

ALIGNMENT INSTRUCTIONS

To align the MASTERPIECE III receiver a thoroughly good and accurate test oscillator is required capable of delivering frequencies of 465 kc., 600 kc. and 1400 kc. In addition an output meter is necessary.

The i.f. amplifier should be first aligned by connecting the output of the test oscillator, which should be set at 465 kc., to the grid cap of the 2A7 first detector tube (with normal set grid connection removed) and to the ground binding post of the tuner. With the bottom plate removed, the two trimmer screws found beneath each i.f. transformer can should be adjusted for maximum deflection of the output meter, taking care that the oscillator output is kept low enough so that the volume and sensitivity controls of the set can be well advanced during this adjustment. This adjustment should be gone over a second time very carefully to obtain maximum deflection of the tuning meter.

Do not attempt to align the single trimmer screw under the right (seen from bottom) i.f. can until after the i.f. amplifier is fully aligned. This is the beat oscillator adjustment. It may be set to give the desired beat note (with the beat oscillator switch on) afterwards, using any C.W. (unmodulated) test signal, either provided by the test oscillator, or by an actual signal.

The separate output meter in this alignment procedure should be connected across the secondary of the output transformer found in the speaker, the voice coil circuit of the speaker being broken during this test.

With the i.f. amplifier properly aligned for maximum output, the oscillator should be reconnected to the Antenna and Ground (Ground and Long Antenna posts connected together) binding posts of the set, and set at 1400 kc. The main dial should be set at exactly 1400 kc., and the three trimmers marked WHITE in the photo adjusted with screw driver for maximum deflection of the output meter. Without changing any connections the oscillator should be reset at 600 kc. and the dial likewise set to 600 kc.

Then disconnect the wire leading to the oscillator section (rear) of the gang condenser and connect an external condenser of approximately 400 mfd. in its place. Bring the external condenser and the gang in the set to resonance with each other or, in other words, adjust for maximum deflection of the output meter. After this adjustment has been made, carefully disconnect the external condenser and reconnect the oscillator section of the gang condenser into circuit; then without changing the dial setting adjust the WHITE oscillator pad behind the coils for maximum deflection of the output meter. This completes all adjustments required for the broadcast band.

On the short waves, the adjustments are essentially the same, being made with the three small trimmers at the high frequency end of the short wave bands. Use 4000 kc. for GREEN, 12,000 kc. for YELLOW and 17,000 to 18,000 kc. for ORANGE ranges. Short wave broadcast signals are the best sources. In setting the high frequency oscillator trimmers, it is important to use the low capacity setting, or the one with trimmer screw farthest out (loosest). If this is not done, "cross-over" of oscillator and first detector will occur, with resultant instability. The method required to adjust the low frequency end of the ranges is the same as that given for the 600 kc. band, using frequencies of 2000 kc. for the GREEN range, 6000 kc. for the second YELLOW range, and 12,000 kc. for the third ORANGE range. After all of these adjustments have been made carefully the set is completely aligned. Oscillator harmonics may be used for short wave alignment, or short wave signals close to the frequencies specified above. After replacing bottom pan, go over high frequency alignment again, trimmers being accessible through holes in the bottom pan for this purpose.

The above procedure will permit maximum results to be obtained from the receiver, and will permit of accurate adjustment of the short wave dial calibration. The above alignment procedure permits dial calibration to be effected exactly, if sufficient care is used.

