS2309DBKA         Q27           FRCRFFBK         C14         SFSBBK10         C13,T11         SFSCW         G7         SS2309DGYA         Q27           FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCyyAL         G7         SS2309F1BKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK         G7         SS2309F1BKA         Q27           FRCRFFW         C14         SFSBLA10         C13,T11         SFSCyyBK         G7         SS2309FBKA         Q27           FRCRFFW         C14         SFSBW10         C13,T11         SFSCyyB         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyB         G7         SS2309FBKA         Q27           FRCRAL         C14         SFSCABK         G7         SFSCYyW         G7         SS2309SB	FRCRBK	C14	SFRFGLA	C13	SFSCSyyG	G7	SS2309BALA	Q27
FRCRFF.         C14         SFRFGW.         C13         SFSCSyyOW.         G7         SS2309BGYA.         Q27           FRCRFFAL.         C14         SFSBAL10         C13,T11         SFSCSyyW.         G7         SS2309DBKA.         Q27           FRCRFFBK         C14         SFSBBK10         C13,T11         SFSCW.         G7         SS2309DGYA         Q27           FRCRFFEI.         C14         SFSBGY10         C13,T11         SFSCyyAL.         G7         SS2309F1BKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK.         G7         SS2309F1BKA         Q27           FRCRFFW         C14         SFSBLA10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           FRCRFFW         C14         SFSBW10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyU         G7         SS2309FBKA         Q27           FRCRAL         C14         SFSCABK         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSCBBKBK         C12 <t< td=""><td>FRCREI</td><td> C14</td><td>SFRFGOW</td><td> C13</td><th>SFSCSyyLA</th><td> G7</td><th>SS2309BBKA</th><td> Q27</td></t<>	FRCREI	C14	SFRFGOW	C13	SFSCSyyLA	G7	SS2309BBKA	Q27
FRCRFFAL.         C14         SFSBAL10         C13,T11         SFSCSyyW         G7         SS2309DBKA.         Q27           FRCRFFBK         C14         SFSBBK10         C13,T11         SFSCW         G7         SS2309DGYA         Q27           FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCyyAL         G7         SS2309F1BKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK         G7         SS2309F1GYA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCyyEI         G7         SS2309FBKA         Q27           FRCRFFW         C14         SFSBW10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyG         G7         SS2309FBKA         Q27           FRCRLA         C14         SFSCABK         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCABL         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRREI         C14         SFSCABL         G7         SFSCBBKBK         C12         SS230	FRCRFF	C14	SFRFGW	C13	• • • • • • • • • • • • • • • • • • • •			
FRCRFFBK         C14         SFSBBK10         C13,T11         SFSCW         G7         SS2309DGYA         Q27           FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCyyAL         G7         SS2309F1BKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK         G7         SS2309F1BKA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCyyEI         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyG         G7         SS2309FBKA         Q27           FRCRLA         C14         SFSCABK         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRRAL         C14         SFSCAEI         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCAEI         G7         SFSCBBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLGYA         Q27           FRCRRGY         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309TBKA <td>FRCRFFAL</td> <td> C14</td> <td>SFSBAL10</td> <td> C13.T11</td> <th>• • •</th> <td></td> <th>SS2309DBKA</th> <td> Q27</td>	FRCRFFAL	C14	SFSBAL10	C13.T11	• • •		SS2309DBKA	Q27
FRCRFFEI         C14         SFSBGY10         C13,T11         SFSCyyAL         G7         SS2309F1BKA         Q27           FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK         G7         SS2309F1GYA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCyyEI         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSBW10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyLA         G7         SS2309FBKA         Q27           FRCRLA         C14         SFSCABK         G7         SFSCyyW         G7         SS2309FBKA         Q27           FRCRRAL         C14         SFSCAEI         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSCBBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRGY         C14         SFSCAL         G7         SFSPGBKEI         C12         SS2309TBKA					• • •		SS2309DGYA	027
