









Broadcast & AV Solutions

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Our Story



Madison Technologies Broadcast & Audio Visual is an Australian value added distributor of professional and commercial-grade audio visual and broadcast technology products and solutions.

With over 25 years experience in delivering the very best products, services and solutions for cabling, networking, wireless and audio visual sectors, Madison Technologies offer an unbeatable combination of technical expertise and quality products for the future of integrated solutions.

Whether it's setting up a commercial facility, upgrading a broadcast facility, implementing a digital signage solution or live streaming your message to the world, Madison Technologies is on hand to supply solutions for tomorrow's well connected world.

Our Solutions



**Broadcast and AV
Infrastructure Solutions**



**AV Signal Distribution,
Extension And
Conversion Solutions**



Digital Signage



AV Conferencing Solutions



**Commercial Installed
Sound Solutions**



Our Story



About R&M in Australia

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.



Why R&M



- 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

Connection systems



FM45 Connector IP20, 4P, TIA 568-A (AWG26-23)
PART # R312231
 Field-terminated RJ45 connector with housing. Color housing: gray (RAL 7042). Color termination block: gray (RAL 7035)



FM45 Connector IP20, 4P, TIA 568 A (AWG26-23)
PART# R803498
 Field-terminated RJ45 right-angled connector with housing. Color housing: gray (RAL 7042). Color termination block: Grey



Connection Module Cat. 6A EL, RJ45/S Freenet
PART# R813505
 EL Connection module, shielded. Mounting plate. Dust cover.



Connection module Cta.6A EL, RJ45/U Freenet
PART# R813507
 EL Connection module, unshielded. Dust Cover.

Installation cables



R&M Installation Cable Cat.6A, S/FTP, 4P, 650 MHz, LSZH, 500 m
PART # R305649
 Cat.6A, S/FTP cable. Foil shielding of pairs and overall tin-plated copper braid shield. 100 Ohm impedance. Data transmission frequencies of up to 650 MHz.



R&M Installation Cable Cat.6A, F/UTP, 4P, 500 MHz, LSZH, 500 m
PART# R806969
 Installation cable with overall metal foil for cost effective, shielded generic cabling systems. Cat.6A, F/UTP cable. 100 Ohm impedance. Data transmission frequencies of up to 500 MHz.



R&M Installation cable Cat 7, S/FTP, 4P, LSFRZH, 1000mHz 500m
PART#R35060
 Cat 7, S/FTP Cable. Foil and tin plated copper braid shielding. 100 Ohm impedance



R&M Installation Cable Cat.6A, U/FTP, 4P, 650 MHz, LSZH, 500 m
PART # R308247
 Cat.6A, U/FTP cable. Foil shielding of pairs. 100 Ohm impedance. Data transmission frequencies of up to 650 MHz



R&M Installation Cable Cat.6, U/UTP, 4P, 450 MHz, LSZH, 500 m
PART # R35057
 Cat.6, U/UTP, AWG23 cable. 100 Ohm impedance. Data transmission frequencies of up to 450 MHz

Patch Panel



R&M Installation Cable Cat.6, U/UTP, 4P, 450 MHz, LSZH, 500 m
PART # R35057
 Cat.6, U/UTP, AWG23 cable. 100 Ohm impedance. Data transmission frequencies of up to 450 MHz

Patch chord



Patch Chord Cat. 6A ISO, S/FTP, 4P, LSFRZH, RJ45/s-RJ45/S Cable
Identification: S/FTP
Outer jacket: LSFRZH
Conductor diameter copper strand: AWG26/7
Screened in pairs: AL/Foil
Overall screen: copper braid
Outer diameter: 6mm

Available lengths

0.5m
 1.0m
 2.0m
 3.0m

Product code

R509857
 R509858
 R509861
 R509862

Patch chord



Patch Chord EL Cat. 6A, U/FTP, 4P, LSZH, RJ45/s-RJ45/S Cable
Identification: U/FTP
Outer jacket: LSZH
Conductor diameter copper strand: AWG26/7
Screened in pairs: AL/Foil
Overall screen: copper braid
Outer diameter: 6.5mm

Available lengths

0.5m
 1.0m
 1.5m
 2.0m
 3.0m
 5.0m

Product code

R831821
 R830749
 R830823
 R830750
 R830751
 R831823

Technical comparison between category cable types

In order to better assist consultants and end users, R&M Australia has prepared the following chart to allow designers to make well informed decisions on the best R&M cable type for their installation and application.