OSC.-LOW FREQ.
TRIMMERS

ORANGE
YELLOW
GREEN
WHITE

LONG WAVE

R.F. DET. OSC.
HIGH FREQ.
TRIMMERS

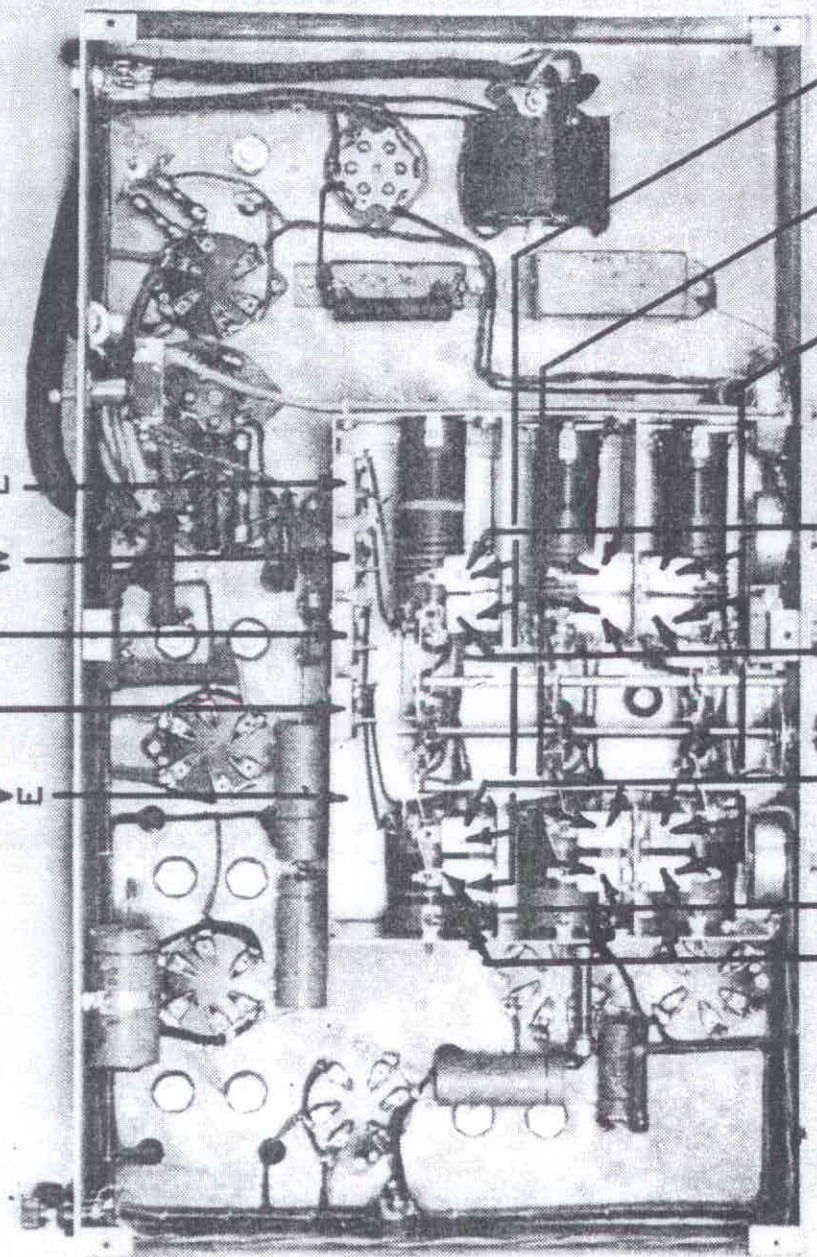
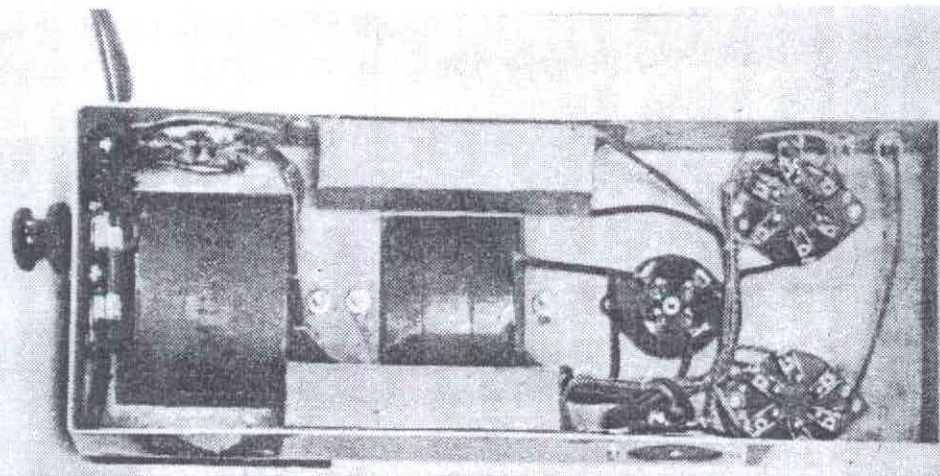
ORANGE

