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 **R&M**

**Passive Cabling Solutions
For AV Applications.**

innovate / distribute / support

Innovate.

MadisonAV is an Australian owned and operated business that innovates, distributes and supports a range of high-quality AV product solutions from globally recognised brands.

We bring together detailed knowledge of AV industry best practice and innovative products from global technology partners.

Our experience supporting AV and broadcast solutions across key market sectors is underpinned by 30 years of insights and customer understanding.



Support.

Our team is dedicated to finding the best possible solution for every project.

Our dedicated team provide a successful formula for delivering innovation, agility and practicality for any complex AV project challenges.

From specification assistance, design support, or post sale technical support, our team is right behind you.

Distribute.

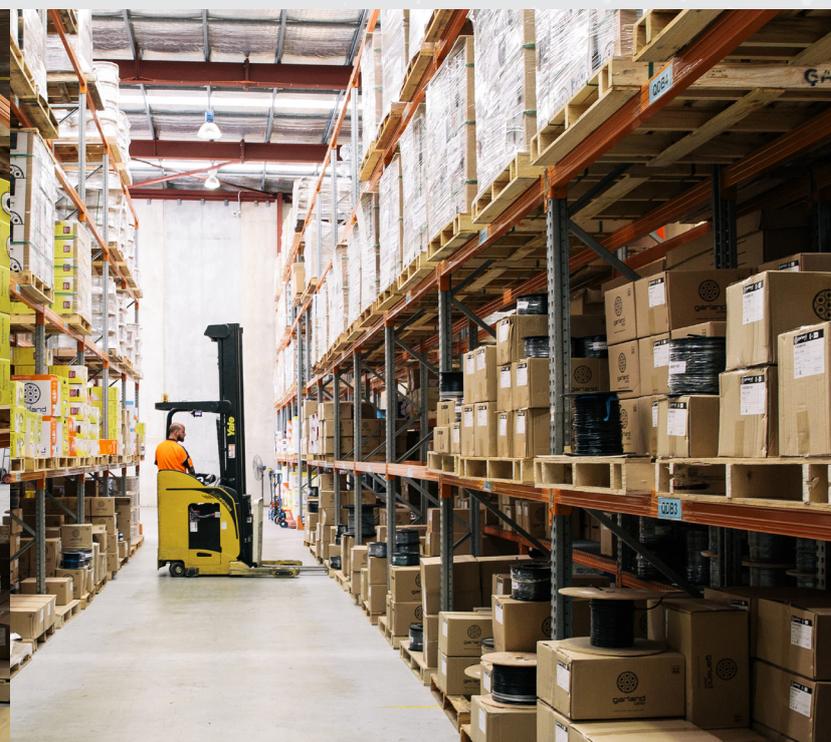
Connecting you to world-leading brands.

We efficiently connect customers with leading, state of the art solutions through our sales, warehouse and distribution networks across Australia and New Zealand.

Our heavy investment in stock ensures we have what you need, when you need it.

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Contact Us.

For more information on the range of R&M Solutions products for your next project visit us at www.madisonav.com.au or call on 1800 00 77 80.

About R&M Solutions.

For high-quality communication networks

Founded in 1964, R&M are an independent Swiss family business with more than 50 years experience in the Information and Communications Technology market. A leading system provider and manufacturer of passive cabling solutions for high quality communication and data networks, R&M solutions ensure maximum availability and cost-effective network operation.

Operating within Australia since 1995, R&M deliver quality telecom voice components for xDSL networks to carriers such as Telstra and AAPT. Since 2016, R&M have been working with NBN and Nokia for future vDSL deployments in Australia.

The R&M Sydney office was setup in 2006, when R&M began offering their complete range of cabling solutions supported by a network of local certified data contractors.

Today R&M Australia are under certification for over 100 companies.

Only R&M cabling and connectivity provides true peace of mind with its Swiss Engineering, high quality and ultra-high performance and is the perfect complement to your networked AV deployment.

Ensuring that the Client only gets the best possible outcome, R&M conducts training sessions specific to AV Integrators to train, inform and educate, with relevant and up to date information to enable our Partners to offer a 25 Year System Warranty on their R&M installations.

