Panels

Chapter **3**

Panels

Contents

Copper VisiPatch

110 VisiPatch™ System

Figure 43
VisiPatch System

The Next Generation 110 Patch Panel System For High Speed Data Networks

The SYSTIMAX® SCS **110 VisiPatch System** is the "next generation" 110 Patch Panel System and the latest in a long line of Avaya Labs designed SYSTIMAX SCS innovations for high-speed data networks.

The **110 VisiPatch System** utilises time proven 110 IDC technology and features a unique "reverse direction" patch cord, integrated cable and patch cord management, increased density, wall mounting hardware, and snap together installation. The neat, cordless appearance dramatically improves patch cord organisation and management and "cleans up the clutter" that is inherent with other patch panel systems.

Features
- Approved for GigaSPEED® and Power Sum Channels.
- Innovative "Reverse Patch Cord" design.

Higher Density
- 28 conductor pairs per row (instead of 25).
- 7 "4-pairs" (instead of 6).
- 336 conductor pairs per back panel (instead of 300).
- Snap-together installation, no new tools required.
- Clean, neat, cordless appearance.
- New colour scheme.
- Integrated patch cord management.
- Stackable back panel modules

Back Panel: Using space age plastic structural foam technology, this patented wall mounting hardware consists of two identical "L" shaped halves that snap together to form a strong "U" shaped panel. The lightweight panel can be easily mounted to the wall and becomes the **Back Panel** for the **110 VisiPatch System.** The **Back Panel** holds 12 wiring blocks and is stackable.

Wiring Block: The **Wiring Block** snaps on to the **Back Panel** and accepts 28 conductor pairs in the same space where traditional **110 Systems** allow only 25. Slots and grooves provide versatile cable management, and seven 4-pair connecting blocks can be accommodated. Accepts 4 and 25-Pair Cables.

Designation Strip/Cover Plate: The **Cover Plate** snaps directly on to the **Wiring Block** and provides protection for the terminated cables. It also serves as a **Designation Strip** for circuit identification, and facilitates the latching of the 4-pair patch cord.

Copper   VisiPatch

Description	Kit Quality
300PR Base, Back Panel Half	2
110UW-28, Wiring Block	12
110UC-28, Designation Cover	12
110C4W, Connecting Block	84
110UPHLDR, Label Holder	12
110WG3-2688L, White Label	12

Product	Comcode
110UB1-336FT VisiPatch 110 Kit	108561143
110UB1-112FT VisiPatch 110 Kit	108836792
110UPT-Kit - Trough	700012990
110UHPT-Uni. Horz. Trough	108836834
Designation Cover - Clear Plastic	108922360
HLDR-110FDLH New Label	108738113

Copper   VisiPatch™

Shelves

Horizontal Trough

The **110 UHD-S8 Horizontal Trough** attaches to the bottom of the VisiPatch panel.
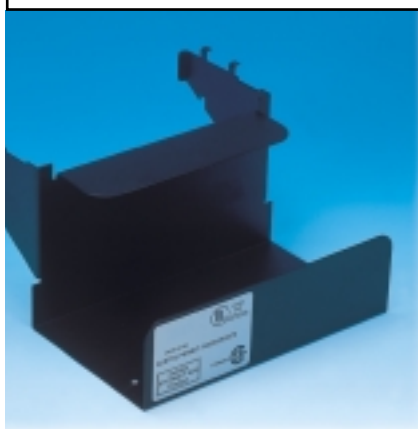
Figure 44
VisiPatch Horizontal Trough

Product	Comcode	Packaging
110UHD-S8	108637737	1/Pkg

Copper   VisiPatch

Shelves

Wall Mounted Bracket

The **Wall Mounted Bracket** allows for convenient mounting of the VisiPatch panel. It is discrete and durable.

Product	Comcode	Packaging
BRKT-110PWB HGR STL	108688946	1/Pkg

Copper VisiPatch

Installation Spacer

The **Installation Spacer** helps with the mounting of the brackets to ensure there is sufficient space to allow you to hang the panels correctly.

Product	Comcode	Packaging
SPCR-110UHS20BAR.063X1	108637612	1/Pkg

Copper VisiPatch

Shelves

Trough Cover

The **110UTC VisiPatch Trough Cover**, compliments the sleek appearance of the VisiPatch System by providing a cover for the cords which are routed in the vertical troughs. This light grey cover conveniently snaps over the distribution rings and gives the entire VisiPatch System a clean, cordless look.

Product	Comcode	Packaging
110UTC	108593203	1/Pkg

Copper VisiPatch

Shelves

Mounting Bracket

The **110U19M VisiPatch Bracket**, is used to mount the VisiPatch 110 Field Termination Kit in a 19"single-sided frame. Four brackets are required to mount six 110UB1-336FT VisiPatch 110 Kits in a 19" single-sided frame. The back panels of the VisiPatch Kit easily mount directly on the tabs of these brackets without the use of screws.

Product	Comcode	Packaging
110U19M	108634429	1/Pkg

Copper VisiPatch™

The **Distribution Rings** snap directly on to the back panel, provide improved vertical patch cord management density and eliminate the need to install traditional vertical cable management panels.

Product	Comcode	Description	Packaging
110U2R	108523937	Distribution Ring	1/Pkg

Copper VisiPatch

The **Designation Strip Labels** are clipped onto the VisiPatch designation cover via a clear plastic holder.

Product	Comcode	Packaging	Colour
110YG3-2688L	108528407	96/Pkg	Yellow
110WG3-2688L	108528415	96/Pkg	White
110SG3-2688L	108528423	96/Pkg	Slate
110RG3-2688L	108528431	96/Pkg	Red
110PG3-2688L	108528449	96/Pkg	Purple
110GG3-2688L	108528456	96/Pkg	Green
110CG3-2688L	108528597	96/Pkg	Orange
110BG3-2688L	108528464	96/Pkg	Blue
110KG3-2688L	108528472	96/Pkg	Brown

Copper VisiPatch

This kit provides replacement connecting blocks and label holders.

Product	Comcode	Description	Packaging
110C4W	108538612	Connecting Block	10/Pkg
110UPHLDR	108540121	Label Holder	12/Pkg

Copper 110 Connector System

Listed

The **110**-type wiring block is a fire-retardant, moulded plastic block consisting of four horizontal index strips designed to terminate 25 pairs of conductors each. These index strips are marked with the five tip colours on the high tooth to help separate the tip and ring of each pair and to establish pair location.

The **110**-type connecting block is a one piece, fire-retardant, moulded plastic assembly containing solder-plated insulation displacement quick clips. These clips are double-ended, with one end designed to accept cross-connect wire or patch cords and the other to terminate the cable conductors on the index strips of the wiring blocks. Once the wire is completely seated at the bottom of the wire slot, a permanent gas-tight contact is created. Plastic barbs in the wire slot provide mechanical strain relief to prevent accidental movement. The high teeth of the connecting block are marked with the ring colours. A slate strip is provided on the connecting block to assist in aligning the cutlets, and faces down for installation. The connecting blocks are available in three pair-count sizes; 110C-3, 110C-4, and 110C-5.

The **110** system supports the GigaSPEED® and Power Sum solutions when used with the GigaSPEED or Power Sum cables and cords.

Physical Specifications

Nom. Solid Conductor Diam.: 0.40 to 0.64mm (22 to 26 AWG)

Nom. Stranded Conductor Diam.: 0.51 to 0.64mm (22 to 24 AWG)

Termination Type: Insulation displacement, dry, gas tight

Wire Retention Force (24 AWG): 59 -127 N	**Wire Pullout Force (24 AWG):** 9.7 N
Wire Retention Force, Horizontal (24 AWG): 36 N	**Wire Retention Force, vertical (24 AWG):** 9 N
Storage Temperature Range: -40 to 70ºC	**Operating Temperature Range:** -10 to 60ºC

Humidity: 95% Max.

Conductor Termination: >200

Termination Speed: 100 pairs/20 mins

Electrical Specifications

Dielectric Strength: ≥ 1kV rms	**Capacitance Adjacent Contacts:** < 1pF
Insulation Resistance: ≥ 100 MΩ	**Termination Resistance (Typical):** < 0.5 mΩ

Copper Wiring Blocks

The **110 Wiring Block** is a fire-retardant moulded plastic block with horizontal index strips each of which secures and organises 25 cable pairs. The index strips are marked with the five tip colours to help the installer locate pairs quickly. The blocks accommodate 0.643mm - 0.404mm (22 - 26 AWG) diameter conductors and can be mounted directly on wall surfaces.

There are two types of **110 Wiring Blocks: "110A" Wiring Blocks** and **"110D" Wiring Blocks.** The **110A Wiring Block** is equipped with legs to provide space behind the block for routing the incoming cables. The **110D Wiring Block** is built without legs and is used where depth is restrictive. Each type can be ordered in 100-pair or 300-pair sizes.

There are several choices in ordering the **110 Wiring Blocks:**

- **110AW2** and **110DW2** are only the **Wiring Blocks** themselves, no accessories are included.

- **110AA2, 110AB2,** and **110AC2** are the **Wiring Blocks** with connecting blocks (A = 5-pair, B = 4-pair, and C = 3-pair), clear designation strips and blank labels.

Please see the ACCESSORIES section of this chapter for associated products.

The **110 Wiring Blocks** can be used with patch cords to support Gigabit Data Rates or cross-connect wires up to 10 Mb/s. When using in patching applications, it is important to use a 110 Jumper Trough between each 100-pair block to allow for horizontal routing of patch cords. Backboards should also be used to neatly organise the vertical routing of jumpers and patch cords.

The **110 Wiring Blocks** exceed the Category 5 and Category 5e transmission NEXT requirements by at least 6 dB (See Electrical Specifications) as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/ TIA 568A Cross Connect Hardware Section. The **110** system supports the GigaSPEED and Power Sum solutions when used with the GigaSPEED or Power Sum cables and cords.

