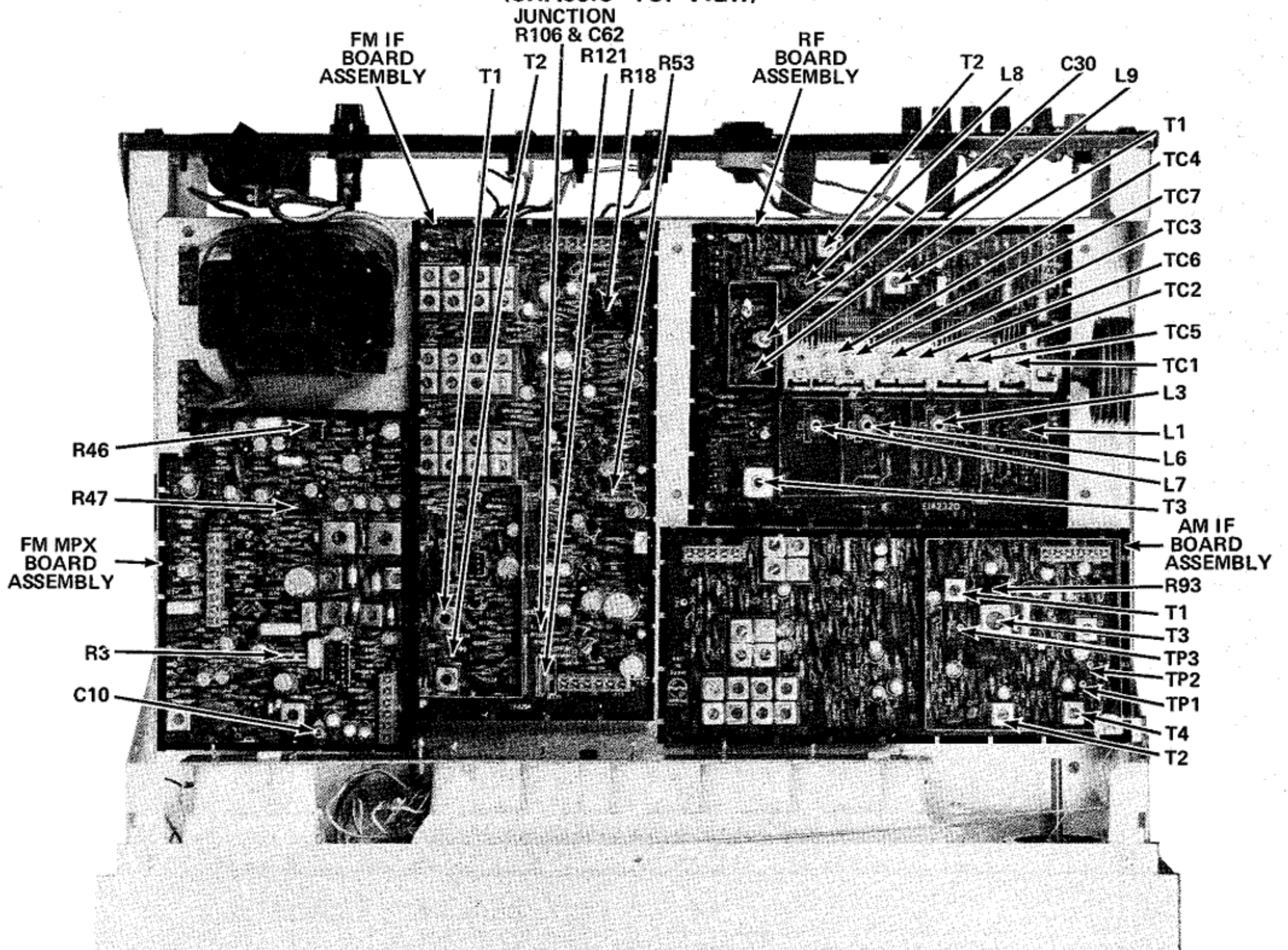
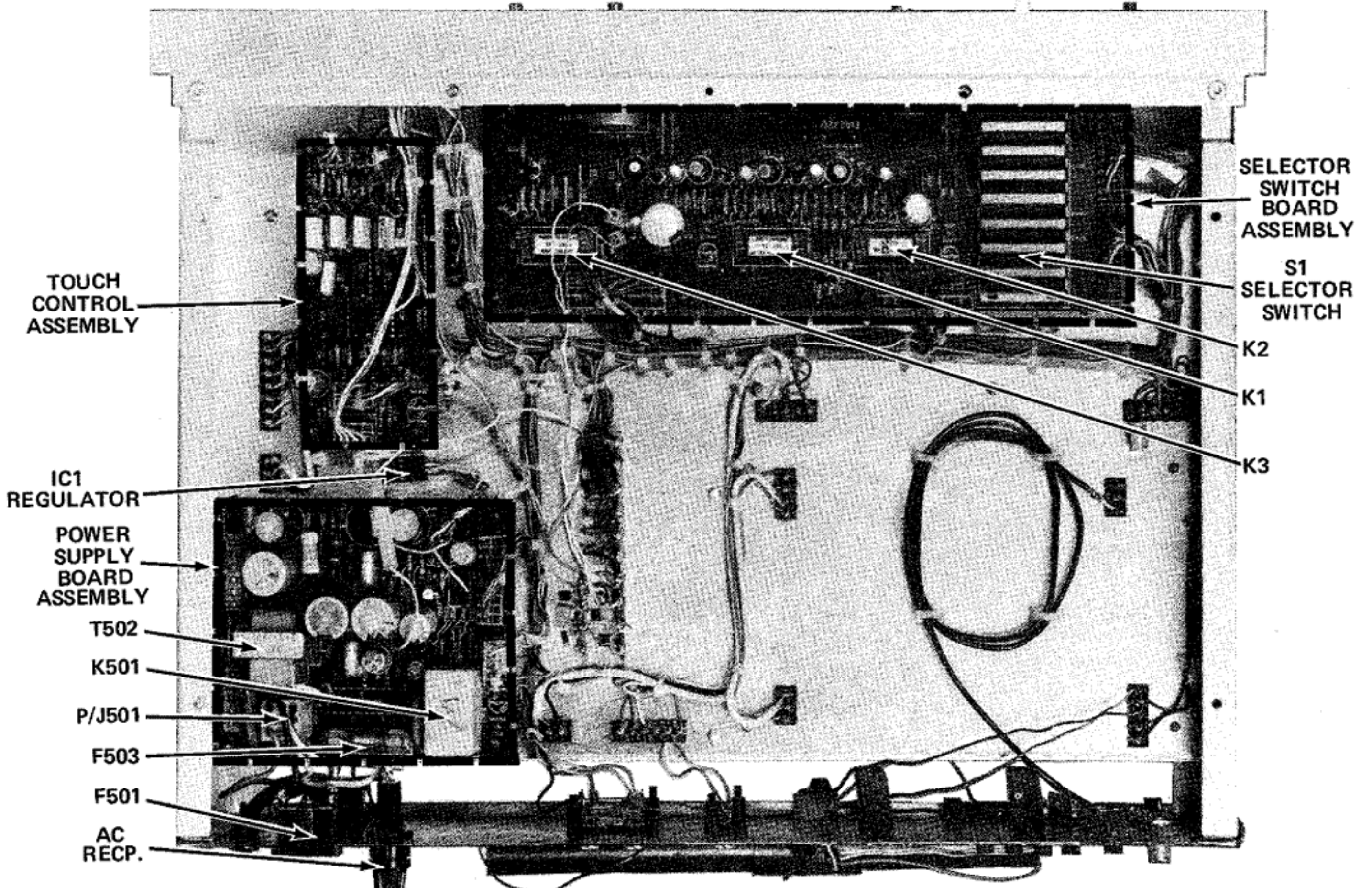


