

Superior Broadcast Products

Television Transmitters Digital and Analog

Power Levels 5 Watts to 20,000 Watts

FM Transmitters

20 Watts to 30,000 Watts

Antennas for FM, Television and Microwave

Digital and Analog, All Power Levels

Transmission Line

Financing and Leasing Available

Complete Turnkey Installation Available

17194 Preston Rd., Suite 102-297 • Dallas, Texas
Phone: 972-279-3326 • 800-279-3326 • Fax: 972-473-5958 • 800-644-5958
superiorbroadcastproducts.com

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Superior Broadcast Products

Quality Broadcast Products at Reasonable Prices

Equipment Packages:

Your transmitter, antenna and associated transmission components can be purchased as a complete package.

Financing or Leasing:

We can arrange financing or leasing for your entire transmitting system.

Training:

Our expert technical staff will help you with the installation of your new transmitter and provide “on the job” training at no additional cost.

Field Support and Service:

Because our television transmitters are manufactured in the Dallas, Texas area, we can provide quick turnaround on replacement parts and modules.

Superior Broadcast Products

17194 Preston Road, Suite 102-297

Dallas, Texas 75248

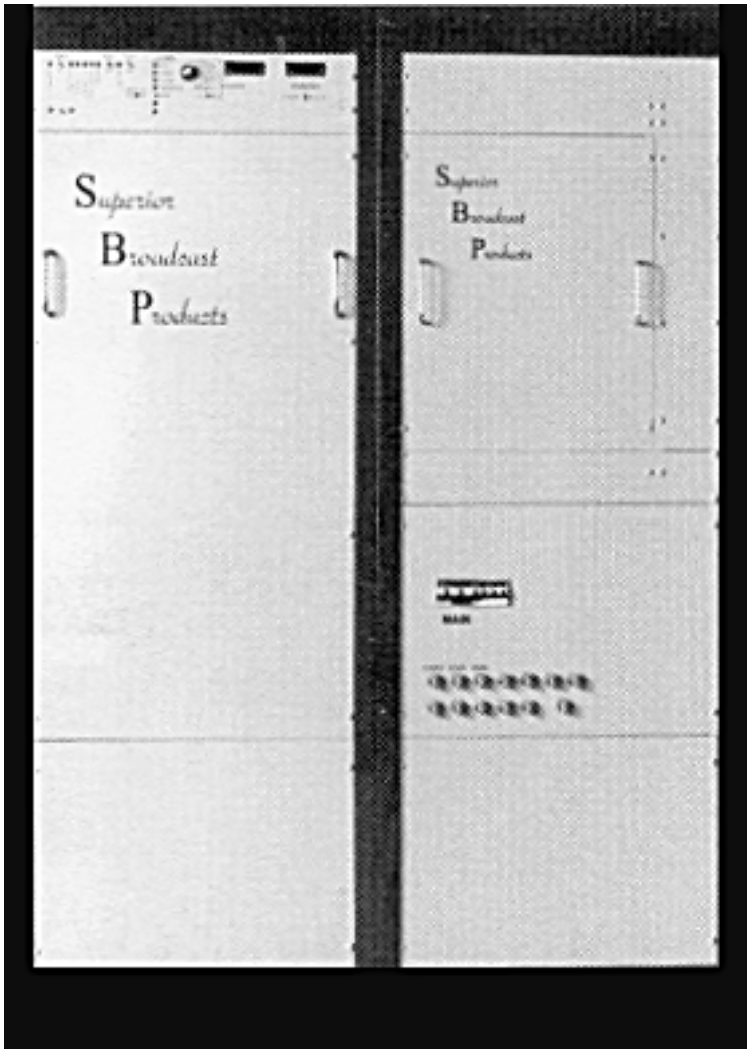
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Solid State Television Transmitters

Quality Broadcast Products at Reasonable Prices

4000 Watt Digital TV Transmitter

Superior Broadcast Products, a leading manufacturer of low power television transmitters, is now producing Digital Transmitters for the broadcast industry. As with our analog transmitters, Superior Broadcast Products is committed to producing one of the best HDTV Transmitters ever. SPB now offers both 100% Solid State as well as single tube final amplifier models. Our 500 Watt model uses the proven design of the TH 347 tube. The 4000 Watt model uses the Thales TH 610 Diacode which provides high gain and efficiency at an affordable cost. Both transmitters feature ease of adjustments and increased stability due to robust RF circuit design and simplified cooling requirements. The 100% Solid State driver utilizes LDMOS transistors, achieving the high degree of linearity necessary for Digital Broadcasting. An industry standard HDTV modulator featuring both linear and non-linear pre-correction is available in all Superior Broadcast Products Digital Transmitters.



These transmitters comply with all FCC specifications and the ATSC Digital television standards. A high degree of protection and universal remote control capability are standard features on all our Digital and Analog transmitters.

The 44 MHz IF Modulation offers:

- ATSC Compatibility
- SMPTE-310M input (ASI input option available)
- Front panel indication for power and input data stream present
- Linear and non-linear pre-correction option available
- External Frequency Reference Input to allow precision offsets

Superior Broadcast Products

**Model SS-DT250-UT
250 Watt SOLID STATE DIGITAL UHF
TELEVISION TRANSMITTER**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248
Phone 972-473-2577 Fax 972-473-2578
Sales Support 1-800-279-3326

Description of the Equipment

The SS-DT250-UT is a high quality American made 250 Watt Digital UHF Television Transmitter designed for the 8VSB Format.

The digital SMPTE-310M signal is fed to an 8VSB IF modulator, which contains both linear and non-linear pre-correction. The output of the modulator is a 44 Mhz IF with a nominal level of -15 dBm. This IF signal is then fed to the upconverter, where it is converted and amplified to give a nominal on-channel output of +6 dBm.

The output of the upconverter is fed to the driver amplifier, where it is amplified to a nominal level of +36 dBm and fed to the power amplifier (PA) assembly with its associated power supplies. The PA amplifier has two gain stages which raise the output power to more than 250 Watts, thus compensating for the mask filter, which follows the PA.

The mask filter assembly guarantees spectral compliance for the digital signal.

The SS-DT250-UT has many control and protection features seldom found in comparably priced equipment:

- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with high precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- The digital panel meters give highly accurate readings of the important voltages, currents, and powers associated with the final amplifier.
- High power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as transformers, capacitors, and power resistors are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

250 Watt UHF Transmitter For ATSC Digital Service

Power Output	250 W (average)
Frequency Range including	Any TV channel within the 470-806 MHz band standard offsets
Output Impedance	50 Ohms
Output Connector	1-5/8" EIA Flange
Out of Band Emission	Meets or Exceeds FCC Requirements
Digital SNR	27 dB Minimum

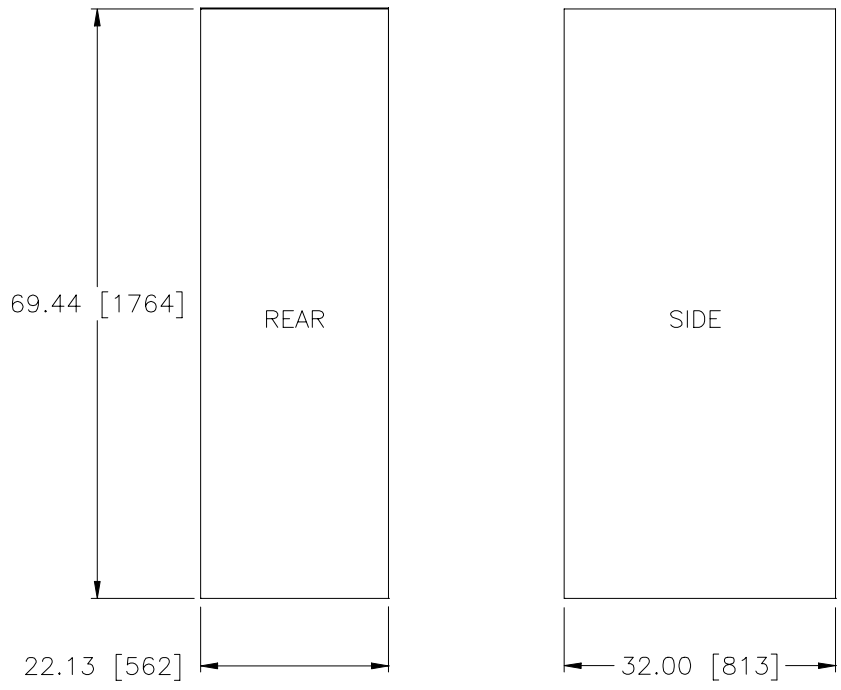
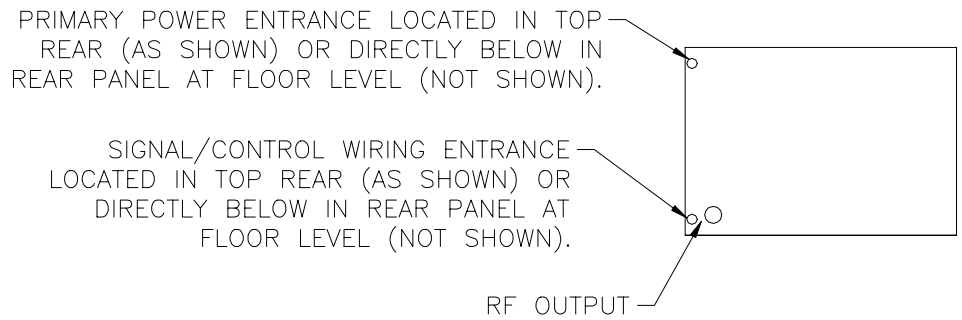
General Specifications

Driver	LDMOS Amplifier
Output Stage	LDMOS Amplifier
Maximum Altitude	2500 Meters (8200 Feet)
Ambient Temperature Range	-30° C to +50° C
Relative Humidity	0 to 95%, Non-Condensing
Primary Power	220 VAC, 50/60 Hz Nominal
Cooling	Forced Air
Dimensions (W x H x D):	55.9 x 176.5 x 81.3 cm (22" x 69.5" x 32") Available in 40" cabinet height (Mask filter is external.)

Weight	~160 kg (350 lbs.)
Power Consumption	~1.5 kW Maximum (Channel Dependent)
Heat Load @ Full Output (Typical)	4200 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory

Additional Options:

- AC Surge Protector
- Spare Parts Kit
- Remote Control
- Dual Exciter Assembly



Superior Broadcast Products

**Model SS-DT125-UT
125 Watt SOLID STATE DIGITAL UHF
TELEVISION TRANSMITTER**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS-DT125-UT is a high quality American made 125 Watt Digital UHF Television Transmitter designed for the 8VSB Format.

The digital SMPTE-310M signal is fed to an 8VSB IF modulator, which contains both linear and non-linear pre-correction. The output of the modulator is a 44 Mhz IF with a nominal level of -15 dBm. This IF signal is then fed to the upconverter, where it is converted and amplified to give a nominal on-channel output of +6 dBm.

The output of the upconverter is fed to the driver amplifier, where it is amplified to a nominal level of +30 dBm and fed to the power amplifier (PA) assembly with its associated power supplies. The PA amplifier has two gain stages which raise the output power to more than 125 Watts, thus compensating for the mask filter, which follows the PA.

The mask filter assembly guarantees spectral compliance for the digital signal.

The SS-DT125-UT has many control and protection features seldom found in comparably priced equipment:

- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with high precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- The digital panel meters give highly accurate readings of the important voltages, currents, and powers associated with the final amplifier.
- High power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as transformers, capacitors, and power resistors are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

125 Watt UHF Transmitter For ATSC Digital Service

Power Output	125 W (average)
Frequency Range including	Any TV channel within the 470-806 MHz band standard offsets
Output Impedance	50 Ohms
Output Connector	1-5/8" EIA Flange
Out of Band Emission	Meets or Exceeds FCC Requirements
Digital SNR	27 dB Minimum

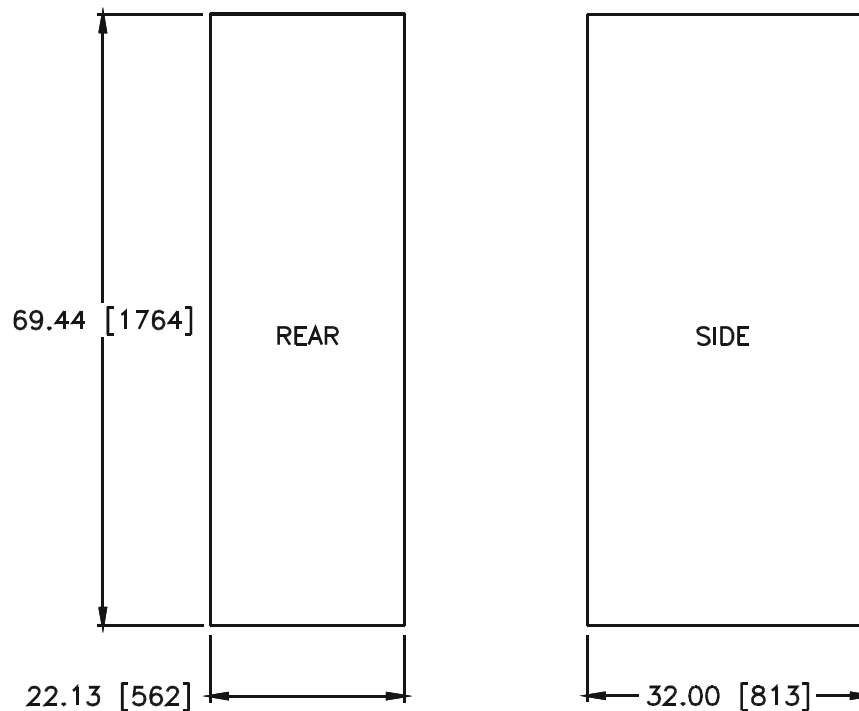
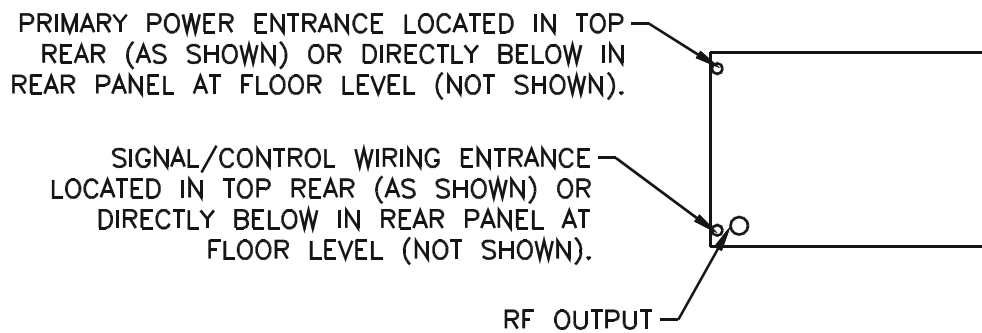
General Specifications

Driver	LDMOS Amplifier
Output Stage	LDMOS Amplifier
Maximum Altitude	2500 Meters (8200 Feet)
Ambient Temperature Range	-30° C to +50° C
Relative Humidity	0 to 95%, Non-Condensing
Primary Power	220 VAC, 50/60 Hz Nominal
Cooling	Forced Air
Dimensions (W x H x D):	55.9 x 176.5 x 81.3 cm (22" x 69.5" x 32") Available in 40" cabinet height (Mask filter is external.)

Weight	~120 kg (260 lbs.)
Power Consumption	<1 Kw Maximum (Channel Dependent)
Heat Load @ Full Output (Typical)	2000 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory

Additional Options:

- AC Surge Protector
- Spare Parts Kit
- Remote Control
- Dual Exciter Assembly



Superior Broadcast Products

**Model SBP-20000-UT
20 KW ANALOG UHF
TELEVISION TRANSMITTER**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS20000-UT is a high quality American made 20 kilowatt UHF Television Transmitter designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the driver assembly, which consists of three stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. The on-channel RF is then fed to two identical amplifier chains consisting of **25 Watt LDMOS driver amplifiers** which feed **700 Watt LDMOS intermediate power amplifiers (IPA)**. These LDMOS amplifiers provide the necessary drive power to produce a 10 kilowatt output from each of the two final amplifiers. Each of the final amplifier stages includes a **power amplifier (PA)** cavity assembly with its associated power supplies and protection circuits. The outputs of the two amplifier chains are combined for powers from 15,000-20,000 Watts. The output combiner/filter assembly can be mounted on top of the transmitter; or ceiling or wall mounted.

The SS20000-UT has many control and protection features seldom found in comparably priced equipment:

- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the IPA and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as transformers, capacitors, and power resistors are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability	20 kW Visual (peak sync) with 2 kW Aural (average)
Frequency Range	Any TV channel within the 470-860 MHz band including standard offsets
Output Impedance	50 Ohms
Output Connector	3-1/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase	$\pm 3^\circ$
Group Delay	As per appropriate FCC or CCIR Standard
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel)	± 0.5 dB (50 Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	± 25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	600 Ohms balanced, -10 dBm to +10 dBm
AC Line Voltage	208 / 240 VAC $\pm 5\%$, 3 phase, 60 Hz or 380 VAC $\pm 5\%$, 3 phase, 50 Hz (Specify 50 Hz or 60 Hz when ordering) Above voltages nominal; all transformers have 6 taps to conform to local requirements. Other primary voltages available

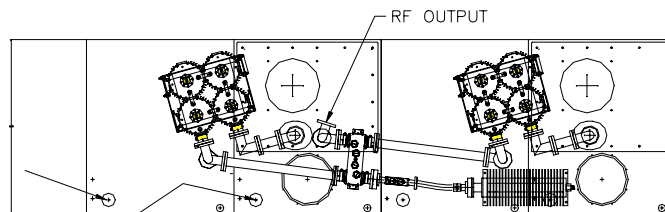
General Specifications:

Cavity Drivers (IPA)	700W LDMOS Amplifiers
Output Stage	Two Cavity Amplifiers using TH610 Diacrodes
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D):	
Cabinet	110" x 71" x 32"
Output Filter/Coupler	~40" x 18" x 6"
Weight	Approximately 3200 lbs.
Power Consumption (Typical)	48kVA (black picture, 20kW visual, 2 kW aural)
Heat Load @ Full Output	120,000 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory

Additional Options:

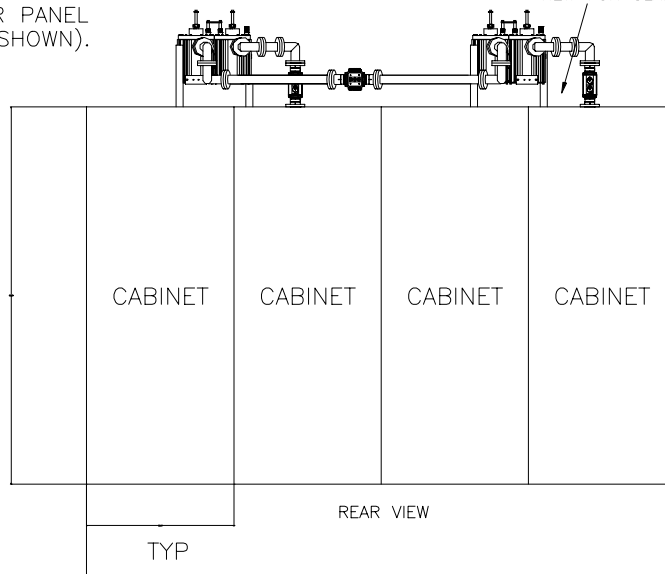
Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Final Amplifier Bypass Switch

SIGNAL/CONTROL WIRING
ENTRANCE LOCATED IN TOP REAR
(AS SHOWN OR DIRECTLY BELOW
IN REAR PANEL AT FLOOR LEVEL
NOT SHOWN) 6 PLACES



PRIMARY POWER ENTRANCE LOCATED
IN TOP REAR (AS SHOWN OR
DIRECTLY BELOW IN REAR PANEL
AT FLOOR LEVEL NOT SHOWN).
2 PLACES

LOAD NOT SHOWN IN THIS
VIEW FOR CLARITY.



Superior Broadcast Products

**Model SBP-10000UT
10 KW ANALOG UHF
TELEVISION TRANSMITTER**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248
Phone 972-473-2577 Fax 972-473-2578
Customer Support 1-877-224-0849

Description of the Equipment

The SBP-10000UT is a high quality American made 10 kilowatt UHF Television Transmitter designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the driver assembly, which consists of three stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by the **25 Watt driver amplifier** and fed to the **700 Watt intermediate power amplifier (IPA)** which provides the necessary drive power to produce a 5-10 kilowatt output from the final amplifier. The final amplifier stage includes a **power amplifier (PA)** cavity assembly with its associated power supplies, a notch filter, and a directional coupler. These components supply the RF signal to the antenna. Two SBP-10000UT transmitters are operated in combined mode for powers from 10,000-20,000 Watts.