110 Family

100-Pair & 300-Pair Wiring Blocks

(a)

(b)
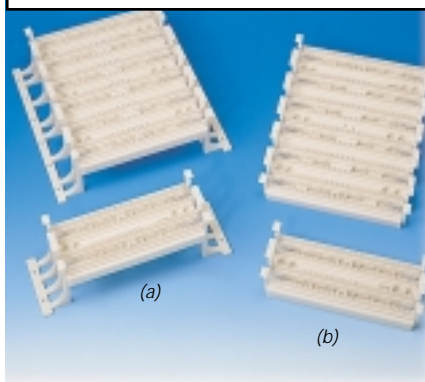
Figure 45
(a) 110AW2-100, 110AW2-300,
(b) 110DW2-100 and 110DW2-300
Wiring Blocks

Physical Specifications

Height:	**100-Pair:** 9.12cm;	
	300-Pair: 27.41cm	
Width:	**A-Block:** 27.23cm;	
	D-Block: 21.60cm	
Depth:	**A-Block:** 8.25cm;	
	D-Block: 3.60cm	

Product	Comcode	Pair Size	Packaging
110AW2-100	107059891	100	1/Pkg
110AW2-300	107059917	300	1/Pkg
110DW2-100	107059909	100	1/Pkg
110DW2-300	107059925	300	1/Pkg
110AB2-100FT	107058919	100	1/Pkg
110AB2-300FT	107058943	300	1/Pkg
110AC2-100FT	107058927	100	1/Pkg
110AC2-300FT	107058950	300	1/Pkg

Copper Wiring Blocks

The **110 Jumper Trough** is a white, fire-retardant, moulded plastic frame which is placed between each 100-pair wiring block and at the top of each column of 110 blocks. It serves as a horizontal trough for the routing of patch cords and cross-connect wire. The trough is available with legs **(110A3 Trough)** for use with the 110A Wiring Block or without legs **(110B3 Trough)** for use with the 110D Wiring Block or patch panel terminal block.

Figure 46
110A2 and 110B1 Jumper Troughs

Physical Specifications

Height: 6.83cm	
Width: 110A3: 27.30cm; **110B3:** 21.60cm	
Depth: 110A3: 13.91cm; **110B3:** 8.83cm	

Product	Comcode	Legs	Packaging
110A3	107831133	Yes	1/Pkg
110B3	107831141	No	1/Pkg

Copper Wiring Blocks

188 Backboards

The **188B1 Backboard** is used next to or between 110A Wiring Blocks to arrange jumper wires running between adjacent blocks. It is constructed of metal with two plastic distribution rings for neat horizontal or vertical routing of the jumper wires.

The **188B2 Backboard** is identical to the **188B1 Backboard** except that the **188B2** has legs to allow space for routing cables behind the **Backboard.**

Figure 47
188B2 and
188B1 Backboards

Physical Specifications

Height: 16.50cm	
Width: 27.30cm	
Depth: 188B1: 8.90cm; **188B2:** 11.45cm	

Product	Comcode	Legs	Packaging
188B1	102689569	No	1/Pkg
188B2	104405113	Yes	1/Pkg

Copper   Wiring Blocks

Disconnect Blocks

Figure 48
110TB2-50 Disconnect Block, 110A1 & 110C1 Insulators, 110W4A4 Test Cord

The **110 Disconnect Terminal Block** is a 110-type Wiring Block which permits circuit isolation without removing patch cords or cross-connect wire. The "look both ways" testing capabilities allow end-users to identify out-of-service lines and other circuit conditions easily.

The 110 Disconnect Terminal Block, which has the same footprint as the 110DW2 Wiring Block, includes the 110C-4 or 110C-5 Connecting Block (noted with a "B" or "A," respectively, in the code) and provides for termination of 50-pairs. The 110W4A4 test cord is available for test purposes with the **Disconnect Block.**

The **110 Disconnect Terminal Block** exceeds the Category 3 transmission requirements as defined in ISO/IEC IS11801 (1995), CENELEC EN50173 (1995), and meets or exceeds Category 4 requirements as defined in EIA/TIA 568A (1995) Cross Connect Hardware Section.

Physical Specifications

Height: 9.11cm	
Width: 21.6cm	
Depth: 3.60cm	

Product	Comcode	Pair Size	Packaging
110TA1-50	106274749	50	1/Pkg
110TB2-50	106569908	50	1/Pkg

Copper Wiring Blocks

The **110B1 Insulator** is an accessory to the 110 Disconnect Block which is used to open the circuit of a single pair on the 25-pair strip. It is made of fire-retardant moulded plastic, similar to that of the disconnect block.

Physical Specifications

Height: 1.38cm	
Depth: 2.27cm	

Product	Comcode	Pair Size	Packaging
110B1	106310618	1	50/Pkg

Copper Wiring Blocks

The **110W4A4 Test Cord** is used with the 110 Disconnect Block to open a 1-pair circuit and test all four conductor ends independently.

Physical Specifications

Length: 1m	

Product	Comcode	Pair Size	Packaging
110W4A4	106310659	1	1/Pkg

Copper Wiring Blocks

110CAT5 Connectorised Terminal Block

The Avaya Category 5e Power Sum **110 Connector** system may be used in equipment rooms and telecommunications closets for connecting circuits and LAN electronics. They are backward compatible with existing 50-pin 525 connectors. They also fit with the 525 connectorised cable assemblies listed in the cordage section of this catalogue.

These pre-connectorised blocks have the same footprint as the current 110 Wiring Block and the 110 Patch Panel Terminal Blocks with easy to install features.

In addition to ease of installation and timesavings, these pre-connectorised blocks should reduce the potential for wiring errors that could interfere with the performance of the circuit.

Figure 49
110 CAT5e Connectorised Terminal Block

Physical Specifications

50-Pair:		450-Pair:	
	Height: 9.12cm		**Height:** 156.72cm
	Width: 27.23cm		**Width:** 21.6cm
	Depth: 8.5cm		**Depth:** 20.45cm
150-pair:	**Height:** 62.69cm		
	Width: 21.6cm		
	Depth: 20.45cm		

Frequency MHz	Power Sum NEXT (dB)	Attenuation (dB)	Return Loss (dB)
1	75	0.01	48
4	69	0.01	47
8	64	0.02	43
10	62	0.02	41
16	58	0.02	37
20	56	0.03	35
25	54	0.03	33
31.25	52	0.04	31
62.5	46	0.11	24
100	40	0.16	18

Product	Comcode	Pair Size	Packaging
110ABCAT5-50C	107764193	50	1/Pkg
110PBCAT5-150C	107764201	150	1/Pkg
110PBCAT5-450C	107764219	450	1/Pkg

Copper Patch Panels

The **110 Patch Panel System** comes in two sizes, 300-pair and 900-pair. They consist of a combination of 110D Wiring Blocks (100-pair) and 110B1 Jumper Troughs to be field mounted on a metal back panel which is designed to provide routing of the incoming cables behind the 110 blocks and troughs. The **110 Patch Panel System** comes complete with 110C Connecting Blocks (in either 3, 4, or 5-pair modularity), clear designation strips, blank white labels, and grounding hardware. The 188-type backboard should be ordered separately.

The **110 Patch Panel System** is best mounted directly on the wall, but can be mounted in a 19" rack using the 110RP1-19-600 Bracket. When mounted in a 19" rack, the 300 or 900-pair patch panel can be mounted next to a 188-type backboard or next to another **110 Patch Panel.** When two patch panels are mounted side-by-side in a 19" rack, there should be a facility for vertical patch cord management such as the 110A2 Distribution Rings.

The **110 Patch Panel System** exceeds the Category 5 and Category 5e transmission requirements (See Electrical Specifications) as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/TIA 568A Cross Connect Hardware Section. The **110** system supports the GigaSPEED and Power Sum solutions when used with the GigaSPEED or Power Sum cables and cords.

Figure 50
110PB2-300FT Patch Panel and 188D3 Backboard

Physical Specifications

Height: 300-pair: 62.69cm; **900-pair:** 156.72cm	
Width: 21.60cm	
Depth: 20.45cm	

Product	Comcode	Pair Size	Conn. Block Size	Packaging
110PA2-300FT	107058802	300	5 pairs	1/Pkg
110PA2-900FT	107058851	900	5 pairs	1/Pkg
110PB2-300FT	107058810	300	4 pairs	1/Pkg
110PB2-900FT	107058869	900	4 pairs	1/Pkg
110PC2-300FT	107058828	300	3 pairs	1/Pkg
110PC2-900FT	107058877	900	3 pairs	1/Pkg

Copper Patch Panels

188 Backboards

The **110 Patch Panel System Backboard** is a metal panel equipped with distributing rings that provide the vertical paths for running patch cords or jumpers between 110 Patch Panel System Terminal Blocks. The **188D3** is used with a 300-pair patch panel while the **188C3** is used with the 900-pair patch panel.

Figure 51
*110PB2-900FT
Patch Panel and
188C3 Backboard*

Physical Specifications

Length: 188C3: 156.84cm; **188D3:** 61cm	
Width: 21.60cm	
Depth: 20cm	

Product	Comcode	Pair Size	Packaging
188D3	107151193	300	1/Pkg
188C3	107151185	900	1/Pkg

Copper   Jack Panels

The **110 Jack Panel Blocks** provide 12 or 36 RJ45 interfaces, patchable via 110-type connecting blocks. The **110 Jack Panel Blocks** consist of the Avaya 110 insulation displacement connector (IDC) field and RJ45 modular jack field mounted on the front of a printed wiring board (PWB). The 110 IDC is connected to the RJ45 modular jack through PWB interconnections. The PWB with 110 IDC's and RJ45's are mounted on either a 100-pair or 300-pair 110 Wiring Block with legs to provide 12 or 36 RJ45 jacks. The reference codes for the **Jack Panel Blocks** with legs are 110AB-CAT5PS-JP12 and 110AB-CAT5PS-JP36 for 12 and 36 ports respectively.

There is also the **110BB-CAT5PS-JP12FTB Jack Panel Kit** which comes complete with a 110DW1-100 Wiring Block (without legs), the same PWB assembly as described above, and clips for mounting on the metal backpanel of the 110 Patch Panel Terminal Block. Shipped loose, the wiring block must first be mounted on the backpanel, then the PWB mounted on the wiring block.

