

System Products

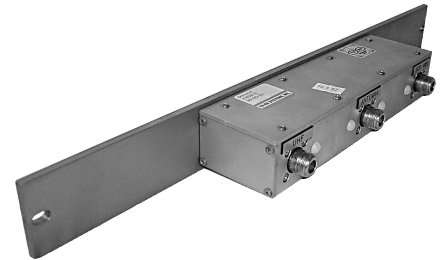
Crossband Couplers



Crossband couplers allow the combining of multiple frequency bands onto shared coaxial and radiating cables and multi-band antennas.

Models are available for specialised transmit and receive applications across the frequency range 0.5 - 2500MHz and beyond. Cascading units can allow any number of different frequency bands to be combined together.

In addition, units are available for indoor, outdoor and tower mounting requirements thereby providing for the rationalisation of feeder cable usage - reducing cabling costs and tower loadings.



Mounting Style - Indoor Unit

Features:

- Suits Analogue and Digital technologies
- Combine multiple frequency bands for Distributed Antenna and Radiating Cable systems
- Reduce cabling and tower loading
- Add new frequency bands to existing installations
- Indoor, Outdoor and Tower-mount versions available



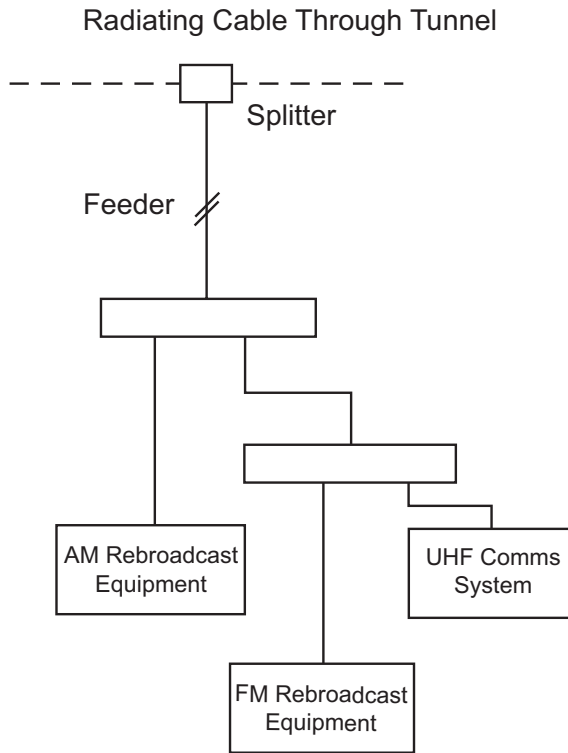
Mounting Style - Outdoor Unit

A crossband coupler is typically a three port device - usually known as *low-pass*, *high-pass* and *combined* respectively. Models are available in a variety of mounting styles and DC-Pass or DC-Blocking configurations for use with bi-directional amplifiers and tower mount preamplifiers.

Tower mount (Outdoor) models shown consist of the indoor unit, less rack mount bracket, in a weatherproof fibreglass housing that is sealed with silicon adhesive.

Indoor units may also be packaged in suitable custom weatherproof housings to create alternate tower mount versions. Typical models are shown. Other models are available upon request. Please contact your nearest RFI Sales office for further details.

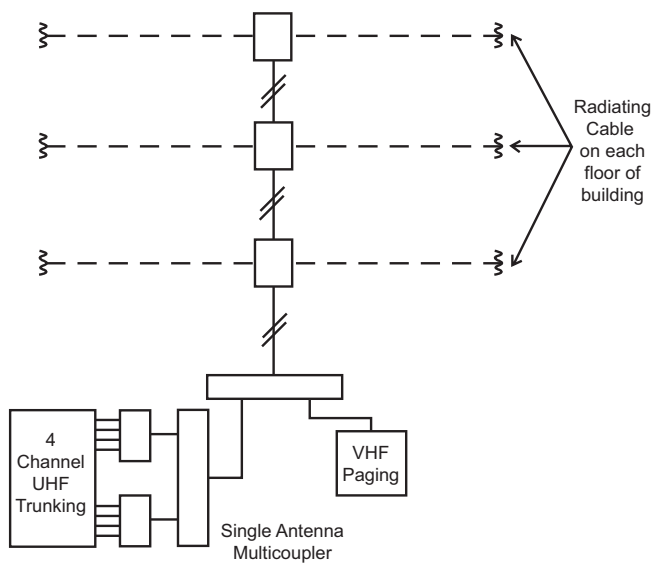
Typical Applications - Combining Multiple Frequency Bands onto a radiating cable



