

Electronics & Components

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ANYTHING OVER IP



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UNRAVELLING THE ENIGMA – VIDEO OVER IP

- By Michael Swann

Over a decade ago, we saw each one of our industries were moving towards IP (Internet Protocol) as a means of transporting signal. So using routers, switchers, data cabling and Wi-Fi to shoot signals around the place. Back in 2010, we released our first video of an IP product under the Pro2 brand. The key market was digital signage. As networking products have improved, we've seen a boom in sales of video over IP with many more brands entering our range, including Pro2, Blustream, Wyrestorm and ZyCast / resi-linx. Each product is quite distinct, so let's attempt to unravel the mess that is Video over IP.

On a budget, the biggest challenge of any video transmission is bandwidth. It's normally a trade off between either loading the network with loads of data or using more computing power at each end of the video feed and employing better compression.

TLSG2424 | Video streaming is data intensive, which can flood networks, so look for certain features like IGMP snooping.



24 PORT GIGABIT SWITCH

TL-SG2424 | 09051086

RSP INC \$242

A good illustration of this, is a restaurant advertising a menu at the entrance. Using the Pro2 HDMIPECOV2, a pair of transmitters and receivers, it extends a signal over a network where it's mjpeg signal supports full HD. It's fairly bandwidth intensive at 90mbps, and in isolation, it isn't too demanding. It will even support a signal from a computer to multiple screens around the restaurant, but this is when bandwidth starts to become troublesome.

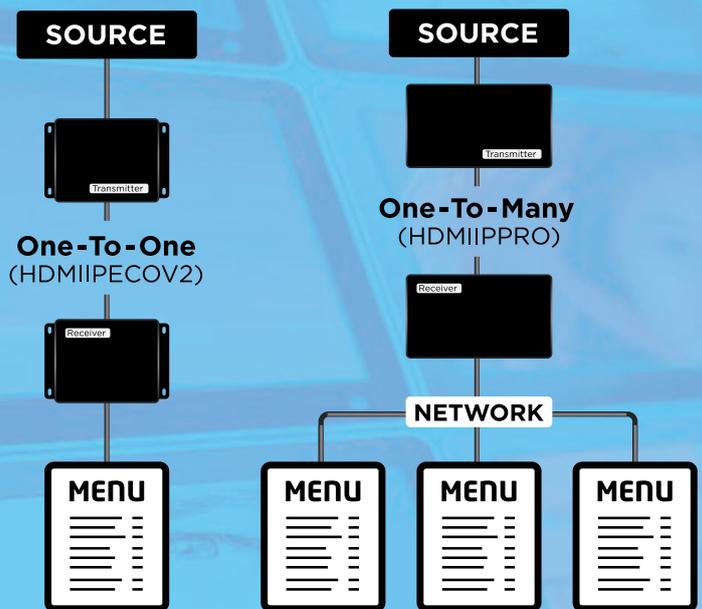


HDMI OVER IP DISTRIBUTION

HDMIPECOV2 | 07351120

RSP INC \$174.90

(Single screen versus multiple screen comparison)



For the one-to-many applications, H.264 video compression is far better. The Pro2 HDMIIPRO is a better choice, particularly for applications where its both audio and video. H.264 compression is only a 15mbps stream, and unlike mjpeg, the audio is embedded in the video stream. So the HDMIIPRO supports multiple transmitters and receivers on an active network.



HDMI OVER IP EXTENDER WITH POE

120m Remote IR H.264

HDMIIPRO | 07351065

RSP INC \$399



ZYCAST

In a similar vein, the ZyCast (aka resi-linx) HDIP800 can take a host of inputs, including HDMI and pump the signal straight into a smart TV.



HD IP DISTRIBUTION SYSTEM

HDIP800 | 64538100

RSP INC
\$1,299



One of our sales reps, Ben Marshall, did a fantastic YouTube about the predecessor of the RLIP800. It's worth viewing.

[Video online](https://www.youtube.com/watch?v=go0gl/E8SSHk) goo.gl/E8SSHk

ZyCast are one of the global leaders in the field of Video over IP. They will be presenting a special training session in a few months, which should be interesting for the general public and essential for the trade.

