



NGV-C170 Series

High-band VHF Broadband Slot Antennas with Cardioid Pattern for NextGen-TV Networks. Low Wind-load, Elliptically or Circularly Polarized.

PRODUCT DESCRIPTION

The NGV series antennas are ideal for multi-channel Next Generation TV networks. These antennas are typically deployed at SFN sites that surround the main transmission site in a NextGen-TV single frequency network (SFN).

The high-power rating and broadband performance allow multiple channels to be transmitted from an SFN site, thus reducing capital costs and providing consistent coverage across channels. Elliptical or circular polarization is available for improved transmission to portable and indoor devices.

The NGV family of antennas provide both top-mounted and side-mounted solutions in a low wind load format.

A wide range of radiation patterns are available. The RFS Antenna Selection Tool contains pattern data for all NGV antenna models and works alongside modern SFN planning tools to help you choose the right NextGen antenna for each SFN site. To download, click [Here](#)



FEATURES / BENEFITS

- Broadband performance from CH7-13 for multi-channel SFN networks allows infrastructure sharing and reduces overall CAPEX.
- Low wind-load reduces tower loads thus simplifying SFN site acquisition.
- Economical low weight and low wind-load alternative to panel antennas.
- Broadband elliptical or circular polarization performance – improves signal penetration and network performance.
- Radiation patterns with reduced back-radiation are available for SFN sites requiring interference mitigation.
- Supplied with brackets for side mounting to a wide range of tower leg sizes.

TECHNICAL FEATURES

DETAILS

Product Type		Broadband VHF Slot Antenna
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ELECTRICAL SPECIFICATIONS

Antenna Type		Broadband Slot Antenna
Operating Frequency Range	MHz	174-216
Polarization		Elliptical or Circular
Azimuth Radiation Pattern		Cardioid C170
VSWR		<1.2:1
Impedance	Ohms	50

MECHANICAL SPECIFICATIONS

Radome Diameter	mm (in)	571 (22.5)
Pressurization Operational	kPa (psi)	10 to 25 (1.4-3.6)
Pressurization Test	kPa (psi)	100 (15)



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MATERIAL

Material - Radome		UV Resistant Fibre Glass
Material - Insulators		Virgin PTFE
Material - Support Pole / Mounting		Hot Dipped Galvanized Steel
Material - Feedline & Radiators		Copper
Material - Reflecting System		Aluminum
Color		White, others on request

MODEL NUMBER SPECIFICATIONS

Antenna Model		NGV02-C170	NGV04-C170	NGV06-C170	NGV08-C170	NGV12-C170
Number of Bays		2	4	6	8	12
Elevation Gain at 195MHz	Numerical	2.5	5.1	6.8	9.7	13.7
Azimuth Pattern Directivity	Numerical	1.7				
Peak Gain at 195MHz	Numerical	4.3	8.6	11.5	16.5	23.2
Peak Gain at 195MHz	dBd	6.3	9.3	10.6	12.2	13.7
Standard Beam-Tilt	[note 1]	2.0	2.0	1.5	1.5	1.0
Power Rating: High Power Model	kW	8	15	23	30	45
Connector: High Power Model		1-5/8" EIA	3-1/8" EIA	3-1/8" EIA	3-1/8" EIA	4-1/16"
Power Rating: Low power Model	kW	4	7	12	14	24
Connector: Low Power Model		7/8" EIA	1-5/8" EIA	3-1/8" EIA	3-1/8" EIA	3-1/8" EIA
Mounting Type		Side	Side	Side	Side	Side
Height	m (ft) [note2]	3.31 (10.8)	6.61 (21.7)	9.92 (32.5)	13.22 (43.4)	19.83 (65.1)
Weight	kg (lb) [note2]	165 (364)	420 (926)	630 (1389)	840 (1852)	1260 (2778)
Effective Area Front (No Ice)	m ² (ft ²) [note 2,3,4]	1.33 (14.3)	2.66 (28.6)	3.99 (42.9)	5.32 (57.3)	7.98 (85.9)

External Document Links

Antenna Selection Tool: [Download](#)