Example: Combining an AM and FM Radio Rebroadcast System with a UHF two-way Operations Channel for a road tunnel

- single radiating coax reduces cable, hardware, and installation costs

Typical Applications - Combining Multiple Frequency Bands onto a radiating cable

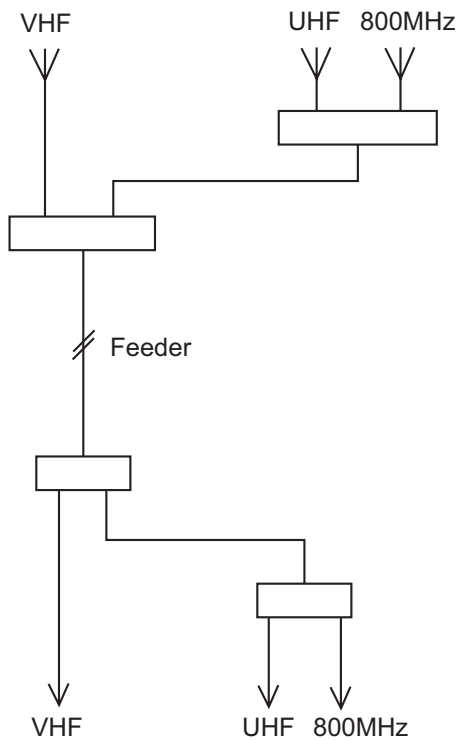


Example: Combining a VHF Paging and a multi-channel UHF Voice, system for an in-building application

- single coax reduces cable, hardware, and rigging costs
- ensures all systems have identical coverage potential

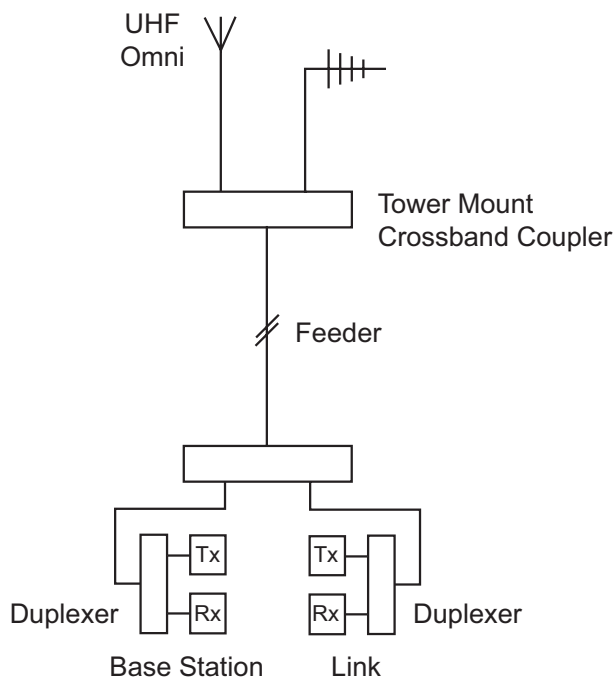
Typical Applications :

Combining Multiple Frequency Bands onto a shared coaxial cable



Example : Combining VHF and UHF/800Mhz Rx Systems using Tower Mount Amps

- single coax reduces cable,, hardware, and installation costs
- reduces tower loading



Example : Combining a VHF Base with Omni antenna with a UHF directional link

- ideal for long cable runs or difficult installations
- reduces tower loading and installation time
- single coax reduces cable, hardware, and installation costs