ZyCast have also supplied a sample quantity of IP streamers, including an 8 HDMI input HDIP8000 and due shortly, the HDIP404. The 404 accepts 4 HDMI inputs and pumps out 4 video streams. This product could be ideal for commercial venues like pubs.

ZyCast are also at the cutting edge of IP streaming to wireless devices. They have just announced the released of the HDIP404HDP. This unit is capable of sending an HLS and Dash stream simultaneously. When we were first told about this, we scratched our heads and asked what that means! It turns out to be a very big deal. HLS means HTTP Live Streaming and was developed by Apple, so students with iPads can stream the video feed. Also, Macbooks can natively support it within Safari. Dash is its newer, sibling, the concept remains the same, but it isn't supported by Apple at this time. DASH stands for Dynamic Active Streaming over HTTP. In fairness, the "dynamic active streaming" part is actually common to both HLS and Dash. It means that when the network is full, it will drop down resolutions. Thus avoiding continual buffering.

With an increased use of portable devices, we expect a huge demand for this solution. So if you're willing to adopt this solution, then please contact Radio Parts or the ZyCast representative via email, Jason Crabtree at jason_crabtree@zycast.com.tw

In some cases, we have noticed that mini PCs, like the Minix Z834, are being used behind monitors.

Minix Z834 | A tiny unit, but loaded with features like AC Wi-Fi, gigabit port, 32GB of internal memory and will happily spit out a 4K video stream.



INTEL X5-Z8300 CHERRY FANLESS

Mini PC Includes Windows 10 O/S
Z834 | 09006993

RSP INC
\$359



For these applications, you need only create a video stream from within your network. No receivers are required. The Pro2 HE01 is ideal for embedding a HDMI signal into a video feed. Clients can type in the IP address and view the video over the usual VLC player from their office PC or mini PC. While I don't pretend to understand the legalities, some clients even feed their Foxtel into the HE01 and with port forwarding, they could view Foxtel from anywhere in the world.



H.264 HDMI ENCODER FOR IP TV

HD Encoding
HE01 | 43151280

RSP INC
\$319



While Video over IP appears to be quite manageable, it is rapidly changing and involves a degree of caution.

Firstly, be aware of the resolutions. These supported resolutions will involve different compression, bandwidths and chipsets. A 4K video feed might require up to 1gbps bandwidth, meaning a 10gbps switch and cabling will be required. As the bandwidth is used by each port, higher resolutions are challenging. Having said this, Pro2 and other brands are looking at new solutions by new chipsets and better compression (H.265).

Second, switches are continually improving. Generally we'd look for features like Jumbo frames, VLANs and QoS. Again, we are at your disposal, so let us know about the specifics of the job.



8 PORT 10GIG WEB SMART SWITCH

XGS5008 | 09051396

RSP INC
\$749



In one article, we couldn't cover many great brands like Blustream, Aten and Wyrestorm. We should be the most competitive vendor. We are one of only 3 distributors of Blustream, so we expect that you and I will be the most competitive, irrespective of the scale and size of the job.

If you'd like to learn more about Blustream, then please watch the training session that Blustream recently hosted at Radio Parts.

[Video online](https://www.youtube.com/watch?v=bit.ly/2HQRFKx) bit.ly/2HQRFKx



POOR PHONE COVERAGE? BAD INTERNET? - By Michael Swann

Are you affected by poor phone reception or slow internet at home or work? If so, you're definitely not alone!

The good news is that we are finally able to solve most reception issues. The products are either DIY products, no different to installing a cordless phone, to professional products requiring cabling and RF knowledge. Professional products, like the Cel-Fi Go are a great opportunity for TV antenna installers, who install external antennas. We find IT techs also get asked to provide a fix to slow internet. Also auto shops, that have historically installed UHF radios and antennas are being asked to install antennas and repeaters for phone and internet. In all these cases, Cel-Fi is the only legal cell reception repeater on the Aussie market.



So what steps are involved?

- We need to select the correct product
- We register it with your Telco
- Send you the equipment
- You download the WAVE App from Google store or iTunes
- The equipment is installed
- Finally, complete the setup with the WAVE App

It's a simple App that works over your phone's bluetooth. By the time this newsletter is published we expect that the Telco registration will be done over just the App, making the process even easier! It sounds too easy, though sometimes things don't work. If this happens, we'll ask you to open the App and tell us the serial number. From here, we can get access to all your technical settings through the WAVE App. This should allow for a quick diagnosis and fix.

