

## TRASAR®

### Traveling wave slot antennas

For applications demanding the highest in quality and proven performance for optimum coverage, ERI TRASAR® High Power Transmitting Antennas are the ideal choice.

Flexibility in design, computer aided design tools, and anechoic chamber testing allow us to provide you with custom solutions that meet your specific needs while aiding you to optimize tower design and coverage considerations.

### TRASAR High Power Transmit Antenna available configurations include:

- Top, Side or Invert mounted
- Pressurized or Unpressurized
- Slot covered or full radome enclosure
- Customized azimuth and elevation patterns available

### All TRASAR Antennas Feature:

- Heavy null fill is standard
- Bellows section and fixed shorting device
- On-site antenna check out prior to installation

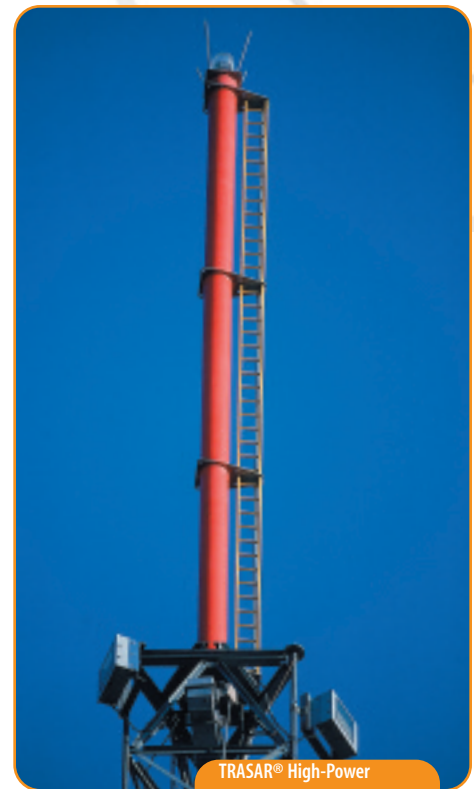
Value and reliability are built into TRASAR antennas. Direct slotted line measurement of antenna VSWR at the input flange ensures very low reflected power and a top quality signal. Lightning protection and internal DC grounding across the internal feed line protect the antenna from lightning damage.

### Design and Testing Features Include:

- Computer aided design, engineering, and manufacturing
- Full size antenna modeling for every antenna ordered
- Welding performed by certified AWS welders
- Welds examined with high-power X-rays or Magnaflux methods where required

### Specifications

<b>Channel Range</b>	VHF: High band VHF Channels 7-13 (174-216 MHz) and CCIR Band III single 6 MHz channel
	UHF: UHF Channels 14-69 (470-806 MHz) and CCIR Bands IV and V single 6 MHz channel or 12 MHz dual adjacent channels
<b>VSWR</b>	1.05 Visual +0.5 MHz
	1.08 Color Sub-Carrier
	1.10 Remainder of Channel
<b>Deicing</b>	Fiberglass Radome Enclosed or slot covered
<b>Input Power</b>	VHF: 100 kW, Peak Visual +20% Aural
	UHF: 240 kW, 120 or 60 kW Nominal
<b>Input Type</b>	50 or 75 ohm 6-1/8" EIA
	75 ohm 8-3/16" EIA
	WR1150 or WR1500



TRASAR® High-Power Transmitting Antenna



ERI TRASAR® antennas can be shipped to your site fully assembled ...



... Or disassembled providing flexible shipping options



# TRASAR®

## VHF-TV transmitting antennas

### Antenna Selection

Antennas are selected on the basis of:

- Azimuth Pattern
- Elevation gain 6, 9, 12 or 16 are typical
- Beam tilt 0.75, 1.0 or 1.5° are typical
- Horizontal, elliptical or circular polarization
- Top or side mount

Standard Type Numbers are listed in the table. Specify channel number and, for elliptically/circularly polarized antennas, the desired power split. Other patterns, gains and beam tilts are available on request.