The Avaya **110 Jack Panel Blocks** exceed the Category 5 and Category 5e transmission requirements as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/TIA 568A.

Figure 52
110AB-CAT5PS-JP12 Jack Panel

Physical Specifications

Insertion Life: 750 cycles min.	
Plug/Jack Contact Force: 100 g min.	
Plug Retention Force: 133 N min.	
Operating Temperature Range: 0 to 60ºC	
Storage Temperature Range: -40 to 66ºC	
Humidity: 5 to 95% (noncondensing)	
Height: JP12: 9.12cm; JP36: 27.4cm	
Width: 27.2cm	
Depth: 8.4cm	

Electrical Specifications

DC Resistance: < 0.2 Ω	**DC Resistance Unbalance:** < 30 mΩ

Copper Jack Panels

Frequency MHz	Worst Pair Attenuation (dB)	Worst Pair NEXT (dB)	Worst Pair Return Loss (dB)
1	0.06	81.0	44.0
4	0.07	70.6	41.0
8	0.07	64.7	36.0
10	0.08	62.8	34.0
16	0.09	58.8	33.0
20	0.10	56.9	30.0
25	0.11	54.9	28.0
31.25	0.12	53.1	26.0
62.5	0.17	47.2	22.0
100	0.29	42.5	20.0

Product	Comcode	Ports	Packaging
110AB-CAT5PS-JP12	107920704	12x RJ45	1/Pkg
110AB-CAT5PS-JP36	107920712	36x RJ45	1/Pkg
110BB-CAT5PS-JP12FTB	107920738	12x RJ45	1/Pkg

Copper   Jack Panels

The **110 Jack Panels** provide 36 or 108 RJ45 interfaces patchable via 110-type connecting blocks. The 110 Jack Panel Blocks consist of the Avaya 110 insulation displacement connector (IDC) field and RJ45 modular jack field mounted on the front of a printed wiring board (PWB). The 110 IDC is connected to the RJ45 modular jack through PWB inter-connections. The PWB with 110 IDC's and RJ45's are mounted on 100-pair wiring blocks without legs, then mounted on a patch panel frame with jumper troughs placed between each 100-pair Jack Panel Block. The 110 Jack Panels are available in 300-pair and 900-pair versions containing 36 or 108 ports respectively.

The Avaya **110 Jack Panels** exceed the Category 5 and Category 5e transmission requirements as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/TIA 568A.
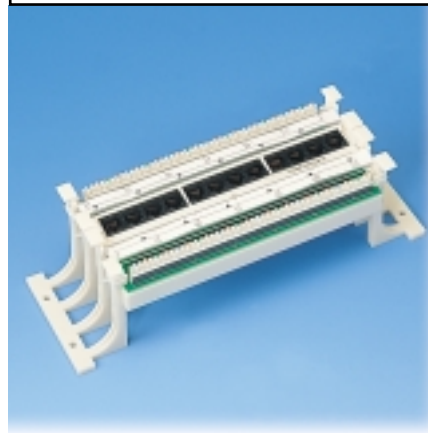
110 Family

110 Panels

Figure 53
*110PB-CAT5JP36
Jack Panel*

Physical Specifications

Insertion Life: 750 cycles min.	**Height:** JP36: 62.69cm; JP108: 156.72cm
Plug/Jack Contact Force: 100 g min.	**Depth:** 20.45cm
Plug Retention Force: 133 N min.	**Width:** 21.6cm
Operating Temperature Range: 0 to 60ºC	
Storage Temperature Range: -40 to 66ºC	
Humidity: 5 to 95% (noncondensing)	

Electrical Specifications

DC Resistance: < 0.2Ω	**DC Resistance Unbalance:** < 30 mΩ

Frequency MHz	Worst Pair Attenuation (dB)	Worst Pair NEXT (dB)	Worst Pair Return Loss (dB)
1	0.06	81.0	44.0
4	0.07	70.6	41.0
8	0.07	64.7	36.0
10	0.08	62.8	34.0
16	0.09	58.8	33.0
20	0.10	56.9	30.0
25	0.11	54.9	28.0
31.25	0.12	53.1	26.0
62.5	0.17	47.2	22.0
100	0.29	42.5	20.0

Product	Comcode	Ports	Packaging
110PB-CAT5PS-JP36B	107920720	36 x RJ45	1/Pkg
110PB-CAT5PS-JP108B	107920746	108 x RJ45	1/Pkg

Copper Accessories

The **188UT1 Label Holder** is a clear plastic strip which snaps onto the 110 Wiring Block and accepts coloured insert labels for pair or circuit designation. When attached to the 110 Wiring Block, the **Label Holder** conceals and protects the cable conductor terminations.

The **Label Holders** come in packages of six, while two **Label Holders** are required for 100 pairs. Pre-printed coloured labels should be ordered separately.

Figure 54
188UTI Label Holders

Physical Specifications

Height: 1.45cm	
Width: 20.0cm	

Product	Comcode	Packaging
188UT1-50	103895504	6/Pkg

Copper Accessories

The **110 Insert Labels** are coloured paper inserts (for the 188UT1 Label Holder) with vertical lines spaced to identify the circuits on a 110 Wiring Block. The labels listed below identify the circuits with 4-pair modularity and come in colours of white and blue. Additional colours (yellow, grey, red, purple, green, orange and brown) are available in 3, 4, and 5-pair modularity on a non-stock basis. Please contact your authorised SYSTIMAX SCS representative for ordering information.

The **Insert Labels** come in sheets of 24cm by 28cm which can be pin wheel printer fed.

Physical Specifications

Height: 1.2cm	
Width: 20.0cm	

Product	Comcode	Packaging	Colour
110BB2-4500L	106657174	90/Pkg	Blue
110WB2-4500L	106657216	90/Pkg	White
110GB2-4500L	106657182	90/Pkg	Green
110PB2-4500L	106657190	90/Pkg	Purple
110YB2-4500L	106657232	90/Pkg	Yellow

Copper Accessories

110A2 Distribution Ring

The **110A2 Distribution Ring** is a moulded plastic attachment which clips on to either side of the 110 Wiring Block. It functions as a vertical patch cord or jumper organiser.

Physical Specifications

Height: 1.4cm	
Width: 6.99cm	
Depth: 8.26cm	
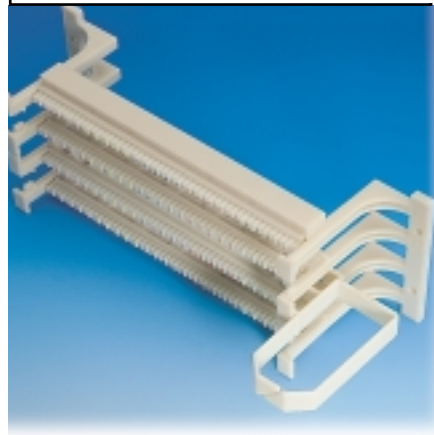
Figure 55
110A2 Distribution Ring mounted on a 110AW2-100 Wiring Block

Product	Comcode	Packaging
110A2	107214405	1/Pkg

Copper Accessories

88A2 Retainer

The **88A2 Retainer** is a moulded plastic attachment which clips onto the legs of the 110AW2-100/300 Wiring Blocks. It is used to retain the cross-connect wires at the top or bottom corners of a column of the wiring block.

Physical Specifications

Height: 5.08cm	
Width: 2.54cm	
Depth: 1.27cm	

Figure 56
88A2 Retainer

Product	Comcode	Packaging
88A2	107267452	1/Pkg

Copper Accessories

110C Connecting Blocks

The Avaya **110C Connecting Blocks** are one piece, fire-retardant, moulded plastic housings containing double-ended, solder plated quick clips with insulation displacement capabilities. The rear or cable side of the connector is designed to mount on the 110 index strip and terminate 0.643mm - 0.404mm (22 - 26 AWG) insulated conductors without prior removal of the insulation. The front side of the connector is designed to accept F Cross Connect Wire or 110 Patch Cords. The top of the **Connecting Block** is stamped with the product code, while the colour code on the high teeth is provided to allow for pair identification during installation.

Figure 57
110C-3, 110C- 4 and 110C-5 Connecting Blocks

The **110C Connecting Blocks** come in three different pair sizes; **110C-3** is 3-pair, **110C-4** is 4-pair, and **110C-5** is 5-pair.

The Avaya **110C Connecting Blocks** exceed the Category 5 and Category 5e NEXT requirements @ 100 MHz as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/TIA 568A.

The **110** system supports the GigaSPEED and Power Sum solutions when used with the GigaSPEED or Power Sum cables and cords.

UL Listed

Physical Specifications

Height: 0.8cm	
Width: 3-p: 2.3cm; **4-p:** 3.1cm; **5-p:** 3.8cm	
Depth: 2.8cm	

Product	Comcode	Pair Size	Packaging
110C-3	103801239	3	10/Pkg
110C-4	103801247	4	10/Pkg
110C-5	103801254	5	10/Pkg

Copper Accessories

110RD2 19 Inch Bracket

The **110RD2-200-19" Mounting Brackets** are used for mounting the 110-type hardware in a 19" frame rack or data cabinet. Specifically, the **110RD2-200-19 Mounting Bracket** mounts two 110DW2-100 Wiring Blocks and two 110B1 Troughs. Cable support rings on the rear of the bracket, secure cable routed through openings in the **Mounting Bracket** to the wiring blocks. Cross-connect wire or patch cords are routed from the wiring blocks through the troughs to the side of the frame to facilitate wire management. These **Mounting Brackets** can be mounted one on top of the other to support pair requirements. Wiring blocks, troughs, and rivets must be ordered separately.

Figure 58
110RD2-200-19 Mounting Brackets

Physical Specifications

Height: 17.78cm	
Width: 48.3cm	
Depth: 1.27cm	

Product	Comcode	Pair Size	Packaging
110RD2-200-19	107535585	200	1/Pkg

Copper Accessories

110A1 Wall Mounting Bracket

The **110A1 Hanger Brackets** will accommodate up to five 110 Patch Panels and/or 110 Patch Panel Backboards (188C3 or 188D3). Two **110A1 Hanger Brackets** should be mounted directly on the wall and the 110 Patch Panel apparatus are hung from the brackets.

