



**MICROWAVE  
RADIO** corporation

The Microwave Connection

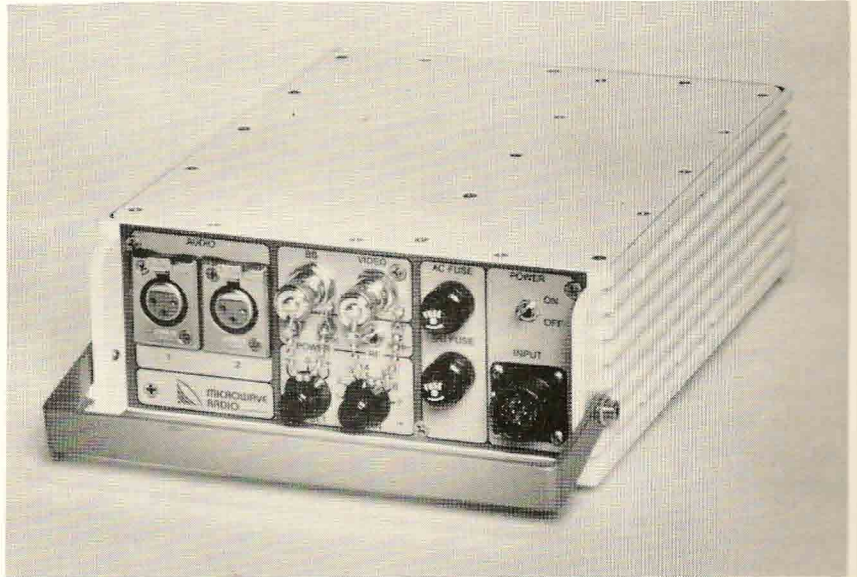
## ProStar 13T1 12/13 GHz Transmitter

### Features

- Lightweight, compact and self-contained
- Frequency range: 12.7 to 13.2 GHz  
10.3 to 13.25 GHz optional
- Digital frequency synthesizer — 10 channels
- Video plus two audio program channels — selectable MIC or line inputs
- Video low pass filter standard
- Sophisticated field-proven RF circuitry
- Standby mode — instant on-frequency transmission
- Internal AC/DC power supply — 11 to 15 Vdc or 115/230 Vac operation (50/60 Hz)
- Ruggedized and weather resistant
- Companion receiver — 13MR

### Ordering Information

901249	13T1 Transmitter
89870-77	Lightweight Tripod
900341-1	13T1 Transit Case
808542-1	Battery Pack/Charger (Optional)



The 13T1 is a low-cost, portable transmitter designed for television broadcast in both the domestic and international band. It offers a combination of performance, functionality and reliability unmatched in the industry. This high-performance, frequency agile radio transmitter features a high degree of multichannel flexibility. It concurrently handles a color television channel and two audio program channels, while producing a 0.1W output in the 12 GHz frequency bands. The 13T1's compact and lightweight design provide the mobility and quick-response required in broadcast ENG applications. It is a self-contained, low-cost ruggedized unit, that can be installed on a seasonal or semi-permanent basis for reoccurring events such as government and education sessions, sporting events, theater and meetings.

Superior performance is achieved through the use of sophisticated, field-proven RF circuitry and a digital synthesizer for multi-channel flexibility. A unique channel selection technique provides rapid and precise channel selection. The agility and high stability provided by the synthesizer avoids the frequency congestion commonly experienced when a number of television stations cover the same event. No elaborate tuning or adjustments are required. If adjacent channel interference occurs the 13T1 can be quickly switched to a new channel.

A unique advantage of the 13T1 is its ability to easily operate from either AC or DC power sources without the need for modifications or external converters. The built-in AC/DC power supply allows quick operation from either 12 Vdc or 115/230 Vac.

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For stand alone portable field use, an optional Battery Pack/Charger is available capable of supplying power to the transmitter for up to four hours of continuous operation.

The 13T1 Transmitter is enclosed in a ruggedized, weather-resistant case and is designed to function reliably in the most adverse field conditions. All connectors, switches and indicators are weather-resistant and designed for rugged use.

## ProStar 13T1 Transmitter SPECIFICATIONS

### RF PERFORMANCE

Frequency range: 12.7 to 13.2 GHz\*  
Channel plan:  
Standard 10 channels  
Source: Digital frequency synthesizer  
Frequency stability:  $\pm 0.005\%$   
Power output: 0.1W minimum (+20 dBm)  
Standby mode: On-frequency transmission instantly

### VIDEO PERFORMANCE

Video: 525/625 lines  
Input level: 1V P-P for  $\pm 4$  MHz deviation, adjustable  
Input impedance: 75 Ohms  
Pre-emphasis: Per CCIR Recommendation 405  
Return loss: -26 dB (10 Hz to 5 MHz)  
Signal-to-noise ratio: 63 dB minimum

### AUDIO PERFORMANCE

Channels: 2 channels, MIC or line audio input, independently selectable on either channel  
Input level impedance:  
Line audio 8 dBm, 600 Ohms  
Microphone -50 dBm, 150 Ohms  
Deviation: 75 kHz peak at 1 kHz TT  
Pre-emphasis:  
Standard 75  $\mu$ s  
Optional 50  $\mu$ s  
Signal-to-noise ratio (@ 75 kHz peak deviation):  
Line audio 65 dB  
Microphone 55 dB  
Harmonic distortion (@ 75 kHz peak deviation):  
Line audio 0.5% maximum  
Microphone 1.0% maximum

### Subcarrier frequencies:

Standard 4.8, 5.8, 6.2, 6.8, 7.5 or 8.3 MHz  
(specify two)  
Optional Any CCIR Subcarrier

### POWER REQUIREMENTS

Input range: 11 to 15 to 15.0 Vdc inclusive, or 115/230  
Vac, 50/60 Hz  
Consumption: 30W typical

### PHYSICAL CHARACTERISTICS

Size: 3.0" (H) x 7.5" (W) x 10.5" (D)  
(7.5 x 19.6 x 23.7 cm)  
Weight: 11.0 lbs (4.9 Kg)  
Case: Self-contained enclosure, ruggedized and weather-resistant; white with decorative trim  
Controls: All controls and connectors front-mounted except RF connector

### ENVIRONMENTAL

Temperature range:  
Operational -30 to +55°C  
Full specifications -20 to +50°C  
Relative humidity: 95% (@ +10 to +40°C)  
Altitude:  
Operating 15,000 feet (4,500 m)  
Storage: 50,000 feet (15,000 m)

\*NOTE: Other frequency bands available, 10.3 - 12.75 GHz; consult factory. Specifications subject to change without notice.