SERVICE MANUAL FOR
MODEL 388
AM-FM-MX TUNER AMPLIFIER

SPECIFICATIONS

TUNER (FM-MPX)
Usable Sensitivity (HF) - 3% THD, Noise and Hum 1.7 uv
S/N ratio 65 db
Total Harmonic Distortion, Mono 0.8%
Frequency Deviation (0.1% less than
100 kHz) 0.07%
Frequency Response 50 to 15,000 Hz, ± 1 db
Capture Ratio 2.5 db
Selectivity (400 kc off channel) 43 db
Spurious Response Rejection (Cross modulation rejection
50 kHz) 90 db
19 kc Pilot Suppression 40 db
38 kc Sub-carrier Suppression 60 db
AM Suppression 55 db
Tuning Range 87 to 108 mc
Accuracy of Calibration 0.5%
Separation 40 db

*This is limit of FCC stereo broadcast specifications. All H. H. Scott tuners have far wider frequency
response.

TUNER (AM)
Usable Sensitivity (External terminals) 20 uv
Volume Sensitivity 40 v
Audio Hum and Noise (Ref. 1 v Output) 52 db
Tuning Range 330 to 1650 kc
Bandwidth (-6 db) 3.3 kc

AMPLIFIER
Tape Output
Rated Voltage output to tape recorder 0.5 v
Recommended load resistance: greater than
200 k ohms
Recommended cable capacitance: less than
200 pF
Max. Input - Input Impedance 47 k ohms
Signal for rated output (switch selected)
S/N Ratio 65 db
Tape Head - Input Impedance 47 k ohms
Signal for rated output 3.0 db
S/N Ratio 52 db
High Level Inputs - Input Impedance 47 k ohms
Signal for rated outputs 0.5 v
S/N Ratio -80 db
Frequency Response in flat position
20 to 20,000 Hz, ± 1 db
Bass controls; boost and cut at 65 Hz
+ 10 db - 14 db
Tone controls; boost at 100 Hz
+ 0 db at 50 Hz
+ 0 db at 10,000 Hz
+ 0 db at 15 Hz
Loudness Compensation, maximum
5 dB @ 10 kc
8 dB @ 50 Hz
Scratch Filter
Buckle Filter
Market Power Rating (watts/channel) @ 0.8% harmonic distortion
0 @ 4 ohms
0 @ 8 ohms
Continuous Output - Single Channel @ 8 ohms
0.8% Harmonic Distortion 40 watts
Continuous Output - Both Channels @ 8 ohms
0.8% Harmonic Distortion 30 watts
Total Harmonic Distortion at rated output
0.8%
Frequency Response - Power Amplifier @ 1 w
20 to 20,000 Hz, ± 1 db
Power Bandwidth @ rated distortion (IEC method)
20 to 20,000 Hz
Hum and Noise -80 db
Damping Factor 20
Line Voltage and Frequency
105-125 v, 50-60 Hz
1966 H. H. Scott, Inc.
388 TEST PROCEDURE, AUDIO

EQUIPMENT NEEDED

Audio Oscillator
VVM
Oscilloscope
Triplet VCM Model 630 or 650A
Load Box
Attenuator
Distortion Analyzer
Variable Transformer or 117v Regulated Line
FM Generator
Multiplex Generator
15 KHz Low Pass Filter

SET CONTROLS TO THE FOLLOWING:

Front Panel

Input Selector         EXTRA
Stereo Selector        STEREO
Tone Controls (Bass & Treble) FLAT "0"
Volume - Power      AC-Off
Balance Control       "0"
Rumble Filter         OUT
Rcat Filter           OUT
Tone Monitor           OUT
Compensator           LOUDNESS
Speaker                MAIN
Speaker                ON

Rear Panel

Phono Sensitivity       C

Internal

Potentiometers A1-R3 & A102 - R31 (balance Pot) Max CW
Potentiometers A2 -R32 & A102 - R32 (Bias Pot) Max CW

PRELIMINARY VISUAL INSPECTION AND RESISTANCE MEASUREMENTS.

Inspect unit for defects such as broken wafers, cracked terminals and jacks, loose transformer bolts, broken components, unsoldered or cold solder joints, TO-3 heat sink alignment, short circuits, lead dress, scrap in units and other such defects. Shake unit to free all scrap. Check to see that all transistors (where applicable) have been installed properly and in correct sockets. Check diodes for proper polarity.

Measure resistance to chassis in the following locations (negative side of VCM Battery to chassis):

- OUTPUT Transistor Collector (supply side) (Q10 & Q110) - 500 ea. channel
- OUTPUT Transistor Collector (mid-point) (Q11 & Q111) - 1.5K ea. channel
- Main Speaker "N" Terminal - 470
- +25v source for amplifier section - 1.4k
- +25v source for amplifier section - 9k
- +12v source for amplifier section - 140
- +12v source for tuner section - 250

Measure resistance across each 881-5 diode on best scale (4 total) on RCL scale
- 4.5 to 8 ohms

AUDIO SECTION TEST PROCEDURE

1. BIAS AND BALANCE ADJUSTMENT AND VOLTAGE CHECKS

With no signal input and 8 ohm loads connected to Main Speaker taps, turn power on keeping loudness pot at minimum setting. Watch carefully for any signs of voltage shorts or overheating.
388 TEST PROCEDURE, AUDIO (Continued)

Measure voltage at collector of Q10 - should measure between 68 and 72 volts. Set voltage at collector of lower OUTPUT transistors, Q11 left channel and Q11 right channel, for one-half supply voltage, approximately 35 volts, using A2-B31 (left channel) and A102-B32 (right channel) balance pots.

Using Trilitec VOM set to 12 ma scale, adjust bias pots for 0.8 ma current at each test point, in rear of the unit to ground by adjusting A2-B31 (left channel) and A102-B32 (right channel).

Recheck balance adjustment and reset balance pots if necessary.

Check the following voltages on Z-PC-PS-2 with respect to chassis:

Zener Diodes

+97v ± 10%
+12v ± 10%

Audio voltages - nominal

+75v
+25v
+12v

Tuner voltages - nominal

+25v
+12v

2. SENSITIVITY CHECK

Connect audio oscillator through attenuator into EXTRA input jack. Set attenuator for an output from attenuator of 0 db on .3v scale of VTVM, 400 cpm. Turn loudness control to maximum. Observe OUTPUT at speaker terminals of 0 db on 10 volt scale +1 db. Turn loudness to minimum. At this point recheck and readjust bias if necessary.

3. DISTORTION CHECK

Using a 400 Hz distortion analyser, distortion must be no greater than 0.6% at 16 volts into 8 ohms, 40 watts.

