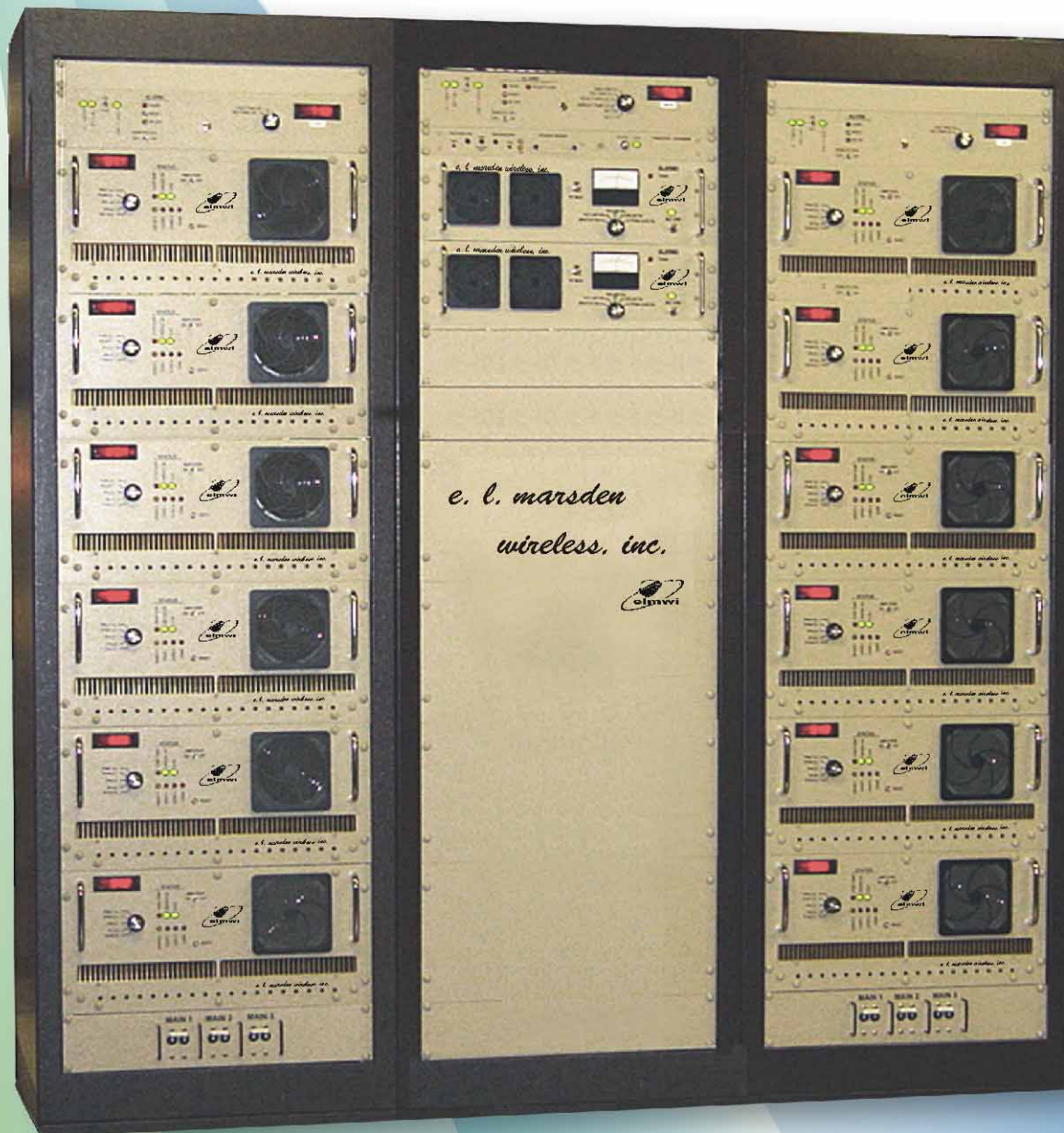


8 KW ANALOG UHF TELEVISION TRANSMITTER



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Description of the Equipment

The A8KST-U is a high quality 8 kilowatt UHF Television Transmitter designed for NTSC, PAL or SECAM Formats.

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 the 25 Watt driver amplifier and fed to multiple 700 Watt power amplifiers (PA) which are combined to provide the 8 kilowatt transmitter output power. The combined output is fed to a notch/bandpass filter and a directional coupler. These components supply the RF signal to the antenna.

The A8KST-U 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:

| | |
|--------------------------------|---|
| Power Capability | 8 kW Visual (peak sync) with 800 W Aural (average) |
| Frequency Range | Any TV channel within the 470-860 MHz band including standard offsets |
| Output Impedance | 50 Ohms |
| Output Connector | 3-1/8" EIA Flange (other options available) |
| Carrier Stability | ± 1 kHz standard and offset channels |
| Intercarrier Stability | ± 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) | ± 0.5 dB (50Hz to 15 kHz with appropriate de-emphasis) |
| 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 | ± 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 | 10k Ohms unbalanced, 140 mV RMS (600 Ohms balanced, -10 dBm to +10 dBm option available) |
| AC Line Voltage | 208 / 240 VAC $\pm 5\%$, single phase, 60 Hz/50 Hz (Specify 50 Hz or 60 Hz when ordering) |

General Specifications:

| | |
|-------------------------------|--|
| Driver | 25 W LDMOS Amplifier |
| Output Stage | 12 X 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 |
| Dimensions (W x H x D): | |
| Cabinet | 44" x 69.5" x 32" |
| Output Filter/Coupler | Channel dependent; contact factory |
| Weight | ~1470 lbs. + 170 lbs. filter |
| Power Consumption (Typical) | 24 kVA black picture, 8 kW visual, 400W aural) |
| Heat Load @ Full Output | 60,000 BTU/Hr |
| Air Conditioning Requirements | Based on local environment; consult factory |

Additional Options:

Automatic FSK Station Identifier
 AC Surge Protector
 Spare Tube
 Spare Parts Kit
 Video Proc/Amp

Input Video Automatic Gain Control
 Audio Processor
 BTSC Stereo Generator
 Remote Control
 Dual Exciter Assembly

