

210

# SCOTT

## SERVICE MANUAL FOR MODEL 341 SOLID STATE STEREO RECEIVER

### AUDIO SECTION

#### EQUIPMENT NEEDED

VOM  
Audio Oscillator  
VTVM  
Oscilloscope  
Distortion Meter  
Variac  
AC Supply Fixture

#### Set Controls to the Following

Remote Speaker	Off
Input Selector	Extra
Stereo Switch	Stereo
Tone Controls	Flat "0"
Loudness	Min.
Stereo Bal. Sw.	Norm.
Vol. Comp.	Loud
Speaker Switch	On
Power Switch	Off
Balance Pot.	Flat "0"

#### 1. Bias and Balance Settings and Voltage Checks

Turn unit on - watch carefully for any signs of voltage shorts. With bias pots (1K) still full ccw (from top of unit), check supply for 40-45. Adjust bias pots for 0.8 mA current from each test point in the rear of the unit to ground.

#### 2. Sensitivity Check

Audio osc, to EXTRA at 0.25 (+2 dB) input. Connect 8 ohm load to main speaker taps. Turn loudness pot to max., observe output of 10 watts (9 V). Check tape output jact with troubleshooting lead for approx. 6 dB above input signal.

#### 3. Distortion Check

At 9 V output max. distortion 0.6%.

#### 3a. Balance Pot

With input and output connected to left channel, note loss of 0 dB when pot is rotated to "L" position. When pot is rotated to "R", note a 45 dB drop in output. With input and output in the right channel, pot rotation to "R" will indicate no drop in output, and in "L" position a 45 dB drop will occur.

#### 4. Tape Monitor Switch Check

Audio osc, to EXTRA at .25 input to L channel. Note output at left channel speaker terminal. Put tape monitor switch in the IN position. Note loss of output. Connect jumper cable from L channel tape OUT to L channel tape IN.

AUDIO SECTION

Note restoration of signal out. Repeat process for R channel, then return tape monitor switch to OUT position.

5. Speaker Switch and Phone Jack Check

Main speaker switch to OFF position. Note complete loss of signal. Loudness to min. Insert phone plug to phone jack, remove speaker leads and connect to phone plug leads. Loudness to max. note drop of 26 +2 dB. Switch Main speakers in. Note restoration of signal. 8 ohm load to Remote speaker tabs. Main speaker switch OFF, remote switch ON, note same output as main speakers. With MAIN & REMOTE switches on, note drop in output of 1 to 2 dB. Return speaker switch to MAIN position and load to Main speaker tabs.

6. Loudness Volume Check

Loudness vol. sw. to LOUD pos. Loudness pot to 4 flat pos., osc. to 1 kHz. Take ref. Osc. to 100 Hz. Note rise of 7 +2 dB. Switch osc. to 10 kHz. Note rise of 0 +2 dB. Loudness vol. sw. to Vol. pos., osc. to 1 kHz. Take ref. At 100 Hz and 10 kHz note 0 +2 dB from original ref. Loudness pot to max., osc. at 1 kHz, output 9V. Loudness pot to min. Note drop of 70 dB. Loudness pot to max.

7. Tracking Check

In 10 dB steps check tracking of L & R channels, output may be no more than 3 dB between channels down to 40 dB down.

8. Crosstalk and Stereo Switch Check

At 1 kHz loudness pot to max., output to 9 V, mono-stereo switch to STEREO, bal. switch to BAL. LEFT. Note drop of 4 +2 dB. Bal. switch to BAL. RIGHT note additional drop of 50 dB minimum. Return controls to previous settings. Loudness pot to max., attenuate to 0 dB on 1 V range.

9. Tone Control Check (0 dB 1 V range)

<u>Bass 100 Hz</u>	<u>Treble 10 kHz</u>
Boost - 10 dB +2 dB	Boost - 10 dB +2 dB
Cut - 10 dB +2 dB	Cut - 14 dB +2 dB

10. Frequency Response Check (approx. 1 watt level)

Osc. 0 dB 1 kHz reference on 1 V range. Sweep osc. from 35 Hz to 20 kHz, note maximum variation of +2 dB. 3 dB down point 20 Hz or lower  
3 dB down point 30-35 kHz

11. Regulation Check

At 1 kHz 0 dB 1 V range remove 8 ohm load switch. Output rise of 1 dB Max.

