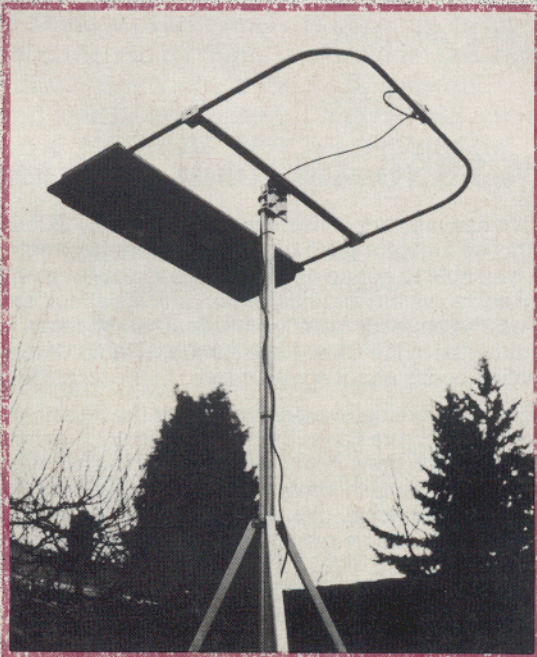
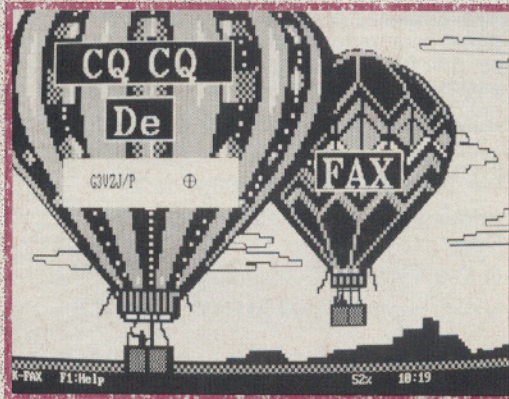
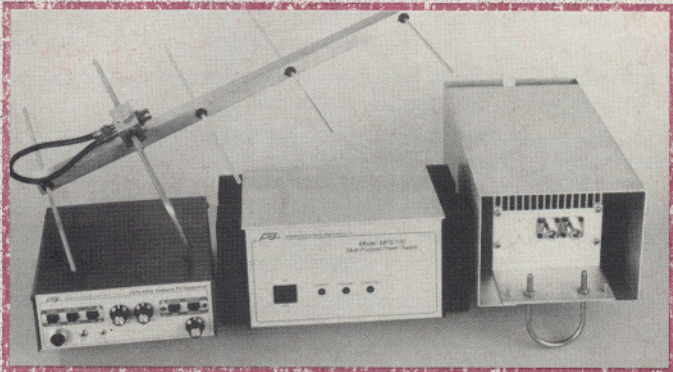


1990 Catalog



Advanced Electronic Applications, Inc.
2006-196th St. SW/P.O. Box C2160
Lynnwood, WA 98036
(206)775-7373

Company Profile

Dear Customer,

Thank you for the support you have shown AEA over the years. Starting in a basement in 1977, AEA has grown into a multi-million dollar a year company based on the premise that engineering DOES make the difference.

High quality production, special quality control and superior engineering designs are the backbone of our business. We further back up our equipment with a highly trained and helpful technical support team. This assures you an exceptional experience with your AEA product. AEA brings you a **better** experience.

Over the years AEA has gained recognition for several engineering breakthroughs. Many of you probably remember a few of these such as:

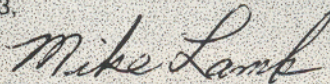
- The first single-chip microcomputer product introduced to the consumer market (the AD-1 Auto Dialer first shown at SAROC in January 1978).
- The first microcomputer-based electronic keyer (Morse-matic) product line.
- The patented IsoPole™ line of vertical antennas.
- The MBA-RO 32-character reader with dual-channel filtering.
- The CP-1 Computer Patch with dual-channel filtering.
- The first multi-mode data controller with AMTOR in the U.S. (AMT-1).

- The first interactive CW contest trainer (Doctor DX™)
- The first commercially produced Packet TNC (the PKT-1).
- The first multi-mode data controller with Packet (PK-64).
- The first multi-mode data controller with FAX, the PK-232. With over 40,000 units sold, it continues as the most popular multi-mode on the market.
- The first electronic keyer with an interactive QSO trainer mode, the MM-3 Morse Machine™.
- The first commercial quality Fast-Scan Television transceiver for the amateur radio market with Vestigial Sideband (VSB) filtering for maximum spectrum utilization, the FSTV-430A.
- The first Slow-Scan Television unit with noise correction, the Amiga Video Terminal (AVT) Master.

With your support, AEA will continue to "Bring You The Breakthrough." Our most recent breakthrough is an affordable HF low-profile magnetic loop antenna, the IsoLoop™. Also, there's our new TVI filters, antenna tuners and RF power amplifiers. This Fall you will see our advertisements for the new DSP-1232 and DSP-2232 multi-mode Digital Signal Processing Data Controllers.

We hope that you enjoy reading about our exciting product line.

73.



C. Mike Lamb N7ML

AEA Announces James Heil KB5AWM 1990 Amateur Ambassador



Mike Lamb N7ML, President of AEA, presents The 1990 Amateur Ambassador Award to Jim Heil KB5AWM.

Advanced Electronic Applications, Inc. awarded James "Jim" Heil KB5AWM of Houston, Texas, its 1990 Amateur Ambassador Award at the ARRL National Convention in Kansas City, Missouri, on June 9, 1990. The award was presented by Mike Lamb N7ML, President of AEA.

AEA presents the Amateur Ambassador Award on a yearly basis to the radio amateur who demonstrates extraordinary efforts in promoting the amateur service to individuals new to amateur radio. Jim Heil was chosen Ambassador because he has organized and taught numerous Novice classes, "Elmers" a number of new hams and has served as a VE and as a VE Coordinator and liaison.

Jim has also been instrumental in a variety of local activities promoting amateur radio. As ARRL Public Information Officer, Jim was able to get an amateur radio announcement run on the local cable system and has written articles about ham club activities and amateur radio for the local newspapers. Jim was also instrumental in the Clear Lake Amateur Radio Club (CLARC) donating books about amateur radio to the local library.

Since becoming licensed in 1986 at the age of 18 (and upgrading to Extra Class the following year), Jim helped establish CLARC, which grew from seven to over 130 members in the last three years. He also serves as editor of the club's newsletter, **CLARC Chronicles**. Jim held the office of CLARC vice-president for two years, is a member of several emergency networks including Skywarn, RACES and ARES and has faithfully supported local parades, fun runs and other events that benefited from amateur radio assistance.

Jim is a full-time student at the University of Houston at Clear Lake and is pursuing a degree in Computer Information Systems.

Past recipients of the AEA Amateur Ambassador Award include Mary Duffield WA6KFA, Barry Goldwater K7UGA, Byron Lindsey W4BIW and Bob Wallar WB6QNR.

AEA will accept entries for the 1991 AEA Amateur Ambassador Award through May 1, 1991. All entries need to include a letter or report outlining activities of the nominee in the following three categories: dedication to amateur radio, positive influence on those outside of the amateur service and initiation of special projects or programs to promote amateur radio. The recipient of the award is chosen by a panel of judges from AEA, and is awarded \$1,000 and an all-expense paid trip to the ARRL National Convention. Entries may be forwarded to AEA, Attn: Amateur Ambassador Award, P.O. Box C2160, Lynnwood, WA 98036.

Packet

PK-88

HF/VHF Packet TNC

Unique operating features with a proven hardware and software design make AEA's PK-88 your best value in packet radio...now with MailDrop, an efficient 18K byte personal Mailbox with selectable third-party traffic. The MailDrop uses a subset of the well-known WØRLI/WA7MBL packet BBS commands. When your PK-88 MailDrop is active, other stations can connect to your PK-88 and exchange personal messages, traffic or bulletins. Your MailDrop also accepts inbound mail forwarding and supports reverse forwarding with your local WØRLI/WA7MBL/AA4RE/MSYS auto-forwarding packet BBSs. The PK-88's internal lithium battery will hold the Maildrop contents should power be removed.

The PK-88's internal KISS Mode is your direct interface to programs such as KA9Q's "NET" TCP/IP protocol suite. A single KISS command presets all communications parameters for TCP/IP operation. AEA's unique Host Mode provides the type of complete interface protocol preferred by many professional programmers for efficient control of the PK-88 by external programs and special applications. Your PK-88 also accepts special "NET/ROM" EPROMs provided by Software 2000, Inc.* for Layer Three and Four node operation and networking.