The SBP-10000UT has many control and protection features seldom found in comparably priced equipment:

- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the IPA and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as transformers, capacitors, and power resistors are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability	10 kW Visual (peak sync) with 1 kW Aural (average)
Frequency Range	Any TV channel within the 470-860 MHz band including standard offsets
Output Impedance	50 Ohms
Output Connector	3-1/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase	$\pm 3^\circ$
Group Delay	As per appropriate FCC or CCIR Standard
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel)	± 0.5 dB (50 Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	± 25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

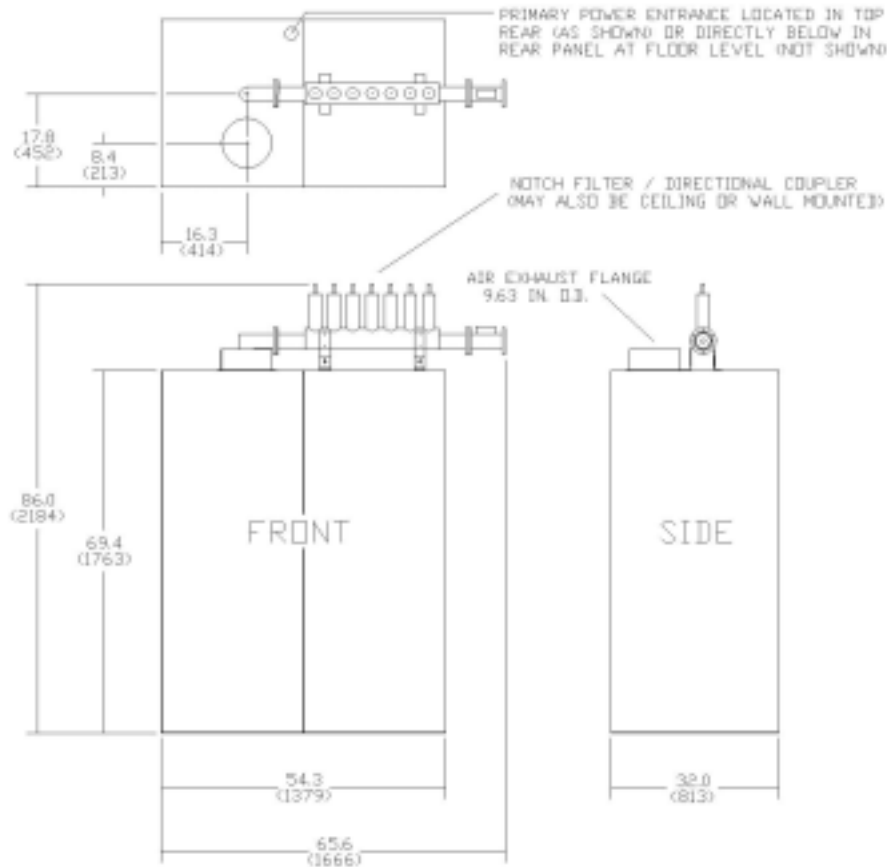
Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	10k Ohms unbalanced, 140 mV RMS (600 Ohms balanced, -10 dBm to +10 dBm option available)
AC Line Voltage	208 / 240 VAC $\pm 5\%$, 3 phase, 60 Hz or 380 VAC $\pm 5\%$, 3 phase, 50 Hz (Specify 50 Hz or 60 Hz when ordering) Above voltages nominal; all transformers have 6 taps to conform to local requirements. Other primary voltages available

General Specifications:

Driver	700W LDMOS Amplifier
Output Stage	Cavity Amplifier using TH610 Diacrode
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D):	
Cabinet	55" x 71" x 32"
Output Filter/Coupler	~40" x 18" x 6"
Weight	Approximately 1600 lbs.
Power Consumption (Typical)	24kVA (black picture, 10kW visual, kW aural)
Heat Load @ Full Output	60,000 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory

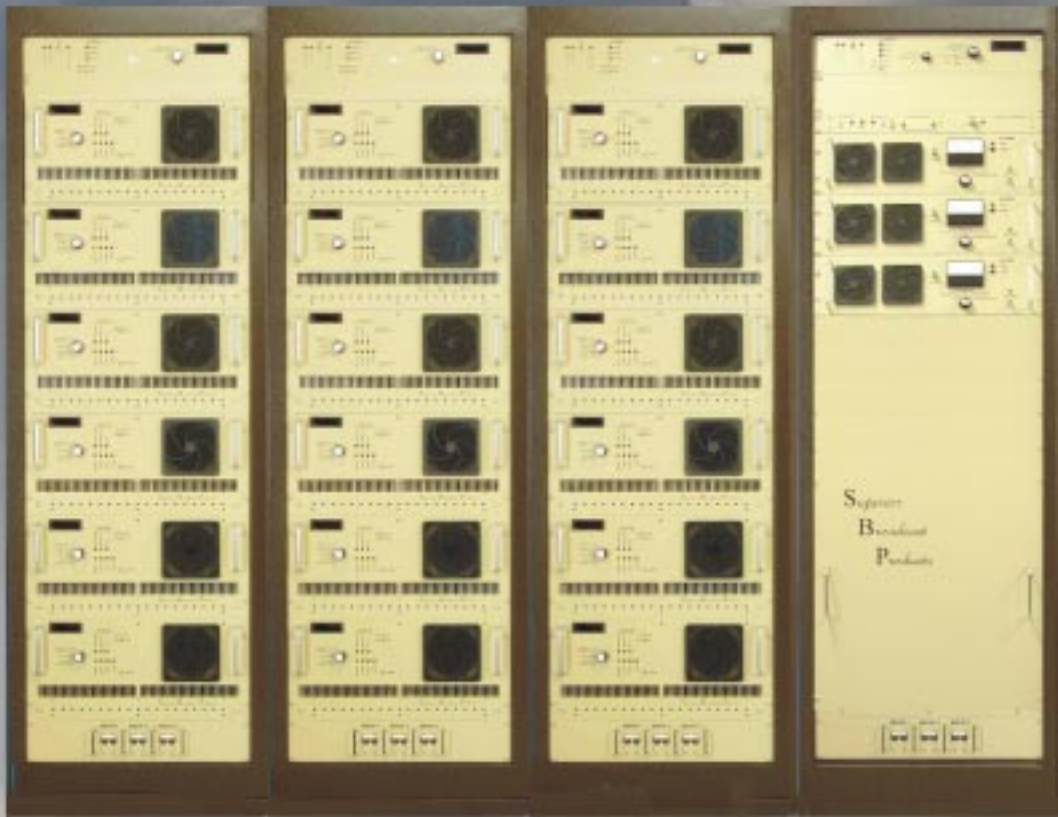
Additional Options:

Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Final Amplifier Bypass Switch



Superior Broadcast Products

**Model SS10000-UT
10 KW ANALOG UHF
TELEVISION TRANSMITTER**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS10000-UT is a high quality American made 10 kilowatt UHF Television Transmitter designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by **25 Watt LDMOS driver amplifiers (IPA)** and fed to multiple **700 Watt LDMOS power amplifiers (PA)** which are combined to provide the 10 kilowatt transmitter output power. The output combiner/filter assembly can be mounted on top of the transmitter; or ceiling or wall mounted.

The SS10000-UT television transmitter has many control and protection features seldom found in comparably priced equipment:

- The driver and all PA amplifiers have circulator isolated outputs for enhanced reliability and performance.
- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the driver and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as power supplies, combiners, circulators, and fans, are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability	10 kW Visual (peak sync) with 1 KW Aural (average)
Frequency Range standard	Any TV channel within the 470-860 MHz band including offsets
Output Impedance	50 Ohms
Output Connector	3 1/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase	$\pm 3^\circ$
Group Delay	As per appropriate FCC or CCIR Standard
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel)	± 0.5 dB (50Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	± 25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

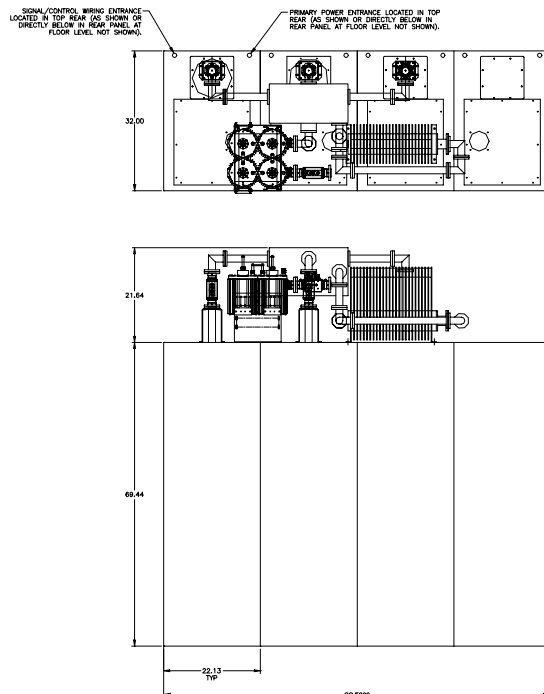
Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	600 Ohms balanced, -10 dBm to +10 dBm
AC Line Voltage	208 / 240 VAC $\pm 5\%$, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)

General Specifications:

Drivers	3 x 25 W LDMOS Amplifier
Output Stage	Multiple 700 W LDMOS Amplifiers
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D): Cabinet	88" x 69.5" x 32"
Output Filter/Coupler	Channel dependent; contact factory
Weight	~4100 lbs. + 270 lbs., (filter weight channel dependent)
Power Consumption (Typical)	40 kVA (black picture, 10 kW visual, 1 kW aural)
Heat Load @ Full Output	81,000 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory

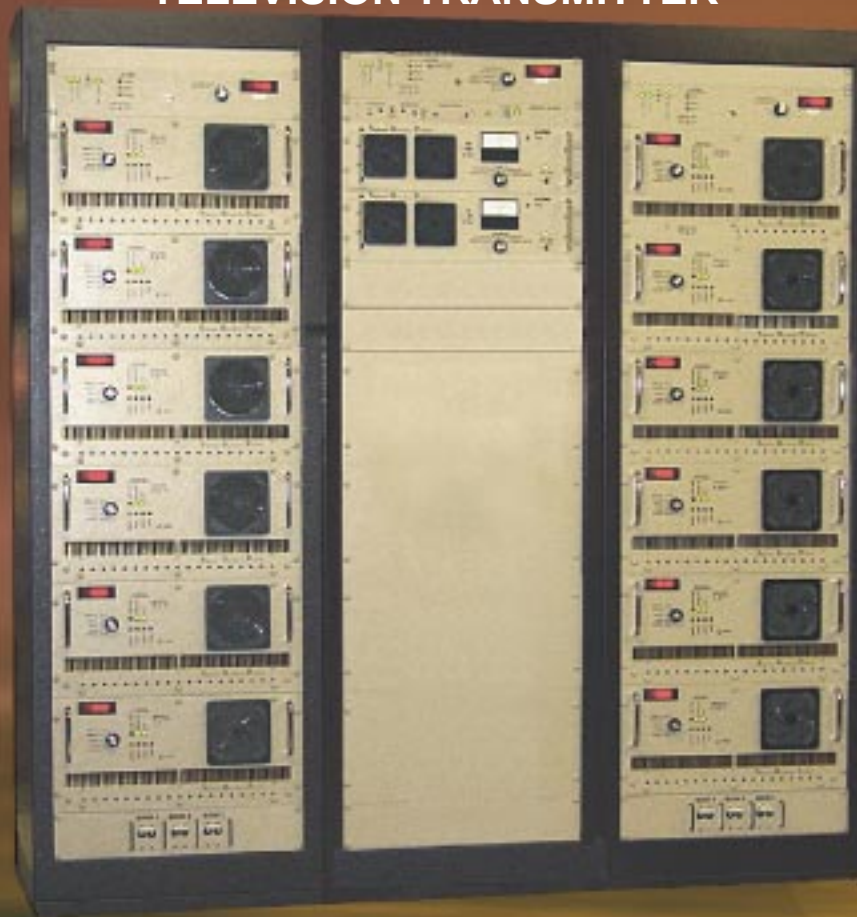
Additional Options:

Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Dual Exciter Assembly



Superior Broadcast Products

**Model SS8000-UT
8 KW ANALOG UHF
TELEVISION TRANSMITTER**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS8000-UT is a high quality American made 8 kilowatt UHF Television Transmitter designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A modulator/upconverter creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by the 25 Watt driver amplifier and fed to multiple 700 Watt power amplifiers (PA) which are combined to provide the 8 kilowatt transmitter output power. The combined output is fed to a notch/bandpass filter and a directional coupler. These components supply the RF signal to the antenna.

The SS8000-UT has many control and protection features seldom found in comparably priced equipment:

- The driver and all PA amplifiers have circulator isolated outputs for enhanced reliability and performance.
- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the driver and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as power supplies, combiners, circulators, and fans, are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability	8 kW Visual (peak sync) with 800 W Aural (average)
Frequency Range	Any TV channel within the 470-860 MHz band including standard offsets
Output Impedance	50 Ohms
Output Connector	3-1/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase	$\pm 3^\circ$
Group Delay	As per appropriate FCC or CCIR Standard
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel)	± 0.5 dB (50Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	± 25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	10k Ohms unbalanced, 140 mV RMS (600 Ohms balanced, -10 dBm to +10 dBm option available)
AC Line Voltage	208 / 240 VAC $\pm 5\%$, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)

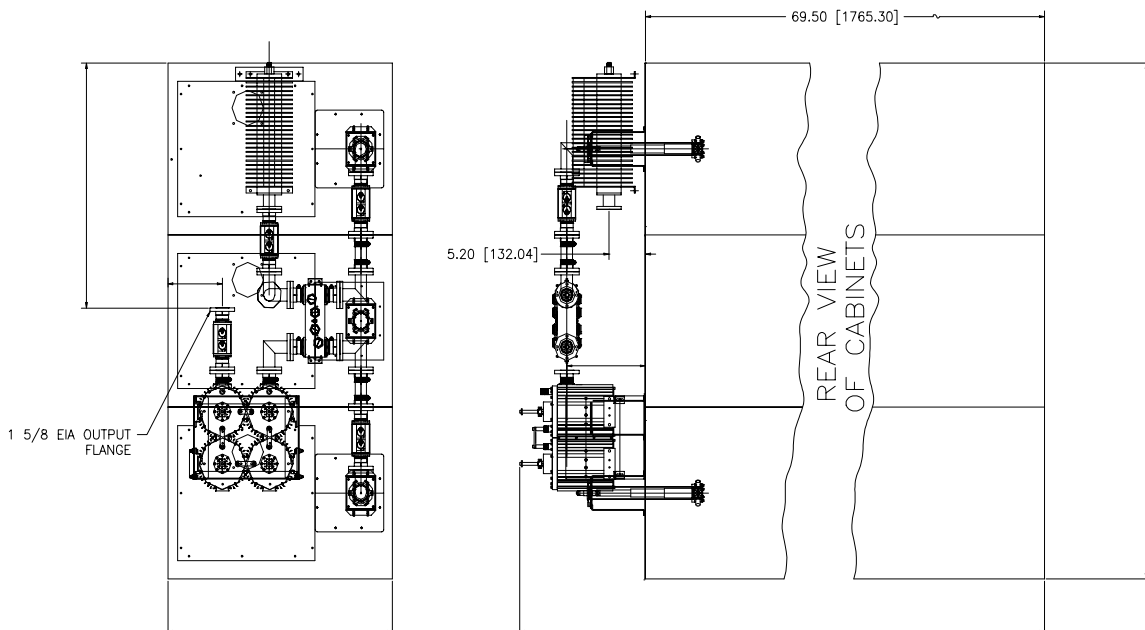
General Specifications:

Driver	25 W LDMOS Amplifier
Output Stage	12 X 700 W LDMOS Amplifiers
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D):	
Cabinet	44" x 69.5" x 32"
Output Filter/Coupler	Channel dependent; contact factory
Weight	~1470 lbs. + 170 lbs. filter
Power Consumption (Typical)	24 kVA black picture, 8 kW visual, 400W aural)
Heat Load @ Full Output	60,000 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory

Additional Options:

Automatic FSK Station Identifier
 AC Surge Protector
 Spare Tube
 Spare Parts Kit
 Video Proc/Amp

Input Video Automatic Gain Control
 Audio Processor
 BTSC Stereo Generator
 Remote Control
 Dual Exciter Assembly



Superior Broadcast Products

**Model SS4000-UT and Model SS6000-UT
4 and 6 KW ANALOG UHF
TELEVISION TRANSMITTERS**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS4000-UT and SS6000-UT are high quality American made 4 and 6 kilowatt UHF Television Transmitters designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by the **25 Watt driver amplifier** and fed to multiple **700 Watt power amplifiers (PA)** which are combined to provide the 4 to 6 kilowatt transmitter output power. The combined output is fed to a notch/bandpass filter and a directional coupler. These components supply the RF signal to the antenna.

The SS4000-UT and SS6000-UT have many control and protection features seldom found in comparably priced equipment:

- The driver and all PA amplifiers have circulator isolated outputs for enhanced reliability and performance.
- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the driver and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as power supplies, combiners, circulators, and fans, are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability	4 – 6 kW Visual (peak sync) with 400 – 600 W Aural (average)
Frequency Range standard offsets	Any TV channel within the 470-860 MHz band including stan-
Output Impedance	50 Ohms
Output Connector	1-5/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase	± 3°
Group Delay	As per appropriate FCC or CCIR Standard
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel)	±0.5 dB (50Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	±25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

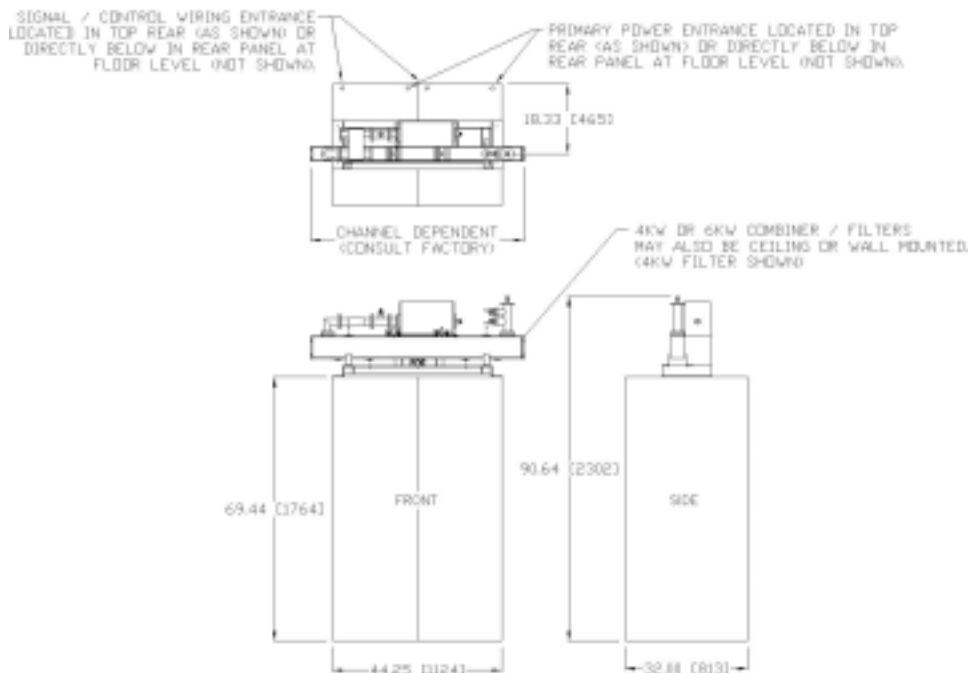
Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	10k Ohms unbalanced, 140 mV RMS (600 Ohms balanced, -10 dBm to +10 dBm option available)
AC Line Voltage	208 / 240 VAC ±5%, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)

General Specifications:

Driver	25 W LDMOS Amplifier
Output Stage	Multiple 700 W LDMOS Amplifiers (10 for 6 kW, 8 for 4 kW)
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D):	
Cabinet	44" x 69.5" x 32"
Output Filter/Coupler	Channel dependent; contact factory
Weight	~1150 lbs. + 170 lbs. filter (6kW), ~1000 lbs. + 150 lbs. filter (4kW)
Power Consumption (Typical)	18 kVA (6 kW; black picture, 6 kW visual, 30 0W aural) 12 kVA (4 kW; black picture, 4 kW visual, 200 W aural)
Heat Load @ Full Output	45,000 BTU/Hr (6 kW), 30,000 BTU/Hr (4 kW)
Air Conditioning Requirements	Based on local environment; consult factory

Additional Options:

Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Dual Exciter Assembly



Superior Broadcast Products

**Model SS1000-UT
Model SS2000-UT
Model SS3000-UT
1, 2 and 3 KW ANALOG UHF
TELEVISION TRANSMITTERS**



1000 Watts 2000 Watts 3000 Watts

Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS1000-UT, SS2000-UT and SS3000-UT are high quality American made 1, 2 and 3 kilowatt UHF Television Transmitters designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by the **25 Watt driver amplifier** and fed to multiple **700 Watt power amplifiers (PA)** which are combined to provide the appropriate transmitter output power. The combined output is fed to a notch/bandpass filter and a directional coupler. These components supply the RF signal to the antenna.

