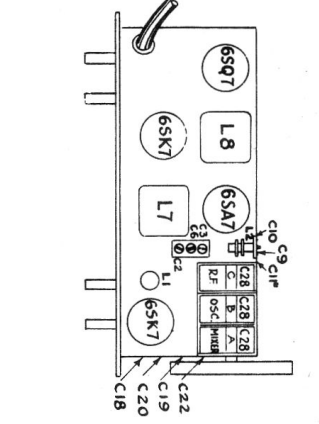
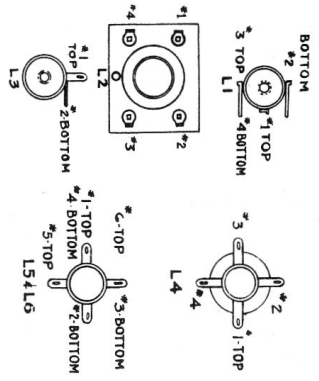
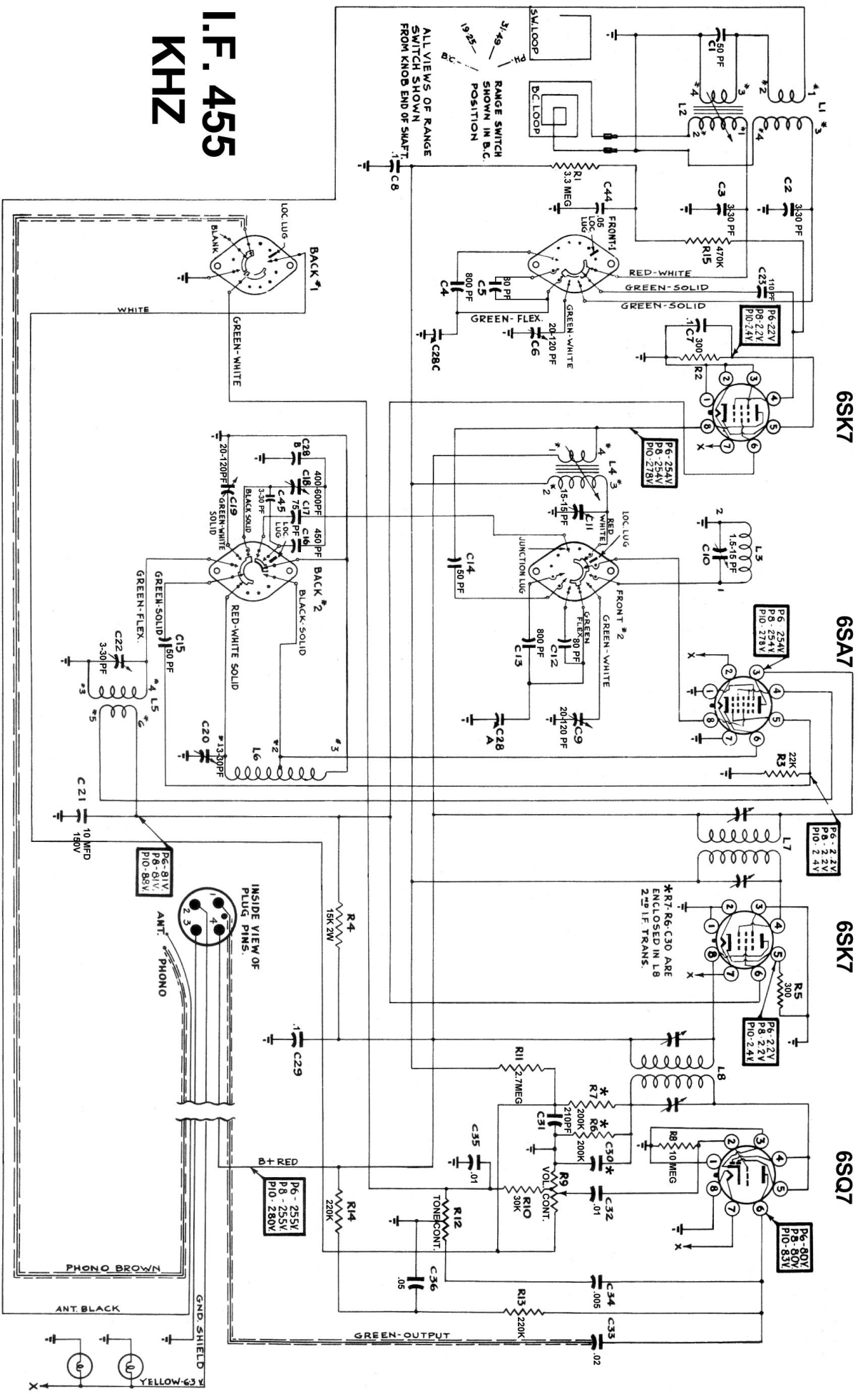


# I.F. 455 KHZ

## Stewart-Warner Models M-30 & M-50 TUNING UNIT



# RECEIVER TUNING UNIT MODELS M-30 & M-50

## DESIGN

The tuner unit G980600 is designed to fit either M-30 or M-50 type cabinets.

