

1.1 TX 150/300 FM TRANSMITTER

The Broadcast Warehouse TX 150/300 is a high specification FM broadcast transmitter. Its broadband “no-tune” design allows 87.5-108 Mhz operation from internal direct reading rotary switches or the front panel LCD frequency control system if enabled. Digital PWM techniques provide an easily adjustable and accurate automatic level controlled R.F. output of the Mos-Fet power amplifier stage.

R.F., Audio and other parameters are shown on the LCD graphics display. This display offers a very easy method of transmitter parameter monitoring and a new level of ease for setup and installation, with metering accuracy normally only found on expensive test equipment. Local and remote personal computer control and metering are achievable via the innovative dual method RS232 interface.

The FM modulator section employs a dual speed “virtual VFO” system for extremely low audio distortion and excellent stereo performance.

A built in high specification stereo encoder provides crystal clear stereo sound and combined with the internal limiter a fully compliant “plug and play” all in one low power broadcast transmitter.

For future compatibility all settings are switchable with on board jumpers. The stereo and/or limiter settings can be switched in and out to suit the requirements of any external broadcast equipment you may have now and in the future.

The lightweight universal mains input design ensures a high reliability efficient design compatible with any mains system in the world.

3.1 SPECIFICATIONS

RF

| | |
|------------------------|--|
| Power | 20-175 (TX150) 30-300 (TX300) |
| Connector | N type 50 ohm |
| Harmonics | better than 65 dbc |
| Spurious | < -75 dbc |
| Frequency range | 87.5 - 108 MHz |
| Frequency steps | 100KHz from LCD or 12.5 KHz from internal switches |
| Frequency selection | Internal switches or LCD system |
| Frequency control type | Dual speed Phase locked loop |
| Frequency stability | < +/- 500 Hz (fine adjustment available) |
| MPX input | BNC |
| MPX input level | MPX input level -10dB to +10dB (adjustable) |
| MPX input response | MPX input response +/- 0.3 dB, 5 Hz to 100 KHz |
| Modulation | Modulation direct frequency modulation |

STEREO

| | |
|---------------------------------|---|
| Subcarrier generation | Microprocessor generated 8x over-sampled |
| Pilot | 19KHz +/- 1 Hz (adjustable) |
| pilot generation | Microprocessor generated 16x over-sampled |
| Output level (BNC) | (BNC) 0dB |
| 15 KHz filtering | >40db at 19KHz |
| 15KHz overshoot filter clipping | On or off |
| Spurious | |
| > 80 KHz | > -60dBr |
| >160 KHz | > -80dBr |
| Stereo separation | >55db (20hz-15KHz) |

LIMITER

| | |
|------------------------|--|
| Audio input levels | -10db - +18dB for limiting |
| Audio input connectors | XLR balanced (RF shielded) |
| Input cmrr | >60dB |
| Audio distortion | |
| Tone | <.1% at limiting 1 KHz (clarity mode) |
| Program material | program dependent |
| Frequency response | 20 Hz to 20KHz +/- 0.5dB (pre-emphasis off) |
| Limiter control range | Limiter control range >24dB (pre-emphasis off) |
| Input impedance | 10k |
| pre-emphasis | 50uS,75uS and 0uS(off) |
| Process modes | Clarity and loud |
| Clipping | On or off |

OTHER

| | |
|--------------------------|------------------------------------|
| Control system | 3 buttons, 122x32 graphics display |
| External control/monitor | 15 way D-type, Female |
| Size | 475mm x 44mm x 300mm |
| Weight | 1.5kg |
| Voltage input | 85-260 VAC |
| Current input | 110V-4A / 220V-2A |
| Power connector | IEC,FUSED and switchable |
| Switched mode approvals | UL / TUV / CE |