12. Preamp Gain Check @ 1 kHz

Attenuate input 36 dB, input leads to phono. Output 0 dB 1 V range +1 dB. Stereo mono switch to MONO, note drop of 6 dB in output. Stereo mono switch to STEREO.

AUDIO SECTION13. Preamp Frequency Response Check

1 kHz	0 dB (ref)
10 kHz	-13 +2 dB
100 Hz	+13 +2 dB

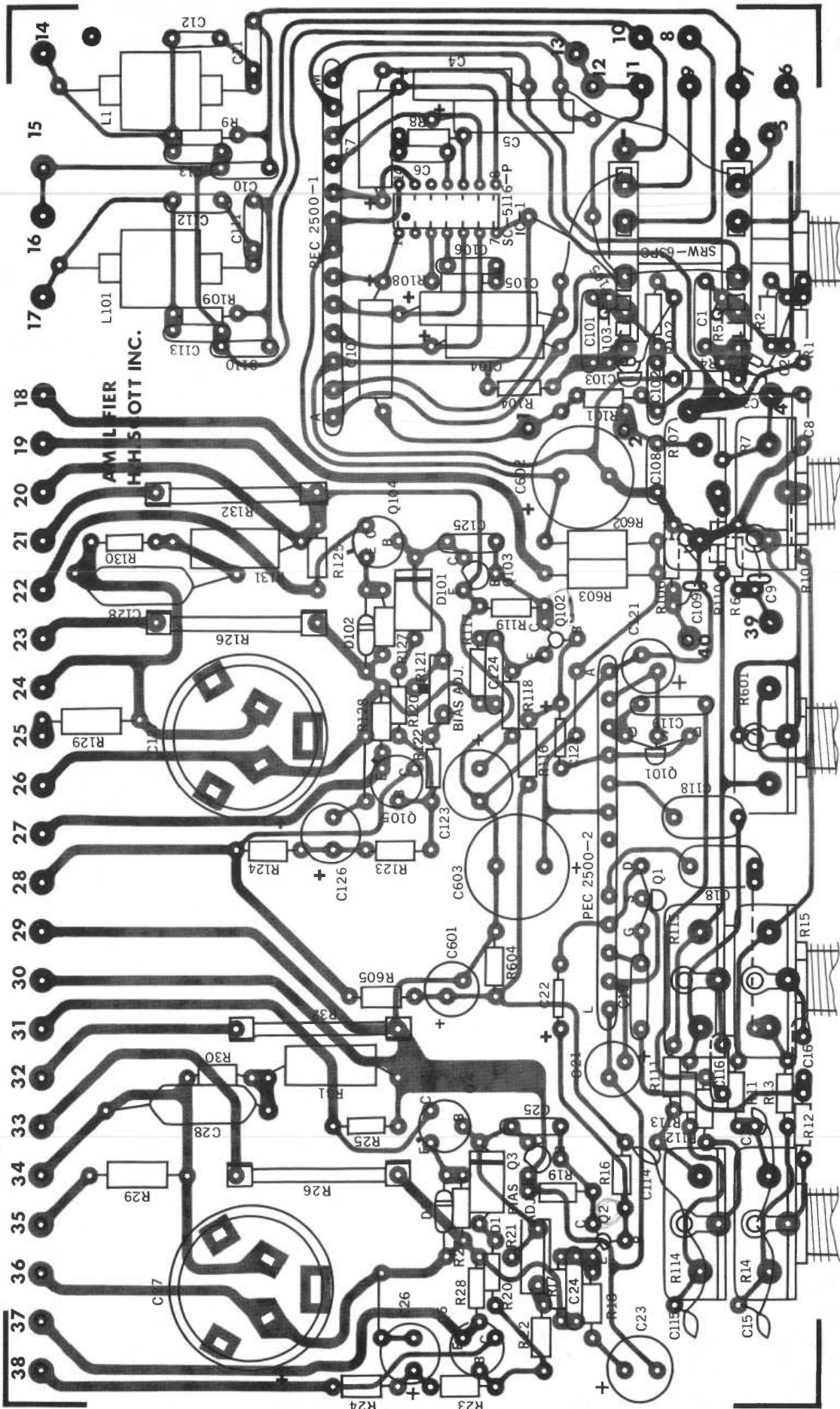
14. Hum Checks ( input shorted)