The SS1000-UT, SS2000_UT and SS3000-UT have many control and protection features seldom found in comparably priced equipment:

- The driver and all PA amplifiers have circulator isolated outputs for enhanced reliability and performance.
- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the driver and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as power supplies, combiners, circulators, and fans, are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability (age)	1-3 kW Visual (peak sync) with 100 – 300 W Aural (average)
Frequency Range standard offsets	Any TV channel within the 470-860 MHz band including
Output Impedance	50 Ohms
Output Connector (other options available)	7/8" EIA Flange (1 and 2 kW), 1-5/8" EIA Flange (3 kW)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase Group Delay	$\pm 3^\circ$
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel)	± 0.5 dB (50Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	± 25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

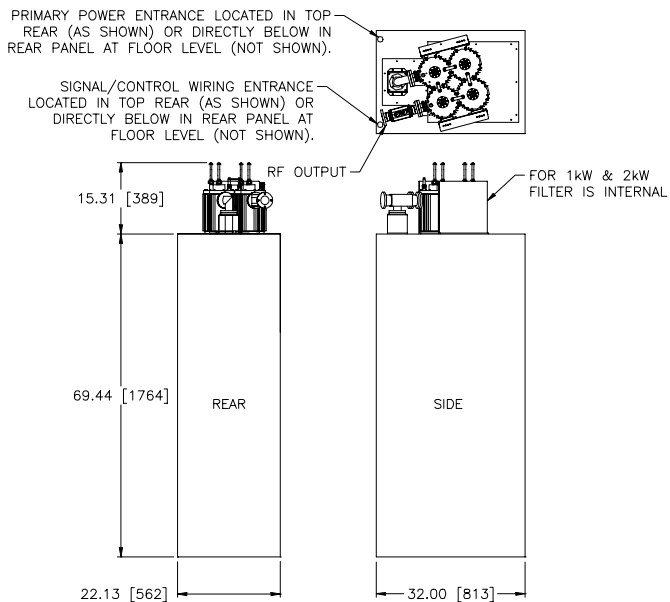
Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	10k Ohms unbalanced, 140 mV RMS (600 Ohms balanced, -10 dBm to +10 dBm option available)
AC Line Voltage	208 / 240 VAC $\pm 5\%$, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)

General Specifications:

Driver	25 W LDMOS Amplifier
Output Stage	Multiple 700 W LDMOS Amplifiers (2 for 1 kW, 4 for 2 kW, 5 for 3 kW)
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D): Cabinet	44" x 69.5" x 32"
Output Filter/Coupler	Internal for 1 kW and 2 kW; 22 " x 16" x 26" for 3 kW
Weight	~310 lbs. (1 kW),
~450 lbs. (2kW)	
~525 lbs. + 80 lbs. filter (3kW)	
Power Consumption (Typical) aural)	~3.8 kVA (1 kW; black picture, 1 kW peak visual, 100 W aural)
aural)	~6.5 kVA (2 kW; black picture, 2 kW peak visual, 200W aural)
	~9 kVA (3 kW; black picture, 3 kW peak visual, 300 W aural)
Heat Load @ Full Output (Typical)	7500 BTU/Hr (1 kW), 15,000 BTU/Hr (2 kW), 22,500 BTU/Hr (3 kW)
Air Conditioning Requirements	Based on local environment; consult factory

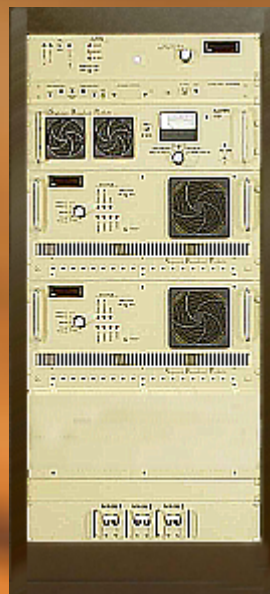
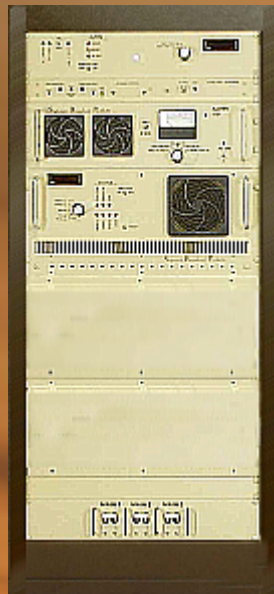
Additional Options:

Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Dual Exciter Assembly



Superior Broadcast Products

**Model SS500-VT
Model SS1000-VT
500 Watt and 1000 Watt VHF
TELEVISION TRANSMITTERS**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS500-VT and SS1000-V are high quality American made 500 and 1000 Watt VHF Television Transmitters designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by the **25 Watt driver amplifier** and fed to multiple **700 Watt power amplifiers (PA)** which are combined to provide the appropriate transmitter output power. The combined output is fed to a notch/bandpass filter and a directional coupler. These components supply the RF signal to the antenna.

The SBP-SSTVV-500 and SBP-SSTVV-1000 have many control and protection features seldom found in comparably priced equipment:

- The driver and all PA amplifiers have circulator isolated outputs for enhanced reliability and performance.
- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- Digital panel meters give accurate readings of important voltages, currents, and powers associated with the driver and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as power supplies, combiners, circulators, and fans, are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

Output Specifications

Overall:

Power Capability	500 W Visual (peak sync) with 50 W Aural (average) 1000 W Visual (peak sync) with 100 W Aural (average)
Frequency Range	Available on any TV channel (including standard offsets) within: Band I (VHF-LO) Band II (VHF-M) Band III (VHF-HI) Specify Band and Channel when ordering
Output Impedance	50 Ohms
Output Connector	7/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

Video:

Differential Gain	5%
Differential Phase	$\pm 3^\circ$
Group Delay	As per appropriate FCC or CCIR Standard
Frequency Response (Sideband)	As per appropriate FCC or CCIR Standard
In Band Intermodulation Products	-52 dB or better (using three tone test)

Audio:

Frequency Response (Main Channel emphasis)	± 0.5 dB (50Hz to 15 kHz with appropriate de-emphasis)
Pre-emphasis	As per appropriate FCC or CCIR Standard
FM Noise	-60 dB or better
AM Noise	-50 dB or better
Total Harmonic Distortion	0.5% or better
Frequency Deviation Capability	± 25 kHz for Monophonic Operation Stereo exciter available as option

Input Specifications:

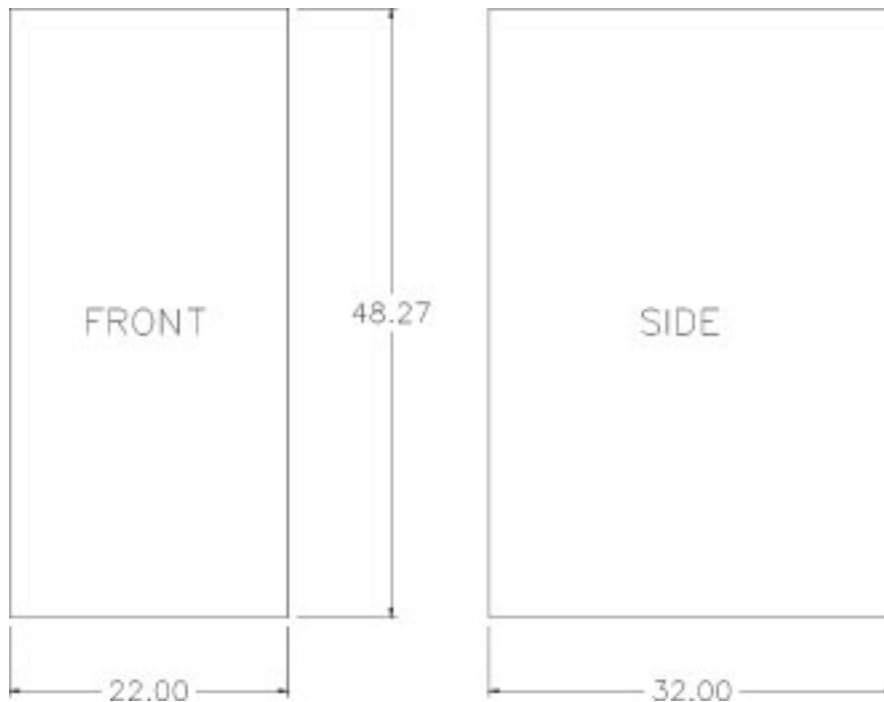
Video Input Impedance / Level	75 Ohms, 1V(p-p)
Audio Input Impedance / Level	10k Ohms unbalanced, 140 mV RMS (600 Ohms balanced, -10 dBm to +10 dBm option available)
AC Line Voltage	208 / 240 VAC $\pm 5\%$, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)

General Specifications:

Driver	25 W LDMOS Amplifier
Output Stage	Multiple 700 W LDMOS Amplifiers (1 for 500 W, 2 for 1000 W)
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D):	22" x 48.3" x 32"
Internal for 1 kW and 2 kW;	22 " x 22" x 26" for 3 kW
Weight	~200 lbs. (500 W), ~270 lbs. 1000 W)
Power Consumption (Typical)	~1.9 kVA 500 W (500 W peak visual w/ black picture, 50 W aural) ~3.8 kVA 1000 W (1000 W peak visual w/ black picture, 100 W aural))
Heat Load @ Full Output (Typical)	3750 BTU/Hr (500 W), 7500 BTU/Hr (1000 W),
Air Conditioning Requirements	Based on local environment; consult factory

Additional Options:

Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Dual Exciter Assembly



Superior Broadcast Products

Model SS100-UT

Model SS100-VT

**SOLID STATE UHF OR VHF
TELEVISION TRANSMITTER**

100 WATT DRIVER/AMPLIFIER



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SBP-SSTV -100W Series is available in both UHF and VHF versions. This is a high quality American made 100 Watt Television Transmitter designed for NTSC, PAL or SECAM Formats.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A **modulator/ upconverter** which creates on-channel visual and aural carriers at 0 dBm. In the UHF version this signal is then amplified by a **25 Watt LDMOS driver (IPA)** and fed to an **150 Watt LDMOS power amplifier (PA)** to provide the 100 Watt transmitter output power. The VHF version utilizes **MOS** transistors in the **IPA** and **PA** stages. The output filter assembly and directional coupler are mounted inside the transmitter cabinet.

This television transmitter has many control and protection features seldom found in comparably priced equipment:

- The PA amplifier has a circulator isolated output for enhanced reliability and performance.
- Active components are located on printed circuit boards for fast, easy field service.
- All of the metering and control circuitry is built with precision components.
- Light emitting diodes (LEDs) give a quick, visual indication of the condition of the transmitter.
- A front panel meter gives accurate readings of important voltages, currents, and powers associated with the driver and PA.
- Robust power components insure that the transmitter can survive adverse conditions.
- All of the major components, such as power supplies, circulators, and fans, are easily field replaceable and are readily available from either the original manufacturer or from Superior Broadcast Products.

Technical Specifications

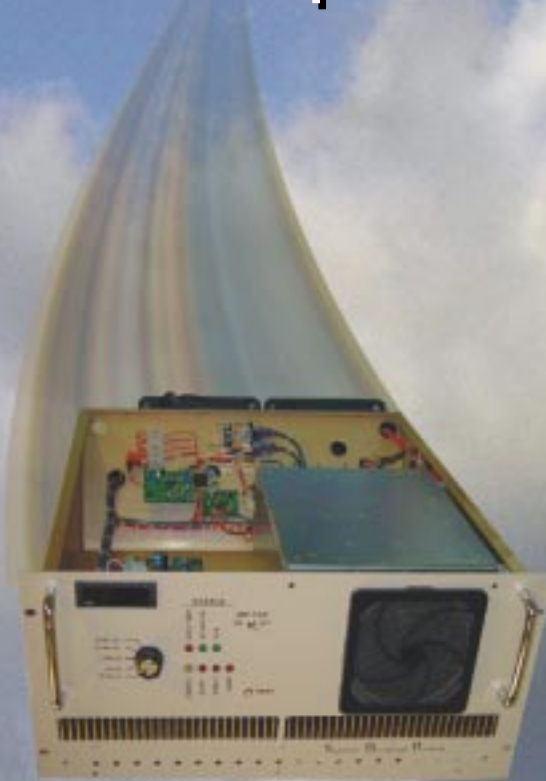
Power Capability	100 W Visual (peak sync) with 10 W Aural (average)
Frequency Range	Any TV channel within the following bands including standard offsets UHF 470-806 Mhz, VHF-HI 174-216 Mhz, VHF-LO 54-88 MHz
Carrier Stability	± 1 kHz standard and offset channels
Intercarrier Stability	± 500 Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard
AC Line Voltage	120/ 240 VAC, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)
Driver	25 W LDMOS Amplifier (UHF), 50 W MOS (VHF)
Output Stage	150 W LDMOS Amplifier (UHF), 200 W MOS (VHF)
Dimensions (W x H x D):	22" x 20" x 20"
Weight	~70 lb.

Additional Options:

Automatic FSK Station Identifier	Input Video Automatic Gain Control
AC Surge Protector	Audio Processor
Spare Tube	BTSC Stereo Generator
Spare Parts Kit	Remote Control
Video Proc/Amp	Dual Exciter Assembly

Superior Broadcast Products

**Model SS700-U
700 Watt Solid State
UHF Amplifier**



Superior Broadcast Products

17194 Preston Rd. Suite 102-297 Dallas, TX 75248

Phone 972-473-2577 Fax 972-473-2578

Sales Support 1-800-279-3326

Description of the Equipment

The SS700U RF Amplifier is a fully self-contained assembly designed to be mounted in a standard 19 inch equipment rack with other SS700U amplifiers and the appropriate driver, and interface assemblies. It can be operated as either a stand-alone power amplifier or as part of a larger system. The amplifier can produce more than 700W CW with relatively low drive level. It features self-contained monitoring and protection so as to allow for a variety of combining schemes. The SS700U is a linear and broadband device suitable for both analog and digital service. Although initially designed for broadcast service, its robust and predictable performance makes it easily adaptable to industrial and scientific applications as well.

All active components are solid state and conservatively rated to insure long-life and trouble-free operation. Virtually all of the metering and control circuitry is built with precision components, eliminating the need for numerous adjustments and compensating circuitry. Light emitting diodes (LEDs) give a quick, visual indication of the condition of the equipment and, in most instances, will help isolate a fault to a particular area within the circuitry. The digital panel meter gives accurate readings of the important voltages and currents associated with the power amplifier. In addition to the extensive protection circuitry, high power components have been utilized to ensure that the equipment will give good service under adverse conditions.

General Technical Description

The SS700U is a highly integrated system consisting of very few discrete components and a relatively simple interconnect harness. A single control and protection board, stripline input and output boards, and pallet amplifiers are assembled in a two-sided chassis to deliver excellent performance and reliability in a compact form. The entire amplifier may be easily shipped if factory service is required; however, a technically competent person can service the unit in the field with the appropriate tools and test equipment.

The amplifier is available in either a horizontal or a vertical mounting orientation. The front panel controls and labeling are correct for each orientation, however the internal configuration is unchanged. The vertically oriented model requires a mounting adapter for installation in a standard equipment rack.

700 Watt PA

The 700 Watt amplifier is a self-contained assembly requiring 220 VAC main power, +24VDC control voltage, and a +24VDC "ON" command to function. It is capable of more than 700 Watts CW. The main +30VDC switching power supply is contained in the assembly along with the amplifier cards, splitting / combining boards, cooling fans, amplifier protection board, SWR sensor and front panel monitoring. This assembly uses four pallet amplifier cards mounted on the main heatsink located in the RF section of the cabinet, along with a microstrip splitter and a microstrip combiner. The amplifier features a built in circulator with a 500 Watt load to protect against bad load conditions. The power supply, control and protection circuits are mounted in the opposite side of the cabinet. The gain of this assembly is nominally 25dB with 50 Ohm input and output impedances.

Amplifier Stage

Each of the four amplifier cards in the SS700U has two LDMOS dual transistors operating in a class "AB" mode for the best linearity. Each amplifier card has a temperature compensated, regulated bias supplies for each transistor.

The amplifier cards are broadband to eliminate the need for tuning or alignment. The cards have a 50 Ohm input and output impedance.

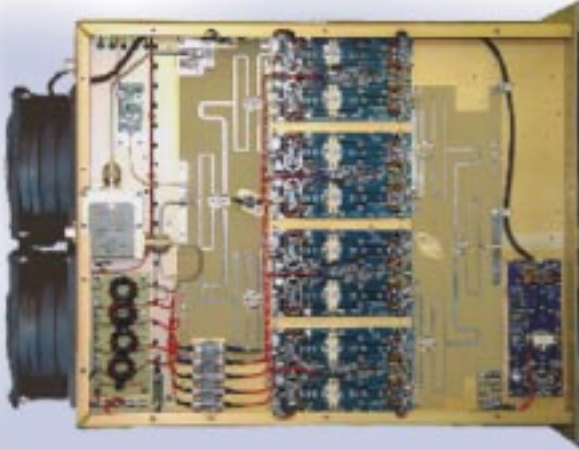
Specifications

700 Watt Solid State UHF Amplifier

Power Output	700 W (peak), 500 W (CW)
Frequency Range	480 - 806 MHz in 3 subbands (Other UHF/VHF bands available)
Output Impedance	50 Ohms
Output Connector	"N" female
Driver	LDMOS Dual Transistor
Output Stage	8 x LDMOS Dual Transistors
Maximum Altitude	3600 Meters (12,000 Feet)
Ambient Temperature Range	-15° C to +40° C (full performance) -30° C to +50° C (reduced output performance)
Relative Humidity	0 to 95%, Non-Condensing
Primary Power	220 VAC, 50/60 Hz Nominal
Cooling	Forced Air
Dimensions (W x H x D):	48.3 x 22.2 x 61 cm (19" x 8.75" x 24")
Weight	~33kg (72 lbs.)
Power Consumption	~1.5 kW Maximum (Channel Dependent)
Heat Load @ Full Output (Typical)	4200 BTU/Hr

Additional Options:

Similar Amplifiers are available across the UHF/VHF range

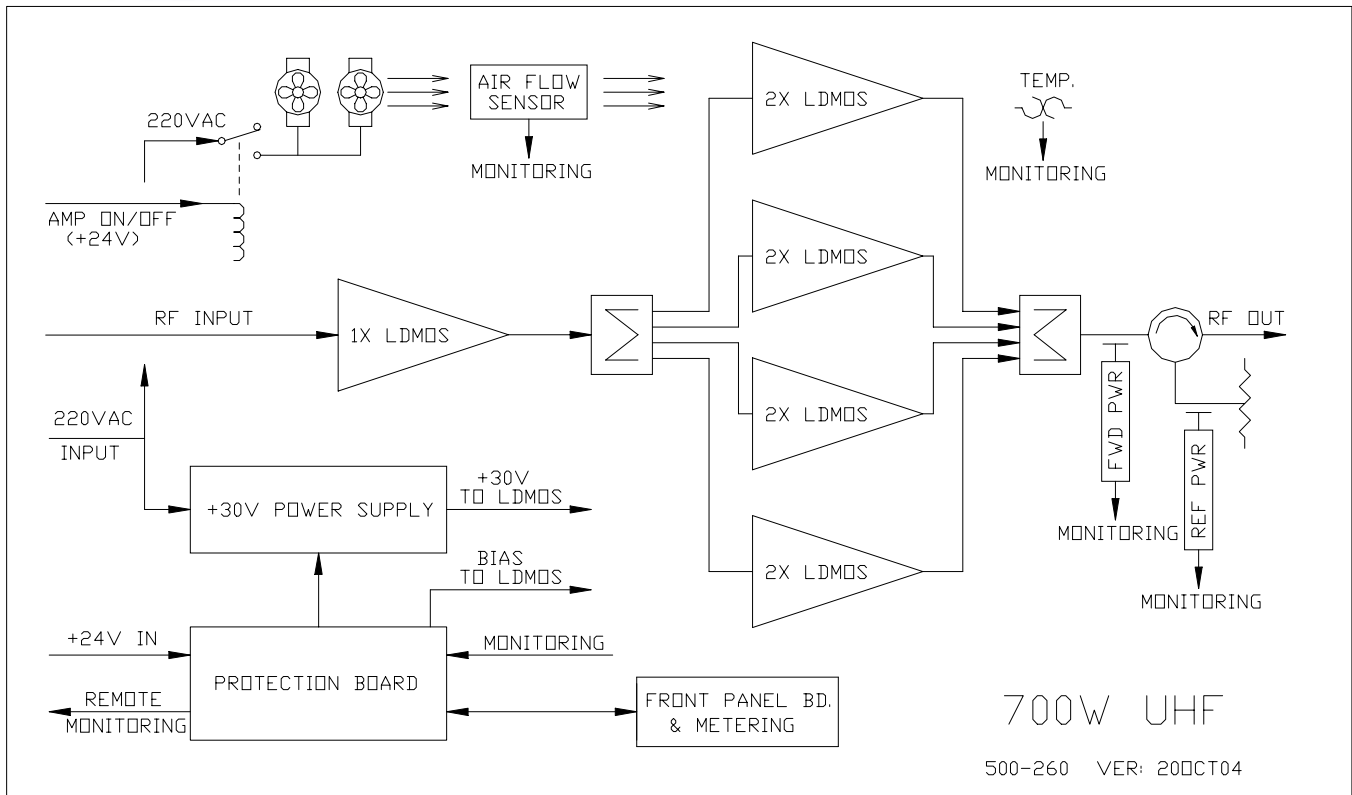


PA Side

- Dual High Performance Fans
- Circulator Isolated Output
- 500 Watt Circulator Load
- Isolated Input/Output Combining
- Large Capacity Heat Sink
- Individually Fused Amplifiers

Control Side

- Digital Metering
- 1500 Watt Main Supply (Higher Capacity Supplies Available)
- Protection:
 - Over Voltage
 - Under Voltage
 - Over Current
 - SWR
 - Heat Sink Sensor
 - Cooling Air Flow Sensor



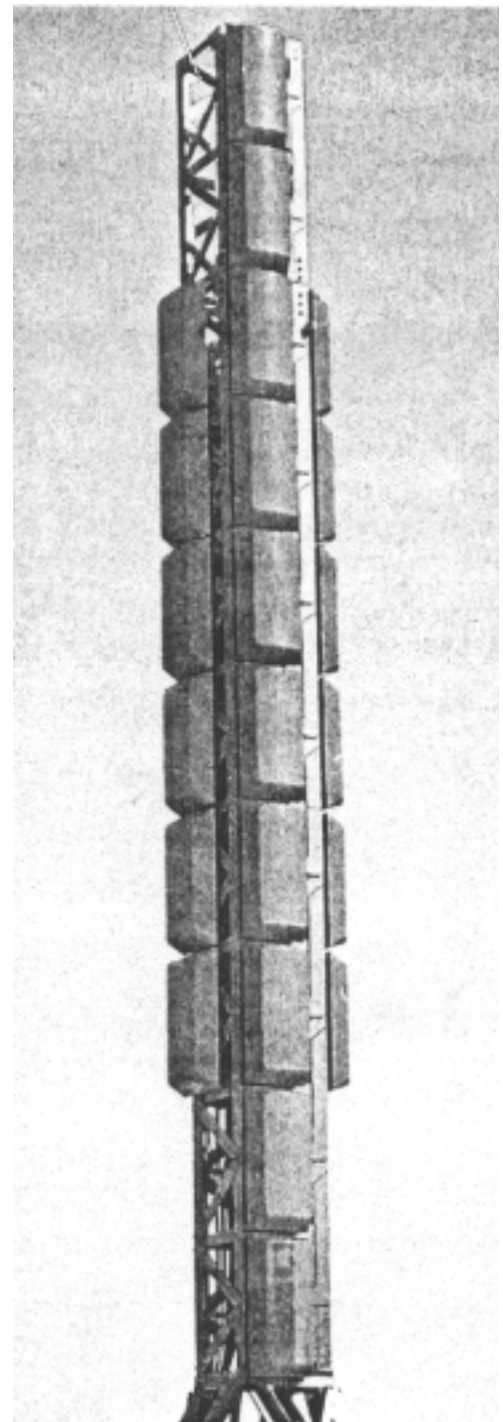
Superior Broadcast Products

Broadband UHF TV Panel Antenna

Wide band Panel-antenna, covers Bands IV and V UHF Television channels. This antenna is ideal for multi-station and high definition television operation.