4. LEVEL CONTROL CHECK

Check tracking of Left and Right channels in 10 db steps to -60 db, maximum deviation 2 db.

Check loudness response in electrical flat position:

<table>
<thead>
<tr>
<th>L/V in Loudness</th>
<th>L/V in Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kc = 0 db</td>
<td>Flat Response</td>
</tr>
<tr>
<td>10 kc:43 db = 2 db</td>
<td></td>
</tr>
<tr>
<td>50 cps:76 db = 2 db</td>
<td></td>
</tr>
</tbody>
</table>

With level control at minimum, OUTPUT should be -75 db with respect to 16 volts or 32 watt level.

5. TONE CONTROL CHECK 42 db

With loudness at maximum, adjust attenuator to obtain 0 db on 3 volt scale at 1 kc. Use attenuator to obtain OUTPUT on 3 volt scale for Bass and Treble Boost measurements.

<table>
<thead>
<tr>
<th>Bass 90 Hz</th>
<th>Treble 10 KHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boost 12 db</td>
<td>10 db</td>
</tr>
<tr>
<td>Cut 14 db</td>
<td>10 db</td>
</tr>
</tbody>
</table>

6. FREQUENCY RESPONSE CHECK

Set Tone controls and balance control flat ('O' Position).

Attenuate oscillator to obtain 0 db on 3 volt scale at 1 kc when measured at speaker terminals with 8 ohm load. Sweep oscillator frequency and monitor OUTPUT. Maximum variation + 1 db from 40 Hz to 15 KHz. 3 db down points should be between 10-17 Hz low end, 25-40 KHz high end. Return to 1 KHz.

7. CROSSTALK CHECK

Feed input into right channel. Record left channel with Stereo Selector switch in Mono position, 1 kc signal. Switch Stereo Selector switch to Stereo. Measure 45 db loss minimum. Return oscillator to Left Channel Input.
8. STEREO SELECTOR SWITCH CHECK

For Left Channel Input

<table>
<thead>
<tr>
<th>Left Output</th>
<th>Signal (−6 db)</th>
<th>No Signal</th>
<th>Signal (−3 db)</th>
<th>Signal (0 db)</th>
<th>No Signal</th>
<th>Signal (−1.5 db)</th>
<th>No Signal</th>
</tr>
</thead>
</table>

Stereo Switch Position

<table>
<thead>
<tr>
<th>Bal. Left</th>
<th>Bal. Right</th>
<th>Monaural</th>
<th>Stereo</th>
<th>Rev. Stereo</th>
<th>Left Input</th>
<th>Right Input</th>
</tr>
</thead>
</table>

For Right Channel Input

<table>
<thead>
<tr>
<th>Right Output</th>
<th>No Signal</th>
<th>Signal (−6 db)</th>
<th>Signal (−2 db)</th>
<th>Signal (0 db)</th>
<th>No Signal</th>
<th>Signal (−1.5 db)</th>
</tr>
</thead>
</table>

9. RUMBLE-SCRATCH FILTER: Normal output level 0 db on 3v scale, loudness pot max.

Rumble In

50 Hz +52 dB

Scratch In

10 kHz +72 dB

10. BALANCE CONTROL CHECK

With oscillator in Left channel input, monitor channel output. Turn Balance pot to Balance Left. Note no loss of signal. Turn Balance pot to Balance Right. Note complete loss of signal.

Repeat for opposite effect when feeding and monitoring Right channel.

11. SPEAKER SWITCH CHECKS

Feed signal to left input, monitor left channel main speaker output. Switch Main-Remote speaker switch to remote. Note complete loss of signal. Switch monitor to left channel remote speaker output and observe signal restored. Switch speaker on-off switch to off and note complete loss of signal. Switch monitor back to Main speaker terminals, speaker off-on to on and Speaker Main-Remote to Main. Signal should be restored only after all switches are in their proper positions.

12. REGULATION CHECK, 1 kc

With signal output of 1 kc, 0 db on 3 volt scale, remove 8 ohm load. Note .5db max. rise in output.

13. PHONE JACK (FRONT PANEL) CHECK - Input 1 channel, selector-stereo

With signal output of 1 kHz, 0 db on 3 volt scale at speaker terminals, remove VVMM from 8 load and connect output from phone jack to VVMM. Tip of phone jack is right channel. Phone jack output should be 5 db with respect to speaker terminal output.

14. DERIVED CENTER CHANNEL OUTPUT CHECK

Remove phone jack output from VVMM. Switch stereo selector switch to stereo. Connect VVMM to derived center channel output. Derived center channel output level should be −25 db with respect to speaker terminal output. Remove VVMM from derived center channel output and reconnect to 8 ohm load. Return Stereo Selector switch to stereo position.

15. TAPE MONITOR SWITCH CHECK

Before removing or inserting inputs turn loudness control to minimum; with signal output of 1 kHz, on 3 volt scale at speaker terminals, Extra Input, switch Tape Monitor switch to IN position. Note complete loss of signal. Remove signal input from EXTRA input jack and plug signal into TAPE IN jack. Note signal restored as before. Switch tape monitor to OUT postion; again note signal lost. Remove signal from TAPE IN jack and insert in TAPE OUT jack. Note signal restored.

16. PREAMP GAIN CHECK

Return signal input to Extra input and adjust level for output of 1 kHz, 0 db on 3 volt scale with loudness control at maximum. Turn input selector to Phono. Attenuate input signal 45 db and plug input into Phono input. Output should be 0 on the 3 volt scale 42 db.
388 TEST PROCEDURE, AUDIO (Continued)

Switch phono sensitivity from "C" position to other positions and observe the following gain changes with respect to the "C" position:

<table>
<thead>
<tr>
<th>Position</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;B&quot;</td>
<td>-4 db +11 db</td>
</tr>
<tr>
<td>&quot;A&quot;</td>
<td>-8 db +7 db</td>
</tr>
</tbody>
</table>

Return Phono sensitivity switch to "C" position. Turn loudness control to minimum.

Remove input from Phono Input and place in Tape Head input. Turn loudness control to maximum. Output should be in the same +40 +2 db as it was in the "C" phono position.