Figure 59
110A1 Bracket

Physical Specifications

Width: 110.5cm	

Product	Comcode	Packaging
110A1 Bracket	104032230	1/Pkg

Copper Accessories

Rivet Kit

The **110RA-38** contains 38 white plastic push-in rivets which are designed to hold the 110 Wiring Block or Jumper Trough onto a 110 Patch Panel System backmount panel or 110RD2-200-19 Bracket. These are the same rivets which are included with the 110 Patch Panel System.

Physical Specifications

Height: 1.1cm
Width: 1.1cm
Depth: 2.54cm

Figure 60
Rivets

Product	Comcode	Packaging
110RA-38	107611634	38/Pkg

Copper Accessories

Test Cord

The **D Test Cord** is a 1-pair cord used to provide access for testing purposes to a single pair of wires terminated on the 110 Connector System. The **D Test Cord** is equipped with a locking feature on the plug.

Figure 61
AT-8662 Test Cord

Product	Comcode	Length	Packaging
AT-8662	402023949	1.2m (4ft)	1/Pkg
AT-8662D	402023956	2.4m (8ft)	1/Pkg

Copper   iPatch™ System

RJ45 Panels

The SYSTIMAX® iPatch System integrates GigaSPEED® hardware and software to give real-time, at a glance control of all telecom room connections. Every port connection is continuously monitored, verified and logged in a central database. Work orders are issued to slash administration time. Work is guided at each patch panel by electronic visual and audio prompts to virtually eliminate wiring errors.

The iPatch Rack Manager

Each rack in the telecom room is controlled by a Rack Manager. It continuously monitors every port in the rack to verify port usage, update the database, and notify you of problems the instant they occur. It also displays instructions to help technicians make changes quickly and accurately.

Figure 62
iPatch 1100PS Panels

Features

- Monitors all patch connections and disconnection's
- Does not require proprietary patch cords
- Guides technicians making patch connections
- One-touch patch cord tracing speeds administration
- Instantly reports improper connections to minimise service interruptions
- Verifies the location, availability and use of ports on patch panels and jacks in faceplates.
- Tracks services provided to each desktop
- Eliminates tedious paperwork such as generating work orders and tracking scheduled changes.
- Unmatched GigaSPEED performance.

PANELS

Product	Comcode	Ports	Packaging
iP1100PS24	108650185	24 x RJ45	1/Pkg
iP1100GS24	108650193	24 x RJ45	1/Pkg
iP1100PS48	108650201	48 x RJ45	1/Pkg
iP1100GS48	108650219	48 x RJ45	1/Pkg

COMPONENTS

Product	Description	Comcode	Packaging
iPRCKMGR-NA	iPatch Rack Manager (NA)	108 666 017	1/Pkg
iPRCKMGR-UK	iPatch Rack Manager (UK)	108 666 025	1/Pkg
iPRCKMGR-EU	iPatch Rack Manager (EU)	108 666 033	1/Pkg
iPNETMGR-NA	iPatch Network Manager (NA)	108 665 985	1/Pkg
iPNETMGR-UK	iPatch Network Manager (UK)	108 665 993	1/Pkg
iPNETMGR-EU	iPatch Network Manager (EU)	108 666 009	1/Pkg
iPSMNETMGR-NA	iPatch Network Manager w/System Manager software (NA)	700 023 005	1/Pkg
iPSMNETMGR-UK	iPatch Network Manager w/System Manager software (UK)	700 023 013	1/Pkg
iPSMNETMGR-EU	iPatch Network Manager w/System Manager software (EU)	700 023 021	1/Pkg
iPPWRSPLY-NA	Power Supply (NA)	108 650 672	1/Pkg
iPPWRSPLY-UK	Power Supply (UK)	108 650 706	1/Pkg
iPPWRSPLY-EU	Power Supply (EU)	108 650 714	1/Pkg

Copper 1100PSE Panels

1100CAT5PS Panels

Figure 63
*1100CAT5PS-24 and
1100CAT5PS-48 Panels*

The **1100PSE Modular Jack Panel** is a 19 inch rack mountable RJ45 jack panel. The **1100 PSE** accommodates repeated line moves, additions and rearrangements. The IDC connection on the rear of the panel houses the printed wiring board that provides continuous connection to the 8-pin modular jacks on the front. The result is a hard-working panel that allows a gas-tight termination of equipment on 110 connectors. The panel is available with 24, 32, 48, 64 or 96 RJ45 ports. The **1100PSE Panel** kit includes new icon labels with plastic holders that you can mount on the front of the panel for easy port identification.

The **1100PSE** has an enclosed PWB for protection. Cable tie slots on each end of each 6-port module allow for the use of cable ties (provided) to secure the cable at the edge of the module. The panel is capable of handling either T568A or T568B wiring; you simply select the appropriate label and wire the product as either A or B depending on your customer requirements.

The **1100PSE panel** is a member of the Power Sum solution. It exceeds the Category 5 and Category 5e requirements in ISO/IEC 11801 CENELEC EN 50173 and TIA/EIA-568A. The 1100PSE panels are UL listed.

Physical Specifications

Insertion Life: 750 cycles min.	
Plug/Jack Contact Force: 100 g min.	
Plug Retention Force: 133 N min.	
Operating Temperature Range: 0 to 60ºC	
Storage Temperature Range: -40 to 66ºC	
Humidity: 5 to 95% (noncondensing)	
Height: 24-Ports: 4.38cm (1u); **32-Ports**: 8.83cm (2u); **48-Ports**: 8.83cm (2u); **64-Ports** 17.7cm (4u)	
Width: 48.26cm (19 inch)	
Depth: 4.06cm	

Product	Comcode	Ports	Packaging
1100CAT5PS-24	108208919	24xRJ45	1/Pkg
1100CAT5PS-32	108208927	32xRJ45	1/Pkg
1100CAT5PS-48	108208935	48xRJ45	1/Pkg
1100CAT5PS-64	108208943	64xRJ45	1/Pkg
1100CAT5PS-96	108208950	96xRJ45	1/Pkg

Copper 1100GS Panels

1100GS Panels

The **1100GS Modular Jack Panel** is a 19 inch rack mountable RJ45 jack panel. The **1100GS** accommodates repeated line moves, additions and rearrangements. The IDC connection on the rear of the panel houses the printed wiring board that provides continuous connection to the 8-pin modular jacks on the front. The result is a hard-working panel that allows a gas-tight termination of equipment on 110 connectors. The panel is available with 24, 32, 48, 64 or 96 RJ45 ports. The **1100GS Panel** kit includes voice (telephone) and data (computer) labels in blue and white with plastic holders that you can mount on the front of the panel for easy port identification.

The **1100GS** has an enclosed PWB for protection. Cable tie slots on each end of each 6-port module allow for the use of cable ties (provided) to secure the cable at the edge of the module. The panel is capable of handling either T568A or T568B wiring; you simply select the appropriate label and wire the product as either A or B depending on your customer requirements.

The 1100GS Panel forms an integeral part of the GigaSPEED solution product portfolio. The GigaSPEED Solution is guaranteed to meet the Category 6/Class E Channel Specifications proposed for IS0/IEC and TIA, even under the worst case channel configuration (100 meters, including four connections). Note that in all cases the GigaSPEED channel specifications meet or exceed the Category 6/Class E proposed specifications. The 1100GS Panels are UL listed.

Figure 64
1100GS Panels

Physical Specifications

Insertion Life: 750 cycles min.	
Plug/Jack Contact Force: 100 g min.	
Plug Retention Force: 133 N min.	
Operating Temperature Range: 0 to 60ºC	
Storage Temperature Range: -40 to 66ºC	
Humidity: 5 to 95% (noncondensing)	
Height: 24-Ports: 4.38cm (1u);	
32-Ports: 8.83cm (2u);	
48-Ports: 8.83cm (2u);	
64-Ports: 17.7cm (4u)	
Width: 48.26cm (19 inch)	
Depth: 4.06cm	

Product	Comcode	Ports	Packaging
1100GS2-24	108619420	24xRJ45	1/Pkg
1100GS2-32	108619438	32xRJ45	1/Pkg
1100GS2-48	108619453	48xRJ45	1/Pkg
1100GS2-64	108619479	64xRJ45	1/Pkg
1100GS2-96	108619487	96xRJ45	1/Pkg

Copper 2500CAT5PS and 2512CAT5PS Panels

2500PS Panels

Figure 65
2500CAT5PS

The **2500CAT5 Modular Jack Panel** is a 19 inch rack mountable RJ45 Category 5 jack panel with 25-pair female 525 connectors on the back. The 25-pair 525 connectors are connected to the 4-pair RJ45 modular jacks through Printed Wiring Board (PWB) interconnections.

The **2500CAT5PS** follows the standard EIA T568B and T568A wiring scheme. The panel is available with 24 or 48 RJ45 ports.

The **2512CAT5PS,** unlike the **2500CAT5PS,** provides two pairs to each 8-pin modular jack. These pairs are terminated on pins 1 and 2 and 3 and 6. Therefore, one 50-pin connector serves 12 jacks.

The **2500CAT5PS Modular Jack Panel** meets or exceeds the Category 5 transmission requirements for attenuation and worst pair-to-pair NEXT as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/TIA 568A. The **2512CAT5PS** is wired to the IEEE 802.3, Ethernet 100BASE-TX and 10BASE-T Standard.