- Simple cabling integration with added protection and security.
- Reliable and cost-effective network operations for IT managers.
- Modular product range for different requirements and project sizes.
- Extended 25 years / lifetime warranty program for end-users via local certified contractors.
- Comprehensive free to attend local education courses for Engineering consultants and End-users.
- Prompt and reactive local support from R&M teams.
- Quality supply, install and testing via local R&M certified partners in each State.



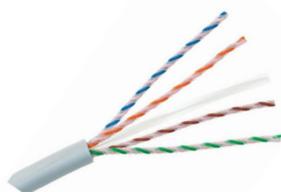
INSTALLATION CABLES.

R&M produces cabling solutions for high-end communication networks. With a high level of product quality and system design, the company ensures that networks are future-proof and secure for the long-term.

Only R&M cabling and connectivity provides true peace of mind with its Swiss Engineering, high quality and ultra-high performance and is the perfect complement to your networked AV deployment.

R853953, U/UTP, 500M, INSTALLATION CABLE

CAT. 6, 4P, 250MHz, LSZH, GREY



KEY FEATURES

- Unscreened U/UTP
- 100 Ohm impedance
- Data transmission frequencies of up to 250MHz
- Sheath: LSZH
- Sheath Colour: 7035 Light Grey
- 500m Reels.

R850718, S/FTP, 305M, INSTALLATION CABLE

CAT. 6A, 4P, 650MHz, LSZH, PURPLE



KEY FEATURES

- Foil shielding of pairs and overall tin-plated copper braid shield
- 100 Ohm impedance
- Data transmission frequencies of up to 650MHz
- Sheath: LSZH
- Sheath Colour: 4005 Purple
- 305m Reels.

R305649, S/FTP, 500M, INSTALLATION CABLE

CAT. 6A, 4P, 650MHz, LSZH, GREY

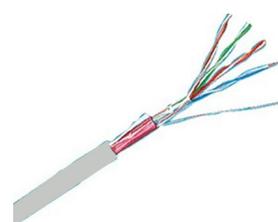


KEY FEATURES

- Foil shielding of pairs and overall tin-plated copper braid shield
- 100 Ohm impedance
- Data transmission frequencies of up to 650MHz
- Sheath: LSZH
- Sheath Colour: 7035 Light Grey
- 500m Reels.

R806969, F/UTP, 500M, INSTALLATION CABLE

CAT. 6A, 4P, 500 MHz, LSZH, GREY



KEY FEATURES

- Overall metal foil shield
- 100 Ohm impedance
- Data transmission frequencies of up to 500MHz
- Sheath: LSZH
- Sheath Colour: 7035 Light Grey
- 500m Reels.