17. PHONO AND TAPE HEAD FREQUENCY RESPONSE CHECK +2 db

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Tape</th>
<th>Phono</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 KHz</td>
<td>0 db</td>
<td>0 db (REF.)</td>
</tr>
<tr>
<td>10 KHz</td>
<td>-10 db</td>
<td>-14 db</td>
</tr>
<tr>
<td>100 Hz</td>
<td>+19 db</td>
<td>+13 db</td>
</tr>
</tbody>
</table>

18. HUM AND NOISE CHECKS

<table>
<thead>
<tr>
<th>Selector Switch Position</th>
<th>Loudness Max</th>
<th>Loudness Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra</td>
<td>4 mV</td>
<td>3 mV</td>
</tr>
<tr>
<td>Phone (shorted inputs)</td>
<td>30 mV</td>
<td>3 mV</td>
</tr>
<tr>
<td>Tape Head (shorted inputs)</td>
<td>45 mV</td>
<td>3 mV</td>
</tr>
</tbody>
</table>

Check for absence of high-frequency osc. with treble control at max. and loudness control at 2 o'clock.

19. REPEAT STEPS 2 THROUGH 18 FOR RIGHT CHANNEL.
TROUBLE
1. No B1 + 25V
2. B+ low approximately 7V

POSSIBLE CAUSE
1. C2 shorted, should be bypassed away from power resistors.
2. C1 or C2 installed backwards, observe polarity.
TROUBLESHOOTING GUIDE FOR OUTPUT SECTION

Note: On schematic where reference is made to Sheet 1, refer to Multiplex Section.

Trouble

1. Blows line fuses

2. Speaker fuse blown

3. Blown output transistors (no output) also cause bias and balance problems

4. Intermittent output

5. No output phone AM & FM, excessive hum

6. Noisy output phones only

7. Low Output

8. Noisy controls or intermittent switches

9. Earphones do not correspond to speakers.

Probable Cause

1. Shorted QP-8: shorted SR2/50, (D401 or D403),
shorted CEC 1000/30 (G407).

2. Check speakers & speaker cables

3. Shorted QP-8, shorted Q3, Q5, Q6, open resistor (R13, R14, R113, R116). If this occurs, replace all components listed in particular channel (R13, R14, R114, R113), also 390 ohm resistor on TD2 board (R27).
Defective (Q1 or Q2) could also cause this problem, but does not need replacing unless defective.

4. Check all solder connections on TD2, F5; or intermittent capacitors.

5. Defective Q1, Q2, or Q3 on PC-F5.


8. Use cleaning solvent without an oil base and spray liberally in affected area.

9. Mistwir on phono jack or leads coming from PC-02.
All Peak to Peak measurements taken with 15 volts RMS output in Phono pas, with 8 ohm load; also 4 millivolt input.

There is no appreciable gain through the output section.
FM TEST

FM TUNER SECTION TEST PROCEDURE

SET CONTROLS TO THE FOLLOWING:

Front Panel
- Input Selector - FM
- Stereo Select - Mono
- Tone Controls - Flat "0"
- Loudness-Power - "AC ON"
- Balance - "0"
- Rumble & Scratch Filters - "OUT"
- Tape Monitor - "OUT"
- Compensator - "Loudness"
- Speaker - "Main"
- Speaker - "On"

Internal
- Stereo Threshold Adj. - "Max. On"

Connect 15 kc low pass filter to Tape Out jacks of receiver.

1. MONO ALIGNMENT AND SENSITIVITY CHECK

Front End and IF Alignment
- With about 10 uv Generator output, align and peak front end for max. output (balance output within 2 db at 92 and 106 mc).
- With 3 uv input, align IF's for max. audio.
- With 2K uv input, align detector for min. distortion.

Sensitivity and Distortion
- Measure sensitivity of tuner with 2 uv RF input. Must obtain 30 db usable sensitivity at 92, 98, and 106 mc.
- Recheck distortion, 2K uv input 400 cps max. distortion 0.8%.

FM Hum Check
- Tune to 91.5 mc measure min. of 60 db drop from reference (plug may be reversed if necessary).
- Tune to 90 mc change modulation from 400 cts to 8 Hz. Note decrease of 12 32 db in output from 400 Hz reference.

Calibration Check
- Check calibration against stations - max. tolerance ±0.2 mc.

Filter Check
- With output meter and scope connected to Left channel Tape Out jack, check for less than 1 db change in output when switching in sub-channel filter (located on balance control).

Audio Hum Check
- Short base of Q305 to GND. - max. hum 1.5 uv each channel (Tape Output jack).

2. MULTIPLEX ALIGNMENT

Switch stereo selector switch to STEREO.

Pilot Adjustment
- Attach scope probe - low capacity probe - to test point at junction of L521, C509, B504, Q503-C and R507. Peak T501 and L501 for max. pilot. With VOM measure 4 and volt drop across 47K resistor B525.

Oscillator Sync. Adjustment
- Attach scope probe to Tape Output jack of Left channel. Switch scope input to horizontal input. Feed horizontal input from right channel output of master generator. Adjust oscillator frequency to left signal frequency. Pull Transistors Q501 and Q502. Adjust T502 for zero beat as seen on scope. Replace both Transistors Q501 and Q502 and return scope sync. to internal.
Separation Adjustment

c) Attach scope probe to Tape Output jack of Left channel. Adjust scope to obtain proper pattern and adjust L501 for min. output observed on scope. Adjust Left channel separation adjust (R314) for min. output. Attach scope probe to Tape Output jack of Right channel. Adjust Right channel separation adjust (R335) for min. output. Repeat Left and Right channel separation adjustments until no further improvements are observed.

d) Using Triplet V.O.M. measure voltage across 849 bulb. If necessary adjust resistor R504 for 0.9 to 1.2v.

e) Final separation measurements are to be made in each channel:
- 400 cps modulation
- 30 db min. separation

If separation specs are not met, recheck IF's for proper alignment. Also recheck oscillator sync. adjustment and separation adjustment described above. Seal separation pots.

Stereo Switchover Adjustment

f) Adjust threshold pot, so indicator is just extinguished off stations. Check switchover point to between 7-15 uv from generator.

3. AUDIO OUTPUT LEVELS

RF input to 100 uv. Stereo Selector switch to Mono. Note and record output voltage at Tape Out jacks. (Should be 2v ±2 db and within 2 db of each other.) Switch stereo selector to STEREO. Output must remain within 2 db of mono level.

4. Check and if necessary re-adjust meter to read zero OFF station.

388 TUNER - AM SECTION

1. Switch tuner to AM position, output from tape output jack.

2. Connect signal generator at 655 KHz through .05 capacitor to green lead from IF plate to feedthrough terminal in front end. Clip ground lead to chassis. Remove RF transistor.

3. Peak IF's and detector for maximum A.G.C. (tuning meter indication) of radio noise output, using no modulation. Final peaking should be done with 20 uv from generator with output level of 100 mv ±2 db.