FRCRFFGY         C14         SFSBI10         C13,T11         SFSCyyBK         G7         SS2309F1GYA         Q27           FRCRFFLA         C14         SFSBLA10         C13,T11         SFSCyyEI         G7         SS2309FALA         Q27           FRCRFW         C14         SFSBW10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyLA         G7         SS2309FBKA         Q27           FRCRLA         C14         SFSCABK         G7         SFSCyyOW         G7         SS2309FBKA         Q27           FRCRRAL         C14         SFSCAEI         G7         SFSCyyW         G7         SS2309FBKA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSCBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLGYA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAU         G7         SFSPGBKEI         C12         SS2309TBKA								
FFRCRFFLA.         C14         SFSBLA10         C13,T11         SFSCyyEI         G7         SS2309FALA         Q27           SFRCRFW.         C14         SFSBW10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           SFRCRGY.         C14         SFSCAAL         G7         SFSCyyLA         G7         SS2309FBKA         Q27           SFRCRLA         C14         SFSCABK         G7         SFSCyyUW         G7         SS2309SBKA         Q27           SFRCRRAL         C14         SFSCAEI         G7         SFSCyyW         G7         SS2309SBKA         Q27           SFRCRRBK         C14         SFSCAG         G7         SFSPGBKAL         C12         SS2309SLBKA         Q27           SFRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLBKA         Q27           SFRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           SFRCRRLA         C14         SFSCAU         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           SFRCRREY         C14         SFSCAU         G7         SFSPGBKEI         C12         SS2309TBKA <td></td> <td></td> <td></td> <td></td> <th>• • •</th> <td></td> <th></th> <td>•</td>					• • •			•
FRCRFFW         C14         SFSBW10         C13,T11         SFSCyyG         G7         SS2309FBKA         Q27           FRCRGY         C14         SFSCAAL         G7         SFSCyyLA         G7         SS2309FBKA         Q27           FRCRLA         C14         SFSCABK         G7         SFSCyyOW         G7         SS2309SBKA         Q27           FRCRRAL         C14         SFSCAEI         G7         SFSCyyW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSPGBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309TBKA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TBKA         Q27					• • •			
FRCRGY         C14         SFSCAAL         G7         SFSCYJLA         G7         SS2309FGYA         Q27           FRCRLA         C14         SFSCABK         G7         SFSCYYOW         G7         SS2309SBKA         Q27           FRCRRAL         C14         SFSCAEI         G7         SFSCYYW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSCGBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLGYA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27					• • •			
FRCRLA         C14         SFSCABK         G7         SFSCYYOW         G7         SS2309SBKA         Q27           FRCRRAL         C14         SFSCAEI         G7         SFSCYYW         G7         SS2309SBKA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSPGBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLGYA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27								
FRCRRAL         C14         SFSCAEI         G7         SFSCYYW         G7         SS2309SGYA         Q27           FRCRRBK         C14         SFSCAG         G7         SFSPGBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLGYA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27								
FRCRRBK         C14         SFSCAG         G7         SFSPGBKAL         C12         SS2309SLBKA         Q27           FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLBKA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKBI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27           SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27								
