

taken off an r-f voltage divider across a capacitor in the ground side of the buffer stage. A-f monitoring is accomplished by means of a voltage developed across a resistor connected in series with the secondary of the modulation transformer, at which point a level of approximately +10 dbm is available at 100% modulation.

Control circuits are simplified and offer maximum protection to the transmitter and operating personnel. A distinctive feature is a relay which eliminates the necessity of recycling of the time delay when momentary power failures or interruptions occur. Overload protection is provided by using magnetic circuit breakers that also serve as switches.

The BTA-1L is normally supplied for operation at 1000 watts output. Where power change is required, a kit of power change equipment (MI-7188-A) is necessary and is easily installed on the chassis in the center section of the equipment. This equipment will reduce the power output from 1000 to 500 or 250 watts or from 500 to 250 watts as required. A variable transformer adjustable from the control panel provides a means of maintaining the proper voltages as required. A separate 110 volts, 50 to 60 cycle supply is required for the crystal heaters.

The BTA-1L is furnished with two sets of tubes and two crystals.

Specifications

Carrier Frequency Range 540 to 1600 kcs
 Carrier Frequency Stability ± 10 cycles
 Carrier Power Output
 (a) 1,000 watts (c) 500/1,000 watts*
 (b) 500 watts (d) 250/1,000 watts*
 (e) 250/500 watts*

Carrier Frequency Harmonics below .05%
 A-c Power Input (220 to 240 volt, 50/60 cycles, single phase
 (Line voltage regulation and variation not to exceed 5%)
 Average Program Level at 1,000 watts 4,500 watts
 500 watts 3,700 watts
 250 watts 3,350 watts
 100% Modulation 1,000 watts 5,700 watts
 500 watts 4,900 watts
 250 watts 4,450 watts

A-c Power Input (crystal heaters) 110 volts, 28 watts
 Carrier Shift—from zero to 100% modulation less than 5%
 Carrier Noise and Hum Level
 (unweighted below 100% modulation) —60 db
 Audio Frequency Response (30 to 10,000 cycles) ± 1.5 db
 Audio Input for 100% Modulation +11 dbm**

Audio Frequency Harmonic Distortion (50 to 7,500 cycles, 0 to 95% modulation) not to exceed 3% rms

R-f Load Impedance (unbalanced transmission line or antenna) 20 to 250 ohms

Dimensions, overall

Width 108 $\frac{3}{4}$ "

Depth (door swing 18 $\frac{3}{4}$ ") 20 $\frac{1}{4}$ "

Height 84 $\frac{1}{2}$ "

Weight (unpacked) 3,410 lbs.

Tube Complement

| | |
|-------------------------------------|----------------|
| For BTA-1L Transmitter Exciter Only | MI-7320 |
| 1 RCA-807 | 1 RCA-810 |
| 3 828 | 2 RCA-8008 |
| | 1 RCA-5Y3GT |
| For Type BTA-1L Amplifier Only | MI-7318 |
| 4 RCA-833-A | 4 RCA-8008 |
| | 2 RCA-866/866A |

Stock Identification

BTA-1L Transmitter MI-7186-B

BTA-1L Amplifier (for 250K and BTA-250-L)
 (complete with conversion accessories) MI-7187-A

Equipment Supplied

The following is a condensed list of equipment included as a complete BTA-1L transmitter:

| | |
|--|--------------|
| 1 Type BTA-1L Exciter Unit | MI-7281-B |
| 1 Type BTA-1L Power Amplifier | MI-7185-A |
| 1 Type BTA-1L Power Equipment Section | MI-7284-A |
| 1 Type UL-4392 Crystal Oscillator Unit | MI-19458 |
| 1 Touchup Finish Kit | MI-7443 |
| 1 Miscellaneous Hardware Kit | MI-7474 |
| 2 Instruction Books | IB-30118-1 |
| 2 Type TMV-129B Crystal Units | MI-7467 |
| 1 RF Output Meter | MI-7157-B |
| 2 Sets of Tubes | MI-7320/7318 |
| 1 Set of Station Call Letters | MI-26910 |

Available Accessories

Type BPA-1 Antenna Tuner MI-28901-A

Power Change Equipment MI-7188-A

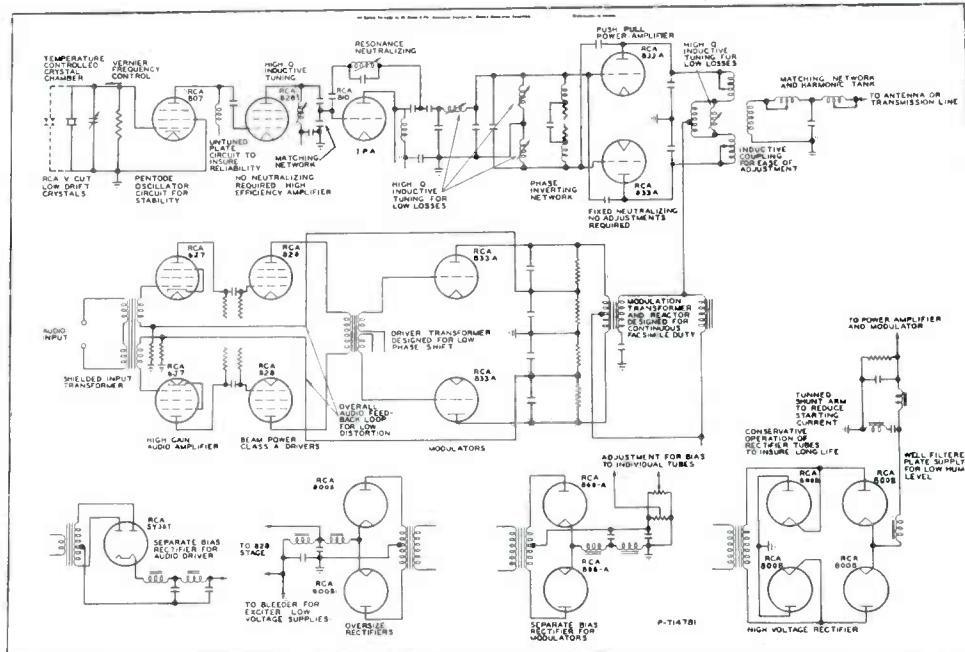
Type BPM-1A Remote Metering Kit MI-28027/MI-28037-A

Antenna Phasing Equipment On application

Antenna Towers and RF Transmission Line On application

* MI-7188-A Power Change equipment is required.

** dbm = no. of db above one milliwatt when single frequency tone modulation is used.



Simplified Schematic Diagram of BTA-1L