(UL) Listed

Physical Specifications

Insertion Life: 750 cycles min.	
Plug/Jack Contact Force: 100 g min.	
Plug Retention Force: 133 N min.	
Operating Temperature Range: 0 to 60ºC	
Storage Temperature Range: -40 to 66ºC	
Humidity: 5 to 95% (noncondensing)	
Height: 24-Ports: 4.38cm (1u); **48-Ports:** 8.83cm (2u)	
Width: 48.26cm (19")	
Depth: 4.06cm	

Product	Comcode	Ports	Wiring Scheme	Packaging
2500CAT5PS-24B	108236142	4x Telco to 24x RJ45	T568B	1/Pkg
2500CAT5PS-48B	108236159	8x Telco to 48x RJ45	T568B	1/Pkg
2512CATPS-48	108236167	4x Telco to 48x RJ45	Pairs 2 & 3	1/Pkg

Copper Accessories

Patch Cord Organisers

The **1100D Patch Cord Organisers** are used for routing patch cords in 19 inch rack mount RJ45 Jack Panel installations. There are three different **Patch Cord Organisers** available; the **1100D2-35-19** which provides horizontal routing via metal distribution rings and the **1100D1-35-19** which similarly provides horizontal routing but with the addition of 24 small plastic clips to provide for vertical pathways. The **1100D3-35-19** also provides horizontal routing via metal rings on the front and cable routing on the rear.

The **1100D1** and **1100D2** are both 2u high and the **1100D3** is 1u high.
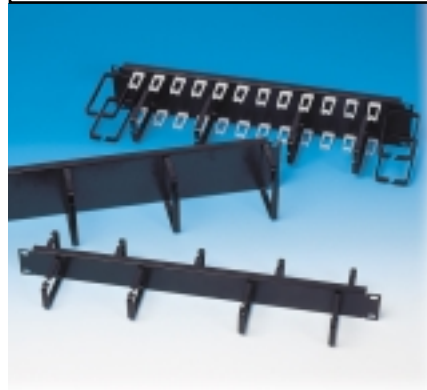
Figure 66
1100D1-35-19, 1100D2-35-19 and 1100D3-35-19 Patch Cord Organisers

Physical Specifications

Height: 8.89cm; **1100D3:** 4.38cm
Width: 1100D1: 50.8cm; **1100D2:** 48.3cm; **1100D3:** 48.3cm
Depth: 1100D1: 11.43cm; **1100D2:** 9.53cm; **1100D3:** 11.7cm

Product	Comcode	Packaging	Colour
1100D1-35-19	106830615	1/Pkg	Black
1100D2-35-19	106830623	1/Pkg	Black
1100D3-35-19	107132664	1/Pkg	Black

Copper   Accessories

1100C Wall Adapter

The **1100C Wall Adapters** are used to mount panels (e.g. 1100 panels) onto any flat surface. Hinges provide easy access to the rear of the panel without removing the unit. The adapters can be mounted so that it hinges from the right or left side. The snap-lock pin holds the panel in place once the unit is installed.

Figure 67
1100C1 Wall Adapters

Physical Specifications

1100C1-35-19 Wall Adapter:	**Height:** 8.89cm
	Width: 48.3cm
	Depth: 12.7cm
1100C1-70-19 Wall Adapter:	**Height:** 17.78cm
	Width: 48.3cm
	Depth: 12.7cm

Product	Comcode	Packaging	Colour
1100C1-35-19	106830573	1/Pkg	Black
1100C1-70-19	106830581	1/Pkg	Black

Copper Fleximax HD Panel

The **FlexiMAX HD Panel** is a 24-port panel that allows for patching or interconnects in the telecommunications closet or equipment room. It is an RJ45 1u modular panel specifically designed for the GigaSPEED® solution but can also be used for Power Sum applications.

The panel is available in a 24-port version only and can hold up to 24 high-density distribution modules (not included). The front appearance of the panel comprises two rows of square punchouts, which allow ease of access for HDMs.

The benefits of this panel include:

- Its 1u height makes it possible to maximise office space

- Colour coding is possible by use of coloured outlets

- It is possible to include a mixture of Power Sum/ GigaSPEED.

- A bend has been incorporated in the top and bottom to minimise the flex.

Figure 68
Fleximax HD panel

Physical Specifications

Height: 4.35cm (1u)	
Width: 48.20cm (19inch)	
Depth: 8.00cm	

Product	Comcode	Packaging	Colour
Fleximax HD	108356312	1/Kg	Black

Copper   Introduction

The Avaya **PATCHMAX** Distribution Hardware is a modular patch panel system designed by Avaya Labs. Its unique patented modular construction provides a customer configurable GigaSPEED, Power Sum (RJ45) and OptiSPEED Fibre Patch Panel interface.

The **PATCHMAX** Distribution Hardware consists of a 19 inch rack mountable aluminium panel designed to accept either four or eight Distribution Modules (DM's), which are currently available in two configurations. The **DM2150** has six 4-pair RJ45 modular jacks on the front wired to six 110 IDC terminals on the rear via a printed wiring board. The **DM2250** similarly has six 4-pair RJ45 modular jacks on the front, but these jacks are wired to a 25-pair telco connector on the rear via a printed wiring board. The Distribution Modules snap into the panels providing quick field assembly. The unique mounting arrangement allows the modules to rotate in the panel providing front access to the IDC terminations or telco connector.

Cords and cables are managed and routed via the **R2100** (front) and **R2200** (rear) **Retainers** which are integral to the panels. The front mounted **R2100 Retainer** routes cords and functions as a cradle for the Distribution Module, allowing the installer to terminate and inspect the IDC or telco from the front without having to disconnect anything. The **R2200 Retainer** is a rear cable management bar which manages and routes cables on the back of the panel. Both retainers snap into the panel without any mounting screws. There are velcro straps on both the front and back for additional cable security if required.

The **GigaSPEED PATCHMAX** Modular universal panels are also available with universal wiring. The panels can be wired for either T568A or T568B; simply select the appropriate "A" or "B" labels and wire the panel based on customer requirements.

Identification labels are shipped with each panel and slide into grooved slots in the front of the Distribution Module. Coloured reversible icon strips, with a telephone on one side and a computer on the other, can be ordered separately in various colours.

The **OptiSPEED PATCHMAX Panels** are available in ST, SC and hybrid ST-SC and SC-ST adapter assemble for multimode applications. These fibre module additions provide the same look in the closet or the equipment room as well as providing a compact termination method.

Patch Panels

PATCHMAX® GigaSPEED® Power Sum and OptiSPEED™

Figure 69
PATCHMAX Panel incorporating GigaSPEED distribution module and OptiSPEED (ST-ST and SC/SC) distribution module

Copper PATCHMAX GigaSPEED

PATCHMAX GigaSPEED Distribution Hardware is designed for superior, reliable link performance. The compact modular design of this distribution hardware assures reliable performance, compatibility and fast, easy installation. Design features include:

- Superb electrical performance when mated with low vari-ability GigaSPEED cords.

- A choice of 24 and 48-port rack-mounted panels with distribution modules (DMs) designed to accommodate either standard pinout (T568A or T568B).

- Unique, rotating distribution module design ensures fast, easy installation and easy access to the back.

- Designed for simplified administration with built-in cord and cable retainer rings, colour-coded labels and icons.

The PATCHMAX GigaSPEED forms an integral part of the GigaSPEED Solution product portfolio. The GigaSPEED Solution is guaranteed to meet the Category 6/Class E Channel Specifications proposed for ISO/IEC and TIA, even under the worst case channel configuration (100 meters, four connections). Note that in all cases the GigaSPEED channel specifications meet or exceed the Category 6/Class E proposed specifications.

Figure 70
PM2151-24GS and DM2151-GS Distribution Modules

Physical Specifications

4-Module Panel: Height: 8.9cm (2u) **Width:** 48.3cm **Depth:** 20.5cm	
8-Module Panel: Height: 17.78cm (4u) **Width:** 48.3cm **Depth:** 20.5cm	
Modular Jack: 750 minimum (without retainer): Height: 8.9cm (2u) **Width:** 48.3cm **Depth:** 3.2cm	
48 Port Panel (without retainer): Height: 17.78cm (4u) **Width:** 48.3cm **Depth:** 12.7cm	
Operating Temperature Range: -10°C to 70°C	
Storage Temperature Range: -40°C to 6°C	
Humidity: 95% (noncondensing)	
EIA/TIA Category: 5	
Nom. Solid Conductor Diam.: 0.40 to 0.64mm (22 to 26 AWG)	
Nom. Stranded Conductor Diam.: 0.4 to 0.64mm (22 to 26 AWG)	
Insulation Size: 1.27mm (0.050") Maximum DOD	
Insulation Types: All plastic insulants (including PVC, irradiated PVC, Polyethylene, Polypropylene, PTF Polyurethane, Nylon, and Teflon	
Nominal Attenuation (dB) Reterminations: IDC: 200 minimum	
Modular Jack: 750 minimum	

Product	Comcode	Wiring	Ports	Packaging
PM2160GS-24	108619347	Universal	24x RJ45	1/Pkg
PM2160GS-48	108619362	Universal	48x RJ45	1/Pkg
DM2160GS Module	108619511	Universal	6x RJ45	24/Pkg
PM2250B-24	107882342	Universal	24	1/Pkg
PM2250B-48	107882367	Universal	48	1/Pkg

UL Listed

Copper   PATCHMAX Power Sum

Power Sum Accessories

The Power Sum performance margin of **PATCHMAX PSE** ensures your network will be ready for today's applications and emerging technology such as 1000Base-T Gigabit Ethernet using parallel transmission schemes.

The **PATCHMAX PSE** hardware meets or exceeds the Category 5 transmission requirements for attenuation and NEXT as defined in ISO/IEC IS11801, CENELEC EN50173, and EIA/TIA 568A. Further, it is UL Listed and meets the Category 5e requirements.

