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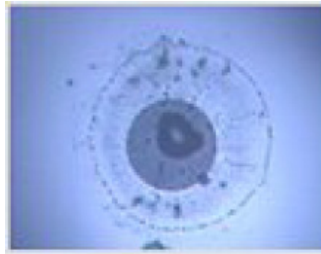
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Inspection & Cleaning



A good maintenance is crucial to maintain high optical performance and the longevity of optical systems. To assist our customers and partners in maintenance and integration of their optical solutions, Radiall provides an extensive range of tools and kits. Radiall combines its expertise, experience and innovative take on fiber optics to design the Inspection and Cleaning kits featuring state of the art tools, high quality materials and detailed procedures.

All our field adapted and convenient kits are the optimal solution to prevent and eliminate the main issue in any fiber optic network: contamination.



Connector end face
before cleaning



Connector end face
after cleaning

FEATURES AND BENEFITS

Versatile

- Adapted to either MultiMode, SingleMode PC and APC terminations
- Various kit configurations available, products can also be ordered separately
- Well adapted to field and laboratory environments

Effective

- Able to perform dry and wet cleaning techniques
- Cleaners specifically formulated to dissipate static
- Lint-free cleaning materials, no fiber, no adhesive and no residue, won't shred or tear
- Cleaning materials feature no seam nor sharp surface
- Cutting edge inspection tools and software

Handy

- Enable inspection and cleaning through sleeve holders
- Tools and materials designed conform to the optical end face and connectors cavities, with specific markings if necessary
- Plastic case with custom foam interior for easy product organization, protection and portability
- Detailed and illustrated procedure
- All tools and consumables are compatible with air transportation

Field Compatible

- Cleaning platform ideally adapted for field use
- Effective inspection and cleaning of fully accessible or hard-to-reach areas
- Field designed, rugged and water-proof inspection tools

STANDARDS

LuxCis® ARINC 801 Inspection and Cleaning kits are developed according to ARINC 805-3 "Fiber Optic Test Procedures" report. Tools and materials are RoHS compliant.






Inspection & Cleaning

PRODUCT RANGE OVERVIEW

Our kits are offered in various configurations:

- **PREMIUM Inspection & Cleaning kit** with all items for optimal maintenance of optical contacts, including a digital microscope probe combined with its handheld video display.
- **Inspection & Cleaning kit** with all items for optimal maintenance of optical contacts, including a digital microscope probe (the handheld video display is not included in this kit).
- **Cleaning supplies kit** with all cleaning materials to replenish the above premium and standard kit.

Series	Description	Part Number
 LuxCis® ARINC 801	PREMIUM Inspection & Cleaning kit	F780 538 000*
	Inspection & Cleaning kit	F780 539 000*
	Cleaning supplies kit	F780 541 000*
	Inspection Assistant Guide for LuxCis® ARINC 801 in R8/MIL-DTL-38999 type connector	F780 726 200*
	Inspection Assistant Guide for LuxCis® ARINC 801 in EPX® connector	F780 725 300*
 ABS1379 EN4531	PREMIUM Inspection & Cleaning kit	F780 533 001
	Inspection & Cleaning kit	F780 533 002
	Cleaning supplies kit	F780 533 003
 29504 type termini	PREMIUM Inspection & Cleaning kit	F780 428 000
	Inspection & Cleaning kit	F780 429 000

*Refer to the following pages for more detail and kit content

A wide range of inspection tools and cleaning materials are available for other series, please refer to the following pages.

Inspection & Cleaning

LUXCIS® ARINC 801 INSPECTION & CLEANING KITS

As contamination may dramatically affect the optical performance of your optical link, previous to mating any optical connection, it is highly recommended to inspect and clean (if necessary) the optical end faces. This recommendation is described in Radiall procedures and universal standards such as ARINC and EN specifications.

The LuxCis® kits contain everything needed for an easy and efficient inspection and cleaning process of the LuxCis® ARINC 801, including specifically engineered tips for using a digital microscope to inspect EPX® and MIL-DTL-38999/R8 sleeve holders and single channel LxC-R® connector plugs.