In addition to all the features of a "standard" TNC, the PK-88 also offers these exceptional features:

- **WHYNOT** command. Shows reasons why some received packets are not displayed.
- **Packet Dump Suppression**. Prevents dumping unsend packets on the radio channel if the link fails.
- **Prioritized Acknowledgment (ACKPRIOR)** protocol. Improves performance on busy packet channels.
- **CUSTOM** command. Allows limited PK-88 customization for non-standard applications.
- **Enhanced MBX** command. Permits display of the data in I- and UI- frames, without showing packet headers and without retries.
- **Unique MPROTO** command. Controls display of non-ASCII packets from Layer Three switches and network nodes.
- **Unique MFILTER** value \$80. Suppresses all graphics and control characters except TAB, CR and LF.
- **Unique CFROM** and **DFROM** commands. Permits selective connecting and digipeating ("Accept" or "Reject" digipeater operation by call signs).

*Available from Amatech International
6026 N. Greenwood, Clovis, CA 93612
209-299-8167



Specifications

MODEM

Modem Input Range: 5 to 770 mV RMS
Demodulator: AMD 7910 World Chip
Modulator: Phase-continuous sinewave, AFSK generator
Modulator Output Level: 5 to 300 mV RMS
Packet Protocol: AX.25 version 2.0 (version 1.0 supported)
Processor System: Zilog Z-80
RAM: Lithium battery backed, 32 KBytes
ROM: 32 KBytes
Hardware HDLC: Zilog 8530 SCC

REAR PANEL INPUT/OUTPUT CONNECTORS

Radio Interfaces: Locking 8-pin (receive audio, transmit audio, PTT, auxiliary squelch, ground)
External Modem: Transmit data, receive data, data carrier detect, clock, ground
Terminal Interface: RS-232-C 25-pin DB-25 connector
Terminal Data Rates: Single character auto-baud detection at 300, 600, 1200, 2400, 4800, 9600 and 19200. TBAUD adds 45, 50, 57, 75, 100, 110, 150, 200 and 400 BPS terminal rates.

FRONT PANEL INDICATORS

Indicators: Converse, transparent, command, send, data carrier detect, status, connect, multiple connect, power

PHYSICAL

Power Requirement: +12 to +16 VDC @ 550 mA
Dimensions: 7.5"(191mm)W x 6"(152mm)D x 1.5"(38mm)H

Multi-Mode



PK-232MBX Multi-Mode Data Controller

With over 40,000 units sold worldwide, the PK-232MBX is the world's leading multi-mode data controller. Combining all amateur data communication modes in one comprehensive unit, the PK-232MBX offers Morse code, Baudot, ASCII, AMTOR/SITOR, 476 and 625, HF and VHF Packet, WEFAX receive and transmit, as well as commercial standard NAVTEX automated marine information services. The PK-232MBX provides any RS-232 compatible computer or terminal complete amateur digital operating capabilities. All decoding, signal processing and protocol software is on ROM in the PK-232MBX. Only a simple terminal program is required to interface the PK-232MBX to your computer. The PK-232MBX package includes an RS-232 interface cable that connects the unit directly to the RS-232 port of the computer.

The real strength of the PK-232MBX is its superior design. It's a no-compromise data controller specifically designed for multi-mode operation, not just a packet controller with supplemental firmware. The PK-232MBX is a Z-80A based system and has hardware HDLC using the Zilog 8530 SCC. The internal modem of the PK-232MBX can transceive packet at rates from 45 to 1200 baud, with the option of using an external modem for higher baud rates up to 9600 baud. The PK-232MBX has a no-compromise VHF/HF/CW modem with an eight-pole Chebyshev bandpass filter followed by a limiter-discriminator with automatic threshold correction. This modem can copy shifts from 85 to 1500 Hz in two ranges. Transmitter tones are low distortion sinewave phase continuous AFSK, Bell 202 standard (1200-2200 Hz) for VHF and 2110-2310 (compatible with 170 Hz shift for RTTY) for HF.

The PK-232MBX internal software includes special features such as SIAM™ (Signal Identification and Acquisition Mode). The PK-232MBX automatically identifies Baudot, ASCII, AMTOR/SITOR and TDM (Time Division Multiplex) signals, then measures signal speed and polarity. A simple "OK" command automatically switches the PK-232MBX to the recognized mode and starts the data display.

PakMail™ mailbox with selective control of third-party traffic is now a standard feature. Your friends can now leave you messages around the clock. Your local full-service BBS can automatically forward your messages directly to your PK-232MBX. You can even use the PK-232MBX with the popular WÖRLI and WA7MBL packet bulletin board programs.

Only AEA provides the type of full-featured Host Mode preferred by many professional programmers for efficient control of the PK-232MBX (see chart on following page).

In packet, the PK-232MBX internal program is also compatible with the popular TCP/IP networking protocol. This requires the TNC to feature special commands. (KISS, PERSISTENCE, SLOTTIME) not found in all controllers.

Additional Features:

FAX Printing. Many parallel printers can be connected directly to the PK-232MBX or to your computer (with appropriate applications software) to print HF monitored FAX signals. The PK-232 supports Epson, IBM and other popular dot matrix graphics printing standards.

Easy and Efficient Operation. Twenty-one front panel indicators and a tuning indicator allow easy operation, with instant operating feedback for all modes!

Lithium Battery Backed RAM.

Adjustable Threshold Control.

Two Radio Ports. Interchangeable HF or VHF operation. Front panel pushbutton selectable.

External Modem Disconnect. Internal modem bypass for compatibility with higher speed modems.

Scope and FSK Outputs. A separate accessory port gives both mark and space scope outputs and permits connection to your HF radio's FSK input.

Upgradeable. The very first PK-232 is upgradeable to the latest version with plug-in ROMs and upgrade kits. 2400 Baud Option now available. Contact factory for further information.

Included. The PK-232MBX comes with an RS-232 shielded cable, two radio cables and all rear panel mating connectors. The optional AC-4 Power Supply is available through AEA authorized dealers. Specific radio connectors need to be supplied by the user.

Specifications

Modem Input Dynamic Range: 5 mV to 500 mV RMS

Demodulator: 8-pole Chebyshev bandpass filter, limiter, 4-pole discriminator, 5-pole post-detection low pass filter

Modulator: Phase continuous sinewave, AFSK generator

Modulator Output Level: 5-200 mV RMS

Packet Protocol: AX.25 L2V2 (previous version supported)

Processor System: Zilog Z-80

RAM: Battery backed, 32 Kbytes

ROM: 64 Kbytes standard, 128 Kbytes maximum

Hardware HDLC: Zilog 8530 SCC

REAR PANEL INPUT/OUTPUT CONNECTIONS

Radio Interfaces: Two 5 pin, front panel selectable (receive audio, transmit audio, PTT, auxiliary squelch, ground)

External Modem: 5 pin: transmit data, receive data, carrier detect, ground, PTT

FSK Outputs: Normal and reverse

Scope Outputs: Mark, space

CW Keying Outputs: +100 VDC @ 200 mA max. and -25 V @ 30 mA max.

Terminal Interface: RS-232-C 25 pin DB-25 connector (pins 1-8 and 20, software and hardware handshake)

Terminal Data Rates: Autobaud settings at 300, 600, 1200, 2400, 4800 and 9600. TBAUD adds 45, 50, 57, 75, 100, 110, 150, 200, 400-BPS terminal rates

Printer Interface: Centronix parallel printer output with special cable (optional)

FRONT PANEL CONTROLS AND INDICATORS

Controls: Power, radio 1/2 selector, threshold adjust

Indicators: Data carrier detect LED, 10 segment HF bargraph tuning indicator, mode indicators (Baudot, ASCII, Packet, Morse, Sel FEC, FEC, ARQ, Mode L, AMTOR STBY), Status Indicators (STBY, Phase, Idle, Error, RQ, Tfc, Over, MULT, PTT, CONV, CMD, CON, Send, STA, TRANSPARENT)

PHYSICAL

Power Requirement: +12 to +16 VDC @ 700 mA

Dimensions: 11"(279mm)W x 8.25"(210mm)D x 2.5"(64mm)H

Weight: 3 lbs.(1.35kg)

Software

Software Selection Table for PK-88 and PK-232/MBX

PC	Software	Data	FAX	Split Screen	Memories	Host Mode	Printer	Disk	Media	Cable	Overlays	PK-88
IBM	PC-Pakratt	yes	no	yes	yes	yes	yes	yes	D	no	no	yes
IBM	PK-FAX	no	yes	no	yes	yes	yes	yes	D	no	no	no
C-64	Com-Pakratt	yes	no	yes	yes	yes	yes	yes	R*	no	yes	yes
C-64	Com-FAX	no	yes	no	yes	yes	yes	yes	R*	no	yes	no
Mac	MacRatt	yes	yes	yes	yes	yes	yes	yes	D	yes	no	yes

Key: D=Disk, R=Rom (*C-64 programs are in ROM only but support a disk drive.)