4. Remove signal generator coupling to IF's, connect generator to external antenna terminals. Install RF transistor.

5. Tune oscillator and mixer coil to 600 KHz and oscillator and mixer trimmer to 1600 KHz. Tune RF trimmer at 1400 KHz, and antenna slug at 600 KHz.

6. Repeat Step 5 until unit is aligned and maximum output at given frequencies has been achieved. Check calibration.

   590 KHz  ±10 KHz  850 KHz  1030  1510 (tol. ±20 KHz)

7. Check signal-to-noise at 600 KHz. 100 uv for 10 db, at 1400 KHz, 10uv for 10 db.

8. Remove generator connection from external antenna terminals, loop around low end of loop antenna using 47 ohm resistor, and at 1400 KHz peak antenna trimmer.

9. Check output level left and right tape jacks, at 1000 uv output should be 250 mv ±2db.

10. With phones, check for AM calibration, oscillation, harmonic pickup, etc.

11. With AM tuned to low end of band, set meter adjust control so meter reads "0". Switch to FM and note little or no change, max. difference between AM and FM across band, 2 meter divisions.
Trouble Shooting Guide for 388 Front End & RF - 1

Trouble
1. No Signal FM & AM
2. No Signal FM
3. No Signal or low
4. Dead spots & oscillation F.M.
5. No AM Signal

Possible Cause
1. T201 Shorted to ground
   LRFC,33 open (L204, L207, L203)
2. Q204
3. Q203, Q202, Q201
4. L202 Open
5. T2, Q1, Q2, L210, L211
TROUBLESHOOTING GUIDE FOR AM - IF'S

TROUBLE  POSSIBLE CAUSE
1. No output  1. Be sure all screws are tightened on 4 corners of the board. L4 open, Q1 & Q2, D2
2. Good sens, but noisy 2. DGH3 (D1) open or off value
3. Meter pegging output 3. L1 open
4. Low meter indication 4. DGH-1 in meter ckt open
TROUBLE

Low output; no output

Erratic meter movement

POSSIBLE CAUSE

Defective Q301, Q302, Q303, Q301

Q301-303-5E1001  304-305-5E3001

.5 volts peak to peak
Output of IF with 100% modulation and IMV input.
<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
<th>Customer List</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-DC-14</td>
<td>Dial Cord</td>
<td>$1.75</td>
</tr>
<tr>
<td>A-PM-A</td>
<td>Flywheel Assembly</td>
<td>4.80</td>
</tr>
<tr>
<td>CEC-250/50-1000/30</td>
<td>Electrolytic Capacitor</td>
<td>3.90</td>
</tr>
<tr>
<td>CEC-1000/75</td>
<td>Electrolytic Capacitor</td>
<td>4.32</td>
</tr>
<tr>
<td>CEG-2000/65</td>
<td>Electrolytic Capacitor</td>
<td>4.74</td>
</tr>
<tr>
<td>CETH-5-15</td>
<td>Electrolytic Capacitor</td>
<td>8.4</td>
</tr>
<tr>
<td>D-SI-1</td>
<td>Silicon Diode</td>
<td>.40</td>
</tr>
<tr>
<td>F-A4X-2</td>
<td>Speaker Fuse</td>
<td>.24</td>
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<tr>
<td>F-SB-13/5</td>
<td>Power Fuse</td>
<td>.65</td>
</tr>
<tr>
<td>J-30T-5</td>
<td>Phone Jack</td>
<td>.65</td>
</tr>
<tr>
<td>KN-P-6LTT (4)</td>
<td>Plastic Knobs</td>
<td>.65</td>
</tr>
<tr>
<td>KN-P-6CTT (2)</td>
<td>Plastic Knobs</td>
<td>.65</td>
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<td>KN-P-8CTT (2)</td>
<td>Plastic Knob</td>
<td>.75</td>
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<tr>
<td>KN-P-12PTT (1)</td>
<td>Plastic Knob</td>
<td>9.00</td>
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<tr>
<td>M-SS-6</td>
<td>Meter</td>
<td>14.40</td>
</tr>
<tr>
<td>N-388-1</td>
<td>Panel</td>
<td>2.94</td>
</tr>
<tr>
<td>N-D-AM/FM-6</td>
<td>Dial Glass</td>
<td>6.00</td>
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<tr>
<td>GP-8</td>
<td>Power Transistor</td>
<td></td>
</tr>
<tr>
<td>RCV-50K-PH</td>
<td>Potentiometer</td>
<td>.96</td>
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<tr>
<td>RCV-50KT-SW-PP</td>
<td>Potentiometer</td>
<td>1.89</td>
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<tr>
<td>RCVC-100K-T</td>
<td>Potentiometer</td>
<td>1.75</td>
</tr>
<tr>
<td>RCVD-100K-SW-38</td>
<td>Potentiometer</td>
<td>2.45</td>
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<tr>
<td>BM-5-.82</td>
<td>Wire Wound Resistor</td>
<td>.20</td>
</tr>
<tr>
<td>BMV-100G</td>
<td>Wire Wound Resistor</td>
<td>1.20</td>
</tr>
<tr>
<td>SR-1-5</td>
<td>Silicon Rectifier</td>
<td>.64</td>
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<tr>
<td>SR-2-50</td>
<td>Silicon Rectifier</td>
<td>.80</td>
</tr>
<tr>
<td>SWU-27-2-1</td>
<td>Stereo Selector Switch</td>
<td>2.59</td>
</tr>
<tr>
<td>SWU-125</td>
<td>Input Selector Switch</td>
<td>6.12</td>
</tr>
<tr>
<td>SS-22-3/3A</td>
<td>Slide Switch</td>
<td>.30</td>
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<tr>
<td>SS-63</td>
<td>Slide Switch</td>
<td>.36</td>
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<tr>
<td>TR-12-18</td>
<td>Power Transformer</td>
<td>23.60</td>
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<tr>
<td>V-PL-49</td>
<td>Neon Light Bulb</td>
<td>.30</td>
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<tr>
<td>V-PL-1847</td>
<td>Pilot Light Bulb</td>
<td>.40</td>
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<tr>
<td>Z-PC-0-2</td>
<td>Output PC Board</td>
<td>5.62</td>
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<tr>
<td>Z-PC-IF-1</td>
<td>IF (FM) Board</td>
<td>40.00</td>
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<tr>
<td>Z-PC-IF-2</td>
<td>IF (AM) Board</td>
<td>26.24</td>
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<tr>
<td>Z-PC-P-5</td>
<td>Preamplifier PC Board</td>
<td>14.75</td>
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<tr>
<td>Z-PC-PS-2</td>
<td>Power Supply Board</td>
<td>11.60</td>
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<tr>
<td>Z-PC-TD-2</td>
<td>Tone/Bridge Board</td>
<td>26.96</td>
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<tr>
<td>Z-PC-WK-11</td>
<td>Multiplex Board</td>
<td>36.60</td>
</tr>
<tr>
<td>Z-AM/FM-7</td>
<td>Front End</td>
<td>41.10</td>
</tr>
<tr>
<td>Z-ANT-AM-5</td>
<td>AM Antenna</td>
<td>3.25</td>
</tr>
</tbody>
</table>
TRoubleshooting Procedure for IC-1F-4