Technical Specifications

Frequency	470 - 860 MHz.
Gain dbd	11.3
Power Gain	13.48
Polarization	Horizontal or Vertical
Five Standard Patterns	
Specials Patterns on request	
Beam Tilt and Null Fill Available	
Low Non-ionization Radiation	
Meets FCC and CCIR Specifications	
Input power	1 Kw per bay Standard Higher power on request
Input Connector	7/16 standard Other connectors on request
Dimensions	Width 19 inches Height 38 3/4 inches Depth 8 inches Weight 29 lb.
Materials	Reflector Galvanized Steel Dipoles Cast Aluminum Raydome Fiberglass
Temperature range	-40 to + 60 C
Relative Humidity	100%
Lighting Protection	DC Ground

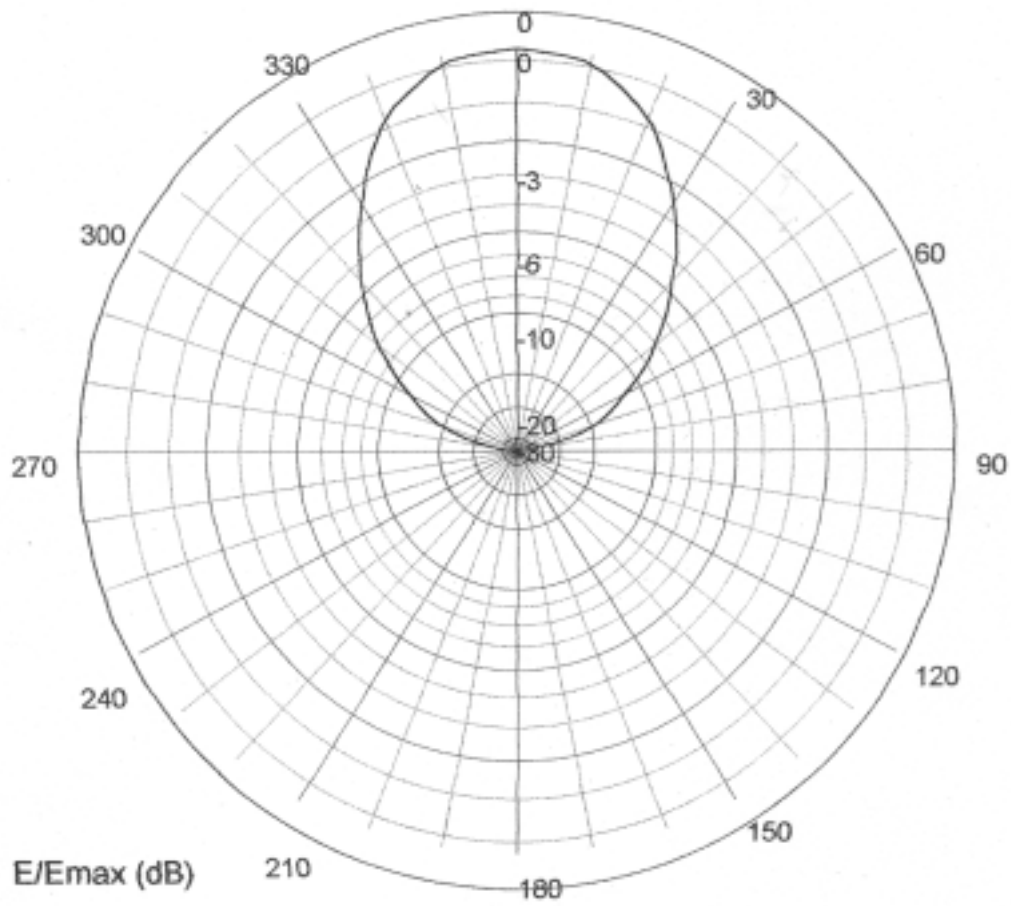


Superior Broadcast Products

UPSL Pattern

Broadband UHF

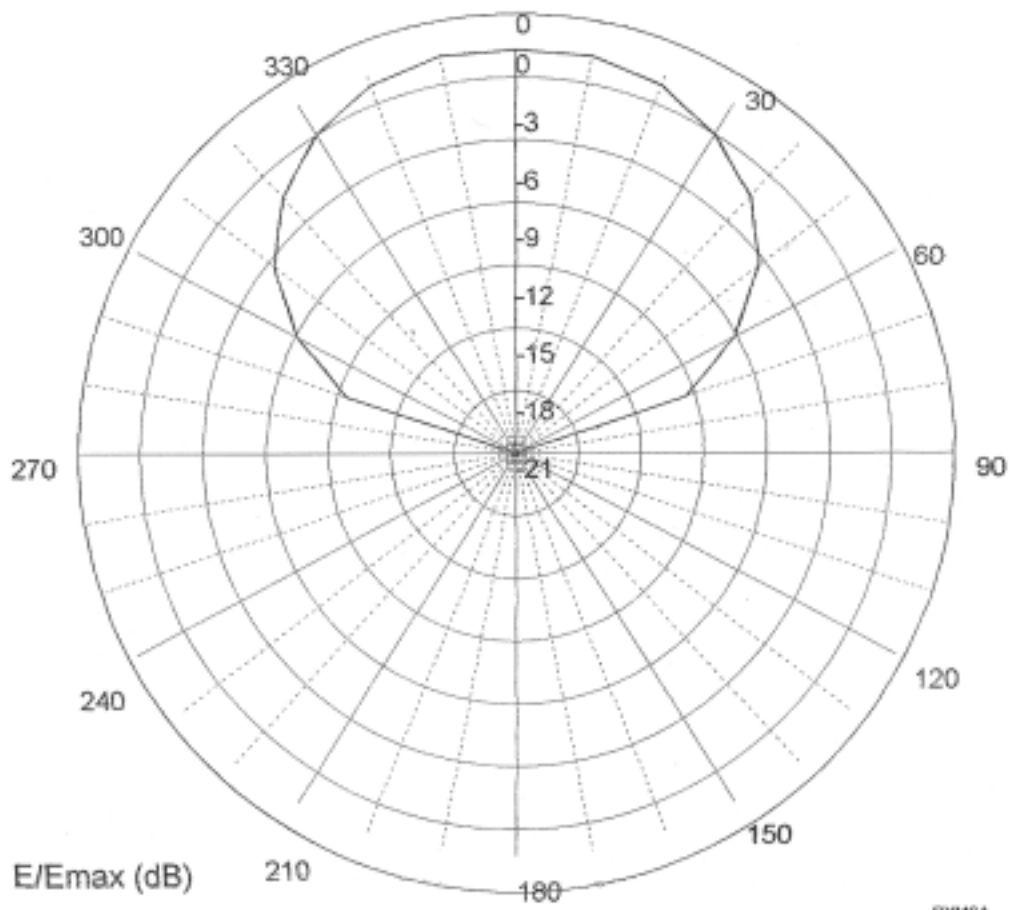
Elevation: 0 °



Model UPSL Single Lobe Antenna Tabulations					
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.917	-0.175	UPSL-1	11.35	13.65
20	0.880	-1.110	UPSL-2	14.36	27.29
30	0.710	-2.975	UPSL-3	16.12	40.94
40	0.550	-5.193	UPSL-4	17.37	54.59
50	0.410	-7.744	UPSL-5	18.34	68.23
60	0.280	-11.057	UPSL-6	19.132	81.84
70	0.190	-14.425	UPSL-8	20.381	107.17
80	0.048	-26.466	UPSL-10	21.35	136.46
90	0.001	-999.801	UPSL-12	22.142	163.76
100	0.001	-999.801			
110	0.001	-999.801			
120	0.001	-999.801			
130	0.001	-999.801			
140	0.001	-999.801			
150	0.001	-999.801			
160	0.001	-999.801			
170	0.001	-999.801			
180	0.001	-999.801			
190	0.001	-999.801			
200	0.001	-999.801			
210	0.001	-999.801			
220	0.001	-999.801			
230	0.001	-999.801			
240	0.001	-999.801			
250	0.001	-999.801			
260	0.001	-999.801			
270	0.001	-999.801			
280	0.048	-26.466			
290	0.190	-14.425			
300	0.280	-11.057			
310	0.410	-7.744			
320	0.550	-5.193			
330	0.710	-2.975			
340	0.880	-1.110			
250	0.917	-0.175			

Superior Broadcast Products

Model UPML
Broadband UHF
Elevation: 0 °

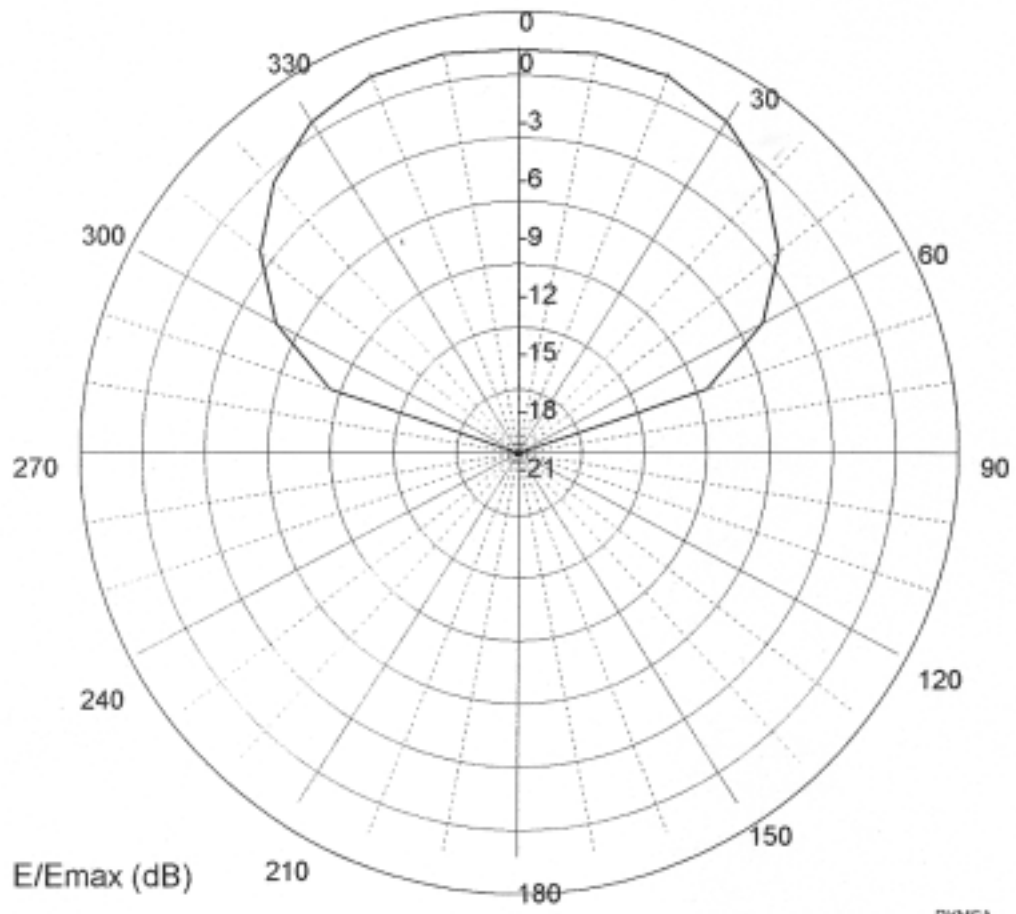


Superior Broadcast Products

Model UPML		Medium Lobe Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.999	-0.012	UPML-2	11.858	15.332
20	0.932	-0.616	UPML-4	14.868	30.676
30	0.809	-1.841	UPML-6	16.629	46.015
40	0.665	-3.543	UPML-8	17.878	61.348
50	0.513	-5.796	UPML-10	18.847	76.560
60	0.359	-8.892	UPML-12	19.639	92.024
70	0.241	-12.364			
80	0.061	-24.237			
90	0.001	-997.471			
100	0.001	-997.471			
110	0.001	-997.471			
120	0.001	-997.472			
130	0.001	-997.472			
140	0.001	-997.472			
150	0.001	-997.473			
160	0.001	-997.474			
170	0.001	-997.475			
180	0.001	-997.475			
190	0.001	-997.475			
200	0.001	-997.474			
210	0.001	-997.473			
220	0.001	-997.472			
230	0.001	-997.472			
240	0.001	-997.472			
250	0.001	-997.471			
260	0.001	-997.471			
270	0.001	-997.471			
280	0.061	-24.237			
290	0.241	-12.364			
300	0.359	-8.892			
310	0.513	-5.796			
320	0.665	-3.543			
330	0.809	-1.841			
340	0.932	-0.616			
250	0.999	-0.012			

Superior Broadcast Products

Mode UPWL
Broadband UHF
Elevation: 0 °

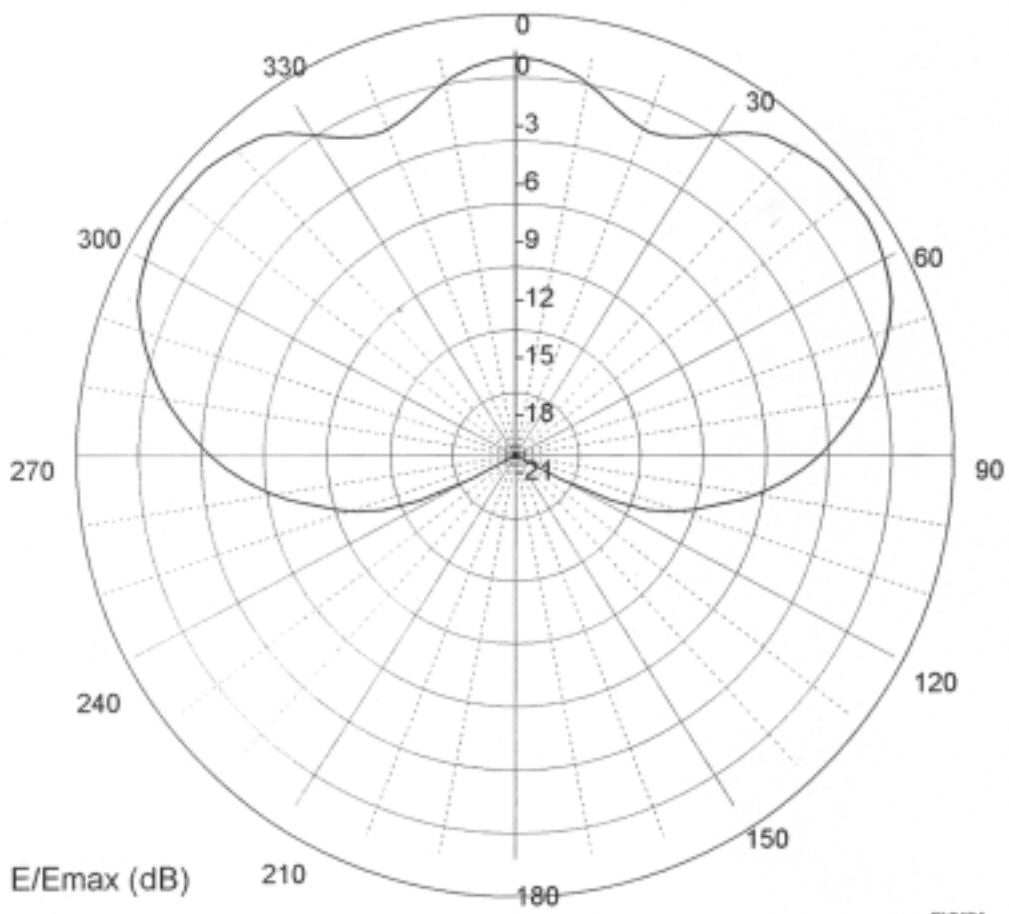


Superior Broadcast Products

Model UPWL		Wide Lobe Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	0.989	-0.098			
10	1.000	0.000	UPWL-2	9.547	9.009
20	0.974	-0.231	UPWL-4	12.558	18.022
30	0.973	-1.177	UPWL-6	14.315	27.008
40	0.733	-2.695	UPWL-8	15.568	36.568
50	0.576	-4.799	UPWL-10	16.537	45.051
60	0.411	-7.539	UPWL-12	12.231	17.315
70	0.269	-11.412			
80	0.073	-22.761			
90	0.001	-995.161			
100	0.001	-995.168			
110	0.001	-995.169			
120	0.001	-995.177			
130	0.001	-995.188			
140	0.001	-995.199			
150	0.001	-995.210			
160	0.001	-995.219			
170	0.001	-995.225			
180	0.001	-995.227			
190	0.001	-995.225			
200	0.001	-995.219			
210	0.001	-995.210			
220	0.001	995.199			
230	0.001	-995.188			
240	0.001	-995.177			
250	0.001	-995.169			
260	0.001	-995.163			
270	0.001	-995.161			
280	0.073	-22.761			
290	0.269	-11.412			
300	0.420	-7.539			
310	0.576	-4.799			
320	0.733	-2.695			
330	0.873	-1.177			
340	0.974	-0.231			
250	1.000	0.000			

Superior Broadcast Products

Model UPC
Broadbans UHF
Elevation: 0 °

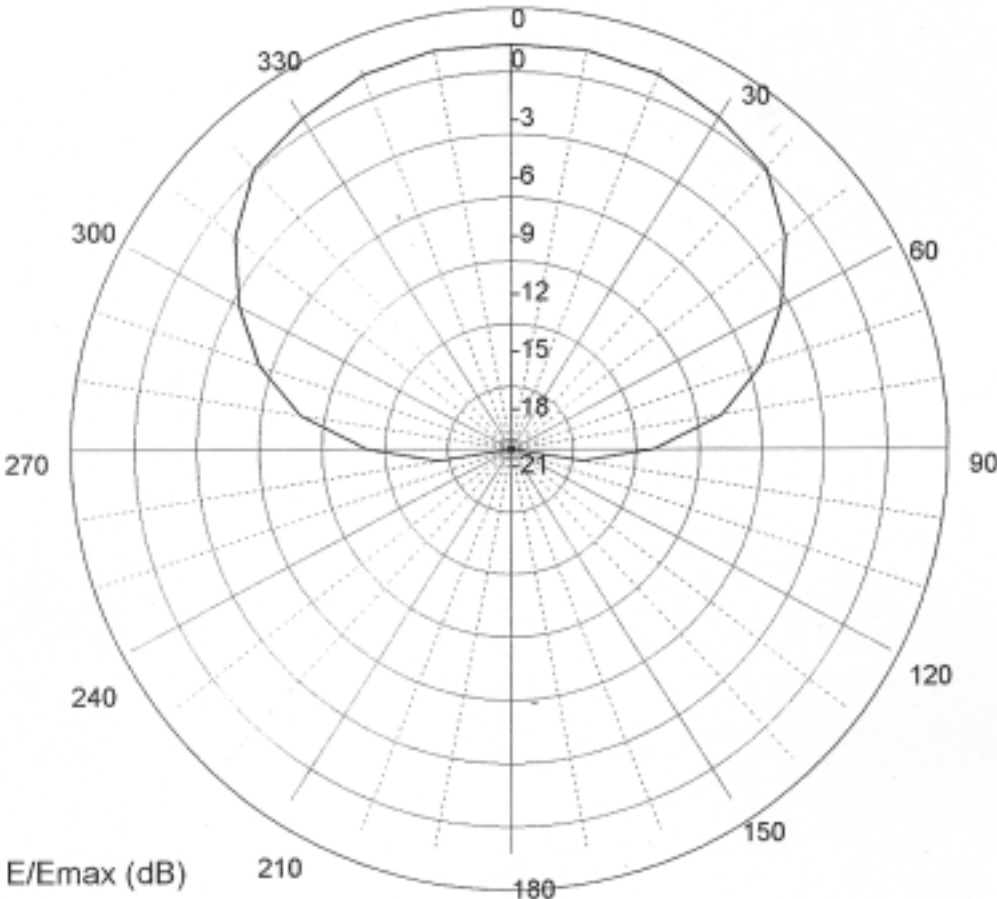


Superior Broadcast Products

Model UPC		Cardioid Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	0.999	-0.267	UPC-1	8.340	6.902
10	0.895	-0.963	UPC-2	11.350	13.646
20	0.789	-2.056	UPC-3	13.111	20.469
30	0.939	-1.525	UPC-4	14.360	27.290
40	0.977	-0.206	UPC-5	15.329	34.111
50	1.000	0.000	UPC-6	16.121	40.935
60	0.939	-0.543	UPC-8	17.371	54.588
70	0.803	-1.905	UPC-10	18.340	68.234
80	0.636	-3.926	UPC-12	19.132	81.884
90	0.485	-6.288			
100	0.348	-9.156			
110	0.237	-12.592			
120	0.120	-18.420			
130	0.024	-32.399			
140	0.001	-999.990			
150	0.001	-999.990			
160	0.001	-999.536			
170	0.001	-995.045			
180	0.001	-993.787			
190	0.001	-995.045			
200	0.001	-999.536			
210	0.001	-999.990			
220	0.001	-999.990			
230	0.024	-32.400			
240	0.112	-18.420			
250	0.120	-12.492			
260	0.237	-9.158			
270	0.485	-6.288			
280	0.636	-3.926			
290	0.803	-1.905			
300	0.937	-0.543			
310	1.000	0.000			
320	0.977	-0.206			
330	0.839	-1.525			
340	0.789	-2.056			
250	0.895	-0.963			