MacRATT with FAX

AEA's MacRATT with FAX computer program for the Apple Macintosh makes using AEA's PK-232/MBX multi-mode and PK-88 packet controllers easier than ever. Every powerful feature of the PK-232/MBX and PK-88 is now as easy to use as pointing with a mouse.

- Includes cable for Mac Plus and newer models using mini-8 DIN connector
- Windows for entering text, displaying the receive buffer and logging transmitted text. All windows employ standard Mac features such as scrolling and copying to the clipboard
- Window display of the status of file transfers and the link between the PK-232/MBX or PK-88 and the Mac
- FAX is an integral part of the program, and FAX images can be sent to the printer without changing cables
- MacRATT runs the PK-232/MBX or PK-88 in Host Mode for fast, efficient operation, and will run under MultiFinder
- Text uploading, downloading and printing are easy. There are 20 macro keys that can be used to speed text entry
- Character-at-a-time sending for RTTY, AMTOR and CW
- Works with the Macintosh 512K Enhanced, Plus, SE and Mac II

PC Pakratt with FAX

For the IBM-PC or compatible computers and PK-232/MBX, AEA offers PC Pakratt and PK FAX as a set, available on two 5-1/4" disks. Contact AEA for details about the availability of 3.5" disks.

PC Pakratt

The PC Pakratt program is a split-screen terminal program for operation of Morse code, Baudot, ASCII, AMTOR and Packet. Features include:

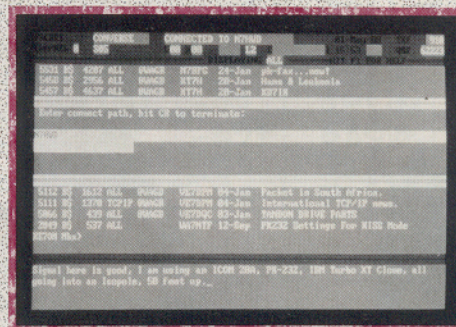
- Friendly on-screen Help menu at the touch of a key to define commands and parameters for all modes

- Up to 64 Kbyte QSO buffer to store all incoming data for editing and retransmission
- Built-in text editor for editing message files
- 10 message/command buffers so you can pre-program messages or commands for transmission with a single keystroke
- Supports disk directory, file transfer and storage of data received. Displays most parameters on one screen
- Requires 320K RAM minimum and DOS version 2.1 or higher

PK FAX

The PK FAX program enables you to display, store and transmit facsimile signals on-screen. Features include:

- All standard HF radio facsimile formats can be displayed on-screen
- Received signals can be stored to either floppy or hard disk automatically
- Converts received signal files to Paintbrush compatible format
- Transmits files, including Paintbrush files, in the FAX mode
- Prints received files with most printers capable of dot matrix graphics
- Enlarges any one-quarter screen to four times normal size for closer inspection
- Compatible with CGA, EGA and Hercules compatible graphics adapter cards. No hardware or software changes are necessary to any FAX compatible PK-232/MBX.
- Requires 384K internal computer memory. Two disk drives or a hard disk are recommended



Com Pakratt with FAX

AEA's Com Pakratt and Com FAX programs for the Commodore 64 computer supports the PK-232/MBX data controller. The set is supplied on two ROM plug-in cartridges and includes an RS-232 level converter.

Com Pakratt

The Com Pakratt program is a split-screen terminal program enabling full operation of Morse code, Baudot, ASCII, AMTOR and Packet modes in the PK-232/MBX.

- Most common commands are programmed for direct function key operation
- Incoming data is automatically routed into a QSO buffer capable of holding up to 13K
- Easy-to-use ROM cartridge means disk or cassette drive is not needed
- Select background, text, highlight and echo colors on a color monitor
- Six preset and four programmable memories for CQ, QBF, RY, Time, Call Sign and SELCAL
- Support disk directory, text file transfers and storage of received data
- Supports printer output for Morse code, Baudot, ASCII, AMTOR and Packet to Commodore printers directly from the computer

Com FAX

The Com FAX program enables you to display, store and transmit facsimile signals. Features include:

- All standard HF radio facsimile formats can be displayed
- Most common commands are programmed for direct function key operation
- Supports printer output to VIC 1525 or MPS 801 compatible printers
- Enlarges any one-quarter screen to four times normal size for closer inspection
- Supports disk directory, load/save FAX buffer and disk commands
- Transmits files directly from the FAX buffer

NEW

Antennas

IsoLoop™ HF Antenna

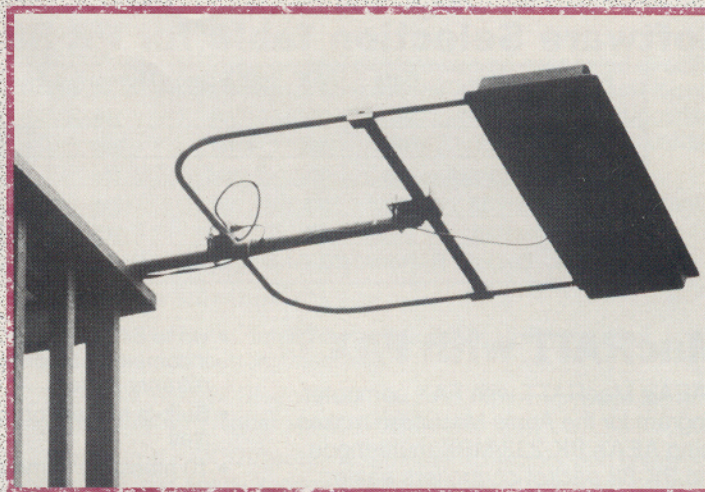
Once again AEA has achieved a significant engineering breakthrough with its high-performance, low profile HF IsoLoop antenna. Performance isn't compromised by its small size. Operate your favorite HF band (14 to 30 MHz) from areas with restrictive zoning ordinances or apartments and condos. Or take it with you on vacation...it's the ideal go-anywhere portable antenna. ONE antenna instead of numerous dipoles, unsightly verticals, antenna tuners or ground radials. The IsoLoop is also ideal for filling in the new WARC bands your current antenna will not tune to (such as 12 and 17 meters). The IsoLoop makes the PERFECT Standby portable antenna!

Rated up to 150 watts, the IsoLoop transmits and receives on any frequency between 14 to 30 MHz.

Omnidirectional. When mounted with the loop in the horizontal plane, the radiation pattern is omni-directional and horizontally polarized, with gain similar to a dipole. Maximum radiation is at low angles which is ideal for DX operation. The IsoLoop may also be mounted with the loop in the vertical plane to provide a null in a desired direction.

Low Cost. Tuning is provided by a precision stepper-motor and a small remote control box, the LC-1 (supplied with 50ft control cable). No additional tuner or antenna rotor is required. With only a simple mast required for mounting, the IsoLoop makes a very cost effective antenna system.

The IsoLoop is isolated from the feedline (hence its name) at radio frequencies which keeps the feedline from becoming part of the radiating structure. This provides an undistorted radiation pattern and less stray RF in the ham shack. The Iso-



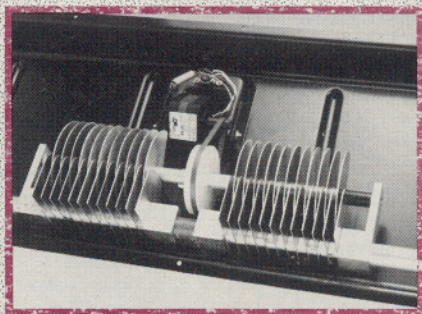
Loop is also much more effective at very low elevations than dipoles.

High-Q Design. One of the unique features of the IsoLoop is its inherent High-Q. The IsoLoop can be considered a very sharp tunable filter that radiates. The narrow bandwidth suppresses harmonics from your transmitter, reducing TVI problems.