FM I.F. Amplifier

VOLTAGE CHECKS (B1703)

Pin 1
- B+ 12 Volts
- Set VOM on 3 volt scale: positive lead of meter on pin 1, negative lead on pin 2 and/or pin 6. If voltage is apparent, then that particular stage of IC is operating normally

No output or distortion
- Meter operates okay: check diodes D303 and D304 for defect

Meter pegging either direction: defective D301 or D302
# MASTER PARTS LIST

## CAPACITORS

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C13, C113</td>
<td>CC-0.05</td>
</tr>
<tr>
<td>C603</td>
<td>CC-0.02</td>
</tr>
<tr>
<td>C3, C103</td>
<td>CC-0.0027</td>
</tr>
<tr>
<td>C4, C104</td>
<td>CC-0.0047</td>
</tr>
<tr>
<td>C401, C402</td>
<td>CC-0.01/1KV</td>
</tr>
<tr>
<td>C511</td>
<td>CC-0.12</td>
</tr>
<tr>
<td>C7, C107</td>
<td>CC-1.0M</td>
</tr>
<tr>
<td>C1, C101</td>
<td>CC-330</td>
</tr>
<tr>
<td>C601</td>
<td>CC-3300</td>
</tr>
<tr>
<td>C12, C112</td>
<td>CC-4.7-500</td>
</tr>
<tr>
<td>C109</td>
<td>CEC-2000/65</td>
</tr>
<tr>
<td>C406</td>
<td>GEO-250/50 1000/30</td>
</tr>
<tr>
<td>C405</td>
<td>GWE-1000/75</td>
</tr>
<tr>
<td>C9, C109</td>
<td>GMG-2000/65</td>
</tr>
<tr>
<td>C2</td>
<td>GT-30/75</td>
</tr>
<tr>
<td>C407</td>
<td>GEM-1000/30</td>
</tr>
<tr>
<td>C2, C102</td>
<td>CHM-.022/250V</td>
</tr>
<tr>
<td>C522, C521, C403, C604</td>
<td>CHM-.022/250V</td>
</tr>
<tr>
<td>C602</td>
<td>CHM-.0.47/250</td>
</tr>
<tr>
<td>C5, C6, C8, C105, C108</td>
<td>CHM-.068/250</td>
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</table>

## TRANSISTORS

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
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<tbody>
<tr>
<td>Q10, Q11, Q110, Q111</td>
<td>QP-8</td>
</tr>
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</table>

## RESISTORS

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
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<tbody>
<tr>
<td>R7, R107</td>
<td>RC11-390</td>
</tr>
<tr>
<td>R6, R106</td>
<td>RC11-1K</td>
</tr>
<tr>
<td>R1, R101</td>
<td>RC11-2.2M</td>
</tr>
<tr>
<td>R602</td>
<td>RC21-47</td>
</tr>
<tr>
<td>R3, R103, R607</td>
<td>RC21-220</td>
</tr>
<tr>
<td>R603</td>
<td>RC21-1.5</td>
</tr>
<tr>
<td>R605</td>
<td>RC21-1.8</td>
</tr>
<tr>
<td>R604</td>
<td>RC21-2.7</td>
</tr>
<tr>
<td>R6, R104</td>
<td>RC21-6.8</td>
</tr>
<tr>
<td>R2, R102, R9, R109, R18, R118</td>
<td>RC21-10K</td>
</tr>
<tr>
<td>R10, R110</td>
<td>RC11-12K</td>
</tr>
<tr>
<td>R603</td>
<td>RC21-39K</td>
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<tr>
<td>R12, R112</td>
<td>RC21-22K</td>
</tr>
<tr>
<td>R331, R334</td>
<td>RC21-100K</td>
</tr>
<tr>
<td>R601</td>
<td>RC21-220K</td>
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<tr>
<td>R401</td>
<td>RC21-820</td>
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<tr>
<td>R14, R114</td>
<td>RC31-3.3</td>
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<tr>
<td>R13, R15, R113, R115</td>
<td>RHW-.52</td>
</tr>
<tr>
<td>R508</td>
<td>RHW-100G</td>
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## KNOWS

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
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<tbody>
<tr>
<td>KN-P-8CT</td>
<td>Plastic Knob</td>
</tr>
<tr>
<td>KN-P-6CTT</td>
<td>Plastic Knob</td>
</tr>
<tr>
<td>KN-P-6LTT</td>
<td>Plastic Knob</td>
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<tr>
<td>KN-P-12PTT</td>
<td>Plastic Knob</td>
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</tbody>
</table>
CHOKES
L601-------------------------------L-RPC-.05

DIODES
D1, D2, D101, D102-----------------SR-1-5
D401, D402------------------------SR-2-50
D601-------------------------------D-S1-1

POTENTIOMETERS
R609-------------------------------RVC-50K-PH
R601-------------------------------RVC-50KTSW-PP
R8, R106, R111, R111-----------------RVCVC-100KT
R3, R109-------------------------------RVCVD-100KTSW-3B

TRANSFORMERS
T1---------------------TR-12-18
T1---------------------TR-12-19

SWITCHES
SW-37-2-1
SW-125
SS-22-3/3A
SS-43

MISCELLANEOUS
A-F-1
A-FN-A
A-PSR-1
A-F-5-3/8
F-AOX-2
F-SB-14A
J-3-ST-5
MS-6

SUBsemblies
Z-AM-FM-7
Z-PC-NX-11
Z-PC-IP-2
Z-PC-PS-2
Z-PC-C-2
Z-PC-IP-1
Z-PC-P-5
Z-PC-TD-2
Z-WF-3

Choke
Silicon Rectifier
" Silicone Diode
Stereo Threshold
Balance
Bass, Treble
Loudness
Power Transformer
Power Transformer Overseas
Rotary Switch Stereo
Rotary Switch Input
Loudness compensator, Speaker
Rumble filter, Scratch filter,
Tape
Phono Sensitivity
Plastic Feet
Flywheel ASS'y
Pointe
Nylon Pulley
Fuse
" Jack Triple
Meter
AM-FM Front End
Multi plex (printed Circuit
board complete)
IX-AM (printed circuit board
complete)
Power Supply (printed board
complete)
Output (printed circuit board
complete)
FM IF (printed circuit board
complete)
Pre-amp (printed circuit board
complete)
Tone Driver (printed circuit board
complete)
Whistle Filter
### Capacitors

