

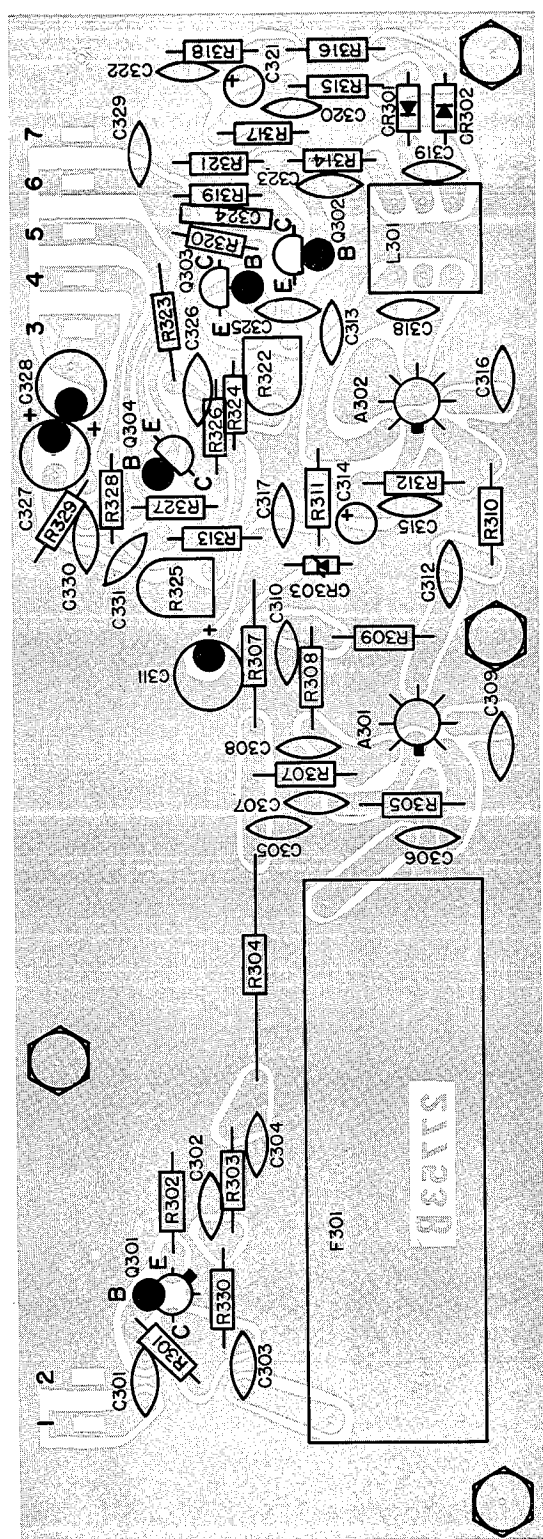
The Citation Fourteen

**Professional FM/Stereo FM Tuner
with Dolby NR**