Audio and Power Units P6, P8 and P10 may be connected to G980600 tuner units. Units P6, P8 and P10 have interchangeable cable connections.

The Loudspeaker specified may be connected to units P6, P8 or P10 without change.

Both model M-50 & M-30 are equipped with a built in antenna for standard broadcast reception and also a loop type antenna for short-wave use.

### R.F. Alignment Frequency

Standard Broadcast 1500 kc & 600 kc  
Short Wave 1 10 mc \*check at 6 mc  
Short Wave 2 15 mc \*check at 11.8 mc

\*If the check frequency is off—S.W. Oscillator Coil may need end turn adjustment.

## THE CABLE CONNECTIONS:

These consist of the power feed (B-plus, heater and ground) the antenna connection, the phonograph input (switched by the range switch mechanism) and the connection to the input of the audio power amplifier in the Audio and power unit selected, i.e. P6, P8 or P10.

The antenna is brought to the outside of the cabinet. The remaining connection terminates in a plug; the numbers of the pins are shown in the circles (See Circuit Diagram). On Model M-30 the Phonograph connection terminates in Record Changer Unit.

## Frequency Ranges

Standard Broadcast 540 kc—1620 kc  
Short Wave 1-6 mc—10.0 mc  
Short Wave 2 11.6 mc—15.5 mc

## ALIGNMENT PROCEDURE:

The cables connected to the tuner unit and the loudspeaker should be linked with the Audio and power supply unit provided.

Check the amplifier circuit first. (Switch to phonograph operation and check the input). If this unit functions; then proceed to align.

**Cathode Ray alignment** is the preferable method. Connection should be made between the chassis and the slider on the volume control. The volume control may then be used to adjust the cathode ray spot deflection.

**Output Meter alignment.** If this method is used, connect this meter across the voice coil and turn the volume control to maximum.

**Test Oscillator.** For all alignment operations, connect the low side of the test oscillator to the receiver chassis and keep the output of the oscillator as low as possible to avoid excessive A.V.C. action.

Where possible determine the exact dial settings of the test oscillator by zero beating the test oscillator against stations (Broadcast and Short Wave) of known frequency. This is particularly important around frequencies used at specified alignment points.

## CIRCUIT ARRANGEMENT:

Two coils only are used in each stage, although three bands are operated; the broadcast band has its own set of coils, one for each stage and the two short wave bands have one common coil per stage. The RF trimmers are switched in separately; any adjustments made at the high frequency ends of the two short wave bands are thereby made independently; one adjustment doesn't affect the other. However, any end turn adjustment of the SW oscillator coil does affect both SW bands at the low frequency end.

A conventional I.F. amplifier circuit employing capacitor tuning and air core coils is used; the second I.F. transformer secondary being detected by means of a diode enclosed within the 6SQ7 tube. A compensated volume control circuit is employed and the tone control circuit design around this compensation is associated with the plate circuit of the triode section of the 6SQ7.

At one extremity the tone control introduces a bi-pass condenser between the plate circuit of the audio triode and ground, cutting the upper register; simultaneously the full effect of the volume compensation circuit (conventionally introduced by means of a tapped volume control) is brought into play.

At the other end of the control, the compensation condenser is short circuited and the effect of the bi-pass condenser is nullified by the resistance element of this control. Intermediate positions of the slide contact of

the tone control produces tone balance to suit the individual. A condenser couples the plate of the audio triode to the cable connector; this connection feeds the power amplifier circuit chosen.