Figure 71
PM2150-48 and PM2150-24 Panel Kits

Physical Specifications

Modular Jack: 750 Minimum (without retainer): Height: 8.9 cm (2u) **Width:** 48.3 cm **Depth:** 3.2 cm	
48 Port Panel (without retainer): Height: 17.78 cm (4u) **Width:** 48.3 cm **Depth:** 12.7 cm	
Operating Temperature Range: -10°C to 70°C	
Storage Temperature Range: -40°C to 60°C	
Humidity: 95% (noncondensing)	
EIA/TIA Category: 5	
Nom. Solid Conductor Diam.: 0.40 to 0.64 mm (22 to 26 AWG)	
Nom. Stranded Conductor Diam.: 0.4 to 0.64 mm (22 to 26 AWG)	
Insulation Size: 1.27 mm (0.050") Maximum DOD	
Insulation Types: All plastic insulants (including PVC, irradiated PVC, Polyethylene, Polypropylene, PTF Polyurethane, Nylon, and Teflon	
Nominal Attenuation (dB) **Reterminations:** IDC: 200 minimum	
Modular Jack: 750 minimum	

Product	Comcode	Description	Packaging	Colour
PM2150-48	108320045	PATCHMAX Kit w. 48 x RJ45, Universal Wiring	1/Pkg	Black
PM2150-24	108320029	PATCHMAX Kit w. 24 x RJ45, Universal Wiring	1/Pkg	Black
P2040	107428591	Panel for 4 Distribution Modules	1/Pkg	Black
P2080	107428609	Panel for 8 Distribution Modules	1/Pkg	Black
DM2150	108320011	Distribution Module, 6x RJ45, Universal Wiring	24/Pkg	Black
DM2250B	107882326	Distribution Module, 25-pair to RJ45	1/Pkg	Black
PM2250B-24	107882342	Panel Kit, 25-pair to RJ45 B Wiring - 24 Port	1/Pkg	Black
PM2250B-48	107882367	Panel Kit, 25-pair to RJ45 B Wiring - 48 Port	1/Pkg	Black

Copper   PATCHMAX Power Sum

Patch Panels

Power Sum Accessories
(contd)

Product	Comcode	Description	Packaging	Colour
R2100A	108036690	Front Retainer	5/Pkg	Black
R2200	107638934	Rear Retainer	1/Pkg	Silver
R2300	107670952	Fastener Kit, Velcro Wrap	1/Pkg	Black
L2300-BL	107536773	Icon Strip (6 Icons per Strip)	4/Pkg	Blue
L2300-BR	107536831	Icon Strip (6 Icons per Strip)	4/Pkg	Brown
L2300-GN	107536781	Icon Strip (6 Icons per Strip)	4/Pkg	Green
L2300-GY	107536765	Icon Strip (6 Icons per Strip)	4/Pkg	Grey
L2300-OR	107536807	Icon Strip (6 Icons per Strip)	4/Pkg	Orange
L2300-PL	107536849	Icon Strip (6 Icons per Strip)	4/Pkg	Purple
L2300-RD	107536815	Icon Strip (6 Icons per Strip)	4/Pkg	Red
L2300-WH	107536823	Icon Strip (6 Icons per Strip)	4/Pkg	White
L2300-YL	107536899	Icon Strip (6 Icons per Strip)	4/Pkg	Yellow
Label Sheet	107656910	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Grey
Label Sheet	107656928	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Blue
Label Sheet	107656936	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Green
Label Sheet	107656951	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Orange
Label Sheet	107656969	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Red
Label Sheet	107656977	Labelling Sheets (32x 6-circuit modules)	2/Pkg	White
Label Sheet	107656985	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Brown
Label Sheet	107656993	Labelling Sheets (32x 6-circuit modules)	2/Pkg	Purple

UL Listed

Multimedia MultiMAX

The **M1000P5 MultiMax Panel** is a 19 inch rack mountable aluminium panel that provides for patching or interconnect in the telecommunications closet or equipment room. Packaged with the panel are mounting clips for up to 24 modular outlets or fibre connectors, distribution rings for cord or cable management and screws.

For copper terminations, the mounting clips provide a fixture for holding the M-series HDM's when terminating conductors and also provide strain relief for the cable when snapped into the panel. Mounting clips also accommodate the M81ST and M81SC for fibre terminations.

Figure 72
M1000P5 MultiMAX Panel

Physical Specifications

Height: 8.9cm	
Width: 48.3cm	
Depth: 0.32cm	

Product	Comcode	Wiring	Packaging	Colour
M1000P5	108006198	24x HDMs	1/Kg	Black

Fibre LazrSPEED™

LIUs

LazrSPEED **Interconnect Units (LIUs)** are modular enclosures providing cross-connect and/or interconnect, splicing and terminating capabilities for outside plant and building cables. Although primarily designed as wall mounted units, they can be placed on a rack using a mounting bracket.

The **100LS LIU** can terminate 12 fibres with ST or SC connectors, or 24 fibres with LC connectors. With an optional splicing kit it can accommodate up to 12 mechanical or fusion splices. Made of an engineered polycarbonate material, the 100LS can accommodate two 10P adapter panels (ordered separately)

The **200LS LIU** can terminate 24 fibres with ST or SC connectors, or 48 fibres with LC connectors. It can accommodate up to 12 mechanical or fusion splices, using an optional splicing kit. The 200LS can accommodate up to 24 mechanical or fusion splices with optional splicing kits, but the fibre termination capacity is decreased to 12 ST or SC connections, or 24 LC connections. The 200LS is made of aluminum and can accommodate four 10P adapter panels (ordered separately).

Figure 73
LazrSPEED LIU's

Physical Specifications

100LS LIU:	Height:	22.2cm
	Width:	19.1cm
	Depth:	7.6cm
200LS LIU:	Height:	22.2cm
	Width:	19.1cm
	Depth:	10.2cm

Product	Comcode	Packaging
10PLC-LS	108627266	1/Pkg
10PSC-LS	108627274	1/Pkg
10PST-LS	108627282	1/Pkg

Fibre   Interconnection Unit

100A3 Unit

Figure 74
*100A3
Interconnect Unit*

The **100A3 Interconnection Unit** (LIU) is a modular enclosure that provides cross-connect, interconnect, or splicing capabilities for Building Cables (LGBC) or Outside Plant cables inside a building. Two windows are provided to mount connector panels. The **100A3** is ideal for wall mounting and is made of durable engineered polycarbonate material. It is designed to terminate a maximum of 12 fibres for cross connection or interconnection, or can accommodate up to 12 mechanical (CSL) or fusion splices using the optional splice adapter tray.

The **100A3 LIU** has five plastic split rings for managing slack fibres within the unit and two rings for routing cables passing through the unit. Termination posts at the top and bottom secure the cables entering from overhead or below. The **100A3 LIU** has inserts to enclose cable entry holes and grommets to seal around the cables.

Physical Specifications

Height: 22.22cm

Width: 19cm

Depth: 7.62cm

Product	Comcode	Connector/ Splice Qty	Packaging
100A3 LIU	106896947	12	1/Pkg

Fibre Interconnection Unit

The **200A Interconnection Unit** (LIU) is a modular enclosure that provides cross-connect, interconnect or splicing capabilities for Building Cables (LGBC) or Outside Plant cables inside a building. Four windows are provided to mount connector panels. The **200A** is ideal for wall mounting and is made of durable lightweight aluminium. It is designed to terminate a maximum of 24 fibres for cross connection or interconnection, or can accommodate up to 24 mechanical (CSL) or fusion splices using the optional splice adapter tray. The **200A** can also accommodate a combination of 12 terminations and 12 splices.

The **200A LIU** has five plastic split rings for managing slack fibres within the unit and two rings for routing cables passing through the unit. Termination posts at the top and bottom secure the cables entering from overhead or below.

LIUs

200A Unit

Figure 75
200A Interconnect Unit

Physical Specifications

Height: 22.22cm	
Width: 19cm	
Depth: 10.16cm	

Product	Comcode	Connector/Splice Qty	Packaging
200A LIU	105535926	24	1/Pkg

Fibre   Accessories

The **10A, 10SC1, 10SC1-Duplex, 10LC1** and **Blank Panels** are designed for use in the 100A3 and 200A Interconnect Units (LIUs).

The **10A** accommodates up to 6 ST-type couplings **(C2000A-2)**; the **10SC1** accommodates up to 6 SC-type couplings **(C6000A-4)**; the **10SC1-Duplex** accommodates up to 3 Duplex SC-type couplings **(C6060A-4)**; the **10LC1** accommodates up to 6 Duplex LC-type couplings **(C1000A-2)** and the **Blank Panel** is intended to fill any empty panel slot in the 100A3 or 200A where the other panels are not required.

Figure 76
Blank and 10A Panels

Physical Specifications

Height: 9.8cm	
Width: 3.7cm	
Depth: 0.3cm	

Product	Comcode	Ports	Packaging
10A	104141858	6x ST cpl	1/Pkg
10SC1	106371800	6x SC cpl	1/Pkg
10SC1-DPLX	107025835	3x Dplx SC	1/Pkg
10LC1	107783755	6x Dplx LC cpl	1/Pkg
Blank Panel	105276570	N/A	1/Pkg

Fibre   Accessories

1A4 Vertical Trough

The **1A4 Fibre Optic Trough** is a vertical aluminium trough which is used to arrange fibre patch cords vertically from one Interconnect Unit (LIU) to another in a multiunit fibre cross-connect, or from the LIU to the active electronics. The **1A4** is packaged with two mounting screws for wall mounted applications.

Physical Specifications

Height: 22.2cm	
Width: 10.2cm	
Depth: 5.1cm	

Figure 77
1A4 Vertical Trough

Product	Comcode	Packaging	Colour
1A4	104141866	1/Pkg	White

Fibre   Accessories

1A6 Horizontal Trough

The **1A6 Fibre Optic Trough** is a horizontal aluminium trough which is used to arrange fibre patch cords horizontally from one Interconnect Unit (LIU) to another in a multiunit fibre cross-connect, or from the LIU to the active electronics. The **1A6** is packaged with two mounting screws for wall mounted applications.

Physical Specifications

Height: 10.2cm	
Width: 29.2cm	
Depth: 10.2cm	

Figure 78
1A6 Horizontal Trough

Product	Comcode	Packaging	Colour
1A6	104141874	1/Pkg	White

PANELS

Fibre Accessories

These kits adapt the 100A3 and 200A Interconnection Units (LIUs) for mechanical or fusion splice retention. The D-181706 holds 12 CSL splices while the D-181707 can hold 16 fusion splices. Splices can be ordered separately.

