PRODUCT DATASHEET

657

174-230MHz TV Panel Arrays

657, 658 Series

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 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 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 <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 and 658 Antenna Series showing 657 Panel Array

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 features

STRUCTURE

Product Line		Antenna TV
Product Type		Band III (High VHF) TV 657 Panel Arrays

ELECTRICAL SPECIFICATIONS

Frequency Range	MHz	174 - 230
Operating Frequency Ranges	MHz	174 - 202 202 - 230
Polarization		Horizontal
Nominal Gain (Mid-band)	dBd	7
Half Power Beamwidth Azimuth	degrees	77
Return Loss	dB	23
Power Rating	kW	3 4
Impedance (unbalanced)	Ω	50

657

174-230MHz TV Panel Arrays

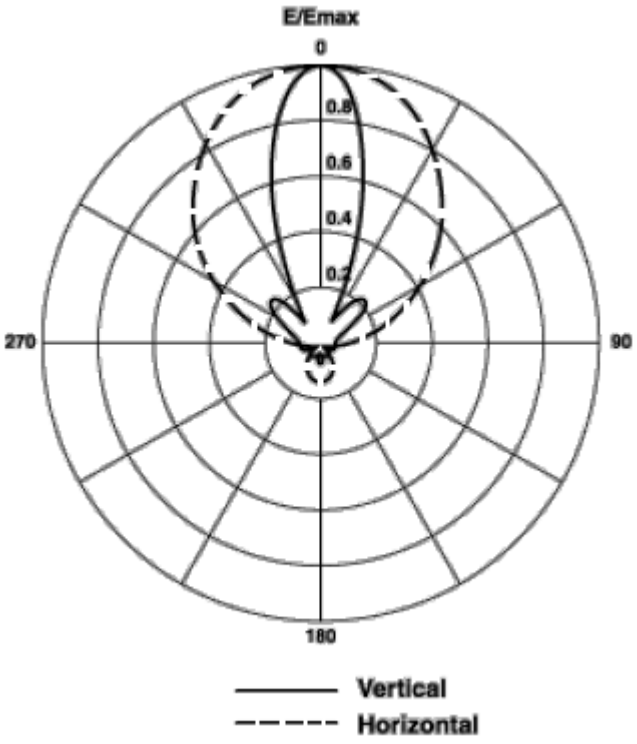
657, 658 Series

MECHANICAL SPECIFICATIONS

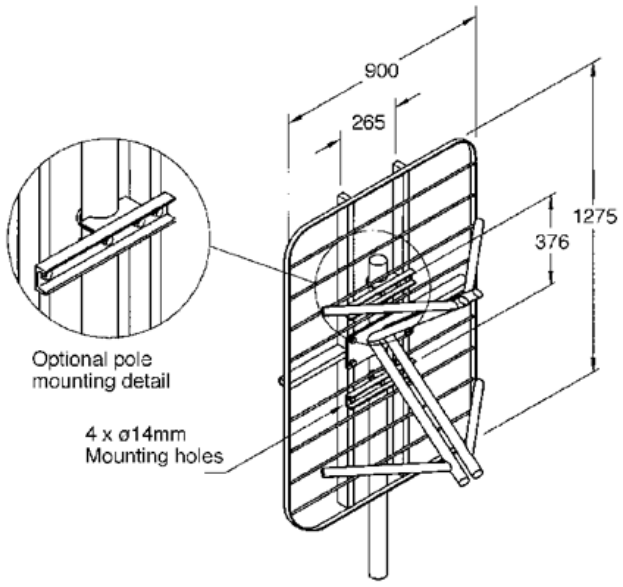
Number of Channels		Multichannel
Input Connector		7-16 DIN 7/8" EIA Flange
Mounting (Standard)	mm (in)	4 x 12mm (4 x 1/2") bolts
Effective Area Front (full antenna) No Ice	m^2 (ft^2)	0.40 (4.30)
Effective Area Side (full antenna) No Ice	m^2 (ft^2)	0.50 (5.38)
Design Wind Speed	km/h (mph)	240 (150)
Pressurization 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)	33 (73)

MATERIAL

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



Radiation Pattern



657 Panel

External Document Links

657 Array Application Guide

Notes

Note 1 Power rating is limited by the input connector type. 3.0kW for 7-16 DIN, 4kW for 7/8" EIA