R308247, U/FTP, 500M, INSTALLATION CABLE

CAT. 6A, 4P, 650 MHz, LSZH, GREY



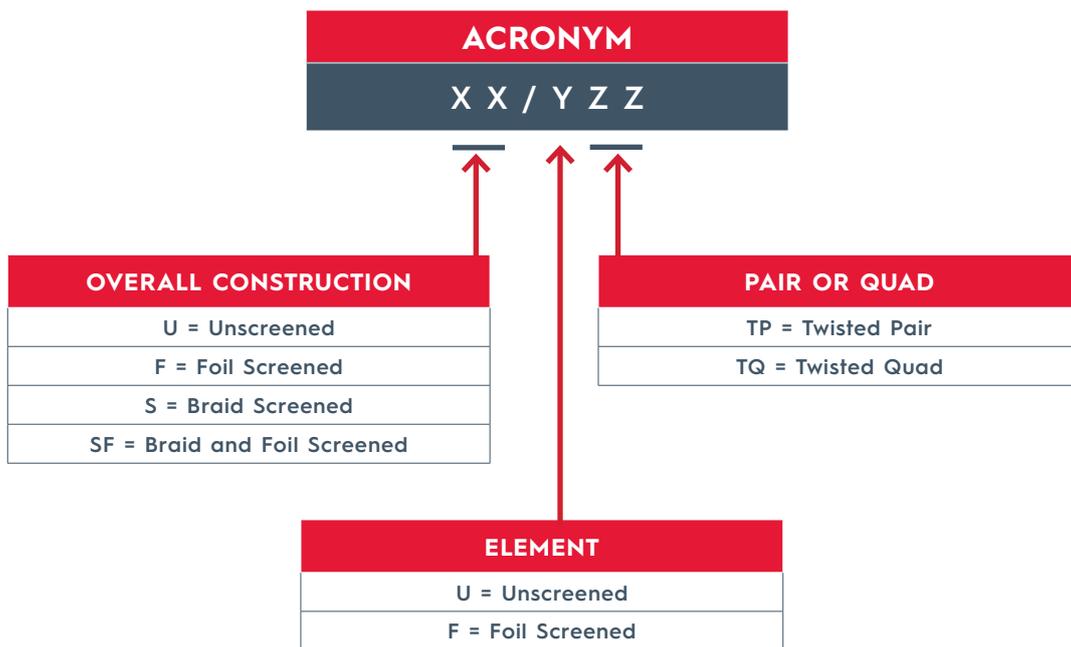
KEY FEATURES

- Foil shielding of pairs
- 100 Ohm impedance
- Data transmission frequencies of up to 650MHz
- Sheath: LSZH
- Sheath Colour: 7035 Light Grey
- 500m Reels.

TECHNICAL COMPARISON BETWEEN CATEGORY CABLE TYPES

R&M CATEGORY CABLE OPTIONS				
	CAT 6 U/UTP R85395	CAT 6A U/FTP R308247	CAT 6A F/UTP R806969	CAT 6A S/FTP R305649
Cable Cost per/m percentage ratio	78%	100%	100%	130%
1Gbps Ethernet	√	√	√	√
1 & 10Gbps	-	√	√	√
Extended channel lengths for 10Gbps	-	√	√	√
Recommended for future Wi-Fi	-	√	√	√
Recommended for AV Systems	-	√	√	√ √
Ease of Install	Easy	Easiest	Easy	Easy
High Power Over Ethernet & HDBase-T (PoH) Support	√	√ √ √	√ √ √	√ √ √
EMI Rejection	√	√ √ √ √	√ √	√ √ √ √ √
Cable Flexibility & Durability	√ √	√ √ √ √	√ √ √	√ √ √
MHz Supported (Standards Requirement/ R&M Value)	250/250	500/650	500/500	500/650
Conductor Size	24AWG	23AWG	24AWG	23AWG
Cable Diameter (nominal mm)	6.2	7.2	6.7	7.6

CABLE NAMING SCHEMA (AS/NZS 11801.1:2019)



U/UTP=Overall unscreened cable with unscreened pairs, often referred to as UTP

F/UTP=Overall screened cable with unscreened pairs, often referred to as FTP or ScTP

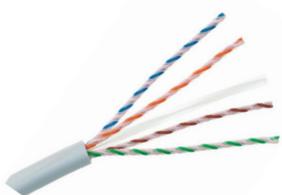
U/FTP=Overall unscreened cable with screened pairs, often referred to as FTP, ScTP or PIMF

S/FTP=Overall braid overall screened cable with foil screened pairs, often referred to as STP or PIMF

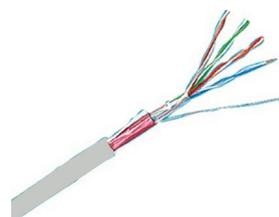
FTP Note: Using FTP as a generic naming scheme for a cable is not enough as it encompasses 3 different cable types. Care should be taken to use the correct naming convention to ensure the desired level of protection and performance.

Twist rate examples:

CAT 6 U/UTP



CAT 6A F/UTP



PLUGS.

R815651, FM45 PLUG

CAT. 6A RATED RJ45, ISO COMPONENT



KEY FEATURES

- Field terminated RJ45 connector
- Termination of unshielded cable (UTP)
- Termination of shielded cable (STP)
- Approved for solid and stranded wire AWG 22 to AWG 26
- Optional visual colour coding clip.

R312231, FM45 PLUG

CAT. 5E RATED RJ45



KEY FEATURES

- Field terminated RJ45 connector
- Termination of unshielded cable (UTP)
- Termination of shielded cable (STP)
- Approved for solid and stranded wire AWG 23 to AWG 26
- Optional visual colour coding clip.

