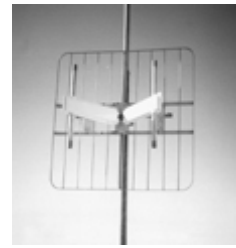




This series of panel antennas are ideal for four-sided array design to provide a customized coverage for vertically polarized use in Band III. Model 659 has a nominal gain of 8dBd and the model 660 has a nominal gain of 11dBd. Construction from a thick-walled tube and solid steel bar gives a heavy-duty panel that is designed for operation in very harsh environments. This design also ensures ideal hot-dip galvanizing for optimum corrosion protection. 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.



659 and 660 Antenna Series showing 659 Panel

These panels are ideal array elements having low sidelobes, low mutual couplings between panels and high power ratings across the full band. This results in complete antenna systems that have very wide VSWR and pattern bandwidth.

The ability to utilize larger tower cross-sections allows support for a top-mounted UHF antenna such as our PHP or PVP UHF antenna arrays. This provides a powerful combination for delivering DTV and/or DAB systems customized to suit the coverage requirements of the customer.

FEATURES / BENEFITS

- Suitable for multi-station use, DAB and DTV
- Vertical polarization
- Cyclone rated
- Rugged galvanized steel construction for maximum corrosion protection
- Low wind load
- Pressurizable coaxial feed
- Low VSWR full band operation
- Ideal array element allowing for a number of standard horizontal radiation patterns as well as customized 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/DAB 659 Panel Arrays |

ELECTRICAL SPECIFICATIONS

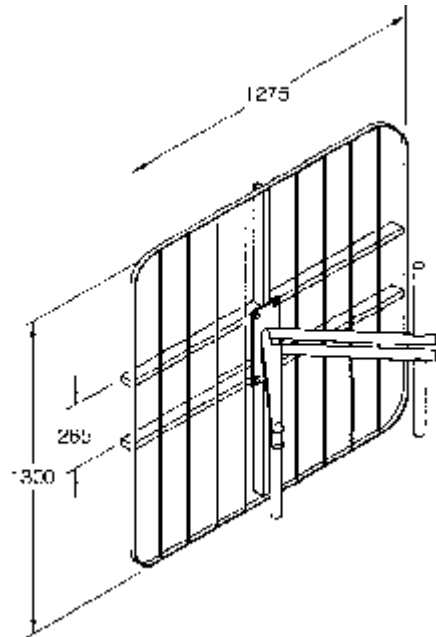
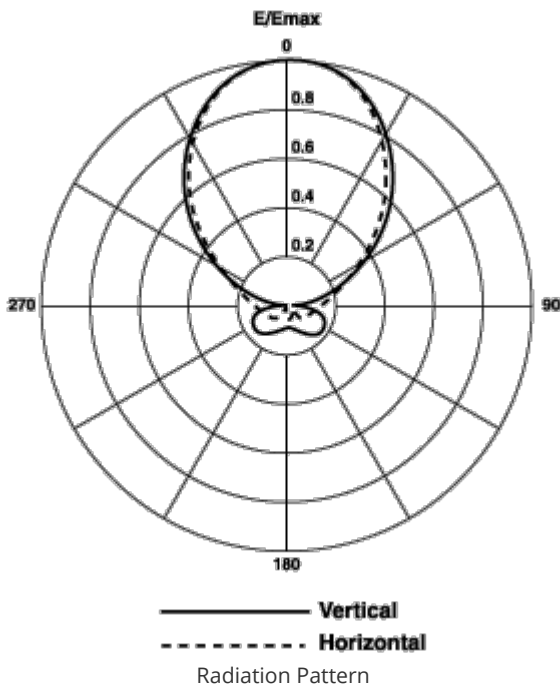
| | | |
|-------------------------------------|---------|-----------|
| Frequency Range | MHz | 174 - 240 |
| Polarization | | Vertical |
| Nominal Gain (Mid-band) | dBd | 8 |
| Half Power Beamwidth Azimuth | degrees | 64 |
| Return Loss | dB | 26 |
| Power Rating | kW | 3 4 |
| Input/Power Rating Comment | | |
| Impedance (unbalanced) | 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 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) | 35 (77) |

MATERIAL

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



659 Panel

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

Notes

Note 1 Power rating is limited by the input connector type. 3kW for 7-16 DIN, 4kW for 7/8" EIA. **Note 2** The 659 antenna has been primarily designed as a vertically polarized array element where low levels of mutual coupling exist between vertically stacked radiators. It may be used as a horizontally polarized panel in situations where a single bay (or level) of panels is used. This will provide a better array VSWR in that circumstance. Where multiple levels of horizontally polarized antennas are needed, the 655 panel is recommended.