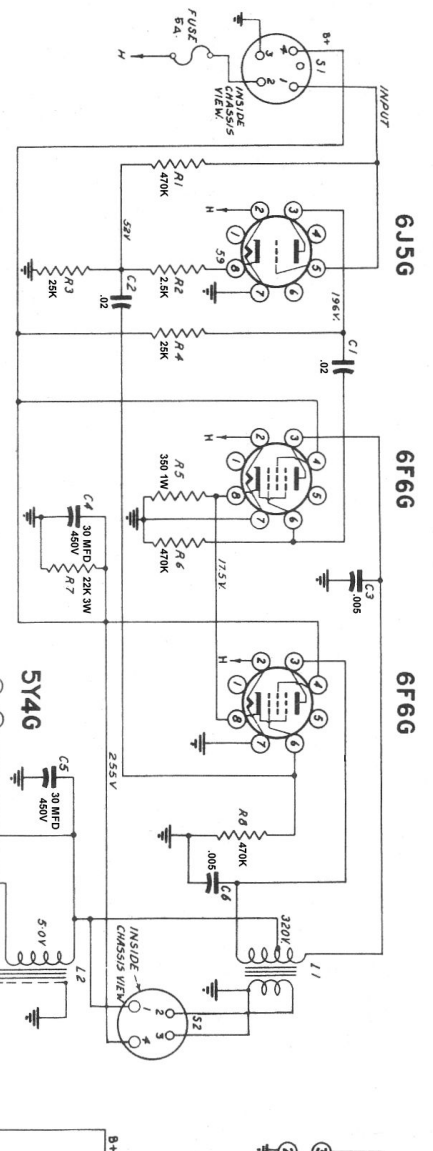
## PHONOGRAPH RECORD CHANGER FOR M-30

A V.M. Intermix "Strobo-Sonic" Record Changer is supplied.

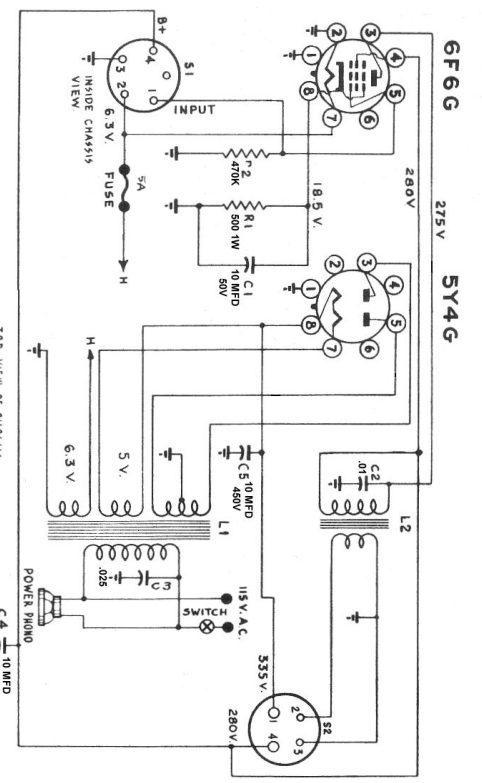
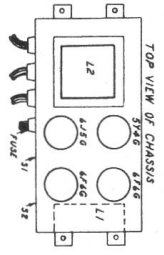
Order of Alignment	TEST OSCILLATOR			Range Selector	R'c'vr Dial Setting	Circuit to adjust	Adjust. Symbol
	Connection to Receiver	Dummy Ant.	Freq. Setting				
1.	Control Grid 6SK7 Pin #4	.1 Mfd.	455 Kc	Broadcast	1500 Kc	2nd I.F. Transformer	.....
2.	Control Grid 6SA7 Pin #8	.1 Mfd.	455 Kc	Broadcast	1500 Kc	1st I.F. Transformer	.....
3.	Antenna Lead	200 Mmfd.	600 Kc	Broadcast	600 Kc	Broadcast Band and slugs of coils L4 & L2	C18, L4, L2
4.	Antenna Lead	200 Mmfd.	1500 Kc	Broadcast	1500 Kc	Broad. Oscil. RF & Ant. Trimmers	C20, C11, C3
5.	Antenna Lead	400 ohms	10 Mc	31-49	10 Mc	SW <sub>1</sub> Oscil. RF & Ant. Trimmers	C19, C9, C6
6.	Antenna Lead	400 ohms	6 Mc	31-49	6 Mc	SW <sub>1</sub> Oscil. Coil End Turn*	L5
7.	Antenna Lead	400 ohms	15 Mc	19-25	15 Mc	SW <sub>2</sub> Oscil. RF & Ant. Trimmers	C22, C10, C2
8.	Antenna Lead	400 ohms	11.8 Mc	19-25	11.8 Mc	SW <sub>2</sub> Oscil. coil End Turn*	L5

\* Note: Any adjustment to the end turn of the SW Oscillator coil effects the low frequency end of both SW bands.