<u>Position</u>	<u>Loudness Pot</u>	<u>Max Hum</u>
Extra	0	5 mV
Extra	10	5 mV
Phono	10	30 mV

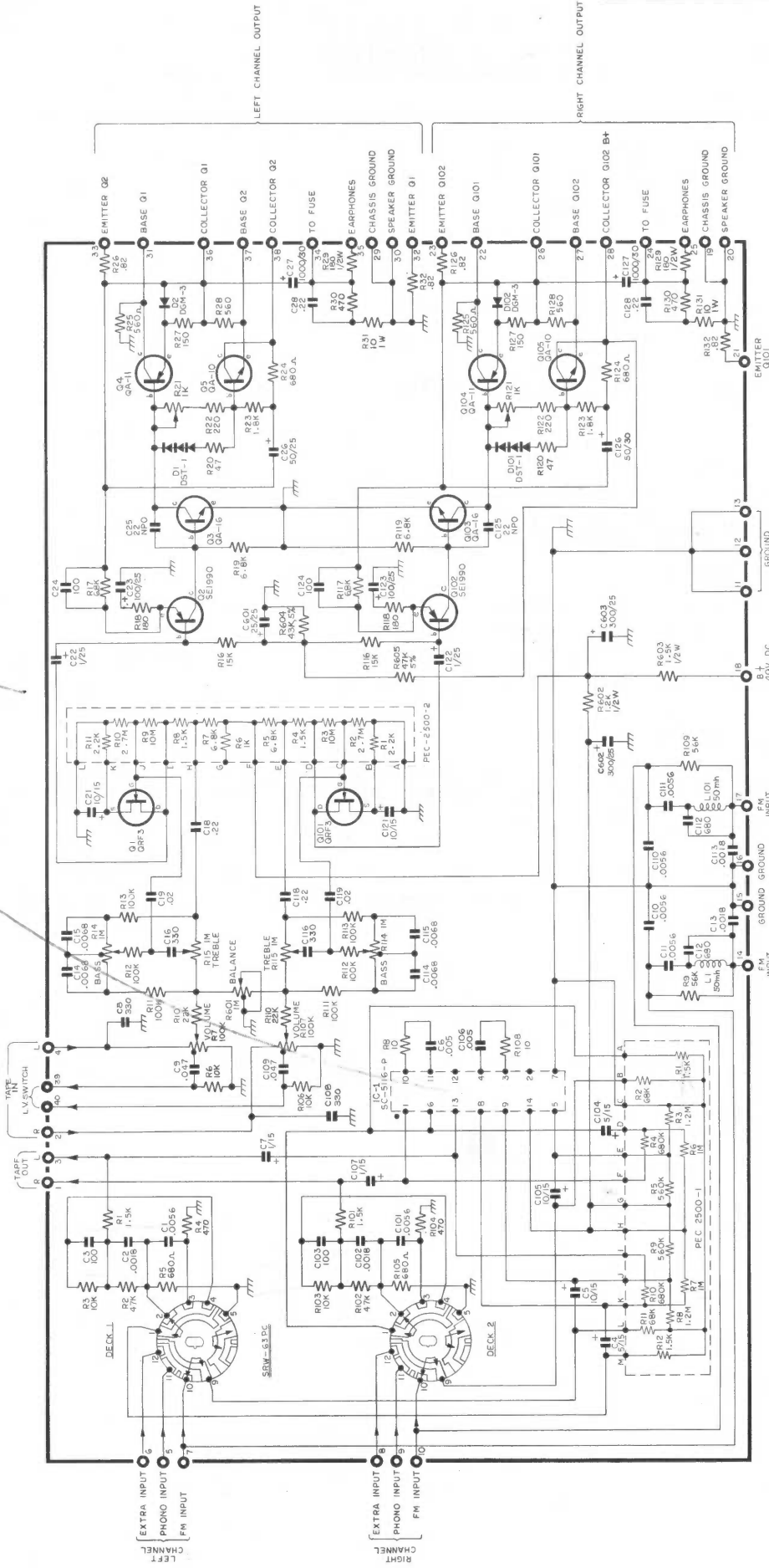
## 15. Repeat steps 2 through 15 for R channel

