

PRODUCT CATALOG

2025



INNOVATIVE IDEAS
QUALITY PRODUCTS
COMPETITIVE PRICES



Shively Labs®

WELCOME

American Amplifier Technologies (AAT) provides a wide range of services and products designed for the FM, TV, and AM broadcast industries. Known for our quality and reliability, our products are engineered to deliver years of exceptional performance. Our experienced team of engineers and technicians ensures that every product and service meet the highest standards, combining innovative design with robust functionality.

AAT proudly incorporates **Shively Labs**, a trusted name in FM broadcast technology for over 60 years. Shively Labs' renowned antennas, combiners, and filters are engineered to meet the unique demands of modern broadcasters, offering precision, durability, and performance. Together, AAT and Shively Labs bring a legacy of excellence, providing solutions that are both dependable and forward-thinking.

With a shared commitment to quality, innovation, and customer satisfaction, AAT and Shively Labs are your partners in delivering outstanding broadcast solutions.

Shively Labs®



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TRANSMITTERS

ADVANCED FEATURES. EXCEPTIONAL PERFORMANCE.

ABOUT OUR TRANSMITTERS

AAT, in partnership with SYES, delivers cutting-edge transmission solutions designed to meet the demands of modern broadcasters. The TXN Series offers state-of-the-art FM and TV broadcast technology, featuring power ranges from 10W to 60kW, optional built-in enhancements, and future-ready capabilities for seamless, high-performance broadcasting.

For those requiring a simpler approach, the legacy E-Series continues to offer robust solutions, ensuring complete coverage for diverse broadcasting needs.

Features:

- Available for FM and TV (UHF, VHFI, VHFIII)
- Solid state power MOSFET Technology
- Reliable design and manufacturer
- Efficient state-of-the-art transistors and power supplies
- Extensive monitoring via Ethernet and Remote Samples



E-SERIES FM TRANSMITTERS

50W – 60KW FM TRANSMITTERS



FEATURES

- Class Leading Features: Stereo Encoder, RBDS/RDS Generator, & SCA.
- Reliable Design and Manufacturer
- Frequency Agile 87.5 - 108MHz
- AES, MPX, and Analog Audio Inputs
- Efficient State-of-the-Art Transistors and Power Supplies
- Extensive Monitoring via Ethernet, SNMP, and Remote Samples

Audio Characteristics		
Left-Right Analog Operation	Input Impedance	600Ω, 10 KΩ (selectable from front panel)
	Input Connector	XLR (balanced)
	Input Level Max	+10 dBm +/- 2dB (others available)
	Harmonic Distortion	<1% (50 Hz-15KHz)
	S/N Ratio	>-60dB FM noise, >-50dB AM noise
	Pre-emphasis	25, 50, 75 μS, or flat response (selectable)
MPX Operation	Input Impedance	10 KΩ Unbalanced
	Input Connector	BNC
	Harmonic Distortion	< 1% (50 Hz-15KHz)
	S/N Ratio	> 65 dB
SCA Operation	Number of Inputs	2
	Input Connector	BNC Female
	Input Level	+10 dBm Nominal
	Frequency Range	57 to 93 kHz
Digital Audio	AES/EBU	XLR, 3-position, Female
	S/PDIF	Optical, Toslink
	S/PDIF	Coaxial, RCA Female

RF Characteristics	
Output Impedance	50 Ω
Operating Modes	FM, FM+HD, HD Only, DRM
Frequency Range	87.5 – 108.0 MHz (± 1 kHz stability)
Power Level	Adjustable 1 – 102%
Output Connector	3-1/8" EIA Female
Maximum VSWR	1.40:1
Overall Efficiency	Typically 71% or Better (Analog Only)

Electrical		
Flexible AC Input	AC Power Single Phase	200 - 250 VAC +/-10% 50/60Hz
	AC Power Three Phase	200 - 250 VAC +/-10% 50/60Hz

Interface

Remote Port	Control	RF Carrier on/off, RF Power up/down, Reset
	Monitor	Forward, Reflected, Current, Voltage, Temperature
	Flags	Amplifier Overdrive, VSWR (Adjustable Trip Point), High Temperature
Ethernet	Control	RF Carrier on/off, RF Power up/down, AGC/manual, Change VSWR Trip Point, Reset
	Monitor	Forward/Reflected RF Level, DC Pallet Voltage, RF Input Level, Temperature, VSWR Trip Point, Model, S/N
	Flags	Carrier on/off, Amplifier Overdrive, DC Pallet Voltage, VSWR, RF Input Level, Temperature, AGC/Manual Status
SNMP	Control	RF Carrier on/off, RF Power up/down, AGC/Manual, Change VSWR Trip Point, Reset
	Monitor	Forward/Reflected RF Level, DC Pallet Voltage, RF Input Level, Temperature, Pallet current, Attenuation, Run Time, RF Fault, Model/Serial Number
	Flags	Amplifier Overdrive, VSWR, Temperature, SNMP Error
RBDS/RDS	Input Connector	USB
	Features	Scrolling, Parsing, Advanced Weekly Scheduling, UECP, ASCII Terminal Control
	Supported Commands	PI, PS, PTY, TP, AF, TA, PTYN, DI, EON, RT+, M/S, PIN, ECC, RT, TDC, IH, ODA, CT, LIC, TMC



OLED Display



Exciter Rear Panel Connections

Physical Features

Minimal Rack Space	2U – 50W/150W/300W/500W; 3U – 750W/1kW/1.5kW; 4U – 2kW/2.5kW/3kW;	U (H) x 25"- 36" (D) x 19" (W)
	6U – 3.5kW/5kW/6kW; 42U – 8kW/10kW; 48U – 12kW/14kW/20kW/25kW; 96U-30kW/40kW/60kW	U (H) x 40"- 43" (D) x 24" (W)
Weight	50W - 30 lbs; 150W - 35 lbs; 300W - 40 lbs; 500 W - 45 lbs; 750W - 65 lbs; 1kW - 70 lbs; 1.5kW - 75 lbs; 2kW - 80 lbs; 2.5kW - 90 lbs 3kW - 100 lbs 3.5kW - 130 lbs; 5kW - 160 lbs; 6kW - 170 lbs; 8kW - 450 lbs; 10kW - 800 lbs; 12kW - 900 lbs; 14kW - 950 lbs; 20kW - 1000 lbs; 25kW – 1150 lbs. 1200lbs- 30kW; 1500 lbs 40 kW; 1800 lbs 60kW	

Environmental

Maximum Elevation	10,000 ft.
Operating Temperature	0 to +59° C
Air Flow Max CFM	2,000 ft3/min
Humidity	90%, non-condensing

1KW TO 3.5KW FM TRANSMITTERS



FEATURES

- Solid State Power MOSFET Technology
- HD Ready
- Frequency 87.5 – 108MHz
- Extensive Monitoring via Ethernet and Remote Samples

Specifications

Model	FM-1000E, FM-2000E, FM-3000E, FM-3500E
Output Impedance	50 Ω
Frequency Range	87.5 – 108.0 MHz
Nominal Output Power	Model dependent (1 kW, 2 kW, 3 kW, 3.5kW)
Output Connector	7/16" DIN 7/16, 7/8 EIA
Spurious Emissions	Compliant to Industry Canada BETS-6 and FCC 73.317

Electrical

AC Input Voltage	200 - 250 Vac
Overall Power Consumption	1 kW = 1.470 kW, 2 kW = 2.941 kW, 3 kW = 4.411 kW , 3.5 kW = 5.147 kW
Overall Efficiency	>68%
PA Power Consumption	1 kW = 1.282 kW, 2 kW = 2.564 kW, 3 kW = 3.846 kW, 3.5 kW = 4.487 kW
PA Efficiency	>78%

Interface:

Remote Port	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, control PCB Vcc
	Flags:	VSWR, Current, Voltage, Forward Power
Ethernet	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, VSWR trip point, model
	Flags:	Carrier on/off, amplifier overdrive, DC pallet voltage, VSWR, RF input level, AGC/manual status
LCD Display	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, pallet current
	Flags:	VSWR, Current, Voltage, Forward Power

Physical Features

Minimal Rack Space	3U	5.25" (H) x 21" (D) x 19" (W)
Lightweight Enclosures	Aluminum	
Operating Temperature	0 to +59° C	
Humidity	90%, non-condensing	

5KW AND 6KW FM TRANSMITTERS



FEATURES

- Solid State LDMOS Technology
- HD Ready
- Frequency 87.5 – 108MHz
- Extensive Monitoring via Ethernet and Remote Samples

Specifications

Models	FM-5000E, FM-6000E
Output Impedance	50 Ω
Frequency Range	87.5 – 108.0 MHz
Nominal Output Power	5000 watt, 6000 watts
Power Level	Adjustable 1 – 105%
Output Connector	7/8 EIA
Spurious Emissions	Compliant to Industry Canada BETS-6 and FCC 73.317

Electrical

AC Input Voltage	208 - 250 Vac
Overall Power Consumption	5 kW = 7.352 kW, 6 kW = 8.822 kW
Overall Efficiency	>69%
PA Power Consumption	5 kW = 6.410 kW , 6 kW = 7.692 kW
PA Efficiency	>78%

Interface

Remote Port	Control:	RF Carrier on/off, Reset, Raise/Lower Power
	Monitor:	Forward/reflected RF level, control PCB Vcc
	Flags:	VSWR, Current, Voltage, Forward Power
Ethernet	Control:	RF Carrier on/off, Reset, Raise/Lower Power
	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, VSWR trip point, model
	Flags:	Carrier on/off, Overdrive, DC pallet voltage, VSWR, RF input level, AGC/manual status
LCD Display	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, pallet current
	Flags:	VSWR, Current, Voltage, Forward Power

Physical Features

Minimal Rack Space	12U	12.25" (H) x 30" (D) x 19" (W)
Lightweight Enclosures	Aluminum	
Operating Temperature	0 to +59° C	
Humidity	90%, non-condensing	

HIGH POWER E-SERIES FM TRANSMITTERS



FEATURES

- Class Leading Features: Stereo Encoder, RBDS/RDS Generator, and SCA.
- Frequency: 87.5 - 108MHz
- AES, MPX, and Analog Audio Inputs
- Extensive Monitoring via Ethernet, SNMP, SMTP, and Remote Samples
- HD Ready

Specifications

Model	FM-10,000E, FM-20,000E, FM-25,000E, FM-30,000E, FM-40,000E, FM-50,000E, FM-60,000E
Output Impedance	50 Ω
Frequency Range	87.5 – 108.0 MHz
Nominal Output Power	Model dependent
Output Connector	3-1/8", 4-1/16", 6-1/8" EIA
Spurious Emissions	Compliant to Industry Canada BETS-6 and FCC 73.317
Operating Modes	FM, FM+HD, HD Only, DRM

Electrical

AC Input Voltage	200 - 250 VAC 50/60 Hz Single or Three Phase
Overall Efficiency	>68% (analog)
PA Efficiency	>78% (analog)

Interface:

Remote Port	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, control PCB Vcc
	Flags:	VSWR, Current, Voltage, Forward Power
Ethernet	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, VSWR trip point, model
	Flags:	Carrier on/off, amplifier overdrive, DC pallet voltage, VSWR, RF input level, AGC/manual status
LCD Display	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, pallet current
	Flags:	VSWR, Current, Voltage, Forward Power

Physical Features

Minimal Rack Space	Full Racks	7 ft Racks
Lightweight Enclosures	Aluminum	
Operating Temperature	0 to +59° C	
Humidity	90%, non-condensing	

Audio Characteristics

Left-Right Analog Operation	Input Impedance	600Ω, 10 KΩ (selectable from front panel)
	Input Connector	XLR (balanced)
	Input Level Max	+10 dBm +/- 2dB (others available)
	Harmonic Distortion	<1% (50 Hz-15KHz)
	S/N Ratio	>-60dB FM noise, >-50dB AM noise
	Pre-emphasis	25, 50, 75 μS, or flat response (selectable)
MPX Operation	Input Impedance	10 KΩ Unbalanced
	Input Connector	BNC
	Harmonic Distortion	< 1% (50 Hz-15KHz)
	S/N Ratio	> 65 dB
SCA Operation	Number of Inputs	2
	Input Connector	BNC Female
	Input Level	+10 dBm Nominal
	Frequency Range	57 to 93 kHz
Digital Audio	AES/EBU	XLR, 3-position, Female
	S/PDIF	Optical, Toslink
	S/PDIF	Coaxial, RCA Female



OLED Display



Exciter Rear Panel Connections

TXN SERIES FM TRANSMITTERS

100W – 6KW



FEATURES

- Stereo Encoder, RBDS/RDS Generator, Dynamic RDS, and SCA.
- Frequency: 87.5 - 108MHz
- AES, MPX, and Analog Audio Inputs
- MPX over AES, MPX over IP
- Extensive Monitoring via Ethernet, SNMP, SMTP, and Remote Samples

Specifications

Model	TXN-100, TXN-300, TXN-600, TXN-1000, TXN-3000, TXN-5000, TXN-6000
Output Impedance	50 Ω
Frequency Range	87.5 – 108.0 MHz
Nominal Output Power	Model dependent
Output Connector	Type N, 7/8" EIA
Spurious Emissions	Compliant to Industry Canada BETS-6 and FCC 73.317
Operating Modes	FM, FM+HD, HD Only, DRM

Electrical

AC Input Voltage	200 - 250 VAC 50/60 Hz Single or Three Phase
Overall Efficiency	>68% (analog)
PA Efficiency	>78% (analog)

Interface

Remote Port	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, control PCB Vcc
	Flags:	VSWR, Current, Voltage, Forward Power
Ethernet	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, VSWR trip point, model
	Flags:	Carrier on/off, amplifier overdrive, DC pallet voltage, VSWR, RF input level, AGC/manual status
LCD Display	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, pallet current
	Flags:	VSWR, Current, Voltage, Forward Power

Physical Features

Minimal Rack Space	1U – 100W/300W/600W; 3U – 1kW /2kW /3 kW; 4U – 3.5kW/4kW/5kW/6kW;	U (H) x 25" - 36" (D) x 19" (W)
Lightweight Enclosures	Aluminum	
Operating Temperature	0 to +59° C	
Humidity	90%, non-condensing	

Audio Characteristics		
Left-Right Analog Operation	Input Impedance	600Ω, 10 KΩ (selectable from front panel)
	Input Connector	XLR (balanced)
	Input Level Max	+10 dBm +/- 2dB (others available)
	Harmonic Distortion	<1% (50 Hz-15KHz)
	S/N Ratio	>-60dB FM noise, >-50dB AM noise
	Pre-emphasis	25, 50, 75 μS, or flat response (selectable)
MPX Operation	Input Impedance	10 KΩ Unbalanced
	Input Connector	BNC
	Harmonic Distortion	< 1% (50 Hz-15KHz)
	S/N Ratio	> 65 dB
SCA Operation	Number of Inputs	2
	Input Connector	BNC Female
	Input Level	+10 dBm Nominal
	Frequency Range	57 to 93 kHz
Digital Audio	AES/EBU	XLR, 3-position, Female
	S/PDIF	Optical, Toslink
	S/PDIF	Coaxial, RCA Female

HIGH POWER TXN SERIES FM TRANSMITTERS



FEATURES

- Stereo Encoder, RBDS/RDS Generator, Dynamic RDS, and SCA.
- Frequency: 87.5 - 108MHz
- AES, MPX, and Analog Audio Inputs
- MPX over AES, MPX over IP
- Extensive Monitoring via Ethernet, SNMP, SMTP, and Remote Samples

Specifications

Model	TXN-10kW, TXN-15kW, TXN-20kW, TXN-25kW, TXN-30kW, TXN-40kW, TXN-60kW
Output Impedance	50 Ω
Frequency Range	87.5 – 108.0 MHz
Nominal Output Power	Model dependent
Output Connector	3-1/8", 4-1/16", 6-1/8" EIA (other available)
Spurious Emissions	Compliant to Industry Canada BETS-6 and FCC 73.317
Operating Modes	FM, FM+HD, HD Only, DRM

Electrical

AC Input Voltage	200 - 250 VAC 50/60 Hz Single or Three Phase
Overall Efficiency	>68% (analog)
PA Efficiency	>78% (analog)

Interface

Remote Port	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, control PCB Vcc
	Flags:	VSWR, Current, Voltage, Forward Power
Ethernet	Control:	RF carrier on/off, Reset
	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, VSWR trip point, model
	Flags:	Carrier on/off, amplifier overdrive, DC pallet voltage, VSWR, RF input level, AGC/manual status
LCD Display	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, pallet current
	Flags:	VSWR, Current, Voltage, Forward Power

Physical Features

Minimal Rack Space	Full Racks	7 ft Racks
Lightweight Enclosures	Aluminum	
Operating Temperature	0 to +59° C	
Humidity	90%, non-condensing	

Audio Characteristics

Left-Right Analog Operation	Input Impedance	600Ω, 10 KΩ (selectable from front panel)
	Input Connector	XLR (balanced)
	Input Level Max	+10 dBm +/- 2dB (others available)
	Harmonic Distortion	<1% (50 Hz-15KHz)
	S/N Ratio	>-60dB FM noise, >-50dB AM noise
	Pre-emphasis	25, 50, 75 μS, or flat response (selectable)
MPX Operation	Input Impedance	10 KΩ Unbalanced
	Input Connector	BNC
	Harmonic Distortion	< 1% (50 Hz-15KHz)
	S/N Ratio	> 65 dB
SCA Operation	Number of Inputs	2
	Input Connector	BNC Female
	Input Level	+10 dBm Nominal
	Frequency Range	57 to 93 kHz
Digital Audio	AES/EBU	XLR, 3-position, Female
	S/PDIF	Optical, Toslink
	S/PDIF	Coaxial, RCA Female

UHF & VHF DIGITAL TV TRANSMITTERS

25W – 5KW TV TRANSMITTERS

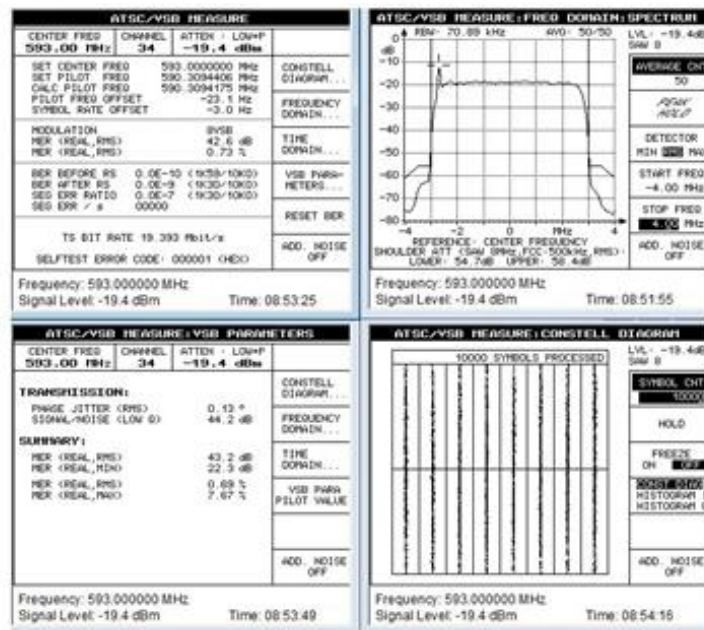


FEATURES

- ATSC 1.0 (ATSC 3.0 Ready)
- COFDM, 8VSB, DVBT/H
- Efficient Transistors and Power Supplies
- Extensive Monitoring via Ethernet, SNMP, and Remote Samples

RF Characteristics

Frequency Range	VHF 50 – 230 MHz, UHF 470 - 860 MHz	
Input Power	0 dBm into power amplifier from modulator	
Nominal Output Power (8VSB)	VHF: 25W, 40W, 100W, 250W, 500W, 1kW, 2kW, 3kW, 4kW, 5kW	UHF: 40W, 100W, 250W, 500W, 1kW, 2kW, 3kW, 4kW, 5kW
Power Level	Adjustable 10 – 100%	
Input Impedance	50 Ω into amplifier, BNC female	
Output Impedance	50 Ω , N or 7-16 DIN female (dependent on power level)	
Modulation	8VSB, QAM, DVBT/H (output power will change between standards)	
Signal and Noise	MER >36 dB typical	
Phase Jitter	>104 dB	
Shoulders	>-50 dB typical, ATSC mode compliant to ATSC A53/B	



Typical Performance Specifications

Electrical Specifications

Flexible AC Input	VHF PA:	25W/100W/250W/500W	90-264Vac
		1kW/2 kW/3 kW/4 kW/5kW	180-264Vac
	UHF PA:	25W/100W/250W/500W	90-264Vac
		1kW/2kW/3kW/4kW/5kW	180-264Vac

Interface

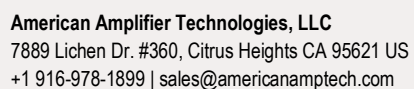
DB25 Remote Port	Control:	RF carrier on/off, RF power up/down, reset
	Monitor:	Forward/reflected RF level, control PCB Vcc
	Flags:	Overdrive, VSWR (adjustable trip point), high temperature
Ethernet	Control:	RF carrier on/off, RF power up/down, AGC/manual mode, change VSWR trip point, reset
	Monitor:	Forward/reflected RF level, pallet voltage, RF input level, temperature, VSWR trip point, model/serial number
	Flags:	Carrier on/off, overdrive, pallet voltage, VSWR, RF input, temperature, AGC / manual
SNMP	Control:	RF carrier on/off, RF power up/down, AGC/manual mode, change VSWR trip point, reset
	Monitor:	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, pallet current, attenuation, run time, RF fault, model/serial number
	Flags:	Overdrive, VSWR, temperature, SNMP error

Physical Features

Minimal Rack Space	VHF PA:	3U – 25W/40W; 5U – 100W/250W/500W; 6U – 1kW; 12U – 2kW; Rack - 3kW/ 4kW/5kW	x 25" (D) x 19" (W)
	UHF PA:	3U –40W; 5U – 100W/250W/500W; 6U – 1kW; 12U – 2kW; Rack - 3kW/ 4kW/5kW	x 25" (D) x 19" (W)
Lightweight Enclosures	Aluminum		
Operating Temperature	0 to +45° C		
Humidity	90%, non-condensing		



Touch Screen Interface



STL 950 MHZ AMPLIFIERS



FEATURES

- Solid State Technology
- Frequency 920-960 MHz
- Extensive Monitoring via Ethernet and Remote Samples

Specifications	
Models	STL-15A, STL-35A, STL-50A, STL-100A
Output Impedance	50 Ω
Input Power	5 watts Max
Frequency Range	920 – 960 MHz
Nominal Output Power	Model and modulation type dependent (15, 35, 60, and 100 watt models available)
Power Level	Adjustable 1 – 105%, Linear to input
Output Connector	Type N female
Input Connector	Type BNC
Spurious Emissions	Compliant to Industry Canada BETS-6 and FCC

Electrical Specifications	
AC Input Voltage	120-250 VAC
Overall Power Consumption	Typically 100-200 watts
Overall Efficiency	> 20%
PA Power Consumption	Typically 90 watts
PA Efficiency	> 25% Class A

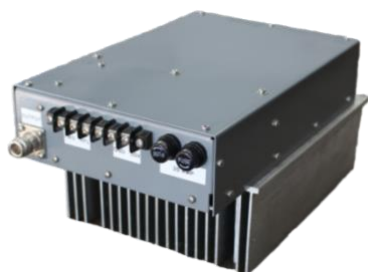
Interface	
Remote Port	Control: Reset, On/Off (external exciter)
	Monitor: Forward/reflected RF level, control PCB Vcc
	Flags: VSWR, Current, Voltage, Forward Power
Ethernet	Control: Reset, On/Off (external exciter)
	Monitor: Forward/reflected RF level, DC pallet voltage, temperature, VSWR trip point, model
	Flags: DC pallet voltage, current, VSWR
	SNMP: Yes
LCD Display	Monitor: Forward/reflected RF level, DC pallet voltage, DC current
	Flags: VSWR, Current, Voltage, Forward Power

Physical Features		
Minimal Rack Space	3U	U x 21" x 36" (D) x 19" (W)
Lightweight Enclosures	Aluminum	
Operating Temperature	0 to +59° C	
Humidity	90%, non-condensing	

Disclaimer: Specifications are subject to change without notice. Information may be changed or updated without notice. American Amplifier Technologies™ may also make improvements and/or changes in the products described at any time.

FM IPA MODULES

350W – 700W FM IPA MODULES



FEATURES

- 350 W & 700 W Modules
- Excellent for Tube and Solid State IPA stages
- Frequency 88 - 108MHz
- Direct replacement for popular Silicon Valley and MMD IPA modules used in Continental, Harris, and CCA transmitters
- LDMOS XR series FET Technology

Specifications:

Frequency	88 – 108 MHz
Output Power Rating	350 W & 700 W
Voltage	50 VDC
Input / Output	50 ohms
Efficiency	Up to 82%
Gain	24 dB
Connectors	BNC Input, Type N output

Electrical Specifications

FM350IPA 350 W MODULE	MINIMUM	TYPICAL	MAXIMUM	UNIT OF MEASURE
Output Power	50	250	350	W
DC Voltage	45	50	52	V
Power Input	2	15	17	W
Power Gain	24	25	26	dB
Amplifier Efficiency	77	78	82	%
Maximum Current Rating	-	-	8.75	A
FM700IPA 700 W MODULE	MINIMUM	TYPICAL	MAXIMUM	UNIT OF MEASURE
Output Power	50	500	700	W
DC Voltage	45	50	52	V
Power Input	2	15	17	W
Power Gain	24	25	26	dB
Amplifier Efficiency	77	78	82	%
Maximum Current Rating	-	-	17.5	A

TV MODULATORS



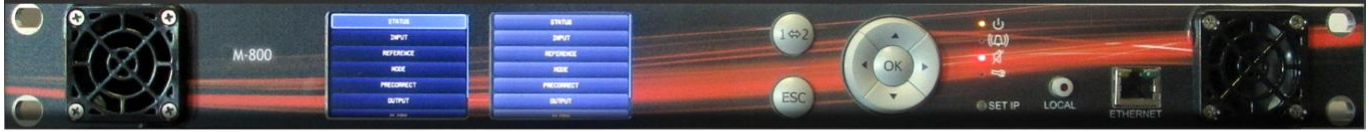
ABOUT OUR MODULATORS

Our Digital Modulators and Transmodulators can be paired with any of our Digital TV Transmitters. Formats supported include DVB-ASI, IP, RF, DVB-S2, DVB-T, DVB-c, and ISDB-T. All units follow ATSC A53 specifications.

Available Features:

- Encoding
- Decoding
- Receiving
- Modulating
- Muxing
- PSIP Rebranding
- ASI
- IP
- SDI/HD-SDI
- HDMI
- NTSC

AAT-M800 ATSC 1.0/3.0 MODULATOR



Available for all digital broadcasting systems

The American Amplifier Technologies AAT-M800 ATSC 1.0 modulator provides optimal performance and efficiency. In addition to a high RF and MER performance, the modulator offers the ability to be upgraded to ATSC 3.0 by a software license installation.

Formats Available

- ATSC 1.0 / ATSC 3.0
- DVB-T/T2
- ISDB-T/Tb
- DAB/DAB+/T-DMB

- Software upgradable to **ATSC 3.0**
- High performance digital adaptive linear and nonlinear precorrection for maximum transmitter performance.
- **OPTIPOWER®** - market leading enhanced adaptive precorrection and PAPR clipping technology for maximum optimization of transmitter power efficiency (Option AAT-M3756)
- **VHF and UHF** (selectable frequency from 30MHz to 860 MHz in steps of 1Hz)
- Integrated Multi Standard Global Navigation Satellite System (GNSS) receiver for time and frequency reference based on **GPS and GLONASS** systems (Option AAT-M3711).
- Three choices of internal precision (Local Oscillator) according to the needs of the system: 2ppm, 0.25ppm or 0.01ppm.
- **4x Ethernet Gigabit** interfaces for control and data transport.
- User friendly intuitive WEB GUI control for use with standard Web Browsers (Internet Explorer, Mozilla Firefox, Google Chrome and Opera compatible).
- **SNMP** client Get/Set/Trap.
- Available software based **Automatic Level Control** to regulate any third party power amplifier output. (Option AAT-M3770/00).
- Modes **M/H** and **SFN** supported.