<table>
<thead>
<tr>
<th>Capacitor Mica</th>
<th>Capacitor Tantalum Tubular</th>
<th>Ceramic Capacitor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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### Transistors

<table>
<thead>
<tr>
<th>Transistor</th>
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<tr>
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### Resistors

<table>
<thead>
<tr>
<th>Resistor Value</th>
<th>Resistance Value</th>
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<tbody>
<tr>
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<td></td>
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</table>

### Diodes

<table>
<thead>
<tr>
<th>Diode Type</th>
<th>Diode Value</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
MISCELLANEOUS

L501------------------------LV-.015T-PC
L502------------------------LV-.015T-PC
L503------------------------L-RFC-.01
T501------------------------TRV-.015T-PC
T502------------------------TRV-.03HTT-PC
RGW4 x 10K-PC
PEC-312

Variable Coil
Variable Coil
RF Choke
Variable Transformer (Can Type)

Variable Carbon Resistor
Packaged Electrical Circuits
CAPACITORS
C1, C2 ---------------CM-.22/250

RESISTORS
R1, R9------------------RW5-12
R2, R8------------------RC31-220
R3, R7------------------RC31-270
R5----------------------RC21-4.7K
R4, R6------------------RCW1-82K

5 Watt Wire Wound Resistor
1 Watt Carbon Resistor
1/2 " " "
1/4 " " "
1/8 " " "
CAPACITORS
C301-----------------CTT-10/20
C302, C326-----------CC-.001
C303, C306, C311, C317,
C316, C321, C327-------CC-.02
C304, C305, C307, C309,
C308, C310, C313
C314, C318, C319-------CC-.005
C312, C320-----------CC-33 NPO
C315-----------------CC-10 NPO
C321-----------------CTT-22/10
C322, C324-----------CC-270K
C325-----------------CC-1.0

Capacitor Tantalum Tubular
Ceramic Capacitor

TRANSISTORS
Q301, Q302---------See Transistor Chart
Q301-----------------QRF-2
Q304, Q305---------SE3001 or ME3001

RF Transistors
Transistor

RESISTORS
R301-----------------RG21-100K
R302, R330-----------RG21-10K
R305, R309, R326------RG21-330
R306-----------------RG21-2.2K
R305, R312, R319------RG21-47K
R306, R316-----------RG21-4.7K
R307, R313, R320, R323,
R328-----------------RG21-220
R310, R317-----------RG21-15K
R311, R318-----------RG21-22K
R315, R316, R322, R308--RG21-470
R321-----------------RG21-47
R324-----------------RG21-330
R325-----------------RG21-27
R327-----------------RG21-1.8K
R329-----------------RG21-68

1/2 Watt Carbon Resistor
1/2 " " "
1/2 " " "
1/2 " " "
1/2 " " "
1/2 " " "
1/2 " " "
1/2 " " "

DIODE
D301, D302---------DM-2
D303, D304---------DM-1

Diode

MISCELLANEOUS
T301, T302, T303------TR7-10.7 FC
T304-----------------TRV-10.7D-FC
L301----------------L-RFC-2.2

Variable Transformer (Can Type)
RF Choke
## Master Parts List

### Capacitors
- C1, C7: CMM-22/250
- C2, C5: CC-0.05
- C3, C13: CC-0.02
- C6: CEPC-10/15
- C7, C8, C9: CC-0.05
- C10: CETM-5/15
- C11, C14: CC-0.0032

- **Capacitor Mylar Molded**
- **Ceramic Capacitor**
- **Electrolytic Printed Circuit Type**
- **Ceramic Capacitor**
- **Miniature Tubular Electrolytic**
- **Ceramic Capacitor**

### Transistors
- Q1, Q2: S21002 or ME1002

### Resistors
- R1, R7, R12: RG11-470
- R2: RG11-47K
- R3: RG11-15K
- R4: RG11-1K
- R5: RG11-330
- R6, R13, R14: RG11-220
- R9: RG11-15K
- R10: RG11-33K
- R15: RG11-39K
- R16: RG11-50K
- R17: RG11-1.5K

- **1/4 Watt Carbon Resistor**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**
- **1/4 " " "**

### Diode
- D1: DN-3
- D2: DI-1

- **Diode**

### Miscellaneous
- T1, T2: TRV-455-IF-T-PC
- T3: TRV-455-DP-PC
- L1: L-RPG-80
- L2, L3: L-RPG-2.2
- LA: L-RPG-0.05

- **Variable Transformer (Can Type)**
- **Variable Transformer (Can Type)**
- **RF Choke**
- **" "**
- **" "**
### Master Parts List

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>** Capacitors**</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>CETM-5/15</td>
</tr>
<tr>
<td>C2, C3</td>
<td>CET-50/75</td>
</tr>
<tr>
<td>C4</td>
<td>CETM-250/30</td>
</tr>
<tr>
<td>** Resistors**</td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>RC21-8.2K</td>
</tr>
<tr>
<td>R2</td>
<td>RC21-150</td>
</tr>
<tr>
<td>R3</td>
<td>RUS-1K</td>
</tr>
<tr>
<td>R4</td>
<td>RC31-470</td>
</tr>
<tr>
<td>R5</td>
<td>RW3-270</td>
</tr>
<tr>
<td>R6</td>
<td>RH3-220</td>
</tr>
<tr>
<td>R7</td>
<td>RC41-150</td>
</tr>
<tr>
<td>** Diodes**</td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>DZ-12</td>
</tr>
<tr>
<td>D2</td>
<td>DZ-27</td>
</tr>
<tr>
<td><strong>Other Components</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1/2 Watt Carbon Resistor</td>
</tr>
<tr>
<td></td>
<td>1/2 Wire Wound Resistor</td>
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<tr>
<td></td>
<td>1 Watt Carbon Resistor</td>
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<tr>
<td></td>
<td>1 Watt Wire Wound Resistor</td>
</tr>
<tr>
<td></td>
<td>2 Watt Carbon Resistor</td>
</tr>
<tr>
<td></td>
<td>Zener Diode</td>
</tr>
</tbody>
</table>
### Capacitors
- C1, C5: CEPC-1/25
- C2, C3: CET-10/20
- C6: CEPC-100/6
- C8, C11: CEPM-250/3
- C9: CD-47 HFO
- C10: CEPC-25/25
- C12: CET-50/75
- C15: CD-130

