

## Harvey-Wells VFO

### Installation Instructions.

This variable frequency oscillator has been specifically designed for the Bandmaster line of transmitters. It has a large slide rule type of dial, directly calibrated and mounted on a sloping front panel for easy use. The VFO will replace the crystal of the Bandmaster for operation in the first six bands, or thru 29.7 mc. The transmitter is intended to mount on top of the VFO cabinet and holes are provided to bolt the two together.

The coding of the VFO leads is as follows:

- #1 wire - 6 v heater- Brown
- #2 wire - Cathode- Yellow
- #3 wire - / 300 volts- Red
- #4 wire - ground.

The Bandmaster- VFO combination for fixed station use should be powered by an APS-50 power supply or equivalent, delivering approximately 425 volts. With the terminals at the rear of the transmitter properly connected for this voltage, see instruction manual, connect the VFO as follows:

- #1 wire to terminal 1
- #2 wire to terminal 8
- #3 wire to terminal 9
- #4 wire to terminal 2

Note: If the Bandmaster used is one of the original Production so that only the 807 is keyed, terminal 8 is not the keying lead and the #2 lead should be connected to terminal 2 instead. If in doubt check continuity; if terminal 8 connects to all RF cathodes then the #2 lead can be connected to it.

A 1000 ohm 20 watt resistor is used in place of the usual 1500 Ohm value, as called for in the instruction manual, and connects between terminals 9 and 11.

On the VFO panel, position A of the left hand switch is used on all bands except 26-30 mc.; for these two bands position B is used.

With the equipment operating, tune up the bandmaster to approximately 28.5 mc. and adjust the peaking coil of the VFO thru the small hole in the right side of the cabinet for maximum grid current as indicated on the panel meter.

Always adjust the drive control for optimum grid current. Never exceed 3 ma. Too low grid current will result in low output poor note or both.

On the left side of the VFO cabinet are three trimmer holes. The one nearest the rear is the oscillator coil inductance trimmer hole and the one nearest the front is the parallel capacity trimmer. Both of these can be adjusted with the VFO Switch on A if ever necessary to bring the dial ~~XXXXXXXXXX~~ pointer back on calibration on the first four bands. The center hole is for the last 26-30 mc band, with the VFO switch on B.

The foregoing assumed it is desirable to key the VFO with the transmitter for break-in; if not the #2 lead can be connected to terminal 2 so that the VFO will go on whenever the power is applied and the balance of the transmitter can be keyed in the usual manner.

The VFO can be operated from a separate supply when desired the power requirements are 6.3v @0.65a and 300v plate supply.