How to select the right product?

Glad you asked ;-) We need to know the Telco. In low signal areas, it's usually Telstra.

Next, is it a fixed site or a mobile application?

If it's your home or workplace, then you go for a fixed location.

Fixed locations that have 1 or 2 bars of signal can probably use the Cel-Fi Pro. This involves finding the best signal location, (normally near a window). Try a few locations to see what works. With the first station by a window, it will send a 5Ghz signal to the base station, which will in turn rebroadcast the signal. The base station is then placed in a central location. It will rebroadcast on both 3G and 4G, so your phone and internet coverage should improve. Unfortunately, because the 5Ghz frequency tends to be crowded, your internet speed won't be the fastest, but the setup is probably no more difficult than installing a cordless phone.



3G/4G PRO SMART REPEATER
 CELFIPROT | 00421595

RSP INC
\$1,299

There is an external antenna input (sma connector) for the Cel-Fi Pro, so if you find that the signal by the window isn't quite enough, you can mount an antenna on the roof.

For professional installs, the Cel-Fi Go is better. The Go is narrowly tuned to either 3G for phones or 4G for data. Like the Cel-Fi Pro, it's carrier specific. A Telstra Cel-Fi Go will not work with an Optus Cel-Fi Go. Optus and Vodafone are compatible with each other.

BUILDING PACKS		MOBILE PACK
<p>BLACKHAWKE YAGI 6m 10m DOME</p> <p>BLACKHAWKE OMNI 6m 10m DOME</p> <p>RPRCF00121 RPRCF00122</p>		<p>MAG SHADOW BASE PANEL ANTENNA</p> <p>RPRCF00105</p>

CEL-FI GO BUILDING & MOBILE PACKS

Cel-Fi Go Building Packs	RSP INC
RPRCF00121 00421542	\$1,165
RPRCF00122 00421546	
Cel-Fi Go Mobile Pack	\$1,047
RPRCF00105 00421530	

You'll probably find that most jobs will involve Telstra. When the budget allows for it, you can install two Cel-Fi Go repeaters for both your mobile phone reception and another repeater for your data reception. There are camp grounds around Australia that use this solution. The Cel-Fi Go has loads of options from antennas, cabling to splitters.

Before we discuss mobile solutions, it's also worth mentioning Cel-Fi Quatra. This is a solution for multilevel office or residential spaces. It's far more affordable than a distributed antenna system and uses standard network cabling. It also delivers 3G and 4G signal at the same time.

The manufacturer, San Diego based, Nextivity, had to come up with a different solution for mobile applications. So boosting signal on 4 wheel drives, caravans, emergency vehicles, trains etc. The mobile repeaters use different external and internal antennas. They also need to be quicker at switching between towers. So if the signal drops under 2 bars, they will quickly find and lock on to the best tower. Above 2 bars and they will go into standby. A fixed location, like a house, is usually locked on to a single tower. A wideband yagi antenna will provide the highest gain, so better than an omni directional antenna used on say a vehicle. Houses might also use log periodic antennas when you need to cover a wider band of frequencies. It's worth mentioning that Cel-Fi jobs should only use Cel-Fi approved antennas. If we don't know the antenna, troubleshooting becomes very difficult. Finally, there's the registration process. A fixed site is registered to a location and person, while a mobile repeater is registered to a person. It's important to not mix and match fixed sight locations with mobile applications. We can provide advice here!

There are two more common questions that are somewhat related.

The first question is about elevators. Elevators must be fitted with voice diallers with sim cards. There are two options - a dialler with a backup battery, used for occupied buildings, and a dialler with no battery backup, for buildings that are under construction. We keep both in stock.



