RFI develops, manufactures and distributes world-class, high performance, high quality and reliable wireless products including; antenna systems, rebroadcast & monitoring equipment, power systems and cabling and connectors.

RFI is recognised in the wireless products industry as the market leading experts in recommending the best products for your needs, backed with outstanding technical support.

RFI has one of the largest, most innovative and experienced wireless design teams in Australia employing around 80 dedicated engineers, project managers, deployment engineers, logistics, distribution and R&D staff.

Our deep industry understanding, knowledge and experience across the breadth of all wireless integration applications and componentry needs allows us to not only provide expert advice on use of individual products but also on the interoperability of those products within larger projects.
RFI can supply AM and FM rebroadcast solutions for road and rail tunnels, mines, inside buildings, underground car parks and other locations where the availability of existing AM/FM broadcast radio coverage is limited. RFI’s solutions include “audio break-in” functionality, allowing live or pre recorded announcements to be placed onto the rebroadcast RF outputs for incident control or public safety purposes.

**Off-air Antennas**
AM/FM Off-air antennas are suitably located to receive donor signals from the AM/FM transmitters that are to be rebroadcast.

**Power Amplifiers**
AM and FM Power Amplifiers are used to receive AM/FM broadcast signals off-air and amplify them to fixed RF output levels.

**Leaky Feeder Cable Systems**
Leaky Feeder cable is used on the entire stretch of the tunnel for signal distribution.

**RFOF**
As the best AM signal is on the North entry portal of this tunnel, RFI’s RFOF module is used to transport RF signal down fiber cabling to the plant room.

**Cross-band Couplers**
Cross-band couplers are used to combine AM/FM and VHF/UHF onto a single leaky feeder cable run.

**AM rebroadcast solutions with audio break-in functionality**
The head end ensures AM signal is rebroadcast inside the tunnel, also enabling audio break-in for critical incident announcements.

**FM rebroadcast solutions with audio break-in functionality**
The head end ensures FM signal is rebroadcast inside the tunnel, also enabling audio break-in for critical incident announcements.

**MiniSystem Combiners**
A MiniSystem Combiner is installed in the plant room to assist in facilitating radio communications in the tunnel.
RFI can supply Broadband BDA solutions in situations where radio communications or paging frequency bands need to be rebroadcast. BDA’s are useful for buildings and areas where the poor RF signal areas are close to the host site, however the signal is severely obstructed.

RFI’s DAS/IBC antennas are used to distribute radio communications coverage throughout the tunnels, corridors and platforms in this rail network.

RFI’s range of BDA’s are used to enhance coverage in the underground tunnels and platforms in this rail network.

RFI’s splitters and hybrid couplers are used to distribute coverage in the underground tunnels and platforms in this rail network.

RFI’s RF Over fiber modules are used to transport RF signal down fiber cabling to different underground areas in this rail network.

Leaky Feeder cable is used on the entire stretch of the tunnel for signal distribution.

RFI’s TLA series of low profile transit antennas are mounted on the train to facilitate radio communications.
The DSPbR is capable of handling up to 8 bi-directional channels in a single 4RU unit. The high gain capability and modular flexibility ensures this solution is perfect for a multitude of applications, including Public safety integration into tunnels and any application where a channelized solution is required.

For higher power or channelised applications, RFI can offer our flagship DSPbR (Digital Signal Processor Repeater). These are also used for providing coverage enhancement in poor RF signal areas; however offer greater flexibility and functionality than our standard BDA’s. The unit’s flexibility in programming makes them suitable for a range of network coverage enhancement requirements - including in-building, in-tunnel or outdoor applications.

The DSPbR covers frequency bands for paging applications and 2-way radio, including UHF bands and Cellular at 700MHz and 800MHz. It is currently available in Channel Selective variants, allowing high per-channel RF output powers and compliance with regulatory requirements - particularly in outdoor applications. Many operational parameters are configurable through the programming interface - including frequency, gain, gating, alarms and reporting.

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One of the most flexible capabilities of the DSPbR is its ability to also perform cross band operation. Cross band operation allows the translation from one frequency band to another. For example, if the primary frequency plan is operating in the 400 MHz - 420 MHz range, the link frequency plan could be any other available such as 800 MHz or 450-470MHz.

The Power efficient design, compact size and advanced remote control and alarming firmware make the DSPbR series an economic alternative to additional base stations within a network because of their small size, lower cost, simple installation and minimal maintenance requirements.

**High Capacity, High Gain**

The DSPbR is capable of handling up to 8 bi-directional channels in a single 4RU unit.

The high gain capability and modular flexibility ensures this solution is perfect for a multitude of applications, including Public safety integration into tunnels and any application where a channelized solution is required.
RFI is a large scale DAS services and solutions provider. From design through to manufacture, single antenna repeaters to full BTS deployments, passive and active has been used in over 1000 projects to date. Our experience with multiple projects, well established systems, tools and processes including consulting, testing, training, integration and technical support means RFI can deliver a complete turnkey integrated service.

DAS/IBC Solutions

Communications Room

1. DAS/IBC Repeaters
   - DAS/IBC repeaters are used to ensure Radio/Cellular coverage is strong throughout the shopping centre.

2. Coaxial Cable Systems
   - Coaxial cable is used to distribute signal throughout the building to the multiple strategically placed DAS/IBC antennas.

3. Splitters and Hybrid Couplers
   - Splitters and Hybrid couplers used to evenly distribute signal so that coverage is strong throughout the shopping centre.

4. DAS/IBC Antennas
   - DAS antennas are strategically placed around the shopping centre to ensure Radio/Cellular rebroadcast on all the floors.