

TR.6000 AM Radio Transmitter



Model HQ5.0

For Travelers' Information / Highway Advisory Radio Applications (FCC Part 90)

High Quality

The TR.6000 HQ5.0 is the only such unit on the market permitted to broadcast under the FCC's allowed 5000 Hz audio bandwidth rules, producing a brighter, more intelligible and farther-reaching radio broadcast. The transmitter's processing circuitry manages the audio output, providing a level of quality never before possible from a 10 watt AM transmitter.

High Efficiency

The TR.6000 HQ5.0 RF circuitry operates on "Class D" amplifier design, delivering its signal using 1/3 the electrical power of conventional transmitters of its kind. The resulting decrease in the size of the solar generator and battery systems lowers the cost to procure, operate and maintain radio systems employing the TR.6000 HQ5.0. Defeat-able LED operation reduces power utilization even further.

High Reliability

The TR.6000 HQ5.0 is the only transmitter of its kind on the market today that generates its signal using only two output devices. This critical design difference makes the transmitter much more reliable in operation than its predecessors. Because the TR.6000 HQ5.0 components are sized for larger output levels, it runs cool and at a fraction of its capacity, even at 10 watts, extending its useful life. The transmitter's RF, power, control and audio circuitry is protected by a fully regulated power supply, so reliability is further enhanced.

High Flexibility

T R6000 HQ5.0 can operate on any AM frequency – even those with 9 kHz spacing – without a crystal change. A technician can modify its frequency on the bench, conveniently. The unit can mount in a 19" rack, on a panel or on a shelf, allowing TR.6000 HQ5.0 to operate in virtually any physical environment. Its compact size – just one rack-unit in height – and light weight, allows it to be installed almost anywhere.

High Functionality

T R6000 HQ5.0 includes all the functions you expect in one package. Convenient external front panel controls include a LED wattmeter and modulation meter, power and modulation level controls, power and meter switches, monitor speaker and external on/off relay controls. This transmitter is capable of precision RF output using its on-board oscillator or via a reference port that admits an external 10 Mhz signal for additional stability and/or multi-transmitter synchronization.

Purchase

Bill Baker (phone 616.772.2300, extension 102; email Bill@theRADIOsource.com) can provide a formal quote. **Sole Source.** We frequently are the only source for the products and services we offer and can send you support letters to affirm that for your purchasing documentation. **H-GAC buy.** If you are a state or local government agency anywhere in the US and you are a H-GAC buy cooperative member - or want to join as an end user - you can purchase our products without the necessity of going out to bid. Membership is free to villages, towns, cities, townships, counties, state agencies, departments, authorities, districts, councils or nonprofits doing work for such entities. Here's how to join. **Competitive Process.** If you must seek competitive bids or quotes, we can supply specifications (in text form) so you can easily integrate them into bid documents. **Purchases by governmental entities** can be made by purchase order, agency order on letterhead, VISA/MC (up to \$3,500) or simply by signing and returning our quote sheets. Standard terms are Net 30 days.

Technical Specifications

- Made in the USA and certified for Travelers Information Station (TIS/HAR) operation under FCC Rules Part 90.242. Certification number: B7MTR-6000TIS-WB.
- Permitted to operate with TIS filtering specified in 2015 in FCC Rules Part 90.242.
- 0-10-watt operation, Class D, high efficiency output; internal components rated to 3 times operating wattage, utilizing 2 output devices.
- IPC-610 certified.
- Manufactured in compliance with Class-3 wavesolder standards.
- Approved for military and federal agencies use on 510-530 kHz, 1610-1710 kHz - Certification: J/F 12/07677.
- Integral LED wattage and VU reference meters.
- Remote broadcast monitoring via output control relay.
- Remote transmitter control relay.
- Synthesized frequency selection. Defeat-able LED operation to save power.
- Internal monitor speaker with volume control driven by detector circuit to provide positive modulation indication.
- 24V DC, fully regulated power supply.
- Frequency range: 530 to 1710 kHz AM.
- Frequency: factory-set (specify).
- Frequency stability +/-20 Hz.
- Continuously adjustable power and audio modulation controls, externally accessible on front panel.
- Tunable to 10 KHz, European 9kHz and all other channel spacing formats.
- Tunable series filter on RF output.
- Audio distortion: less than 1.2%, 100 Hz to 5 kHz.
- Audio frequency response: +/- 3 dB 50 Hz-12,000 Hz; +/- 3 dB 50 Hz - 5000 Hz with TIS filter.
- Noise level: 70 dB below 95% modulation level, 100 Hz to 5 kHz.
- Modulation: 99%, -40 dB to +20 dB.
- Temperature: -40 to +85 degrees Celsius.
- Humidity: 95% (non-condensing).
- External audio (balanced), up to 150 mV p-p; power and synchronization inputs.
- Relays for external control of power and to monitor audio.
- External PL-259 UHF style RF output.
- Spurious emissions. - 10.2-20 KHz – greater than 25 dB below unmodulated carrier.
- 20-30 KHz – greater than 35 dB below unmodulated carrier.
- 30-60 KHz – greater than [5+1 dB/kHz] below unmodulated carrier.
- 60 KHz + – greater than 65 dB below unmodulated carrier.
- Harmonic attenuation: greater than 51 dB below carrier.
- 1 rack unit.
- Slim-line design (1.75" height, 17" width, 9" depth) and 4 pounds.
- Power supply: input 90-265 VAC; output 24 VDC.
- Mean time between failure - in excess of 60 years.
- Estimated product life = in excess of 30 years.