### Transistors
- Q1: 2N2925 or 2N3711
- Q2: 2N2924 or 2N3710
- Q7: QA-10 (Green dot)
- Q6: QA-9
- Q5: QA-10 (Red/Blue/Green)
- Q6: QA-10 (Blue/Green)

### Resistors
- R2: RC21-4.7K
- R3: RC21-4.7K
- R4, R5, R21, R25: RC21-15K
- R6: RC21-1.8K
- R7: RC21-1.2K
- R8: RC21-68
- R9: RC21-33K
- R10: RC21-56K
- R11, R16: RC21-2.7K
- R12: RC21-6.8K
- R13, R29: RC21-3.3K
- R15: RC21-3.9K
- R16, R23: RC21-270
- R17: RC21-18K
- R18: RC21-82K
- R19, R26: RC21-47
- R20: RC21-3.3K w/CG120
- R21: RC21-220
- R24: RC21-1.5K w/CG470
- R27, R28: RC21-390
- R30: RC21-1K

### D'Code
- D1: SR-1-5

### Notes
- Electrolytic Printed Circuit Type Capacitor Tantalum Tubular
- Electrolytic Printed Circuit Type Capacitor
- Miniature Tubular Electrolytic Ceramic Capacitor
- Electrolytic Printed Circuit Type Capacitor Electrolytic Tubular Ceramic Capacitor
- Transistor
- 1/2 Watt Carbon Resistor
- Variable Carbon Resistor
- Silicon Rectifier
<table>
<thead>
<tr>
<th>PARTS LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAPACITORS</strong></td>
</tr>
<tr>
<td>C1----------: CERM-2/25</td>
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<tr>
<td>C2, C3--------: CERM-10/25</td>
</tr>
<tr>
<td>C4, C10-------: CC-330K</td>
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<tr>
<td>C5----------: CERM-250/3</td>
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<tr>
<td>C6----------: CERM-5/15</td>
</tr>
<tr>
<td>C7----------: CERM-50/25</td>
</tr>
<tr>
<td>C8----------: CC-.0056 10%</td>
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<td>C9----------: CC-.0012 10%</td>
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<tr>
<td>C11---------: CC-470K</td>
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<tr>
<td>C12---------: CC-630/10%</td>
</tr>
<tr>
<td><strong>TRANSISTORS</strong></td>
</tr>
<tr>
<td>Q1---------: See Transistor Chart</td>
</tr>
<tr>
<td>Q2---------: 2N3926 or 2N3703</td>
</tr>
<tr>
<td>Q3---------: 2N2613</td>
</tr>
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<td><strong>RESISTORS</strong></td>
</tr>
<tr>
<td>R1, R5, R9---: RG21-63K</td>
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<tr>
<td>R2, R9--------: RG21-33K</td>
</tr>
<tr>
<td>R3---------: RG21-470</td>
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<tr>
<td>R4, R10------: RG21-5.6K</td>
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<td>R6, R15------: RG21-12K</td>
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<td>R7---------: RG21-27K</td>
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<td>R11--------: RG21-1K</td>
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<td>R12--------: RG21-66K</td>
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<td>R13--------: RG21-820</td>
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<td>R14, R16-----: RG21-47K</td>
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<tr>
<td>R17--------: RG21-4.7K</td>
</tr>
<tr>
<td><strong>INDUCTORS</strong></td>
</tr>
<tr>
<td>LI----------: L-RPC-.05</td>
</tr>
</tbody>
</table>

- **Miniature Tubular Electrolytic**
- **Ceramic Capacitor**
- **Miniature Tubular Electrolytic**
- **Ceramic Capacitor**
- **Transistor**
- **1/2 Watt Carbon Resistor**
- **1/2**
- **1/2**
- **1/2**
- **1/2**
- **1/2**
- **1/2**
- **1/2**
- **1/2**
- **1/2**
- **RF Choke**
# Master Parts List

## Capacitors
- C214, C223, C217, C206, C206 \(-\text{CC-.02} \quad \text{CC-.001} \quad \text{CC-.005} \quad \text{CC-.47} \quad \text{CC-5 NPO} \quad \text{CC-8.2 N500} \quad \text{CC-12NPO} \quad \text{CC-15 NPO} \quad \text{CCF-.01} \quad \text{CTV-10} \quad \text{CMR-.068/50 20%} \)
- Ceramic Capacitor
- Capacitor Feed Thru
- Trimmer Capacitor
- Mylar Capacitor

## Transistors
- Q204, Q201, Q203 \(-\text{Q-RF-2} \quad \text{Q-RF-3} \)
- Transistors

## Resistors
- R206, R201, R202, R203, R204, R212 \(-\text{RC11-68} \quad \text{RC11-220} \quad \text{RC11-470} \quad \text{RC11-1K} \quad \text{RC11-2K} \quad \text{RC11-4.7K} \quad \text{RC11-2.2K} \quad \text{RC11-47} \)
- 1/4 Watt Resistor

## Diode
- D201 \(-\text{D-S1-1} \)
- Silicone Diode

## Coil
- L203, L207 \(-\text{L-RPC-33} \quad \text{L-RPC-1} \quad \text{L-RPC-2.2} \quad \text{L-RPC-31} \quad \text{L-RPC-29} \)
- RF Choke
- Antenna Coil FM
- OSC & Mixer Coil FM

## Transformer
- T-201 \(-\text{TRV-10.7 PC} \)
- IF Transformer

## Sub Assembly
- Z-PC-RF-1
- RF PC Board Assembly

## Miscellaneous
- XQ-4R-w/mounting rings
- XQ-4R-w/mounting rings
- Transistor Socket
TO:       All Reps & Warranty Service Stations

SUBJECT: P.C. boards used in the 388

The following information on the 388 supplements the list of P.C. board
changes already sent to you.

Use this information when ordering P.C. boards from the factory.