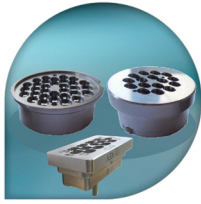
3 versions:

F780 538 000: PREMIUM Inspection & Cleaning kit (with handheld video display)
 F780 539 000: Standard Inspection & Cleaning kit (without handheld video display)
 F780 541 000: Cleaning supplies kit (for inspection & cleaning kits replenishment)

KITS CONTENT:

Part Number	F780 538 000	F780 539 000	F780 541 000	Description	Picture
282 515	•	•	•	3 plastic insertion/extraction tools, size 16 (MIL-PRF-81969/14-03)	
F718 176 104	•	•	•	Bag of 10 protective dust caps for LuxCis® ARINC 801 contacts	
F780 904 000	•	•	•	Fiber wash cleaning pen	
F780 902 000	•	•	•	Fiber optic cleaning platform with wipes and pad	
F780 905 000	•	•	•	Pack of 100 cleaning sticks	
F780 903 000	•	•	•	Pack of 50 optical face cleaning swabs	
F780 906 001	•	•		Mechanical stick cleaner	
F780 890 000	•	•		Tip for PC terminus for digital probe	
F780 891 000	•	•		Tip for APC terminus for digital probe	
F780 898 000	•	•		Narrow long type assembly barrel for digital probe	
F780 906 002	•	•		Tip for PC terminus for digital probe =>To inspect through MIL-DTL-38999 sleeve holder and in LxC-R® plug	
F780 906 003	•	•		Tip for PC terminus for digital probe =>To inspect through EPX® sleeve holder	
F780 899 000	•			Fiber microscope 200x/400x digital probe with handheld video display	
F780 889 000		•		Fiber microscope 200x/400x digital probe (with USB plug)	
F780 897 000	•	•		Dynamometric screwdriver with hexagonal 5/64 inch (2mm)/flat tip	
503 08 590	•	•		Printed procedure	

Inspection & Cleaning



INSPECTION ASSISTANT KITS FOR LUXCIS® ARINC 801

To support and ease the inspection and cleaning process, Radiall has developed dedicated devices enabling trouble-free maintenance of the LuxCis® ARINC 801 contact inside multipin connectors: EPX® EN4644 and R8 MIL-DTL-38999.

With the inspection assistant guides, no need to take extra precaution when inspecting and cleaning your optical end face. This device can be used with the microscope probe included in Radiall Inspection & Cleaning kit (F780 538 000 and F780 539 000).

FEATURES AND BENEFITS

Swift and Easy

Optimizes inspection and cleaning process:

- No precaution needed
- No extra manipulation

Safe:

- No risk of damaging other ferrule while inspecting
- No direct contact between the probe tip and the termini end face

Ease of handling:

- Specific design and locking keys for an easy and perfect fit
- Guide cavities designed to permit the cleaning of the optical end face without removing the guide

A Complete Solution

- Adapted to **PC, UPC** and **APC** LuxCis® ARINC 801 contacts
- Available for **EPX®** and **MIL-DTL-38999** type connectors
- Inspection assistant guides available for **plugs** and **receptacles**
- Lay-outs available from **size 11 to 25 for MIL-DTL 38999**
- Inspection assistant guide compatible with optical or hybrid inserts
- Wide range of **dedicated tips** for digital probe is available, including angled tip for hard-to-reach areas.



MIL-DTL-38999 type connectors



EPX® connectors



Inspection & Cleaning

PRODUCT RANGE

Assistant Inspection Guides are available in a complete kit or each item separately.

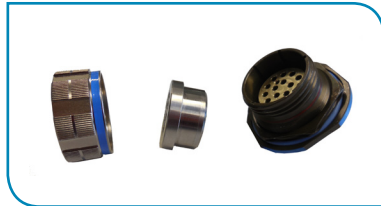
Series	Part Number	Description
Inspection assistant for LuxCis® inside R8 MIL-DTL-38999 type connectors	F780 725 200	Full kit including: - Guides for R8 plugs and receptacles from size 11 to 25 - Dedicated tips for microscope probe (F780 725 000 ⁽²⁾ for APC and F780 725 001 ⁽²⁾ for PC) - Cleaning sticks to clean the guides' cavities
	F780 725 0XX ⁽¹⁾	Individual guide for plug size X ⁽¹⁾
	F780 725 1XX ⁽¹⁾	Individual guide for receptacle size X ⁽¹⁾
Inspection assistant for LuxCis® inside EPX® connectors	F780 725 300	Individual guide for EPXB plug and receptacle
Tips for digital microscope probe	F780 725 001 ⁽²⁾	Tip for PC polishing
	F780 725 000 ⁽²⁾	Tips for APC polishing
	F780 898 001 ⁽²⁾	Angled tip for inspection of PC termini in hard-to-reach areas

⁽¹⁾Replace XX by the size (from 11 to 25) of the connector you wish to inspect and clean

⁽²⁾Tips to be assembled with the narrow long type barrel (F780 898 000) to be attached on the microscope probe

Accessories:

A lock-nut is available to make it more convenient while inspecting and cleaning in upside down situations.