Application

The AAT-M800 characterized by a high RF and MER performance and by its unique ability to optimize efficiency of any digital TV amplifier using the patented OptiPower Technology.

The AAT-M800 ATSC 1.0 modulator is designed in accordance with the ATSC standard A/53 with respect to ATSC channel coding and modulation. Support for ATSC M/H transmission in accordance to the A/153 standard and support for SFN transmission in accordance with the A/110:B and A/110:2011 revisions of the SFN standard are available as optional features.

When the A/153 M/H option is installed the AAT-M800 modulator will offer a choice between manual selection of either A/53 or A/153 mode and, if preferred, automatic toggling between A/53 and A/153 mode.

The automatic toggling between A/53 and A/153 mode is controlled by the content of the applied input stream (A/153 mode activated whenever the input stream contains the M/H PID that is characteristic of M/H transmission).

The automatic selection of mode facilitates trouble free configuration of the transmitters based on the content of the input stream. The automatic mode selection is ideal for the typical scenario where day time transmissions carry legacy as well as M/H content while the night/prime time transmissions reserve all bandwidth for legacy content only.

ProTelevision's highly advanced adaptive precorrection technology operating in thousands of installations worldwide has proven its worth and provided Broadcasters a reduction in OPEX cost due to the reduced power consumption.

The software flexibility within the AAT-M800 platform enables the broadcasters and transmitter manufactures to upgrade their systems to the ATSC 3.0 standard by a simple installation of a software license.



Easy Navigation

OPTI POWER®

Optipower is a ProTelevision Technologies' proprietary solution developed to provide an increase of quality (MER) and efficiency to new or existing TV transmitters.



Optipower consists of:

- 1) Enhanced Nonlinear Precorrection algorithm with **DEEP MEMORY EFFECTS** based on the Volterra polynomial series.
- 2) **Adaptive PAPR clipper**.

These two adaptive mechanisms, allow achieving the maximum MER value on any transmitter system (VHF, UHF, Class AB, Doherty, etc...) compared with other precorrection solutions on the market.

This MER extra increase, can be used to **enhance the overall efficiency of the transmitter system**.

In addition, ProTelevision Optipower (Option TM3756) will provide **live measurements** on the WEB Graphical User Interface: Shoulders, MER, PAPR, MER vs Carrier and a Spectrum graphic on the channel transmitted (see picture).

Main specifications for (Optipower) precorrection and feedback signals: Connectors: SMA 50 ohm // Level: -10dBm to +10dBm // Return Loss > 20dB // Frequency: 30MHz to 860MHz.

SUPPORTED MODULATOR MODES

A/53 ATSC	
A/153 ATSC M/H (option M3713)	
A/110:B and A/110:2011 SFN mode (option M3714)	
Test modes:	Single carrier, 8VSB spectrum driven by null-packet input (PRBS mode)

OUTPUT

RF-output

Connector:	N female, 50 ohm
Center frequency:	Adjustable 30-860 MHz in steps of 1 Hz
Frequency stability:	Internal ref 2 ppm to 0.01 ppm or in accordance with external ref. accuracy
Spectrum polarity:	Inverted and non-inverted, user selectable
Level:	Adjustable [-10, +10] dBm (up to +20 dBm with PT 3740 Option)
Stability:	± 0.5 dB
Return loss:	> 16 dB

Spectrum outside band (for RF Output 0 dBm @ 6 MHz)

+/-3.8 MHz:	0db
+/-4.25 MHz (shoulders):	<-50 dB (typically -55 dB)
Harmonics and spurious:	< -55 dBc
MER:	> 45 dB (typically 50 dB)

Internal frequency reference

Selectable Local Oscillator for customer's specific requirements

M3710/00	TCXO 2 ppm (default)
M3710/10	OCVCXO 0.25 ppm (optional)
M3710/20	OCVCXO 0.01 ppm (optional)

CONTROL INTERFACE

Ethernet interface

Connector:	RJ45 (1 in front panel, 4 in rear panel)
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RS232/RS485 interface

Connector:	9-pin SUB-D Male in rear panel
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HW interface

Connector:	15-pin SUB-D Female in rear panel
Alarm output:	Two user programmable alarms via separate floating relays, common make-break contacts, contact rating 60V/0.2 A (5 W max)
Input:	Separate Reset control and Output muting control, user programmable activation: ground closure or open

POWER SUPPLY

Voltage:	Accepts all the DC range from 100-240 VAC
Frequency:	47-63 Hz
Power consumption:	Max. 40 W

ELECTRICAL SPECIFICATIONS

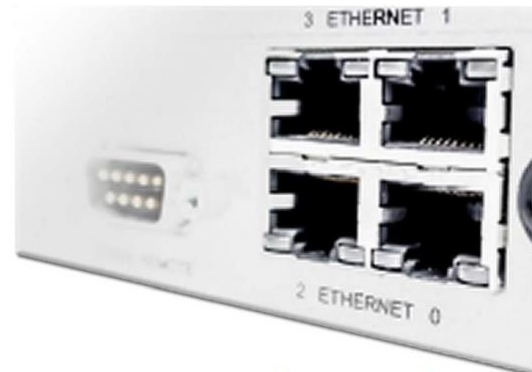
Inputs

ASI Inputs/SMTPE-310M inputs

No. of ASI inputs:	2
Connector:	BNC
Input Impedance:	75 ohm
Return Loss:	> 13 db
Redundancy:	User selectable switching policy between "Primary" and "Secondary" ASI source
Seamless Switching:	Supported for any combination of inputs (ASI/IP) in SFN Configuration

Ethernet ports (1Gbit/sec)

Total No. of ports:	4 (2 of them optimized for Data Input)
Connector:	RJ45 quadruple PCB connector



2x Control & Management

2x IP inputs

GNSS Receiver Input (Option M3711)

Connector:	TNC 50 ohm PCB connector
Frequency:	1.575 GHz (GPS) / 1.598-1.606 GHz (Glonass)
Antenna net gain range:	0 to +32 dB
Antenna:	Passive or active antenna (not included)
Antenna DC supply:	OFF, 3 Vdc or 5 Vdc (±0.5 V) user selectable
Antenna DC current:	max 50 mA

External Clock reference (carrier frequency and SFN timing):

Connector:	BNC
Frequency:	10 MHz
Level:	100 mV-3 Vpp
Impedance:	50 ohm/ > 1 kohm, user selectable
Coupling:	AC

Time reference (SFN timing)

Connector:	BNC
Frequency:	1 PPS
Level:	0-5 V, user selectable trigger point IV or 1.6V
Trigger:	Rising / falling edge, user selectable
Impedance:	50 ohm/ > 1 k ohm, user selectable

ENVIRONMENTAL SPECIFICATION

Climatic Temperature range operating:	-5°C to +55°C (+23 F to +131 F)
Temperature range within specs:	+5°C to +45°C (+41 F to +113 F)
Temperature range storage:	-30°C to +70°C (-22 F to +158 F)
Humidity operating:	max 90% RH
Humidity storage:	max 90% RH
EMC	Compliant to EN55022 (emission) and EN55024 (immunity)
Safety	Compliant to EN60950-1
RoHS	Compliant with directive 2011/65/EU

MECHANICAL SPECIFICATION

Cabinet:	19" wide, 1RU high
Width:	19"
Depth:	440 mm
Height:	44 mm (1.75")
Weight :	6 kg (16 lbs)
Cooling:	Long life externally mounted chassis fans to assist natural convection
Transport and storage:	Vibration acc. to IEC Publ. 68



Ordering codes:

ATSC Exciter

M800 ATSC 1.0 Exciter

Options, software

M3713 A/153 ATSC M/H mode*
M3714 A/110:B and A/110:2011 SFN timing*
M3754 Adaptive digital Pre-corrector
M3756 OPTIPOWER®:
Enhanced precorrection and adaptive PAPR clipper
M3770/00 Automatic Level Control
M3263 ATSC 3.0 License
M3740 +20 dBm output amplifier

Options, hardware

M3711 GNSS module (GPS and GLONASS support)
M3710/10 Medium Precision Oscillator OCVCXO 0.25 ppm
M3710/20 High Precision Oscillator OCVCXO 0.01 ppm

*For transmission to air of these transmission modes/features, it is required a license from the patent owner.

Please check: <http://atsc.org/policies/patent-statements/>

AAT-P400D MODULATOR

TRANSMODULATOR/PROCESSOR



OVERVIEW

The P400D is a powerful and cost-effective broadcast level Transmodulator/Processor. It supports signal receiving, multi-channel descrambling, multiplexing, external table/data insertion and transmodulating. It also supports MPEG2/MPEG4 SD/HD program decoding with two audio channels. With a remote, web-based management interface, it is ideal to support advanced content distribution, real-time signal conversion and transmission for any headend system. On-board PSIP Generation/Re-branding.



KEY FEATURES

Input

- 8-VSB RF input support
- Supports ASI and TS-IP input and redundancy

Data Processing

- Two separate common interfaces support multi-channel descrambling
- PID filtering, PCR re-mapping and filling (VBR/CBR)
- PSI/SI processing and regeneration
- Supports TS & Service multiplexing
- Supports TS & EIT pass-through

Output

- MPEG2 or MPEG4 HD/SD video decoding
- HDMI, SD/HD SDI and CVBS output
- SDI output with 2 embedded audios
- 1 audio decoding through AES/EBU digital audio output, 2 pairs of balanced and unbalanced analog audio outputs
- Multicast and unicast broadcasting in LAN and WAN network
- GPI alarm and cue tone output
- 8-VSB RF Output
- Failover Slate on input loss

Management

- 1 Ethernet 10/100Base-TX, RJ45
- Web-based user interface
- Front panel keypad and LCD
- SNMP supported for system integration

Specifications

AC Power Input

Voltage	100 - 240 VAC
Power Consumption	Approximately. 40W
Frequency	50 - 60 Hz

Management

Connector Type	RJ45 10/100 Mbps, Auto-Sensing
Protocols	HTTP and SNMP
User Interface	WEB GUI and Front Panel
Firmware Updates	Via Web GUI

8VSB Input

Frequency Range	57 – 803 MHz
Broadcast Channels	2 – 69
Impedance	75 Ohms
Connector Type	'F' Female
RF Bandwidth	6 MHz
RF Sensitivity	-83 to 8 dBm

8VSB Output

Frequency Range	44 – 850 MHz
Frequency Step Size	1KHz
Frequency Accuracy	< ± 2 ppm
Frequency Stability	< ± 2 ppm
Output Level	-20 to 0 dBm
Impedance	75 Ohms
Connector Type	'F' Female
Spurious Output	-60 dBc

ASI I/O

Connector Type	4 BNC, 75 Ohm (2 input, 2 output)
Max Bitrate	100 Mbps
Packet Type	188 or 204 byte
Input Mode	Burst or byte
Output Mode	Burst

MPEG over IP I/O (Optional)

Connector Type	RJ45, single Port
Speed	Up to 1000Mbps
Package Format	UDP & RTP
Traffic Type	Unicast and Multicast
FEC	ProMPEG CoP3v2
TCP/IP Protocol	IPv4
IGMP	V1, 2 and 3

Fail-Over Slate (Optional)

Upon signal lost, the unit will automatically change its input selection for Fail-Over (slate)

PSIP Update

Station Identification	Up to seven letters
Transport Stream ID	TSID
Major Channel Number	#2 – 69
Minor Channel Number	#0 – 9

Mechanical

Size	19" x 1.7" x 17.3" (485 x 340 x 45mm)
Rack Space	1RU
Weight	12 pounds (5.5 Kg)

Environmental

Operating Temperature	0° to 50° C
Storage Temperature	-40° to 70° C
Humidity	95%, Non-Condensing

AAT-P1000

MEDIA GATEWAY PLATFORM



ABOUT

The P-1000 is American Amplifier Technologies high-value product for medium and small sized service operators. It provides proven headend technology in a compact, 1RU chassis. With over 30 different input and output module options that can be combined as needed, it offers a true, comprehensive video delivery solution. Whether it is for multiplexing, receiving, encoding, transcoding, modulating, scrambling or descrambling applications, the P-1000 provides the perfect combination of capacity, flexibility, and reliability at an affordable price point.

KEY FEATURES

- Any input to any output capability
- Compact and modular design: 1RU with up to 3 modules
- Embedded ASI and IP interfaces in the main chassis
- Supports up to 4Gbps video multiplexing and TS stream multiplexing/grooming
- Supports EIT multiplexing (optional) and EPG/SI insertion (both DVB and ATSC standard)
- Dual, redundant power supplies (optional)
- Easy upgrades to support new technologies by swapping modules
- Low power consumption and high reliability with MTBF
- ≥100,000 hours
- Multi-function multiplexing, receiving, encoding, transcoding, modulation and more

APPLICATIONS

Encoding/Transcoding

- Up to 12 SD or HD programs of encoding
- Up to 24 SD or 6 HD programs of transcoding
- Multi-audio MPEG/AAC/AC3 encoding Receiving/Digital-Turn-Around
- 12 channels or frequencies of DVB-S/S2/C/T/T2, ISDB-T and 8VSB receiving
- Descramble, remultiplex and pass-through to ASI, IP or RF output

Modulation

- Up to 24 channels of QAM modulating
- Up to 12 channels of OFDM/DVB-T modulating
- 8 channels of trans-modulation to QAM (from DVB-S/S2/T/T2, ISDB-T or 8VSB)

Stream Processing

- Up to 4Gbps processing (approx. 1000 programs)
- 14 ASI ports of multiplexing
- Internal multiplexing or pass-through capabilities
- EIT multiplexing (optional)
- Supports SI and EPG data insertion

SPECIFICATIONS

CHASSIS	
Capacity	4Gbps (approx.. 1000 programs)
Slot Number	3 slots
Interface	2 x ASI inputs (BNC, Female, 75Ω ports
	2 x ASI outputs (BNC, Female, 75Ω ports
	1 x GbE TS/IP (RJ45)
	1 x management (RJ45)

ASI (on-chassis)	
Bit-rate per Port	1 MPTS/SPTS at max. 100Mbps per port

MULTIPLEXING	
Routing	Any input to any output
Table Supported	SI/PSI/PSIP
PID Processing	Pass-through, remapping, filtering
EIT Processing	Re-multiplexing (optional) and pass-through
External Data	EPG and SI insertion

MANAGEMENT	
Hardware Interface	1 x RJ45 (100Mbps)
User Interface	LED indicators
	LCD screen
	Front panel control
	Web UI
	SNMP (monitoring only)

IP (on-chassis)	
Protocol	TS over UDP/RTP, unicast/multicast
MPEG TS	MPTS and SPTS
Channel	64 streams input and 32 streams output
Bit-rate per Port	Max. 780 Mbps (effective 650Mbps)
De-jittering	PCR
Management	IGMP V1, IGMP V2, IGMP V3
FEC	ProMPEG, input and output

PHYSICAL & ENVIRONMENTAL	
Input Voltage	90~260 VAC
Dual Power Supply	Optional
Power Consumption	Max. 60W
Chassis Dimension	19" W x 17" D x 1.75" H, 1 RU
Operating Temperature	0° C ~ 50° C
Storage Temperature	-10° C ~ 70° C
Operating Humidity	< 95%
MTBF	≥ 100,000 hours

ENCODING SAMPLE CONFIGURATIONS

- 4 SD Encoders input, MUX, RF/ASI/IP outputs
- 2 SD Encoders input, MUX, RF/ASI/IP outputs
- 3 SD/1HD Encoders input, MUX, RF/ASI/IP
- 2 SD/2HD Encoders input, MUX, RF/ASI/IP

CONVERSION SAMPLE CONFIGURATIONS

- RF/ASI/ input, MUX, RF/ASI/IP outputs
- ASI/IP input, MUX, RF/ASI/IP outputs
- RF/ASI/IP input, MUX, RF/ASI/IP outputs
- And more!!

AAT-4400 IRD

PROFESSIONAL RECEIVER / DECODER



OVERVIEW

The new AAT-4400 Receiver Decoder is the latest in American Amplifier Technologies long line of professional integrated receiver/decoders for distribution and monitoring applications. Latest-generation components ensure that the AAT-4400 provides the most complete feature set and the best value for a broad swath of common receiver/decoder applications. The product supports decoding of SD or HD video, encoded as HEVC, H.264 or MPEG2, as well as up to four audio services.

The additional audio handling capability makes the AAT-4400 the perfect solution for video distributors looking to meet upcoming descriptive video requirements, while continuing to support surround, stereo, and SAP services. As customer demands evolve, units purchased for SD decoding can be upgraded to HD via a simple software license, and with the included digital video output, video monitoring is as easy as finding the nearest standard consumer television or PC monitor.

With built-in ASI input/output capability, as well as available satellite and IP interfaces, the AAT-4400 is adaptable to most decoder use cases. The receiver also has a web interface accessible via all major browsers and complete control of the unit via the front panel keypad.

KEY FEATURES

- Support for All Common Video Formats
 - HEVC, H.264, MPEG2 HD, or SD video
 - All formats auto-detected and switchable on-the-fly
- Up to 4 services of audio decoding or SDI pass-through with support for all major audio formats
- Dual SD auto-switching outputs
- Built-in ASI I/O for maximum value and flexibility
- Available 8VSB/Q AM-B, IP, RF satellite and DVB-T/T2/C/C2/ISBD-T inputs
- Full complement of ancillary data output in ANC and VBI
- Closed-caption or auto-scaling subtitle overlays for monitoring or burn-in applications
- Intuitive, straightforward web interface
- Full control, status, and alarm monitoring via SNMP

APPLICATIONS

- **Turn-around and Back-haul Distribution Feeds** Receive network and live feeds via RF, ASI or IP, and simultaneously demodulate, de-encapsulate, encapsulate, and decode for local processing and re-encode requirements.
- **Upgrade Existing Installations** Replace existing receiver decoders to meet emerging video distribution challenges, including the need for more audio services or the transition to HEVC Experience industry-leading ease of use and interoperability coupled with low cost of ownership.
- **Monitor Any Video Feed** Leverage quick set-up and automatic, decode-anything operation to monitor video feeds operationally or in an engineering lab.

SPECIFICATIONS

Professional Receiver/Decoder AAT-4400

AVAILABLE VIDEO DECODER MODULES

ASI I/O, SDI and Analog Outputs, Discrete Audio,
Genlock Support
ASI I/O, SDI and Analog Outputs, Discrete Audio
ASI I/O, SDI Outputs, and Genlock Support
ASI I/O and SDI Outputs

Additional Discrete Interfaces (available on AAT44041 and 44040)

Composite Video Output: 1x 75Ω BNC
NTSC, PAL-B/G/I/D/M/N
AES Audio Outputs: 4x 75Ω BNC
Analog Audio Outputs: 2x 15 pin D-Sub (4 Stereo Services)
4x XLR Breakout Cable Available
4x BNC Breakout Cable Available
Terminal Block Cable Available

Genlock Interface (available on AAT44041 and 44001)

Genlock Input: 1x 75Ω BNC

COMMON VIDEO DECODER FEATURES

Base Decoding (SD 4:2:0)

Video Profile/Levels: MPEG2 MP@ML
H.264 up to MP@L3

HEVC Decode License

Enables HEVC Decoding: Requires AAT44265 Option

HD Decoding License

Additional Profile/Levels: MPEG2 MP@HL
H.264 up to HP@L4.2
HEVC up to MP@MT L4 (with License)
Additional Output Formats: 1920x1080i @ 25, 29.97, 30
1920x1080p @ 23.97, 24, 25, 29.97, 30
1280x720p @ 50, 59.94, 60

Additional Base Video Features

Frame Synchronization Modes: PCR-Recovered Clock
Genlock Reference (If Supported)

Aspect Ratio Conversion

Manual Selection: Letterbox, Center-Cut, Anamorphic
Automatic Selection: Follows AFD Codes

Output Formats:

720x576i @ 25
720x480i @ 29.97

Output Interfaces:

SD/HD-SDI: 2x 75Ω BNC
SDI Format Support: Determined by Decode License
Digital Video: 1x HDMI-type Connector

Simultaneous SD Video Output Module

Mirrored SD SDI Outputs: 2x 75Ω BNC
Composite Video Output: 1x 75Ω BNC
NTSC, PAL-B/G/I/D/M/N

Simultaneous SD Video Output Module with Genlock

Mirrored SD SDI Outputs: 2x 75Ω BNC
Composite Video Output: 1x 75Ω BNC
NTSC, PAL-B/G/I/D/M/N

HEVC Decoding Daughter Board

Enables HEVC Licensing: Requires AAT44765 License for decoding functionality

Video Overlay Support

Closed Caption Overlays: CEA-608, CEA-708, or SCTE-20
DVB-Subtitle Overlays: HD/SD with Auto Scaling (EN 300743)

Base Audio Decoding Features

Number of Audio Services: 2 Standard, Up to 4 Available
Audio Codecs Supported: Dolby Digital (AC-3) & Plus (EAC-3)
AAC-LC, HE-AAC, & HE-AACv2
MPEG1L2 & MPEG2L2
Linear PCM & Dolby E (Pass-through)
Output Formats: Digital Pass-through
PCM (Downmixed for 5.1 Sources)
Analog (Downmixed for 5.1 Sources)

Discrete Channel Audio Output License

Adds Output Formats: PCM (Decoded Discrete channels for 5.1 Sources)
Analog (Decoded Discrete channels for 5.1 Sources)

4 Service Audio Decode License

Additional Audio Services: 2 Services (Total of 4 Services)

Base Audio Output Features

SDI Embedded Audio Output: 4 Audio Pairs

Ancillary Data Support

SDI ANC Data Types: AFD (SMPTE 2016)
Closed Captions (CEA-708)
OP-47 (SMPTE RDD-08)
SMPTE RDD-11
SCTE 127 (SMPTE 2031)
EN301775 (SMPTE 2031)
Time Code (SMPTE 12M-2)
SCTE 104 (SMPTE 2010 with License)
Line 21 Captions (CEA-608)
TVG2X, AMOL-48/96 (SCTE-127)
Teletext/WSS/VPS (EN301775)

SCTE 35 to SCTE 104/Relay Output License

Cablelabs ESAM POIS Interface License

Included Transport Stream Input/Output Features

ASI Input/Output: 2 x 75Ω BNC (selectable in/out)
Supported Bitrate: 250 Kbps to 200 Mbps

BISS Descrambling License

Supported Modes: Mode 1, Mode E, Injected ID
Multi-BISS Support: Up to 12 Separate Keys

DVB-CI Multi-Service License

With DVB-CI Module: Enables Multi-service Descrambling

PID/Service Filtering License

Filtering: 10 Independent TS (MPTS or SPTS) created; output via IP or ASI

Table Regeneration (DVB Mode):

PAT regeneration
Table Pass-through (DVB Mode): PMT, CAT, NIT pass-through
Table Regeneration (DVB Mode): PAT, SDT
Table Pass-through (DVB Mode): PMT, CAT, NIT, EIT, RST, TDT, TOT

SPECIFICATIONS CONTINUED

Professional Receiver/Decoder AAT-4400

AAT

8VSB/QAM-B INPUT MODULE

AAT44101

Physical Interface:	75Ω F-Type
Frequency Range:	50-1000 MHz
Sensitivity:	-34 to +40 dBmV (A74 Compliant)
8VSB Standard:	ATSC A/53E
8VSB Channel Plans:	Broadcast
QAM Standard:	ITU Annex B/SCTE DVS-031
QAM Channel Plans:	FCC, IRC, HRC
QAM Constellations:	QAM64, QAM25

DVB-CI DESCRAMBLING MODULE

AAT44421

Physical Interface:	Adds two DVB-CI CAM Slots
Without Multi-Service License:	Descrambles Decoded Service Only
With Multi-Service License:	Number of Services limited by CAM

IP INPUT/OUTPUT MODULE

AAT44127

Physical Interface:	2x RJ45, 10/100/1000 Auto-Negotiate
Input Format:	UDP or RTP Constant Bitrate or Null-Stripped RTP Header Extensions Supported SMPTE 2022/CoP3 FEC Supported
Output Format:	UDP, RTP (with License)
MPE De-encapsulation:	Up to 2 PIDs Up to 60Mbps per MPE PID 1 to 7 TS Packets per IP Packet
IP Encapsulation:	Unicast or Multicast
Addressing:	Version 1, 2 & 3
IGMP compatibility:	Version 1, 2 & 3
Per TS Bitrate:	250 Kbps to 200 Mbps

MPEG/IP FEC Output License

AAT44925

Additional Output Fomarts:	RTP and Header Extensions SMPTE 2022/CoP3 FEC Supported
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DVB-S/S2 INPUT MODULE

AAT44116

Physical Interface:	4x 75Ω F-Type
Frequency Range:	950-2150 MHz
Symbol Rates:	1-60 Msps
DVB-S Modulation Modes:	QPSK (All FEC Rates)
DVB-S2 Modulation Modes:	QPSK/8PSK (All FEC Rates) 16/32APSK with License
LNB Power:	Off/13/14/18/19VDC @ 450mA
Control Tone Support:	22 kHz On/Off
Supported Roll-off Factors:	0.35, 0.25, 0.20, 0.15, 0.10, 0.05

DVB-S2 Advanced Feature License

AAT44916

Additional Modulation Modes:	16ASPK/32APSK (All FEC Rates) VCM Demodulation Support Multistream Support (Single ISI)
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BROADCOM TURBOPSK INPUT MODULE

AAT44111

Physical Interface:	1x 75Ω F-Type
Frequency Range:	950-2150 MHz
Symbol Rates:	1-30 Msps
DVB-S Modulation Modes:	QPSK (All FEC Rates)
TurboPSK Modulation Modes:	QPSK /8PSK (All FEC Rates)

DVB-T/T2/C/C2/ISDB-T INPUT MODULE

AAT44115

Physical Interface:	1x 75Ω F-Type
Frequency Range:	42-1002 MHz
Bandwidth:	1.7MHz, 5 MHz, 6MHz, 7MHz, 8MHz
Constellations:	QPSK, QAM16, QAM64 (All FEC Rates)
DVB-T:	QPSK, QAM16, QAM64, QAM256 (All FEC Rates)
DVB-T2:	QPSK, QAM16, QAM64, QAM256 (All FEC Rates)
DVB-C:	QAM16, QAM32, QAM64, QAM128, QAM256 (All FEC Rates)
DVB-C2:	QAM16, QAM64, QAM256, QAM1024, QAM4096 (All FEC Rates)
ISDB-T:	QPSK, QAM16, QAM64 (All FEC Rates)

MANAGEMENT

Connector:	RJ-45 10/100 - Auto Negotiating
Protocols:	HTTP and SNMP
User Interfaces:	Full control via web GUI Full control via front panel
Automation Interfaces:	Full status and control via SNMP Configurable SNMP traps Web services API available Syslog message logging
Firmware Updates:	Via Web GUI

DIMENSIONS/POWER

Height:	1 RU, 1.72" (44 mm)
Width:	1 RU, 17.2" (437 mm)
Depth:	14.6" (370 mm)
Power:	100-240 VAC 50/60 Hz 36-72 VDC
Supply Options:	Single AC Power Supply (Standard) Dual AC Power Supply Single DC Power Supply

ENVIRONMENTAL CONDITIONS

Operating Temp:	0° to 50°C
Storage Temp:	-40°C to 65°C
Relative Operating Humidity:	<95% (non-condensing)

AAT-P160 IRD

INTEGRATED RECEIVER / DECODER



OVERVIEW

The TP160-IRD is a powerful and cost-effective broadcast level decoder. It supports signal receiving, multi-channel descrambling, PID filtering, and IP or ASI stream outputs. It also supports MPEG-2/H.264 SD/HD program decoding to HDMI, SDI and CVBS with dual audio PID decoding. By utilizing a remote, web-based management interface, it is ideal to support advanced content distribution, real-time signal conversion and transmission for any video delivery system.