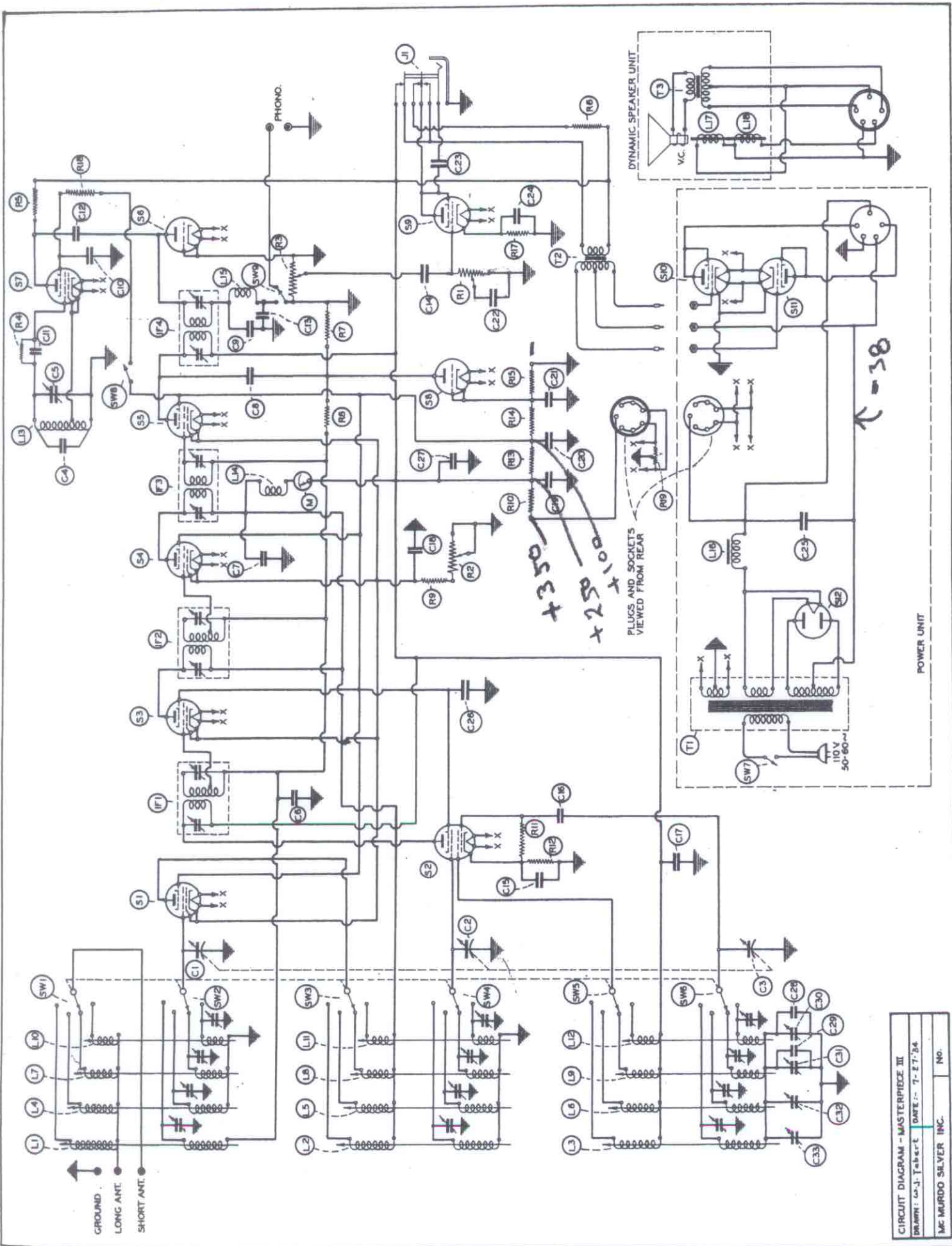
YELLOW

GREEN

WHITE

LONG WAVE





CIRCUIT DIAGRAM - MASTERPIECE III
 DRAWN: W.J. Tabor DATE: 7-27-34
 MC MURDO SILVER INC. NO.