FRCRREI         C14         SFSCAL         G7         SFSPGBKBK         C12         SS2309SLGYA         Q27           FRCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           FRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27					• • •			•
FFCCRRGY         C14         SFSCALA         G7         SFSPGBKEI         C12         SS2309TBKA         Q27           SFRCRRLA         C14         SFSCAOW         G7         SFSPGBKGY         C12         SS2309TGYA         Q27								
<b>FRCRRLA</b>								
FRCRRW								•
	FRCRRW	C14	SFSCAW	G7	SFSPGBKOW	C12	SS26	B9

CATALOG No.	Page	CATALOG NO.	PAGE	CATALOG NO.	PAGE	CATALOG NO.	Page
SS262	В9	TTBDS2AL	Q14	VGA6P50BK	C4	XLRST10	C11
SS309B	Q28	TTBDS2BK	Q14	VGA6P75BK	C4	XPH11010	U8
SS309BF	Q28	TTBDS2BR	Q14	VS46	L14	XPHPP50	U7
SS309D	Q28	TTBKSAL	Q14	VS73	L14,L16	XPHPPID1U10	U7
SS309DS	Q28	TTBKSBK	Q14	VS73H	L14,L16	XPHPPID2U10	U7
SS309S	Q28	TTBKSBR	Q14	VS74	L14	XPHRC10	U7
SS309SF	Q28	TTBXLRAL	Q14	VS74H	L14,L16	XPHUDX2410	U8
SS309T	Q28	TTBXLRBK	Q14	VS76	L14	XPL11010B	E14,U8
SS8	B10	TTBXLRBR	Q14	V\$76H	L14,L16	XPL11010W	E14,U8
SS82		TW38716	U5	VS86	L14	XPL11010Y	E14,U8
SSF11	B8	TWPF1GY	B11	VSC3	L14,L16	XPL1TO480	U7
SSF12		TX4P	B6,U2	VSC3L	L14,L16	XPLCBLA1	U8
SSF13		TX4P6A	B6,U2	VSC3LA	L14,L16	XPLCBLA2	
SSF14		TX4P6ABL	B6,U2	VSC4		XPLCBLA3	
SSF16		TX4P6AH		VSC4L		XPLFOSEPAW	
SSF204		TX4PH		VSC4LA	•	XPLFP10W	
SSF206		TX4PHBL	,	VSC6	,	XPLFPA10C	
SSF209		TX4PP		VSC6L		XPLFPA10W	
SSF212		TX4PPBL		VSC6LA	,	XPLIPA10C	
SSFL11		TX4PPH		WBC1		XPLIPA10W	
SSFL12		UCT		WBC12		XPLPP10W	
SSFL13		UCTKIT		WBW1BK		XPLPPA10W	
SSFL14		UDX1289		WBW10W		XPLPPID10W	
SSFL16		UDX24E		WSBA11BK		XPLRC10W	
SSFL212		UDX36E		WSBA11BSS	,	XPLUDX2410W	
SSFL24		UDX48A1U		WSBA2BK	,	XPSOFT	
SSFL26		UDX48E		WSBA2BSS	,	XS0610	,
SSFL29		UDX48E1U		WSBB23UBAL		XS0610BK	
STRAY12F		UDXA24		WSBB23UBK		XS0615	,
STRAY12M		UDXA48		WSBB23UBSS		XS0615BK	
STRAY12RFS STRAY12RFSDP		UDXAM16 UDXAM48		WSBB43UBAL WSBB43UBK	,	XS1010 XS1010BK	,
STRAY24F		UDXIS1U		WSBB43UBSS		X\$1010BK	
STRAY24M		UDXIS2U		WSBBHWBK		XS1015	,
T5PPD110		USB10		WSBC21UBK	•	XS1510	
T5PPD110B		VCF610		WSBC21USV		XS1510	,
T5PPD110H		VCJK		WSBD21UBK	•	X\$1515	
TBL110	,	VCKH	•	WSBE11BK		XS1515BK	,
TBL66	U3.U4	VGA36100BK		WSBE11SV	4.5	ZAFB4U6	M17
TBLH	,	VGA3615BK		WSBE22BK		ZAFB8U8	
TCS3	•	VGA3625BK		WSBE22SV		ZAFBC	
TCT2	D11,U6	VGA3635BK	C4	WSBE31UBK	Q15	ZCB5UP	M17
TK3	U6 <sup>′</sup>	VGA3650BK	C4	WSBE31USV	Q15	ZCB7UA	M17
TK8	U6	VGA3675BK		WSBECLAMP	Q15	ZCBLKIT	M17
TPCP1BK	B11	VGA36P100BK	C4	WSBF22BK	Q16		
TPCP1GY	B11	VGA36P15BK	C4	WSBF22SV	Q16		
TPCP1OW	B11	VGA36P25BK	C4	WSBFGROMBAL	Q16		
TPCP1W	B11	VGA36P35BK	C4	WSBFGROMBK	Q16		
TPD110	U3	VGA36P50BK	C4	WSBFGROMBSS	Q16		
TPDH	B6,U3	VGA36P75BK		WSBFGROMSV	Q16		
TPDL110	U4	VGA6100BK		WSBG43UBAL	Q16		
TPDLITE		VGA615BK		WSBG43UBBA			
TPF1BK		VGA625BK		WSBG43UBK	Q16		
TPF1GY		VGA635BK		WSBG43USV			
TPF1OW		VGA650BK		WSBH42U			
TPF1W		VGA675BK		WSBHTRBK			
TSD4		VGA6P100BK		WSBHTRBSS			
TTBDS1AL		VGA6P15BK		WSBPLATE1			
TTBDS1BK		VGA6P25BK		WSBPLATE2	,		
TTBDS1BR	Q14	VGA6P35BK	C4	XLR10	C11		



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The late 1800s marked an era of invention and business development, and Hubbell Incorporated was right there, on the forefront, pioneering new product designs and manufacturing innovations that would light the way to future success. Harvey Hubbell II, who founded the company in 1891 in Bridgeport, Connecticut, was one of the nation's true entrepreneurs. In 1896, he patented the "pull socket" with builtin switch, an invention that transformed Edison's electric bulb by providing a means of safe control. Amazingly, the same light bulb socket with its on-off pull chain remains in use today. He also invented the electrical plug and duplex receptacles that are found wherever electrical power is used. The organization developed a reputation for products of the highest quality that still serves as a hallmark of the company today. More than a century of technological innovation and rapid growth has followed, establishing Hubbell Incorporated as a worldwide leader in the manufacture of quality electrical and electronic products for the commercial, industrial, lighting, residential, telecommunications and utility markets.

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