ORDERING INFORMATION

Unit	Features
P160 IRD	MPEG-2/H.264 SD/HD decoding with HDMI, SDI and CVBS
	DVB-S/S2 input, ASI and IP I/O
	Genlock
	Full closed caption embedding

KEY FEATURES

Receiving and Input

- Includes a standard DVB-S/S2 RF input with loop-thru output
- Supports DVB-S2 multi-stream receiving (optional)
- Supports ASI and IP input and redundancy
- Genlock input for studio synchronization

Data Processing

- Two DVB-CI CAM slots support multi-channel descrambling and are compliant with various popular CAS systems
- Embedded BISS-1 & BISS-E support TS & Service level descrambling (optional license)
- PID filtering capabilities
- Full 608/708 caption decoding and embedding

Output

- MPEG-2 and H.264 SD and HD video decoding
- HDMI, SD/HD-SDI and CVBS video outputs
- SDI outputs capable of two embedded PCM audios
- One PCM audio output via AES/EBU digital audio connector
- Two pairs of balanced and unbalanced analog audio outputs
- Multicast or unicast TS-IP output
- GPI alarm output

Management

- 1 Ethernet 10/100Base-TX, RJ45
- Web-based user interface
- Front panel keypad and LCD
- SNMP supported for system integration

SPECIFICATIONS

DVB-S/S2 INPUT

Input	1xRF, F-type, 75Ω
Constellation	QPSK, 8PSK
Symbol Rate	1~45 Msps
Input Frequency	950~2150 MHz
Max Bit-rate	150Mbps
Signal Level	-65~-25 dBm
LNB PS	DC 13/18V
22K Switch	On/off

TS-IP

Interface	GbE level RJ45 port
Speed	Up to 1000Mbps
Package Format	UDP & RTP (auto detection)
Traffic Types	Unicast or multicast
IGMP	V2, V3
FEC	ProMPEG CoP3v2
TCP/IP Protocol	IPv4

ASI

Interface	4 BNC, 75Ω (2xASI input, 2xASI output)
Max Bit-rate	100Mbps
Packet Type	188/204 bytes
Input Mode	Byte and burst
Output Mode	Byte burst

DE-SCRAMBLING

DVB Common Interface	2 slots
Bit-rate	Max 100Mbps
CAM Supported	NEOTION, SMIT, ASTON and other major CAMs
CAS Supported	CONAX, IRDETO, Novel-Super TV, CTI and other CAS
BISS 1& BISS E	TS & Program level

VIDEO DECODING

Decoding Format	MPEG-2 SD 4:2:0 MP@ML
	MPEG-2 HD 4:2:0 MP@ML
	H.264 AVC SD MP@L3
	H.264 AVC HD MP@L4.0/MP@L4.0

AUDIO DECODING

Audio Format	MPEG1 Layer II
	Dolby Digital (AC-3)
	Dolby Digital Plus (E/AC-3)
	AAC (MPEG2, MPEG4/HE v1, 2, MPEG4/LC)
Adjustable Volume Level	-63~0 dB

CAPTIONS

CEA-608 and	CVBS Line 21 (608)
CEA-708 Supported	SD-SDI digitized Line 21 (608)
Embedding	SD/HD-SDI VANC (608 and 708)

PHYSICAL & ENVIRONMENTAL

Input Voltage	100 ~ 240 VAC
Power Consumption	Approx. 40W
Rack Space	1 RU
Dimensions (WxHxD)	19"x1.7"x17.3"
Operating Temperature	0 °C to 50 °C
Storage Temperature	-10 °C to 70 °C
Operating Humidity	< 95% non-condensing
MTBF	>150,000 hours

AAT-DVM-1903ML 8VSB MODULATOR

8VSB DIGITAL MODULATOR



The DVM-1903ML 8-VSB modulator is a professional performing product based on the 8-VSB (ATSC) modulation. It shows superior quality to modulate MPEG transport stream as DVB-ASI signal to 8-VSB(ATSC) and output as suitable frequency band for digital broadcasting transmission. Also, it is very easy to control with high class front VFD.

KEY FEATURES

- Retain your viewer with optimized modulator for ATSC(8-VSB)
- Excellent coding as ITU-T(J.83) Annex D
- Cost reduction for installing with simple set-up and operation
- Stable output with Hybrid AMP integrated
- Secure more space with compact and light weight design
- ASI input transport stream
- Excellent RF output
- Supports 8-VSB(ATSC) modulation
- User adjustable output level and frequency
- Front panel control
- PCR Jitter: $\leq \pm 200$ ns
- Group Delay as ± 20 ns
- Phase Noise VHF -105 dB@20KHz, UHF -103 dB@20KHz
- Frequency: 54 ~ 870MHz
- Output Level: 55 $\pm$ 5 dBmV
- Spurious: ≤ -63 dB
- MER After Equalizer: 42dB
- Highly Advanced fine-tuning

SPECIFICATIONS

Digital Input

Transport Stream	DVB-ASI
Connector	BNC (75 Ω)
Coding	ITU-T (J.83) Annex D
Bit Rate	19.393 Mbps
Packet Format	188 Byte
Symbol Rate	10.762 Msymbol/s
Modulation	8-VSB

RF Output

Frequency Range	54~870 MHz
Impedance	75 Ω
Output Level	55 $\pm$ 5dBmV
Level Control Range	0~-15dB
Bandwidth	6 MHz
MER After Equalizer	42 dB
MER Before Equalizer	37 dB
Phase Noise	VHF -105 dB@20KHz VHF -103 dB@20KHz
Adjacent Channel Carrier Attenuation	$\geq$ 45 dB (Out-of-band)
Characteristic	
Spurious	$\leq$ -63 dB
Return Loss	$\geq$ 17 dB
Group Delay	$\pm$ 2 0ns
Frequency Response	$\pm$ 0.5 dB
Frequency Tolerance	$\pm$ 2ppm
PCR Jitter	$\leq \pm$ 200 ns

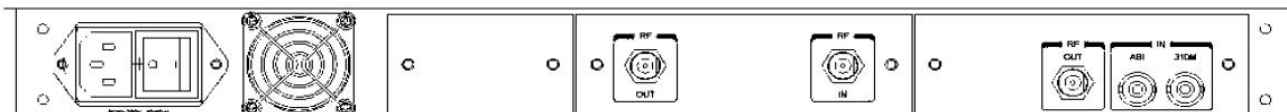
General

Power Requirements	AC 90~230V, 50/60Hz
Power Consumption	13W
Weight	3Kg
Dimensions	482 x 44 x 383 mm

Options

DVM-1903ML ATSC(8-VSB) Modulation
DOM-1903ML OAM (Annex A, B and C) Modulation
DTM-1903ML DVB-T/T2 Modulation

CONFIGURATIONS



MONITOR AND CONTROL

OUR MONITOR AND CONTROL SYSTEMS

AAT designs and builds monitor and control systems that give you visibility into some of the most critical aspects of your broadcast chain. All of these systems have a standard set of features available when IP enabled.

Features:

- Monitoring via Ethernet, SNMP, API, and Remote Samples
- Control via Ethernet, SNMP, and DB25

These state of the art systems ensure that you have the necessary remote visibility into your systems. For our next generation monitor and control system, EmPower is changing the standard in broadcast remote access and control with more and more systems becoming EmPower enabled.



RF POWER METERS

PM SERIES RF POWER METER



FEATURES

- AM, FM, VHF & UHF Systems
- Forward and Reflected Power Measurements
- Ethernet, SNMP, SMTP, Remote Samples
- LCD Display
- User Defined Power Range, Modulation Type, and Channel Selection
- Field Calibration Available via User Interface
- Monitor Combined System
- Multi-Unit Pairing
- Optional Remote Display Unit
- EmPower Device. Smart Device App

AAT RF Power Meters accurately and reliably measures the transmissions systems forward and reflected power. The PM Series power meter allows user defined parameters and thresholds for advanced and feature rich remote monitoring capabilities. User defined parameters allow the end user to configure the power meter to meet their specific requirements.

Specifications

Frequency	VHF I, II, III, UHF IV, V
Power Rating	190 W - 200 kW (Size and Frequency range dependent)
Power	120 VAC, 220 VAC, POE (optional)
Connections Available	Type N, 7/16" DIN, 7/8" EIA, 1-5/8" EIA, 4-1/6", 6-1/8" EIA

Standard Models

PM-AM
PM-VHFI
PM-FM
PM-VHFIII
PM-UHF

RF POWER METER REMOTE DISPLAY



FEATURES

- Rack Mountable Monitoring System and Display
- Monitoring: Ethernet, SNMP, SMTP, & Remote Samples
- LCD Display
- User Defined Thresholds, Modulation Type, and Frequency Selection
- Paired with an External Directional Coupler

Specifications

Frequency Range	AM, VHF I, FM, VHF III, UHF
RF Input Connector Size	SMA Female. Qty 2. Reflected and Forward Power Input Ports
Power Supply Source Voltage	120 VAC 60/50 Hz
Power Consumption	5.1 W
Power Measurement	Average Power
Coupler EIA Sizes	7/8", 1-5/8", 3-1/8", 4-1/16", 6-1/8"
Remote DB Connector Size	DB9 Female
Ethernet Connector	RJ45
Model	PM-RD-2U
Rack Units	2 RU

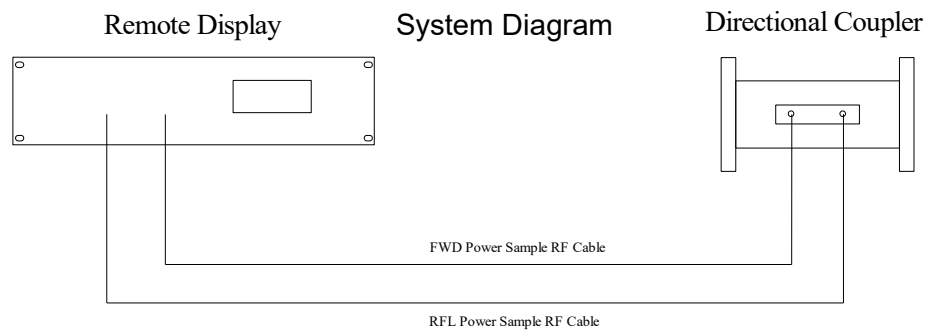
DRAWINGS & DIAGRAMS



Front Panel View



Rear Panel View



PM SERIES RF POWER METERS

MODEL	DESCRIPTION
PM-AM-N	RF Power Meter AM Band Type N Connector
PM-FM-N	RF Power Meter FM Band Type N Connector
PM-VHFI-N	RF Power Meter VHFI Band Type N Connector
PM-VHFIII-N	RF Power Meter VHFIII Band Type N Connector
PM-UHF-N	RF Power Meter UHF Band Type N Connector
PM-AM-716	RF Power Meter AM Band 7/16" DIN Connector
PM-FM-716	RF Power Meter FM Band 7/16" DIN Connector
PM-VHFI-716	RF Power Meter VHFI Band 7/16" DIN Connector
PM-VHFIII-716	RF Power Meter VHFIII Band 7/16" DIN Connector
PM-UHF-716	RF Power Meter UHF Band 7/16" DIN Connector
PM-AM-78	RF Power Meter AM Band 7/8" EIA Connector
PM-FM-78	RF Power Meter FM band 7/8" EIA Connector
PM-VHFI-78	RF Power Meter VHFI band 7/8" EIA Connector
PM-VHFIII-78	RF Power Meter VHFIII band 7/8" EIA Connector
PM-UHF-78	RF Power Meter UHF band 7/8" EIA Connector
PM-AM-158	RF Power Meter AM Band 1-5/8" EIA Connector
PM-FM-158	RF Power Meter FM band 1-5/8" EIA Connector
PM-VHFI-158	RF Power Meter VHFI band 1-5/8" EIA Connector
PM-VHFIII-158	RF Power Meter VHFIII band 1-5/8" EIA Connector
PM-UHF-158	RF Power Meter UHF band 1-5/8" EIA Connector
PM-AM-318	RF Power Meter AM Band 3-1/8" EIA Connector
PM-FM-318	RF Power Meter FM band 3-1/8" EIA Connector
PM-VHFI-318	RF Power Meter VHFI band 3-1/8" EIA Connector
PM-VHFIII-318	RF Power Meter VHFIII band 3-1/8" EIA Connector
PM-UHF-318	RF Power Meter UHF band 3-1/8" EIA Connector
PM-AM-416	RF Power Meter AM Band 4-1/16" EIA Connector
PM-FM-416	RF Power Meter FM band 4-1/16" EIA Connector
PM-VHFI-416	RF Power Meter VHFI band 4-1/16" EIA Connector
PM-VHFIII-416	RF Power Meter VHFIII band 4-1/16" EIA Connector
PM-UHF-416	RF Power Meter UHF band 4-1/16" EIA Connector
PM-AM-618	RF Power Meter AM Band 6-1/8" EIA Connector
PM-FM-618	RF Power Meter FM band 6-1/8" EIA Connector
PM-VHFI-618	RF Power Meter VHFI band 6-1/8" EIA Connector
PM-VHFIII-618	RF Power Meter VHFIII band 6-1/8" EIA Connector
PM-UHF-618	RF Power Meter UHF band 6-1/8" EIA Connector
PM-RD-2U	Rack Mount Display, Added to any Power Meter unit
PM-RD-2UR	Rack Mount Display, Added to any Power Meter, Replaces the line section controller unit.
Note*	AM and FM power meters that are 7/16" DIN or smaller must use a PM-RD-2U unit with external or rack mount directional coupler. Contact the factory to review the order requirements.

DE-ICER CONTROLLER UNIT



FEATURES

- Controls and monitors supply voltages for antenna heating elements.
- Temperature, Humidity, and AC Current monitoring.
- Monitoring via Ethernet Web UI, SNMP, and Remote Samples
- Automatic or Manual control with configurable thresholds.

Specifications

Web UI	Dual Temperature, Dual Humidity, and Dual AC Current samples Deicer Status On/Off Automatic Function Enable/Disable Manual Control On/Off
SNMP and Remote Samples	Temp 1, Temp 2, Humidity 1, Humidity 2, AC Current 1, AC Current 2, Deicer Status
Controller Power	120 VAC
Controller Heater Source Voltage	220 VAC, 120 VAC, or Other
Power Consumption	50 Watts
Maximum Heater Source Current	100 Amps
Temperature Range	-10° F to 120° F
Humidity Range	0 – 100 % Relative Humidity

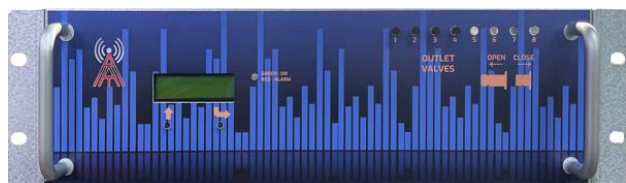
Models

AAT-DE-ICER

Physical Features

Dimensions	14"x 12" x 4.5"
Weight	20 lbs.

RACK MOUNTABLE DEHYDRATOR



FEATURES

- Designed for continuous operation and automatic duty
- Continuous tracking of output pressure through the Pulse Width Modulation (PWM) technique.

Specifications	
Model	RM-DEH, RM-DEH-IP
Output Pressure	Programmable from 1.5– 7 PSI
Max. Flow Rate	254 SCFD (300 l/h)
Output Dew Point	Better than -40 deg F at 68 deg F (20 deg C) ambient temperature and 80% Relative Humidity
Safety Valve	Factory set at 10 PSI +/-15%
Desiccant Regeneration	Automatic by heating
Regeneration Phase Interval	Adaptive according to plant leakages
Local Alarms	Power & system failures; low/high pressure; and high humidity
Remote Alarms	100 – 240 VAC, 50/60 Hz
Power Consumption	≤ 3 W normal operation, < 55 W regeneration phase
Power Supply	100 – 240 VAC, 50/60 Hz
Optional Remote Monitoring Interface	10/100 BaseT ethernet, auto-sensing with the following protocols: HTTP, TCP/IP, SNMP, TFTP, FTP, Telnet, DHCP
Outlets	6 outlets standard
Acoustic Noise	≤ 50 dBA at 3.2 ft (1 m) distance and 5 ft (1.5 m) height
Enclosure Degree of Protection	IP20 according to IEC529
Outlet Fittings	3/8" (9.5 mm) diameter (other fittings on request)
Electrical Connector Type	Dehydrator IEC 320 Type C 14, Controller Micro USB 5 VDC

Physical Features	
Dimensions	5.2" H x 19" W x 9.4" D
Net Weight	14.3 lbs (6.5 kg)

Environmental Specifications	
Operating Temperature	14 – 122°F (-10°C / +50°C)
Storage Temperature	-22 – 140°F (-30°C / +60°C)
High Humidity Alarm	Set at 10% of relative humidity ± 2%

Model	Description
RM-DEH	Rack Mountable Dehydrator
RM-DEH-IP	Rack Mountable Dehydrator with IP Remote Interface

Disclaimer: Specifications are subject to change without notice. Information may be changed or updated without notice. American Amplifier Technologies may also make improvements and/or changes in the products described in this information at any time.

AC VOLTAGE SURGE PROTECTION



FEATURES

- Innovative thermally protected MOV technology
- Quick thermal response self-protected design with internal arc extinguishing
- Optional Monitoring via Ethernet Web UI, SNMP, and Remote Samples.

Specifications

Standards	UL 1449 4 th Edition, IEC61641-11:2011
Category UL/IEC	Type 1CA for use in Type 1, 2, and 3 Applications/Class C (II)
MCOV (Uc, Vac)	150 VAC, 260 VAC, 280 VAC
Voltage Range	90 – 130 VAC, 190 – 260 VAC, Single or Three Phase, WYE or Delta
SCCR Rating	200 kA
Nominal Discharge Current (8/20) I_n	20 kA, 50 kA, 100 kA
Max. Discharge Current (8/20) I_{max}	50 kA, 100 kA, 150 kA
Response Time	≤ 25 ns

Model	Description
AAT-SS-SP -20KA/50KA/100KA	Single Phase AC Voltage Surge Protection
AAT-SS-WYE3P -50KA/100KA/200KA	3-Phase WYE AC Voltage Surge Protection
AAT-SS-DEL3P-200KA	3-Phase DELTA AC Voltage Surge Protection

Physical Features

Dimensions	20" x 20" x 6"
Net Weight	45 lbs.

Environmental Specifications

Operating Temperature Range	-40° C to 80° C
Operating Humidity Range	0 – 90%

EC SERIES VOLTAGE MONITORING SYSTEMS



FEATURES

- Protects equipment from under and over voltage conditions.
- Three Phase or Single Phase Systems.
- Continual real time monitoring.
- Alert/Fault history stored.
- Adjustable voltage monitoring
- User defined start delay, phase error, and voltage thresholds.
- IP interface (with EmPower)
- Optional Surge Protection
- Optional Current Monitoring

The EC Series Voltage Monitoring System provides cutting-edge protection for your critical equipment with real-time voltage and optional current monitoring. Designed with a custom circuit board, the EC Series offers advanced performance, ensuring reliable operation across diverse applications. Whether you're protecting from voltage fluctuations or monitoring performance remotely, the EC Series ensures your equipment operates optimally, anytime, anywhere.

Specifications

Standards	UL Listed
Amperage Rating:	Model Dependent. Model # = Maximum Current Rating. EC-30 = 30 Amp Rating.
Category UL/IEC	Type 1CA for use in Type 1, 2, and 3 Applications/Class C (II)
Voltage Range	190-630 VAC 50/60 Hz Single or Three Phase, WYE or Delta
Response Time	≤ 25 ns

Model

Description

AAT-SS-SP	Single Phase EC Voltage Surge Protection
AAT-SS-WYE3P -50KA/100KA/200KA	3-Phase WYE AC Voltage Surge Protection
AAT-SS-DEL3P-200KA	3-Phase DELTA AC Voltage Surge Protection

Physical Features

Dimensions	20" x 20" x 6"
Net Weight	25 lbs.

Environmental Specifications

Operating Temperature Range	-40° C to 80° C
Operating Humidity Range	0 – 90%

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EMPOWER MOBILE APP

KEY FEATURES

Remote Access: Monitor and control systems remotely via the mobile-first platform with real-time alerts.

Security-First: Built-in security measures ensure safe remote monitoring and data protection.

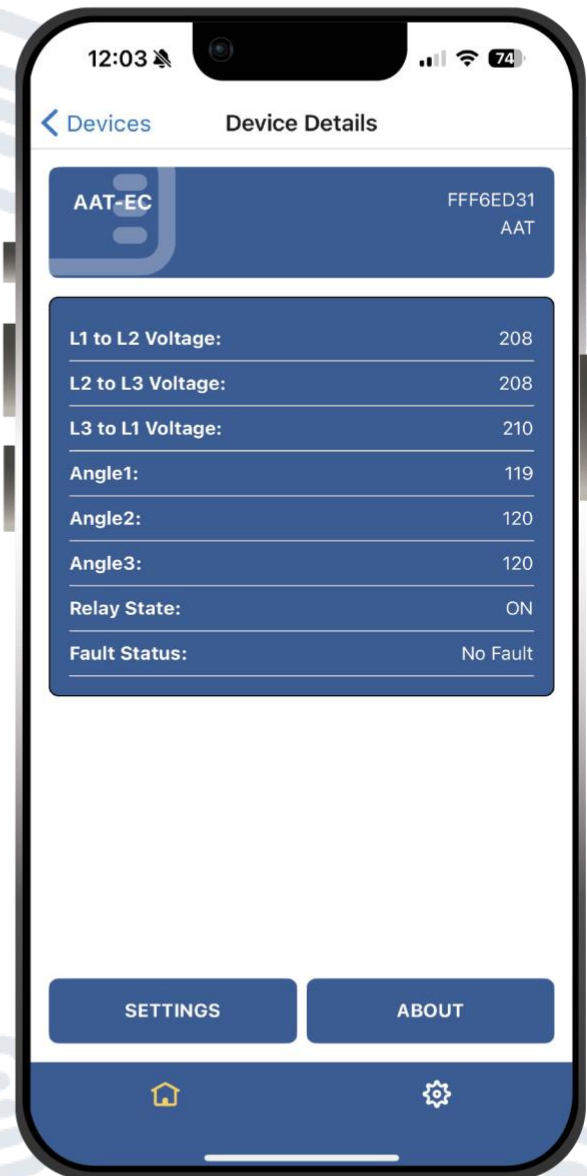
Simplified Maintenance: Proactive alerts and fault history for easier troubleshooting and reduced downtime.

Remote Configuration: Adjust system settings and parameters from anywhere, eliminating on-site visits, or complex remote access methods.

Push Notifications: Receive real-time alerts directly on your mobile device.

Data Analytics (Coming Soon): Advanced tools to analyze performance metrics and optimize system efficiency.

Secure Multi-User Access (Coming Soon): Role-based permissions for secure access and user management.



EmPower
by AAT

SHIVELY LABS

AAT AND SHIVELY LABS

With Shively Labs now a part of the AAT family we continue to manufacture quality FM antenna systems, providing broadcasters with reliable products. The same great Shively Labs under different a different Family, continuing innovation and thought leadership.

Shively Labs®
an AAT Brand

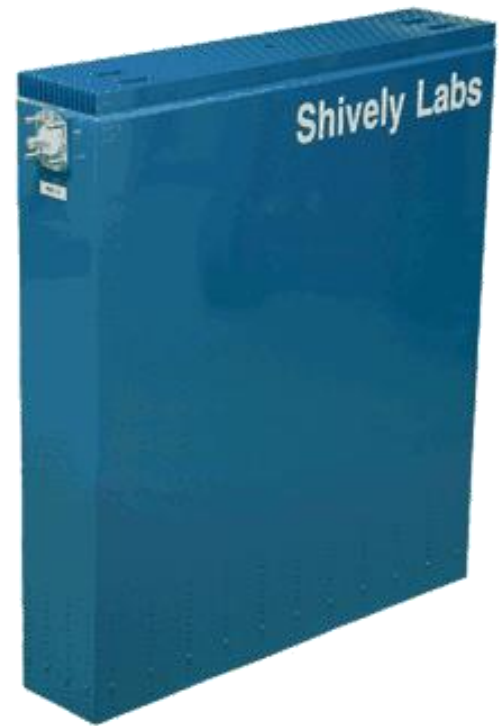
FILTERS AND COMBINERS

OUR FILTERS AND COMBINERS

As part of the Shively Labs our broadcast filters and combiners are designed using a high quality aluminum iris coupled cavity. Excellent for analog and digital operations. 1 kW through 60 kW systems available.

Features:

- FM Frequency 87.5 - 108 MHz, UHF Frequency 470 – 860 MHz, VHF I & VHF III Band
- High quality aluminum, brass, and copper materials.
- Iris coupled design, perfect for analog or digital applications.
- Available in floor, ceiling, and wall mount configurations.
- No finger stock used
- Cross Coupled



FM BANDPASS FILTERS

BP SERIES FM BANDPASS FILTERS



FEATURES

- 88 – 108 MHz
- High-Quality Aluminum, Brass, and Copper Materials
- Floor, Ceiling, or Wall-Mount Configurations
- No Finger Stock Used
- Cross Coupled

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	1 kW – 60 kW
Insertion Loss	Model & Size Dependent
Cooling Method	Convection or Forced Air
Rejection	-20 dB 1.0 MHz -40 dB 2.0 MHz
Group Delay	100 ns 200 KHz Typical
Connections and Adapters	Type N, 7/16 DIN, EIA Flange

*Notches Provide > 40 dB rejection or better

Standard Models

Model	Power Rating	2-Pole		3-Pole		4-Pole	
BP-IR-1K	1 kW	4" x 8" x 46"	32 lbs.	4" x 12" x 46"	48 lbs.	4" x 16" x 46"	65 lbs.
BP-IR-1.5K	1.5 kW	4" x 8" x 46"	35 lbs.	4" x 12" x 46"	52 lbs.	4" x 16" x 46"	70 lbs.
BP-IR-3K	3 kW	6" x 12" x 46"	75 lbs.	6" x 18" x 46"	115 lbs.	6" x 24" x 46"	150 lbs.
BP-IR-7K	7 kW	8" x 16" x 46"	100 lbs.	8" x 24" x 46"	150 lbs.	8" x 32" x 46"	200 lbs.
BP-IR-12K	12 kW	12" x 24" x 56"	150 lbs.	12" x 36" x 56"	225 lbs.	12" x 48" x 56"	300 lbs.
BP-IR-20K	20 kW	17" x 34" x 56"	170 lbs.	17" x 51" x 56"	255 lbs.	17" x 68" x 56"	340 lbs.
BP-IR-40K	40 kW	22" x 44" x 56"	350 lbs.	22" x 66" x 56"	525 lbs.	22" x 88" x 56"	700 lbs.
BP-IR-60K	60 kW	25" x 50" x 56"	375 lbs.	25" x 75" x 56"	575 lbs.	25" x 100" x 56"	825 lbs.