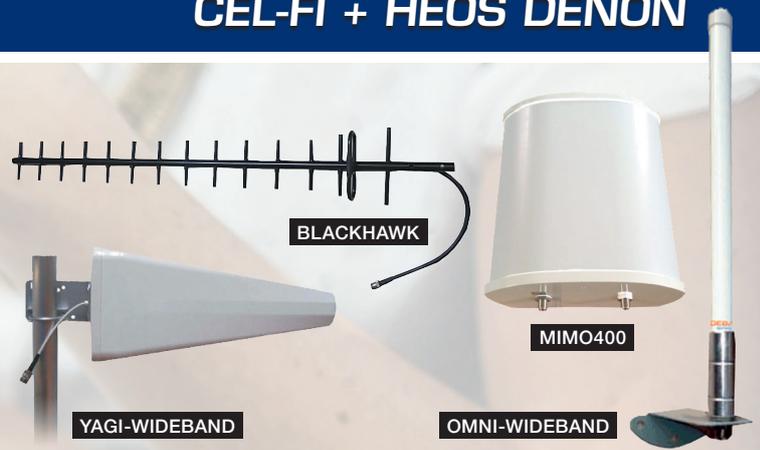
No Battery Back Up	GFX11	09052465	RSP INC \$495
With Battery Back Up	GFX11E	09052470	\$528



The second and last question regards routers that use a 3G/4G sim card. Often the antennas on the routers are unable to pick up signal, so we need an external antenna.

For the best results, we like to know the network carrier, so we can specify the correct antenna that is tuned to the carrier's frequency. If you have no idea about the direction of the antenna or even if it's the correct antenna, then contact us! We have friends with tinfoil hats that will often do a site analysis for free. These engineers use a web-based program call Loxcel (www.loxcel.com). Many installers use this tool to avoid doing site visits. From there, we'll recommend an antenna and low loss cable. LL195 cable for short runs and LL400 for long runs. Most antennas use a 'N' connector. We found that it's best to also solder the centre pin of the 'N' connector. If it's a lightning prone area, use a lightning arrestor. While it might sound daunting, we've supplied hundreds of jobs and had very few issues.

While we crammed in a lot of information in one article, that's just the beginning. If you want to know more, then no issue! We rather cheekily recorded a 50min training session about cellular signal repeaters. The trainer, Geoff Carroll, ordinarily trains only the carriers, so it's quite in depth. Check out the YouTube video and email us about any further queries!



698-960MHz Yagi Antenna	BLACKHAWK	00421878	RSP INC \$259
800-960/1710-2100MHz Omni Antenna	OMNI-WIDEBAND	00421860	\$143
700-2500MHz Yagi Antenna	YAGI-WIDEBAND	00421872	\$163.90
698-2700MHz MIMO XPOL Wideband Antenna	MIMO400	00421866	\$275

Video online goo.gl/1ifnyk



Any home theatre enthusiast will tell you that a true home theatre involves either an AV Receiver or better still, separate components. Multi-room audio systems just don't cut the mustard. While I agree in the most part, the Heos bar is certainly a different beast to say the Sonos solution. Sonos tapped into a market that liked their products and wanted better-than-TV sound. For the most part, they ignore cinema decoding, namely Dolby and DTS and with only a single optical input, they avoid any AV switching capabilities. Sonos never tried to grab that home theatre market, instead carefully advertising the solution as 5.1 Surround Sound. And this is why the Heos is different.

I'd argue two points. First, the Heos is a true home cinema. It can conceivably replace an AV receiver and speakers. Second, it's different to a traditional home cinema and that's why you should seriously consider this solution.

The Heos does home cinema like no other multi-room product. It'll decode in DTS or Dolby, so that each channel has its own effects. In Oblivion (2013), there is a scene where the bubble ship circles Jack Harper (played by Tom Cruise). The sound pans around the room, giving the viewer the sensation that they are standing there with the protagonist. The front soundstage is handled by the Heos bar. Each of its 6 inbuilt amplifiers fill the front of the room. The rear channels are effortlessly handled by the Heos1. The rear is less critical, so doesn't require the same consummate ability of the Heos Bar. With the addition of the Go Pack, you can still battery power the rear speakers



4K Ultra HD Hi-Res Audio Bar	HEOSBAR	01932910	RSP INC \$1,299
Wireless Subwoofer	HEOSSUBWOOFER	39811065	\$999
Portable Compact Speaker	HEOS1B ○	39894744	\$299
	HEOS1W ●	39894748	
Heos Go Pack	HEGPB ●	39894755	\$179
	HEGPW ○	39894757	

for up to 6 straight hours. It's a truly wireless home cinema and super convenient.

