

THE MINIMITTER TOP - 2-7 TRANSMITER

GENERAL DESCRIPTION

The Minimitter "TOP 2-7" is a compact, efficient transmitter covering the three amateur bands of 1.8, 3.5 and 7.0 Mc/s.

A peak input power of 24 watts can be achieved, and 100% amplitude modulated by the incorporated "Plate and Screen" high level modulator.

The keying circuit for C.W. operation is designed to give a pleasing characteristic free from spurious clicks. The incorporated "clamp tube" protects the power amplifier in the key-up condition.

All intermediate circuits being pretuned, the only variable controls in the R.F. section are for frequency setting and aerial loading.

The three bands covered are fully spread over the entire length of the "slide rule" type dial scale, which is accurately calibrated in frequency.

Insertion of an appropriate frequency crystal into the front panel socket automatically disconnects the V.F.O.

"Netting" or frequency setting, is carried out by the operation of one switch, and the dial scale allows for a high degree of accuracy.

The aerial change-over and remote control relays are built in, and the complete unit can be controlled remotely from the receiver, or, alternatively, the transmitter circuit will control the receiver operation.

The transmitter is completely screened and when correctly tuned and matched to the antenna, the harmonic output level is very low.

TECHNICAL DESCRIPTION

Nine vacuum tubes are used as follows:-

6BX6	.....	V.F.O. or crystal oscillator
6BX6	.....	Tuned buffer
6AQ5	.....	Power amplifier
6AQ5	.....	" "
6AQ5	.....	Clamp tube
12AX7	.....	Microphone preamplifier & audio driver
6AQ5	.....	Push Pull modulator
6AQ5	.....	" "
6CA4	.....	Power rectifier

All intermediate circuits are broad band tuned.

The incorporated panel meter allows the final plate current to be monitored, or, it can be switched as an R.F. valve volt meter to read an average of the transmitter output.

FREQUENCY COVERAGE

1.8 - 2.0 Mc/s.
3.5 - 3.8 Mc/s.
7.00 - 7.15 Mc/s.

MICROPHONE INPUT

For crystal or other high impedance microphones.

OUTPUT IMPEDANCE

To match 50 - 100 Ohms. Coaxial feed lines.

MAINS SUPPLY

200-250 volts A.C. 50/60 cycles.

INSTALLATION

The transmitter should be installed in a position which will allow a free flow of air to the back and sides of the unit.

A correctly matched aerial should be connected to the rear "ANTENNA" socket, and a coaxial lead taken to the receiver aerial input from the adjacent "TO RECEIVER" socket.

Ascertain that the selector screw in the rear mains adjustment panel is at the correct position for the supply voltage in use and connect the supply lead.

Check that the control switch is at the "STAND BY" (centre) position, and switch on the transmitter by means of the switch on the "AUDIO GAIN" control. Do not advance the control. The meter and dial scale will now be illuminated.

Allow approximately 30 seconds for the tubes to heat and set band switch to desired band and V.F.O. dial scale to desired operating frequency.

Switch meter switch to "INPUT".

Turn "TUNE AMP." and "ANT. LOAD" controls maximum clockwise.

Push control switch up to "NET" and check frequency by listening on the receiver. The oscillator frequency can easily be "netted" or tuned to zero beat with an incoming signal.

Switch control switch down to "SEND" and observe that the panel meter will now read.

RAPIDLY tune the "TUNE AMP." control for a MINIMUM reading on the meter. The "ANT. LOAD" control is now turned a little anti-clockwise and this will increase the meter reading. Re-adjust "TUNE AMP." for a minimum and proceed alternately with the above until the desired input is reached at MINIMUM DIP on the meter.

DO NOT EXCEED 80 M/A CURRENT READING.

C.W. OPERATION

For C.W. operation, the "KEY" is now inserted inot the panel socket which will now control the transmitter. It is advisable to turn the control switch to "STAND BY" during reception periods.

A.M. OPERATION

For A.M. telephone operation, the key is removed from its socket, and the microphone plugged into the "MIC." socket. The meter switch should now be turned to "OUTPUT", when a relative R.F. reading will be observed. Advancing the "AUDIO GAIN" control clockwise, and speaking into the microphone, will give upward peaks in this meter reading. It is rarely necessary to advance this control more than 60% of its travel with normal crystal microphones, for 100% modulation level. On the 1.8 Mc/s. band where the input must be restricted to 10 watts (35 M/A plate current), the gain control level will be approximately 40% of maximum travel.

REMOTE CONTROL OF TRANSMITTER

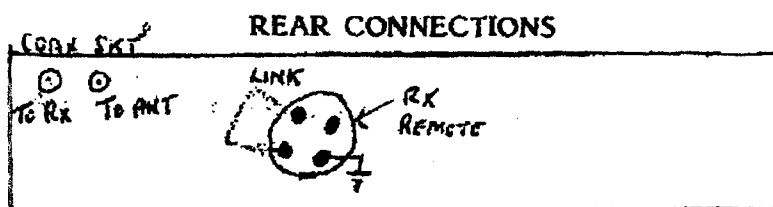
The transmitter may be remotely controlled, from the receiver or other switch, by means of a pair of contacts in the four pin plug at the rear of the unit. As will be seen from the diagram, two of the connections are linked in the plug. This link wire should be removed and the external switch circuit connected in its place.