Electrical

| Model | | Frequency Bands Coupled (MHz) | Typ. Loss (dB) | Isolation (dB) | Power Rating (watts) | Notes |
|---------------------------|----------------|-------------------------------|----------------|----------------|----------------------|-------|
| Weather Proof Tower Mount | Indoor Mount | | | | | |
| SP0000-1102-85 | SP0000-1101-31 | 400 - 540 MHz 800 - 960MHz | 0.20/0.20 | >40dB | 750 500 | - |
| SP0000-1104-85 | SP0000-1101-31 | 400 - 540 MHz 800 - 960MHz | 0.30/0.50 | | Rx Only | 1. |
| SP0000-1106-85 | SP0000-1103-31 | 400 - 540 MHz 800 - 960MHz | 0.30/0.50 | | 250 Rx Only | 2. |
| SP0000-1108-85 | SP0000-1105-31 | 25 - 175 MHz 400 - 960MHz | 0.25/0.25 | | 350 350 | - |
| SP0000-1110-85 | SP0000-1107-31 | 25 - 175 MHz 400 - 960MHz | 0.35/0.50 | | Rx Only | 3. |
| SP0000-1112-85 | - | 400 - 540 MHz 800 - 960MHz | 0.35/0.35 | | Rx Only | 4. |
| - | SP0000-1111-31 | 0 - 90MHz 140 - 540MHz | 0.50/0.50 | | 200 200 | - |
| - | SP0000-1113-31 | 0 - 175MHz 450 - 2000MHz | 0.50/0.50 | >50dB | 200 200 | 1. |
| - | SP0000-1115-31 | 0 - 1000MHz 1700 - 2200MHz | 0.30/0.50 | >50dB | 200 200 | 1. |
| - | SP0000-1117-31 | 0.5 - 1.6MHz 60 - 1000MHz | 0.50/0.60 | >30dB | 100 100 | 5. |

Notes:

1. Passes DC power between all three terminals for operating separate tower mount receive systems. Warning: Do not connect a DC grounded antenna directly to this model if DC power is being passed.
2. DC power will only pass between the combined port and the 800-960MHz port for operating a 800MHz tower mount receive system.
3. DC power passes between the combined port and the 400-540MHz port, but is blocked from the 25-175MHz port to the combined port.
4. DC power passes between the combined port and the 400-540MHz port, but is blocked from the 800-960MHz port to the combined port.
5. The 0.5-1.6MHz port is coupled onto outside conductor of combined port and 60-1000MHz port is coupled onto centre conductor of combined port. This model is used for combining AM radio rebroadcast with FM/VHF/UHF/etc onto a single cable.
Please consult dedicated Product Briefs for detailed specifications

Mechanical

| Model | Dimensions (HxWxL approx) | Temp. Range °C / °F | VSWR | Impedance | Weight | Connectors |
|--|---|---------------------------------|--------|-----------|--------------------|-----------------------------------|
| SP0000-1101-31 SP0000-1103-31 SP0000-1105-31 SP0000-1107-31 | 50 x 482 x 75 mm 2 x 19 x 3 in. | -40 to +70° C -40 to +160° F | 1.25:1 | 50 ohms | 1.8 kgs 4.0 lbs | "N" Female (others on request) |
| SP0000-1102-85 SP0000-1104-85 SP0000-1106-85 SP0000-1108-85 SP0000-1110-85 SP0000-1112-85 | 89 x 152 x 350 mm 3.5 x 6 x 13.75 in. | -40 to +70° C -40 to +160° F | | | 3.2 kgs 7.0 lbs | |
| SP0000-1111-31 SP0000-1113-31 SP0000-1115-31 | 31 x 110 x 132 mm 1.25 x 4.3 x 5.2 in. | -20 to +55° C -4 to +130° F | 1.3:1 | | 1.0 kg 2.2 lbs | |
| SP0000-1117-31 | 165 x 135 x 110 mm 6.5 x 5.3 x 4.5 in. | -30 to +65° C -22 to +150° F | | | | |