Superior Broadcast Products

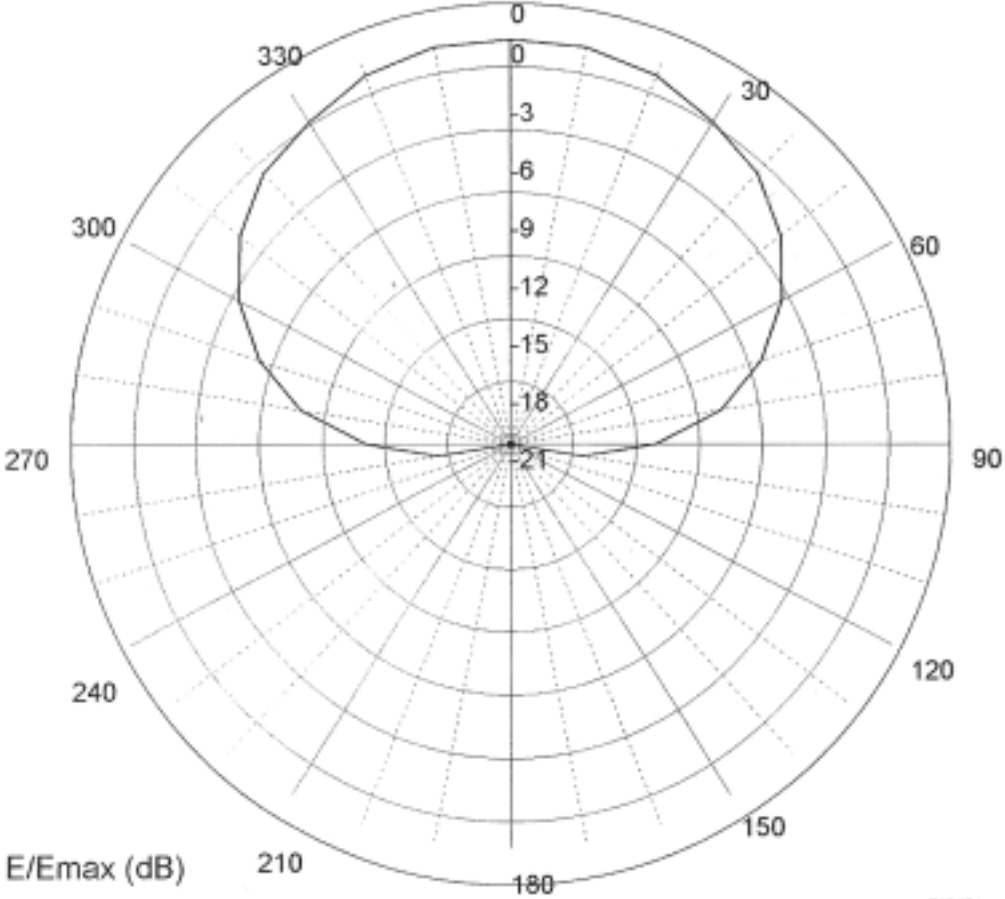
Model UPMC
Broadband UH.
Elevation: 0°



RYMSA

Model		UPMC Medium Cardioid Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	0.993	-0.058			
10	1.000	0.000	UPMC-1	10.405	10.98
20	0.998	-0.101	UPMC-2	13.415	21.95
30	0.939	-0.547	UPMC-3	15.176	32.93
40	0.850	-1.413	UPMC-4	16.426	43.91
50	0.745	-2.561	UPMC-5	17.395	54.89
60	0.627	-4.058	UPMC-6	18.187	65.87
70	0.497	-6.079	UPMC-8	19.436	87.82
80	0.378	-8.441	UPMC-10	20.410	109.90
90	0.272	-11.309	UPMC-12	21.200	131.83
100	0.185	-14.644			
110	0.094	-20.573			
120	0.019	-34.552			
130	0.001	-996.879			
140	0.001	-996.594			
150	0.001	-996.332			
160	0.001	-996.121			
170	0.001	-995.986			
180	0.001	-995.939			
190	0.001	-995.986			
200	0.001	-996.121			
210	0.001	-996.332			
220	0.001	-996.594			
230	0.001	-996.879			
240	0.019	-34.552			
250	0.094	-20.573			
260	0.185	-14.644			
270	0.272	-11.309			
280	0.378	-8.441			
290	0.477	-6.079			
300	0.627	-4.058			
310	0.745	-2.561			
320	0.850	-1.413			
330	0.939	-0.547			
340	0.988	-0.101			
250	1.000	0.000			

Superior Broadcast Products
Model UPRC
Broadband UHF
Elevation: 0°



R/M/S/A

Superior Broadcast Products

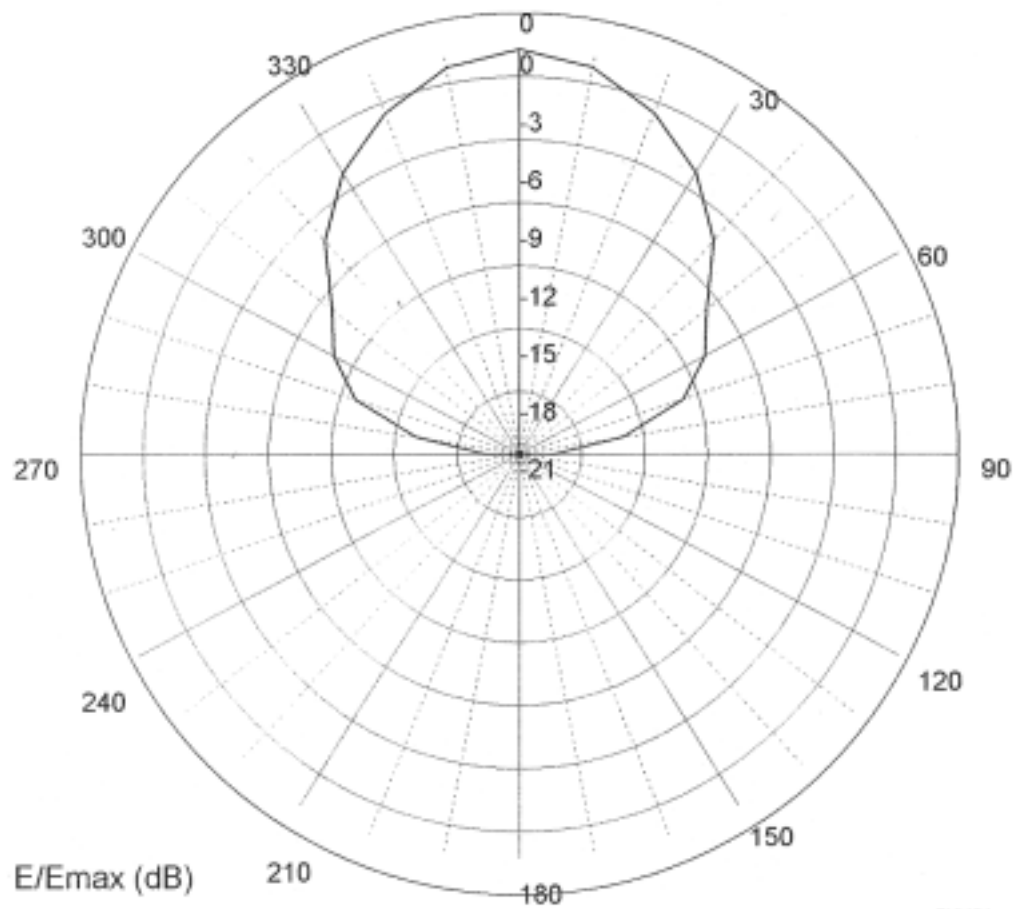
Model UPRC		Reduced Cardioid Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.992	-0.068	UPRC-2	11.385	13.756
20	0.930	-0.627	UPRC-3	13.146	20.635
30	0.825	-1.671	UPRC-4	14.396	27.517
40	0.736	-2.659	UPRC-5	15.365	34.395
50	0.621	-4.138	UPRC-6	16.157	41.276
60	0.500	-6.021	UPRC-8	17.406	55.030
70	0.388	-8.231	UPRC-10	18.375	68.786
80	0.289	-10.790	UPRC-12	19.167	82.547
90	0.197	-14.103			
100	0.134	-17.471			
110	0.034	-29.512			
120	0.001	-999.990			
130	0.001	-999.790			
140	0.001	-998.874			
150	0.001	-998.067			
160	0.001	-997.444			
170	0.001	-997.053			
180	0.001	-996.919			
190	0.001	-997.053			
200	0.001	-997.444			
210	0.001	-998.067			
220	0.001	-998.874			
230	0.001	-999.790			
240	0.001	-999.990			
250	0.034	-29.512			
260	0.134	-17.471			
270	0.197	-14.103			
280	0.289	-10.790			
290	0.388	-8.239			
300	0.500	-6.021			
310	0.621	-4.138			
320	0.736	-2.659			
330	0.825	-1.671			
340	0.930	-0.627			
250	0.992	-0.068			

Superior Broadcast Products

UPNC

Broadband UHF

Elevation: 0 °

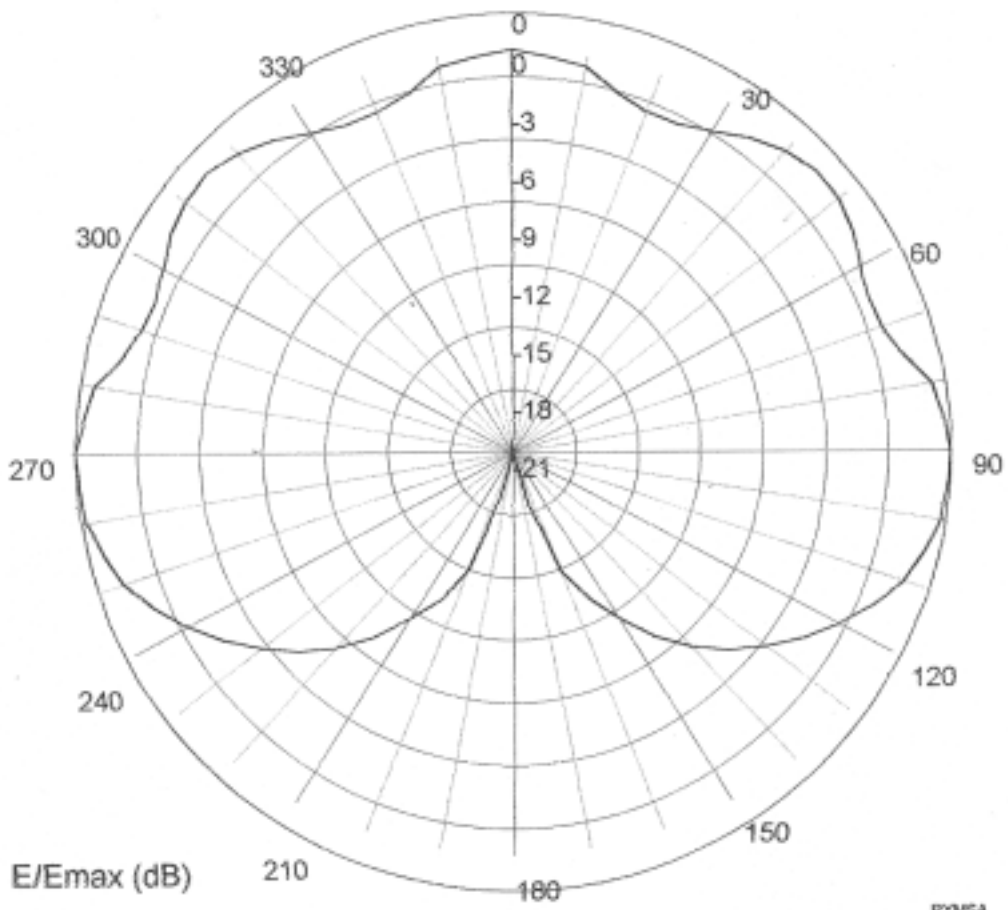


RYMBA

Superior Broadcast Products

Model UPNC		Narrow Cardioid Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.930	-0.631	UPNC-1	13.250	21.135
20	0.780	-2.159	UPNC-2	16.261	42.277
30	0.622	-4.118	UPNC-3	18.022	63.416
40	0.472	-6.513	UPNC-4	19.271	84.547
50	0.386	-8.269	UPNC-5	20.240	105.681
60	0.290	-10.746	UPNC-6	21.032	126.824
70	0.233	-12.655	UPNC-8	23.281	212.863
80	0.159	-15.968	UPNC-10	23.250	211.349
90	0.108	-19.336	UPNC-12	24.040	253.513
100	0.027	-31.377			
110	0.001	-999.990			
120	0.001	-999.990			
130	0.001	999.990			
140	0.001	-999.990			
150	0.001	-999.990			
160	0.001	-999.921			
170	0.001	-999.068			
180	0.001	-998.784			
190	0.001	-999.068			
200	0.001	-99.921			
210	0.001	-999.990			
220	0.001	-999.990			
230	0.001	-999.990			
240	0.001	-999.990			
250	0.001	-999.990			
260	0.027	-31.377			
270	0.108	-19.336			
280	0.159	-15.968			
290	0.233	-12.655			
300	0.290	-10.746			
310	0.386	-9.269			
320	0.472	-6.513			
330	0.622	-4.118			
340	0.780	-2.159			
250	0.930	-0.636			

Superior Broadcast Products
UPWC Pattern
Broadband UHF
Elevation: 0 °

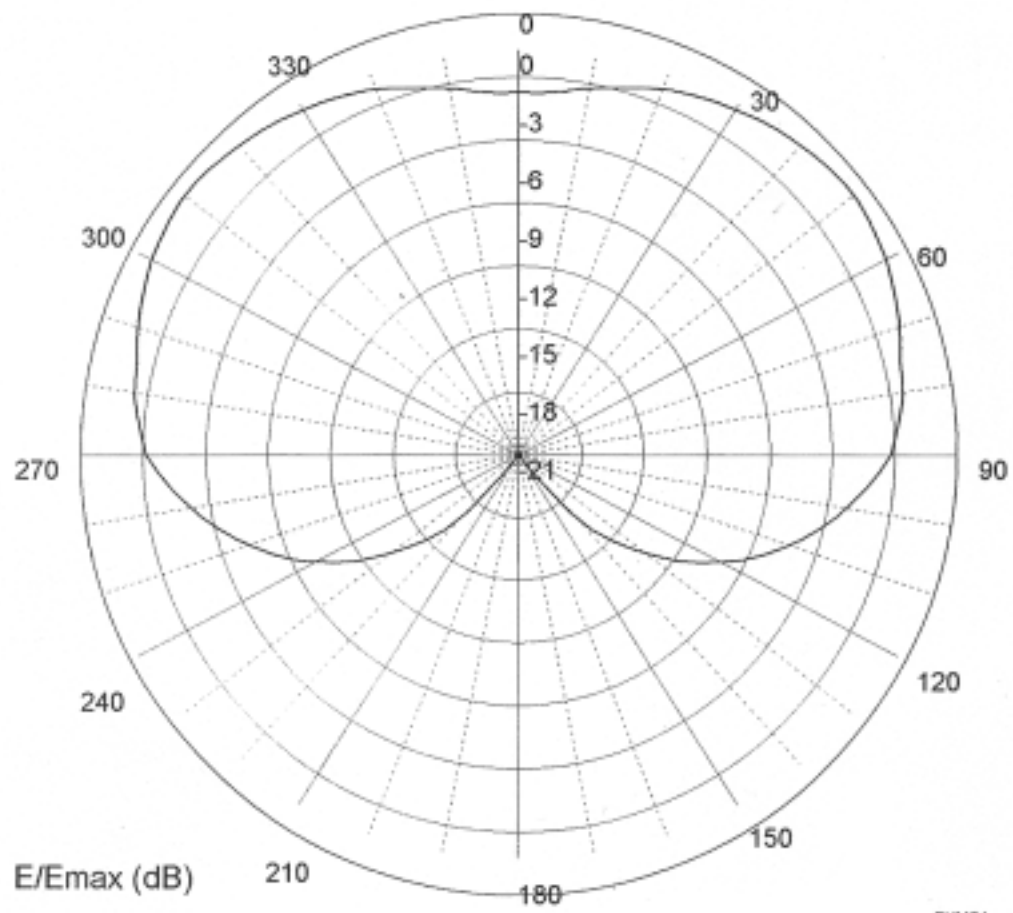


Superior Broadcast Products

Model UPWC		Wide Cardioid Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.933	-0.601	UPWC-1	6.579	4.549
20	0.784	-2.114	UPWC-2	9.589	9.097
30	0.819	-1.730	UPWC-3	11.350	13.646
40	0.936	-0.574	UPWC-4	12.599	18.193
50	0.936	-0.574	UPWC-5	13.568	22.740
60	0.819	-1.730	UPWC-6	14.360	27.290
70	0.784	-2.114	UPWC-8	15.610	36.392
80	0.993	-0.601	UPWC-10	16.580	45.499
90	1.000	0.000	UPWC-12	17.37	54.5757
100	0.980	-0.175			
110	0.880	-1.110			
120	0.710	-2.975			
130	0.550	-5.193			
140	0.410	-7.744			
150	0.280	-11.057			
160	0.190	-14.425			
170	0.048	-26.466			
180	0.001	-998.021			
190	0.048	-26.466			
200	0.190	-14.425			
210	0.280	-11.057			
220	0.410	-7.744			
230	0.550	-5.193			
240	0.710	-2.975			
250	0.880	-1.110			
260	0.980	-0.175			
270	1.000	0.000			
280	0.933	-0.601			
290	0.784	-2.114			
300	0.819	-1.730			
310	0.936	-0.574			
320	0.936	-0.574			
330	0.819	-1.730			
340	0.784	-2.114			
250	0.933	-0.601			

Superior Broadcast Products

Model UPRWC
Broadband UHF
Elevation: 0 °

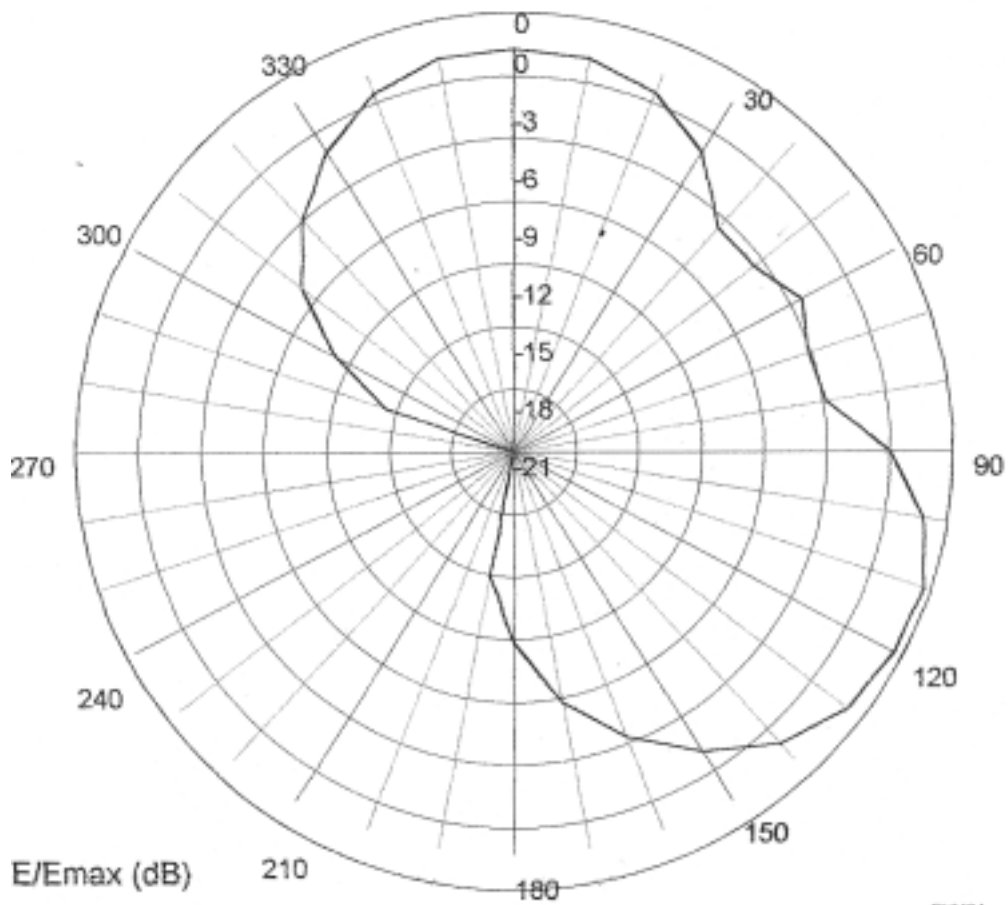


RYMSA

Superior Broadcast Products

Model UPRWC		Reduced Wide Cardioid Antenna Tabulations			
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	0.777	-2.189			
10	0.821	-1.716	UPRCW-1	8.600	7.244
20	0.991	-0.907	UPRCW-2	11.610	14.521
30	0.947	-0.476	UPRCW-4	14.620	28.973
40	0.986	-0.124	UPRCW-6	16.380	43.451
50	1.000	0.000	UPRCW-8	17.630	57.943
60	0.938	-0.553	UPRCW-10	18.570	71.945
70	0.850	-1.411	UPRCW-12	19.390	86.896
80	0.769	-2.282			
90	0.690	-3.223			
100	0.557	-5.088			
110	0.431	-7.306			
120	0.322	-9.857			
130	0.220	-13.170			
140	0.149	-16.538			
150	0.037	-28.579			
160	1.000	-997.072			
170	0.001	-996.211			
180	0.001	-995.907			
190	0.001	-996.211			
200	1.000	-997.072			
210	0.037	-28.579			
220	0.149	-16.538			
230	0.220	-13.170			
240	0.322	-9.857			
250	0.431	-7.306			
260	0.557	-5.088			
270	0.690	-3.223			
280	0.769	-2.282			
290	0.850	-1.411			
300	0.938	-0.553			
310	1.000	0.000			
320	0.986	0.124			
330	0.947	-0.476			
340	0.901	-0.907			
250	0.821	-1.716			