All AV receivers accept multiple AV inputs and the Heos is no different. It has 4 HDMI inputs with each input being HDMI2.0a and HDCP2.2, meaning that the latest 4K HDR content is no issue. It also has an IR repeater, so it can be placed in front of the TVs IR receiver. Being Heos (version 2), Bluetooth is standard and what would a multi-room system be without support for all the usual streaming services like Deezer, Spotify, TuneIn, SoundCloud and more?

So the Heos is convenient and easier to install than a traditional home cinema, but it's a fairly large investment, right?

There are two additional points that make this system attractive. First, there's an upgrade path.

You have demoed the system at Radio Parts, you like it, but you don't have the budget. In this case, you can buy it in 3 steps without missing out on entertainment. The Heos Bar is a very capable soundbar. Next, you get the wireless subwoofer and the movies get a whole lot more exciting. Finally, the two Heos1s (with or without the Go Pack) at the rear. When there's no movies, the Heos1 can be redeployed in the kitchen or the kid's bedroom. The sound is amazing, it looks equally smart and because they can be used all around the house, it'll really get used, so a great return on investment!

Note! It's a little confusing, but the HeosCinema cannot be made into a 5.1 system. While the HeosCinema, like the Heos Bar also supports Dolby and DTS decoding, it only supports a 2.1 setup.

- By Michael Swann

After dedicating separate articles to Video over IP and Denon Heos, it's probably worth mentioning a few other IP systems and impending releases - By Michael Swann

IP Audio | Yamaha MusicCast

Yamaha have discontinued the hugely popular WX010 and WX030 MusicCast speakers. We were so impressed by the audio quality, yet Yamaha is extremely excited about the replacements. The Japanese approach to audio is typically conservative, yet expect the new models to have different sound characteristics. They will be brash with higher efficiency for more SPL. The listening experience should be very exciting.

Expect to see some new Yamaha gear on our stand at the Integrate show in Sydney in August. At last year's dealer launch, we witnessed how well MusicCast works with Amazon Alexa. Expect an increased focus on this partnership. In 2017/2018, we saw the industry embrace the WXA50 zone amplifier. The WXA50 is built more like a Yamaha Pro audio product, yet has the conveniences of MusicCast. As a result, we've sold hundreds. Yamaha

have taken note of the market demand, so we should see a new product announcement at Integrate.

Finally, we'll see the new RXV models and the anticipated '80 series Avenge models. In the larger Avenge models, we were hoping for some inbuilt voice assistant. Probably Alexa, as that's the market leader. Unfortunately Yamaha confirmed that this will not be the case, but there might be a compromise...

2CH 70W EXPAND DAC/AMPLIFIER

MusicCast Airplay
WXA50 | 01614720



RSP INC
\$569



IP Intercoms | AiPhone

AiPhone are due to release the IX 'Series 2' IP intercom system in 2019. The IX 'Series 2' station will integrate with compatible Cisco SIP servers. The Cisco Grandstream is the market leader in VoIP phone systems. We would expect that AiPhone will expand support for other VoIP phone systems in the future.

Integration with phone systems means that clients can replace VoIP phones with AiPhone master stations. Calls

can be placed and forwarded to other phones. Access control and emergency comms can be integrated. Even IP security cameras (ONVIF Profile S) can be specified. This will allow clients to toggle between the 1.3MP camera on the IX door station and a strategically placed CCTV camera.

By the Q4 of 2019, they should expand the IX system to include residential apartment applications.



IP Digital TV | Kingray & ZyCast (resi-linx)

Running digital TV over data cabling is nothing new. At an entry level price you have non-IP products, like the CE01TV and the Kingray CAT01. The CE01TV converts the 75Ω RF signal to 100Ω and sends the signal point-to-point. The Kingray has some extra features, like up to 4 outputs, individual gain control and slope/tilt for longer runs. Until now, a true IP solution was \$20K plus!

The ZyCast CT2IP8032 accepts 8 Digital TV inputs. Each input can push out up to 16 substreams for a total of 128 substreams. For a smart TV with multicast, these streams will appear as individual channels. Each one can be individually named. In Australia, we have 5 TV stations with each one having about 6 individual channels, so 16 substreams are more than you'll ever use*. That means that 5 inputs will be used from free-to-air TV, leaving 3 spare tuners. These will be likely used from modulated video feeds. It could be CCTV cameras, media players with custom content or even a feed from satellite. Satellite content might be foreign TV (Chinese is popular) or Foxtel.