### Specifications

<b>Channel Range</b>	7-13, one 6 MHz channel (174-216 MHz)
<b>VSWR</b>	1.05 Visual +0.5 MHz 1.08 Color Sub-Carrier 1.10 Remainder of Channel
<b>Deicing</b>	Fiberglass Radome Enclosed
<b>Input Power</b>	100 kW, Peak Visual +20% Aural
<b>Input Type</b>	50 or 75 ohm 6-1/8" EIA 75 ohm 8-3/16" EIA WR1150 or WR1500

### Electrical Specifications

#### TRASAR® VHF Television Antennas

Polarization	Peak Power Gain	Standard Type Number
<b>Omnidirectional</b>		
Horizontal	6.00 (7.78 dBd)	ATW6V3-HTO- (*)
Elliptical	**	ATW6V3-ETO- (*)
Horizontal	9.00 (9.54 dBd)	ATW9V3-HTO- (*)
Elliptical	**	ATW9V3-ETO- (*)
Horizontal	12.00 (10.79 dBd)	ATW12V3-HTO- (*)
Elliptical	**	ATW12V3-ETO- (*)
Horizontal	16.00 (12.04 dBd)	ATW16V3-HTO- (*)
Elliptical	**	ATW16V3-ETO- (*)
<b>Skull</b>		
Horizontal	11.40 (10.57 dBd)	ATW6V3-HTS- (*)
Elliptical	**	ATW6V3-ETS- (*)
Horizontal	17.10 (12.33 dBd)	ATW9V3-HTS- (*)
Elliptical	**	ATW9V3-ETS- (*)
Horizontal	22.80 (13.58 dBd)	ATW12V3-HTS- (*)
Elliptical	**	ATW12V3-ETS- (*)
Horizontal	30.40 (14.83 dBd)	ATW16V3-HTS- (*)
Elliptical	**	ATW16V3-ETS- (*)

\* Specify VHF-TV channel number.

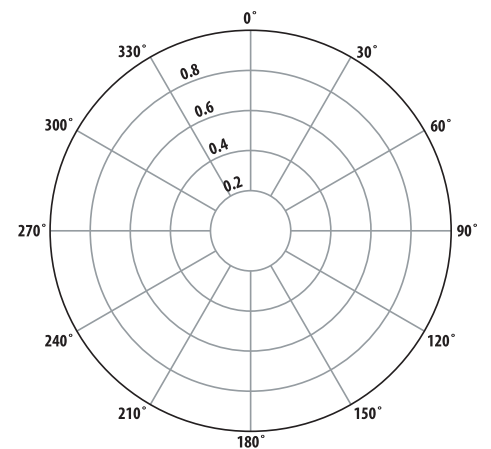
\*\* Horizontal and vertical gains depend on power split. Specify power split.

### Azimuth Patterns

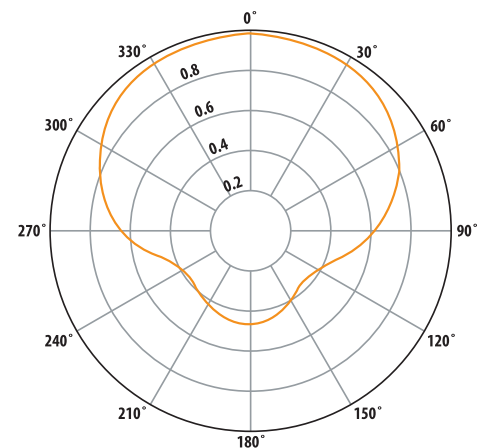
As shown below, omnidirectional and skull patterns are standard. Cardioid patterns are also available.

Note that these are typical free space patterns and may vary slightly depending on channel, structural design criteria, and tower mounting configuration.

### Typical Azimuth Pattern



Omnidirectional ± 1 dB  
Directivity: 1.00 (0.00 dB)



Skull  
Directivity: 1.90 (2.79 dB)