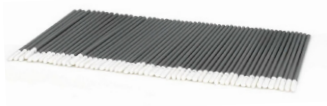






The lock-nut avoids the guide falling during inspection and cleaning and frees your hands for an easier handling of the probe.







Inspection & Cleaning

CLEANING MATERIALS












Series	Part Number	Description	Packaging	Picture
All series	F780 902 000	Fiber optic cleaning platform with wipes and pad	1	
All series	F780 904 000	Fiber wash cleaning pen	1	
All series	F780 905 000	Cleaning sticks	100	
All series	F780 903 000	Optical face cleaning swabs	50	
ABS1379 EN4531, SC, ST	F780 584 000	Set of cleaning tips	50	
LuxCis® ARINC 801 LC	F780 906 001	Mechanical stick cleaner for 1.25 mm ferrule termini	1	
ABS1379 EN4531, SC, ST	F780 906 005	Mechanical stick cleaner for 2.5 mm ferrule termini	1	
MIL-PRF-29504	F780 906 004	Mechanical stick cleaner for 29504 type termini	1	

INSPECTION TOOLS

Series	Part Number	Description	Picture
All series	F780 889 000	Fiber microscope 200x/400x digital analysis probe with handheld video display	
	F780 899 000	Fiber microscope 200x/400x digital analysis probe (with USB plug)	
LuxCis® ARINC 801, LC, MIL-PRF-29504	F780 898 000	Narrow long type assembly barrel for digital probe	
ABS1379 EN4531, SC, ST	F780 906 000	Short type assembly barrel for digital probe	

Inspection & Cleaning

ACCESSORIES FOR DIGITAL MICROSCOPE PROBE

Series	Part Number	Description	Picture
LuxCis® ARINC 801, LC	F780 890 000	Tip for 1.25 mm ferrule PC termini	
LuxCis® ARINC 801, LC	F780 891 000	Tip for 1.25 mm ferrule APC termini	
LuxCis® ARINC 801	F780 906 002	Tip for 1.25 mm ferrule PC termini (through MIL-DTL-38999 sleeve holder and in LxC-R® plug)	
LuxCis® ARINC 801	F780 906 003	Tip for 1.25 mm ferrule PC termini (through EPX® sleeve holder)	
LuxCis® ARINC 801	F780 725 001	Tip for 1.25 mm ferrule PC termini, with Inspection Assistant guide	
LuxCis® ARINC 801	F780 725 000	Tip for 1.25 mm ferrule APC termini, with Inspection Assistant guide	
LuxCis® ARINC 801, LC	F780 898 001	Angled tip for 1.25 mm ferrule, PC termini for inspection in hard-to-reach areas.	
ABS1379 EN4531, SC, ST	F780 890 002	Male tip for 2.5mm ferrule PC termini	
ABS1379 EN4531	F780 890 003	Female tip for 2.5mm ferrule PC termini	
MIL-PRF-29504	F780 906 006	Male tip for MIL-PRF-29504 termini	
MIL-PRF-29504	F780 906 007	Female tip for MIL-PRF-29504 termini	

Note: All the tips have to be used with the narrow long type assembly barrel, except for F780 890 002 and F780 890 003 which have to be used with the short type assembly barrel F780 906 000.

Cleaning materials and inspection tools are also available for other connectors and contacts (MT ferrule and MT based connectors, Expanded Beam contacts and connectors, etc.), don't hesitate to contact your Radiall representative.

Termination



Radiall has developed high quality Termination kits and established detailed procedures based on its own technical expertise and the available industry standards.

Radiall processes and tools have been optimized to provide a complete and efficient solution. Termination kits contain everything required to assemble fiber optic contacts and connectors.

FEATURES AND BENEFITS

- Contains everything needed to strip, mark, cure, cleave and terminate contacts and connectors.
- Adapted to any cable from buffer 900 µm to 3 mm diameter cable
- Detailed termination instructions
- Rugged carrying case safely stores and transports all tools and supplies (compatible with air transport)
- Field designed and rugged 220 Volts and 110 Volts curing unit available.
- Processes have been tested and approved by field technicians and Radiall's experts.