WHERE TO USE THE GREY (5E) OR RED (6A) FM45 PLUGS

While there is Category difference between the two, the higher performing Red module is not always required. This explainer clarifies when and where each is needed.

The need for one over the other is defined by:

- Client Specification requirements
- The location of the FM45 in the link (beginning, middle or end)
- Warranty requirements and/or testing method used.



WHERE TO USE THE GREY (5E) FM45

At the beginning and end of one continuous cable.

- If being tested, this link can support Class E Channel when using Cat6 cable and can be Warranted as such. As per Australian Standards, the Patch Cord Adaptor shall be used on both ends and tested as an MPTL link.
- If not being tested, this link can be considered a long 6 patch cord and will support 1Gbps Ethernet or any application up to the bandwidth of the cable.

At one end of a link, where the other end is terminated onto a jack.

- If being tested, the end terminated with a Jack needs to have a 6 patch cord plugged in to be used for testing as a Link. This link can support a Class E Modified Permanent Link when using Cat6 cable and can be Warranted as such. As per Australian Standards, the Patch Cord Adaptor shall be used on one end and tested as an MPTL link.
- If not being tested, this link can be considered a Class E channel when using an R&M 6 patch cord and will support 1Gbps Ethernet or any application up to the bandwidth of the cable.

WHERE THE RED (6A) FM45 IS REQUIRED

In a link containing a Consolidation Point.

- A consolidation point is a Plug/Socket interface within the length of a link. If being tested while connected as part of a CP, the Red (6A) FM45 will support Class EA PL3 and will be Warranted as such.
- If not being tested, this configuration can be considered a Cat6A PL3 link.

In a link where the Modular Plug Terminated Link Class EA test method is used.

- This test method measures the electrical performance of the plug, whereas the Channel Test does not. As per Australian Standards, the Patch Cord Adaptor shall be used and tested as an MPTL link. Regardless of the location, only the Red (6A) plug can be used.



JACKS & COUPLERS.

R813505 EASY LOCK CONNECTION MODULE

CAT. 6A SHIELDED MODULE FOR CLASSIC OFFICE CABLING



KEY FEATURES

- Easy to install with solid Cat. 6A performance
- RJ45 Cat. 6A EL connection module, shielded
- Mounting Plate
- Dust Cover.

R813505 CONNECTION MODULE	
Technical Data	
Standard/Norm	UL Recognised IEC 60603-7-51: Electrical Characteristics of the Telecommunication Outlets ISO/IEC 11801, EN 50173-1
Protection Class IP	IP20, IP20
PoE	Yes
Connector Class	Connection Module
Shielding Connector (A):	Shielded
Connector Type (A):	RJ45
Category Connector (A):	Cat. 6A ISO
Holder for Connector/Module	Mounting Plate
Wiring Diagram	T568A and T568B
Poles	8
Colour	Metallic

R813507 EASY LOCK CONNECTION MODULE

CAT. 6A UNSHIELDED MODULE FOR CLASSIC OFFICE CABLING



KEY FEATURES

- Easy to install with solid Cat. 6A performance
- RJ45 Cat. 6A EL connection module, unshielded
- Mounting Plate
- Dust Cover.

R813507 CONNECTION MODULE	
Technical Data	
Standard/Norm	UL Recognised IEC 60603-7-51: Electrical Characteristics of the Telecommunication Outlets ISO/IEC 11801, EN 50173-1
Protection Class IP	IP20, IP20
PoE	Yes
Connector Class	Connection Module
Shielding Connector (A):	Unshielded
Connector Type (A):	RJ45
Category Connector (A):	Cat. 6A ISO
Holder for Connector/Module	Mounting Plate
Wiring Diagram	T568A and T568B
Poles	8
Colour	Red/Grey

R848272 COUPLER

CAT. 6A SHIELDED COUPLER FOR VOICE & DATA TRANSMISSION



KEY FEATURES

- Easy to install with solid Cat. 6A performance
- Frequencies up to 500MHz
- Allows connection of two patch cords via the coupler.