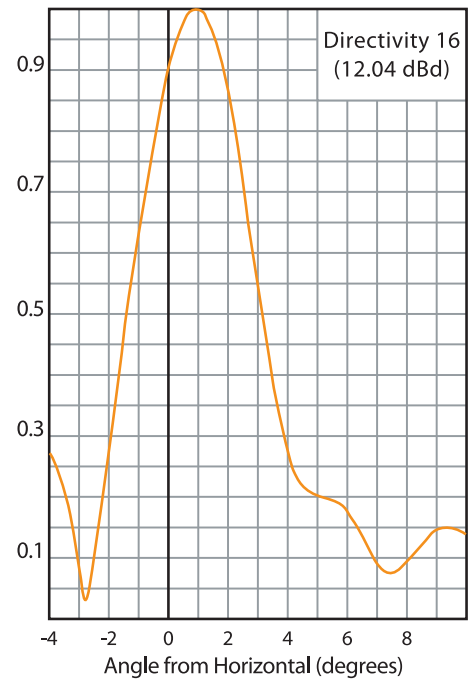
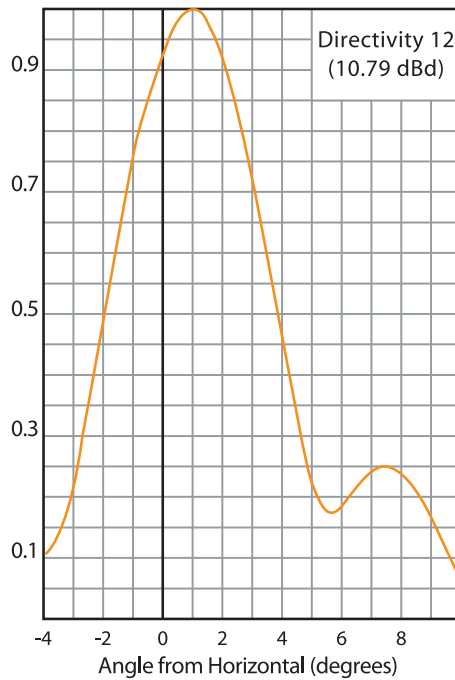
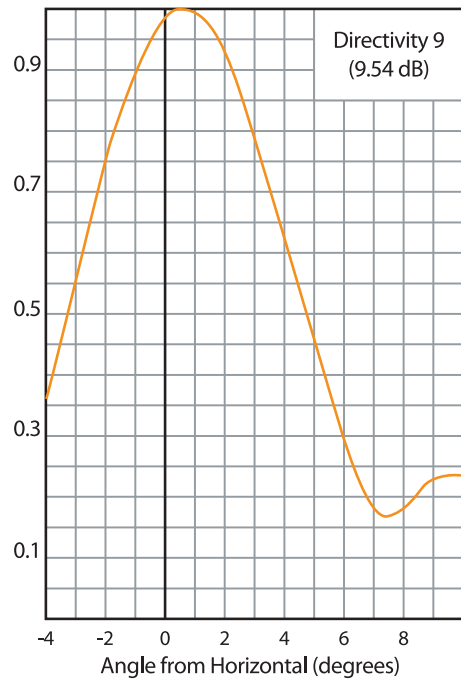
## TRASAR®

### VHF-TV transmitting antennas

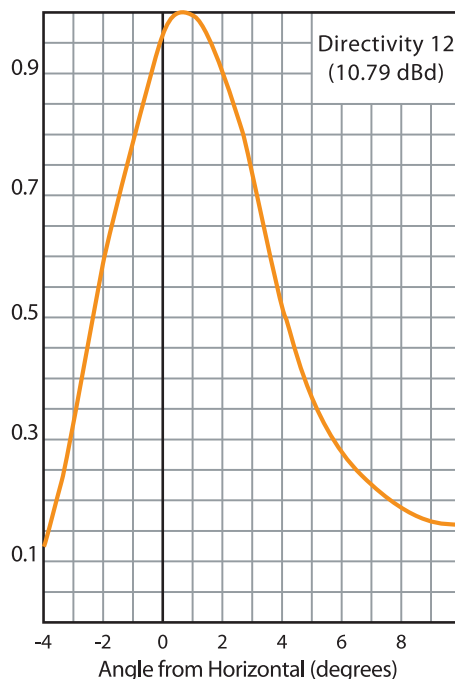
#### Elevation Patterns

Shown below are typical elevation patterns for 9, 12, and 16 gain V-Series antennas with 0.75° beam tilt.