CATV / RF OVER CAT5E EXTENDER

2M RG6 Coax RJ45 'F' Baluns PR
CE01TV | 07350125

RSP INC
\$39



4 WAY RF OVER CAT5 AMPLIFIER

CAT01 | 00760500



RSP INC
\$198



8 CHANNEL DVB-T TO IP ENCODER

Digi-Mod HD by ZyCast
CT2IP8032 | 43151290



RSP INC
\$8,140



* The code seems confusing, but there's some logic. CT is Cable TV. "CT 2 IP" refers to converting the signal to an IP signal. 8 is the number of tuners. 032 refers to the maximum configurable substreams. We opted for 16, not 32, as this is more than enough!



Kingray

MULTISTACKERS, AMPLIFIERS, SPLITTERS AND TAPS

Looking at the Kingray range of Foxtel Approved passive devices.

New to the Kingray range is a variety of splitters & taps plus a multistacker which are approved for use with the satellite multistacker & TDT installations.

Due to all the IQ3 Foxtel satellite services being distributed on one polarity now, all components within a multistacker SMATV & TDT backbone system must pass frequencies from 45 to 2400MHz.

These passive devices are rated to 2400 MHz, with high performance RFI shielding & high isolation specifically required to comply with the new Foxtel specifications.

SINGLE WIRE MULTISTACKER

Foxtel Approved F30963



KMSF1 | 00760030

- Satellite multistacker, specifically designed for the Foxtel satellite platform
- Restacks the vertical polarity transponders onto a horizontal polarity, allowing for single cable distribution
- Up to 32 satellite transponders plus FTA services once combined with a diplexer
- 5 position dip switch to match the State where installed

RSP INC
\$399

SINGLE INPUT SATELLITE AMPLIFIERS

Foxtel Approved F30948 & F30949



SAT25S

SAT40S

- Single input satellite distribution amplifier designed for the Foxtel single coax cable satellite distribution system
- High output with adjustable gain and equalisation controls
- Designed to be powered by an 18V DC power supply, (such as the Kingray PSK18S)

SAT25S | 00760644 (FOX. APP. F30948)

RSP INC
\$249

SAT40S | 00760647 (FOX. APP. F30949)

RSP INC
\$259

SPLITTERS



2 WAY F-TYPE SPLITTER

Foxtel Approved F30950
KSP2F | 00845602

RSP INC
\$5.20



3 WAY F-TYPE SPLITTER

Foxtel Approved F30951
KSP3F | 00845603

RSP INC
\$6.45



4 WAY F-TYPE SPLITTER

Foxtel Approved F30952
KSP4F | 00845604

RSP INC
\$7.70



6 WAY F-TYPE SPLITTER

Foxtel Approved F30964
KSP6F | 00845606

RSP INC
\$15.50



8 WAY F-TYPE SPLITTER

Foxtel Approved F30965
KSP8F | 00845608

RSP INC
\$18.80

Frequency Range (MHz)	Insertion Loss (dB)	Return Loss (dB)
5-40	≤4.0	≥10
40-1000	≤4.5	≥10
1000-1750	≤5.0	≥10
1750-2400	≤5.5	≥10
5-40	≤7.5	≥10
40-1000	≤8.0	≥10
1000-1750	≤9.5	≥10
1750-2400	≤10.0	≥10
5-40	≤8.0	≥10
40-1000	≤8.5	≥10
1000-1750	≤10.0	≥10
1750-2400	≤10.5	≥10
5-40	≤11.0	≥10
40-1000	≤12.0	≥10
1000-1750	≤13.0	≥10
1750-2400	≤15.0	≥10
5-40	≤11.0	≥10
40-1000	≤12.0	≥10
1000-1750	≤13.0	≥10
1750-2400	≤15.0	≥10