R848272 COUPLER	
Technical Data	
Standard/Norm	EN 50173-1 IEC 60603-7: Electrical Characteristics of the Telecommunication Outlets ISO/IEC 11801 ed. 2.2: June 2011 PL2 Class EA
Protection Class IP	IP20
PoE	Yes
PoE Level	4
Connector Class	Cable Coupler
Shielding Connector (A):	Shielded
Connector Type (A):	RJ45
Category Connector (A):	Cat. 6A ISO
Poles	8
Colour	Metallic

ADAPTORS & BEZELS.

UNSHUTTERED ADAPTERS FOR CLIPSAL 40 SERIES

MODULE HOLDER FOR CLIPSAL FACEPLATE UNSHUTTERED

KEY FEATURES

- Module Holder for RJ45 connection modules or universal adapters with mounting plates
- Compatible with Cat. 5e, Cat. 6 and Cat. 6A ISO connection modules with support plate
- Dimensions: 44.1 x 17.5 x 22.8mm

R795209 – 9003 Signal White

R795721 – Jet Black

R795751 – Traffic Red



SHUTTERED ADAPTERS FOR CLIPSAL 40 SERIES

MODULE HOLDER FOR CLIPSAL FACEPLATE SHUTTERED

KEY FEATURES

- Module holder for RJ45 connection modules, E-2000™-Compact, SC-RJ adapter or universal adapters with mounting plates.
- Dimensions: 44.1 x 17.5 x 22.8mm

R795602 – White

R795718 – Jet Black



KEYSTONE ADAPTER

FOR EASY LOCK CONNECTION MODULES

KEY FEATURES

- For use with different shielded IEC-keystone (IEC 60603-7, Annex D) based patch panels and third-party faceplates. Can be fitted with R&M special Cat. 6/6A EL & ISO modules
- Dimensions: 22.55 x 17.8 x 14.4mm

R837034 – Transparent



SURFACE MOUNT BOXES.

R795821 SURFACE MOUNT BOX WHITE

1 PORT SHUTTERED

KEY FEATURES

- Suitable for RJ45 connection modules and fibre-optic connectors with keystone adapter
- Dimensions: 62.0 x 35.0 x 22.8mm
- Colour: Off-White



R795822 SURFACE MOUNT BOX WHITE

2 PORT SHUTTERED

KEY FEATURES

- Suitable for RJ45 connection modules and fibre-optic connectors with keystone adapter
- Dimensions: 82.0 x 60.0 x 26.8mm
- Colour: Off-White



PATCH PANEL.

