

Introduction

A total solution for Broadcasters worldwide is available from RFS.

Radio Frequency Systems manufactures a complete range of broadcast antennas and combining equipment for VHF/UHF TV and FM services. All of our products are supported with design, project management, installation and commissioning services.

Radio Frequency Systems represents a strategic platform for Broadcasters, providing:

- Access to the very latest advanced technologies through our own Research and Development facilities
- A worldwide network from fellow members of the worldwide Radio Frequency Systems group
- A commitment to maintaining accreditation to the highest international quality standards
- A market focused responsiveness.

With over 25 years of proven experience, we not only aim to design and manufacture products of the highest quality, we are also committed to talking with our customers to ensure that we offer the most cost effective solutions that are fully tailored to our customers' needs. Every aspect of our operation is focused to ensure the end customer receives the best value solutions and service.

Meeting and Exceeding Requirements

Engineering Services

Both commercial and specialized RFS-development software form a comprehensive resource to allow synthesis and analysis of antenna and filter networks. When coupled with our sophisticated computer aided measuring equipment, including antenna test range facilities we ensure our customers' needs are totally satisfied. These tools are crucial for us to minimize product development lead times.

Quality System – ISO9001

At Radio Frequency Systems we define quality to be the value you, the customer, enjoy over a long association with us. We are committed to a philosophy of total quality and have a corporate goal of meeting international quality standards as they become effective.

Radio Frequency Systems is certified to International Standard ISO9001 which spans every aspect of our operations from product design through to post installation. This ensures that clients receive systems that meet their needs over a long period.

Manufacturing

Our factory production system is controlled by a computer based purchasing and scheduling system which helps to ensure cost effectiveness and reliability of product delivery dates. We are also able to confirm progress during manufacturing and take corrective action as necessary.

The extensive use of CNC machines and advanced welding techniques give us an advantage in providing precision equipment at cost effective prices.

Broadcast Products

Radio Frequency Systems provides an extensive range of products for television transmission in the VHF and UHF Bands. We can also provide assistance in designing the optimum solution for your transmission requirements now and in the future. Our panel antennas provide the flexibility to provide customized coverage and power handling requirements.

Television

Panel Arrays

These are designed as building blocks to provide customized radiation patterns with or without beam tilt and null fill for specific coverage requirements. These arrays are suitable for multi-station use and have high power ratings which is essential where multichannel operation is required. Their versatility also means that they can be used as single components for simple transposer systems. Panel arrays are available for the following bands:

• Band I

606L Series - Used for high power, broadband VHF services (44 - 88MHz) with either horizontal or vertical polarization. Ideally suits four sided arrays.

607L Series - Similar to the 606 series but has a broader beam designed for triangular arrays.

• Band III

655, 656, 659, 660 Series - Used for high power, broadband VHF services (174 - 230MHz) with either horizontal, vertical or circular (model 662) polarization. Ideally suits four sided arrays and Band III DTV and/or DAB.

657, 658 Series - Used for single or dual channel services (174 - 230MHz) with horizontal polarization. Designed for triangular towers.

• Bands IV and V

PHP and PVP series - Used for high power, broadband UHF services (470 - 860MHz). The PHP is horizontally polarized whilst the PVP is vertically polarized. Both cover the full band. Designed for four or five sided arrays but can be designed for a variety of configurations. These antennas are ideally suited for DTV by providing the ultimate in flexibility.

Further information on balanced combiners and uHF panel antennas can be found in the technical notes section.

Broadcast Solutions

Television

Slots and Dipole Arrays

The antennas available in this range include:

- **RD Series**

Horizontally polarized wideband slot antennas used for UHF services with power handling up to 160kW.

- **CBS Series**

Horizontally polarized slot antennas used for multichannel UHF services with power handling up to 1.3kW.

- **UD Series**

Vertically polarized dipole arrays used for multichannel UHF services. Ideally suited to translator services as they are fully sealed and self-contained.

- **Combiners**

A range of commutating line and balanced combiners are available for Bands III, IV and V depending on the number of channels to be combined and required isolation between channels.

- **CC Series - Commutating Line Combiners.**

These constant impedance combiners are ideally suited where wide channel spacings are used (minimum two channel spacing). Up to eight channels can be combined into one antenna system.

- **CA, CW Series - Balanced Combiners.**

These combiners are balanced, constant impedance and suitable for adjacent and non-adjacent channel TV combining. Three, four, five, six and eight pole bandpass filters are available using coaxial and waveguide technology. Invar temperature compensation, field proven power ratings, compact size and expansion capability make these units ideal for DTV applications.

Other Products

Other supporting products for television which RFS provide include:

- Yagis and log periodics (Bands I and III)
- Gridkit parabolic antennas (UHF)
- Switchframes and U-Link panels
- Power dividers
- Couplers
- Rigid transmission line
- Flexible air and foam dielectric cable
- Dehydrators
- Waveguide components
- Antenna Test Sections

FM Radio

Radio Frequency Systems provides an extensive range of products for FM broadcasting.

Panel Arrays

Like their television counterparts, these are designed as building blocks to provide customized radiation patterns with high power capabilities.

- **903 Series** - Used for multichannel Band II services (87.5 - 108MHz). Available with horizontal, vertical or circular polarization. Ideally suited to three sided arrays.
- **904 Series** - Used for multichannel Band II services (87.5 - 108MHz). This panel has horizontal and vertical dipoles and can be configured for horizontal, vertical or circular polarization. Ideally suited to four sided arrays.

Sidemount Antennas

- **828 Series** - Broadband antennas providing circular polarization with an approximately omnidirectional pattern. A reflector element can be incorporated to provide a more directional pattern where such coverage is desired.
- **902 Series** - CP Yagi antennas providing circular or elliptical polarization.
- **SL1 and 818 Series** - Vertically polarized antenna suitable for low windload, low power applications.
- **CPF Series** - Circularly polarized single channel antenna with low windload - a low cost solution for low to medium power levels.

Combiners

A range of balanced and star-point (branched) FM combiners is available depending on the frequency spacing and required performance.

- **CA Series - Balanced Combiners**

The balanced bandpass design offers an expandable system to enable additional stations to be added in the future. Channel spacing as close as 800KHz can be provided for and between 2 and 16 channels can be combined into one antenna system.

- **CS Series - Starpoint Combiners**

For up to 4 channel applications. Other combining networks comprising hybrid balanced/commutating line systems can be designed to meet particular needs.