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

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FM BANDPASS FILTERS

Model	Description
BP-IR-2-1K	1 KW 2-cavity Bandpass Filter
BP-IR-3-1K	1 KW 3-cavity Bandpass Filter
BP-IR-4-1K	1 KW 4-cavity Bandpass Filter
BP-IR-2-1.5K	1.5 KW 2-cavity Bandpass Filter
BP-IR-3-1.5K	1.5 KW 3-cavity Bandpass Filter
BP-IR-4-1.5K	1.5 KW 4-cavity Bandpass Filter
BP-IR-2-3K	3KW 2-cavity Bandpass Filter
BP-IR-3-3K	3KW 3-cavity Bandpass Filter
BP-IR-4-3K	3KW 4-cavity Bandpass Filter
BP-IR-2-7K	7KW 2-cavity Bandpass Filter
BP-IR-3-7K	7KW 3-cavity Bandpass Filter
BP-IR-4-7K	7KW 4-cavity Bandpass Filter
BP-IR-2-12K	12KW 2-cavity Bandpass Filter
BP-IR-3-12K	12KW 3-cavity Bandpass Filter
BP-IR-4-12K	12KW 4-cavity Bandpass Filter
BP-IR-2-20K	20KW 2-cavity Bandpass Filter
BP-IR-3-20K	20KW 3-cavity Bandpass Filter
BP-IR-4-20K	20KW 4-cavity Bandpass Filter
BP-IR-2-40K	40KW 2-cavity Bandpass Filter
BP-IR-3-40K	40KW 3-cavity Bandpass Filter
BP-IR-4-40K	40KW 4-cavity Bandpass Filter
BP-IR-2-60K	60KW 2-cavity Bandpass Filter
BP-IR-3-60K	60KW 3-cavity Bandpass Filter
BP-IR-4-60K	60KW 4-cavity Bandpass Filter

FM BANDPASS FILTERS WITH CROSS COUPLING

Model	Description
BP-IR-2-1K-N	1 KW 2-cavity Bandpass Filter with Notch
BP-IR-3-1K-N	1 KW 3-cavity Bandpass Filter with Notch
BP-IR-4-1K-N	1 KW 4-cavity Bandpass Filter with Notch
BP-IR-2-1.5K-N	1.5 KW 2-cavity Bandpass Filter with Notch
BP-IR-3-1.5K-N	1.5 KW 3-cavity Bandpass Filter with Notch
BP-IR-4-1.5K-N	1.5 KW 4-cavity Bandpass Filter with Notch
BP-IR-2-3K-N	3KW 2-cavity Bandpass Filter with Notch
BP-IR-3-3K-N	3KW 3-cavity Bandpass Filter with Notch
BP-IR-4-3K-N	3KW 4-cavity Bandpass Filter with Notch
BP-IR-2-7K-N	7KW 2-cavity Bandpass Filter with Notch
BP-IR-3-7K-N	7KW 3-cavity Bandpass Filter with Notch
BP-IR-4-7K-N	7KW 4-cavity Bandpass Filter with Notch
BP-IR-2-12K-N	12KW 2-cavity Bandpass Filter with Notch
BP-IR-3-12K-N	12KW 3-cavity Bandpass Filter with Notch
BP-IR-4-12K-N	12KW 4-cavity Bandpass Filter with Notch
BP-IR-2-20K-N	20KW 2-cavity Bandpass Filter with Notch
BP-IR-3-20K-N	20KW 3-cavity Bandpass Filter with Notch
BP-IR-4-20K-N	20KW 4-cavity Bandpass Filter with Notch
BP-IR-2-40K-N	40KW 2-cavity Bandpass Filter with Notch
BP-IR-3-40K-N	40KW 3-cavity Bandpass Filter with Notch
BP-IR-4-40K-N	40KW 4-cavity Bandpass Filter with Notch
BP-IR-2-60K-N	60KW 2-cavity Bandpass Filter with Notch
BP-IR-3-60K-N	60KW 3-cavity Bandpass Filter with Notch
BP-IR-4-60K-N	60KW 4-cavity Bandpass Filter with Notch

2524 HIGH POWER BANDPASS FILTER



FEATURES

- 2, 3, or 4 pole options
- Power rating up to 50 kW
- Horizontal Mounting
- Optional: Feedback Loops
- Optional: Forced Air Blowers

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	Up to 50 kW
Cooling Method	Convection or Forced Air
Input Connection	3-1/8" EIA
Output Connection	3-1/8" EIA
Type	Resonant Cavity
Cavity Size	24"
Typical Bandwidth	± 200kHz

Performance Specifications

Model	Measurement	2-Pole		3-Pole		4-Pole	
2524-A & 2524-B	Insertion Loss	Approx. -0.15 dB		Approx. -0.20 dB		Approx. -0.25 dB	
	Typical VSWR	At ± 100kHz	< 1.10:1	At F ₀	< 1.05:1	At ± 100kHz	< 1.06:1
		At ± 150kHz	< 1.12:1			At ± 150kHz	< 1.04:1
		At ± 200kHz	< 1.18:1			At ± 100kHz	< 1.10:1
	Typical Frequency Response	At ± 100kHz	-0.01 dB	At ± 100kHz	-0.04 dB	At ± 100kHz	-0.01 dB
		At ± 150kHz	-0.05 dB	At ± 150kHz	-0.08 dB	At ± 150kHz	-0.02 dB
		At ± 200kHz	-0.10 dB	At ± 200kHz	-0.10 dB	At ± 200kHz	-0.05 dB
	Typical Group Delay	At ± 100kHz	15 ns	At ± 100kHz	20 ns	At ± 100kHz	25 ns
		At ± 150kHz	30 ns	At ± 150kHz	40 ns	At ± 150kHz	50 ns
		At ± 200kHz	80 ns	At ± 200kHz	100 ns	At ± 200kHz	150 ns

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

Physical Specifications

Model	Power Rating	Cooling Method	2-Pole		3-Pole		4-Pole	
2524-A	30 kW	Convection	25-1/4" x 50-1/8" x 70"	300 lbs.	25-1/4" x 75-3/8" x 90"	500 lbs.	25-1/4" x 98-1/2" x 70"	600 lbs.
2524-B	50 kW	Forced Air	25-1/4" x 60-3/4" x 70"	350 lbs.	25-1/4" x 83-49/64" x 70"	550 lbs.	25-1/4" x 107-1/64" x 70"	650 lbs.

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2604 LOW POWER BANDPASS FILTER



FEATURES

- 3 or 4 Pole Options
- Power rating up to 4 kW
- 7/8" EIA Input/Output
- Optional: Feedback Loops
- Optional: Forced Air Blowers

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	Up to 4 kW
Cooling Method	Convection or Forced Air
Input Connection	7/8" EIA
Output Connection	7/8" EIA
Type	Interdigital
Cavity Size	4"
Typical Bandwidth	± 200kHz

Performance Specifications

Model	Measurement	3-Pole		4-Pole	
2604-A & 2604-B	Insertion Loss	< 0.50 dB			
	Typical VSWR	At F ₀	< 1.05:1	At F ₀	
		At ± 200kHz	< 1.10:1	At ± 200kHz	
	Typical Frequency Response	At ± 100kHz	-0.04 dB	At ± 100kHz	
		At ± 150kHz	-0.08 dB	At ± 150kHz	
		At ± 200kHz	-0.10 dB	At ± 200kHz	
	Typical Group Delay	At ± 100kHz	20 ns	At ± 100kHz	
		At ± 150kHz	50 ns	At ± 150kHz	
		At ± 200kHz	100 ns	At ± 200kHz	

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

Physical Specification

Model	Power Rating	Cooling Method	3-Pole		4-Pole	
2604-A	2.5 kW	Convection	5" x 24" 40"	88 lbs.	5-1/2" x 33-29/32" 41"	120 lbs.
2604-B	4 kW	Forced Air	5-3/4" x 24" 44-7/16"	108 lbs.	5-3/4" x 32-13/32" 44-7/16"	140 lbs.

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2606 MEDIUM POWER BANDPASS FILTER



FEATURES

- 3 or 4 Pole Options
- Power rating up to 8 kW
- 1-5/8" EIA Input/Output
- Optional: Feedback Loops
- Optional: Forced Air Blowers

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	Up to 8 kW
Cooling Method	Convection or Forced Air
Input Connection	1-5/8" EIA
Output Connection	1-5/8" EIA
Type	Interdigital
Cavity Size	6"
Typical Bandwidth	± 200kHz

Performance Specifications

Model	Measurement	3-Pole		4-Pole	
2604-A & 2604-B	Insertion Loss	< 0.40 dB		< 0.70 dB	
	Typical VSWR	At F ₀	< 1.05:1	At ± 100kHz	< 1.06:1
				At ± 150kHz	< 1.04:1
		At ± 200kHz	< 1.10:1	At ± 200kHz	< 1.10:1
	Typical Frequency Response	At ± 100kHz	-0.04 dB	At ± 100kHz	-0.01 dB
		At ± 150kHz	-0.08 dB	At ± 150kHz	-0.02 dB
		At ± 200kHz	-0.10 dB	At ± 200kHz	-0.05 dB
	Typical Group Delay	At ± 100kHz	20 ns	At ± 100kHz	25 ns
		At ± 150kHz	50 ns	At ± 150kHz	50 ns
		At ± 200kHz	100 ns	At ± 200kHz	150 ns

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

Physical Specification

Model	Power Rating	Cooling Method	3-Pole		4-Pole	
2606-A	5 kW	Convection	7-1/4" x 35" x 40"	175 lbs.	7-1/4" x 47" x 40"	195 lbs.
2606-B	8 kW	Forced Air	7-1/4" x 35" x 45"	180 lbs.	7-1/4" x 47" x 45"	200 lbs.

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2712 MEDIUM POWER BANDPASS FILTER



FEATURES

- 2, 3, or 4 pole options
- Power rating up to 15 kW
- Small design with same performance as resonant cavity design.
- Optional: Feedback Loops
- Optional: Forced Air Blowers

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	Up to 15 kW
Cooling Method	Convection or Forced Air
Input Connection	1-5/8" EIA
Output Connection	1-5/8" EIA
Type	Resonant Cavity
Cavity Size	12"
Typical Bandwidth	± 200kHz

Performance Specifications

Model	Measurement	2-Pole		3-Pole		4-Pole	
2712-A & 2712-B	Insertion Loss	< 0.15 dB		< 0.23 dB		Approx. -0.30 dB	
	Typical VSWR	At ± 100kHz	< 1.05:1	At ± 100kHz	< 1.05:1	At ± 100kHz	< 1.06:1
		At ± 200kHz	< 1.10:1	At ± 200kHz	< 1.10:1	At ± 100kHz	< 1.10:1
	Typical Frequency Response	At ± 100kHz	-0.04 dB	At ± 100kHz	-0.04 dB	At ± 100kHz	-0.01 dB
		At ± 150kHz	-0.08 dB	At ± 150kHz	-0.08 dB	At ± 150kHz	-0.02 dB
		At ± 200kHz	-0.10 dB	At ± 200kHz	-0.10 dB	At ± 200kHz	-0.05 dB
	Typical Group Delay	At ± 100kHz	20 ns	At ± 100kHz	20 ns	At ± 100kHz	25 ns
		At ± 150kHz	40 ns	At ± 150kHz	40 ns	At ± 150kHz	50 ns
		At ± 200kHz	150 ns	At ± 200kHz	150 ns	At ± 200kHz	150 ns

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

Physical Specifications

Model	Power Rating	Cooling Method	2-Pole		3-Pole		4-Pole	
2712-A	10 kW	Convection	14-3/4" x 30-1/8" x 49-1/4"	160 lbs.	14-3/4" x 46-1/8" x 49-1/4"	230 lbs.	14-3/4" x 65-1/8" x 49-1/4"	270 lbs.
2712-B	15 kW	Forced Air	15-27/32" x 30-1/8" x 48-25/65"	180 lbs	15-27/32" x 46-1/8" x 48-3/8"	250 lbs.	15-27/32" x 65-1/8" x 48-3/8"	300 lbs.

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2914 LOW POWER BANDPASS FILTER



FEATURES

- 2, 3, or 4 pole options
- Power rating up to 650 W
- Lightweight and small for overhead or horizontal mounting
- Optional: Feedback Loops

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	650 W
Cooling Method	Convection
Input Connection	Type N
Output Connection	Type N
Type	Resonant Cavity
Cavity Size	4"
Typical Bandwidth	± 200kHz

Performance

Model	Measurement	2-Pole		3-Pole		4-Pole	
2914	Insertion Loss	Approx. -0.50 dB		Approx. -0.95 dB		Approx. -1.35 dB	
	Typical VSWR	At ± 100kHz	< 1.03:1	At ± 100kHz	< 1.06:1	At ± 100kHz	< 1.06:1
		At ± 1500kHz	< 1.08:1	At ± 1500kHz	< 1.05:1	At ± 100kHz	< 1.05:1
		At ± 200kHz	< 1.10:1	At ± 200kHz	< 1.08:1	At ± 100kHz	< 1.08:1
	Typical Frequency Response	At ± 100kHz	-0.01 dB	At ± 100kHz	-0.05 dB	At ± 100kHz	-0.08 dB
		At ± 1500kHz	-0.05 dB	At ± 1500kHz	-0.15 dB	At ± 1500kHz	-0.15 dB
		At ± 200kHz	-0.10 dB	At ± 200kHz	-0.20 dB	At ± 200kHz	-0.20 dB
	Typical Group Delay	At ± 100kHz	15 ns	At ± 100kHz	20 ns	At ± 100kHz	25 ns
		At ± 1500kHz	20 ns	At ± 1500kHz	40 ns	At ± 1500kHz	50 ns
		At ± 200kHz	50 ns	At ± 200kHz	100 ns	At ± 200kHz	150 ns

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

Physical Specifications

Model	Power Rating	2-Pole		3-Pole		4-Pole	
2914	650 W	4" x 8" x 48"	20 lbs.	4" x 12" x 48"	29 lbs.	4" x 16" x 48"	37 lbs.

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2916 LOW POWER BANDPASS FILTER



FEATURES

- 2, 3, or 4 pole options
- Power rating up to 1500 W
- Lightweight and small for overhead or horizontal mounting
- Optional: Feedback Loops

Specifications

Frequency Range	88 – 108 MHz
Input Power Rating	1500 W
Cooling Method	Convection
Input Connection	7/16" DIN
Output Connection	7/16" DIN
Type	Resonant Cavity
Cavity Size	6"
Typical Bandwidth	± 200kHz

Performance

Model	Measurement	2-Pole		3-Pole		4-Pole	
2916	Insertion Loss	Approx. -0.40 dB		Approx. -0.75 dB		Approx. -1.00 dB	
	Typical VSWR	At ± 100kHz	< 1.03:1	At ± 100kHz	< 1.06:1	At ± 100kHz	< 1.06:1
		At ± 1500kHz	< 1.15:1	At ± 1500kHz	< 1.05:1	At ± 100kHz	< 1.05:1
		At ± 200kHz	< 1.25:1	At ± 200kHz	< 1.08:1	At ± 100kHz	< 1.08:1
	Typical Frequency Response	At ± 100kHz	-0.01 dB	At ± 100kHz	-0.05 dB	At ± 100kHz	-0.08 dB
		At ± 1500kHz	-0.05 dB	At ± 1500kHz	-0.15 dB	At ± 1500kHz	-0.15 dB
		At ± 200kHz	-0.10 dB	At ± 200kHz	-0.20 dB	At ± 200kHz	-0.20 dB
	Typical Group Delay	At ± 100kHz	15 ns	At ± 100kHz	20 ns	At ± 100kHz	25 ns
		At ± 1500kHz	20 ns	At ± 1500kHz	40 ns	At ± 1500kHz	50 ns
		At ± 200kHz	50 ns	At ± 200kHz	100 ns	At ± 200kHz	150 ns

Physical Specifications

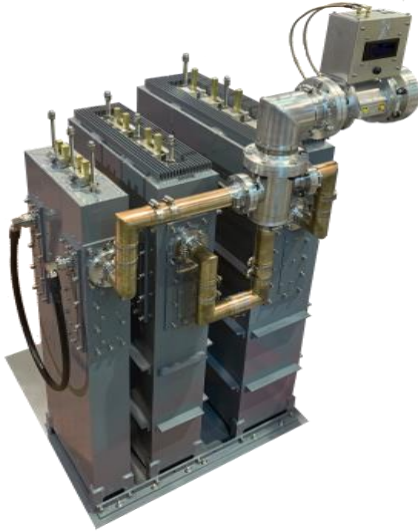
Model	Power Rating	2-Pole		3-Pole		4-Pole	
2916	1500 W	6-5/8" x 14" x 48"	31 lbs.	11-1/4" x 15-5/8" x 48"	48 lbs.	13" x 13" x 48"	65 lbs.

*Operating Altitude: Ratings are based on elevations up to 2800'. De-rating begins after 2800'

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FM COMBINER SYSTEMS

FM COMBINER SYSTEM



FEATURES

- 88 – 108MHz
- Branch or Constant Impedance Systems
- Iris Coupled Design
- Floor, Ceiling, or Wall-Mount Configurations
- No Finger Stock Used
- High-Quality Aluminum, Brass, and Copper Materials

Specifications	
Frequency	88 – 108 MHz
Input Power Rating	1 kW – 60 kW
Cooling Method	Convection or Forced Air
Rejection	> -50 dB
Group Delay	100 ns 200 KHz
Connections and Adapters	EIA Flange, Type N, 7/16" DIN

*Cross Coupled Notch required for <2 MHz Frequency spacing

Standard Models							
Branch Models							
	Output Rating	2-Channel		3-Channel		4-Channel	
C-IR-BR-FM-K	2 kW	8" x 14" x 46"	150 lbs.	12" x 12" x 46"	210 lbs.	16" x 12" x 46"	340 lbs.
C-IR-BR-FM-K	6 kW	8" x 14" x 46"	150 lbs.	12" x 12" x 46"	210 lbs.	16" x 12" x 46"	340 lbs.
C-IR-BR-FM-K	14 kW	15" x 24" x 56"	310 lbs.	36" x 24" x 56"	480 lbs.	48" x 24" x 56"	600 lbs.
C-IR-BR-FM-K	60 kW	56" x 76" x 56"	850 lbs.	88" x 76" x 56"	1550 lbs.	120" x 76" x 56"	2200 lbs.
Constant Impedance Models							
	Output Rating	2-Channel		3-Channel		4-Channel	
C-IR-CI-FM-K	7 kW	14" x 24" x 46"	350 lbs.	30" x 24" x 46"	700 lbs.	44" x 24" x 46"	1000 lbs.
C-IR-CI-FM-K	14 kW	18" x 18" x 46"	450 lbs.	40" x 18" x 46"	900 lbs.	62" x 18" x 46"	1500 lbs.
C-IR-CI-FM-K	60 kW	45" x 40" x 56"	800 lbs.	100" x 40" x 56"	1750 lbs.	160" x 40" x 56"	2600 lbs.
C-IR-CI-FM-K	120 kW	50" x 66" x 56"	900 lbs.	110" x 66" x 56"	2100 lbs.	170" x 66" x 56"	3100 lbs.

*Models and configurations vary based on the circuit requirement. Please contact the factory for the specific circuit requirement.

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UHF TV COMBINER SYSTEMS

UHF COMBINER SYSTEMS



FEATURES

- Frequency: 470 – 860 MHz
- Cross Coupled Modules
- High Quality Aluminum, Brass, and Copper Materials
- Digital or Analog Systems
- No Finger Stock
- 6 MHz, 7 MHz, or 8 MHz Bandwidth
- Non-Critical and Critical Mask Type

Specifications	
Frequency	470 – 860 MHz
Input Power Rating	1 kW – 24 kW
Cooling Method	< 0.8 dB Typical
Rejection	Convection, Forced Air, Liquid
Group Delay	> 50 dB
Connections and Adapters	<350 ns
Connections Available	EIA Flange, 7/16" DIN

Operating Altitude Ratings are based on elevations up to 2800'. Derating begins after 2800'

Standard Models						
Model	Input Power Rating (digital)	Output Power Rating (digital)	6 Section Modules		8 Section Modules	
			Dimension	Weight	Dimension	Weight
UHF-C-1K	500 W	1 kW	24" x 12" x 12"	20 lbs.	30" x 12" x 12"	52 lbs.
UHF-C-3K	1.5 kW	3 kW	30" x 18" x 18"	80 lbs.	38" x 18" x 18"	230 lbs.
UHF-C-6K	3 kW	6 kW	30" x 18" x 18"	85 lbs.	38" x 18" x 18"	240 lbs.
UHF-C-12K	6 kW	12 kW	32" x 18" x 18"	100 lbs.	40" x 18" x 18"	270 lbs.
UHF-C-24K	12 kW	24 kW	35" x 19" x 30"	220 lbs.	43" x 19" x 30"	550 lbs.

LOW PASS FILTERS

1KW – 60KW LOW PASS FILTER MODULES



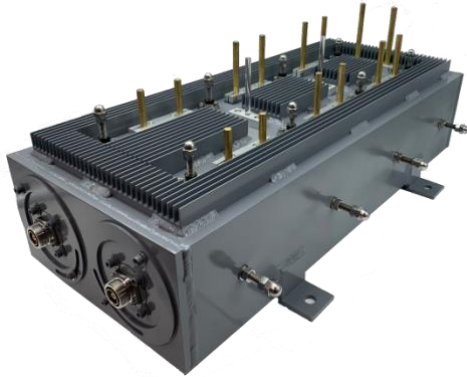
FEATURES

- Frequency: VHF I, II, III, UHF IV, V
- High quality aluminum, brass, and copper materials.
- Available in floor, ceiling, rack-mount, and wall mount configurations.

Specifications	
Frequency	VHF I, II, III UHF IV, V
Input Power Rating	1 KW thru 60 KW
Insertion Loss	0.18 dB or better
Cooling Method	Convection or Forced Air
Rejection	>40dB
Group Delay	50 ns or better on channel
Connections & Adapters Available	Type N, 7/16" DIN, EIA Flange

Standard Models	
Model	Power Rating
LP-1K	1 KW
LP-2K	2 KW
LP-5K	5 KW
LP-12K	12 KW
LP-20K	20 KW
LP-30K	30 KW
LP-40K	40 KW
LP-60K	60 KW

UHF MASK FILTERS



FEATURES

- 470 – 860 MHz
- Cross Coupled
- No Finger Stock
- Non-Critical and Critical Mask Type
- High Quality Aluminum, Brass, and Copper Materials

Specifications	
Frequency	470 – 860 MHz
Input Power Rating	500 W – 24 kW
Insertion Loss	< 0.8 dB Typical
Cooling Method	Convection, Forced Air, Liquid
Rejection	> 50 dB
Group Delay	300 ns Typical
Connections Available	EIA Flange, 7/16" DIN

Standard Models					
Model	Power Rating (digital)	6 Section System		8 Section System	
		Dimensions	Weight	Dimensions	Weight
UHF-M-1K	1 kW	15" x 10" x 7"	41 lbs.	20" x 10" x 7"	58 lbs.
UHF-M-2K	2 kW	24" x 16" x 8"	83 lbs.	32" x 16" x 8"	102 lbs.
UHF-M-3K	3 kW	24" x 16" x 8"	86 lbs.	32" x 16" x 8"	123 lbs.
UHF-M-5K	5 kW	25" x 18" x 8"	110 lbs.	34" x 18" x 8"	135 lbs.
UHF-M-7K	7 kW	30" x 16" x 15"	173 lbs.	40" x 16" x 15"	295 lbs.
UHF-M-12K	12 kW	35" x 24" x 50"	534 lbs.	35" x 24" x 60"	723 lbs.

***Operating Altitude:** Ratings are based on elevations up to 2800'. Derating begins after 2800'

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Model	Description
UHF-M-6-1K	6-pole 1 kW UHF Mask Filter
UHF-M-6-2K	6-pole 2 kW UHF Mask Filter
UHF-M-6-3K	6-pole 3 kW UHF Mask Filter
UHF-M-6-5K	6-pole 5 kW UHF Mask Filter
UHF-M-6-7K	6-pole 7 kW UHF Mask Filter
UHF-M-6-14K	6-pole 14 kW UHF Mask Filter
UHF-M-8-1K	8-pole 1 kW UHF Mask Filter
UHF-M-8-2K	8-pole 2 kW UHF Mask Filter
UHF-M-8-3K	8-pole 3 kW UHF Mask Filter
UHF-M-8-5K	8-pole 5 kW UHF Mask Filter
UHF-M-8-7K	8-pole 7 kW UHF Mask Filter
UHF-M-8-14K	8-pole 14 kW UHF Mask Filter

VHF BAND I & III MASK FILTERS



FEATURES

- VHF Band I & Band III
- Cross Coupled
- No Finger Stock Used
- High-Quality Aluminum, Brass, and Copper Materials

Specifications	
Band	VHF I & VHF III
Input Power Rating	1.5 kW – 30 kW
Insertion Loss	< 0.35 dB
Cooling Method	Convection or Forced Air
Rejection	> 50 dB
Group Delay	< 300 ns Typical
Connections Available	EIA Flange

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Model	Description
VHFI-M-6-2K	6-pole 2 kW VHFI Mask Filter
VHFI-M-6-5K	6-pole 5 kW VHFI Mask Filter
VHFI-M-6-8K	6-pole 8 kW VHFI Mask Filter
VHFI-M-6-12K	6-pole 12 kW VHFI Mask Filter
VHFI-M-6-15K	6-pole 15 kW VHFI Mask Filter
VHFI-M-8-2K	8-pole 2 kW VHFI Mask Filter
VHFI-M-8-5K	8-pole 5 kW VHFI Mask Filter
VHFI-M-8-8K	8-pole 8 kW VHFI Mask Filter
VHFI-M-8-12K	8-pole 12 kW VHFI Mask Filter
VHFI-M-8-15K	8-pole 15 kW VHFI Mask Filter
VHFIII-M-6-2K	6-pole 2 kW VHFIII Mask Filter
VHFIII-M-6-5K	6-pole 5 kW VHFIII Mask Filter
VHFIII-M-6-8K	6-pole 8 kW VHFIII Mask Filter
VHFIII-M-6-12K	6-pole 12 kW VHFIII Mask Filter
VHFIII-M-6-15K	6-pole 15 kW VHFIII Mask Filter
VHFIII-M-8-2K	8-pole 2 kW VHFIII Mask Filter
VHFIII-M-8-5K	8-pole 5 kW VHFIII Mask Filter
VHFIII-M-8-8K	8-pole 8 kW VHFIII Mask Filter
VHFIII-M-8-12K	8-pole 12 kW VHFIII Mask Filter
VHFIII-M-8-15K	8-pole 15 kW VHFIII Mask Filter

FM ISOCOUPLER



FEATURES

- Provides versatility to install transmission systems on existing AM radiating antenna systems
- Frequency Range: 82 – 108 MHz

Specifications	
Frequency	82 – 108 MHz
Power Rating	2 kW – 40 kW
Insertion Loss at Fundamental Frequency	< 0.2 dB
Input Impedance	50 ohms
Output Impedance	50 ohms
VSWR at Channel	1.05:1 or better
Connections Available	Type N, 7/16" DIN, 7/8" EIA, 1-5/8" EIA, 3-1/8" EIA, 4-1/16" EIA, 6-1/8" EIA

Standard Models	
Model	Power Rating
ISO-FM-2K	2 kW
ISO-FM-10K	10 kW
ISO-FM-20K	20 kW
ISO-FM-40K	40 kW

Power ratings are based on elevations up to 2800'. Derating begins after 2800'

RF ISOLATORS

190 WATT – 3200 WATT RF ISOLATOR SYSTEM



FEATURES

- Frequency: VHF I, II, III UHF IV, V
- Rack Mountable
- Broadband

Specifications	
Frequency	VHF I, II, III, UHF IV, V
Power Rating	150 Watts thru 3,000 Watts
Insertion Loss	>20 dB
Cooling Method	Convection or Forced Air
Group Delay	50 ns or better across channel
Connections Available	Type N, 7/16" DIN, EIA Flange

Standard Models	
Model	Power Rating
ISO-150	190 W
ISO-350	350 W
ISO-500	500 W
ISO-1000	1000 W
ISO-2000	2000 W
ISO-3000	3000 W

Power ratings are based on elevations up to 2800'. Derating begins after 2800'

HARMONIC FILTERS



FEATURES

- Connects in the output line from your transmitter
- Factory tuned provides over 40dB suppression
- Additional suppression possible with multiple resonators.
- Eliminates LTE and Microwave Interference

Specifications	
Frequency	Passband: FM
Power Rating	
Insertion Loss	
Cooling Method	
Group Delay	
Connections Available	

Standard Models	
Model	Power Rating

DUMMY LOADS



FEATURES

- DC – 110 MHz
- Rack Mountable (1 kW – 3 kW).
- Forced Air Cooled
- Three separate loads can be configured for RM series 3U rack mountable assembly.