It also attenuates out-of-band signals from nearby transmitters that could overload your receiver.

Compact. The IsoLoop is square with rounded corners measuring 32 inches square and weighing only 12 pounds.

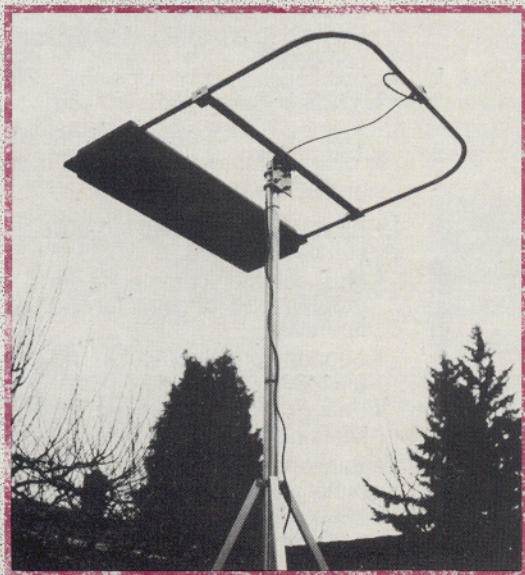
Patents Pending.



IsoLoop precision stepper motor provides accurate tuning.



IsoLoop LC-1 control box with variable speed tuning.



Specifications

- Frequency Coverage: 14 to 30 MHz
- Nominal Impedance: 50 ohms
- Power Rating: 150 watts
- VSWR: Less than 1.5:1 (no nearby obstructions)
- Temperature Range: Operating* 0 to 50 degrees C; storage -50 to +60 degrees C
- Dimensions: 32" (813mm) square
- Maximum Mast Outside Diameter: 1-1/4" (32mm)
- Shipping Weight: 12 lbs. (5.5kg) UPS shippable
- Coax Connector: UHF (SO-239)
- Gain: Similar to perfectly tuned dipole

*Because the IsoLoop is such an extremely High-Q antenna, its performance will be degraded by accumulations of snow. Also, freezing weather preceded by heavy moisture may result in temporary inoperation of the tuning mechanisms.

Mast and coax cable not included. Optional LC-1 shielded control cable with connectors available in 100 ft length.

Antennas

Sounds too good to be true? Defies the laws of physics? Read what these people have to say about their IsoLoop antennas:

"I was very impressed with it's apparent high efficiency. It was exciting to work European stations on 20 meters running 50 watts to the IsoLoop in my attic. A definite solution to limited space antenna problem."
George K7HBN

"The IsoLoop sure brought in the stations...It heard all the weak DX stations that my phased system heard!...I never missed hearing a weak DX station... This is not the compromised antenna I thought it would be...It really is a midget antenna that works like a big one!" Richard N5EV

"I have used {the IsoLoop} on 10, 15, 17 and 20 meters with great success...It 'talks' even better than I expected!" Mike KF7YB

"I'm a believer!... Yesterday I got on 21 MHz SSB during the CQM contest and made 20 contacts including EM2, Y34, SP, UW0, HA, UL8, UB5 AND YL in less than one hour... a real solution for the ham with limited or restricted antenna capabilities." Lew K4VX

"I didn't (totally) believe you about the IsoLoop performance....now I do! See the attached extract from my log....unbelievable!" Bob K7RDH

K7RDH Logbook Sample, June 17-18, 1990

'90		K7RDH/W4		AMATEUR RADIO STATION LOG				TS940S + AEA ISO-LOOP		ALL-ASIA		REMARKS
SWR	DATE	TIME (UTC)		FREQUENCY (MHz)	MODE	POWER (dBW)	STATION called/worked	REPORT		OSL		
		start	finish					sent	received	sent	recv	
	17 JUNE	2122	-	21.234	SB	100	UA0TO	5952	5943	BX		AGE CONTEST ? "VLAD" - KAMCHATKA
		2129	-	.266	"	"	9U3KE	59+	59+	BX		NICK - QSL PAOPAN - BURUNDI
		39	-	.290	"	"	TM2X	59	59	BX		F2VX QSL - BORDEAUX WPX
		2159	2201	.304	"	"	FY/KD3FK	59	59+	HX		BETH - CAYENNE - FR. GUIANA-USA
		2206	-	.260	"	"	CP1FF	59	59+	BX		MARIO - LA PAZ - BOLIVIA
		2210	2212	.262	"	"	JA1DXR	5952	5947	BX		TOKYO
		2220	2230	21.280	"	"	KE5XZ	59	59			DAN - LAS LUNAS, NMEXICO
		30	31	.281	"	"	SM3CER	5952	5947	BX		JAN - SUNDSBRUK - SWEDEN
		41	42	.288	"	"	OH7BUQ	59	59	BX		ARIQ - HELSINKI
		56	57	.318	"	"	JR3NZC	5952	5931	BX		AKI - NARA
		2306	2308	.295	"	"	AT0T	5952	5952			INDIA? SPECIAL PX? WPX?
	18 JUNE	0040	-	21.240	SB	100	HW2C	59	59+	BX		JACQUI - FRANCE - WPX
		0051	-	.278	"	"	U33ZYD	59	58?	BX		"KOSTYA" OBL.110 - BELGOROD, USSR
		0057	-	14.193	SB	100	LZ1KVZ	59	59+	BX		NICK - SOPOT - BULGARIA
		0111	-	.217	"	"	YU3ZP	59+	58?	BX		KARLE - MARIBOR - YUGOSLAVIA
		0116	0118	.202	"	"	HA7JAO	59	59	BX		JAN - BUCHAREST - QSL HA7UG
		0120	-	.207	"	"	HE1AB	59	56			"MACK" (SAUDI) DHARAN - ARABIA
		0135	-	.234	"	"	PV8RF	58	59+	BX		NELSON - BOVAVISTA - BRAZIL
		0138	-	.187	"	"	UT3UA	59	57	BX		SERGIO - KIEV -
		0144	0145	.252	"	"	OB4IWL	59	59+	BX		AL - QSL UBSITG - UKRAINE
		0151	0155	.181	"	"	PY4AH	59+	58-9	BX		LOUIS - BELVEDERE - BRAZIL
		0159	-	14.236	"	"	W0QAA	59	59			TOM - US OLYMPIC FESTIVAL / Twin Cities
		0210	0213	.196	"	"	OM6BHQ	59	59	BX		QSL OK2BHQ "FRANTA" - ZPAR

NOTES: QSL BOX 555 MIN 55458 OPR #67

Antennas

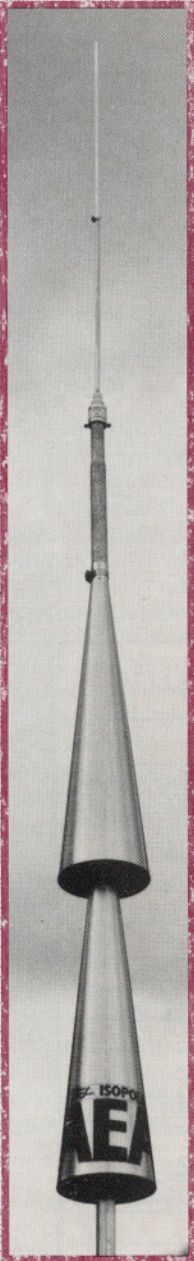
IsoPole™ Omni-Directional VHF/UHF Vertical Antennas

The only logical choice for a cost and space efficient base station antenna is AEA's IsoPole.™

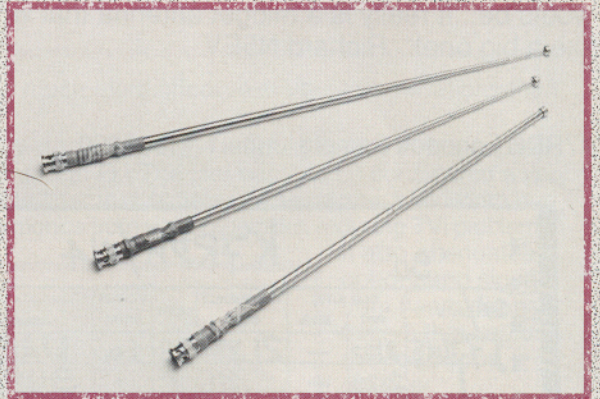
Available in 144, 220 or 440 MHz, all IsoPole antennas yield the maximum gain attainable for their respective lengths, and a zero-degree angle of radiation. Exceptional decoupling results in simple tuning and a significant reduction in TVI potential. Cones offer greater efficiency over obsolete radials which radiate in the horizontal plane. Plus the IsoPoles have a broad frequency coverage. This means no loss of power output from one end of the band to the other, when used with SWR-protected solid-state transceivers. Experience a typical SWR of 1.4 to 1 or better across the entire band!

