



This series of panel antennas have 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 a thick-walled tube and solid steel bar gives a heavy-duty panel that 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 have 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 a triangular mast with a 1.2m face and can provide omnidirectional patterns with less than 1dB 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.

**FEATURES / BENEFITS**

- Suitable for single or dual channel use
- Three-sided array design is lower in 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.



657 and 658 Antenna Series showing 657 Antenna Panel Array

**Technical features**

**STRUCTURE**

<b>Product Line</b>		Antenna TV
<b>Product Type</b>		Band III (High VHF) TV 658 Panel Arrays

**ELECTRICAL SPECIFICATIONS**

<b>Frequency Range</b>	MHz	174 - 230
<b>Operating Frequency Ranges</b>	MHz	174 - 202 202 - 230
<b>Polarization</b>		Horizontal
<b>Nominal Gain (Mid-band)</b>	dBd	10
<b>Half Power Beamwidth Azimuth</b>	degrees	77
<b>Return Loss</b>	dB	23
<b>Power Rating</b>	kW	3 4
<b>Impedance (unbalanced)</b>	Ω	50

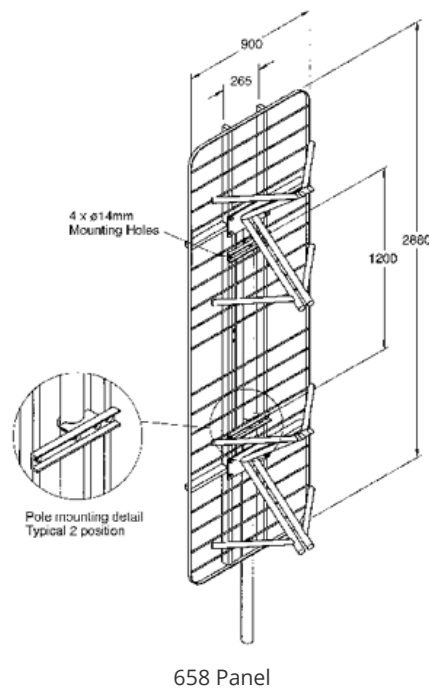
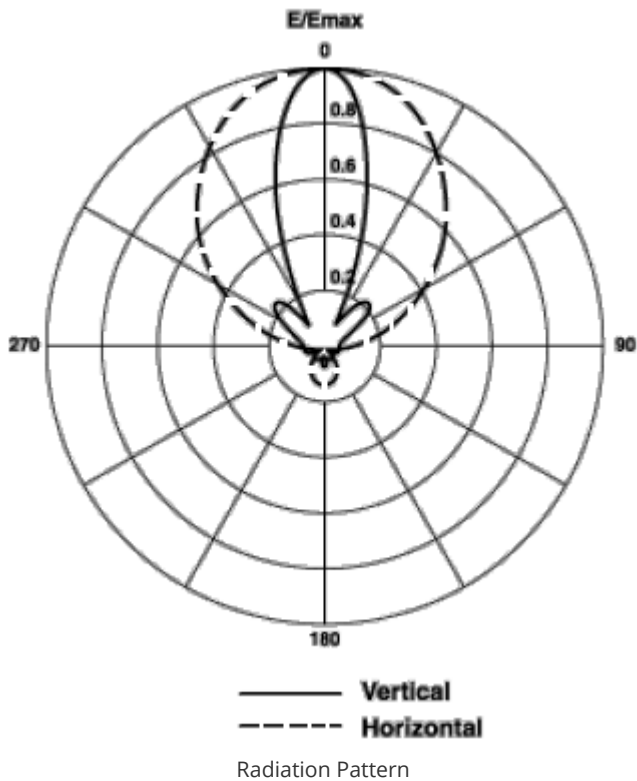


**MECHANICAL SPECIFICATIONS**

Number of Channels		Multichannel
Input Connector		7-16 DIN 7/8" EIA Flange
Mounting (Standard)	mm (in)	4 x 12mm (4 x 1/2") bolts
Effective Area Front (full antenna) No Ice	m <sup>2</sup> (ft <sup>2</sup> )	0.80 (8.61)
Effective Area Side (full antenna) No Ice	m <sup>2</sup> (ft <sup>2</sup> )	1.10 (11.83)
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
Weight	kg (lb)	75 (166)

**MATERIAL**

Material - Insulators		PTFE
Material - Radiators		Hot Dipped Galvanised steel
Material - Reflecting Screen		Hot Dipped Galvanised steel



[External Document Links](#)  
[658 Array Application Guide](#)

**Notes**

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