Specifications

Frequency	DC – 110 MHz
Power	200 W – 50 kW
VSWR	1.1:1 typical
Ambient	-20 to +104 degrees F
Connections Available	Type N, 7/16" DIN, 7/8" EIA, 1-5/8" EIA, 3-1/8" EIA, 6-1/8"
Modular Rack Mountable Units	The rack mountable units can have up to three separate loads. Each load module location can be either a 1 kW, 2 kW, or 3 kW load. Three Rack Units (3U)
RM Series Weight	27 lbs.

Models

Model	Description and Power Ratings*
DL-1K-RM	1 kW rack mountable dummy load, 3U, 120 / 220 VAC 50/60Hz
DL-2K-RM	2 kW rack mountable dummy load, 3U, 120 / 220 VAC 50/60Hz
DL-3K-RM	3 kW rack mountable dummy load, 3U, 120 / 220 VAC 50/60Hz
DL-1K-RM-Module	1 kW rack mountable load module for DL-RM units.
DL-2K-RM-Module	2 kW rack mountable load module for DL-RM units.
DL-3K-RM-Module	3 kW rack mountable load module for DL-RM units.
DL-5K	5 kW dummy load.
DL-10K	10 kW dummy load.
DL-25K	25 kW dummy load.
DL-50K	50 kW dummy load

*Power ratings are based on elevations up to 2800'. Derating begins after 2800'

Note: For users that need more than one load within one 3U rack mountable unit: Purchase the single module unit, then add the other modules to the order. A single 3U unit can have up to three load modules.

FM ANTENNA SYSTEMS

OUR ANTENNAS

Under Shively Labs AAT manufactures quality FM antenna systems, providing broadcasters with a reliable product using high quality stainless steel, brass, and copper materials.

- Multiple Polarization Options
- Multi-Bay Systems Available
- Low, Medium, and High Power Systems
- Multi-Channel Systems
- Omni Directional Systems
- Custom Directional Patterns Available

Shively Labs®
an AAT Brand

6815 MEDIUM POWER ANTENNA SYSTEMS



FEATURES

- Circular Polarization and lightweight
- Power rating up to 15 kW
- Directional Configurable
- Combined Systems

Specifications

Model	6815-MP
Frequency	87 – 108 MHz
Input Power Rating	Up to 15 kW
Polarization	Circular
Azimuth	Horizontal component + 1.5 dB
VSWR	1.38:1 or better: 1.07:1 or better with field tuning
Connections Available	EIA 1-5/8", EIA 3-1/8"

Standard Models

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6815-MP-1	3	0.45	-3.43	-	-	-
6815-MP-2	7	0.99	-0.04	20	0.71	-1.51
6815-MP-3	10	1.56	1.92	30	1.02	0.08
6815-MP-4	12	2.14	3.30	40	1.32	1.19
6815-MP-5	12	2.73	4.36	40	1.62	2.10
6815-MP-6	12	3.33	5.22	40	1.92	2.84
6815-MP-7	12	3.93	5.94	-	-	-
6815-MP-8	15	4.53	6.56	40	2.54	4.04
6815-MP-10	15	5.74	7.59	40	3.14	4.97
6815-MP-12	15	6.97	8.43	40	3.75	5.74
6815-MP-14	15	8.18	9.13	40	4.37	6.40
6815-MP-16	15	9.42	9.74	40	4.98	6.97

Notes:

- Includes standard mounting brackets and attachment hardware. Optional Custom mounts available.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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6815 HIGH POWER ANTENNA SYSTEMS



FEATURES

- Circular Polarization and lightweight
- Power rating up to 90 kW
- Directional Configurable
- Combined Systems

Specifications

Model	6815-HP
Frequency	87 – 108 MHz
Input Power Rating	Up to 80 kW
Polarization	Circular
Azimuth	Horizontal component + 1.5 dB
VSWR	1.38:1 or better: 1.07:1 or better with field tuning
Connections Available	EIA 1-5/8", EIA 3-1/8"

Standard Models

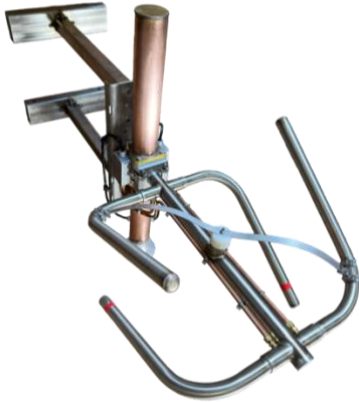
Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6815-HP-1	32	0.46	-3.37	32	-	-
6815-HP-2	32	0.95	-0.22	32	0.73	-1.36
6815-HP-3	32	1.55	1.90	32	1.02	0.08
6815-HP-4	40	2.13	3.28	40	1.35	1.30
6815-HP-5	40	2.72	4.35	40	1.63	2.12
6815-HP-6	40	3.25	5.12	40	1.89	2.76
6815-HP-7	40	3.90	5.91	40	2.19	3.40
6815-HP-8	40	4.28	6.31	40	2.61	4.17
6815-HP-9	40	5.05	7.03	40	2.79	4.46
6815-HP-10	40	5.54	7.44	40	3.14	4.97
6815-HP-11	40	6.25	7.96	40	3.39	5.30
6815-HP-12	40	6.57	8.18	40	3.70	5.68

Notes:

- > 40 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware. Optional Custom mounts available.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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6814 MEDIUM POWER ANTENNA SYSTEMS



FEATURES

- Circular Polarization or Elliptical Polarization
- High Power Input Ratings
- Directional Systems
- Radomes and Deicers Available
- Multi-Channel Systems

Specifications

Model	6814-MP
Frequency	87 – 108 MHz
Input Power Rating	32 kW – 80 kW
Polarization	Circular or Elliptical
Azimuth	±2 db Free Space
VSWR	1.5:1 or better: 1.07:1 or better with field tuning
Connections Available	EIA: 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Standard Models

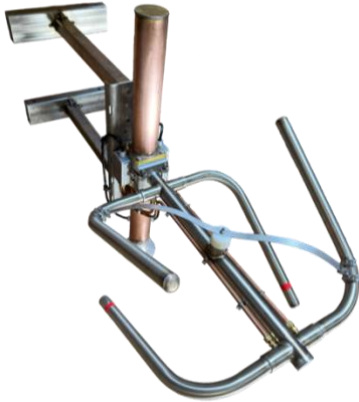
Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6814-MP-1	3	0.45	-3.43	-	-	-
6814-MP -2	7	0.99	-0.04	20	0.71	-1.51
6814-MP -3	10	1.56	1.92	30	1.02	0.08
6814-MP -4	12	2.14	3.30	40	1.32	1.19
6814-MP -5	12	2.73	4.36	40	1.62	2.10
6814-MP -6	12	3.33	5.22	40	1.92	2.84
6814-MP -7	12	3.93	5.94	-	-	-
6814-MP -8	15	4.53	6.56	40	2.54	4.04
6814-MP -10	15	5.74	7.59	40	3.14	4.97
6814-MP -12	15	6.97	8.43	40	3.75	5.74
6814-MP -14	15	8.18	9.13	40	4.37	6.40
6814-MP -16	15	9.42	9.74	40	4.98	6.97

Notes:

- Includes standard mounting brackets and attachment hardware. Optional Custom mounts available.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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6814 HIGH POWER ANTENNA SYSTEMS



FEATURES

- Circular Polarization or Elliptical Polarization
- High Power Input Ratings
- Directional Systems
- Radomes and Deicers Available
- Multi-Channel Systems

Specifications

Model	6814
Frequency	87 – 108 MHz
Input Power Rating	32 kW – 80 kW
Polarization	Circular or Elliptical
Azimuth	±2 db Free Space
VSWR	1.5:1 or better: 1.07:1 or better with field tuning
Connections Available	EIA: 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Standard Models

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6814-HP-1	32	0.46	-3.37	32	-	-
6814-HP-2	32	0.95	-0.22	32	0.73	-1.36
6814-HP-3	32	1.55	1.90	32	1.02	0.08
6814-HP-4	40	2.13	3.28	40	1.35	1.30
6814-HP-5	40	2.72	4.35	40	1.63	2.12
6814-HP-6	40	3.25	5.12	40	1.89	2.76
6814-HP-7	40	3.90	5.91	40	2.19	3.40
6814-HP-8	40	4.28	6.31	40	2.61	4.17
6814-HP-9	40	5.05	7.03	40	2.79	4.46
6814-HP-10	40	5.54	7.44	40	3.14	4.97
6814-HP-11	40	6.25	7.96	40	3.39	5.30
6814-HP-12	40	6.57	8.18	40	3.70	5.68

Notes:

- > 40 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware. Optional Custom mounts available.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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6828 HIGH POWER ANTENNA SYSTEMS



FEATURES

- Circular or Elliptical Polarization
- Broadband Multi-Channel Systems
- Directional Systems
- High Power Ratings
- Optional: Radomes
- Optional: Deicers

Specifications

Model	6828
Frequency	87 – 108 MHz
Input Power Rating	32 kW – 210 kW
Polarization	Circular or Elliptical
Azimuth	± 2dB free space
VSWR	1.38:1 or better 1.07:1 or better with field tuning
Connections Available	3-1/8" EIA, 4-1/16" or 6-1/8"

Standard Models

Model	Power Rating kW	Power Gain		dB Gain	
		Full Wave	Half Wave	Full Wave	Half Wave
6828-1	32	0.46	NA	-3.37	NA
6828-2	40	0.95	0.73	-0.22	-1.36
6828-3	40	1.55	1.02	1.90	0.08
6828-4	40	2.13	1.35	3.28	1.30
6828-5	40	2.72	1.63	4.35	2.12
6828-6	40	3.25	1.89	5.12	2.76
6828-7	40	3.90	2.19	5.91	3.40
6828-8	40	4.28	2.61	6.31	4.17
6828-9	40	5.05	2.79	7.03	4.46
6828-10	40	5.54	3.14	7.44	4.97
6828-11	40	6.25	3.39	7.96	5.30
6828-12	40	6.57	3.70	8.18	5.68
6828-14	40	8.18	4.37	9.13	6.41
6828-16	40	9.41	4.98	9.73	6.97

Notes:

- > 40 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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IV-CP FM ANTENNA SYSTEMS

IV-CP FM ANTENNA SYSTEMS



FEATURES

- FM Band 88-108 MHz
- Broadband System
- Non Pressurized
- Multiple Bay Systems Available
- Omni-Directional Azimuth Pat-tern
- Directional Patterns Available
- High-Quality Stainless Steel, Brass, and Copper Materials

Specifications

Frequency Range	FM Band 88-108 MHz
Input Power Rating	2 kW – 8 kW
Polarization	Circular
Azimuth	±2 dB free space
VSWR	1.30 : 1 (or better)
Connections Available	Type N, 7/16 DIN, EIA Flange

Standard Models

Model	Power Rating	Power Gain		dB gain		Weight	Wind Area (CaAa) <i>ft</i> ²
		Full Wave	Half Wave	Full Wave	Half Wave		
IV-CP-1	2 kW	0.46	NA	-3.37	NA	24 lbs	1.2
IV-CP-2	4 kW	0.95	0.73	-0.22	-1.36	55 lbs	3.7
IV-CP-3	6 kW	1.55	1.02	1.90	0.08	77 lbs	5.2
IV-CP-4	8 kW	2.13	1.35	3.28	1.30	110 lbs	7.8
IV-CP-5	8 kW	2.72	1.63	4.35	2.12	134 lbs	8.8
IV-CP-6	8 kW	3.25	1.89	5.12	2.76	158 lbs	10.8

Notes:

- Includes standard mounting brackets and attachment hardware.
- 4-bay systems available after engineering review
- Antenna weight and wind load calculations are approximate values for a typical structure. Final design loads may vary for the specific application.

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IV-CP FM ANTENNA SYSTEM MODELS

Model	Description
FM-IV-CP-1	1 bay IV-CP Antenna System
FM-IV-CP-2	2 bay IV-CP Antenna System
FM-IV-CP-3	3 bay IV-CP Antenna System
FM-IV-CP-4	4 bay IV-CP Antenna System
FM-IV-CP-5	5 bay IV-CP Antenna System
FM-IV-CP-6	6 bay IV-CP Antenna System

Mounting member sizes: 1.5" – 3.5", other sizes available upon request

IV-CP-M HIGH POWER FM ANTENNA SYSTEMS



FEATURES

- 87 - 108 MHz
- Pressurized
- Multi-Channel Systems
- Multiple Bay Systems Available
- High-Quality Stainless Steel, Brass, and Copper Materials

Specifications

Frequency	87– 108 MHz
Input Power Rating	10 kW – 100 kW
Polarization	Circular
Azimuth	±2dB free space
Connections Available	EIA: 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Standard Models

Model	Power Rating	Power Gain		dB gain		Weight <i>lbs</i>	Wind Load <i>lbs</i>
		Full Wave	Half Wave	Full Wave	Half Wave		
IV-CP-M1	10 kW	0.46	NA	-3.37	NA	55	59
IV-CP-M2E	20 kW	0.95	0.73	-0.22	-1.36	125	181
IV-CP-M2C	20 kW	0.95	0.73	-0.22	-1.36	125	181
IV-CP-M3E	20 kW	1.55	1.02	1.90	0.08	182	271
IV-CP-M3C	20 kW	1.55	1.02	1.90	0.08	182	271
IV-CP-M4E	20 kW	2.13	1.35	3.28	1.30	220	318
IV-CP-M4C	30 kW	2.13	1.35	3.28	1.30	220	318
IV-CP-M5E	20 kW	2.72	1.63	4.35	2.12	315	508
IV-CP-M5C	40 kW	2.72	1.63	4.35	2.12	315	508
IV-CP-M6C	40 kW	3.25	1.89	5.12	2.76	375	614
IV-CP-M7C	40 kW	3.90	2.19	5.91	3.40	457	756
IV-CP-M8C	40 kW	4.28	2.61	6.31	4.17	510	836
IV-CP-M9C	40 kW	5.05	2.79	7.03	4.46	573	955
IV-CP-M10C	40 kW	5.54	3.14	7.44	4.97	635	1010
IV-CP-M11C	40 kW	6.25	3.39	7.96	5.30	713	1188
IV-CP-M12C	40 kW	6.57	3.70	8.18	5.68	768	1219

Notes:

- E= End, C=Center
- 40 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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IV-CP-M HIGH POWER FM ANTENNA SYSTEM MODELS

Model	Description
IV-CP-M-1	1 bay side mount antenna system
IV-CP-M-2	2 bay side mount antenna system
IV-CP-M-2-HW	2 bay half wave side mount antenna system
IV-CP-M-3	3 bay side mount antenna system
IV-CP-M-3-HW	3 bay half wave side mount antenna system
IV-CP-M-4	4 bay side mount antenna system
IV-CP-M-4-HW	4 bay half wave side mount antenna system
IV-CP-M-5	5 bay side mount antenna system
IV-CP-M-5-HW	5 bay half wave side mount antenna system
IV-CP-M-6	6 bay side mount antenna system
IV-CP-M-6-HW	6 bay half wave side mount antenna system
IV-CP-M-7	7 bay side mount antenna system
IV-CP-M-7-HW	7 bay half wave side mount antenna system
IV-CP-M-8	8 bay side mount antenna system
IV-CP-M-8-HW	8 bay half wave side mount antenna system
IV-CP-M-9	9 bay side mount antenna system
IV-CP-M-9-HW	9 bay half wave side mount antenna system
IV-CP-M-10	10 bay side mount antenna system
IV-CP-M-10-HW	10 bay half wave side mount antenna system
IV-CP-M-11	11 bay side mount antenna system
IV-CP-M-11-HW	11 bay half wave side mount antenna system
IV-CP-M-12	12 bay side mount antenna system
IV-CP-M-12-HW	12 bay half wave side mount antenna system

SLV MEDIUM POWER ANTENNA SYSTEM



FEATURES

- Light Weight
- Multi-Bay Systems Available
- Directional Patterns Available
- Multi-Channel Systems Available

Specifications

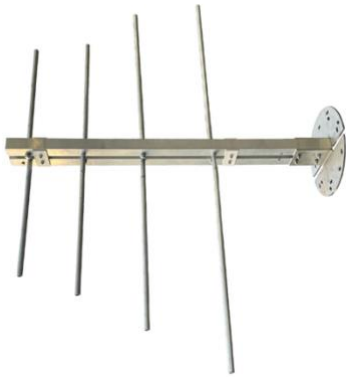
Model	SLV
Frequency	87.5 – 108 MHz
Input Power Rating	2.5 kW per element/bay
Polarization	Circular
Azimuth	Horizontal Component ± 1.5 dB on Pole
VSWR	<1.1:1 if tuned with transmitter metering for minimum reflected power, 1.2:1 if tuned with mechanical dimensions and tuning chart
Connections Available	7/16" DIN Female 7/8" EIA

Standard Models

Model (Number of Bays)	Power Rating	Power Gain		Elevation Gain	
	kW	Power	dB	Power	dB
SLV-1	2.5	0.65	-1.19	0.450	-3.421
SLV-2	5	1.40	1.46	0.997	-0.014
SLV-4	5	3.00	4.77	2.160	3.343
SLV-6	5	4.64	6.67	3.360	5.266

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6026 FM LOG-PERIODIC ANTENNA SYSTEM



FEATURES

- Four Element, 4-Foot Length
- Light Weight Directional Antenna
- Multi-Bay Design Available
- Low, Medium, and High Power Capable
- Broadband 88-108 MHz
- Transmit or Receive Capable
- Optional: Radomes

Specifications

Model	6026
Frequency	88 – 108 MHz
VSWR	1.08:1 or better
Power Gain	3.27 (vertical or horizontal), 1.79 (slant)
Polarization	Vertical, Horizontal, Slant (H&V)
Input Power Rating	5,000 Watts (Single Bay), Higher Power Ratings Available
Connector	7/8" EIA
Material	Aluminum, Copper, and Brass
Mounting Member	2" – 4.5" OD, Other Mounting Member Sizes Available
Dimensions	52" W/H x 48" L
Net Weight	46 lbs.

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6025 FM LOG-PERIODIC ANTENNA SYSTEM



FEATURES

- Rugged design
- Power rating up to 5 kW per bay
- 87.5 -108 MHz under 1.3:1 VSWR
- Versatile for multi directional patterns
- Pressurization recommended
- H , V or Slant polarization
- Optional: Radomes

Specifications

Model	6025
Frequency	88 – 108 MHz
Input Power Rating	5 kW per element, rated at power divider handling for multiple levels
Polarization	Vertical, Horizontal, Slant (45) or Custom H/V Ratio
Azimuth	
VSWR	>1.28:1
Connections Available	7/8" EIA for Single Element, 1-5/8" or 3-1/8" EIA on Power Divider for Multiple Element Array

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6014 BROADBAND PANEL ANTENNA SYSTEM



FEATURES

- True Circular Polarization
- Power rating up to 15 kW per panel
- Designed for 3-sided towers
- Rugged, stainless steel construction
- 87.5 -108 MHz under a 1.15:1 VSWR
- Directional capabilities
- Optional: Radomes

Specifications

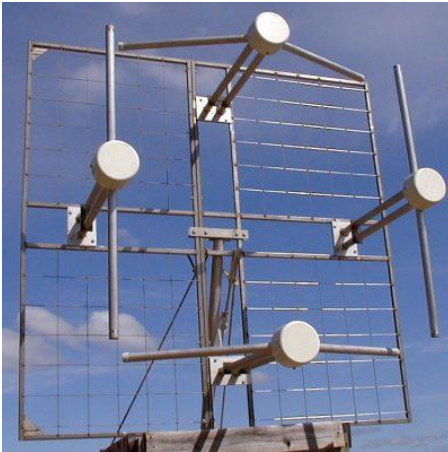
Model	6014
Frequency	87.5 – 108 MHz
Input Power Rating	10 kW – 160 kW
Polarization	Right Circular
Azimuth	
VSWR	>1.15:1
Connections Available	As Specified

Standard Models

Number of Levels (3 Panels Each)	Power Rating	Power Gain	
	kW	Power	dB
6014-1	45	0.46	-3.40
6014-2	90	1.01	-0.044
6014-3	135	1.58	1.995
6014-4	160	2.16	3.335
6014-6	160	3.28	5.163
6014-8	160	4.40	6.433
6014-10	160	5.52	7.416
6014-12	160	6.64	8.221

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6016 BROADBAND PANEL ANTENNA SYSTEM



FEATURES

- Circular polarization
- Rugged stainless steel construction
- Power rating 15 kW per panel
- 87.5 -108 MHz under 1.15:1 VSWR
- Designed for 4-sided towers
- Directional capabilities
- Optional: Radomes

Specifications

Model	6014
Frequency	87.5 – 108 MHz
Input Power Rating	10 kW – 160 kW
Polarization	Right Circular
Azimuth	
VSWR	>1.15:1
Connections Available	As Specified

Standard Models

Number of Levels (3 Panels Each)	Power Rating	Power Gain	
	kW	Power	dB
6016-1	60	0.45	-3.43
6016-2	120	0.99	-0.04
6016-3	160	1.56	1.92
6016-4	160	2.14	3.30
6016-5	160	2.73	4.36
6016-6	160	3.33	5.22
6016-7	160	3.93	5.94
6016-8	160	4.53	6.56

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6810 HIGH POWER ANTENNA SYSTEMS



FEATURES

- True Circular Polarization
- Excellent control for directional use
- Power rating up to 10 kW per bay
- Multiplexes over a 2.4 MHz bandwidth
- Includes fine matching transformer

Specifications

Model	6810
Frequency	87 – 108 MHz
Input Power Rating	10 kW per bay
Polarization	Right Circular
Azimuth	Horizontal component + 1.5 dB on Pole
VSWR	Single Bay 1.06:1 ± 100 kHz, 1.10:1 ± 200 kHz, 0.8 to 1.8 MHz: 1.10:1 ± 100 kHz and 1.20:1 ± 200 kHz
Connections Available	3-1/8" EIA Female

Standard Models

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6810-1	10	0.45	-3.43	-	-	-
6810-2	20	0.99	-0.04	6	0.71	-1.51
6810-3	30	1.56	1.92	9	1.02	0.08
6810-4	40	2.14	3.3	10	1.32	1.19
6810-5	40	2.73	4.36	12	1.62	2.10
6810-6	40	3.33	5.22	12	1.92	2.84
6810-7	40	3.93	5.94	-	-	-
6810-8	40	4.53	6.56	15	2.54	4.04
6810-10	40	5.74	7.59	15	3.14	4.97
6810-12	40	6.97	8.43	15	3.75	5.74
6810-14	40	8.18	9.13	15	4.37	6.40
6810-16	40	9.42	9.74	15	4.98	6.97

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6812 LOW POWER ANTENNA SYSTEMS



FEATURES

- Economical
- True Circular Polarization
- No Pressurization Needed
- Designed for Easy Mounting
- Lightweight and Low Wind load
- Radomes and Deicers Available

Specifications

Model	6812
Frequency	87 – 108 MHz
Input Power Rating	Up to 2 kW per bay
Polarization	Right Circular
Azimuth	Horizontal component ± 1.5 dB on Pole
VSWR	VSWR: 1.1:1 ± 100 kHz 1.2:1 + 200 kHz
Connections Available	Type N Femail or DIN

Standard Models (DIN)

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6812-1	2	0.46	-3.39	-	-	-
6812-2	2.5	1.01	0.03	2	0.71	-1.51
6812-3	2	1.56	1.92	2.5	1.02	0.08
6812-4	2.5	2.09	3.21	2.5	1.32	1.19
6812-5	2	2.63	4.2	2.5	1.62	2.1
6812-6	2.5	3.16	4.99	2.5	1.92	2.84
6812-8	2.5	4.23	6.26	2.5	2.54	4.04

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6813 MEDIUM POWER ANTENNA SYSTEMS



FEATURES

- True Circular Polarization
- Power rating up to 3 kW per bay
- Ring Stub Design
- Pressurization Needed
- Includes fine matching transformer
- Optional: Radome

Specifications

Model	6813
Frequency	87 – 108 MHz
Input Power Rating	3 kW per bay
Polarization	Right Circular
Azimuth	Horizontal component + 1.5 dB on Pole
VSWR	>1.08:1 ± 100 kHz, >1.16:1 ± 200 kHz
Connections Available	EIA 1-5/8"

Standard Models

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6813-1	3	0.45	-3.43	-	-	-
6813-2	7	0.99	-0.04	20	0.71	-1.51
6813-3	10	1.56	1.92	30	1.02	0.08
6813-4	12	2.14	3.30	40	1.32	1.19
6813-5	12	2.73	4.36	40	1.62	2.10
6813-6	12	3.33	5.22	40	1.92	2.84
6813-7	12	3.93	5.94	-	-	-
6813-8	15	4.53	6.56	40	2.54	4.04
6813-10	15	5.74	7.59	40	3.14	4.97
6813-12	15	6.97	8.43	40	3.75	5.74
6813-14	15	8.18	9.13	40	4.37	6.40
6813-16	15	9.42	9.74	40	4.98	6.97

Notes:

- Includes standard mounting brackets and attachment hardware. Optional Custom mounts available.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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6832 MEDIUM POWER BROADBAND ANTENNA



FEATURES

- Rugged stainless steel construction
- Power rating up to 2.5 kW per bay
- 87.5 -108 MHz under 1.3:1 VSWR
- No pressurization needed
- Elliptically polarized
- Optional: Radomes
- Optional: Null Full
- Optional: Beam Tilt

Specifications

Model	6832
Frequency	88 – 108 MHz
Input Power Rating	2.5 kW per bay
Polarization	Elliptical
Azimuth	Horizontal Component ± 1.5 dB on Pole
VSWR	>1.35:1 or better
Connections Available	7/16" DIN for single bay, 7/8" EIA female for 2 & 3 bay, 1-58" EIA for up to 8-bay

Standard Models

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6832-1	2.5	0.450	-3.421	-	-	-
6832-2	5	0.994	-0.027	5	0.858	-0.66
6832-3	7.5	1.510	1.797	7.5	1.243	0.94
6832-4	10	2.020	3.044	10	1.644	2.16
6832-5	12.5	2.520	4.010	12.5	2.037	3.09
6832-6	15	3.020	4.806	15	2.432	3.86
6832-7	15	4.040	6.068	15	3.223	5.08
6832-8	2.5	0.450	-3.421	5	0.858	-0.66

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6842 HIGH POWER BROADBAND ANTENNA



FEATURES

- Rugged stainless steel construction
- Power rating up to 7.5 kW per bay
- 87.5 -108 MHz under 1.3:1 VSWR
- Pressurization recommended
- Elliptically polarized
- Optional: Feedpoint Radomes
- Optional: Deicers

Specifications

Model	6842
Frequency	88 – 108 MHz
Input Power Rating	7.5 kW per bay
Polarization	Elliptical
Azimuth	Horizontal Component ± 1.5 dB on Pole
VSWR	>1.3:1 or better
Connections Available	7/8" EIA for single bay, 1-5/8" EIA female for two bay, and 3-1/8" for 3-8 bay