VHF versions include a 50 ohm SO-239 connector recessed within the base sleeve for full weather protection. With the IsoPole you won't experience the aggravating deviation in SWR when the weather changes. Also, the impedance matching network is designed for maximum legal power and compensates for the impedance lump introduced by the SO-239 connector used in the VHF models.

AEA's IsoPoles are built to withstand the environment. The insulating material offers superb strength and dielectric properties plus excellent long-term ultra-violet resistance. Mounting hardware is stainless steel. The decoupling cones and radiating elements are made of corrosion resistant aluminum alloys. The aerodynamic cones are the only appreciable windload and are attached directly to your TV mast (mast not supplied).



Hot Rod™ Telescoping Antennas



AEA's high-performance telescoping handheld antennas provide maximum gain and extended range. The Hot Rod antennas make the same improvement to handheld communications that the IsoPole antennas make to base station operation. Achieve higher gain than ANY 5/8 wave two-meter telescopic antenna for handhelds. The HR-1 is 20% shorter and lighter, placing less stress on your handheld connector and case. It will handle over 25 watts of power, making it an excellent portable base or mobile antenna. In the collapsed position, the Hot Rod antenna will perform electrically like a helical quarter-wave flexible antenna.

Three versions are available:

- HR-1 half-wave 2M
- HR-2 half-wave 220 MHz
- HR-4 half-wave 440 MHz

IsoPole Specifications

Model	144	220	440
Frequency Coverage:	135-160 MHz	210-230 MHz	415-465 MHz
Impedance:	50 ohms	50 ohms	50 ohms
2.1 VSWR Bandwidth:	10 MHz @146 MHz	15 MHz @220 MHz	22 MHz @435 MHz
Power Rating:	1.0 kW	1.0 kW	1.0 kW
Length:	125.5"(3.2m)	79.25"(2m)	46"(1.2m)
Wind Area:	< 1 ft ²	< .75 ft ²	< 0.2 ft ²
Maximum Mast OD:	1.25"(32mm)	1.25"(32mm)	1.25"(32mm)
Min. Mast Length*:	8.0'(2.4m)	5.25'(1.6m)	6"(50mm)
Coax Connector:	SO-239	SO-239	Type N

*Mast not included.

Keyers



The Morse Machine™

The Morse Machine has all the features you need in a memory keyer, including 2-99 WPM speed selection and over 8,000 characters of memory that can be stored in 20 memories. The 20 memories are soft-partitioned so your stored messages may be as short or long as you like. Memory can be expanded up to 36,000 characters, and all memory is backed up by an internal lithium battery so that once a message is loaded, it will stay there until you delete it or write another message over it.

Whether you're an expert or a novice, The Morse Machine has three ways to help you improve your code:

- A proficiency trainer allows random code group practice with steadily increasing speed
- Random word generator that randomly generates four-letter words for a more realistic practice session
- Dr. QSO simulator based on AEA's program for the Commodore 64 computer. You can call and work simulated stations, answer a CQ or just sit back and listen to realistic QSOs very much like those you would hear on the air

Full Featured. The Morse Machine is a full-featured keyer for the serious contester, with automatic serial number insertion and incrementing in any memory message. One memory may be used as a repeating CQ. You can use the front panel knob to adjust your sending speed or enter a precise speed with the keypad, toggling between the two at any time. Exchanges can be speeded up by having parts of your message sent at a higher speed. You can also add remote switches for four of the memories so you can instantly send your responses or call CQ.

Computer Compatible. A computer can be interfaced to The Morse Machine through its RS-232 compatible I/O. Any front panel keypad function may be

programmed by the computer. This makes loading memories as simple as typing them in from your keyboard. The MM-3 can display your random code or Dr. QSO practice sessions on the computer screen.

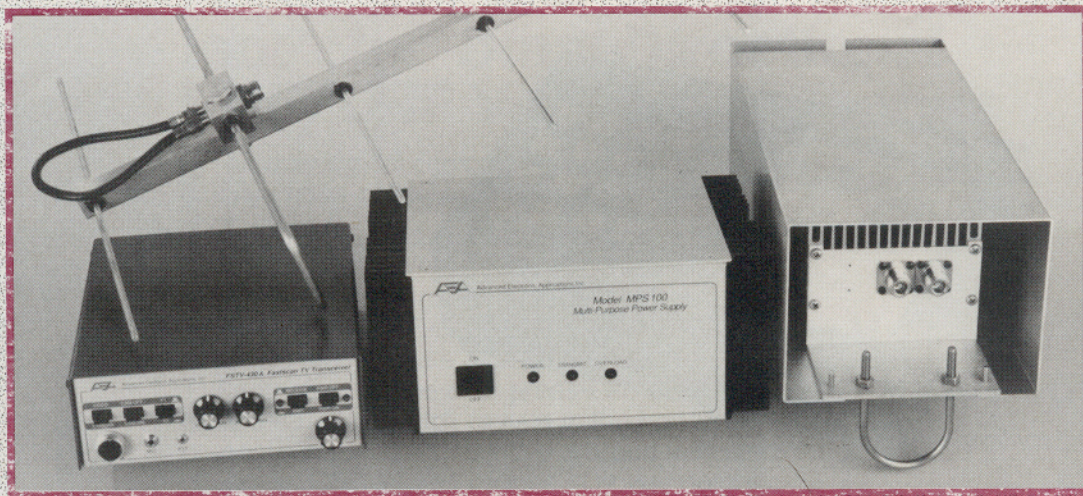
Automatic Beacon. AEA's MM-3 can also be programmed to be an automatic beacon. This can be used to automatically repeat a Morse (or RS-232 ASCII) message at a programmed interval of one to 999 seconds.

Customization. The Morse Machine's keypad offers an intuitive, easy-to-use method of quickly changing parameters to customize the MM-3 to meet your specific needs. Most commands are clearly labeled on the front panel so the manual is rarely necessary for normal operation.

Specifications

Speed Range: 2 to 99 WPM (Front Panel Pot or Keypad)
Memory: 8,192 bytes (approx. 8,400 characters)
Memory Option: 32,768 bytes (approx. 36,000 characters)
Keying Output: +50 V, 500 mA max.; -35 V, 30 mA max.
Computer I/O: 150 to 9600 baud, RS-232 compatible
Serial Numbers: 1 to 9,999
Beacon Interval Range: 1 to 999 seconds
Increase Speed Time: 0.1 to 59.9 minutes
Dot-Dash Memory On/Off: Program selectable
Dot-Space Ratio: Programmable from 0.5 to 1.5
Dash-Space Ratio: Programmable from 2.0 to 4.0
Semi-Automatic (Bug) Mode: Program selectable
Power Requirement: 9 to 16 VDC at 200 mA
Dimensions: 7.4"(188mm)W x 4.75"(121mm)D x 1.9"(48mm)H
Weight: 1.4 lbs.(0.64 kg)

Amateur TV

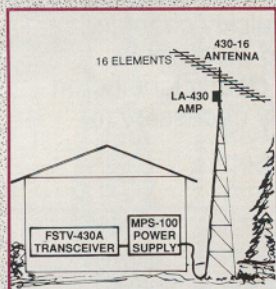


Now available to ham clubs, AEA's ATV videotape, "Seeing is Believing." Contact AEA for more information.

AEA's New ATV System

Add a new dimension to your amateur radio communications with AEA's Amateur Television (ATV) system. If you hold at least a technician-class license, you can transmit and receive live or taped audio and video Fast-Scan TV (FSTV) information that rivals broadcast quality. Now you can share more than conversation over the air with this mode of "personal communications."

It's Easy and Inexpensive. If you have a video camera or camcorder and a standard TV set, you may already own the most expensive components of an ATV system. AEA's ATV line includes a transceiver and antenna. Simply connect the camera, TV and the antenna to the transceiver, and you're on the air LIVE with one watt P.E.P.! If you want to broadcast with more power,



AEA also offers a 50 watt mast-mounted linear amplifier and GaAsFET preamp with power supply. Your TV set will monitor your received AND transmitted pictures.