LIUs

Splice Adapter

Figure 79
D-181706 Splice Adapter Kit

Product	Comcode	Length	Packaging
D-181706	105289656	12 CSL	1/Pkg
D-181707	105289664	16 Fusion	1/Pkg

Fibre 600ALS Combination Shelf

A rack-mountable, one unit high shelf, the **600ALS Combination Shelf** houses 24 ST, 24 SC, or 48 LC terminations. This space saving shelf offers an easy solution for housing the connection of two cables or the interconnection of equipment. The **600ALS Combination Shelf** is applicable for use in local area networks (LANs), premises distribution systems, and small count splice and termination applications. A detachable front panel allows easy access to the cable connectors.
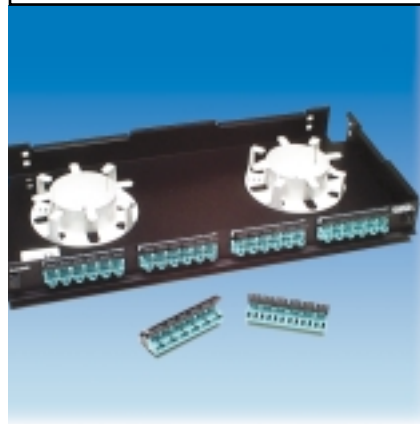
Shelves

LazrSPEED™

Figure 80
600ALS Combination Shelf

Physical Specifications

Height: 4.4cm	
Width: 43.2cm	
Depth: 20.3cm	

Product	Comcode	Connector Type	Packaging
600ALS/MM/LC-48	108565698	LC	1/Pkg
600ALS/MM/SC-24	108565706	SC	1/Pkg
600ALS/MM/ST-24	108565714	ST	1/Pkg
Lid Cover for 600A	108565433	–	1/Pkg
DTLS/600A-5	700008303	–	1/Pkg
1AMF1-6LG	700006281	–	1/Pkg

Fibre 600BLS Combination Shelf

The **600BLS Combination Shelf** is an easy to install solution that meets your splicing and termination needs for up to 24 ST or SC connections and up to 48 LC connections. Its space saving slimline design features a front access, sliding shelf for easy access and installation. The lightweight, frame mounted shelf is suitable for your local area network, general premises distribution, and small count splice and termination applications.

Each **600BLS** is 1u and includes all adapters needed to terminate up to 48 fibres using LC connectors or 24 fibres using SC or ST connectors. Its versatile design can accommodate up to 48 mechanical splices, 64 fusion splices, or 12 ribbon (mass fusion) splices using optional splice trays. The shelf contains a sliding tray with two 7.6cm (3 inch) storage drums and two openings with liquid tight fastens.

Figure 81
600BLS Combination Shelf

Physical Specifications

Height: 4.4cm	
Width: 43.7cm	
Depth: 28.4cm	

Product	Comcode	Connector Type	Packaging
600BLS/MM/LC-48	108565755	LC	1/Pkg
600BLS/MM/SC-24	108565763	SC	1/Pkg
600BLS/MM/ST-24	108565771	ST	1/Pkg
Lid Cover for 600B	108565458	–	1/Pkg
DTLS/600B-1.75	700008303	–	1/Pkg

Fibre LSTLS High Density Termination Shelf

The **LSTLS High Density Termination Shelf** features a fully modular design, increased protection and security, front and rear accessibility, and versatility as a stand alone unit. The shelves can be used to perform the functions most commonly required in the field, such as termination and interconnection.

The **LSTLS** is a 4U (7 inch high) shelf designed for high fibre density locations, including equipment rooms and telecom closets.

The shelf can terminate up to 144 LC connections, 72 SC connections or 72 STII+ connections. Built-in slack management for each colour-coded LazrSPEED adapter strip facilitates fibre administration. The adapter bezel is detachable from the front, to provide easy access to the rear connector and fibre slack.

The **LSTLS** is designed for mounting in a 19" rack for enterprise applications.

Figure 82
LSTLS High Density Termination Shelf

Product	Comcode	Connector Type	Packaging
LSTLS/MM/LC-144/7	108565631	LC	1/Pkg
LSTLS/MM/SC-072/7	108565649	SC	1/Pkg
LSTLS/MM/ST-072/7	108565656	ST	1/Pkg

Fibre

1100 Fibre Distribution Panel

The **1100LS Fibre Distribution Panel** is a high quality panel for terminating or inter-connecting fibres in a premise wiring system. The shallow panel depth makes the **1100LS** ideal for wall mounted racks. Front access to the connectors behind the adapter strip is possible simply by removing the adapter bezel from the panel. The trim design and front access make the **1100LS** panel an excellent solution for cramped and crowded telecommunication closets.

The **1100LS** was built to accommodate repeated line moves, additions and rearrangements. The kit includes adapter panels for 48 LC, 24 SC, or 24 ST terminations. The black housing design matches equivalent copper apparatus, and colour coded adapter panels simplify identification and administration.

This can be mounted in a 19"rack designed for enterprise applications, or directly on a wall with an optional adapter kit. A convenient kit comes equipped with the distribution shelf, colour coded adapter strips with either LC, ST or SC adapters, and all mounting hardware.

Physical Specifications

Height: 4.4cm	
Width: 48.3cm	
Depth: 12.1cm	

Product	Comcode	Connector Type	Packaging
1100LS/MM/LC-48	108565557	LC	1/Pkg
1100LS/MM/SC-24	108565573	SC	1/Pkg
1100LS/MM/ST-24	108565581	ST	1/Pkg

Fibre 600A1 Shelf

The **600A1 One Unit Combination Shelf** is a 19 inch rack mountable fibre distribution shelf for terminating and/or splicing indoor LGBC fibre optic cables. The assembly consists of a tray which contains rear corner and side slots for cable entry, steel brackets for rack flush/recessed mounting, fibre retainers for holding buffered fibres in place, and fibre storage drums that maintain a fibre bend radius of 3.81cm.

The Front Connector Panels, 183U1 Cover, Splice Organisers, Jumper Trough, Connectors and Couplings should be ordered separately.
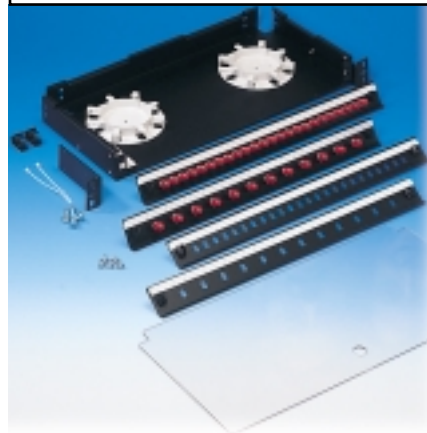
Figure 83
*600A1 Shelf, 24 ST-EW,
12 ST-EW, 24 ST &
12 ST Panels, 183U1 Cover*

Physical Specifications

Height: 4.37cm	
Width: 43.18cm	
Depth: 20.32cm	

Product	Comcode	Packaging	Colour
600A1	700007354	1/Pkg	Black

Fibre   600A1 Shelf Accessories   Shelves

Connector Panels

The **600A1 Front Connector Panels** are used with the 600A1 Combination Shelf for holding the connector couplings in place. They are available to accommodate 12 ST, 24 ST, 12 SC, 24 SC, 12 SC Duplex or 24 LC Duplex couplings. The Connector Panels are also available with the couplings already installed.

Physical Specifications

Height: 3.7cm	
Width: 42.8cm	

Product	Comcode	Ports	Packaging
12 ST Panel	700006620	12x ST cpl (Not incl.)	1/Pkg
12 SC Panel	700006588	12x SC cpl (Not incl.)	1/Pkg
24 ST Panel	700006646	24x ST cpl (Not incl.)	1/Pkg
24 SC Panel	700006604	24x SC cpl (Not incl.)	1/Pkg
12 SC Duplex Panel	700006562	12x SC Duplex cpl (Not incl.)	1/Pkg
12 LC Duplex Panel	700006414	12x LC Duplex cpl (Not incl.)	1/Pkg
12 ST-EW Panel	700006638	12x ST cpl (Included)	1/Pkg
12 SC-EW Panel	700006596	12x SC cpl (Included)	1/Pkg
24 ST-EW Panel	700006653	24x ST cpl (Included)	1/Pkg
24 SC-EW Panel	700006612	24x SC cpl (Included)	1/Pkg
12 SC-Duplex-EW Panel	700006570	12x SC Duplex cpl (Included)	1/Pkg

Fibre   600A1 Shelf Accessories   Shelves

Cover

The **183U1 Cover** is a clear polycarbonate cover to be placed on top of the 600A1 Combination Shelf. It protects the fibres from damage and dust.

Physical Specifications

Height: 42.8cm	
Width: 20.4cm	

Product	Comcode	Packaging	Colour
183U1	700005028	1/Pkg	Transparent

Fibre   600A1 Shelf Accessories

Trough

The **1U-19 Trough** is a 1 unit high aluminium trough which is mounted under the 600A1 Combination Shelf. The **1U-19 Trough** is used to accommodate the slack from fibre jumper cables routed to/from the shelf.

Figure 84
IU-19 Trough

Physical Specifications

Height: 5.6cm	
Width: 48.3cm	
Depth: 10.4cm	

Product	Comcode	Packaging	Colour
1U-19	700008352	1/Pkg	Black

Fibre   600 Series Shelf Accessories

Splice Organiser Trays

The **1AM1-12LG and 1AF1-16LG Splice Organisers** are used both with the 600A1 and 600B2 Combination Shelves. The 1AM1-12LG is a Mechanical Splice Organiser, which holds up to 12 mechanical splices, while the 1AF1-16LG is a Fusion Splice Organiser, which holds up to 16 fusion splices. Both the 600A1 and the 600B2 Shelves can accommodate up to 24 mechanical splices or 32 fusion splices.