**ALIGNMENT REFERENCE GUIDE  
(CHASSIS—TOP VIEW)**



**AH673 TUNER CHASSIS  
(BOTTOM VIEW)**



## ALIGNMENT AND ADJUSTMENTS

**CAUTION—BEFORE ATTEMPTING TO ALIGN THIS RADIO CHASSIS, READ PROCEDURE TO ASSURE YOU HAVE AVAILABLE ALL TEST EQUIPMENT NEEDED.**

### Test Equipment Required:

AC VTVM  
DC Meter  
Oscilloscope  
Distortion Analyzer  
AM Sweep Generator  
Frequency Counter  
Sound Techology-Model 1000A FM Alignment Generator  
Low Distortion (.05% or less) Audio Generator, with variable output.

### AM IF ALIGNMENT

**NOTE: Remove the Top and Bottom shields before attempting alignment. DO NOT adjust the 4-Pole and 8-Pole filters.**

1. Using a sweep generator radiate a 455KHz RF signal to the AM antenna.
2. Connect an oscilloscope and meter to the junction of R90 and R84 (TP3).
3. Place the Selector switch in the AM "FIDELITY" position.
4. Adjust T1, on AM IF board assembly, and T2, on RF board assembly, for maximum symmetry and output.
5. Relocate scope to the junction of R105 and R108 (TP2).
6. Adjust T4 for a symmetrical "S" curve.
7. Adjust T2 for maximum audio on the meter.

### AM RF ALIGNMENT

1. Radiate an RF signal generator to the AM antenna. (Output of generator should be as low as possible while maintaining a usable indication on the meter).
2. Connect an AC VTVM to the Fixed Output jacks.
3. Place the Selector switch in the AM "NORMAL" position.
4. Set the RF generator for a 600 KHz signal and place the pointer to the 600KHz indication on the dial scale.
5. Adjust L8, T1 and the AM antenna rod for maximum deflection on the meter.
6. Reset the RF generator for a 1400KHz signal and place the pointer to the 1400KHz indication on the dial scale.
7. Adjust trimmers TC5, TC6 and TC7 for maximum deflection on the meter.
8. Repeat steps 4 thru 7 until no further improvement can be obtained.