Standard Models

Model (Number of Bays)	Full-wave Spaced			Half-wave Spaced		
	Power Rating	Power Gain		Power Rating	Power Gain	
	kW	Power	dB	kW	Power	dB
6842-1	7.5	0.450	-3.421	-	-	-
6842-2	15	0.994	-0.027	15	0.858	-0.66
6842-3	22.5	1.510	1.797	22.5	1.243	0.94
6842-4	30	2.020	3.044	30	1.644	2.16
6842-5	37.5	2.520	4.010	37.5	2.037	3.09
6842-6	45	3.020	4.806	45	2.432	3.86
6842-8	60	4.040	6.068	60	3.223	5.08

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FM-P-CP PANEL ANTENNA SYSTEMS



FEATURES

- Circular, Horizontal, & Elliptical Polarizations
- Multi-Bay Systems Available
- Low, Medium, and High Power Systems
- Multi-Channel Systems
- Omni Directional Systems
- Custom Directional Patterns Available

Specifications

Model	FM-P-CP-1
Frequency	87 – 108 MHz
Input Power Rating	5 kW – 60 kW
Polarization	Circular, Elliptical, & Horizontal Polarizations available
Azimuth	±2dB free space
VSWR	1.3 : 1 or better
Connections Available	EIA: 1-5/8", 3-1/8", 4-1/16", 6-1/8"

Standard Models

Model	Power Rating	Power Gain	dB gain
FM-P-CP-1	10-30 kW	1.82	2.60

Notes:

- 10 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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H SERIES FM ANTENNA SYSTEMS



FEATURES

- Horizontal Polarization
- Multi-Bay Systems Available
- Low, Medium, and High Power Systems
- Multi-Channel Systems
- Omni Directional Systems
- Custom Directional Patterns Available

Specifications

Model	FM-H
Frequency	88 – 108 MHz
Input Power Rating	10 kW – 60 kW
Polarization	Horizontal
Azimuth	±2dB free space
VSWR	1.5 : 1 or better
Connections Available	EIA: 1-5/8", 3-1/8", 4-1/16", 6-1/8"

Standard Models

Model	Power Rating	Power Gain		dB gain	
		Full Wave	Half Wave	Full Wave	Half Wave
H-1	10-60 kW	0.905	NA	-0.433	NA
H-2	10-60 kW	1.951	1.413	2.902	1.501
H-3	10-60 kW	2.998	2.029	4.768	3.072
H-4	10-60 kW	4.165	2.676	6.196	4.274
H-5	10-60 kW	5.231	3.270	7.185	5.145
H-6	10-60 kW	6.526	3.971	8.146	5.988
H-7	10-60 kW	7.685	4.677	8.856	6.699
H-8	10-60 kW	8.865	5.199	9.476	7.159
H-9	10-60 kW	10.055	5.896	10.023	7.705
H-10	10-60 kW	11.122	6.377	10.461	8.046
H-11	10-60 kW	12.564	7.203	10.991	8.575
H-12	10-60 kW	13.533	7.758	11.313	8.897

Notes:

- 40 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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H SERIES FM ANTENNA SYSTEM MODELS

Model	Description
H-1	1 Bay H Series FM Antenna System
H-1-HW	1 Bay Half Wave H Series FM Antenna System
H-2	2 Bay H Series FM Antenna System
H-2-HW	2 Bay Half Wave H Series FM Antenna System
H-3	3 Bay H Series FM Antenna System
H-3-HW	3 Bay Half Wave H Series FM Antenna System
H-4	4 Bay H Series FM Antenna System
H-4-HW	4 Bay Half Wave H Series FM Antenna System
H-5	5 Bay H Series FM Antenna System
H-5-HW	5 Bay Half Wave H Series FM Antenna System
H-6	6 Bay H Series FM Antenna System
H-6-HW	6 Bay Half Wave H Series FM Antenna System
H-7	7 Bay H Series FM Antenna System
H-7-HW	7 Bay Half Wave H Series FM Antenna System
H-8	8 Bay H Series FM Antenna System
H-8-HW	8 Bay Half Wave H Series FM Antenna System
H-9	9 Bay H Series FM Antenna System
H-9-HW	9 Bay Half Wave H Series FM Antenna System
H-10	10 Bay H Series FM Antenna System
H-10-HW	10 Bay Half Wave H Series FM Antenna System
H-11	11 Bay H Series FM Antenna System
H-11-HW	11 Bay Half Wave H Series FM Antenna System
H-12	12 Bay H Series FM Antenna System
H-12-HW	12 Bay Half Wave H Series FM Antenna System

SF SERIES FM ANTENNA SYSTEMS

SF-M MEDIUM POWER FM ANTENNA SYSTEMS



FEATURES

- Circular Polarization
- Multi-Channel Systems
- Directional Systems
- Low, Medium, and High Power Ratings
- Broadband Systems

Specifications

Frequency	87 – 108 MHz
Input Power Rating	10 kW – 210 kW
Polarization	Circular
Azimuth	±2 dB free space
VSWR	1.5 : 1 or better
Connections Available	EIA: 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Standard Models

Model	Power Rating	Power Gain		dB Gain	
		Full Wave	Half Wave	Full Wave	Half Wave
SF-M-1	10-40 kW	0.46	NA	-3.37	NA
SF-M-2	10-40 kW	0.95	0.73	-0.22	-1.36
SF-M-3	10-40 kW	1.55	1.02	1.90	0.08
SF-M-4	10-40 kW	2.13	1.35	3.28	1.30
SF-M-5	40 kW	2.72	1.63	4.35	2.12
SF-M-6	40 kW	3.25	1.89	5.12	2.76
SF-M-7	40 kW	3.90	2.19	5.91	3.40
SF-M-8	40 kW	4.28	2.61	6.31	4.17
SF-M-9	40 kW	5.05	2.79	7.03	4.46
SF-M-10	40 kW	5.54	3.14	7.44	4.97
SF-M-11	40 kW	6.25	3.39	7.96	5.30
SF-M-12	40 kW	6.25	3.39	7.96	5.30

Notes:

- 40 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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SF-M MEDIUM POWER FM ANTENNA SYSTEM MODELS

Model	Description
SF-M-1E	1 bay End Fed SF FM Antenna System
SF-M-2E	2 bay End Fed SF FM Antenna System
SF-M-2C	2 bay Center Fed SF FM Antenna System
SF-M-2E-HW	2 bay Half Wave End Fed SF FM Antenna System
SF-M-2C-HW	2 bay Half Wave Center Fed SF FM Antenna System
SF-M-3E	3 bay End Fed SF FM Antenna System
SF-M-3C	3 bay Center Fed SF FM Antenna System
SF-M-3E-HW	3 bay Half Wave End Fed SF FM Antenna System
SF-M-3C-HW	3 bay Half Wave Center Fed SF FM Antenna System
SF-M-4E	4 bay End Fed SF FM Antenna System
SF-M-4C	4 bay Center Fed SF FM Antenna System
SF-M-4E-HW	4 bay Half Wave End Fed SF FM Antenna System
SF-M-4C-HW	4 bay Half Wave Center Fed SF FM Antenna System
SF-M-5E	5 Bay End Fed SF FM Antenna System
SF-M-5C	5 Bay Center Fed SF FM Antenna System
SF-M-5E-HW	5 Bay Half Wave End Fed SF FM Antenna System
SF-M-5C-HW	5 Bay Half Wave Center Fed SF FM Antenna System
SF-M-6C	6 Bay Center Fed SF FM Antenna System
SF-M-6C-HW	6 Bay Half Wave Center Fed SF FM Antenna System
SF-M-7C	7 Bay Center Fed SF FM Antenna System
SF-M-7C-HW	7 Bay Half Wave Center Fed SF FM Antenna System
SF-M-8C	8 Bay Center Fed SF FM Antenna System
SF-M-8C-HW	8 Bay Half Wave Center Fed SF FM Antenna System
SF-M-9C	9 Bay Center Fed SF FM Antenna System
SF-M-9C-HW	9 Bay Half Wave Center Fed SF FM Antenna System
SF-M-10C	10 Bay Center Fed SF FM Antenna System
SF-M-10C-HW	10 Bay Half Wave Center Fed SF FM Antenna System
SF-M-11C	11 Bay Center Fed SF FM Antenna System
SF-M-11C-HW	11 Bay Half Wave Center Fed SF FM Antenna System
SF-M-12C	12 Bay Center Fed SF FM Antenna System
SF-M-12C-HW	12 Bay Half Wave Center Fed SF FM Antenna System

SF-HP HIGH POWER FM ANTENNA SYSTEMS



FEATURES

- Circular Polarization
- Multi-Channel Systems
- Directional Systems
- High Power Input Ratings
- Broadband Systems

Specifications

Frequency	87– 108 MHz
Input Power Rating	40 kW - 210 kW
Polarization	Circular
Azimuth	±2dB free space
VSWR	1.3:1 or better
Connections Available	EIA: 3-1/8" EIA, 4-1/16", 6-1/8"

Models

<i>Model</i>	<i>Power Rating</i>	<i>Power Gain</i>	<i>dB gain</i>
		Full Wave	Half Wave
SF-HP-1	40 kW	0.46	NA
SF-HP-2	40 kW	0.95	0.73
SF-HP-3	40 kW	1.55	1.02
SF-HP-4	40 kW	2.13	1.35
SF-HP-5	40 kW	2.72	1.63
SF-HP-6	40 kW	3.25	1.89
SF-HP-7	40 kW	3.90	2.19
SF-HP-8	40 kW	4.28	2.61
SF-HP-9	40 kW	5.05	2.79
SF-HP-10	40 kW	5.54	3.14
SF-HP-11	40 kW	6.25	3.39
SF-HP-12	40 kW	6.57	3.70

Notes:

- > 40 KW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

SF-HP HIGH POWER FM ANTENNA MODELS

Model	Description
SF-HP-1E	1 bay End Fed SF FM Antenna System
SF-HP-2E	2 bay End Fed SF FM Antenna System
SF-HP-2C	2 bay Center Fed SF FM Antenna System
SF-HP-2E-HW	2 bay Half Wave End Fed SF FM Antenna System
SF-HP-2C-HW	2 bay Half Wave Center Fed SF FM Antenna System
SF-HP-3E	3 bay End Fed SF FM Antenna System
SF-HP-3C	3 bay Center Fed SF FM Antenna System
SF-HP-3E-HW	3 bay Half Wave End Fed SF FM Antenna System
SF-HP-3C-HW	3 bay Half Wave Center Fed SF FM Antenna System
SF-HP-4E	4 bay End Fed SF FM Antenna System
SF-HP-4C	4 bay Center Fed SF FM Antenna System
SF-HP-4E-HW	4 bay Half Wave End Fed SF FM Antenna System
SF-HP-4C-HW	4 bay Half Wave Center Fed SF FM Antenna System
SF-HP-5E	5 Bay End Fed SF FM Antenna System
SF-HP-5C	5 Bay Center Fed SF FM Antenna System
SF-HP-5E-HW	5 Bay Half Wave End Fed SF FM Antenna System
SF-HP-5C-HW	5 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-6C	6 Bay Center Fed SF FM Antenna System
SF-HP-6C-HW	6 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-7C	7 Bay Center Fed SF FM Antenna System
SF-HP-7C-HW	7 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-8C	8 Bay Center Fed SF FM Antenna System
SF-HP-8C-HW	8 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-9C	9 Bay Center Fed SF FM Antenna System
SF-HP-9C-HW	9 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-10C	10 Bay Center Fed SF FM Antenna System
SF-HP-10C-HW	10 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-11C	11 Bay Center Fed SF FM Antenna System
SF-HP-11C-HW	11 Bay Half Wave Center Fed SF FM Antenna System
SF-HP-12C	12 Bay Center Fed SF FM Antenna System
SF-HP-12C-HW	12 Bay Half Wave Center Fed SF FM Antenna System

V-DP ANTENNA SYSTEMS

V-DP LOW FM ANTENNA SYSTEMS



FEATURES

- Light Weight Antenna System
- Multi-Bay Systems Available
- Low, Medium, and High Power Systems
- Multi-Channel Systems
- Broadband Antenna

Specifications

Model	V-DP
Frequency	85-108 MHz
VSWR	1.5 : 1 or better
Power Gain	1.0 single bay
Polarization	Vertical, Horizontal, Slant(H&V)
Input Power Rating	5000 watts, Single Bay, Higher Power Ratings Available
Connector	7/8" EIA or 7/16" DIN
Material	Stainless Steel
Mounting Member	2" thru 4.5" OD, Smaller and Larger Mounting Configurations Available
Dimensions	2" X 37" X 55"
Net Weight	20 lbs.

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V-DP POWER FM ANTENNA SYSTEM MODELS

Model	Description
V-DP-1	1 Bay V-DP FM Antenna
V-DP-2	2 Bay V-DP FM Antenna
V-DP-3	3 Bay V-DP FM Antenna
V-DP-4	4 Bay V-DP FM Antenna
V-DP-5	5 Bay V-DP FM Antenna
V-DP-6	6 Bay V-DP FM Antenna

V-DP-M MEDIUM POWER FM ANTENNA SYSTEM



FEATURES

- Frequency: 87 - 108MHz
- Multiple Bay Systems Available
- High quality stainless steel, brass, and copper materials.
- Multi-Channel Systems
- Pressurized

The V-DP-M series product is a medium power FM side mount antenna system. The V-DP-M systems provide excellent solutions for vertical only polarized FM station applications. Systems are available in half wave and full wave configurations. Special spacing configurations are available upon request.

Specifications

Frequency	87– 108 MHz
Input Power Rating	10 kW – 60 kW
Polarization	Vertical
Azimuth	±2dB free space
Connections Available	EIA: 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Standard Models

Model	Power Rating	Power Gain		dB gain		Weight lbs	Wind Load lbs
		Full Wave	Half Wave	Full Wave	Half Wave		
V-DP-M1	10 kW	0.97	NA	-0.132	NA	22	52
V-DP-M2	10 kW	1.99	1.00	2.99	0.00	52	119
V-DP-M3	10 kW	3.20	1.60	5.05	2.04	76	178
V-DP-M4	10 kW	4.40	2.20	6.43	3.42	111	251
V-DP-M5	10 kW	5.45	2.73	7.36	4.36	154	353
V-DP-M6	10 kW	6.55	3.28	8.16	5.16	174	775
V-DP-M7	10 kW	7.70	3.85	8.86	5.85	220	387
V-DP-M8	10 kW	8.75	4.38	9.42	6.41	251	575
V-DP-M9	10 kW	9.89	4.95	9.95	6.95	272	603
V-DP-M10	10 kW	10.89	5.45	10.40	7.36	311	712
V-DP-M11	10 kW	11.90	5.95	10.80	7.75	342	776
V-DP-M12	10 kW	13.35	6.68	11.30	8.25	370	841
V-DP-M13	10 kW	14.15	7.08	11.50	8.50	401	917
V-DP-M14	10 kW	15.60	7.80	11.90	8.92	432	984

Notes:

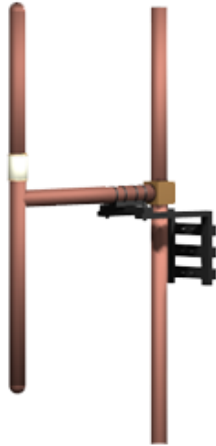
- > 10 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.

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V-DP-M FM ANTENNA SYSTEM MODEL

Model	Description
V-DP-M1	1 Bay Vertical Dipole Medium Power Antenna System
V-DP-M1-HW	1 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M2	2 Bay Vertical Dipole Medium Power Antenna System
V-DP-M2-HW	2 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M3	3 Bay Vertical Dipole Medium Power Antenna System
V-DP-M3-HW	3 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M4	4 Bay Vertical Dipole Medium Power Antenna System
V-DP-M4-HW	4 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M5	5 Bay Vertical Dipole Medium Power Antenna System
V-DP-M5-HW	5 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M6	6 Bay Vertical Dipole Medium Power Antenna System
V-DP-M6-HW	6 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M7	7 Bay Vertical Dipole Medium Power Antenna System
V-DP-M7-HW	7 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M8	8 Bay Vertical Dipole Medium Power Antenna System
V-DP-M8-HW	8 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M9	9 Bay Vertical Dipole Medium Power Antenna System
V-DP-M9-HW	9 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M10	10 Bay Vertical Dipole Medium Power Antenna System
V-DP-M10-HW	10 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M11	11 Bay Vertical Dipole Medium Power Antenna System
V-DP-M11-HW	11 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M12	12 Bay Vertical Dipole Medium Power Antenna System
V-DP-M12-HW	12 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M13	13 Bay Vertical Dipole Medium Power Antenna System
V-DP-M13-HW	13 Bay Half Wave Vertical Dipole Medium Power Antenna System
V-DP-M14	14 Bay Vertical Dipole Medium Power Antenna System
V-DP-M14-HW	14 Bay Half Wave Vertical Dipole Medium Power Antenna System

V-DP-H HIGH POWER FM ANTENNA SYSTEMS



FEATURES

- Frequency: 87 - 108MHz
- Multiple Bay Systems Available
- High quality stainless steel, brass, and copper materials.
- Multi-Channel Systems

Specifications

Frequency	87– 108 MHz
Input Power Rating	10 kW – 60 kW
Polarization	Vertical
Azimuth	±2dB free space
Connections Available	EIA: 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Standard Models

Model	Power Rating	Power Gain		dB gain		Weight	Wind Load
		Full Wave	Half Wave	Full Wave	Half Wave	lbs	lbs
V-DP-H1	20 kW	0.97	NA	-0.132	NA	45	103
V-DP-H2	30 kW	1.99	1.00	2.99	0.00	105	239
V-DP-H3	30 kW	3.20	1.60	5.05	2.04	156	356
V-DP-H4	30 kW	4.40	2.20	6.43	3.42	220	502
V-DP-H5	30 kW	5.45	2.73	7.36	4.36	310	707
V-DP-H6	30 kW	6.55	3.28	8.16	5.16	340	775
V-DP-H7	30 kW	7.70	3.85	8.86	5.85	435	992
V-DP-H8	30 kW	8.75	4.38	9.42	6.41	505	1151
V-DP-H9	30 kW	9.89	4.95	9.95	6.95	553	1261
V-DP-H10	30 kW	10.89	5.45	10.40	7.36	625	1425
V-DP-H11	30 kW	11.90	5.95	10.80	7.75	682	1555
V-DP-H12	30 kW	13.35	6.68	11.30	8.25	740	1687
V-DP-H13	30 kW	14.15	7.08	11.50	8.50	805	1835
V-DP-H14	30 kW	15.60	7.80	11.90	8.92	863	1968

Notes:

- E = End, C = Center
- > 30 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.

V-DP-H HIGH POWER FM ANTENNA SYSTEM MODELS

Model	Description
V-DP-H1	1 Bay Vertical Dipole High Power Antenna System
V-DP-H1-HW	1 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H2	2 Bay Vertical Dipole High Power Antenna System
V-DP-H2-HW	2 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H3	3 Bay Vertical Dipole High Power Antenna System
V-DP-H3-HW	3 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H4	4 Bay Vertical Dipole High Power Antenna System
V-DP-H4-HW	4 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H5	5 Bay Vertical Dipole High Power Antenna System
V-DP-H5-HW	5 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H6	6 Bay Vertical Dipole High Power Antenna System
V-DP-H6-HW	6 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H7	7 Bay Vertical Dipole High Power Antenna System
V-DP-H7-HW	7 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H8	8 Bay Vertical Dipole High Power Antenna System
V-DP-H8-HW	8 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H9	9 Bay Vertical Dipole High Power Antenna System
V-DP-H9-HW	9 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H10	10 Bay Vertical Dipole High Power Antenna System
V-DP-H10-HW	10 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H11	11 Bay Vertical Dipole High Power Antenna System
V-DP-H11-HW	11 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H12	12 Bay Vertical Dipole High Power Antenna System
V-DP-H12-HW	12 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H13	13 Bay Vertical Dipole High Power Antenna System
V-DP-H13-HW	13 Bay Half Wave Vertical Dipole High Power Antenna System
V-DP-H14	14 Bay Vertical Dipole High Power Antenna System
V-DP-H14-HW	14 Bay Half Wave Vertical Dipole High Power Antenna System

TV ANTENNA SYSTEMS

OUR TV ANTENNAS

AAT delivers high-performance TV antenna systems engineered for durability and superior signal transmission. Built with premium stainless steel, brass, and copper, our antennas provide reliable operation in demanding broadcast environments.

- Multiple Polarization Options
- Multi-Bay Systems Available
- Low, Medium, and High-Power Systems
- Multi-Channel Systems
- Broadband Systems
- Custom Directional Patterns Available



UHF SLOT TV ANTENNA SYSTEMS



FEATURES

- Directional Systems
- Broadband Systems
- Horizontal Polarization
- Elliptical Polarization
- Multi-Channel Systems
- Low, Medium, and High Power Ratings

Specifications

Model	SL-UHF
Frequency	UHF IV, V
Input Power Rating	1 kW – 40 kW
Polarization	Horizontal, Elliptical
VSWR	1.17 : 1 or better
Connections Available	EIA: 7/8", 1-5/8", 3-1/8", 4-1/16", 6-1/8"

Model	Description
SL-UHF-4E	4 Bay UHF TV Slot Antenna
SL-UHF-6E	6 Bay UHF TV Slot Antenna
SL-UHF-8E	8 Bay UHF TV Slot Antenna
SL-UHF-12E	12 Bay UHF TV Slot Antenna
SL-UHF-16E	16 Bay UHF TV Slot Antenna

Notes:

- > 5 KW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

Disclaimer: Specifications are subject to change without notice. Information may be changed or updated without notice. American Amplifier Technologies™ may also make improvements and/or changes in the products and/or pricing described at any time without notice.

UHF PANEL TV ANTENNA SYSTEMS



FEATURES

- Directional Systems
- Broadband Systems
- Horizontal Polarization
- Elliptical Polarization
- Multi-Channel Systems
- Low, Medium, and High Power Ratings

Specifications

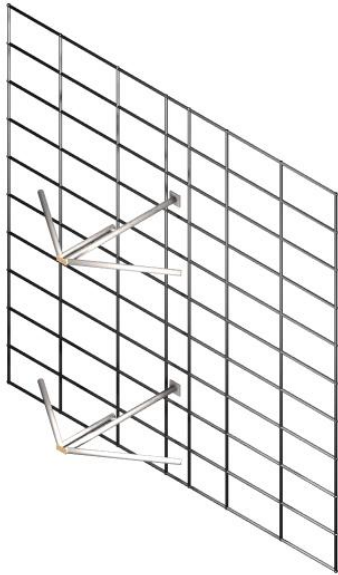
Model	PA-UHF
Frequency	UHF IV, V
Input Power Rating	1 kW – 40 kW
Polarization	Circular, Horizontal, Vertical, Elliptical
VSWR	1.17 : 1 or better
Connections Available:	EIA: 7/8", 1-5/8", 3-1/8" EIA, 4-1/16", 6-1/8"

Notes:

- > 5 kW ratings available upon engineering review.
- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

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VHF BAND I & III PANEL ANTENNAS



FEATURES

- Horizontal Polarization
- Elliptical Polarization
- Circular Polarization
- Multi-Channel Systems
- Omni & Directional Systems
- High Power Input Ratings
- Optional Radomes

Specifications

Band	VHF I & VHF III
Model	TV-P-C , TV-P-E, TV-P-H
Input Power Rating	5 KW - 30kW
Polarization	Horizontal, Elliptical, Circular
Impedance	50 ohm
Azimuth	±2dB free space
VSWR	1.14:1 or better, Typical 1.08:1
Connections Available	EIA: 3-1/8" EIA, 4-1/16", 6-1/8"

Notes:

- > 40 KW ratings available upon engineering review.
- Standard mounting brackets and attachment hardware included with each antenna system. Custom mounting brackets available upon review.
- Antenna weight and wind load are approximate values for a typical structure. Final design loads may vary for the specific application.

SATELLITE AND STL

OUR SATELLITE AND STL SOLUTIONS

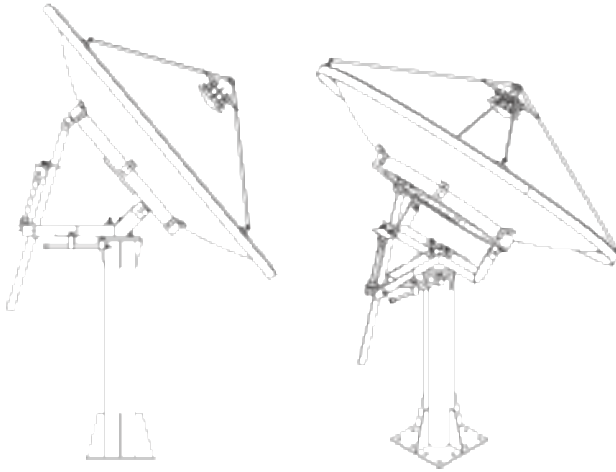
AAT offers high-performance satellite and Studio-to-Transmitter Link (STL) antennas designed for reliable, interference-free signal transmission. Built with precision engineering and durable materials, our antennas ensure secure, stable connectivity for broadcast and telecom applications.

Our satellite antennas provide exceptional gain and low interference, ensuring dependable uplink and downlink communications across various frequencies. For STL applications, our directional antennas deliver efficient point-to-point signal transport, offering high RF isolation and robust weather resistance.

Whether for satellite connectivity or STL links, AAT's antennas deliver the performance, durability, and reliability needed to keep your network running smoothly.



KU-BAND SATELLITE ANTENNAS



FEATURES

- 1.2, 1.8 & 2.4 meter Receive-Only Ku-Band Satellite Parabolic Antennas
- Fully adjustable
- Rugged Design

TECHNICAL SPECIFICATIONS

Electrical Characteristics

Geometry	Prime Focus or Cassegrain
Frequency	10.7 – 12.75 GHz
VSWR	<1.3
Polarization	Dual (Linear or Circular)
Input Interface	WR75
Input Isolation	>33 dB

Mechanical Characteristics

Mounting Hardware	114 mm Pole Mount Hardware Elevation Adjustment (Up to 51°) Ground Mount Pedestal (Optional)
Max Wind Survival	125 mph
Materials	
Dish	Stainless or Aluminum
Mounting Hardware	Hot Dipped Galvanized Steel

STANDARD MODELS

Model	Nominal	Material	Gain	HPBW degrees	Noise Temperature
SAT-SPA-PSS-120	1.2 m (4 ft)	Painted Stainless Steel	41.5 dBI (mid-band)	1.5°	(10° EL) 58° K (25° EL) 38° K (40° EL) 32° K
SAT-SPA-PA-180	1.8 m (6 ft)	Painted Aluminum	45.0 dBI (mid-band)	1.0°	(10° EL) 47° K (25° EL) 32° K (40° EL) 28° K
SAT-SPA-PSS-240	1.2 m (8 ft)	Painted Stainless Steel	47.5 dBI (mid-band)	0.7°	(10° EL) 44° K (25° EL) 32° K (40° EL) 29° K

Notes:

- Includes standard mounting brackets does not include mounting post/pedestal.
- Antenna weight and wind load calculations are approximate values for a typical structure. Final design loads may vary for the specific application.

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STL 950 MHZ FULL PARABOLIC ANTENNA SYSTEMS



FEATURES

- 870 – 960 MHz
- Broadband Systems
- 4 ft. , 6 ft. , & 8 ft. Systems
- High-Quality Aluminum, Brass, and Copper Materials

SPECIFICATIONS

Frequency Range	940 – 960 MHz
Bandwidth	20 MHz
Gain	20.33 dBi (4 ft.), 24.78 dBi (6 ft.) , 26.97 dBi (8 ft)
Front-to-Back Ratio	> 30 dB
Impedance	50 ohms
Input Power Rating	100 W
Polarization	Horizontal, Vertical
VSWR	1.30 : 1 (or better)
Connections Available	Type N, 7/16 DIN, 7/8" EIA Flange

STANDARD MODELS

Model	Power Rating (watts)	Gain (dBi)	Weight (lbs)
STL-FP-4	100	20.33	24 lbs.
STL-FP-6	100	24.78	31 lbs.
STL-FP-8	100	26.97	46 lbs.

