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**5KW**

**Analog**

**UHF**

**Television Transmitter**

## Description of the Equipment

The e. I. marsden wireless, inc. A5K is a 5 kilowatt UHF Solid State Television Transmitter. This Transmitter is designed for NTSC, PAL or SECAM Formats, but is easily converted to digital.

The audio and video signals are fed to the exciter assembly, which consists of two stages. A **modulator/upconverter** creates on-channel visual and aural carriers at 0 dBm. This signal is then amplified by **25 Watt LDMOS driver amplifiers (IPA)** and fed to multiple **700 Watt LDMOS power amplifiers (PA)** which are combined to provide the 5 kilowatt transmitter output power. The output combiner/filter assembly can be mounted on top of the transmitter; or ceiling or wall mounted.

The A5K 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	5 kW Visual (peak sync) with 500 W Aural (average)
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	$\pm 1$ kHz standard and offset channels
Intercarrier Stability	$\pm 500$ Hz
Harmonics Products	-60 dB or better referred to sync peak
Non-Harmonic Spurious Products	As per appropriate FCC or CCIR Standard

### Video:

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

### Audio:

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

### Input Specifications:

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

## General Specifications:

Drivers	25 W LDMOS Amplifier
Output Stage	Multiple 700 W LDMOS Amplifiers
Cooling	Forced Air
Max Altitude	7500 ft (higher altitude operation as option)
Ambient Temperature Range	-30° C to +50° C
Ambient Humidity Range	0 - 95% relative humidity without condensation
Output Filter/Coupler	Channel dependent; contact factory
Air Conditioning Requirements	Based on local environment; consult factory

## Additional Options

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

**For more information, call 972-524-6412.**

**Ask for Brendan or Gale.**