#### Standard Elevation Patterns



#### Smooth Elevation Patterns



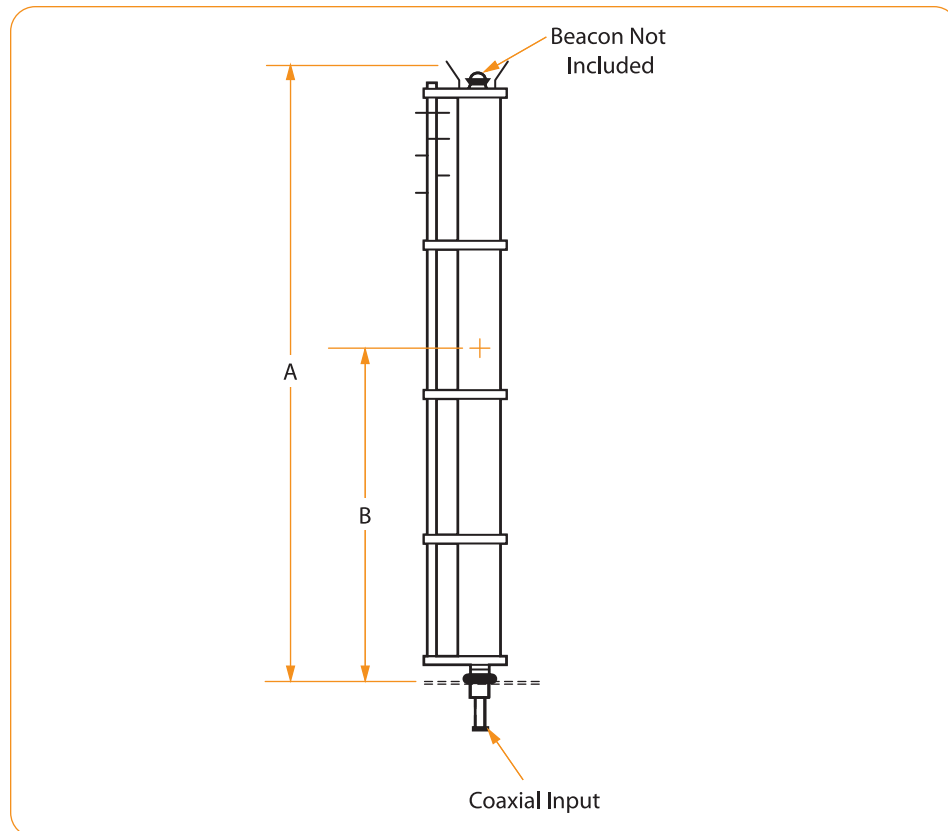


# TRASAR®

## VHF-TV transmitting antennas

### Typical Mechanical Data

Mechanical data presented on this page are typical and may vary depending on specific channel, pattern required, and structural design criteria. For further information, contact ERI.



TRASAR® V-Series antenna KNTV for a channel 11 features pressurizable radome to withstand salt air coastal environment.

## Mechanical Specifications

### TRASAR® VHF Television Antennas

Antenna Series	Channel Number	[A] Antenna Height* ft (m)	[B] Radiation Center Above Base ft (m)	Nominal Weight lb (kg)	Wind Load** [Shear] lb (N)	Overturning Moment** lb-ft (N-m)
ATW6V3	7	41.11 (12.53)	19.05 (5.81)	5600 (2600)	2700 (12000)	56400 (76400)
	13	34.67 (10.57)	15.83 (4.82)	4800 (2200)	2300 (10000)	39600 (53700)
ATW9V3	7	57.45 (17.51)	27.22 (8.30)	7600 (3200)	3800 (16900)	112200 (152100)
	13	48.25 (14.71)	22.62 (6.89)	6500 (3000)	3200 (14100)	78400 (106300)
ATW12V3	7	73.79 (22.49)	35.35 (10.79)	9600 (4400)	4900 (21700)	187500 (254100)
	13	61.82 (18.84)	29.41 (8.96)	8100 (3700)	4100 (18200)	130400 (176800)
ATW16V3	7	95.57 (29.13)	46.28 (14.11)	19100 (8700)	6400 (28300)	316500 (429100)
	3	79.93 (24.36)	38.46 (11.72)	12200 (5500)	5300 (23600)	220100 (298400)

\*\* Total height including 3 ft (1 m) lightning rods.

\*\* Loads and weights are typical for wind pressure of 50 lb/ft<sup>2</sup> (2.4 kPa) for flat surfaces and 33 lb/ft<sup>2</sup> (1.6 kPa) for cylindrical surfaces. Other design criteria are available.