Superior Broadcast Products
UPPN Pattern
Broadband UHF
Elevation: 0°

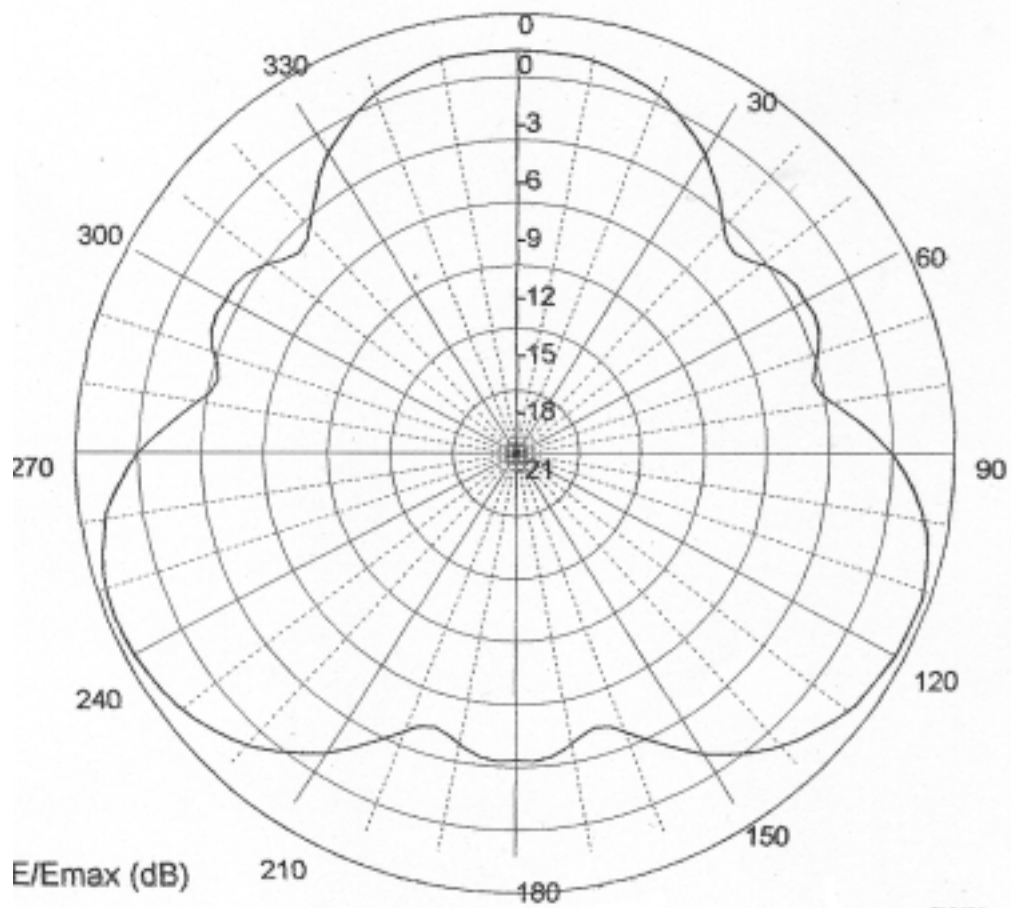


RYMSA

Superior Broadcast Products

Model UPPN Peanut Lobe Antenna Tabulations					
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.980	-0.175	UPPN-1	8.340	6.823
20	0.880	-1.110	UPPN-2	11.350	3.646
30	0.701	-2.975	UPPN-4	14.360	27.290
40	0.514	-5.781	UPPN-5	15.330	34.119
50	0.504	-5.959	UPPN-6	16.120	40.926
60	0.560	-5.036	UPPN-8	17.370	54.576
70	0.559	-5.059	UPPN-10	18.340	68.234
80	0.514	-5.781	UPPN-12	19.130	81.846
90	0.710	-2.975			
100	0.880	-1.110			
110	0.980	-0.175			
120	1.000	0.000			
130	0.980	-0.175			
140	0.880	-1.110			
150	0.710	-2.975			
160	0.550	-5.193			
170	0.410	-7.744			
180	0.280	-11.057			
190	0.189	-14.425			
200	0.048	-26.466			
210	0.001	-999.990			
220	0.001	-999.990			
230	0.001	-995.640			
240	0.001	-993.874			
250	0.001	-995.640			
260	0.001	-999.990			
270	0.001	-999.990			
280	0.048	-26.466			
290	0.189	-14.425			
300	0.280	-11.057			
310	0.410	-7.744			
320	0.550	-5.193			
330	0.710	-2.975			
340	0.880	-1.110			
250	0.980	-0.175			

Superior Broadcast Products
Model UPTRI
Broadband UHF



RYMSA

Model UPTRI Tri Lobe Antenna Tabulations					
Azimuth	Relative Field %	Relative Field dB	Antenna Gain		
			Model	dB	Power
0	1.000	0.000			
10	0.980	-0.175	UPTRI-1	6.579	4.549
20	0.880	-1.110	UPTRI-2	9.589	9.097
30	0.710	-2.975	UPTRI-4	12.599	18.193
40	0.511	-5.835	UPTRI-5	13.568	22.741
50	0.495	-6.100	UPTRI-6	14.360	27.290
60	0.560	-5.036	UPTRI-8	15.610	36.392
70	0.495	-6.100	UPTRI-10	16.599	45.698
80	0.511	-5.835	UPTRI-12	17.371	54.588
90	0.710	-2.975			
100	0.880	-1.110			
110	0.980	-0.175			
120	1.000	0.000			
130	0.980	-0.175			
140	0.880	-1.110			
150	0.710	-2.975			
160	0.511	-5.835			
170	0.459	-6.100			
180	0.560	-5.036			
190	0.495	-6.100			
200	0.511	-5.835			
210	0.710	-2.975			
220	0.880	-1.110			
230	0.980	-0.175			
240	1.000	0.000			
250	0.980	-0.175			
260	0.880	-1.110			
270	0.710	-2.975			
280	0.511	-5.835			
290	0.459	-6.100			
300	0.560	-5.036			
310	0.495	-6.100			
320	0.511	-5.835			
330	0.710	-2.975			
340	0.880	-1.110			
250	0.980	-0.175			

SBP-RFT Single and Multi Channel UHF DTV and NTSC Television Antennas for Power Input of up to 10 KW



The Television 1900 Series are Precision-Designed and built low power antenna. These quality high performance antennas are designed to handle up to 10 kW of average input power. The LP-1900 is available in two patterns: an omnioid (gain of 1.7) and a cardioid (gain of 1.9). The antenna is available in sizes from 4 to 24 bays, in one bay increments.

The LP-1900 Series is designed to the same high standards as our ChromaStar™ and Digilog™ series of antennas. For lower power STA or class A applications that need a low weight profile antenna, the LP-1900 is your first choice. Low power does not mean low performance- Each lightweight LP-1900 series uses our patent-pending *Emagnex™* coupling structures, to ensure excellent pattern stability over the entire transmitted signal bandwidth. This ensures a low V.S.W.R. of no more than 1.10:1.0 over the entire band. Each LP-1900 antenna is end fed with a 3-1/8" EIA input flange which allows the best power rating's in this class of antenna.

FEATURES & BENEFITS

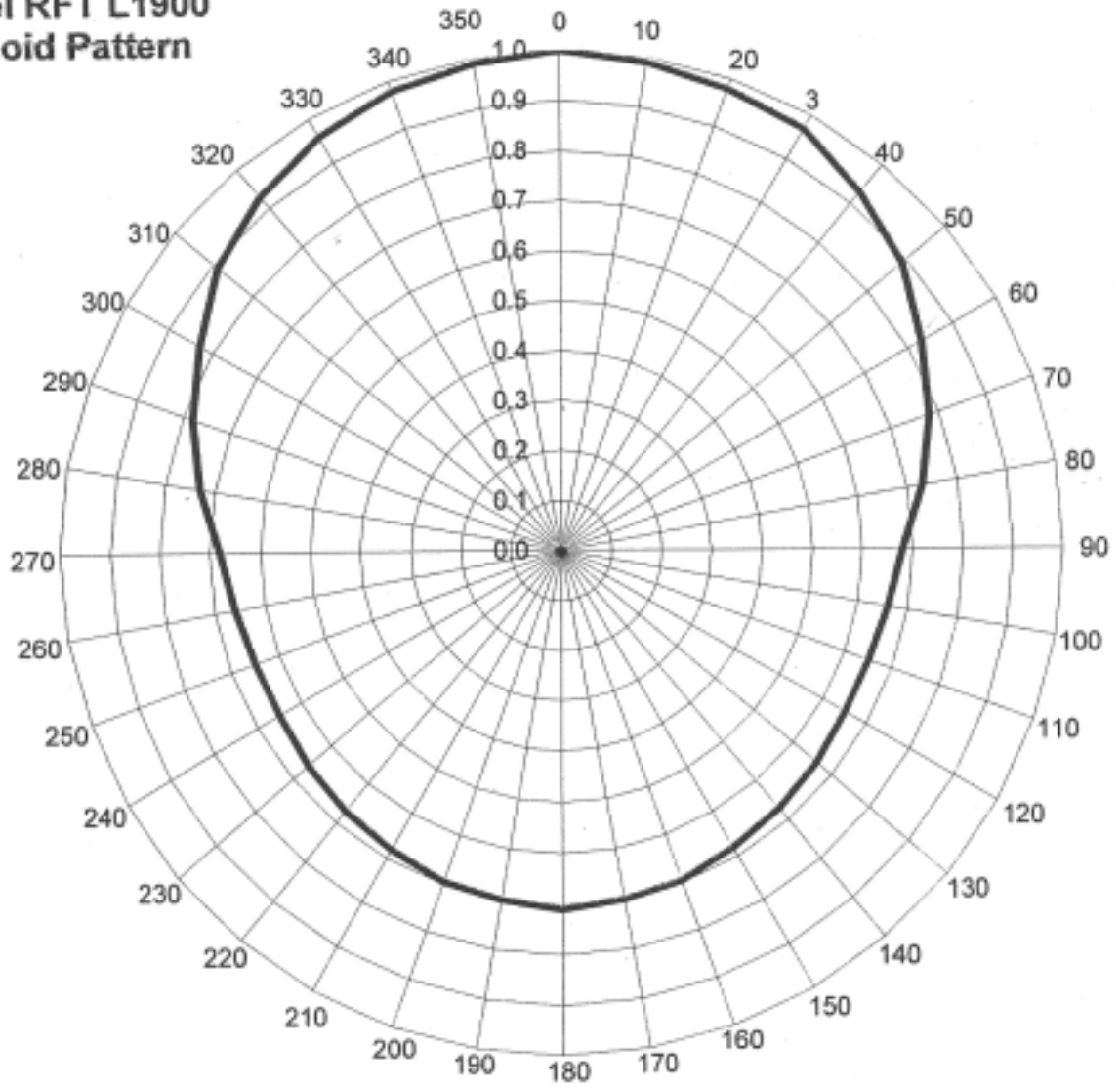
- Up to 4 kW average input power rating
- Very low weight and wind profile
- Designed for Single Channel DTV or NTSC operation
- End fed design with 3-1/8" EIA input flange
- Multi Channel Models Available
- Easy to install - standard mounting brackets

The LpStar™ 1900 Series is an exceptional value for standby, low-power or STA applications. Our highly automated manufacturing facility offers quick delivery times on these value packed antennas. Consider the LP-1900 series for a back up antenna.

Rugged construction and easy to install are two points you will remember the most about this antenna after it is installed. The LP-1900 is constructed from a high-strength passivated aluminum pylon. Standard mounting brackets are provided with the antenna. The small lightweight structure of the antenna allows quick installation using smaller rigging equipment.

**Superior Broadcast Products
Model RFT L1900
Omnioid Pattern**

Relative Field Value (%)



Model L1900 antenna tabulations

Azimuth	Relative Field %	Antenna gain	dB	Power
0	1.000	8 Bay	11.45	15.30
10	0.990	12 Bay	13.34	21.59
20	0.980	16 Bay	14.61	28.90
30	0.970	20 Bay	15.31	34.00
40	0.930	24 Bay	16.80	47.86
50	0.890			
60	0.830			
70	0.780			
80	0.730			
90	0.680			
100	0.660			
110	0.650			
120	0.650			
130	0.660			
140	0.670			
150	0.680			
160	0.695			
170	0.700			
180	0.710			
190	0.700			
200	0.695			
210	0.680			
220	0.670			
230	0.660			
240	0.650			
250	0.650			
260	0.660			
270	0.680			
280	0.730			
290	0.780			
300	0.830			
310	0.890			
320	0.930			
330	0.960			
340	0.980			
250	0.990			

SBP-RFT Single and Multi Channel UHF Broadcast Antennas. Top Mounted and Side Mounted Models with power levels up to 100KW



FEATURES & BENEFITS

- 10 kW average input power rating
- Designed for Single or Adjacent dual channel operation
- Lightweight - low wind area top mount design
- Center fed for optimal DTV operation
- Rugged full radome design on high power modules
- Excellent pattern stability over full 12 MHz bandwidth
- Top Mount or Side Mount Antennas available
- 10KW to 100 KW input power models
- 10 Standard Patterns - or we will customize a pattern to fit your needs.

SBP-RFT Television Antennas are Precision-Designed and Built DTV/Analog television broadcast antennas from the RF Technologies Corporation's Antenna Systems Group. These high-performance antennas are designed handle up to 100 kilowatts of average input power. The antenna is available in 4 to 32 bay configurations with a full 12 MHz of bandwidth and is designed for either single or dual adjacent channel applications. The DL-2030 is a great choice for initial STA operation, or as use as a standby antenna. The 2030 is perfect to mount on top of STL towers, or on high rise buildings.

Designed to Meet Your Needs

The robust design of the DigiLog™ antenna design ensures excellent transmission linearity, essential for high-quality DTV or analog broadcasting. The DL-2030 is available in a low ripple omni-directional pattern or in a wide variety of directional patterns. In addition, the beam tilt and null fill of the antenna are built to your exact specifications. Its superb mechanical design ensures optimum performance and structural integrity while at the same time presenting a very low weight and wind load signature. An 8 level DL-2030 antenna can provide up to 200 kW of DTV ERP (narrow cardioid pattern).

Constructed with Efficiency in Mind

The DigiLog™ Top-Mounted antenna is constructed with a high-strength strength passivated Aluminum pylon. This Transverse Electromagnetic, (TEM), Mode pylon is designed to be mounted on virtually any tower or roof support structure. Each radiating element or slot along the aperture of the antenna is equipped with RFT's patent-pending high efficiency broadband Emagnex™ coupling structures to efficiently and smoothly transmit a high-quality, low time delay signal.

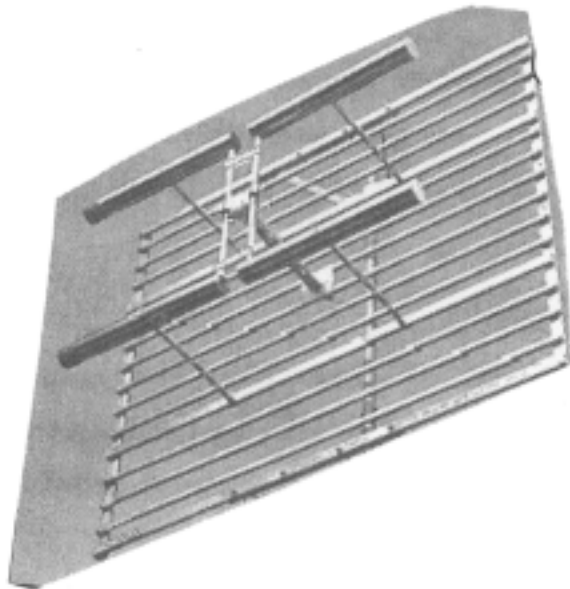
Fully Protected

The DigiLog™ Series antenna is fully protected by a high-density polyethylene ultra low-loss radome and is stabilized against degradation from U.V. radiation. In addition, every portion of the antenna throughout is firmly bonded to DC ground, ensuring enhanced protection of the antenna and transmitting equipment during lightning storms.

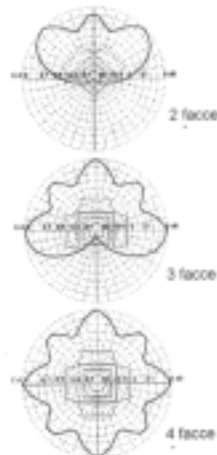
Superior Broadcast Products

VHF Channel 7-13 Panel Antenna

With four radiating dipoles per panel. Ideal for VHF high band medium and high power stacked-array systems. Standard 7/16 input for 1,000 watts per panel. Higher power input on request.



M. faces	N. bays	Gain dBd
1	1	6
	2	11
	4	14
	6	15.8
	8	17
	12	18.8
2	1	5
	2	8
	4	11
	6	12.8
	8	14
	12	15.8
3	1	3.2
	2	6.2
	4	9.2
	6	11
	8	12.3
	12	14
4	1	2
	2	5
	4	8
	6	9.8
	8	11
	12	12.8



Specifications

Average Gain per Panel	8 dBd
Horizontal beam width @ -3 dB	60 deg.
Vertical beam width @ -3 dB	66 deg.
V.S.W.R.	1.25:1 or better
Bandwidth	174 - 230 MHz
Polarization	Horizontal or Vertical
Impedance	50 ohm
Connector	7/16 DI N
Max. input power	1,000 watts per panel
Weight	70 lb.
Dimensions	Width 44 inches Height 39 inches Depth 12.8 inches
Construction	Galvanized reflector Dipoles Stainless Steel Line input treated cooper
Lighting protection	DC Ground
Standard mounting brackets	Included

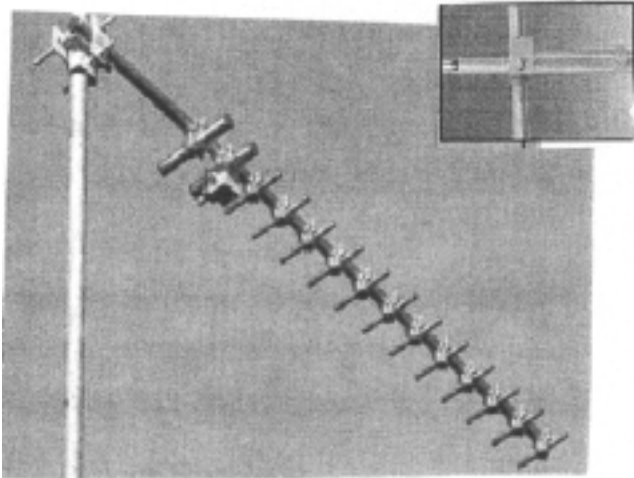
**Custom Antenna Patters
& Power Levels**

**Financing and
Installation available**

**Fast Delivery
30 days or less**

Superior Broadcast Products

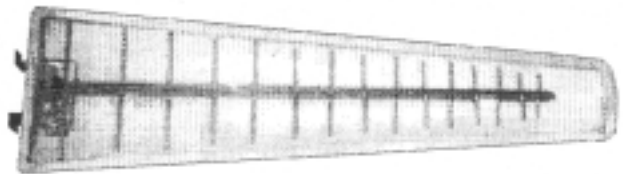
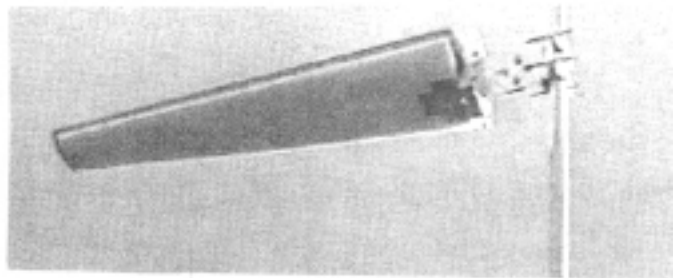
UHF High Gain 14 dBd Yagi Transmit and Receive Antennas



Specifications

Model	AST-330
Average Gain	14 dBd
Horizontal beam width at -3dB	25 deg.
Vertical beam width at -3dB	33 deg.
VSWR	Better than 1:3:1
Bandwidth	20 MHz
Polarization	Horizontal or Vertical
Impedance	50 Ohm
Connector	"N" Female
Maximum power input	200 Watts
Power	200 Watts
Weight	12 lbs
Wind load	18 lbs.
Mounting Construction	Bracket for 1 to 2.5 inches pipe Elements treated aluminum Brackets Galvanized Bolts Stainless Steel
Frequency Band	Channel 144 - 69

15 Element UHF log-periodic
Antenna. Ideal transmitting
and receiving antenna.
Enclosed in a radome for
protection from weather



Specifications

Model	ALP-720
Average Gain	8.5dBd
Horizontal beam width at -3dB	27 deg.
Vertical beam width at -3dB	36 deg.
VSWR	Better than 1:3:1
Bandwidth	470 - 860 MHz
Polarization	Horizontal or Vertical
Impedance	50 Ohm
Connector	"N" Female
Maximum power input	100 Watts
Weight	30 lbs
Wind load	27 lbs.
Lightning Protection	DC Ground
Materials	Elements Aluminum Dipoles