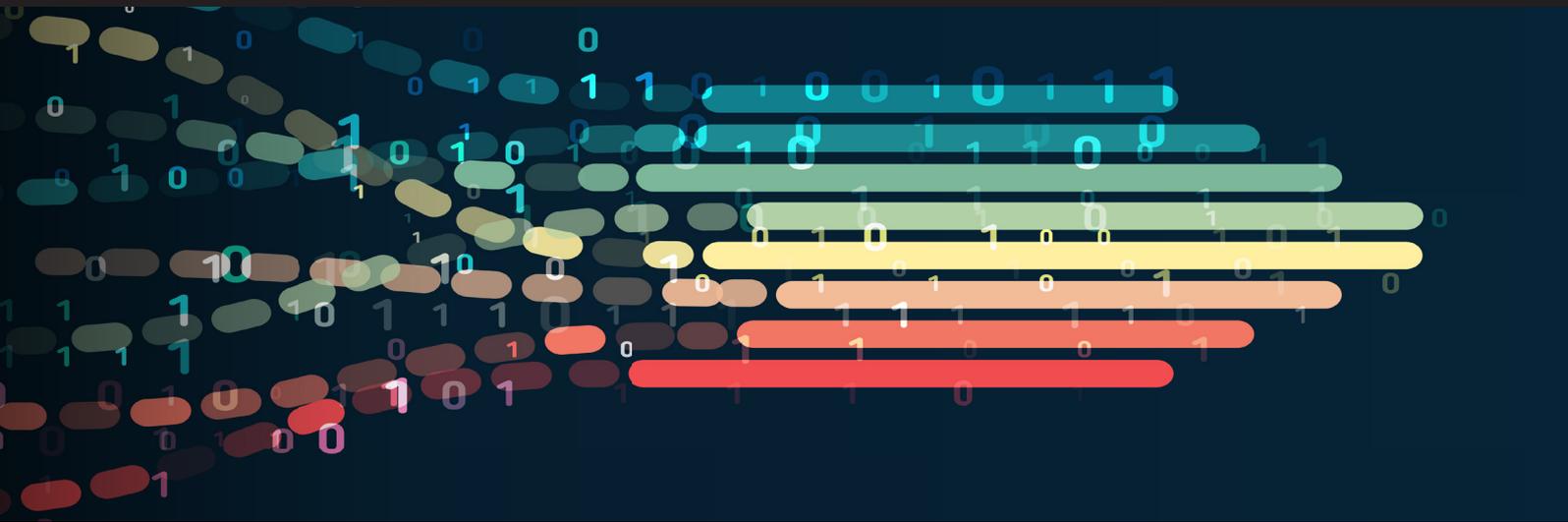
R813483 24 PORT STRAIGHT PATCH PANEL

UNLOADED SUITS EL CONNECTION MODULES

KEY FEATURES

- Capacity for 24 connection modules Special with Cat.6A ISO and Cat. 6A EL, shielded
- Modular patch panel with integrated cable tie shelf, 19" fastening kit, labelling fields with exchangeable labelling strips
- Dimensions: 43.65 x 482.6 x 83.4mm
- Colour: Black.





TOOLS.

R814571 TERMINATION TOOL CAT. 6A FOR EASY LOCK CONNECTION MODULES

KEY FEATURES

- Ensures easy termination for the Cat. 6A EL shielded and unshielded modules
- Colour: Red.



R300682 CABLE JACKET STRIP TOOL FOR FAST AND EASY CABLE PREPARATION

KEY FEATURES

- Stripping tool for round and oval cables up to 11mm
- Colour: Black/Red.



R804325 PREMIUM CABLE JACKET STRIP TOOL

FOR FAST AND EASY CABLE PREPARATION FOR
PIMF CABLES

KEY FEATURES

- Ideal for cable preparation for Cat. 6A ISO connection module
- Reduces termination time
- Colour: Black/Red.



PATCH CORDS RJ45-RJ45.

S/FTP, CAT.6A ISO, GREY

Cat. 6A high end patch cords, used for connecting the network equipment to patch panels and telecommunications outlets. Using the patented R&M RJ45 plug with its unique IDC technology they are suitable for power delivery (PoE) up to the highest levels. Suitable for high data rate applications and frequencies of up to 500MHz.

- Cable identification S/FTP
- Outer jacket: LSFRZH
- Conductor diameter copper strand: AWG 26/7
- Screened in pairs: AL/Foil
- Overall screen: copper braid
- Outer diameter: 6mm

- R509857** Patch cord, Cat.6A, S/FTP, LSZH, 0.5m
- R509858** Patch cord, Cat.6A, S/FTP, LSZH, 1.0m
- R509861** Patch cord, Cat.6A, S/FTP, LSZH, 2.0m
- R509862** Patch cord, Cat.6A, S/FTP, LSZH, 3.0m
- R509863** Patch cord, Cat.6A, S/FTP, LSZH, 5.0m
- R509864** Patch cord, Cat.6A, S/FTP, LSZH, 7.5m
- R509865** Patch cord, Cat.6A, S/FTP, LSZH, 10.0m
- R509867** Patch cord, Cat 6.A, S/FTP, LSZH 20.0M



U/FTP, THIN LINE, CAT.6A, GREY, NOT RECOMMENDED FOR PoE/PoH APPLICATIONS

Cat. 6A thin patch cords, used for connecting the network equipment to patch panels and telecommunications outlets, where size matters and high density is needed. They are suitable for frequencies up to 500MHz.