The FSTV-430A Transceiver features a low-noise UHF GaAsfet preamp with a typical system noise figure of less than 1.5dB and a crystal-controlled or variable tuning down converter. Output is available on channel 3 or 4 f

or signal reception AND monitoring transmissions. Two frequencies can be selected from the front panel for transceive (two crystals are included). The AEA design is also optimized for superior video and audio quality without sync buzz even with weak signals. The FSTV-430A is the only transceiver you need to work ATV and it also allows you to use the same TV set to monitor your transmitted and received pictures.

The LA-430/50 Amplifier with Power Supply gives a boost to your ATV signal. It includes a 50W P.E.P. mast-mounted Linear Amplifier (patent pending) covering 420 to 450 MHz and a GaAsFET preamp which utilize the antenna feedline for DC power. The mast-mount eliminates the line loss between the amplifier/preamplifier and the antenna to improve both transmission and reception, and is the equivalent of a 100W amplifier in the shack with a 3dB line loss. The amplifier is housed in a weather-resistant alodized aluminum case. The MPS-100 power supply comes with the amplifier and provides 28 VDC plus a 13.6 volt output for the FSTV-430A.

The 430-16 Antenna is a high-performance, computer-optimized yagi specifically designed for ATV operation. It features broadband frequency coverage from 420 to 440 MHz, 14.3 dBd gain, O-ring sealed connectors, 28 degree E-plane and 32 degree H-plane beam width and 16 elements on a 10-foot boom.

What are the advantages of Vestigial Sideband (VSB)? The FSTV-430A incorporates a VSB design which minimizes adjacent channel interference since it occupies less bandwidth than double sideband designs...it's the only ATV unit on the market today that uses this superior design. VSB is similar to SSB whereby it puts ALL of the audio power and most of the video in one sideband instead of two which means it will not interfere with government repeaters or wipe out adjacent channels. Even with the AEA LA-430/50 amplifier, the image sideband is reduced more than 30dB. VSB is used by professional broadcasters and presents an obvious advantage to the amateur concerned with quality and spectrum conservation.

Specifications (Typical)

TRANSMITTER

Frequency Range: 420 to 440 MHz
Operational Frequencies: 434 MHz and 439.25 MHz supplied;
(for CH 3 operation); 421.25 MHz and 426.25 MHz optional
Power Output: 1 watt P.E.P. on sync peaks
Modulation: Vestigial sideband video, FM audio
Intermodulation Distortion: Less than -42 dBc
Harmonic: Less than -40 dBc
Power Requirement: 13.6 \pm 0.5 VDC, 1.5 A plus camera current
Protocol: NTSC only

RECEIVER

Conversion gain: More than 25 dB
Noise Figure: Less than 1.5 dB
Power Requirement: 13.6 \pm 0.5 VDC
Impedance: 50 ohms nominal

PHYSICAL

Front Panel Controls: Video/camera, camera on/off, F1/F2, receive/transmit, power on/off, video gain, audio gain, Rx tune, camera 10-pin connector, microphone and PTT input jacks
Rear Panel Connectors: Power, antenna and TV coax connectors, audio in and video in jacks
Dimensions: 7.4"(188mm)W x 8.3"(211mm)D x 2.6"(66mm)H
Weight: 2.2lbs.(.99kg)

AVT

AEA's AVT Master SSTV and FAX System

Imagine sending and receiving high resolution color or black and white images and photos via radio transceiver OR telephone. And then imagine the ability to "erase" QRM and noise effects. With AEA's new AVT (Amiga Video Terminal) Master System, you get pixel perfect pictures. The AVT Master offers 55 SSTV (Slow-Scan TV) modes, many in up to 4,096 simultaneous colors with a resolution from 128 by 120 up to 640 by 400. Nine FAX modes in resolutions up to 1,024 pixels by 1,200 lines in 16 grey levels is also possible. The AVT offers every known SSTV commercial and experimental mode, as well as WEFAX, NEWSFAX and GOES FAX (with optional board from Overview Systems*). This is a major breakthrough for SSTV and FAX enthusiasts!

Flexible Hardware. Five software selectable receiver inputs allow you to attach a two-meter, six-meter, HF and SWL rig plus a tape recorder...all at the same time! Plus there's an RJ-11 telephone jack. Simply plug in your phone to the interface unit and transmit a full-color image in less than 12 seconds. Both positive and negative transmitter keying, as well as individual tape recorder and transmitter audio outputs provide the ultimate connection. You don't ever need to touch the box...all controls, including system audio output levels and input selection, are accomplished on-screen using the Amiga mouse.

High Performance. The AVT is gaining popularity every day, passing picture-perfect images over many parts of the world. Images sent with the AVT may be damaged as much as 50 percent by QRM and QRN, and still be recovered by the system so that it's almost impossible to tell there was ever any interference. Built-in image processing and



AVT image before transmission.

signal conditioning ensures the best picture quality, picture after picture.

Compatibility. You can copy ANY SSTV or FAX signal that you receive...the AVT supports all modes, from the new European modes to the older color composites to black and white SSTV to 60/120/240 LPM

FAX transmissions. Multiple aspect ratios provide the right picture when monitoring those unusual FAX stations, too. All of these modes are available in full transceive. The images received by the system are compatible with every paint program, digitizer, frame grabber and scanner currently known for the Commodore Amiga, allowing unparalleled flexibility and artistic freedom.

Revolutionary. The AVT also offers new SSTV formats that easily outperform ALL pre-existing modes...integral data recovery, narrow bandwidth, full color, multi-image (3-D), multiple resolution and synchronous transmission.

Intuitive. Every command is presented in a logical, consistent series of menus and control panels. Sophisticated tools such as a detailed oscilloscope simulator aids tuning. The system even transmits an "Alignment Signal" to ensure a quick match in frequency between systems when operating SSB.

Feature-Packed. Built-in capabilities include: Tuning oscilloscope. Mode-to-mode conversions. Interpolating zoom. Image inset. Brush "Clipart" (file artwork) cut and paste, including transparent background. Image tinting, brightness and contrast control. Thresholding. Black-and-white and color histograms. Text overlay using multiple fonts, boldface, italics and underlining in any combination or color. Automatic CW and synthesized speech ID after transmit. Extensive macro and script capability. Custom color bar generation. Luma conversion and image averaging. Black-and-white and color negatives. Eight function "repair kit" for damaged scan lines. Intelligent multiple mode full-frame image cleanup with sensitivity control. Owner defined FAX demodulation curves. Image rotation and flipping. Paint capability. Extensive ARexx language support. Real-time software filtering for scope and receive operations. Up to 16 high-resolution image memories at one time. Grab

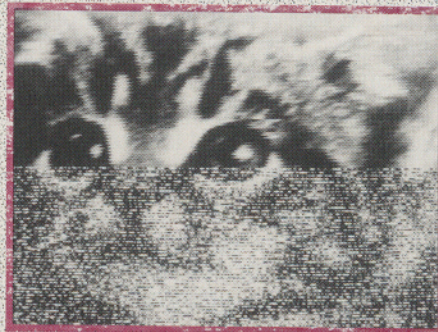


Image in process of being restored after heavy QRM transmission.

screens to transmit from any digitizer or operating program in real-time. Transmit and receive sequences of images using multiple memories. One button automatic reception of most SSTV modes. Automatic start and run at any time... catch those midnight FAXes without being there (with ARexx

program). Copy and exchange between image memories. On-screen DTMF pad. Image printing in both black-and-white and color on literally hundreds of different printers. You can even tell the system what to do remotely (with ARexx program), via packet and/or RTTY using standard TNCs such as AEA's high performance PK-232/MBX multi-mode data controller.

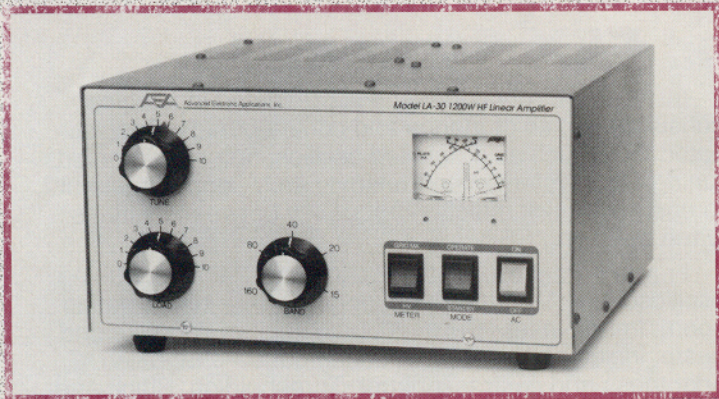
Updates. Since the AVT is a software driven system, there aren't any costly ROM and hardware updates. Occasional updates will be provided on a disk. Simple, inexpensive and fast.