Product	Comcode	Description	Packaging
1AF1-16LG	105356562	Fusion Splice Organiser Tray	10/Pkg
1AM1-12LG	105356570	Mechanical Splice Organiser Tray	10/Pkg

Fibre   600B2 Shelf

Combination Shelf

Figure 85
600B2 Shelf

The **600B2 One Unit Combination Shelf** is a 19 inch rack mountable fibre distribution shelf for terminating and/or splicing fibre optic cables. The assembly features a pullout aluminium tray for easy access to fibres and splices. The tray has two rear openings with liquid-tight cable glands, space for adding splice trays, and fibre storage drums that maintain a fibre bend radius 3.81cm.

The front Connector Panels IU-17 trough, 184U1 Cover, Splice Organisers, Connectors and couplings should be ordered separately. The **600B2 Shelf** uses the same splice trays as the 600A1.

The **600B2** can be used for indoor and dielectric outdoor (DNX and DDX cables) applications.

Physical Specifications

Height: 4.37cm	
Width: 43.7cm	
Depth: 28.5cm	

Product	Comcode	Packaging	Colour
600B2	700007321	1/Pkg	Black

Fibre   600B2 Shelf Accessories

The 600B2 Front Connector Panels are used with the **600B2 Combination Shelf** for holding the connector Couplings in place. They are available to accommodate 12 ST, 24 ST, 12 SC, 24 SC, 12 SC Duplex or 24 LC Duplex couplings. The panels feature an integrated jumper trough. The panels are supplied stand alone or with couplings pre-loaded.

Physical Specifications

Height: 3.7cm	
Width: 42.8cm	

Product	Comcode	Couplings	Packaging
12ST1 Panel	700006497	12x ST cpl (Not incl.)	1/Pkg
12SC1 Panel	700006539	12x SC cpl (Not incl.)	1/Pkg
12SC1 DPLX Panel	700006521	12x SC DUPLEX (Not incl.)	1/Pkg
24ST1 Panel	700006455	24x ST cpl (Not incl.)	1/Pkg
24SC1 Panel	700006471	24x SC cpl (Not incl.)	1/Pkg
12LC1 DPLX Panel	700006406	12x LC DUPLEX (Not incl.)	1/Pkg
24LC1 DPLX Panel	700006398	24x LC DUPLEX (Not incl.)	1/Pkg
12ST1EW Panel	700006489	12x ST MM cpl (Included)	1/Pkg
12SC1EW Panel	700006505	12x SC cpl (Included)	1/Pkg
12SC1 DPLX-EW Panel	700006513	12x SC DUPLEX (Included)	1/Pkg
24ST1EW Panel	700006448	24x ST MM cpl (Included)	1/Pkg
24SC1EW Panel	700006463	24x SC cpl (Included)	1/Pkg
12ST1S-EW Panel	700006430	12x ST SM cpl (Included)	1/Pkg
24ST1S-EW Panel	700006422	24x ST SM cpl (Included)	1/Pkg
1U-17 Trough	700002348	N/A	1/Pkg

Fibre   600B2 Shelf Accessories

The **184U1 Cover** is a clear polycarbonate cover to be placed on top of the 600B2 Combination Shelf. It protects the fibres from damage and dust.

Physical Specifications

Height: 42.8cm	
Width: 20.4cm	

Product	Comcode	Packaging	Colour
184U1	700005010	1/Pkg	Transparent

Fibre   LGX Shelves

LST1P-048ST
Termination Shelf

The **LST1P-48ST/2.5 Shelf Terminating Unit** is a 6.35cm (2.5 inch) high shelf that can be mounted in a 19 or 23 inch rack (19 inch mounting brackets ordered separately). The shelf comes equipped with two front access pivoting trays that will each accommodate 24 fibre ST-type terminations of LGBC buffered fibres. Each tray has two fibre slack storage drums which limit the fibre bend radius to 3.81cm. The trays have built-in coupling panels. However, ST connectors and couplings should be ordered separately.

Figure 86
*LST1P-048ST
Termination Shelf*

Physical Specifications

Height: 6.3cm	
Width: 43.2cm	
Depth: 27.9cm	

Product	Comcode	Terminations	Packaging
LST1P-48ST	700007263	48x ST cpl	1/Pkg
19 inch Bracket	108527441	N/A	1/Pkg

Fibre   LGX Shelves

LST1U-072/7 Termination Shelf

The **LST1U-072/7 Termination Shelf** is used for terminating up to 72 fibres from indoor Lightguide Building Cables (LGBC) or outdoor Outside Plant (OSP) cables. The shelf comes with a hinged, smoked transparent, plastic front door and white hinged polycarbonate rear door for both front and rear access. Also included are: universal brackets for mounting the shelf in 19 and 23 inch racks or directly onto the wall; cable clamp brackets for securing LGBC cables and 12A clamps for OSP cable; and blank labels attached to the inside of the front door for fibre identification.

Inside the cabinet, there is a hinged panel mounting bracket which can accept up to twelve 6-way coupling panels. The coupling panels, couplings and connectors should be ordered separately. OSP cable terminating hardware such as the 12A Cable Clamp, Buffer Tubing Kit, B-Sealant and Blocking Kits should also be ordered separately.

Figure 87
*LST1U-072/7
Termination Shelf*

Physical Specifications

Height: 17.8cm	
Width: 43.2cm	
Depth: 27.9cm	

Product	Comcode	Terminations	Packaging
LST1U-072/7	700007289	72	1/Pkg

LGX Shelves

LST1F-072/7 Termination Shelf

The **LST1F-072/7 Termination Shelf** is the same as the **LST1U-072/7** except the entire contents of the shelf is mounted on a slide out panel for easy front access.
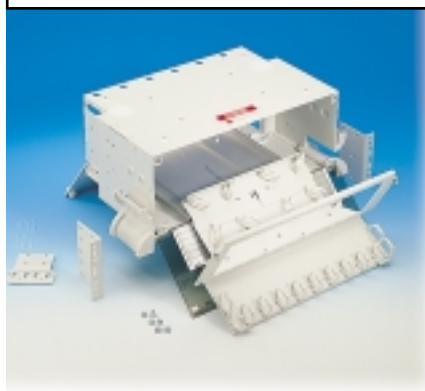
Figure 88
*LST1F-072/7
Termination Shelf*

Physical Specifications

Height: 17.8cm	
Width: 43.2cm	
Depth: 27.9cm	

Product	Comcode	Terminations	Packaging
LST1F-072/7	700007271	72	1/Pkg

Fibre   LGX Shelves

LSS1U-072/5
Splice Shelf

The **LSS1U-072/5 Splice Shelf** is generally used in conjunction with an LST1U-072/7 Terminating Shelf or in splice-only applications to house mechanical or fusion splices. The shelf comes with hinged white polycarbonate front and rear doors equipped with knockouts for optional lock mechanisms. Also included are: universal brackets for mounting the shelf in 19 and 23 inch racks or directly onto the wall; cable clamp brackets for the securing of LGBC cables and 12A clamps for OSP cable; three splice tray housings for accepting the splice trays; and blank labels attached to the inside of the front door for fibre/splice identification.

OSP cable terminating hardware such as the 12A Cable Clamp, B-Sealant and Blocking Kits should be ordered separately. Splice Organiser Trays and Pigtails should also be ordered separately.

Figure 89
LSS1U-072/5
Splice Shelf

Physical Specifications

Height: 12.7cm	
Width: 43.2cm	
Depth: 27.9cm	

Product	Comcode	Terminations	Packaging
LSS1U-072/5	700007230	72	1/Pkg

Fibre   LGX Shelves

LSC2U-024/5 Combination Shelf

The **LSC2U-024/5 Combination Shelf** is used for a combination of splicing and terminating up to 24 fibres from indoor Lightguide Building Cables (LGBC) or up to four outdoor Outside Plant (OSP) cables. The shelf is designed as a termination only or splicing and termination of pigtails. The shelf comes with a hinged, smoked transparent, plastic front door and white hinged polycarbonate rear door for both front and rear access. Also included are: universal brackets for mounting the shelf in 19 and 23 inch racks or directly onto the wall; cable clamp brackets for securing of LGBC cables and 12A clamps for OSP cable; and blank labels attached to the inside of the front door for fibre identification.

Inside the cabinet, there is a panel mounting bracket which can accept up to four 6-way coupling panels. Under the termination area, there is provision for one LT1A-type splice tray. The coupling panels, couplings, connectors, and splice trays should be ordered separately. OSP cable terminating hardware such as the 12A Cable Clamp, Buffer Tubing Kit, B-Sealant and Blocking Kits should also be ordered separately.

Figure 90
*LSC2U-024/5
Combination Shelf*

Physical Specifications

Height: 12.7cm	
Width: 43.2cm	
Depth: 27.9cm	

Product	Comcode	Terminations	Packaging
LSC2U-024/5	700007255	24	1/Pkg

Fibre LGX Accessories

The **LGX Coupling Panels** are mounted in LGX shelves
and used to accept ST, SC, Duplex SC, Duplex LC or
FDDI Couplings. The ST and SC Coupling Panels can
accept up to 6 couplings, the Duplex SC panel accepts up to
three couplings, the Duplex LC panel accepts up to six cou-
plings, and the FDDI panel accepts up to 6 FDDI
couplings (but requires the space of two of the other
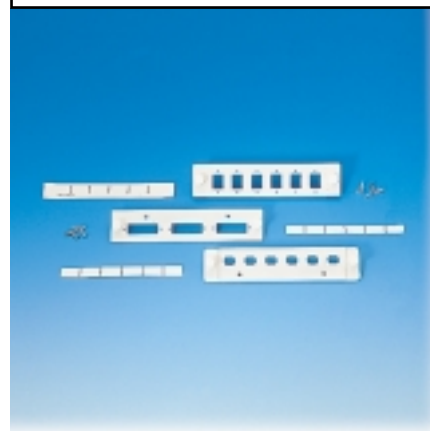Coupling Panels).

Figure 91
*1000ST, 1000SC1-DPLX
and 1000SC Panels*

Physical Specifications

Height: 1000: 2.85cm; **2000:** 5.7cm	
Width: 12.9cm	

Product	Comcode	Ports	Packaging
1000ST	700011109	6x ST cpl	12/Pkg
1000SC1-DPLX	700010952	3x Dpx SC cpl	1/Pkg