IMPORTANT

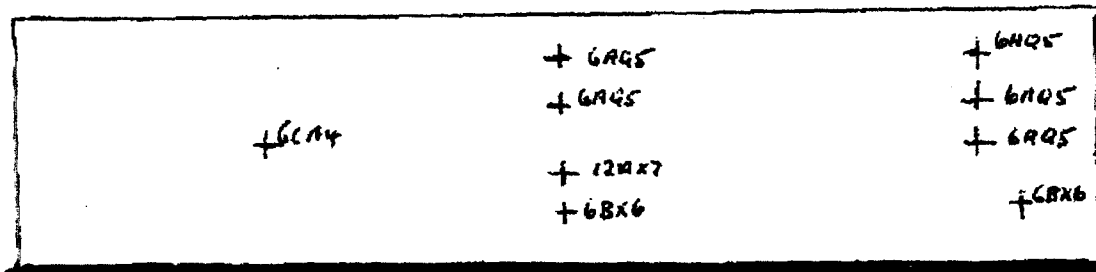
THE EXTERNAL REMOTE CIRCUIT AND WIRING MUST BE ABSOLUTELY FREE OF EARTH OR CHASSIS CONNECTION. FAILURE TO OBSERVE THIS MAY DAMAGE THE TRANSMITTER.

The main control switch is left in the "SEND" position when using the remote control circuit.

IT MUST BE EMPHASISED THAT THE OUTPUT CIRCUITS OF THE "TOP 2-7" TRANSMITTER ARE DESIGNED FOR LOW IMPEDANCE FEED LINES, AND DAMAGE MAY RESULT IF INCORRECT IMPEDANCES ARE EMPLOYED.

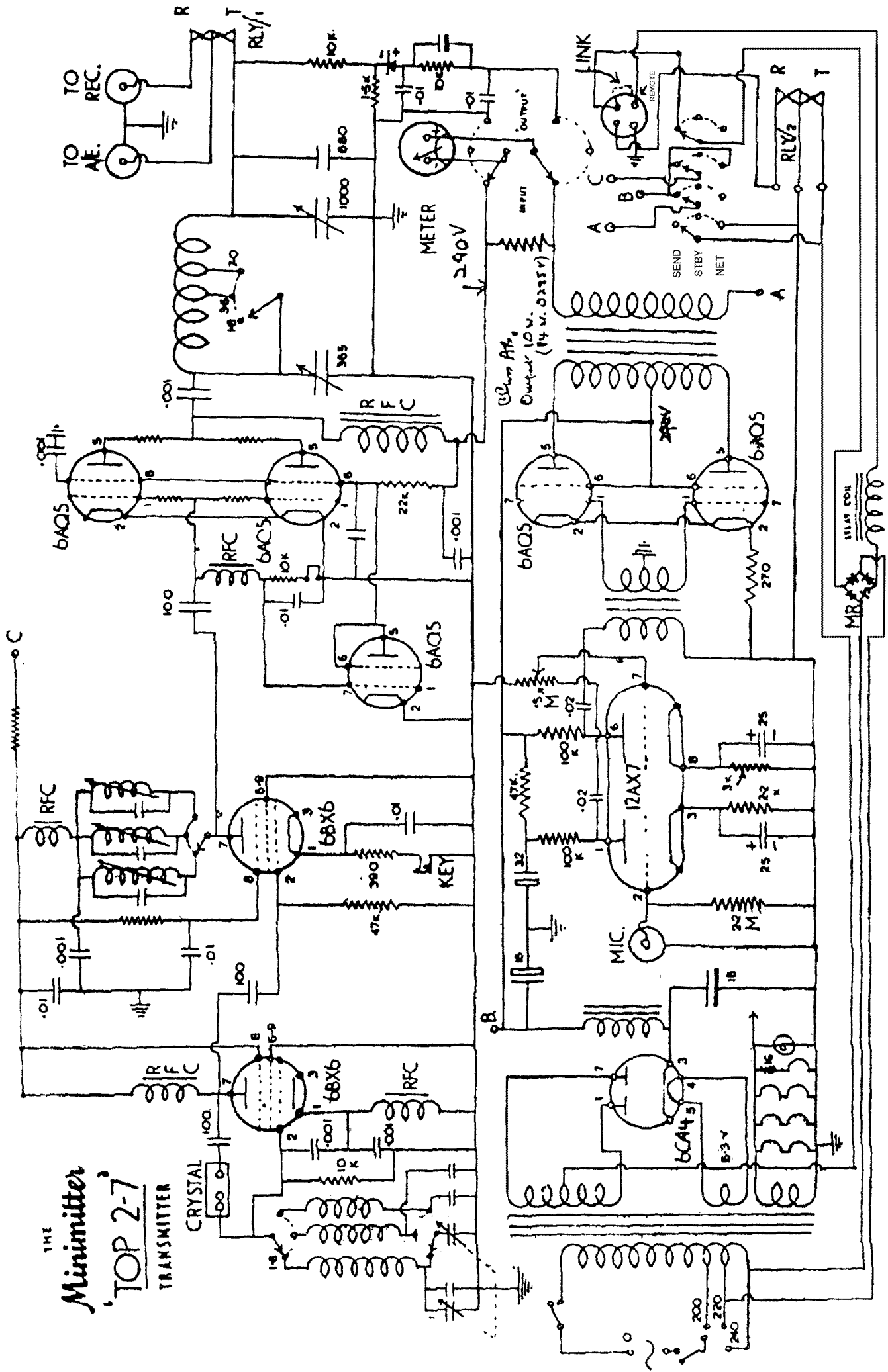


VALVE POSITIONS



FRONT PANEL

THE
Minimitter
TOP 2-7
TRANSMITTER



[NOTE: The remote control circuitry has been corrected by Richard G7RVI to reflect that in an actual sample of this equipment. Users are warned that the remote control wiring is at MAINS POTENTIAL and thus lethal if touched.]