- Q1, Q101 - QA-20
- Q2, Q102 - S1990
- Q3, Q103 - QA-16
- Q4, Q104 - QA-11
- Q5, Q105 - QA-10

IC-1 SC-5116P



*Tap to rear*



HIGHEST SERIES NO'S:  
R32 R132 C28 C128  
Q5 Q105 D2 D102  
16600000

- NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL RESISTANCE IN OHMS ±10%  
CAPACITANCE IN P.F. ±10% WATT. AND VOLTS ARE D.C.  
1.5% MEASURED WITH 200V A.C. V.M.  
2. ARROW HEADS INDICATE MAIN SIGNAL PATH.

TUNER SECTIONEQUIPMENT NEEDED

VTVM

Oscilloscope

VOM

Distortion Meter

FM Generator (or source)

MX Generator (or source)

Audio Generator (or source)

Set Controls to the Following:

Separation Pots                      Max CW

Input Select. Switch              FM

1. Mono Alignment and Sensitivity CheckFront End and IF Alignment

With about 10 uV generator output, align and peak front end for max. output.

With 3 uV input, align IF's for max. audio.

With 1 or 2 K uV input, align detector. Bottom slug for max. audio output and top slug for min. distortion and 0 center on meter.

2. Sensitivity and Distortion

Measure sensitivity of tuner with 6 uV rf input. Must obtain 30 dB usable sensitivity at 92, 98, and 106 MHz.

Recheck distortion, 2 K uV input. 400 Hz-max. distortion of 0.8%. Audio output spec. at 1 K 0.8 to 1.5 and AGC meter Spec at 1 K at least 3 divisions.

TUNER SECTION3. FM Hum Check

Tune to 91.5 MHz, measure min. of 55 dB (may reverse ac plug)

De-emphasis Check

Tune to 90 MHz (change mod. to 8 kHz), note decrease of 12 +2 dB in output.

Calibration Check

Check calibration against stations - max. tolerance +.2 MHz.

4. Multiplex Alignment - Unit to Stereo

- (a) Pilot adj.  
Scope probe (Low-Cap) to test point at base of Q3, peak L2 and L3 for max. pilot. With VOM, measure 2.5 to 3.5 dc across 2.2 K resistor in the emitter of Q3.
- (b) With VOM across 2.2 K resistor carefully tune L2 and L3 for max., then tune T1 for a dip.
- (c) Separation adj.  
Output from Left channel. Adjust scope to obtain pattern and adjust L2 for min. output, observing scope. Adjust L separation pot for min. output. Tuner output from Right channel and adjust R separation pot for min. as outlined above. Repeat between L & R until no further improvement is seen.
- (d) Final separation measurements to be done in each channel:

<u>Audio Modulation</u>	<u>Minimum Separation</u>
400 Hz	30 dB

If separation specs are not met, recheck IF's for proper alignment. Also recheck steps 4 (b) and 4 (c).

(e) Stereo Switchover Check

Check switchover point (at generators), min. 10 uV, max. 30 uV. Switchover may be adjusted by threshold pot on MX board.

(f) Final Listen Check

Check all inputs and outputs (including phone jacks), switches and controls for proper operation. Check over-all appearance and scrap inside unit. Check for proper switching of stereo light. Check calibration against stations, specs are +0.2 MHz.