	R&M Category cable options*				
	Cat 6 U/UTP R35057	Cat 6A U/FTP R308247	Cat 6A F/UTP R806969	Cat 6A S/FTP R305649	Cat 7 S/FTP R35060
Cable Cost per/m percentage ratio¹	78%	100%	100%	130%	152%
1Gbps Ethernet	✓	✓	✓	✓	✓
1&10Gbps Ethernet	✗	✓	✓	✓	✓
Extended Channel lengths for 10Gbps²	✗	✓	✓	✓	✓
Recommended for future Wi-Fi³	✗	✓	✓	✓	✓
Recommended for A/V Systems⁴	✗	✓	✓	✓✓	✓
Ease of install⁵	Medium	Easiest	Easy	Easy	Easy
Future High Power over Ethernet Support⁶	✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
EMI rejection⁷	✓	✓✓✓	✓✓	✓✓✓✓✓	✓✓✓✓✓
Cable flexibility and durability⁸	✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓
MHz supported (Standards requirement/R&M value)	250/450	500/650	500/500	500/650	600/1000
Conductor size	24AWG	23AWG	24AWG	23AWG	23AWG
Cable Diameter (nominal mm)	6.2	7.2	6.7	7.6	7.8

*This table does not show all available cable types from R&M – other variants can be found here: https://www.rdm.com/aus_en/R-M-Products/Twisted-Pair-Cabling/Installation-Cables



State of the Art Communications for the Arts

Contractors:



Client:



Project Overview

Hamer Hall opened in 1982 as the Melbourne Concert Hall on a site with an illustrious cultural history. In 2011, a Master plan was determined for the Southbank Cultural Precinct Redevelopment. The purpose of the redevelopment is to create a world renowned state-of-the-art facility that would secure Melbourne's reputation as Australia's cultural capital for years to come. The first stage of the plan consists of a revitalisation of Hamer Hall and its surrounds.

The final outcome will deliver significantly improved amenities with new stairs, escalators and lifts, better disabled access; new, expanded foyer spaces, improved acoustics, new auditorium seating, 'cutting edge' staging systems and technology; a spectacular new outlook to the city, and new connections to St Kilda Road and the Yarra River.

(Baulderstone,2011)



Image courtesy Arts Centre Melbourne

About Company

Via engineering services firm Aurecon, the electrical contracting service for the \$128.5 million dollar Hamer Hall redevelopment was awarded to Electrical and Communications contractors, PSG Electrical Solutions.

Aurecon consulted with Madison Technologies to determine the best fit for a state of the art data communications cabling and audio cable network for Hamer Hall that would form the backbone support for high tech theatre equipment, voice, video and data communications as well as the back of house facilities automation.

The Technical Challenge

Theatre productions and concert halls rely upon computer technology to create and deliver their audio, communications and automation needs. Hamer Hall was to be installed with a state of the art integrated networking, data/voice communications, audio/video, A/V control and building management system that would service both indoor and outdoor broadcasts and events.

Hamer Hall required a reliable and state of the art structured cabling solution which would provide high speed networking for all the data and communications, audio visual, broadcast, and automation technology on the one network.

The solution would need to cope with any future bandwidth requirement to ensure that essential communications and automation technology as well as audio visual equipment for public and function spaces, multimedia displays and broadcasting facilities would be catered for both now and well into the future.



Image courtesy Arts Centre Melbourne



The Solution

Madison provided an end to end fibre and Ethernet cabling and connectivity package designed specifically to provide Hamer Hall with a comprehensive, integrated structured cabling system that offered flexibility, interoperability and ease of maintenance over the long term.

The connectivity package included the following:

- Fibre connectivity components include rack-mount Patch Panels, Patch Cords, Splice Cassettes, Splice Holders, Pigtails, Breakout trays and cables, indoor and outdoor riser cable, Adaptors and Connectors.
- The voice backbone is a copper based Belden system comprised of 50-pair Category 3 cables.
- Audio connectivity components include Belden audio and speaker cable, audio snake cable, instrumentation and control cables, underground RG-6 video and audio cable and Neutrik IP65 outdoor rated connectors.
- Copper connectivity products include Cat 5e Patch Panels and Cat6a 48 Port 1RU High Density Patch Panels, Patch Leads and 50 km of R&M Cat6a 4pr Low Smoke Zero Halogen Cable as well as the R&M Cat6A ISO Jack, cable management, racks and communications cabinets, Ethernet switching and face plates.

This project was the first of its kind in Australia to use the ISO Cat6A jack from R&M which enables applications above and beyond 10 Gigabit Ethernet, resulting in an even longer life for the cabling infrastructure.

The R&M ISO Cat6AJack is the only module with automatic cutting without a tool which leads to fast, easy termination and consistent results. The small form factor enables high density applications while maintaining backward compatibility with a full range of patch panels and most outlets.

The Benefits

PSG Electrical Solutions were able to source the comprehensive cabling solution from one location, minimising the number of suppliers and creating a streamlined and effective way of sourcing goods.

The use of the ISO Cat6A Jack from R&M provided a compact high density solution. The modular 48 port 1RU panel is the most innovative solution on the market utilising half the rack space of a traditional solution without compromising performance quality. This was proven during the testing phase with the R&M Cat6A network receiving the highest test results of any R&M installation over the past 12 months in Asia Pacific.

The solution provided by Madison is state-of-the-art. The package is designed to excel at the initial bandwidth and cope well with whatever bandwidth is required in the future.

The solution was also easy to install, saving PSG Electrical Solutions valuable time and cost on the installation.



Patch Panel with R&M ISO Cat6_A Jack

With offices and warehouses across Australia and New Zealand, when you need to deliver for your customers, we're ready to deliver for you.



Contact Us

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