STANDARDS

LuxCis® ARINC 801 Termination kits are developed according to ARINC 806 "Fiber Optic Installation and Maintenance" report.

Tools and materials included are RoHS compliant.



PRODUCT RANGE OVERVIEW

Radiall offers Termination kits for various type of contacts or connectors.

Series	Description	Part Number
 LuxCis® ARINC 801	Termination kit with 220 Volt curing oven	F780 862 000
	Termination kit with 110 Volt curing oven	F780 861 000
	Polishing kit	F780 860 000
 ABS1379/EN4531	Termination kit with 220 Volt curing oven	F780 854 003
	Termination kit with 110 Volt curing oven	F780 854 002
 LC connector	Termination kit with 220 Volt curing oven	F780 850 000
 SC/FC/ST connectors	Termination kit with 220 Volt curing oven	F780 844 000

Termination kits and tools for other connectors and contacts (MT ferrule and MT based connectors, Expanded Beam contacts and connectors, etc.) can be provided, don't hesitate to contact your Radiall representative

Termination

LUXCIS® ARINC 801 TERMINATION KITS













Termination is a sensitive process. If not done carefully and following Radiall's instructions, your terminated connector or contact will not achieve its full potential in terms of mechanical and optical performance.

The LuxCis® ARINC 801 termination kits include all the required tools and material for an optimal termination of LuxCis® ARINC 801 contacts. They have been developed according to ARINC 806 "Fiber Optic Installation and Maintenance" report.

2 versions:

F780 862 000: termination kit with 220 Volts curing oven
F780 861 000: termination kit with 110 Volts curing oven

KITS CONTENT:

Part Number	Description	Picture
282 515	Plastic insertion/extraction tools, size 16 (MIL-PRF-81969/14-03)	
F718 176 104	Bag of 10 protective dust caps for LuxCis® ARINC 801 contact	
F780 025 000	Primary stripper (for 900 µm buffer)	
F780 033 000	Wire stripper	
F780 034 000	Cutting pliers	
F780 057 000	Crimping tool (print 3.4 mm)	
F780 132 000	Resin applicator	
F780 136 000	Ceramic scoring blade	
F780 242 010	353ND epoxy resin pack: bags of resin & containers	
In F780 862 000: F780 495 100 (220V)	Curing unit: Including the curing oven, the curing block and the thermometer	
In F780 861 000: F780 496 100 (110V)		
F780 880 000	Cure adapters	
F780 503 000	Resin injector	
F780 504 000	Pack for resin injector (capillaries)	
F780 508 000	Bag of 10 abrasive strips 12 µm	
F780 902 000	Fiber optic cleaning platform with wipes and pad	
503 08 770	Printed and illustrated procedure	

Other items included in the kit: Ruler, solvent dispenser, waste container, moss cable support, markers, safety goggles, adhesive tape and tweezers. All part numbers can be ordered separately.

Termination



LUXCIS® ARINC 801 POLISHING KITS

Polishing has a determining role in connectors' installation. With the Polishing kit, Radiall provides a field friendly solution which produces quality polished connectors with high levels of consistency from batch to batch. It is adapted for use in the field or in assembly shops with low volume.

LuxCis® ARINC 801 Polishing Kit: F780 860 000

The kit comes in a sturdy case with foam protective padding and includes a complete set of tools and supplies to polish or repolish LuxCis® ARINC 801 contacts. A complete and thorough procedure is also included to lead users through the steps.

KIT CONTENT:

Part Number	Description
F780 893 000	Polishing machine
F780 649 000	PC polishing jig
F780 648 000	APC polishing jig
F780 893 001	Polishing pad (black 90)
F780 887 000	Bag of 50 polishing 3 µm films Diameter: 60 mm
F780 888 000	Bag of 50 polishing 1 µm films Diameter: 60 mm
F780 886 000	Bag of 50 lapping final polishing films. Diameter: 60 mm
Supplies	Cleaning tissues
Supplies	Hexagonal key
282 515	Plastic insertion and extraction tools, size 16 (MILPRF-81969/14-03)
F780 809 000	Solvent dispenser
F718 176 104	Bag of 10 protective caps for LuxCis® ARINC 801
503 08 770	Printed procedure



RANGE EXTENSION:

Radiall can also provide:

- Protrusion gauges (for repolishing control)
- Polishing solution for high volume assembly
- Test and measurement equipment: interferometry, visual inspection, losses measurement, etc.
- Polishing tools for other contacts and connectors: ABS1379 EN4531, 29504 type termini, LC, etc.