<table>
<thead>
<tr>
<th>UNIT</th>
<th>PC BOARD</th>
<th>LABEL</th>
<th>USE</th>
<th>CHANGE REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>388</td>
<td>Z-PC-O-2</td>
<td>N-PC-113-1L</td>
<td>Output</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Z-PC-IF-1</td>
<td>N-PC-107-1L</td>
<td>FM/IF strip</td>
<td>Remove R321 (RC21-47)</td>
</tr>
<tr>
<td></td>
<td>Z-PC-IF-2</td>
<td>N-PC-118-1L</td>
<td>AM/IF strip</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Z-PC-P-5</td>
<td>N-PC-111-1L</td>
<td>Preamp</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Z-PC-PS-2</td>
<td>N-PC-120-1L</td>
<td>Power Supply</td>
<td>None</td>
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<td>Z-PC-TD-2</td>
<td>N-PC-110-2L</td>
<td>Tone/Driver</td>
<td>None</td>
</tr>
</tbody>
</table>

Best regards,

Fred Holmes
Service Manager

FH: kc
DATE: February 2, 1966
TO: Reps & All Warranty Service Stations
FROM: F. Holmes
SUBJECT: Usage of QRF-3 in Z-AM/FM-7 and Z-FM-16

Our present vendor, Texas Instruments, has established the following color code:

<table>
<thead>
<tr>
<th>IdSS in ma</th>
<th>Color Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 - 1</td>
<td>Red</td>
</tr>
<tr>
<td>1 - 2</td>
<td>Orange</td>
</tr>
<tr>
<td>2 - 4</td>
<td>Yellow</td>
</tr>
<tr>
<td>4 - 8</td>
<td>Green</td>
</tr>
<tr>
<td>8 - 15</td>
<td>Blue</td>
</tr>
</tbody>
</table>

These field-effect transistors shall be used in the following manner:

Choice | Q201 | Q202 | Q203 |
-------|------|------|------|
1      | Green| Yellow| Orange|
2      | Blue | Green| Yellow|
3      | Yellow| Orange| Red|

Within any front end the above choices must be used as indicated above, i.e., no other mixing of colors.

Fred Holmes  
Service Manager

FH: kc
## SERVICE BULLETIN
FOR
MODEL 388
AM-FM-MW TUNER-AMPLIFIER

### SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>TUNER (FM-NPR)</strong></th>
<th><strong>TUNER</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable Sensitivity (S/N)</td>
<td>1.6 μV</td>
</tr>
<tr>
<td>Signal to Noise Ratio</td>
<td>75 dB</td>
</tr>
<tr>
<td>Total Harmonic Distortion, Mono</td>
<td>0.8%</td>
</tr>
<tr>
<td>Frequency Deviation (W silicon less than</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Tuner</strong></td>
<td><strong>Response</strong></td>
</tr>
<tr>
<td>Capture Ratio</td>
<td>50 to 15,000 cps = 1 dB</td>
</tr>
<tr>
<td>Selectivity (600 kHz off channel)</td>
<td>4.0 dB</td>
</tr>
<tr>
<td>Spurious Response Rejection (Gross modulation rejection)</td>
<td>65 dB</td>
</tr>
<tr>
<td>19 kHz Pilot Suppression</td>
<td>90 dB</td>
</tr>
<tr>
<td>35 kHz Sub-carrier Suppression</td>
<td>60 dB</td>
</tr>
<tr>
<td>AM Suppression</td>
<td>100 dB</td>
</tr>
<tr>
<td>Tuning Range</td>
<td>87 to 108 MHz</td>
</tr>
<tr>
<td>Frequency Calibration</td>
<td>0.3%</td>
</tr>
<tr>
<td><strong>SEPARATION</strong></td>
<td><strong>35 dB</strong></td>
</tr>
</tbody>
</table>

* * This is limited to 30 degrees stereo broadcast specifications. All H. H. Scott tuners have a wider frequency response.

### AMPLIFIER

<table>
<thead>
<tr>
<th><strong>Tape Output</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage output to tape recorder</td>
</tr>
<tr>
<td>Recommended load resistance: greater than</td>
</tr>
<tr>
<td>Recommended cable capacitance: less than</td>
</tr>
<tr>
<td><strong>Max. Impedance</strong></td>
</tr>
<tr>
<td>Signal for rated output (switch selected)</td>
</tr>
<tr>
<td>S/N Ratio</td>
</tr>
<tr>
<td><strong>Tape Head - Input Impedance</strong></td>
</tr>
<tr>
<td>Signal for rated output</td>
</tr>
<tr>
<td>S/N Ratio</td>
</tr>
<tr>
<td><strong>High Level Inputs - Input Impedance</strong></td>
</tr>
<tr>
<td>Signal for rated output</td>
</tr>
<tr>
<td>S/N Ratio</td>
</tr>
<tr>
<td>Frequency Response in flat position</td>
</tr>
<tr>
<td>Treble controls: boost and cut at 10,000 cps</td>
</tr>
<tr>
<td>Bass controls: boost and cut at 50cps</td>
</tr>
<tr>
<td>Loudness Compensation, maximum</td>
</tr>
<tr>
<td><strong>Scratch Filter</strong></td>
</tr>
<tr>
<td>Baffle filter</td>
</tr>
<tr>
<td><strong>Music Power Rating (watts/channel) @ 0.8% harmonic distortion</strong></td>
</tr>
<tr>
<td><strong>Continuous Output - Single Channel @ 8 ohms</strong></td>
</tr>
<tr>
<td><strong>Continuous Output - Both Channels @ 8 ohms</strong></td>
</tr>
<tr>
<td>0.8% Harmonic Distortion</td>
</tr>
<tr>
<td>Total Harmonic Distortion at rated output</td>
</tr>
<tr>
<td>Frequency Response - Power Amplifier @ 1 w</td>
</tr>
<tr>
<td>Power Bandwidth at rated distortion (3dB method)</td>
</tr>
<tr>
<td>Hum and Noise</td>
</tr>
<tr>
<td>Distortion Factor</td>
</tr>
<tr>
<td>Line Voltage and Frequency</td>
</tr>
<tr>
<td>Power Consumption @ 117 volts, 60 cps</td>
</tr>
</tbody>
</table>

### Balance Adjust
Set balance controls on channel 1 for 35 volts at balance test point. (see schematic)

#### Bias Adjust
**NOTE:** Bias adjustment should be made only after the unit has been run for 2 minutes at the clipping point into an 8 ohm load.

Set the bias controls on each channel for 8 mA using a Triplet model 630 V.O.M. set on the 12 mA scale. If the Triplet model 630 V.O.M. is not available, use a DC VOM and adjust bias for 17 mA.

**D-388-2**

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1. Turn the top of the front end wheel all the way toward the rear of the chassis.
2. Loop the fixed loop of the dial cord string around hook "A".
3. Follow figure to flywheel. Make 2 complete turns around flywheel shaft and follow across to point "F".
4. Hold dial cord and turn front end wheel one complete turn.
5. Bring dial cord through notch on front end wheel and hook the spring over hook "E".

Dial cord    A-D(14)
Dial cord spring    A-23-1
SCOTT MODEL 388 AM-FM-FM STEREO RECEIVER

Set 1 - Right
COURTESY OF H. H. SCOTT, INC.

Set 1 - left