Superior Broadcast Products

20 Watt Solid State FM Exciter/Transmitter



ESVA 20 FM BROADCAST EXCITER

Technical Features

FREQUENCY RANGE	87.5 ÷ 108 MHz
MODULATION	FM
EMISSION CLASS	F3E
VCO TUNING	25 MHz
FREQUENCY STABILITY	± 2.5 ppm
SYNTHESIZER STEP	100KHz opz. 10KHz
POWER OUTPUT	0 ÷ 22 Watts
SPURIOUS EMISSION	< - 80 dB or better
HARMONIC EMISSION	< - 70 dB
STEREO SEPARATION	> 55 dB @ 1KHz (typ. 60dB)
DISTORTION	< 0.1 % (typ. 0.06%) @ 1KHz
BASE BAND	30 Hz ÷ 60 KHz within 0.15 dB
UNWEIGHTED S/N RATIO	>80 dB (30Hz ÷ 15KHz 50 µS RMS)
ASYNCHRONOUS AM S/N Ratio	> 70 dB Ref. 100% AM 400Hz
SYNCHRONOUS AM S/N Ratio	> 65 dB with FM @ 75KHz @400Hz
PRE-EMPHASIS	50 OR 75 µS int. selectable
RF OUT CONNECTOR	N-F 50 Ohm
MPX INPUT CONNECTOR	BNC-F
MPX INPUT IMPEDANCE	2 KOhm SCA INPUT
CONNECTOR	3 BNC-F
COOLING	Convection for RF PA and a little fan for inside
OP.TEMPERATURE RANGE	0 ÷ +45 °C
MAXIMUM HUMIDITY	90 %
AC SUPPLY	100 ÷ 240 VAC - 47 ÷ 63 Hz
DIMENSION	1 unit rack 19", 360mm depth
WEIGHT	3.5 Kg

Superior Broadcast Products

100 Watt Solid State FM Exciter/Transmitter



ESVA 100 FM BROADCAST EXCITER

Technical Features

OPERATING BAND	87.5 ÷ 108 MHz
OUTPUT POWER	10 ÷ 100 W
OUTPUT CONNECTOR	N female type
DRIVING POWER	3 ÷ 5 W typical
INPUT CONNECTOR	N female type
INPUT - OUTPUT IMPEDANCE	50 OHM
INPUT	v.s.w.r. 1,3:1 max
SPURIOUS AND HARMONIC EMISSION	Meets or exceeds CCIR and FCC req.
AM SIGNAL TO NOISE RATIO	< - 60 dB Sync. and Asynchronous
MOSFET TYPE	BLF278 Ph
MOSFET EFFICIENCY	From 55% to 70%
RF UNIT COOLING	1 high performance DC axial fan
RF DEVICES	heat sink t 22°C to 28°C
POWER SUPPLY COOLING	1 high performance DC axial fan
AMBIENT WORKING TEMPERATURE	0 to 45°C
RELATIVE HUMIDITY	Up to 90% non condensing
ALTITUDE	Up to 4500 m
PROTECTIONS	No-stop reducing power type
AC POWER	100÷240 VAC ±10% 50-60Hz
AC TYPE	AC/DC High efficiency
AC POWER CONSUMPTION	250 VA max
RACK DIMENSIONS	19" 3 U 480 mm depth
WEIGHT	9 Kg

Superior Broadcast Products

250 Watt Solid State FM Exciter/Transmitter



ESVA 250 FM BROADCAST EXCITER Technical Features

FREQUENCY RANGE	87.5 ÷ 108 MHz
MODULATION	FM
EMISSION CLASS	F3E
VCO TUNING	25 MHz
FREQUENCY STABILITY	± 2.5 ppm
SYNTHESIZER STEP	100KHz
POWER OUTPUT	30 ÷ 300 Watts
SPURIOUS EMISSION	< - 80 dB or better
HARMONIC EMISSION	< - 70 dB
STEREO SEPARATION	> 55 dB @ 1KHz
DISTORTION	< 0.1 % (typ. 0.06%) @ 1KHz
BASE BAND	30 Hz ÷ 60 KHz within 0.15 dB
UNWEIGHTED S/N RATIO	>80 dB (30Hz ÷ 15KHz 50 µS RMS)
ASYNCHRONOUS AM S/N Ratio	> 70 dB Ref. 100% AM 400Hz
SYNCHRONOUS AM S/N Ratio	> 65 dB with FM @ 75KHz @400Hz
PRE-EMPHASIS	50 OR 75 µS int. selectable
RF OUT CONNECTOR	N-F 50 Ohm
MPX INPUT CONNECTOR	BNC-F
MPX INPUT IMPEDANCE	2 KOhm
SCA INPUT CONNECTOR	3 BNC-F
COOLING	Forced Air
OP.TEMPERATURE RANGE	-10 ÷ +45 °C
MAXIMUM HUMIDITY	90 %
AC SUPPLY	100 ÷ 240 VAC - 47 ÷ 63 Hz
DIMENSION	3 unit rack 19", 360mm depth
WEIGHT	12 Kg

Superior Broadcast Products

500 Watt Solid State FM Amplifier



500 W POWER AMPLIFIER

Technical Features

OPERATING BAND	87.5 ÷ 108 MHz
OUTPUT POWER	500 W
OUTPUT CONNECTOR	N female type
DRIVING POWER	5 W typical
INPUT CONNECTOR	N female type
INPUT - OUTPUT IMPEDANCE	50 OHM
INPUT V.S.W.R.	1,3:1 max
SPURIOUS AND HARMONIC EMISSION	Meets or exceeds CCIR and FCC req.
AM SIGNAL TO NOISE RATIO	< - 60 dB Sync. and Asynchronous
MOSFET TYPE	2 x BLF278 Ph
MOSFET EFFICIENCY	From 55% to 70%
RF UNIT COOLING	1 h.p. axial fans
RF DEVICES HEAT SINK	t 22°C to 28°C
POWER SUPPLY COOLING	1 high performance DC axial fan
AMBIENT WORKING TEMPERATURE	0 to 45°C
RELATIVE HUMIDITY	Up to 90% non condensing
ALTITUDE	Up to 4500 m
PROTECTIONS	No-stop reducing power type
AC POWER	100÷240 VAC ±10% 50-60Hz
AC TYPE	AC/DC High efficiency
AC POWER CONSUMPTION	850 VA max
RACK DIMENSIONS	19" 4 U 480 mm depth
WEIGHT	12 Kg

Superior Broadcast Products

Performance Specifications

Output Power	1,000 to 20,500 Watts
Output connector	3 1/8 EIA
Carrier shift at 75 kHz dev.	0
Harmonics	--82dB
Distortion	>0.3%
Pre-emphasis curve	+/- .1 dB
Pre-emphasis	75us
Frequency stability	+/- 200 Hz
Frequency range	88.7 - 108 MHz
Frequency settings	10 kHz STEPS
Temperature range	0° C to 50° C
Relative humidity	95%
Audio input	Stereo BNC 10 k Mono 600 Ohm balanced XLR
Final amplifier	3CX 15,000 A7
Motorized front panel tuning	
Automatic or manual start-up	
Step start high voltage	
Fold out side compartment for easy servicing	
Full Front Panel Metering:	Plate Volts Plate Current Filament Voltage Grid Current Forward Output Power Reflected Power Temperature Grid Voltage
Cooling	High Velocity forced air
Operating Voltage	208-230 volts three phase
Three phase detector with LED readout	
Electrical consumption at full power	31 KVA
Size Main Amplifier	Width 23 inches Height 6 ft. Depth 30 inches
Weight	1,600 lb.
Driver and Exciter in second half cabinet	

Model FME 20,000 20,000 Watt FM Transmitter

**Featuring Grounded Grid Final
Amplifier, High Performance
Digitally Synthesized Exciter
and 1,000 Watt Solid State Driver.**



**One year limited warrantee on defects
in material or workmanship**

Financing Available

Superior Broadcast Products

Performance Specifications

Output Power	500 to 12,500 Watts
Output connector	3 1/8 EIA
Carrier shift at 75 kHz dev.	0
Harmonics	--82dB
Distortion	>0.3%
Pre-emphasis curve	+/- .1 dB
Pre-emphasis	75us
Frequency stability	+/- 200 Hz
Frequency range	88.7 - 108 MHz
Frequency settings	10 kHz STEPS
Temperature range	0° C to 50° C
Relative humidity	95%
Audio input	Stereo BNC 10 k Mono 600 Ohm balanced XLR
Final amplifier	3CX 15,000 A7
Motorized front panel tuning	
Automatic or manual start-up	
Step start high voltage	
Fold out side compartment for easy servicing	
Full Front Panel Metering:	Plate Volts Plate Current Filament Voltage Grid Current Forward Output Power Reflected Power Temperature Grid Voltage
Cooling	High Velocity forced air
Operating Voltage	208-230 volts three phase
Three phase detector with LED readout	
Electrical consumption at full power	23 KVA
Size Main Amplifier	Width 23 inches Height 6 ft. Depth 30 inches
Weight	1,480 lb.
Driver and Exciter in second half cabinet	

Model FME 12,000 12,000 Watt FM Transmitter

Featuring Grounded Grid Final Amplifier, High Performance Digitally Synthesized Exciter and 500 Watt Solid State Driver.



**One year limited warrantee on defects
in material or workmanship**

Financing Available

Superior Broadcast Products

Model FME 10,000e 10,000 Watt FM Transmitter

Featuring Grounded Grid Final
Amplifier, High Performance
Digitally Synthesized Exciter
and 500 Watt Solid State Driver.



Performance Specifications

Output Power	500 to 10,000 Watts
Output connector	3 1/8 EIA
Carrier shift at 75 kHz dev.	0
Harmonics	--82dB
Distortion	>0.3%
Pre-emphasis curve	+/- .1 dB
Pre-emphasis	75us
Frequency stability	+/- 200 Hz
Frequency range	88.7 - 108 MHz
Frequency settings	10 kHz STEPS
Temperature range	0° C to 50° C
Relative humidity	95%
Audio input	Stereo BNC 10 k Mono 600 Ohm balanced XLR
Final amplifier	YU148
Motorized front panel tuning	
Automatic or manual start-up	
Step start high voltage	
Fold out side compartment for easy servicing	
Full Front Panel Metering:	Plate Volts Plate Current Filament Voltage Grid Current Forward Output Power Reflected Power Temperature Grid Voltage
Cooling	High Velocity forced air
Operating Voltage	208-230 volts three phase
Three phase detector with LED readout	
Electrical consumption at full power	22 KVA
Size	Width 23 inches Height 5ft. 6inches Depth 30 inches
Weight	1,200 lb.

Financing Available

**One year limited warrantee on defects
in material or workmanship**

Model FMD

**Model FMD Broadband Circular Polarized
FM Antenna Ideal for Multi Station operation
or the addition of digital FM**



Fits directly to tower leg. Standard brackets included. Inter bay cables included on multi bay antennas.

Specifications

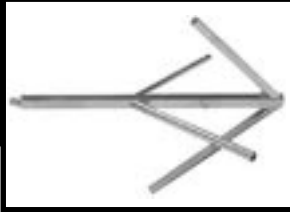
Frequency Range	87.5 to 108 MHz
Bandwidth	20 MHz
Impedance	50 Ohm
V S W	1.3 : 1 or better
Polarization	Circular
Construction	Stainless Steel
Temperature Range	-40 to +60 C
Max. Wind Speed	100 Mph
Lightning Protection	DC Ground
Relative Humidity	100%
Standard Connection	7/8 EIA
Power Input per Bay	3000 watts per bay

7/8 EIA input

Model	Power Gain	dB Gain	Inout Power	Weight	Wind Load
FMD-1	0.46	-3.37	3 KW	31	45
FMD-2	0	0	3 KW	67	95
FMD-3	1.5	1.7	3 KW	103	130
FMD-4	2.1	3.22	3 KW	139	175
FMD-6	3.2	5.05	3 KW	201	275
FMD-8	4.2	6.23	3 KW	268	346

1 5/8 EIA input

Model	Power Gain	dB Gain	Inout Power	Weight	Wind Load
FMD-2M	0.46	-3.37	6 KW	36	45
FMD-3M	0	0	9 KW	72	95
FMD-4M	1.5	1.7	12 KW	107	130
FMD-5M	2.1	3.22	12 KW	144	175
FMD-6M	3.2	5.05	12 KW	206	275
FMD-8M	4.2	6.23	12 KW	280	346



Model FMA

High Power Broadband Circular Polarized FM Antenna

Ideal for Multi station operation or the addition of digital FM

Fits directly to tower leg. Standard brackets included. Inter bay cables included on multi bay antennas.

Specifications

Frequency Range	87.5 to 108 MHz
Bandwidth	20 MHz
Impedance	50 Ohm
V S W	1.3 : 1 or better
Polarization	Circular
Construction	Welded Aluminum with Stainless Steel Brackets
Temperature Range	-40 to +60 C
Max. Wind Speed	100 Mph
Lightning Protection	DC Ground
Relative Humidity	100%
Standard Connection	7/8 to 3 1/8 EIA
Power Input per Bay	4,000 watts per bay

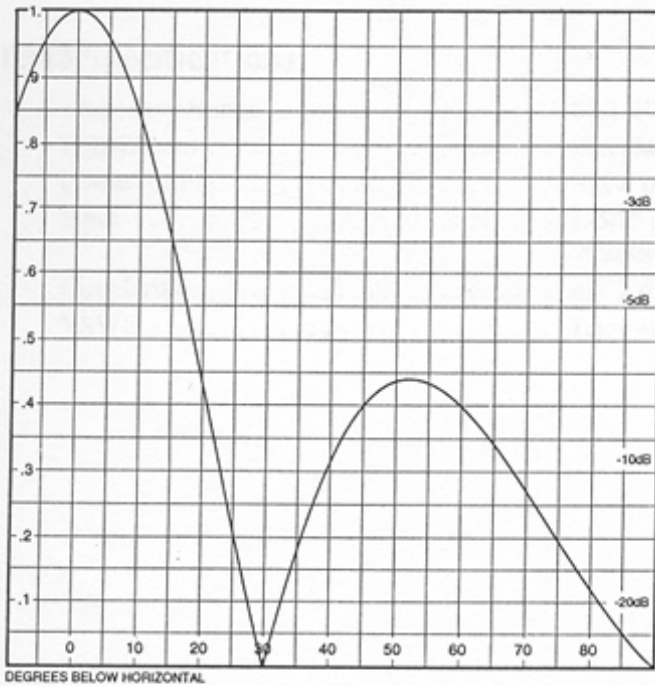
3 1/8 EIA input

Model	Power Gain	dB Gain	Input Power	Weight	Wind Load
FMA-2H	0.46	-3.37	8 KW	42	45
FMA-3H	0	0	12 KW	80	95
FMA-4H	1.5	1.7	16KW	117	130
FMA-6H	2.1	3.22	20KW	220	280
FMA-8H	3.2	5.05	20KW	295	350

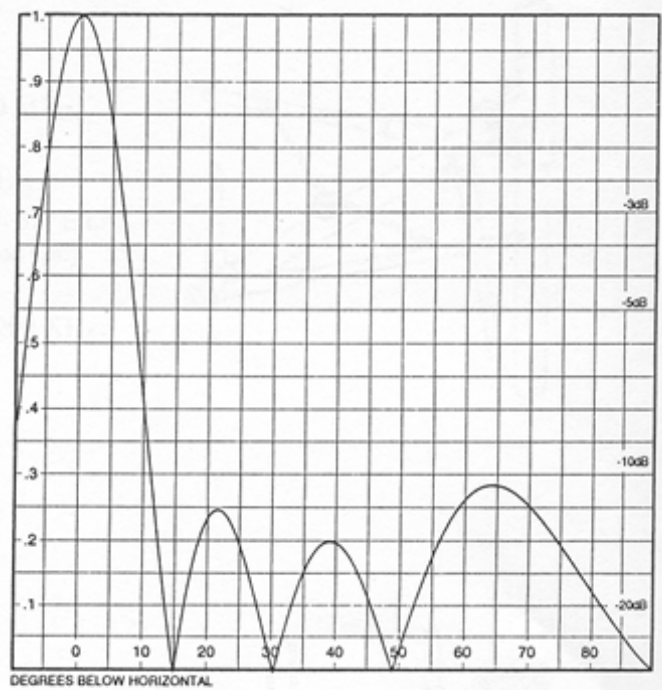
1 5/8 EIA input

Model	Power Gain	dB Gain	Input Power	Weight	Wind Load
FMA-2M	0.46	-3.37	8 KW	36	45
FMA-3M	0	0	12 KW	72	95
FMA-4M	1.5	1.7	12 KW	107	130
FMA-5M	2.1	3.22	12 KW	144	175
FMA-6M	3.2	5.05	12 KW	206	275
FMA-8M	4.2	6.23	12 KW	280	346

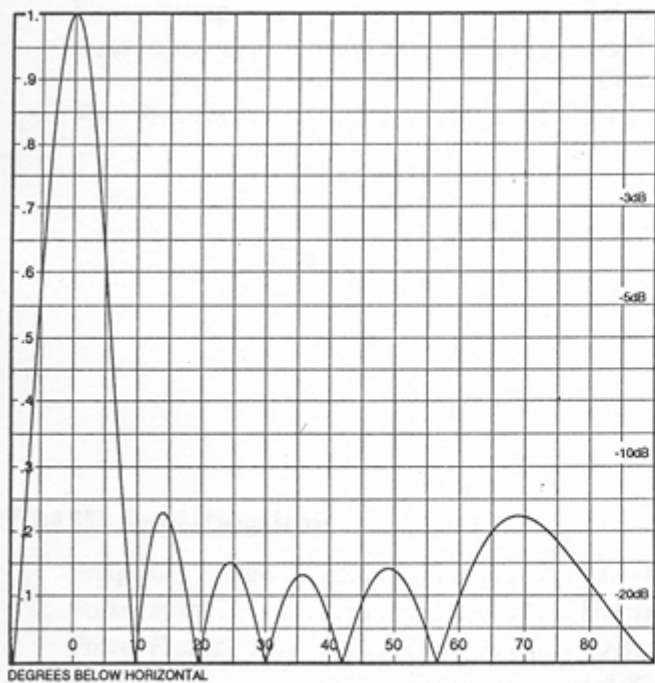
FM Antenna Elevation Patterns



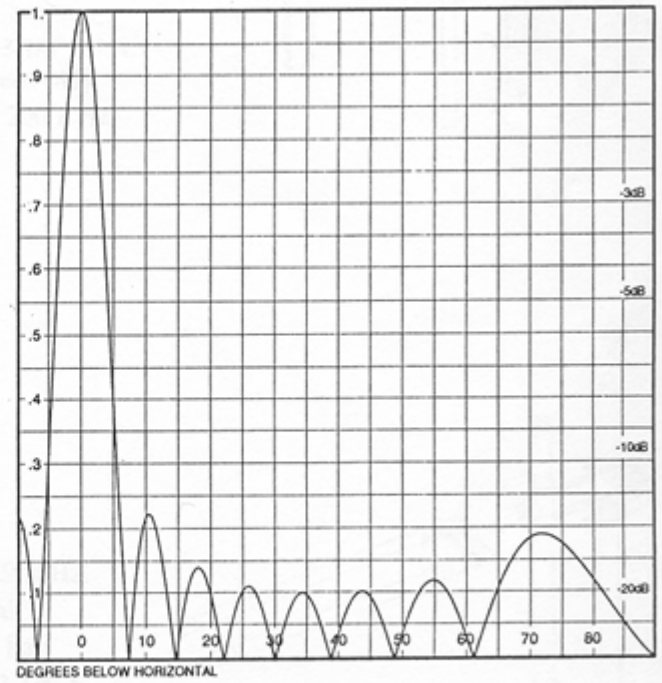
2 BAY



4 BAY



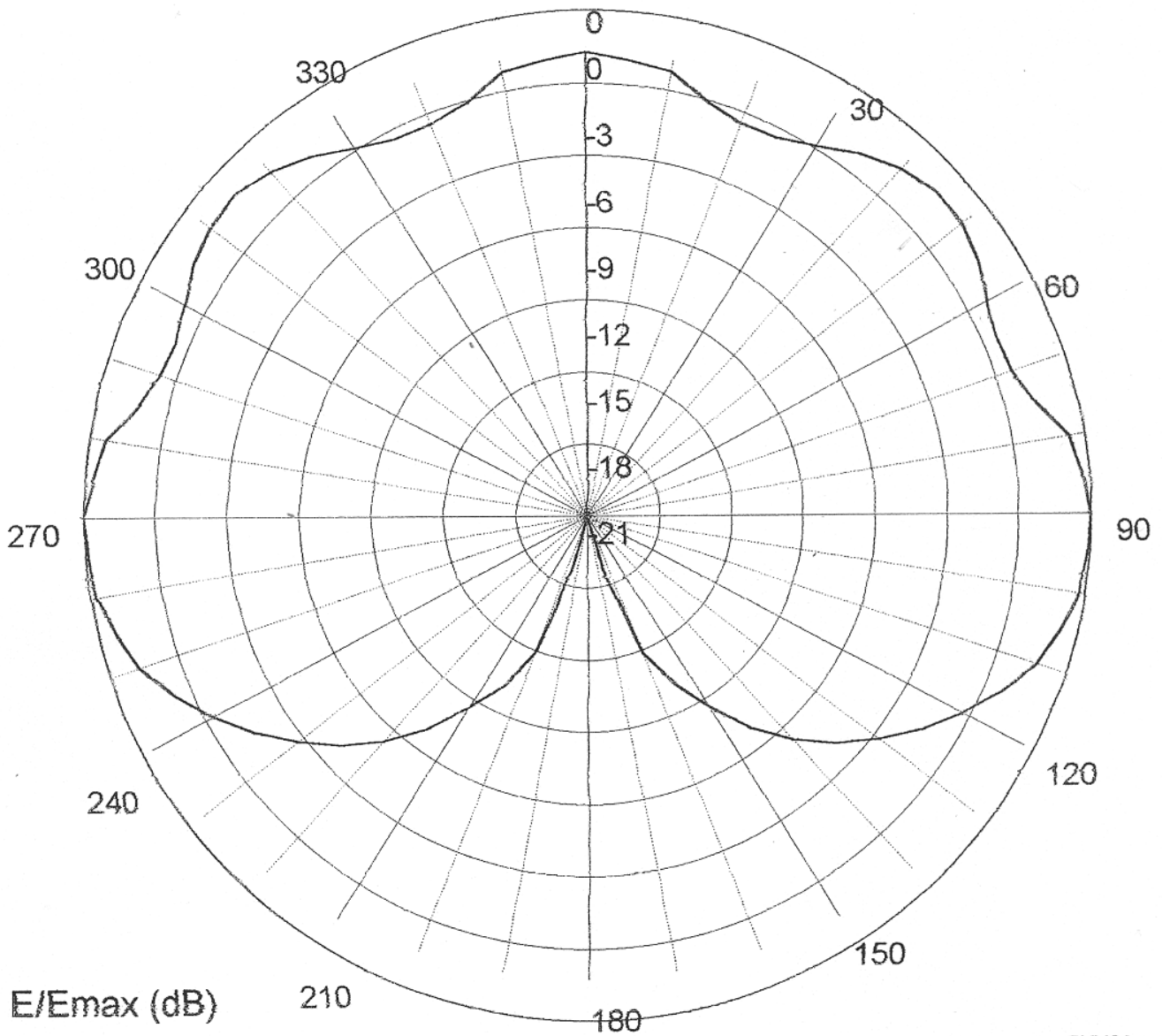
6 BAY



8 BAY

Superior Broadcast Products

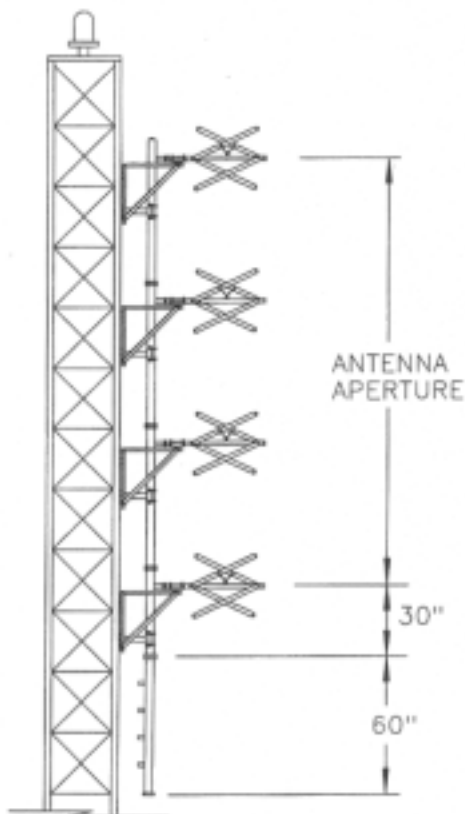
UPWC Pattern
Broadband UHF
Elevation: 0 °