- Cable identification U/FTP
- Outer jacket: LSZH
- Conductor diameter copper strand: AWG 30/7
- Screened in pairs: AL/Foil
- Overall screen: unscreened
- Outer diameter: 4.5mm

- R876009** Patch cord, Cat.6A, U/FTP 0.5m
- R876010** Patch cord, Cat.6A, U/FTP 1.0m
- R876011** Patch cord, Cat.6A, U/FTP 1.5m
- R876012** Patch cord, Cat.6A, U/FTP 2.0m
- R876013** Patch cord, Cat.6A, U/FTP 3.0m
- R876014** Patch cord, Cat.6A, U/FTP 5.0m
- R876015** Patch cord, Cat.6A, U/FTP 7.5m
- R876016** Patch cord, Cat.6A, U/FTP 10.0m
- R876017** Patch cord, Cat.6A, U/FTP 12.5m
- R876018** Patch cord, Cat.6A, U/FTP 15.0m
- R876019** Patch cord, Cat.6A, U/FTP 20.0m



PATCH CORDS RJ45-RJ45.

U/FTP, STANDARD LINE, CAT.6A, GREY

Cat. 6A patch cords, used for connecting the network equipment to patch panels and telecommunications outlets. Using the patented R&M RJ45 plug with its unique IDC technology they are suitable for power delivery (PoE) up to the highest levels. Suitable for high data rate applications and frequencies of up to 500MHz.

- Cable identification U/FTP
- Outer jacket: LSZH
- Conductor diameter copper strand: AWG 26/7
- Screened in pairs: AL/Foil
- Overall screen: unshielded
- Outer diameter: 5.7mm

- R875940** Patch cord, Cat.6A, U/FTP 0.5m
- R875943** Patch cord, Cat.6A, U/FTP 1.0m
- R875944** Patch cord, Cat.6A, U/FTP 1.5m
- R875945** Patch cord, Cat.6A, U/FTP 2.0m
- R875946** Patch cord, Cat.6A, U/FTP 3.0m
- R875947** Patch cord, Cat.6A, U/FTP 5.0m
- R875948** Patch cord, Cat.6A, U/FTP 7.5m
- R875949** Patch cord, Cat.6A, U/FTP 10.0m
- R875950** Patch cord, Cat.6A, U/FTP 12.5m
- R875951** Patch cord, Cat.6A, U/FTP 15.0m
- R875952** Patch cord, Cat.6A, U/FTP 20.0m

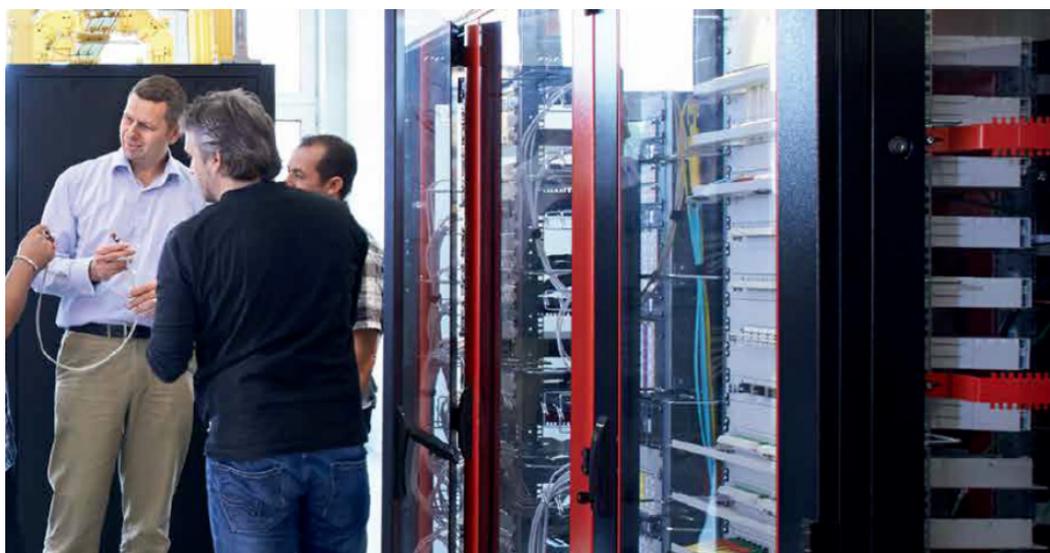


THE R&M ACADEMY.

The R&M Academy is a series of comprehensive programs for R&M partners, associates and customers, designed to provide professional support for pre- and post-sales activities as well as installation, testing and maintenance.

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 **R&M**



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