For any further information, please contact your local Radiall representative.

Termination

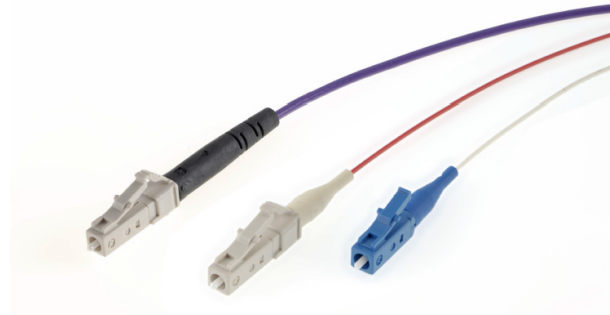
LC TERMINATION KIT: F780 850 000

The kit contains all the required tools to assemble and manually polish LC connectors.

KIT CONTENT:

Part Number	Description
F780 483 000	Curing oven (220V)
F780 633 000	Manual polishing tool (PC straight polishing)
F780 057 000	Crimping tool (print 3.4 mm)
F780 290 000	Inner sleeve insertion tool
F780 033 000	Wire stripper
F780 025 000	Primary stripper (for 900 µm coating)
F780 812 000	Soft rubber polishing base
F780 136 000	Ceramic scoring blade
F780 652 000	Handheld microscope (magnification x 100)
F780 039 000	Ceramic scissors
F780 809 000	Solvent dispenser
F780 527 000	Set of cleaning paper
F780 811 000	Waste container
F780 827 000	Bag of 10 polishing 0.3 µm films
F780 826 000	Bag of 10 polishing 1 µm films
F780 825 000	Bag of 10 polishing 3 µm films
F780 508 000	Bag of 10 abrasive strips 12 µm
F780 242 010	353ND epoxy resin pack: bags of resin & containers
F780 217 000	Bag of 5 syringes

Other items included in the kit: Ruler, tweezers, adhesive paper, cable/fiber preparation template, thermometer.



Termination

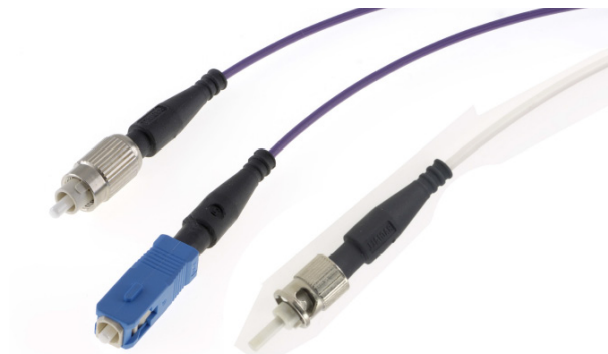
SC, FC AND ST TERMINATION KIT: F780 844 000

The kit contains everything you need to assemble and polish SC, FC or ST connectors.

KIT CONTENT:










Part Number	Description
F780 463 000	Curing oven (220V)
F780 033 000	Wire stripper
F780 025 000	Primary stripper (for 900 µm coating)
F780 812 000	Soft rubber polishing base
F780 136 000	Ceramic scoring blade
F780 233 000	Handheld microscope (magnification x 100)
F780 039 000	Ceramic scissors
F780 809 000	Solvent dispenser
F780 811 000	Waste container
F780 527 000	Set of cleaning papers
F780 584 000	Set of 50 cleaning tips
F780 827 000	Bag of 10 polishing 0.3 µm films
F780 826 000	Bag of 10 polishing 1 µm films
F780 825 000	Bag of 10 polishing 3 µm films
F780 508 000	Bag of 10 abrasive strips 12 µm
F780 318 000	Bottle of abrasive solution
F780 242 010	353ND epoxy resin pack: bags of resin & containers
F780 243 000	Bag of 5 syringes for ST connectors
F780 219 000	Bag of 5 syringes for FC/SC connectors

Other items included in the kit: Ruler, tweezers, adhesive paper, cable/fiber preparation template, thermometer.