TAPS



4 WAY 12DB TAP 5-2400MHZ

Power Pass Foxtel Approved F30954
KT412F | 00845644

RSP INC
\$9



4 WAY 15DB TAP 5-2400MHZ

Power Pass Foxtel Approved F30955
KT415F | 00845646

RSP INC
\$9



4 WAY 20DB TAP 5-2400MHZ

Power Pass Foxtel Approved F30956
KT420F | 00845648

RSP INC
\$9

Frequency Range (MHz)	Insertion Loss (dB)	Mutual Isolation (dB)	Return Loss (dB)
40-1000	4.0	30	≥10
1000-1750	4.5	25	≥10
1750-2400	5.0	22	≥10
40-1000	3.0	30	≥10
1000-1750	3.5	25	≥10
1750-2400	4.5	22	≥10
40-1000	2.2	30	≥10
1000-1750	2.5	25	≥10
1750-2400	3.5	22	≥10



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4K ULTRA HD MEDIA PLAYER & Streaming Device



SRTRB4K | 09009155

- 4K Ultra HD Resolution
- Access HD Movie content through Netflix, Stan, Youtube, App Store & more
- 2GB RAM, 16GB built in storage
- 2x USB (2.0) plus Micro SD Card Reader & Bluetooth (4.0)

RSP INC
\$175

BLUETOOTH STEREO RECEIVER 100W X 2



RS202B | 01618428

- Speaker selector and speaker terminals for two systems
- 40 station FM/AM preset tuning
- Auto power saving standby function

RSP INC
\$479

ULTRA THIN TV WALL MOUNT 1.5cm thin bracket



THIN505 | 43130602

- 40" to 65" TVs with maximum weight of 40kg
- 15mm distance from wall
- Easy access to cables
- Spirit level included

RSP INC
\$165

EQUATIC MICRO SPEAKER Wireless & water resistant



Sound That Will Move You.

- EQUATICB | 39816224
- EQUATICR | 39816220
- EQUATICW | 39816222

- Compact 2" portable cube design
- Streams music from Bluetooth devices
- At least 6 hours of continuous music play
- Supports hands-free phone mode



RSP INC
\$69

8" POWERED SUBWOOFER



Sound That Will Move You.

SUB80 | 39816145

- 150W high-powered amplifier
- 180° phase inverting switch
- Speaker level input up to 10V
- Auto Turn ON / signal detection circuitry
- Unobtrusive and easy to position



RSP INC
\$399

SUPERNOVA MKVII SUBWOOFER Sealed Front Firing Sub



Sound That Will Move You.

Ignore the massive power. What makes the Supernova MKVII (Mark 7) special is that in a pair, they create a front sound stage. A pair of Supernovas at the front are the ultimate for music or movies!

- MKVII12FF 39816170 12"
- MKVII15FF 39816172 15"



RSP INC
\$3,499
\$3,699

HIFI NETWORK RECEIVER DAB+ – MusicCast – Bluetooth



RN303DB | 01614693

- Sophisticated low-noise circuitry design
- High resolution music playback with 192kHz/24bit DAC
- Delivers a maximum output of 140 watts/channel (80)
- Ease of use with free MusicCast Controller App

RSP INC
\$660

HUM CLEANER 2Ch Converter



Sound That Will Move You.

HUM KLEANER | 39816226

- A great tool for either extending audio runs (actively powered!) or eliminating hum.
- XLR & TRS connectors for balanced inputs/outputs
- RCA connectors for unbalanced inputs/outputs

RSP INC
\$179

ULTRA THIN TV WALL MOUNT + TILT 2cm thin bracket



THIN515 | 43130612

- 40" to 65" TVs with maximum weight of 25kg
- 20mm distance from wall
- Tilt (up to 15°) to avoid reflections
- Spirit level included

RSP INC
\$220

7500 LMS LARGE VENUE PROJECTOR WXGA HDBaseT – No Lens



EXCEED YOUR VISION

EBG7200WNL | 43190785

- 3x brighter colours with 3LCD, 3-Chip technology
- Powered lens shift, zoom & focus
- Edge Blending
- 360° Installation on any plane
- Supports HDBaseT

RSP INC
\$5,499



4 EASY WAYS TO SHOP

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4 **VIA FAX**
Toll free fax: 1800 659 963

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- NORTH VICTORIA : BEN MARSHALL 0418 531 965
QLD, TAS
- SYDNEY : MARK DE HAVILLAND 0424 184 454
NSW, ACT FRANK MANICASTRI 0437 179 495

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