Notes

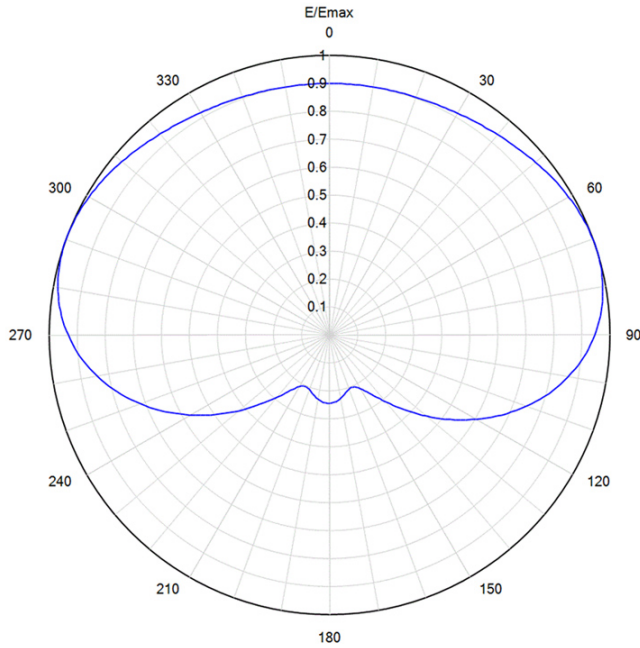
- Note 1:** Other Beam-tilts available on request
- Note 2:** Data shown is for side mounted antennas
- Note 3:** Design Parameters in accordance with TIA-222-G are:
 - 160 kmh (100 mph) Basic Wind Speed with no ice
 - Structure Class II
 - Topographic category 1, Exposure category C
 - Interface steelwork to tower not included in calculations.
- Note 4:** Moment of arm from mounting pole to centre of antenna = 0.65m (2.1ft).



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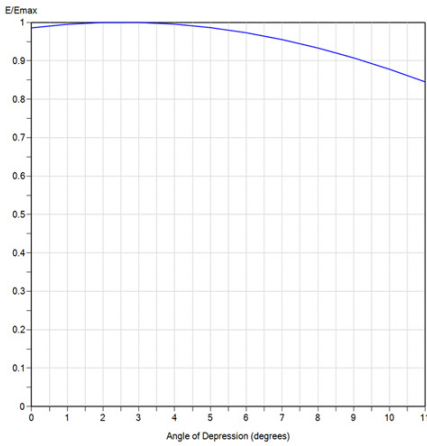
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Azimuth Radiation Pattern

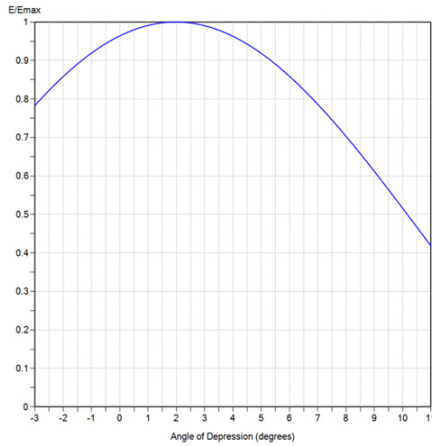


Azimuth Pattern: NGV-C170 Antennas

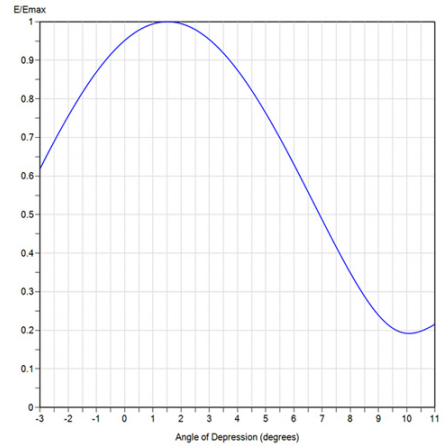
Elevation Radiation Patterns



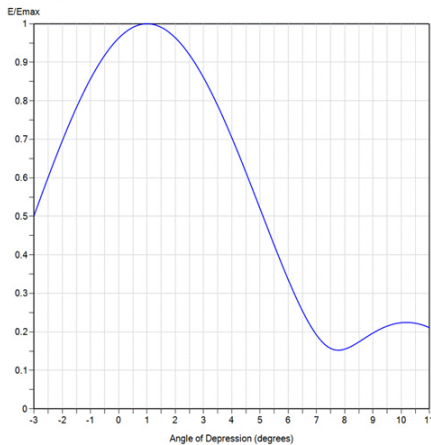
Elevation Pattern: NGV 2 Bay Antennas



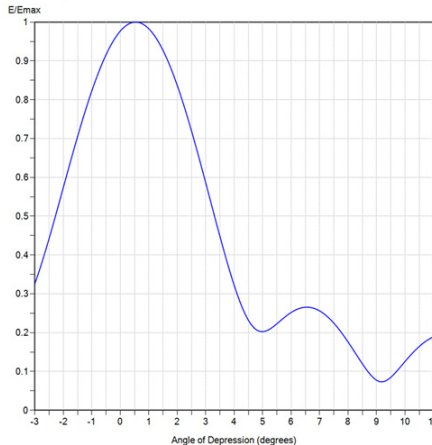
Elevation Pattern: NGV 4 Bay Antennas



Elevation Pattern: NGV 6 Bay Antennas



Elevation Pattern: NGV 8 Bay Antennas



Elevation Pattern: NGV 12 Bay Antennas