

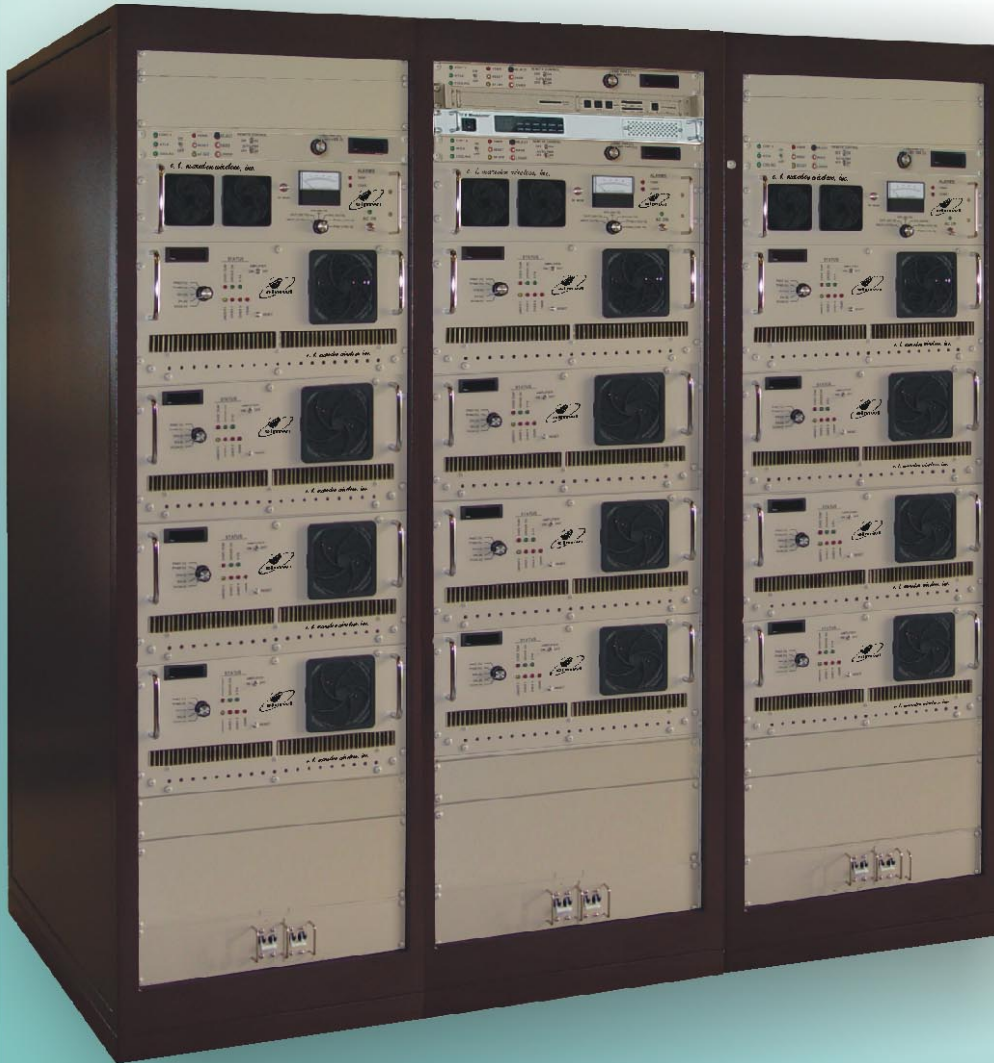
# 3000 WATT SOLID STATE DIGITAL TELEVISION TRANSMITTER



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## Description of the Equipment

The e. I. marsden wireless, inc. A3KD is a three kilowatt 8VSB Digital Television Transmitter.

Operation of the transmitter starts with a SMPTE 310 digital stream from the customer's MPEG encoder. This stream is connected to the 8VSB IF modulator which creates a 44MHz digital signal. The 44 MHz is then sent to a low phase noise upconverter where it is changed to the television channel. This television signal is then amplified by the LDMOS driver amplifiers (IPA's) and fed to the LDMOS power amplifiers (PA's). The outputs of the PA's are combined to provide the 3KW power.

The output combiner/mask filter assembly can be mounted on the top of the transmitter , or ceiling or wall mounted.

This A3KD television transmitter has many control and protection features seldom found in comparably priced equipment:

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

# Technical Specifications

## Output Specifications

### Overall:

Nominal Output Power	3 KW Average Digital (8VSB)
Frequency Range	Any TV channel within the 470-860 MHz band including standard offsets
Output Impedance	50 Ohms
Output Connector	1 5/8" EIA Flange (other options available)
Carrier Stability	± 1 kHz standard and offset channels (Higher precision and external phase locking available as an option.)
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

### Input Specifications:

Digital Input Impedance / Level	Conforms to SMPTE - 310
AC Line Voltage	208 / 240 VAC ±5%, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering)

### General Specifications:

Drivers	LDMOS Amplifier
Output Stage	Multiple LDMOS Amplifiers
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Dimensions (W x H x D): Cabinet	66" x 69.5" x 32"
Output Filter/Coupler	Channel dependent; contact factory
Weight	~1400 lbs. + ~270 lbs. filter,
Power Consumption (Typical)	15 kVA (black picture, 20 kW visual, 2 kW aural)
Heat Load @ Full Output	42,000 BTU/Hr
Air Conditioning Requirements	Based on local environment; consult factory