Notes:

- Includes standard mounting brackets and attachment hardware.
- Antenna weight and wind load calculations are approximate values for a typical structure. Final design loads may vary for the specific application.

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STL 950 MHZ FULL PARABOLIC ANTENNA SYSTEM MODELS

Model	Description
STL-FP-4	4 ft. STL 950 MHz Full Parabolic Antenna System
STL-FP-6	6 ft. STL 950 MHz Full Parabolic Antenna System
STL-FP-8	8 ft. STL 950 MHz Full Parabolic Antenna System

RECEIVERS AND CODECS



SATELLITE RECEIVERS AND IP CODEC DEVICES

AAT, in partnership with 2WCom, now offers a premium selection of satellite receivers and IP codec devices designed for professional broadcast and audio distribution. These solutions ensure high-quality, reliable signal transmission over satellite and IP networks, delivering seamless audio and data transport for studios, transmitter sites, and remote locations.

With advanced error correction, redundancy options, and flexible network integration, our satellite receivers and IP codecs provide exceptional audio fidelity and robust connectivity in even the most demanding environments. Whether for live broadcasting, STL applications, or content distribution, AAT and 2WCom deliver cutting-edge solutions to keep your network operating at peak performance.

IP-4C AUDIO OVER IP CODEC



HIGHLIGHTS

- Multi-format 4-channel audio encoder/decoder
- Robust audio streaming and enhanced redundancy
- Up to 4 digital or 2 analog stereo inputs and outputs

Audio networks based on different protocols

- Broadcast based on EBU TECH 3326, SMPTE ST 2110*
- AES67 based on RAVENNA, Livewire or Dante*

Audio coding – fitting to your needs

High-quality multi-format audio decoding and encoding

- MPEG-1/2 Layer 2, 3
- G.711, G.722, Linear PCM
- Opus, Ogg Vorbis
- AAC-LC, HE-AAC v1 & v2, AAC-LD, AAC-ELD, AAC-ELDv2, xHE-AAC
- Enhanced aptX (E-aptX)
- Bit transparent transmission of digital audio and MPX*
- Dolby Digital (AC-3), Dolby Digital Plus (E-AC-3), Dolby E on request*
- FRAUNHOFER DAB+ Encoder with EDI/STI-D interface or FhG MuxEnc (MPEG 4 AAC LC, HEv1 & v2)*

IP streaming (unicast, multiple unicast & multicast)

Rock solid network connection even in stress conditions according to standards RFC 3550, RFC 3551, RFC 3640, RFC 2250

- Professional audio IP streaming using UDP, RTP and SIP / SDP (standardized by EBU N / ACIP Tech 3326)

- PRO MPEG FEC, Dual streaming
- SRT Secure Reliable Transport*
- TS RTP, UDP and SRT streaming*
- Livewire / Ravenna (SIP, SAP, RTSP, AES67, PTPv2) *
- Stream4Sure: 2wcom streaming technology with different codecs / qualities and seamless switching of up to 4 Streams*
- HLS, Icecast source client*

Backup / advanced redundancy management

Flexible automatic switch over concept with free definition of alternative input sources as redundancy solution in case of failures

- Playing files from internal storage or using alternative streams (Icecast, Shoutcast)
- Dual IP ports for data + 1 IP port for control interface
- Redundant power supply 230 VAC or 48 VDC*

Control

- Remote control with various possibilities: HTTP/S, FTP, Telnet, NMS, SNMP
- Revised configuration via web user interface for easier setup
- Insertion of localized advertisement
- SNMP v2c, relays, inputs
- Ember+

Special

- Energy efficient 24/7 broadcast quality
- RDS decoding (built in RDS / UECP decoder)
- Embedded auxiliary data (RBDS / RDS or PAD) and GPIO forwarding
- Satellite tuner / ASI input*
- FM tuner; capable to receive up to two FM or DAB or HDR programs*
- Perfect network synchronization for SFN*

Monitoring

- IP and MPEG parameters via SNMP v2c and relay
- Headphone output
- Icecast Live Listening

Advanced control functionalities

- High-quality multi-format audio de-/encoding:
- HTTP/HTTPS: via web interface
- NMS: Control via a centralized Network Management System

Perfect audio quality

- Balanced analog and digital AES/EBU (integrated XLR connector)

Advanced IP robustness functionalities

- Even to operate in standard IP networks
- PRO MPEG FEC
- Management of packet size, buffer and QoS
- Stream4Sure – 2wcom streaming technology with different codes / qualities and seamless switching of up to 4 streams*

Perfect audio & latency management

- GPS based 2wcom latency control solution usage in SFN FM networks*
- ACIP compliant high audio quality and extremely low latency (PTPv2 network synchronization)*

Highly sophisticated monitoring and alarm concept

- Adjustable silence detection
- IP buffer and jitter check
- PLL control
- SNMP, alarm, source switch & event logging

* This function is optional. For a complete list of options contact our sales team.

MPX-1C MPX OVER IP CODEC



HIGHLIGHTS

- 1-channel MPX Decoder
- 1-channel MPX Encoder (upgrade option)
- Optimized for MPX and μ MPX distribution via IP

MPX-1c Base unit

- Base unit with decoding function
- One channel
- Analog & Digital MPX interface
- Pro-MPEG FEC Practice #3 release 2 to reduce packet loss and burst errors in IP data stream
- Free configurable GPIO interface
- RS232 interfaces are flexibly assignable to the services
- 2x Gigabit IP Interface
- Optional 2x 230VAC internal PSU's or hot-pluggable power supplies

Options: MPX-1c

- Activation MPX encoder* MPX-1c acts as a MPX over IP encoder
- Activation of second Gigabit IP data interface*
- μ MPX decoder or encoder*

Flexible in application

- One device can be used as an encoder or as a decoder

Pay as you grow

- Upgradable, because of pure SW module
- MPX encoder and decoder modules in one device

Transmission robustness

- Dual Streaming to increase transmission robustness
- Pro-MPEG FEC (Forward Error Correction) to reduce bit errors in data stream

* This function is optional. For a complete list of options contact our sales team.

MPX-2C MPX OVER IP CODEC



HIGHLIGHTS

- 2-channel MPX Composite Decoder
- 2-channel MPX Composite Encoder via software upgrade
- Optimized for MPX and μ MPX distribution via IP

MPX-2c Base unit

- Base unit with decoding function
- Dual channel, one channel activated
- Analog & Digital MPX interface
- Pro-MPEG FEC Practice #3 release 2 to reduce packet loss and burst errors in IP data stream
- Free configurable GPIO interface
- RS232 interfaces are flexibly assignable to the services
- 2x Gigabit IP Interface
- 2x 230VAC internal PSU's or hot-pluggable power supplies*

- Synchronization with microsecond accuracy is possible by an implemented latency control (useful for synchronous playout)
- One device can be used as an encoder or as a decoder
- Combinable with a satellite tuner

Pay as you grow

- Upgradable, because of pure SW module
- Scalable up to 2 MPX encoder and decoder modules in one device

Options: MPX-2c

- Activation of the 2nd MPX codec* MPX-2c supports 2x MPX over IP
- Activation MPX encoder* MPX-2c acts as a MPX over IP encoder
- Dual streaming* Simultaneous transmission and reception of 2 IP streams and seamless exchange of IP packages in case of failure
- Dual Left/Right audio decoded MPX output via BNC*
- SFN/1PPS* Synchronization of MPX streams for FM-SFN networks accurate to the microsecond
- μ MPX decoder or encoder*

Hybrid operation

- Forwarding the MPX signal via IP or via SAT by using MPE to increase coverage

Transmission robustness

- Dual Streaming to increase transmission robustness
- Pro-MPEG FEC (Forward Error Correction) to reduce bit errors in data stream

* This function is optional. For a complete list of options contact our sales team.

Flexible in application

HDR-CC HD RADIO CAPTURE CLIENT



HD2-HD4 with just one connection

Directly connect your supplemental programs (SPS, HD2-HD4) to your Importer. No need for additional hops or converters.

High quality audio for an affordable price

- Robust XLR connectors
- Symmetric audio signals
- Up to +18 dBu input signals
- Adjustable gain/attenuation
- Configurable audio channel to use analog L/R or AES/EBU

HD Radio® Technology

Fits perfectly with your Gen4 Importer. Directly send the audio streams from your HDR-CC to the Importer, the Importer will recognize it and even display buffers and level meters.

- On request: downwards compatibility to Gen3 Importer

Optional: sound processing

This priced option enables sound processing via option key, also if the box was not purchased originally with that license.

- Use an internal AGC algorithm directly in the box
- Use a smart limiter to protect against overshoots
- Enhance loudness to be almost similar to HD1

Control

- Remote control with various possibilities: HTTP/S, SFTP, SSH, SNMP
- GPIOs to simplify downwards compatibility with emergency warning systems

Emergency Alert Mode

- Connect the HDR-CC to the Importer/Exporter triggered by a GPI.
- If it is configured as emergency alert client, the HDR-CC will replace all supplemental programs with the emergency program automatically.
- Requires Gen4 Importer

Monitoring

- All statistics and parameters available via HTTPS and SNMP
- Headphone output

MPX-2DS MPX OVER SATELLITE DECODER



HIGHLIGHTS

- 2-channel satellite receiver with MPX and audio outputs
- 2-channel MPX Composite Decoder
- Optimized for MPX and μ MPX and audio distribution via IP

The MPX-2ds is a 2-channel decoder for MPX distribution via satellite or IP. Supporting MPX using PCM data (2.4 to 4.6 Mbit/s) or compressed μ MPX (down to 320 kbit/s), it is the perfect fit for cost-efficient operation of FM distribution networks.

In addition to decoding MPX signals, the MPX-2ds can be upgraded for decoding of regular audio feeds. This versatility makes it the ideal device for seamless transitions from audio-only distribution to MPX distribution whenever necessary.

Features

- Dual Satellite tuner
- Decodes MPX from PCM
- Decodes MPX from μ MPX*
- Decodes audio via satellite or IP streaming (RTP / SRT)*
- Two audio/MPX channels, can also be bought with only one channel for a lower price
- Analog & digital MPX output
- Analog & digital audio output from MPX using stereo decoder*
- Analog & digital audio output directly from Sat/IP audio decoder*
- Robust IP streaming input – PRO MPEG FEC, dual streaming, RIST, SRT

- Easy transition from audio to MPX, be ready to switch over your satellite transponder anytime
- Forwarding the received stream via MPE for devices without SAT receiver

Perfect Audio & Latency Management

- Synchronous playout based on NTP (SPN)* also using μ MPX
- Perfect latency control in SFN FM networks based on 1PPS or GPS* also using μ MPX*

Backup / Advanced Redundancy Management

- Flexible automatic switch over concept with free definition of alternative input sources as redundancy solution in case of failures
- Playing files from internal storage
- Dual IP ports for data and one additional IP port for control interface
- Redundant power supply 90 - 260 VAC or 48 VDC

Flexible in Application – Pay as You Grow

- Decoding from Satellite or IP feeds
- One-channel base unit can be upgraded to a two-channel device for two separate distribution feeds

Monitoring and Control

- Remote control with various possibilities: HTTP(S), FTP, NMS, SNMP
- Revised configuration via web user interface for easier setup
- SNMP v2c & V3, relays, inputs
- REST-API
- Ember+

IP Security

- High level security in open IP infrastructures
- Tested by independent inspection bodies (white/blacklist penetration tests)

* This function is optional. For a complete list of options contact our sales team.

IP-8E AUDIO OVER IP/ASI ENCODER



HIGHLIGHTS

- Multi-format 8-channel audio encoder
- Robust audio streaming and enhanced redundancy
- Up to 8 digital or 4 analog stereo inputs

Audio Coding Fitting to Your Needs

High-quality multi-format audio encoding

- MPEG-1/2 Layer 2, 3
- G.711, G.722, Linear PCM
- Opus, Ogg Vorbis
- AAC-LC, HE-AAC v1 & v2, AAC-LD, AAC-ELD, AAC-ELDv2, xHE-AAC
- Enhanced aptX (E-aptX)
- Bit transparent transmission of digital audio and MPX*
- Dolby Digital (AC-3), Dolby Digital Plus (E-AC-3), Dolby E on request*
- FRAUNHOFER DAB+ Encoder with EDI/STI-D interface or FhG MuxEnc (MPEG 4 AAC LC, HEv1 & v2)*

IP Streaming (Unicast, Multiple Unicast & Multicast)

Rock solid network connection even in stress conditions according to standards RFC 3550, RFC 3551, RFC 3640, RFC 2250

- Professional audio IP streaming using UDP, RTP and SIP/SDP (standardized by EBU N/ACIP Tech 3326)
- PRO MPEG FEC, Dual streaming
- Optional: Livewire/ Ravenna (SIP, SAP, RTSP, AES67)
- TS RTP, UDP and SRT streaming
- SRT Secure Reliable Transport

- Stream4Sure: 2wcom streaming technology with different codecs/qualities and seamless switching of up to 4 Streams*
- HLS, Icecast

Backup / Advanced Redundancy Management

- Playing files from internal storage or using alternative streams (Icecast, Shoutcast)
- Dual IP ports for data + 1 IP port for control interface
- Redundant power supply 230 VAC or 48 VDC

Control

- Remote control with various possibilities: HTTP/S, FTP, Telnet, NMS, SNMP,
- Revised configuration via web user interface for easier setup
- Insertion of localized advertisement
- SNMP v2c, relays, inputs

Special

- Energy efficient 24/7 broadcast quality
- RDS decoding (built-in RDS/UECP decoder)
- The device provides 2x RS232 IN per channel and four GPIOs per channel
- Embedded auxiliary data (RBDS/RDS or PAD) and GPIO forwarding
- Perfect network synchronization for SFN applications*
- Monitoring

- IP and MPEG parameters via SNMP v2c and relay
- Headphone output
- Icecast live listening

Advanced Control Functionalities

- HTTP/HTTPS: via web interface
- FTP: XML file control
- NMS: Control via centralized network management system

Perfect Audio Quality

- Balanced analog and digital AES/EBU (integrated XLR connector)

Advanced IP Robustness Functionalities

- Operates under stressful network conditions
- PRO MPEG FEC
- Management of packet size, buffer and QoS

- Stream4Sure – 2wcom streaming technology with different codes / qualities*
- and seamless switching of up to 4 streams

Perfect Latency Management

- Optional: GPS/1PPS based 2wcom latency control solution usage in SFN FM networks

Highly Sophisticated Monitoring and Alarm Concept

- Adjustable silence detection
- IP buffer and jitter check
- PLL control
- SNMP, alarm, source switch & event logging

* This function is optional. For a complete list of options contact our sales team.

SAT-4D DVB SATELLITE AUDIO RECEIVER



Highlights

- Professional DVB-S/S2 audio receiver
- Multi-format 4-channel audio decoder
- Designed for audio over satellite distribution links

DVB transport stream input

DVB-S/S2 (single and multiple channels per carrier)
Double satellite tuner supporting QPSK, 8PSK, 16APSK and 32APSK

- Symbol rate of standard tuner: 1 – 45 MSym/s.
Optional low symbol rate tuner: 0.64 – 45 MSym/s*.
- ASI input and output
- Gigabit IP
- BISS-1, E descrambling (SAT / ASI input)*

Audio decoding

High-quality multi-format audio decoding for up to 4 stereo channels

- MPEG-1/2 Layer 2, 3
- G.711, G.722, Linear PCM
- Opus, Ogg Vorbis
- AAC-LC, HE-AAC v1 & v2, AAC-LD, AAC-ELD, AAC-ELDv2, xHE-AAC
- Enhanced aptX (E-aptX)
- Dolby Digital Pro*

Audio output

Combined XLR connectors for digital or analog output

- Up to 4 balanced digital AES/EBU
- Up to 2 balanced analog

- Analog/digital output can be configured per XLR pair

Redundancy

- Icecast, Shoutcast, HLS input*
- Enhanced integrated memory as additional back-up solution*

Data output

- 4x DTE (ancillary data & auxiliary (PID) data)
- 8x DTE, per UDP up to 16*

Transport stream output

- ASI input and output
- Gigabit IP (TS forwarding)

IP input

Rock solid network connection even in stress conditions according to standards RFC 3550, RFC 3551, RFC 3640, RFC 2250

- Professional audio IP reception using UDP, RTP
- PRO MPEG FEC, Dual streaming input
- SRT (Secure Reliable Transport) & RIST (Reliable Internet Stream Transport) *
- TS RTP, UDP and SRT streaming input*
- Livewire / Ravenna (SAP, AES67, PTPv2) *

Backup / advanced redundancy management

- Flexible automatic switch over concept with free definition of alternative input sources as redundancy solution in case of failures
- Playing files from internal storage or using alternative streams (Icecast, Shoutcast, HLS) *
- Dual IP ports for data + 1 IP port for control interface
- Redundant power supply 90 - 260 VAC or 48 VDC*

Special

- Energy efficient 24/7 broadcast quality
- RDS decoding (built in RDS / UECP decoder)
- Embedded auxiliary data (RBDS / RDS or PAD) and GPIO forwarding
- Synchronized FM transmission within FM SFN networks*

Monitoring and control

- Remote control with various possibilities: HTTP/S, FTP, NMS, SNMP
- Revised configuration via web user interface for easier setup

- SNMP v2c & V3, relays, inputs
- REST-API
- Ember+
- Remote control via satellite (on request)

Advanced control functionalities

- HTTP / HTTPS: via web interface
- Adjustable silence detection
- IP buffer and jitter check
- PLL control
- SNMP, alarm, source switch & logging for control via centralized NMS (Network Management System)

Perfect audio & latency management

- GPS based 2wcom latency control solution usage in SFN FM networks*
- ACIP compliant high audio quality and PTPv2 network synchronization*

* This function is optional. For a complete list of options contact our sales team.

COAXIAL AND RIGID LINE

COAX AND RIGID LINE SOLUTIONS

AAT provides high-performance rigid transmission line and coaxial solutions designed for exceptional RF signal integrity and long-term reliability. Our rigid transmission lines are available in sizes ranging from 7/8" to 6-1/8", with both flanged and unflanged ends, ensuring compatibility with a wide range of broadcast and communication systems.

In addition to rigid line, AAT offers a full range of coaxial cable solutions, including flexible, semi-rigid, and low-loss coax to meet various power and frequency requirements. Our extensive selection of coaxial connectors and adapters ensures seamless integration with existing infrastructure, supporting custom configurations and high-performance demands.

To complement our transmission solutions, we provide a variety of essential coaxial components, including elbows, field flanges, patch panels, and reducers. Each component is engineered for durability, precision, and optimal RF performance.

With a commitment to quality and innovation, AAT delivers end-to-end RF transmission solutions built to perform in even the most demanding environments. Whether you need rigid line, coaxial cable, or specialized components, we have the expertise and products to keep your network running at peak efficiency.



Shively Labs[®]
an AAT Brand

7/8" RIGID TRANSMISSION LINE AND COMPONENTS

MODEL	DESCRIPTION
078-50-20UF	7/8" x 20 ft. Line Section, Unflanged
078-50-201F	7/8" x 20 ft. Line Section, Flanged One End
078-50-202F	7/8" x 20 ft. Line Section, Flanged Both Ends
078-50-90F	7/8", 90° Elbow, Flanged
078-50-90UF	7/8", 90° Elbow, Unflanged
078-50-TF	7/8" Tee Assembly, Flanged
078-50-GB	7/8" Gas Barrier
078-50-GBP	7/8" Gas Barrier with Gas Port
078-50-AIC	7/8" Anchor Insulator Connector (bullet)
078-50-FFSS	7/8" Field Flange (soft solder)
078-50-FFCT	7/8" Field Flange (clamp type)
078-50-UCIC	7/8" Unpressurized Coupling with Inner Conductor
078-50-UC	7/8" Unpressurized Coupling Without Inner Conductor
078-50-HDW	7/8" Hardware Set
078-50-CP	7/8" Cover Plate
078-50-SOR	7/8" Silicone O-Ring
078-50-FXF	7/8" Fixed Flange
078-50-SFL	7/8" Swivel Flange (2 Part)
078-50-COG	7/8" Cut-Off Guide
078-50-3PP1U	7/8" 3-Port Patch Panel with 1 U-Link
078-50-4PP2U	7/8" 4-Port Patch Panel with 2 U-Links
078-50-5PP2U	7/8" 5-Port Patch Panel with 2 U-Links
078-50-6PP3U	7/8" 6-Port Patch Panel with 3 U-Links
078-50-7PP3U	7/8" 7-Port Patch Panel with 3 U-Links
078-50-ULNK	7/8" U-link
078-50-INLS	7/8", Interlock switch
078-50-RFMNF	Reducer, 7/8" Fl. Male to Type N Female
078-50-RFMNM	Reducer, 7/8" Fl. Male to Type N Male
078-50-RFF716M	Reducer, 7/8" Female Flange to DIN-716 Male
078-50-RFF716F	Reducer, 7/8" Female Flange to DIN-716 Female

1 5/8" RIGID TRANSMISSION LINE AND COMPONENTS

MODEL	DESCRIPTION
158-50-20UF	1-5/8" 20 ft. Line Section, Unflanged
158-50-201F	1-5/8" 20 ft. Line Section, Flanged One End
158-50-202F	1-5/8" 20 ft. Line Section, Flanged Both Ends
158-50-90FR	1-5/8" 90° Elbow Flanged
158-50-90UF	1-5/8" 90° Elbow Unflanged
158-50-45F	1-5/8" 45° Elbow Flanged
158-50-45UF	1-5/8" 45° Elbow Unflanged
158-50-90FUL	1-5/8" 90° Elbow Flanged Unequal Leg
158-50-TAF	1-5/8" Tee Assembly, Flanged
158-50-GB	1-5/8" Gas Barrier
158-50-AIC	1-5/8" Anchor Insulator Connector (bullet)
158-50-FFSS	1-5/8" Field Flange (soft solder)
158-50-FFCT	1-5/8" Field Flange (clamp type)
158-50-UCIC	1-5/8" Unpressurized Coupling with Inner Conductor
158-50-UC	1-5/8" Unpressurized Coupling without Inner Conductor
158-50-HDW	1-5/8" Hardware Set
158-50-CP	1-5/8" Cover plate
158-50-SOR	1-5/8" Silicone O-Ring
158-50-FXF	1-5/8" Fixed Flange
158-50-SFL	1-5/8" Swivel Flange (2 Part)
158-50-3PP1U	1-5/8" 3-Port PP with One U-Link
158-50-3PP1U2S	1-5/8" 3-Port PP with One U-Link and Two Switches
158-50-4PP2U	1-5/8" 4-Port PP with Two U-Links
158-50-4PP2U3S	1-5/8" 4-Port PP with Two U-Links and Three Switches
158-50-5PP2U	1-5/8" 5-Port PP with Two U-Links
158-50-5PP3U4S	1-5/8" 5-Port PP with Two U-Links and Four Switches
158-50-6PP3U	1-5/8" 6-Port PP with Three U-Links
158-50-6PP3U5S	1-5/8" 6-Port PP with Three U-Links and Five Switches
158-50-7PP3U	1-5/8" 7-Port PP with Three U-Links
158-50-7PP3U6S	1-5/8" 7-Port PP with Three U-Links and Six Switches
158-50-UL	1-5/8" U-link
158-50-ULIS	1-5/8" U-Link Interlock Switch
158-50-RMFNF	Reducer, 1-5/8" Male Flange to Type N Female
158-50-RMFNM	Reducer, 1-5/8" Male Flange to Type N Male
158-50-RFNF	Reducer, 1-5/8" Female to Type N Female
158-50-RM78MUC	Reducer, 1-5/8" Male to 7/8" Male, Unflanged with Couplings
158-50-RF78FUF	Reducer, 1-5/8" Female to 7/8" Female, Unflanged without Couplings
158-50-RM78M	Reducer, 1-5/8" Male to 7/8" Male, Flanged, Plate Reducer
158-50-RF78MF	Reducer, 1-5/8" Female to 7/8" Male, Flanged
158-50-RFF716M	Reducer, 1-5/8" Female Flange to DIN-716 Male
158-50-RFF716F	Reducer, 1-5/8" Female Flange to DIN-716 Female
158-50-WAP	1-5/8" Wall Anchor Plate
158-50-SH7SM	1-5/8" Slip Hanger 7" Stud Mounted
158-50-IHSL	1-5/8" Indoor Horizontal Hanger Single Line
158-50-SHSM	1-5/8" Slip Hanger Stud Mount
158-50-LB	1-5/8" Lateral Brace
158-50-COG	1-5/8" Cut Off Guide
158-50-VSHSL	1-5/8" Vertical Spring Hanger, Single Line
158-50-TTFH	1-5/8" Tower Top Fixed Hanger

3-1/8" RIGID TRANSMISSION LINE AND COMPONENTS

MODEL	DESCRIPTION
318-50-20UF	3-1/8" x 20 ft. Line Section, Unflanged
318-50-201F	3-1/8" x 20 ft. Line Section, Flanged One End
318-50-202F	3-1/8" x 20 ft. Line Section, Flanged Both Ends
318-50-90FR	3-1/8" 90° Elbow, Flanged
318-50-90UF	3-1/8" 90° Elbow, Unflanged
318-50-90UFIC	3-1/8" 90° Elbow, Unflanged with Integrated Couplings
318-50-45F	3-1/8" 45° Elbow, Flanged
318-50-45UF	3-1/8" 45° Elbow, Unflanged
318-50-90ULF	3-1/8" 90° Elbow, Unequal Leg, Flanged
318-50-TA	3-1/8" Tee Assembly
318-50-GB	3-1/8" Gas Barrier
318-50-AIB	3-1/8" Anchor Insulator (bullet)
318-50-AIE	3-1/8", Anchor Insulator (expansion)
318-50-FFSS	3-1/8" Field Flange (soft solder)
318-50-FFCT	3-1/8" Field Flange (clamp type)
318-50-UCIC	3-1/8" Unpressurized Coupling with Inner Conductor
318-50-UC	3-1/8" Unpressurized Coupling without Inner Conductor
318-50-HDW	3-1/8" Hardware Set
318-50-CP	3-1/8" Cover Plate
318-50-SOR	3-1/8" Silicone O-Ring
318-50-FF	3-1/8" Fixed Flange
318-50-SF	3-1/8" Swivel Flange (2 Part)
318-50-3PP1U	3-1/8" 3-Port Patch Panel with One U-Link
318-50-4PP2U	3-1/8" 4-Port Patch Panel with Two U-Links
318-50-5PP2U	3-1/8" 5-Port Patch Panel with Two U-Links
318-50-6PP3U	3-1/8" 6-Port Patch Panel with Three U-Links
318-50-7PP3U	3-1/8" 7-port Patch Panel with Three U-Links
318-50-UL	3-1/8" U-Link
318-50-ULIS	3-1/8" U-Link Interlock Switch
318-50-RMNF	Reducer, 3-1/8" Male to Type-N Female
318-50-RMNM	Reducer, 3-1/8" Male to Type-N Male
318-50-310RM78FF	Reducer, 3-1/8" Male to 7/8" Female, Flanged
318-50-RFF78FF	Reducer, 3-1/8" Female to 7/8" Female, Flanged
318-50-M158MUC	Reducer, 3-1/8" Male to 1-5/8" Male, Unflanged with Couplings
318-50-F158FU	Reducer, 3-1/8" Female to 1-5/8" Female, Unflanged without Couplings
318-50-F158F	Reducer, 3-1/8" Female to 1-5/8" Male, Flanged
318-50-M158M	Reducer, 3-1/8" Male to 1-5/8" Male, Flanged, Plate Reducer
318-50-WAP	3-1/8" Wall Anchor Plate
318-50-WAPDL	3-1/8" Wall Anchor Plate, Dual Line
318-50-IHSL	3-1/8" Indoor Horizontal Hanger, Single Line
318-50-SHSM	3-1/8" Slip Hanger, Stud Mount
318-50-LB	3-1/8" Lateral Brace
318-50-COG	3-1/8" Cut Off Guide
318-50-VSHSL	3-1/8" Vertical Spring Hanger, Single Line
318-50-TTFHSL	3-1/8" Tower Top Fixed Hanger, Single Line
318-50-3PHSHSL	3-1/8" 3-Point Horizontal Suspension Hanger, Single Line