### AM TUNING METER ADJUSTMENT

1. Radiate a 5KuV/m AM RF signal with 30% of 6KHz modulation to the AM antenna.
2. Place the Selector switch in the AM "NORMAL" position.
3. Connect an AC VTVM to the Fixed Output jacks.
4. Tune the radio to the signal by tuning for minimum audio.
5. While observing the tuning meter, adjust T4, on AM IF board assembly, for "center".

### AM OUTPUT LEVEL ADJUSTMENT

**NOTE: The Top cover of the AM IF board assembly must be removed for this adjustment.**

1. Radiate a 50KuV/m AM RF signal with 30% of 1KHz modulation to the AM antenna.
2. Place the Selector switch in the AM "FIDELITY" position.
3. Connect an AC VTVM to the Fixed Output jacks.
4. Adjust R93 for an 300mV output.

### 10KHz FILTER ADJUSTMENT

**NOTE: It is very critical that 10KHz  $\pm$  2Hz must be obtained for this adjustment.**

1. Radiate a 50KuV/m AM RF signal with 30% of 10KHz modulation to the AM antenna.
2. Place the Selector switch in the AM "FIDELITY" position.
3. Connect an AC VTVM or scope to the Fixed Output jacks.
4. Place the 10KHz Filter switch in the "ON" mode and adjust T3 for null, minimum output (approx. 40dB down).

#### FM IF ALIGNMENT

**NO FM IF ALIGNMENT IS NECESSARY IN THIS CHASSIS. THE FILTERS ARE PRE-ALIGNED FOR PHASE IN TEST FIXTURES AT THE FACTORY. -- DO NOT ALIGN**

#### FM RF ALIGNMENT

1. Connect a FM signal generator of 106MHz with 1KHz modulation, 75 KHz deviation with 6uV output to the FM antenna.
2. Connect a scope and meter to the Multipath Vertical Output (Pin 2 of J12).
3. Place the Selector switch in the FM "MONO" position.
4. Tune the radio to 106MHz and adjust C30 for minimum and symmetrical AM.
5. Adjust T3, top slug, and trimmers TC1, TC2, TC3 and TC4 for maximum deflection on the meter.
6. Reset the generator and dial pointer to 90MHz.
7. Adjust L9 for minimum and symmetrical AM.
8. Adjust T3, bottom slug, L1, L3, L6 and L7 for maximum deflection on the meter.
9. Repeat steps 4 thru 8 until no further improvement can be obtained.

#### FM TUNING METER ADJUSTMENT

1. Connect a FM Alignment Generator with 1KHz modulation, 75 KHz deviation with 6uV output to the FM antenna.
2. Connect scope and meter to the Multipath Vertical output.
3. Tune radio for minimum indication on the meter and symmetrical AM on the scope.
4. Adjust R18, on FM IF board assembly, for a reading of 2 on the peak meter.

#### FM MULTIPATH ADJUSTMENT

1. Connect a FM Alignment Generator with 1KHz modulation, 75KHz deviation with a 1KuV output to the FM antenna.
2. Connect a scope to the Multipath Vertical output.
3. Tune radio for minimum and symmetrical AM.
4. Turn modulation OFF.
5. Place the MULTIPATH switch in the "ON" mode and adjust R53, on FM IF board assembly, for a zero reading on the meter.

#### FM DETECTOR ALIGNMENT

1. Connect a low distortion (.1% or less) FM Generator of 98 MHz. with 75 MHz. deviation of 1 KHz. modulation to the FM antenna.
2. Connect a distortion analyzer and an AC VTVM to one of the output jacks.
3. Tune the radio to 98 MHz, and short the junction of R106 and C62, on the FM IF board assembly, to ground.
4. Adjust R121, on FM IF board assembly, for "center" on the meter. Remove ground.
5. Connect a scope to the Multipath Vertical output.
6. Tune radio for a symmetrical waveform (minimum 1 KHz., maximum 2 KHz.) using 1KuV input. **(NOTE: Maintain this symmetrical waveform throughout the following steps).**
7. Adjust R18, on FM IF board assembly, for a reading of between 2 and 4 on the peak meter.
8. Tune radio off station and adjust T2, on FM IF board assembly, to "center" the tuning meter on noise.
9. Using the tuning meter, tune the radio to the signal generator with 1KuV input at the antenna.
10. Adjust T1, on FM IF board assembly, for minimum distortion at the output. **NOTE: More than one distortion null is possible. The correct null is within one half turn of the peak audio settings).**
11. Adjust R46 and R47, on FM MPX board assembly, for a Right and Left output of 1 volt.
12. Check the stereo distortion, if it is greater than .18% adjust T3 (Bottom slug ONLY), on RF board assembly, until the distortion drops to less than .18%. **(NOTE: Do not turn the slug more than ½ turn).**

#### FM STEREO ALIGNMENT

1. Tune the radio to a "MONO" signal.
2. Place the Selector switch to the FM "AUTO" position.
3. Connect a Frequency Counter to Pin 10 of IC1 through R103 and adjust R3 for 19KHz  $\pm$  50Hz.
4. Using the tuning meter, tune to a stereo signal and adjust C10 for maximum separation. (Adjust C10 until the same separation is recorded on both channels—within 3dB).