Termination

MISCELLANEOUS TOOLS

Series	Part Number	Description	Packaging	Picture
SC/FC	F780 219 000	Syringes (pink)	5	
ST/ABS1379	F780 243 000	Syringes (green)		
LC	F780 217 000	Syringes (pink)		
LuxCis® ARINC 801	F780 503 000	Resin injector	1	
	F780 504 000	Pack for resin injector (capillaries)	100	
SC/FC	F780 581 000	Needles	10	
All series	F780 034 000	Cutting pliers	1	
	F780 136 000	Ceramic scoring blade		
	F780 809 000	Solvent dispenser		
SC/FC/ST	F780 051 000	Crimping tool		

Termination supplies and tools for other connectors and contacts (MT ferrule based connectors, Expanded Beam contacts and connectors, etc.) can be provided, don't hesitate to contact your Radiall representative.

Master Cords

INTRODUCTION

Radiall offers a broad range of high performance Master Cords (Quality Measurement Jumpers) which are manufactured and tested using the latest measurement processes and standards.

Offering the lowest Insertion Loss and the highest Return Loss, Radiall Master Cords are used to measure optical properties of optical devices.

Radiall's Master Cords are terminated with our high quality reference connectors in order to ensure the most accurate and repeatable IL and RL measurements of assemblies and connections.

FEATURES AND BENEFITS

- All Master Cords are optically tested with 100% interferometry and eccentricity measurements
- Master terminations available in UPC and APC
- Wide variety of connectors and contacts
- Easy identification due to a red boot on the master connector or a printed yellow shrink sleeve on the master contact
- Standard length: from 2 to 5 meters (other lengths available upon request)
- Using high quality Zirconia ceramic ferrule

All Master Cords are delivered with a measurement sheet and product traceability information.

INTERNATIONAL STANDARD DOCUMENTS COMPLIANCE

TIA/EIA-455-171A - Annex A (2.5 mm dia ferrule)

CEI 60874-14-1 & CEI 61754-4 (2.5 mm dia ferrule) ARINC 805 (1.25 mm dia ferrule)

TELECORDIA GR326 CORE (2.5 mm dia ferrule)

END FACE GEOMETRY

- Eccentricity between fiber core and ceramic outer diameter: 0.3 μm
- Eccentricity of spherical polished end face (apex offset): <30 μm (IEC 61300, 2-40)

OPTICAL PERFORMANCE

- Insertion Loss: <0.15 dB (IEC 61300, 3-4 Method B-mated with reference plug)
- Return Loss: >50 dB for UPC and >60 dB for APC

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Connector or contact dependent. Please refer to the relative section of this catalog.

Please contact Radiall Sales team with your specific requirements for any other configuration.

For more information on measurement methods and end face geometry, refer to section 12, technical information.

Master Cords

LUXCIS® ARINC 801 MASTER CORDS



Patchcords (2 meters length)

Master Termination			Standard Termination			Part Number
LuxCis® ARINC 801	MM		FC	MM		F792 393 800
LuxCis® ARINC 801	SM	UPC	FC	SM	UPC	F792 390 800

LC MASTER CORDS



Patchcords (5 meters length)

Master Termination			Standard Termination			Part Number
LC	SM	UPC	FC	SM	APC 8° "R"	F792 530 801
LC	SM	UPC	FC	SM	UPC	F792 510 800

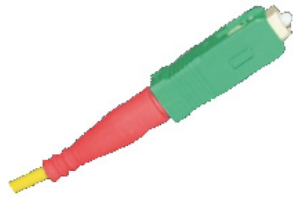
Note: FC APC 8° "R": 2 mm key

Pigtails (5 meters length)

Master Termination			Part Number
LC	SM	UPC	F792 500 800

Master Cords

SC MASTER CORDS



Patchcords (5 meters length)

Master Termination			Standard Termination			Part Number
SC	SM	UPC	FC	SM	UPC	F792 130 800
SC	SM	UPC	FC	SM	APC 8° "R"	F792 130 801
SC	SM	UPC	SC	SM	UPC	F792 110 800
SC	SM	APC 8°	SC	SM	UPC	F792 111 800
SC	SM	APC 8°	SC	SM	APC 8°	F792 111 801
SC	SM	APC 8°	FC	SM	UPC	F792 131 800
SC	SM	APC 8°	FC	SM	APC 8° "R"	F792 131 801

Note: FC APC 8° "R": 2 mm key and FC UPC: 2.14 mm key

Pigtails (5 meters length)

Master Termination			Part Number
SC	SM	UPC	F792 100 800
SC	SM	APC 8°	F792 101 800

ABS1379 EN4531 MASTER CORDS



Patchcords (2 meters length)

Master Termination	Standard Termination			Part Number
ABS1379 EN4531 MM PC	FC	MM	PC	F792 378 800

Notes