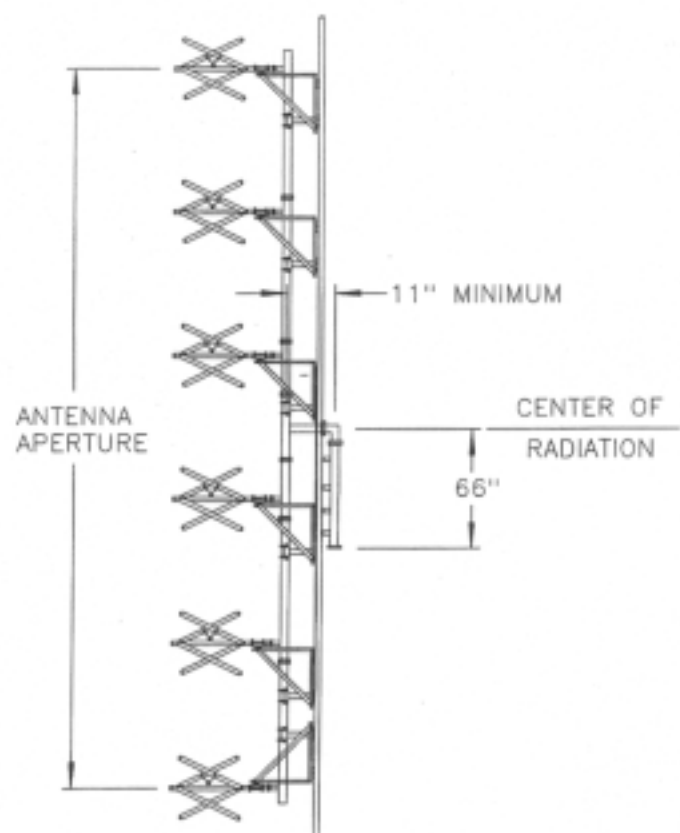
RYMSA

FEATURES:

- EXCELLENT CHOICE FOR MOST CLASS C-STATIONS. PROVIDES SUPERIOR PERFORMANCE FOR STEREO AND SCA OPERATION DUE TO ITS WIDE VSWR BANDWIDTH.
- DURABLE CORROSION RESISTANT CONSTRUCTION. THE ANTENNA SYSTEM IS FABRICATED FROM RUGGED HEAVY WALL COPPER AND NAVAL BRASS. ALL JOINTS ARE TIG WELDED.
- HIGH POWER RATING. EACH BAY IS RATED AT 10 Kw, WITH A MAXIMUM OF 40 Kw FOR FOUR BAYS OR MORE.
- PRESSURIZED AND GROUNDED. THE ENTIRE ANTENNA SYSTEM IS PRESSURIZED TO THE FEED POINT OF EACH BAY AND EACH BAY IS DC GROUNDED. THUS ELIMINATING THE NEED TO PURCHASE A SHORTING STUB.
- BEAM TILT AND/OR NULL FILL OPTIONAL. CUSTOM ELEVATION PATTERNS ARE AVAILABLE WITH CENTER FEED ARRAYS THAT HAVE AN EVEN NUMBER OF BAYS.
- CUSTOM DIRECTIONAL ANTENNA PATTERNS. DIRECTIONAL PATTERNS BASED ON THE CUSTOMER'S MOUNTING STRUCTURE ARE AVAILABLE TO MEET FCC REQUIREMENTS.
- ELECTRICAL DEICERS OR RADOMES ARE AVAILABLE FOR AREAS WITH HEAVY ICING AND/OR SNOW CONDITIONS.
- A 2-YEAR LIMITED WARRANTY ON DEFECTS IN MATERIAL AND WORKMANSHIP TO THE ORIGINAL PURCHASER.



END FEED



CENTER FEED

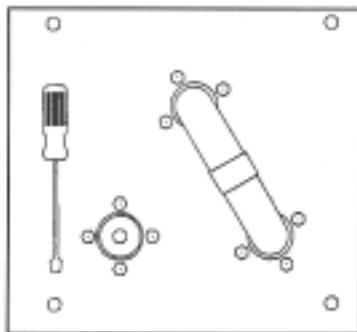
Superior Broadcast Products

ACCESSORIES

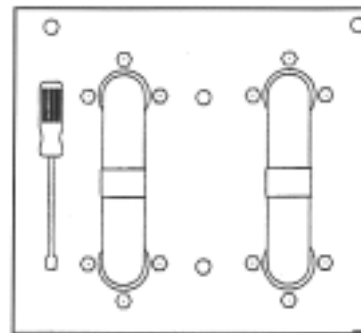
SWR offers a variety of broadcast component accessories, including but not limited to the following: Channel Combiners, Diplexers, Multiplexers, Filters, Harmonic Filters, Couplers, Patch Panels, Lightning and Grounding Protection accessories, and DTV accessories. Please consult the factory for any item that is not listed below.

PATCH PANELS

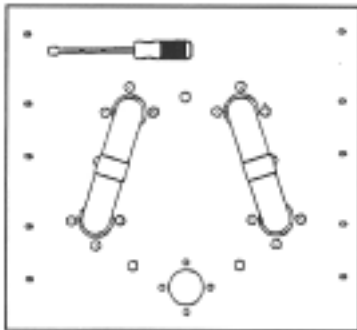
3 Port



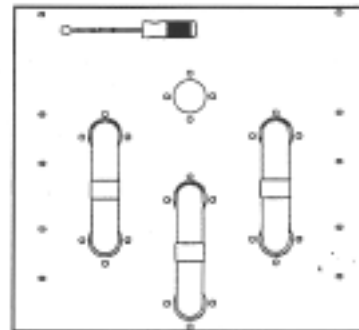
4 Port



5 Port



7 Port



Manual, unpressurized, includes U-link, anchor insulator connectors, line clamps & screwdriver. Specify line voltage requirements when needed.

Transmission Line Size	3 Port	4 Port	5 Port	7 Port	Micro-Switch Assembly
1 5/8"-50Ω	150775	150780	150785	150790	150795
3 1/8"-50Ω	350775	350780	350785	350790	350795
4 1/16"-50Ω	450775	450780	450785	450790	450795
6 1/8"-50Ω	650775	650780	650785	650790	650795
6 1/8"-75Ω	675775	675780	675785	675790	675795

Superior Broadcast Products

Frequency Agile S T L System



FREQUENCY RANGE	87.5 ÷ 108 MHz
MODULATION	FM
EMISSION CLASS	F3E
VCO TUNING	25 MHz
FREQUENCY STABILITY	± 2.5 ppm
SYNTHESIZER STEP	100KHz opz. 10KHz
POWER OUTPUT	0 ÷ 22 Watts
SPURIOUS EMISSION	< - 80 dB or better
HARMONIC EMISSION	< - 70 dB
STEREO SEPARATION	> 55 dB @ 1KHz (typ. 60dB)
DISTORTION	< 0.1 % (typ. 0.06%) @ 1KHz
BASE BAND	30 Hz ÷ 60 KHz within 0.15 dB
UNWEIGHTED S/N RATIO	>80 dB (30Hz ÷ 15KHz 50 µS RMS)
ASYNCHRONOUS AM S/N Ratio	> 70 dB Ref. 100% AM 400Hz
SYNCHRONOUS AM S/N Ratio	> 65 dB with FM @ 75KHz @400Hz
PRE-EMPHASIS	50 OR 75 µS int. selectable
RF OUT CONNECTOR	N-F 50 Ohm
MPX INPUT CONNECTOR	BNC-F
MPX INPUT IMPEDANCE	2 KOhm SCA INPUT
CONNECTOR	3 BNC-F
COOLING	Convection for RF PA and a little fan for inside
OP.TEMPERATURE RANGE	0 ÷ +45 °C
MAXIMUM HUMIDITY	90 %
AC SUPPLY	100 ÷ 240 VAC - 47 ÷ 63 Hz
DIMENSION	1 unit rack 19", 360mm depth
WEIGHT	3.5 Kg

Superior Broadcast Products

High Gain Half Parabolic Antenna.

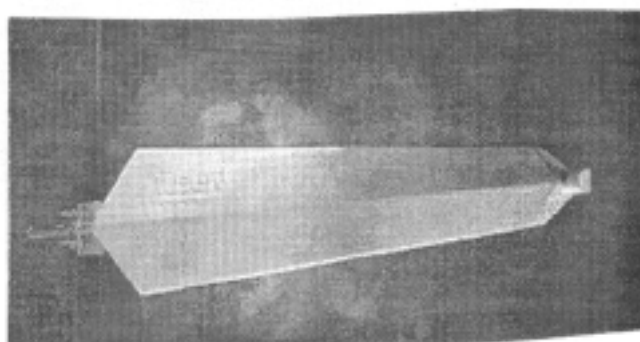
Available in frequencies from 460 MHz to 970 MHz



Specifications

Model	PRA-
Average Gain	18 dBd
Horizontal beam width @ -3 dB	12 deg.
Vertical beam width @ -3 dB	24 deg.
V.S.W.R.	Better than 1.2:1
Bandwidth	460 to 970 MHz in 5 bands
Polarization	Horizontal or Vertical
Impedance	50 ohm
Connector	"N" Female
Maximum input power	200 watts
Weight	37 LB
Mounting	Bracket for 1 to 2.5 inches pipe
Construction	Elements treated aluminum Brackets Galvanized Bolts Stainless Steel
Complete with standard mounting hardware	

15 Element 950 MHz log-periodic antenna. Ideal STL transmitting and receiving antenna.. Enclosed in a radome for protection from weather.



Specifications

Model	ARI-330
Average Gain	14 dBd
Horizontal beam width	27 deg
Vertical beam width	35 deg.
V.S.W.R,	Better then 1.3:1
Bandwidth	470 to 860 MHz
Polarization	Horizontal or Vertical
Impedance	50 ohm
Connector	"N" female
Max. input power	100 watts
Weight	30 lb
Wind load	27 lb
Lightning protection	DC ground
Materials	Elements Aluminum dipoles

Superior Broadcast Products

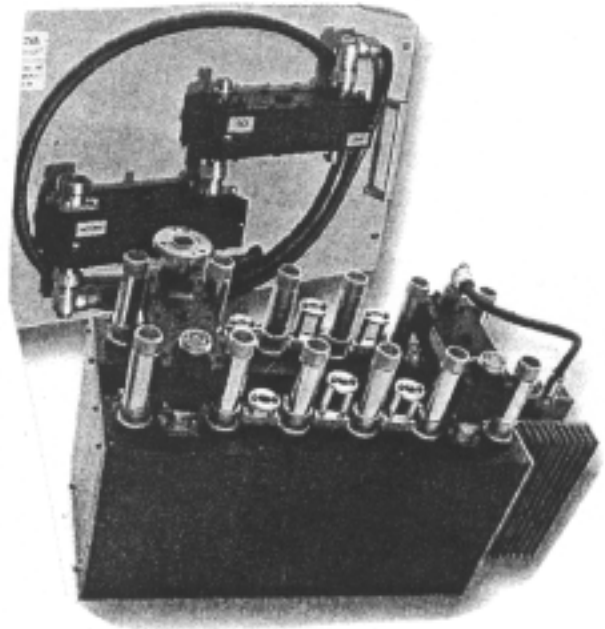
Combiners to Combine two or more Analog or Digital Television or FM Stations into one Common Antenna



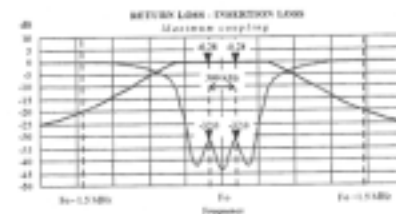
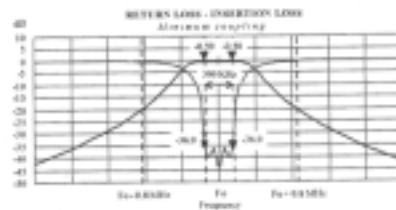
Superior Broadcast Products produces a complete line of Combiners for both Analog and Digital Television and FM. Featuring a wide range of power levels, Superior has both constant impedance combiners and reflective combiners. The constant impedance type system is suitable for combining two adjacent channels.

Financing Available

Band Pass and Notch Filters for Analog and Digital Television or FM



Superior Broadcast Products produces a complete line of both Band Pass and Notch for both Analog and Digital Television and FM. The basic configuration of our filters consists of two or more cylindrical cavities interconnected by an inductive coupling.



Model DAI-2 Dial-up Audio Interface **Telephone Controlled Relay Switching with Audio Capabilities**



Perform remote broadcasts from an ordinary telephone

The DAI-2 allows station personnel to perform a remote broadcast from an ordinary telephone with no assistance at the studio. But with the array of features included, its uses are unlimited! The DAI-2 combines a telephone autocoder, a DTMF tone operated controller, audio switching, alarm sensing and output relays into an extraordinarily flexible system.

The DAI-2 consists of our Dial-up Audio Interface controller and an integrated relay panel. Our experience with this product has shown that engineers are not interested in building a custom relay panel when a simple alternative is available. We've designed the relay panel to be as easy as possible to install while still maintaining the full flexibility of the system. Then, we combined it with the DAI control unit into a single space rack panel. The result is a small, elegant package with more functionality than the original!

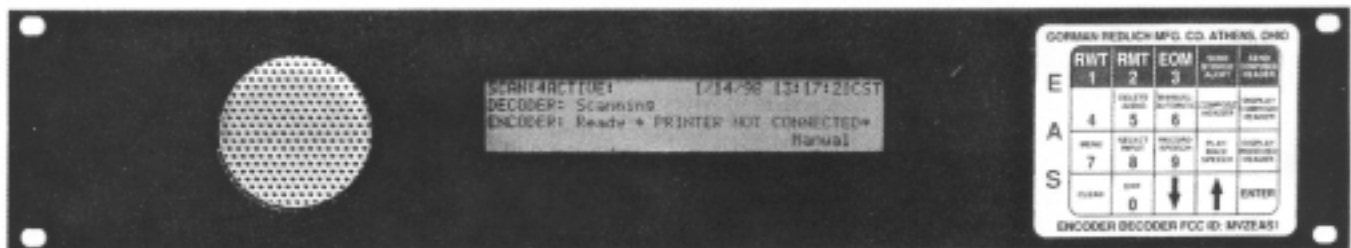
Here are some of the features of the DAI-2:

- Integrated relay panel and single space rack unit chassis
- Relay status indicators on the front panel
- 1 ganged DPDT relay for stereo audio switching
- 7 DPDT relays for audio switching and control
- 3 factory-programmed command sets
- 1 fully user-programmable command set
- Momentary or latched relay outputs
- 4 logic level inputs
- DTMF tone decoder
- Balanced audio input and output
- Automatic level control for telephone line audio
- Cue tone generator
- External connections made through screw terminals

The DAI combines these functions as necessary to perform complex actions at the press of a single button on an ordinary telephone. The system is fully programmable. You specify what should happen for each different key.



EMERGENCY ALERT SYSTEM ENCODER-DECODER MODEL EAS-1



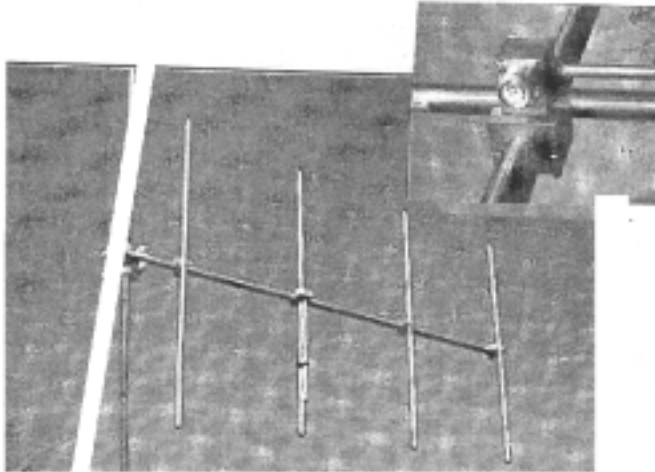
Model EAS-1 is now available with an optional telephone interface for inserting an emergency message from a remote location with a DTMF telephone keypad. The EAS-1 requires 3½ inches of rack space.

The EAS-1 with CG has a character generator built into a cabinet that requires 5¼ inches of rack space. This unit with a dedicated character generator will put a crawl on the television screen for a cable system or TV station.

- 5 bi-directional RS232 inputs/outputs for computer, modem, remote sign board, character generator and auxiliary panel.
- 6 audio inputs on standard models. All audio inputs are transformer isolated from encoder-decoder board.
- Manual or automatic mode; keypad selectable.
- Automatic interruption of stereo program lines when pre-selected header code is received, while in automatic operation, for insertion of alert message on transmitter.

Superior Broadcast Products

FM Transmit and Receive Antenna Ideal for FM Translators

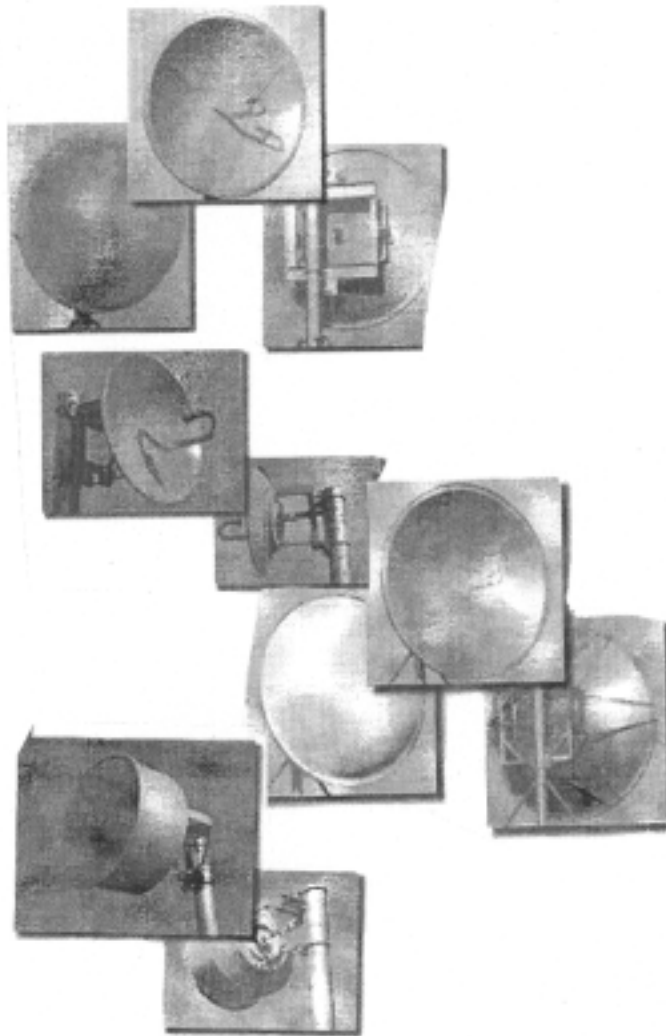


Specifications

Model	AST-330
Average Gain	8 dBd
Horizontal beam width @ -3 dB	73 deg.
Vertical beam width	53 deg.
V.S.W.R.	Better than 1.1:1
Bandwidth	2 MHz from center frequency
Polarization	50 Ohm
Impedance	7/16 DIN
Connector	600 Watts
Maximum Input Power	600 Watts
Weight	39 lb.
Mounting	Bracket for 1 to 2.5 inches pipe
Construction	Elements treated aluminum Brackets Galvanized Bolts Stainless Steel

Complete with standard mounting hardware

Microwave Antennas



The above illustrations range from 1.4 to 23.8 GHz. This new product line is designed to satisfy the professional requirements of Broadcasters and the Telecommunications industry.