Inexpensive. The good news is that you can purchase the AVT and an Amiga computer system for less than a self-contained SSTV system costs! If you already own the computer (minimum of 1.5 megabyte of memory required), you already own the most expensive components of your SSTV System!

* Contact Tim Heffield at (305) 748-8315

NEW

Amplifier



LA-30 Linear Amplifier

Designed to provide reliable, stable, high RF output power, AEA's LA-30 class AB2 linear amplifier is rated at 1200 watts PEP input. The LA-30 is a self-contained tabletop unit equipped with a **pressurized** plenum cooling system to ensure optimum operation for extended periods of continuous use.

1.8 to 29.7* MHz. The LA-30 operates all amateur bands between 1.8 and 29.7 MHz, 160 to 10 meters. Designed for SSB, CW, RTTY, AM, FM or SSTV (Slow Scan Television) operation, the LA-30 is also ideal for WARC and MARS operation at slightly reduced output. Additional frequencies outside the amateur bands for commercial or military use can be accessed for qualified institutions. Please consult the factory for further information.

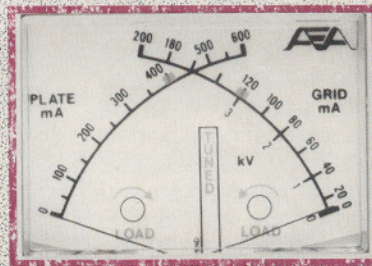
*Factory modification for 10 meters is available to licensed amateur radio operators and authorized institutions only.

Continuous Duty Cycle. In SSB and Morse modes, the LA-30 provides continuous duty. The LA-30 is equipped with a pressurized plenum cooling system to ensure optimum cooling of the tube and seals. A quiet squirrel-cage blower continuously cools the unit for extended tube life and power supply reliability.

Rapid Turn-On Time. A fast-heating, high-performance 3-500Z triode requires no warm-up time so you can get on the air as quickly as possible. In-rush filament current protection is provided.

Pi-L Design. Pi-network input for each band provides a good match for virtually all solid-state transmitters. A Pi-L output network heavy-duty rotary band switch with silver-plated contacts and high-quality loading and plate tuning capacitors contribute to the LA-30's reliable design.

Built-In Power Supply. The LA-30 has a built-in power supply featuring a unique commercial-grade "continuous" rated 600 VA power transformer and computer-grade filter capacitors. The power transformer is also transient protected.



Cross-Needle Tuning Bar. A patent-pending cross-needle meter system monitors all critical voltages and currents. This includes monitoring the amplifier's plate voltage (4000 VDC full scale), plate current (600 mA full scale) and the grid current (200 mA full scale) for easier tuning.

Bypass/Standby Switch. In the STANDBY and OFF positions, the LA-30 allows the exciter to bypass the linear amplifier.

Additional Features:

- Adjustable ALC delay control
- 110 volt operation (220 volt export models available)

Specifications

RF Specifications

Drive Power: 40 W nominal to 60 W maximum, 50 W for full output
RF Input Power: SSB 1.2 kW PEP continuous, CW 1.0 kW 50% duty cycle, RTTY/SSTV/FM 800 W at 30 minute maximum 50% duty cycle, AM 300 W with no modulation and 1.2 kW peak at 100% modulation
Plate Voltage: 3000 VDC nominal in operate position (idle)
Efficiency: 60% minimum 1.8 to 21.5 MHz, 50% on 29 MHz*
Input Impedance: 50 ohms, tuned impedance matching circuit
Output Impedance: 50 ohms
Harmonic Suppression: 40 dB minimum
Intermodulation Distortion: -33 dB PEP minimum

General Information

Power Tube: 3-500Z zero bias triode
Circuit Type: Class AB2 grounded grid, tuned cathode
Tube Cooling: Pressurized plenum and chimney cooling system, 30 cubic feet per minute. Low noise squirrel-cage blower.
Type of Emission: SSB, CW, RTTY, AM, SSTV and FM
ALC Circuit: Negative, adjustable
Antenna Relay: DC relay for hum-free operation
Metering: Meter measures plate current/voltage and grid current (patent-pending measuring system)
Output Circuit: Pi-L network (silver-plated air coil)
Input Circuit: Pi network input for maximum drive and linearity
Protective Devices: AC line fuse, cathode zener fuse, HV interlock, AC interlock, filament surge suppressor
Power Transformer: Special heavy-duty power transformer
Dimensions: 14"(356mm)W x 16-1/2"(419mm)D x 7-1/2"(191mm)H
Weight: 35 lbs.(16kg)

Antenna Tuners



AT-3000 and AT-300 Antenna Tuners

For tuning perfection, choose AEA's AT-300 300 watt or AT-3000 3 kW antenna tuners. Quality and exceptional engineering are built-in for maximum performance and long operating life.

Easy Operation. The built-in front panel antenna switch allows you to easily select two unbalanced (coax-fed) antennas, a dummy load or a balanced antenna.

Peak Reading Meter. The AT-3000 features a peak and average reading cross-needle meter which shows forward power, reflected power and SWR. SWR meter range is selected from the front panel. Minimal SWR is achieved by tapped inductors with 18 (AT-300) and 20 (AT-3000) taps. The AT-3000 uses AEA's exclusive patent-pending CAM switch design. AEA's AT-300 and AT-3000 also tune a wider range of antenna impedances for numerous possibilities in creating the best match.

Two-Coil Design. AEA's AT-300 and AT-3000 feature a two-coil low-pass filter design to provide greater harmonic reduction, maximum power transfer and a wider range of impedance matches than most tuners on the market.

ET-1 Econo-Tuner™

NEW

Meet your match with AEA's ET-1 Econo-Tuner. A good quality, economical antenna tuner for under \$150, the ET-1 is designed to match virtually any receiver, transmitter or transceiver from 1.8 to 30 MHz with up to 300 watts of RF power.

Versatile. The ET-1 is compatible with almost ANY real antenna including verticals, dipoles, inverted vees, beams and mobile whips that are fed by coax cable, balanced lines or a single wire. For easy connection to balanced lines, a 1:4 balun is built-in.

Tuning Options. A front panel switch control allows you to alternate between two coax-fed antennas (direct or through the tuner). You can also switch to a balanced line or wire antenna. The BYPASS position allows you to switch to a dummy load or a directly-connected coax antenna. In the DIRECT positions, COAX 1 OUT or COAX 2 OUT, the tuner is bypassed, but the SWR/Power meter remains active.

Dual-Movement Meter. The ET-1 features a precision dual-movement meter to simultaneously monitor power and SWR.

Specifications (Typical)

RF Power: Continuous 300 watts (AT-300);
3,000 watts (AT-3000)
Frequency Range: 3.5 to 30 MHz
Transmitter/Antenna Tuning: AT-300, 18 positions;
AT-3000, 20-position tapped inductor
Reactance: Continuous
Antenna Selector: Six positions: Antenna 1 tuned and tuner bypass, antenna 2 tuned and tuner bypass, dummy load (external) and balanced antenna
Power Switch: High and low (AT-3000 also has medium)
Lamp: Light control for meter (12 VDC or 12 VAC powered)
Dimensions: AT-300, 12.8"(325mm)W x 15"(381mm)D x 5.8"(147mm)H; AT-3000, 15"(381mm)W x 14.2"(361mm)D x 6.75"(171mm)H
Weight: AT-300, 8.14 lbs.(3.7kg); AT-3000, 10.3 lbs.(4.7kg)

AEA Quality. Unique engineering designs have made AEA one of the leading innovators in the amateur radio industry. That same quality and superior technical support make the ET-1 your best deal for an antenna tuner. Like other AEA products, the ET-1 cabinet is chemically treated so the paint will not scratch or chip off with your fingernail during normal operation.