4-1/16" RIGID TRANSMISSION LINE AND COMPONENTS

MODEL	DESCRIPTION
416-50-20UF	4-1/16" x 20 ft. Line Section, Unflanged
416-50-201F	4-1/16" x 20 ft. Line Section, Flanged One End
416-50-202F	4-1/16" x 20 ft. Line Section, Flanged Both Ends
416-50-90FR	4-1/16" 90° Elbow, Flanged
416-50-90UF	4-1/16" 90° Elbow, Unflanged
416-50-45F	4-1/16" 45° Elbow, Flanged
416-50-45UF	4-1/16" 45° Elbow, Unflanged
416-50-90ULF	4-1/16" 90° Elbow, Unequal Leg Flanged
416-50-TA	4-1/16" Tee Assembly
416-50-GB	4-1/16" Gas Barrier
416-50-AIB	4-1/16" Anchor Insulator (bullet)
416-50-AIC	4-1/16", Anchor Insulator Connector (expansion)
416-50-FFSS	4-1/16", Field Flange (soft solder)
416-50-FFCT	4-1/16" Field Flange (clamp type)
416-50-UCIC	4-1/16" Unpressurized Coupling with Inner Conductor
416-50-UC	4-1/16" Unpressurized Coupling without Inner Conductor
416-50-HDW	4-1/16" Hardware Set
416-50-CP	4-1/16" Cover Plate
416-50-SOR	4-1/16" Silicone O-Ring
416-50-FF	4-1/16" Fixed Flange
416-50-SF	4-1/16" Swivel Flange (2 Part)
416-50-ABTWHWI	4-1/16" Adaptor Bullet, Thin Wall to Thick Wall Inners
416-50-3PP1U	4-1/16" 3-Port Patch Panel with 1 U-Link
416-50-4PP2U	4-1/16" 4-Port Patch Panel with 2 U-Links
416-50-5PP2U	4-1/16" 5-Port Patch Panel with 2 U-Links
416-50-6PP3U	4-1/16" 6-Port Patch Panel with 3 U-Links
416-50-7PP3U	4-1/16" 7-port Patch Panel with 3 U-Links
416-50-UL	4-1/16" U-Link
416-50-IS	4-1/16" Interlock Switch
416-50-RFMNF	Reducer, 4-1/16" Fl. Male to Type-N Female
416-50-RFMNM	Reducer, 4-1/16" Fl. Male to Type-N Male
416-50-RUM158UMC	Reducer, 4-1/16" Unfl. Male to 1-5/8" Unfl. Male with Couplings
416-50-RUFUF	Reducer, 4-1/16" Unfl. Female to 1-5/8" Unfl. Female (no couplings)
416-50-RFFFM	Reducer, 4-1/16" Fl. Female to 1-5/8" Fl. Male
416-50-RUM318UMC	Reducer, 4-1/16" Unfl. Male to 3-1/8" Unfl. Male with Couplings
416-50-RUF318UF	Reducer, 4-1/16" Unfl. Female to 3-1/8" Unfl. Female (no couplings)
416-50-FF318FM	Reducer, 4-1/16" Fl. Female to 3-1/8" Fl. Male
416-50-WAP	4-1/16" Wall Anchor Plate
416-50-IHHS�	4-1/16" Indoor Horizontal Hanger, Single Line
416-50-3PHSHSL	4-1/16" 3-Point Horizontal Suspension Hanger, Single Line
416-50-FHSLV	4-1/16" Fixed Hanger, Single Line Vertical
416-50-LB	4-1/16" Lateral Brace
416-50-VSHSL	4-1/16" Vertical Spring Hanger, Single Line
416-50-COG	4-1/16" Cut Off Guide

6 1/8" RIGID TRANSMISSION LINE AND COMPONENTS

MODEL	DESCRIPTION
618-50-20UF	6-1/8" x 20 ft. Line Section, Unflanged
618-50-201F	6-1/8"x 20 ft. Line Section, Flanged one end
618-50-202F	6-1/8" x 20 ft. Line Section, Flanged both ends
618-50-90FR	6-1/8" 90° Elbow, Flanged
618-50-90UF	6-1/8" 90° Elbow, Unflanged
618-50-45F	6-1/8" 45° Elbow, Flanged
618-50-45UF	6-1/8" 45° Elbow, Unflanged
618-50-ULF	6-1/8" 90° Elbow, Unequal Leg Flanged
618-50-TA	6-1/8" Tee Assembly
618-50-GB	6-1/8" Gas Barrier
618-50-AICB	6-1/8" Anchor Insulator Connector (bullet)
618-50-AICE	6-1/8" Anchor Insulator Connector (expansion)
618-50-FFSS	6-1/8" Field Flange (soft solder)
618-50-FFCT	6-1/8" Field Flange (clamp type)
618-50-UC	6-1/8" Unpressurized Coupling without Inner Conductor
618-50-UCIC	6-1/8" Unpressurized Coupling with Inner Conductor
618-50-HDW	6-1/8" Hardware Set
618-50-CP	6-1/8" Cover Plate
618-50-SOR	6-1/8" Silicone O-Ring
618-50-FF	6-1/8" Fixed Flange
618-50-SF	6-1/8" Swivel Flange (2 Part)
618-50-3PP1U	6-1/8" 3-Port Patch Panel with One U-Link
618-50-4PP2U	6-1/8" 4-Port Patch Panel with Two U-Links
618-50-5PP2U	6-1/8" 5-Port Patch Panel with Two U-Links
618-50-6PP3U	6-1/8" 6-Port Patch Panel with Three U-Links
618-50-7PP3U	6-1/8" 7-Port Patch Panel with Three U-Links
618-50-UL	6-1/8" U-Link
618-50-IS	6-1/8" Interlock Switch
618-50-RFMNF	Reducer, 6-1/8" Fl. Male to Type-N Female
618-50-RFMNM	Reducer, 6-1/8" Fl. Male to Type-N Male
618-50-RFF78M	Reducer, 6-1/8" Fl. Female to 7/8" Male
618-50-RFF158M	Reducer, 6-1/8" Fl. Female to 1-5/8" Male
618-50-RFF318FM	Reducer, 6-1/8" Fl. Female to 3-1/8" Fl. Male
618-50-RUM318UM	Reducer, 6-1/8" Unfl. Male to 3-1/8" Unfl. Male
618-50-RFF4116FM	Reducer, 6-1/8" Fl. Female to 4-1/16" Fl. Male
618-50-RUM4116UM	Reducer, 6-1/8" Unfl. Male to 4-1/16" Unfl. Male
618-50-RFF412FM	Reducer, 6-1/8" Fl. Female to 4-1/2" Fl. Male
618-50-RUM412UM	Reducer, 6-1/8" Unfl. Male to 4-1/2" Unfl. Male
618-50-WAP	6-1/8" Wall Anchor Plate
618-50-IHHS�	6-1/8" Indoor Horizontal Hanger, Single Line
618-50-FHSLV	6-1/8" Fixed Hanger, Single Line Vertical
618-50-LB	6-1/8", Lateral Brace
618-50-VSHSL	6-1/8" Vertical Spring Hanger, Single Line
618-50-COG	6-1/8" Cut Off Guide

COAXIAL LINE PRODUCTS

RG11 COAX

MODEL	DESCRIPTION
AAT-RG11	RG11 Coaxial line. 75 ohm.

RG11 COAX CONNECTORS

MODEL	DESCRIPTION
RG11-TYPEFM	RG11 Type-F male connector. Compression
RG11-TK	RG11 Cutting and Connector Crimp Tool Kit

LMR400 3/8" COAX

MODEL	DESCRIPTION
LMR400-C	LMR400 50 ohm coax

LMR400 3/8" COAX CONNECTORS

MODEL	DESCRIPTION
TYPENF-LMR400	Type N Female connector for LMR400 coax
TYPENM-LMR400	Type N Male connector for LMR400 coax

1/2" STANDARD COAX

MODEL	DESCRIPTION
AAT-12-COAX-F	1/2" Standard 50 Ohm Foam Coax

1/2" STANDARD COAX CONNECTORS

MODEL	DESCRIPTION
N-M-12 Female	Type N Female coax connector for 1/2" standard foam coax cable
N-M-12 Male	Type N Male coax connector for 1/2" standard foam coax cable
716-12C	7/16" DIN Male Coax Connector for standard 1/2" coax
716-12C-90	7/16" DIN Male coax connector for standard 1/2" coax, 90 degree connector
78-EIA-12-CC	7/8" EIA connector for standard 1/2" foam coax. Includes hardware kit and o-ring

1/2" SUPER FLEX COAX

MODEL	DESCRIPTION
AAT-12-COAX-SF	1/2" Super Flex 50 Ohm Foam Coax

1/2" SUPER FLEX COAX CONNECTORS

MODEL	DESCRIPTION
AAT-N-M-12-SF	Type N Male coax connector for 1/2" super flex foam coax cable
AAT-N-M-12-SF-90	Type N Male coax connector. 90 degree, for 1/2" super flex foam coax cable
AAT-716-12C-SF	7/16" DIN Male Coax Connector for super flex 1/2" coax
AAT-716-12C-SF-90	7/16" DIN Male 90 degree Coax Connector for super flex 1/2" coax

7/8" FOAM COAX

MODEL	DESCRIPTION
AAT-78-COAX-F	7/8" 50 Ohm Foam Coax

7/8" FOAM COAX CONNECTORS

MODEL	DESCRIPTION
AAT-78-CC-78-AAT	7/8" EIA coax connector for 7/8" foam cable - AAT 7/8" coax
AAT-78-CC-78-RSB	7/8" EIA coax connector for 7/8" foam cable - Rosenberger 7/8" coax
AAT-78-CC-78-LCF78-50	7/8" EIA coax connector for 7/8" foam cable - RFS LCF78-50
AAT-78-CC-78-AVA5-50	7/8" EIA coax connector for 7/8" foam cable - Commscope AVA5-50
AAT-78-CC-78-LDF5-50A	7/8" EIA coax connector for 7/8" foam cable - Andrew LDF5-50A
AAT-78-CC-78-EC5-50-A	7/8" EIA coax connector for 7/8" foam cable - Eupen EC5-50-A
AAT-716-78C	7/16" DIN Male coax connector for 7/8" foam cable - AAT 7/8 coax

7/8" AIR PASS COAX

MODEL	DESCRIPTION
AAT-78-AC	7/8" 50 Ohm Air Pass

7/8" AIR PASS CONNECTORS

MODEL	DESCRIPTION
AAT-78-CC-78-CA	7/8" EIA coax connector for 7/8" air pass coax

1-5/8" FOAM COAX

MODEL	DESCRIPTION
AAT-158-FC	1-5/8" 50 Ohm Foam Coax

1-5/8" FOAM COAX CONNECTORS

MODEL	DESCRIPTION
158-EIA-158-C	1-5/8" EIA connector for 1-5/8" foam coax cable AAT Coax
158-EIA-158-C-AVA7-50	1-5/8" EIA connector for 1-5/8" foam coax cable Andrew AVA7-50
158-EIA-158-C-LDF7-50A	1-5/8" EIA connector for 1-5/8" foam coax cable Andrew LDF7-50A
158-EIA-158-C-LCF158-50A	1-5/8" EIA connector for 1-5/8" foam coax cable RFS LCF158-50A

1-5/8" AIR PASS COAX

MODEL	DESCRIPTION
AAT-158-AC	1-5/8" 50 Ohm Air Pass

1-5/8" AIR PASS CONNECTORS

MODEL	DESCRIPTION
158-EIA-158-CA	1-5/8" EIA connector for 1-5/8" Air Pass Coax

1-5/8" AIR DIELECTRIC COAX

MODEL	DESCRIPTION
AAT-158-ADC	1-5/8" 50 Ohm Air Dielectric Coax

1-5/8" AIR DIELECTRIC CONNECTORS

MODEL	DESCRIPTION
158-EIA-158-ADC	1-5/8" EIA connector for 1-5/8" Air Dielectric Coax

3-1/8" AIR DIELECTRIC COAX

MODEL	DESCRIPTION
AAT-HC318-AC	3-1/8" 50 ohm Air Coax

3-1/8" AIR DIELECTRIC COAX CONNECTORS

MODEL	DESCRIPTION
HC318-AC-318C	3-1/8" EIA connector for 3" air coax

4" AIR DIELECTRIC COAX:

MODEL	DESCRIPTION
HC40-AC-4C	4" 50 Ohm Air Coax

4" AIR DIELECTRIC COAX CONNECTORS:

MODEL	DESCRIPTION
HC40-AC-318C	4" 50 Ohm Air 3-1/8" coax connector

COAX ACCESSORIES

MODEL	DESCRIPTION
AAT-12-H	1/2" coax butterfly hanger, 10 per kit
AAT-78-H	7/8" coax butterfly hanger, 10 per kit
AAT-158-H	1-5/8" coax butterfly hanger, 10 per kit
AAT-30-H	3.0" coax butterfly/clamp hanger, 10 per kit
AAT-40-H	3-1/8" and 4.0" coax butterfly/clamp hangers, 10 per kit
AATGK-12	1/2" ground kit
AATGK-78	7/8" ground kit
AATGK-158	1-5/8" ground kit
AATGK-30	3.0" ground kit
AATGK-40	3-1/8" & 4.0" ground kit
AATHOIST-12	1/2" hoist grip, lace up
AATHOIST-78	7/8" hoist grip, lace up
AATHOIST-158	1-5/8" hoist grip, lace up
AATHOIST-30	3.0" hoist grip, lace up
AATHOIST-40	3-1/8" and 4.0" hoist grip, lace up
AAT-BC	Angle Adapter, beam clamp kit. 10 units
AAT-38SO	Round member standoff >1.5" member OD size 1.0" stand off
AAT-38SO-7515-1IN	Round member standoff 0.75" – 1.5" member OD size 1.0" stand off
AAT-38SO-4IN	Round member standoff >1.5" member OD size 4.0" stand off
AAT-HGK-6-CTS	Turnbuckle and chain kit, used for hanging coax.
AAT-HC-05125	Hose clamp 0.5" – 1.25" 10 per kit
AAT-HC-07515	Hose clamp 0.75" – 1.5" 10 per kit
AAT-HC-075175	Hose clamp 0.75" – 1.75" 10 per kit
AAT-HC-1020	Hose clamp 1.0" – 2.0" 10 per kit
AAT-HC-10275	Hose clamp 1.0" – 2.75" 10 per kit
AAT-HC-10275	Hose clamp 1.0" – 2.75" 10 per kit
AAT-HC-10275	Hose clamp 1.0" – 2.75" 10 per kit
AAT-HC-1030	Hose clamp 1.0" – 3.0" 10 per kit
AAT-HC-1535	Hose clamp 1.5" – 3.5" 10 per kit
AAT-HC-2540	Hose clamp 2.5" – 4.0" 10 per kit
AAT-HC-3050	Hose clamp 3.0" – 5.0" 10 per kit
AAT-HC-4060	Hose clamp 4.0" – 6.0" 10 per kit
AAT-SE-P-4INCH	Entry Panel 4 x 4. Used for 4" boots
AAT-4IN-BOOT-NOINSERT	3-1/8" and 4" boot assembly. No insert
AAT-BOOT-INSERT-78-3	7/8" coax three hole entry boot insert

AAT-BOOT-INSERT-781123	7/8" one-hole and 1/2" three-hole entry boot insert
AAT-BOOT-INSERT-158	1-5/8" one hole entry boot insert
AAT-BOOT-INSERT-129	1/2" nine hole entry boot insert
AAT-12-HC-9H-RB	1/2" nine hole cushion hanger, kit of 5 units
AAT-78-1H-12-3H-RB	7/8" one hole, 1/2" three hole, cushion hanger, kit of 5 units.
AAT-78-3H-RB	7/8" cushion hanger, three hole, kit of 5 units.
AAT-ATTACH-12-78-158	1/2" , 7/8" , or 1-5/8" connector attach first off the spool
AAT-ATTACH-30-318-40	3.0", 3-1/8", or 4.0" connector attach first off the spool
SPOOL-FEE	Contact factory for Fee Expense

PHASE CONVERTERS AND UPS DEVICES

AAT's phase converters provide reliable and efficient power conversion for broadcast, industrial, and commercial applications. They seamlessly convert single-phase power to three-phase, ensuring stable operation for RF transmission systems, transmitters, and other critical equipment.

Built with durable components and precision engineering, our converters deliver clean, balanced power with minimal harmonic distortion, reducing equipment wear and improving efficiency. Ideal for remote broadcast sites and tower facilities, they offer a cost-effective alternative to utility three-phase power without requiring expensive infrastructure upgrades.

To further safeguard operations, we also partner with Staco to provide high-quality UPS devices, ensuring uninterrupted power and protection for your critical systems.



5 – 300 HP PHASE CONVERTERS



Specifications:

Models	AD, ADX, AUL
Horsepower	5 – 300 hp
Input Voltage (Single Phase)	208-250
Efficiency	>98%
Idler RPM	1750
Operating Reliability	MTBF 50000

Controller Options

AD – The AD model is built with our MicroSmart Controller that will monitor the voltage every millisecond to ensure your equipment has the right voltage all the time. This MicroSmart controller provides precise control of the phase converter which provides better voltage balance and prolonged life of the converter. Our AD Model is perfect for voltage sensitive medium duty loads such as CNC Equipment, EDM Machines, Welders, Ovens, etc. These types of equipment require precise voltage balance making the AD your perfect solution.

ADX - Our ADX Model includes all the features and benefits of our AD Model but also has our Current Transient Reactor (also known as CTR) in it. This CTR Controller, along with our MicroSmart Controller, allows higher amounts of current to be drawn through the phase converter. This produces more torque while maintaining voltage and power with precision for sensitive equipment. These ADX Models are perfect for hard starting loads such as Air Compressors, HVAC, Refrigeration and equipment such as Wide Belt Sanders that have a long start time to get up to speed.

AUL - Our AUL unit comes with all the benefits and features of our ADX model with added components to not only meet, but exceed UL safety guidelines. These units come UL certified with the appropriate documentation. UL certification is not required in all locations or installations so please check with your local inspectors to see if the AUL model is the right unit for you.

Features

Control Panel

- Push Button ON/OFF Switch w/ PowerGuard Protection
- Heavy Duty Performance, 100% Power
- Powder-Coated Steel Enclosures for an attractive and durable appearance
- Integrated Protection in case of power interruption
- Easy access terminal block wiring connections
- Best Warranty in the Industry

Optional Upgrades

Floor Mount | 3PH Breaker | 3PH Receptacle | Surge Protection | Wired or Wireless Remote Switch | Automation Control* | Phase Monitoring* | 480V-Special Order* | Outdoor or see our AI Series* Control Panel Idler / Generator Optional Upgrades

Idler / Generator

- Designed and engineered specifically for phase conversion
- Achieve optimized voltage and current balance throughout the full load of the converter
- Soft Start Rating by drastically reducing in- rush current upon startup
- Runs cool, quietly and efficiently with or without load applied
- Manufactured in the USA by Baldor Electric

AI PHASE CONVERTERS



Specifications:

Models	AI-20, AI-30, AI-40, AI-50, AI-60, AI-75, AI-100, AI-150, AI-200, AI-300
Horsepower	20 – 300HP
Input Voltage (Single Phase)	208-250
Efficiency	>98%
Idler RPM	1750
Operating Reliability	MTBF 50000

Features

- Nema 3R/Type 3R - which allows this unit to be mounted anywhere and in any type of elements. Rain...snow...you are protected!
- American Rotary's illuminated rotary switch makes it easy to start or stop your unit. The two light indicators are a quick reference on your single phase input and start circuit operation.
- Super Quiet with our Baldor Induction Generator making this unit perfect for an indoor or outdoor application. The American Rotary/Baldor VIT Generator is protected with a patent pending custom built NEMA 3R enclosure. American Rotary's proprietary design allows for easy plug and play with your three phase equipment.
- Available in 240V or 480V and from ratings of 20-300HP
- American Rotary's heavy duty mounting base is strong and functional. They allow you to easily move the unit with a forklift, mount the device to concrete pad or floor and keep the unit off the ground and away from any moisture.
- Easy to remove and wash down filter, this filter will protect against dust, dirt and other harmful particles protecting your VIT generator and keeping you running at peak efficiencies.

PHASE CONVERTERS

Voltage and mount configuration specified upon order

Model	Description
AD-05	AD Digital Smart Series Phase Converter 2 HP
AD-10	AD Digital Smart Series Phase Converter 5 HP
AD-15	AD Digital Smart Series Phase Converter 7.5 HP
AD-20	AD Digital Smart Series Phase Converter 10 HP
AD-25	AD Digital Smart Series Phase Converter 12.5 HP
AD-30	AD Digital Smart Series Phase Converter 15 HP
AD-40	AD Digital Smart Series Phase Converter 20 HP
AD-50	AD Digital Smart Series Phase Converter 25 HP
AD-60	AD Digital Smart Series Phase Converter 30 HP
AD-75	AD Digital Smart Series Phase Converter 40 HP
ADX-05	ADX Extreme Duty Smart Series Phase Converter 2 HP
ADX-10	ADX Extreme Duty Smart Series Phase Converter 5 HP
ADX-15	ADX Extreme Duty Smart Series Phase Converter 7.5 HP
ADX-20	ADX Extreme Duty Smart Series Phase Converter 10 HP
ADX-25	ADX Extreme Duty Smart Series Phase Converter 12.5 HP
ADX-30	ADX Extreme Duty Smart Series Phase Converter 15 HP
ADX-40	ADX Extreme Duty Smart Series Phase Converter 20 HP
ADX-50	ADX Extreme Duty Smart Series Phase Converter 25 HP
ADX-60	ADX Extreme Duty Smart Series Phase Converter 30 HP
ADX-75	ADX Extreme Duty Smart Series Phase Converter 40 HP
ADX-100	ADX Extreme Duty Smart Series Phase Converter 50 HP
ADX-150	ADX Extreme Duty Smart Series Phase Converter 75 HP
ADX-200	ADX Extreme Duty Smart Series Phase Converter 100 HP
ADX-300	ADX Extreme Duty Smart Series Phase Converter 150 HP

Model	Description
AI-20	AI Industrial Phase Converter 10 HP
AI-30	AI Industrial Phase Converter 15 HP
AI-40	AI Industrial Phase Converter 20 HP
AI-50	AI Industrial Phase Converter 25 HP
AI-60	AI Industrial Phase Converter 30 HP
AI-75	AI Industrial Phase Converter 40 HP
AI-100	AI Industrial Phase Converter 50 HP
AI-150	AI Industrial Phase Converter 75 HP
AI-200	AI Industrial Phase Converter 100 HP

STACO V SERIES 120V UPS



FEATURES

- Voltage and Frequency Independent (VFI) Technology
- 0.9 power factor
- Zero interruption on battery transfer
- Intelligent battery management
- Extended runtime options
- Easy installation, plug and play
- LCD graphical user interface
- Compact 2U form factor
- Hot-swappable batteries
- Three year product warranty, 1 year battery warranty

HIGHLIGHTS

IN-LINE, SINGLE PHASE, DOUBLE CONVERSION UPS

The Staco V features a field-proven Digital Signal Processor (DSP) achieving high reliability, while providing protection from electrical power disturbances to the connected load. The convertible tower/rack design offers maximum flexibility, enabling UPS integration into a wide variety of environments.

Industry-leading functionality is standard and includes hot swappable battery, powerful internal charger, emergency shut-down and programmable receptacles. The Staco V is an ideal power protection solution for servers, networks, telecommunications, industrial equipment, and manufacturing processes. XL Models are for those critical applications that require extended battery backup times.

True Double-Conversion On-Line UPS

A true double conversion UPS will provide clean, high level quality power to fully protect mission-critical devices such as sensitive networks, small computer center servers, telecom applications, as well as for industrial applications.

Output Power Factor 0.9 Staco V Series is a high-density UPS with an output power factor 0.9 to provide higher performance and efficiency to critical applications.

User-Friendly and Easy-Shift LCD Display

The front panel digital display can be easily shifted through LCD setting to suit the installation format, Tower or Rack mount

Rack/Tower Design

The Series V is designed in a true universal-mount case. It can be easily installed as a free-standing tower or in a 19-inch rackmount configuration.

Programmable Power Management Outlets

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature enables users to extend battery time to mission-critical devices by shutting down the non-critical devices.

50/60 Hz Frequency Converter Mode

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipment. ECO and Advanced ECO Mode for Energy Saving

It allows the UPS to operate in high efficiency up to 97% in energy-saving ECO mode. In this operation mode, load is supplied by the mains. In the event of a mains failure, the inverter takes over the load and provides supply continuity to the connected systems. The Series V even offers advanced ECO mode to allow UPS to operate at higher efficiency up to 98%.

Emergency Power Off Function (EPO)

This feature can secure the personnel and equipment in case of fires or other emergencies. Hot-Swappable Battery Design

Ensures clean and uninterruptible power to protected equipment during battery replacement.

STANDARD MODELS						
Model (Part Number)	VA/Watts	Internal Battery (Minutes)	Input Cord	Output Connection	Dimensions	Weight (lbs.)
V1000R1120 (SCV-10001)	1000VA / 900W	4	5-15P	(4) 5-15R	3.39" X 17.24" X 16.44" (2U)	29 lbs.
V1500R1120 (SCV-15001)	1500VA / 1350W	4	5-15P	(4) 5-15R	3.39" X 17.24" X 20.38" (2U)	42 lbs.
V2000R1120 (SCV-20001)	2000VA / 1800W	4	5-20P	(8) 5-20R	3.39" X 17.24" X 20.38" (2U)	47 lbs.
V3000R1120 (SCV-30001)	3000VA / 2700W	4	L5-30P	(4) 5-20R & (1) L5-30R	3.39" X 17.24" X 27.74" (2U)	65 lbs.
V1000R1XL120 (SCV-10001-LB)	900VA / 810W	0	5-15P	(4) 5-15R	3.39" X 17.24" X 16.44" (2U)	20 lbs.
V1500R1XL120 (SCV-15001-LB)	1250VA / 1125W	0	5-15P	(4) 5-15R	3.39" X 17.24" X 20.38" (2U)	26 lbs.
V2000R1XL120 (SCV-20001-LB)	1700VA / 1530W	0	5-20P	(8) 5-20R	3.39" X 17.24" X 20.38" (2U)	28 lbs.
V3000R1XL120 (SCV-30001-LB)	2500VA / 2250W	0	L5-30P	(4) 5-20R & (1) L5-30R	3.39" X 17.24" X 27.74" (2U)	33 lbs.

Standard Models: Maximum (1) External Battery Pack (V1000EBC, V1500EBC, V2000EBC or V3000EBC) XL Models: Maximum (5) External Battery Pack (V1000EBC, V1500EBC, V2000EBC or V3000EBC)

Note:

1. XL Models do not have internal batteries.
2. Unit ships with bundled NetAgent 9 Shutdown Software.
3. All units ship with floor stand and rack mount hardware.



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