

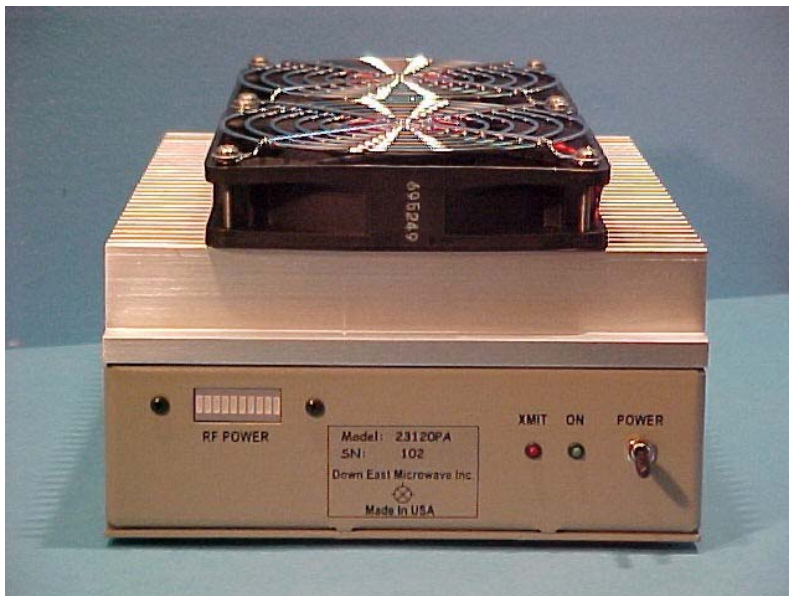


DEM Part Number 23120PA
120 Watts, 1240-1300 MHz Linear Amplifier

Specifications

Frequency range:	1240 to 1300 MHz
Power Out (linear):	120 Watts
Power Out (saturated):	>150 Watts (full scale on relative power meter)
Input for rated linear power out:	500 mW, other drive levels optional
Power requirements:	13.8 VDC @ 38 amps minimum
Connectors:	Type "N" female
Size:	10" L x 7.0" W x 4" H
Active devices:	4 - RA18H1213G
Options:	(1) Transceive (2) Input attenuator (3) Mast Mount preamplifier power (4) PTT-H, PTT-L

The 23120PA is a broadband linear power amplifier covering the entire 23 CM amateur band. It has a linear power output of 120 Watts with 500 mW of drive (optional drive levels available) or a saturated output of over 150 Watts. The output power can be monitored on the built in relative power meter. Type "N" connectors are used on both input and output. The 23120PA requires well-regulated 13.8 VDC at 38 A for full power output. Keying is done by PTT-L (closure to ground) or a PTT-H (positive voltage that will sink or source approximately 2 mA. This design is not recommended for AM ATV use but may be used in any FM, SSB, or CW application. A transceiver option will be available with a built in attenuator option. This allows the DEM23120 to be interfaced with the newer 10 watt transceivers on the market today.



This amplifier design utilizes the combining of four Mitsubishi RA18H1213G MOSFET hybrid power modules. All regulated voltages and biasing that are required for proper operation are self-contained.

Options include an input attenuator for use with up to 20 watts of drive. A preamplifier DC supply circuit may also be installed for powering mast mount preamplifiers and will be switched by the units PTT circuit if used with a

transceiver. A larger heat sink repeater option will become available in the future. Other custom options may be installed such as a reflected power monitor. Please consult Down East Microwave Inc. with you requirements.



Caution: Do not exceed the specified drive level of 500 mW RF. (with out input attenuator option). Be sure to read your amplifiers data sheet for its drive level configuration. Do not exceed 15 volts on the DC line. When in operation, utilize over voltage protection and any voltage sensing circuits that the power supply in use may offer. With high current drain, voltage sag will inhibit the amplifier's output power performance and with lower quality power supplies, the voltage may soar beyond the amplifiers specified limits when un-keyed and damage the active components.

Use high quality coaxial cables on both RF connections. At 1300 MHz., VSWR and insertion loss, become factors even in the shortest lengths of coax. Test all coaxial components at low levels before installing into the final system. Install the amplifier with the heat sink on top or with the fins vertical so the amplifier will convection-cool. The fans are installed to pull air through the heat sink fins in all modes of operation. When the 23120PA 's PTT is actuated, it will draw as much as 18 amps of idle current without RF drive. Therefore, it is recommended to key the amplifier in transmit mode only.