Specifications (Typical)

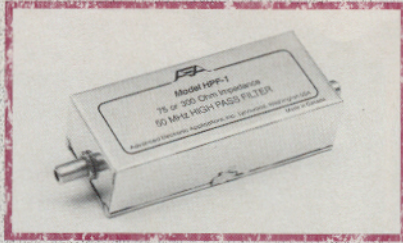
RF Power: 3.5 to 30 MHz, continuous 300 watts;
150 W on 1.8 MHz
Frequency Range: 1.8 to 30 MHz
Transmitter/Antenna Tuning: Continuous rotation capacitors
Reactance: 12-position switched inductor
Antenna Selector: Six positions: COAX 1 tuned and DIRECT, COAX 2 tuned and DIRECT, bypass and balanced antenna
Power Switch: High and low (300W/30W)
Dimensions: 10.2"(259mm)W x 9.4"(239mm)D x 3.5"(89mm)H
Weight: 3.4 lbs.(1.5kg)

NEW Filters

Dummy Load

HPF-1 High Pass Filter

Suppress television interference with AEA's new HPF-1 high pass filter, for 75 or 300 ohm TV input impedance.



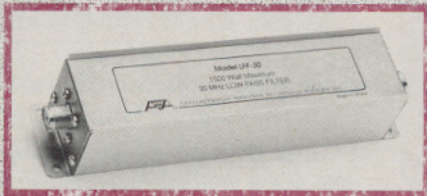
- Use between TV antenna and VCR or TV
- Reduces signals received from transmitters operating below 30 MHz
- Low loss in the TV passband 52 to 550 MHz
- Unique shield-breaking circuit configuration to prevent antenna cable from acting like an HF antenna
- VSWR less than 1.5:1

Specifications

Passband:	52-550 MHz
Cutoff Frequency:	50 MHz
Attenuation:	-60 dB at 10 MHz; -55 dB at 20 MHz; -40 dB at 30 MHz
Impedance:	75 ohms unbalanced or 300 ohms balanced
Insertion Loss:	Less than 0.5 dB @ 52-550 MHz
VSWR:	Less than 1.5:1
Connectors:	CATV (Type F) 75 ohms, spade connectors for 300 ohms

LPF-30 Low Pass Filter

Suppress television interference at the source with AEA's new 1500 watt 30 MHz low pass filter.



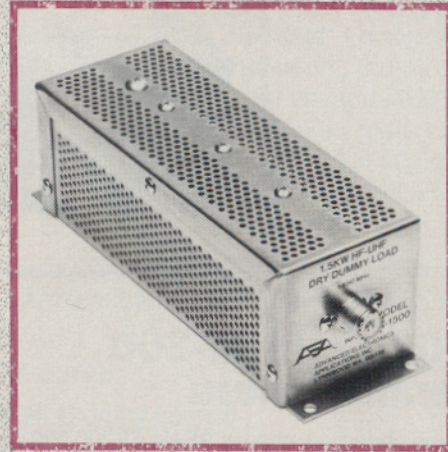
- Use between transmitter and antenna or tuner
- Reduces television interference (TVI) radiated by transmitters operating below 30 MHz
- Suppresses harmonics appearing in the TV bands
- Additional attenuation to TV IF frequencies above 40 MHz
- Low loss to 30 MHz, VSWR less than 1.3:1
- Nine-pole inverse Chebyshev design

Specifications

Passband:	0-30 MHz
Cutoff Frequency:	35 MHz
Attenuation:	42.17 MHz (color IF), -70 dB; 45.75 MHz (video IF), -70 dB; 55.25 MHz (channel 2 video), -70 dB; Worst case at 65 MHz, -60 dB
Power Capacity:	1500 W
Impedance:	52 ohms
Insertion Loss:	0.25 dB maximum @ 30 MHz
VSWR:	Less than 1.3:1

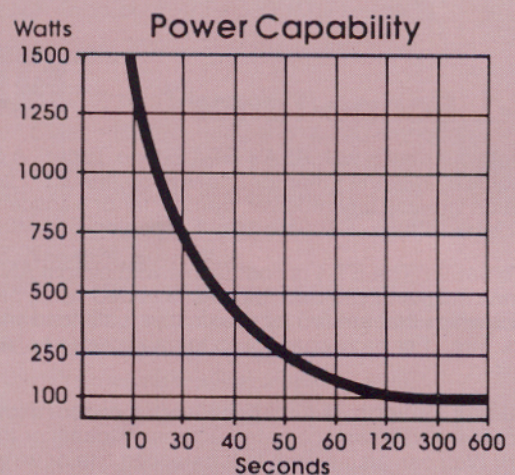
DL-1500 Dummy Load

DC-650 MHz Up to 1500 Watts

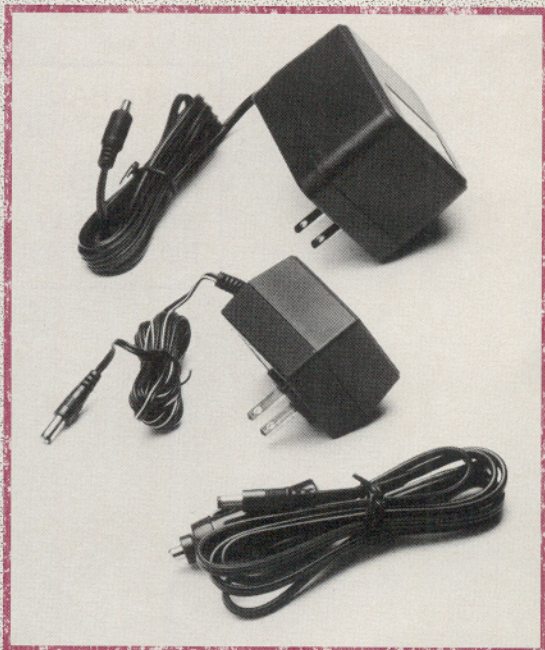


AEA's dry dummy load simulates a perfect 50 ohm antenna up to 650 MHz so you can test your transmitter without radiating a signal on the air.

- DC-650 MHz
- Simulates matched 50 ohm antenna to test your transmitter
- Handles short-term RF power up to 1500 watts
- VSWR of less than 1.3:1 at 650 MHz
- Compact and lightweight
- Air cooled dry load



Accessories

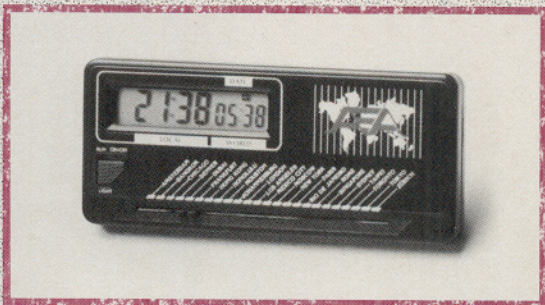


AC-1/AC-4 Power Adapters

AEA's 12 VDC wall adapters, the AC-1 and AC-4 are suitable power supplies for all AEA products requiring 12 VDC at 600 mA/1000 mA or less current. The AC-4 provides one amp of output and is ideal for use with the PK-232MBX.

DC-1 Cigarette Lighter Cord

The DC-1 is a fused cable with a standard cigarette lighter plug for 12V operation.



World Clock

AEA's world clock features dual digital displays so you can see the local time and any of 24 selected time zones side-by-side. Move the slide bar to select the city/zone you want, and the display automatically changes to the proper time and date. The world clock also features an alarm, light button and compact size. Perfect for the home station or for traveling. A folding easel stand and a travel pouch are included.

Technical Support Makes The Difference!

Over the years, AEA has provided its customers with unsurpassed customer service and technical support. Here at AEA we make customer service our number one priority. This is why our customers are our best salespeople. Just ask around and you'll hear comments like these:

"It surely does make a difference that someone takes the time and patience to assist in these matters. {Your representative} was pleasant and tactful in his dealing with this problem and it is refreshing to witness this attitude in the Service Department of an organization like yours." J.B., St. John's, Newfoundland

"I would like to thank you for having one of the best service departments in the amateur radio industry. Thank you again for the swift repair work." S.T., Athens, TX

"I want to start by saying how pleased I am with both your product (PK-232) and with the customer service I have received...Keep up the good work, and thanks again for the products, support and especially service." S.L., Lakewood, CO

"I am glad to find that AEA puts as much care into their customer support as they do into their product design. I will quickly recommend AEA to my ham friends." P.T., Annapolis, MD

"...when I had a problem, even though the unit was out of warranty you fixed it with minimum of fuss...I recommend your products highly because of your support." C.C., Redford, MI

"Great customer service. Always cheerful & pleasant when I call for 'help'". C.S., Aloha, OR

"I would like to thank you and your technical support department on your assistance...Thank you for your kind assistance and keep up the good work...your personal touch with customers is what keeps bringing them back." B.H., Miami, FL

BULK RATE
U.S. POSTAGE

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Lynnwood, Wa
Permit No. 48



Advanced Electronic Applications, Inc.

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