

174-230MHz TV Panel Arrays 657, 658 Series
Product Description

This series of panel antennas has been designed for three sided arrays and provides a customized horizontally polarized coverage for single or multistation use in Band III. Model 657 has a nominal gain of 7dBd and the 658 has a nominal gain of 10dBd.

Construction from thick walled tube and solid steel bar gives a heavy duty panel which is designed for operation in very harsh environments. This design also ensures ideal hot dip galvanizing for optimum corrosion protection. Colours are available for aviation visibility and even further corrosion protection.

The coaxial feed system can be fully pressurized and features twin 'O' ring seals on the feed point insulators. The panels are tolerant of light icing (radomes are available for use under heavy icing conditions down to -40 degrees C) and has a very low VSWR (typically less than 1.05:1) over the entire 174 - 230MHz band depending on the system configuration.

These panels are ideal array elements for triangular mast with a 1.2m face and can provide omnidirectional patterns with less than ± 1 dB variation. By varying the number and positions of panels and feed amplitude/phase, patterns can be customized to optimize coverage over a given service area. The use of three panels around the structure offers significant cost and wind load reduction over four sided arrangements.



657 Panel

Features/Benefits

- Suitable for single or dual channel use
- Three sided array design - lower cost
- Cyclone rated
- Rugged galvanized steel construction for maximum corrosion protection
- Low wind load
- Pressurizable coaxial feed
- Horizontal polarization
- Array design allows a variety of standard horizontal radiation patterns as well as customised patterns, contact RFS for details
- Medium power, unpressurized version available
- Temperature range -40 to +60 degrees C available

For detailed technical information use the external document link below.

Technical Specifications

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|---|--------------------------------------|
| Product Line | Antenna TV |
| Product Type | Band III (High VHF) TV Panel Arrays |
| Frequency Range, MHz | 174 - 230 |
| Operating Frequency Ranges, MHz | 174 - 202, 202 - 230 |
| Polarization | Horizontal |
| Number of Channels | Multichannel |
| Nominal Gain (Mid-band), dBd | 7 |
| Half Power Beamwidth Azimuth, degrees | 77 |
| Return Loss, dB | 23 |
| Input Connector | 7-16 DIN; 7/8" EIA Flange |
| Power Rating, kW | 3; 4 Note#1 |
| Impedance, ohms | 50 unbalanced |
| Weight, kg (lb) | 33 (73) |
| Mounting (Standard), mm (in) | 4 x 12mm (1/2) bolts |
| Effective Area Front (full antenna), sq m (sq ft) | 0.40 (4.30) |
| Effective Area Side (full antenna), sq m (sq ft) | 0.50 (5.38) |
| Design Wind Speed (max), km/h (mph) | 240 (150) |
| Pressurization Operational, kPa (psi) | 10 - 25 (1.5 - 3.6) 7/8" EIA Version |
| Pressurization Test, kPa (psi) | 100 (15) 7/8" EIA Version |
| Material - Insulators | PTFE |
| Material - Radiators | Hot Dipped Galvanised steel |
| Material - Reflecting Screen | Hot Dipped Galvanised steel |

Notes

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Note1 Power rating is limited by the input connector type. 3.0kW for 7-16 DIN, 4kW for 7/8" EIA

Other Documentation

657 Array Application Guide: [657 array application guide.pdf](#)