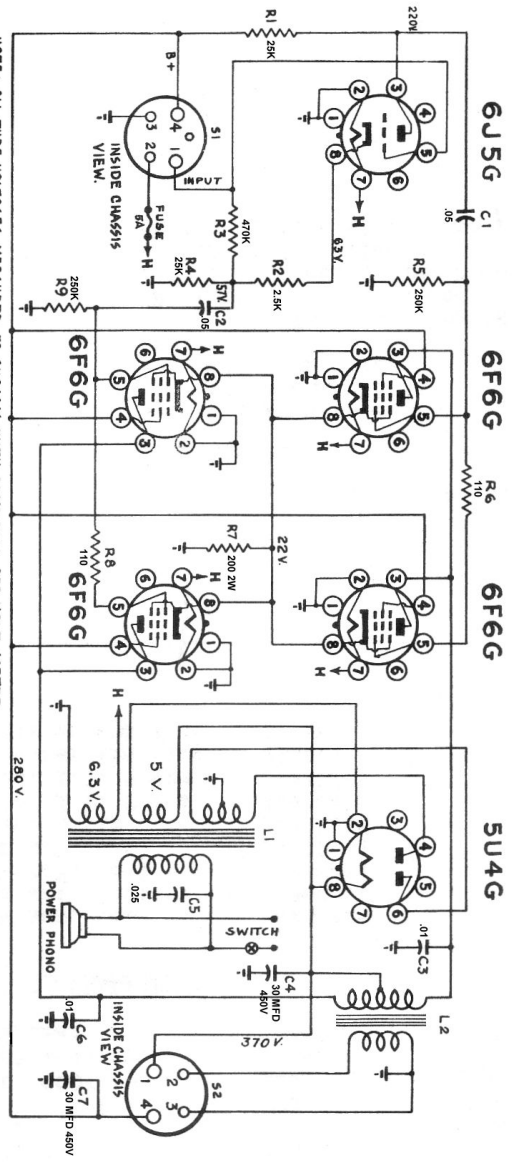
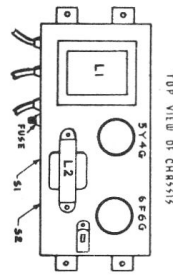
ALIGNMENT  
DATA FOR  
MODELS  
M 30-M50  
IF = 455 KC.



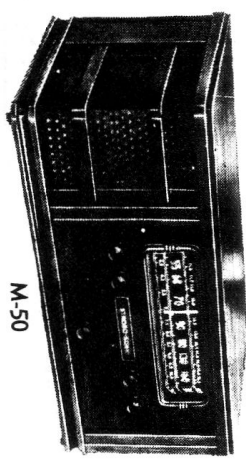
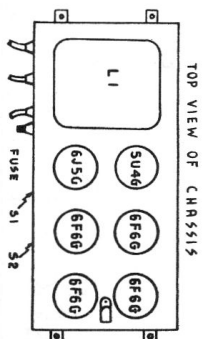
MODEL P8



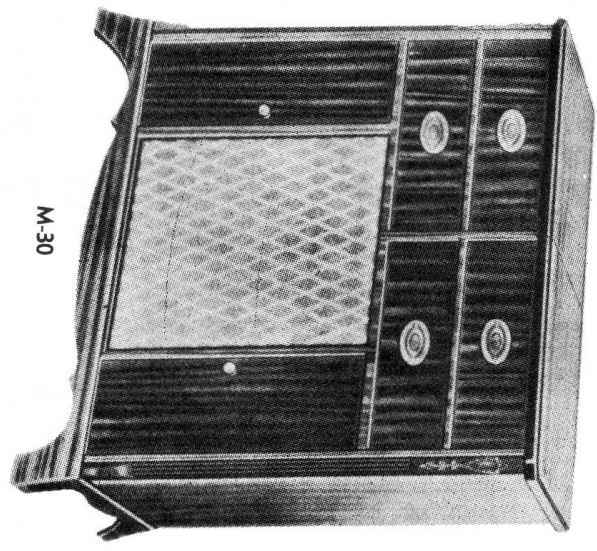
MODEL P6



MODEL P10



M-50



M-30

**AUDIO & SUPPLY UNITS**  
**P6-P8-P10**  
**FOR M30 & M50**  
**TUNER UNITS**

NOTE: ALL TUBE VOLTAGES MEASURED TO CHASSIS WITH 2000 OHMS PER VOLT METER.