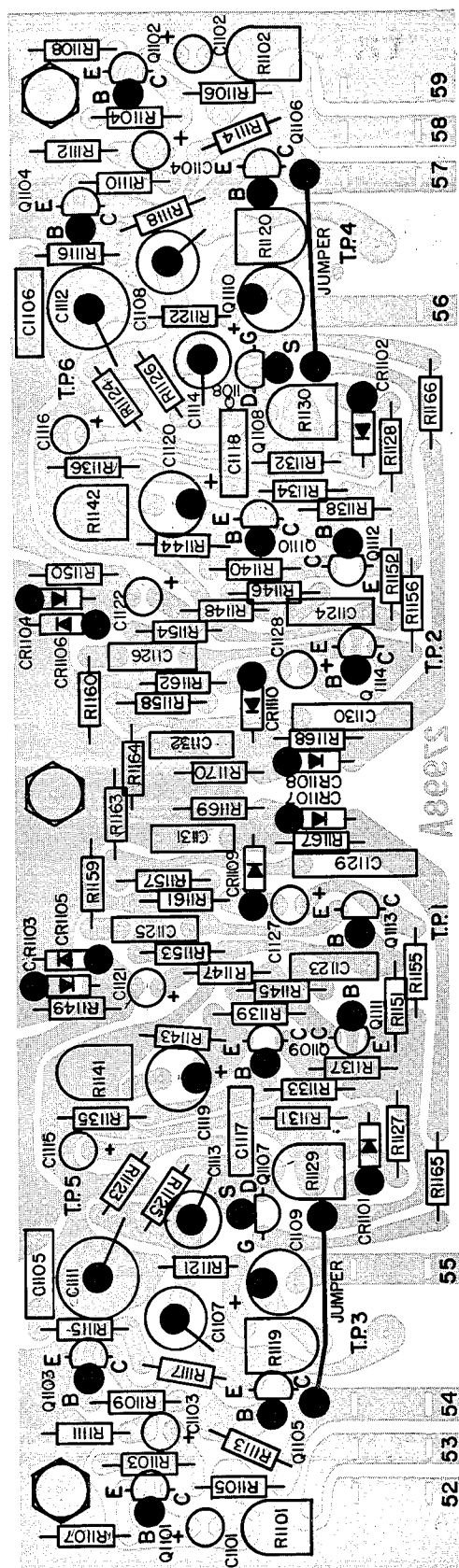
Technical Manual

harman/kardon

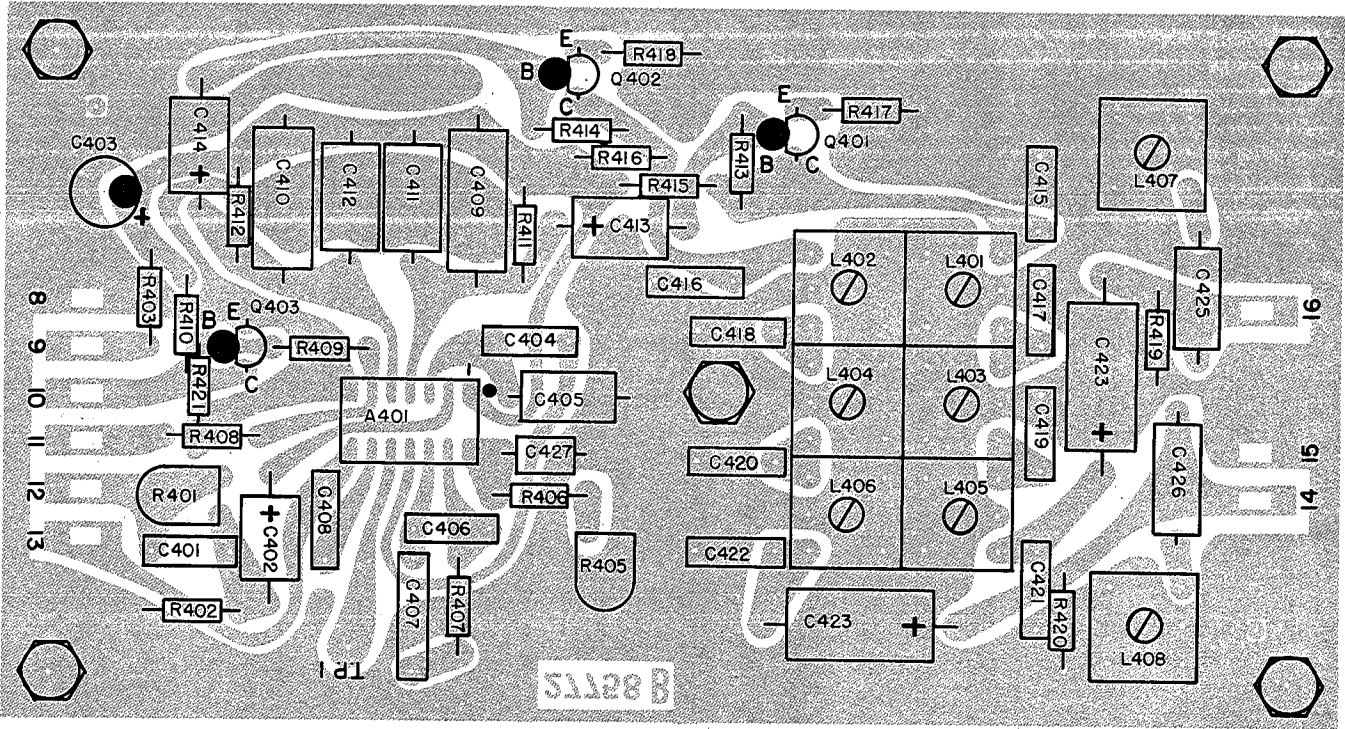
IF METER AMP BOARD



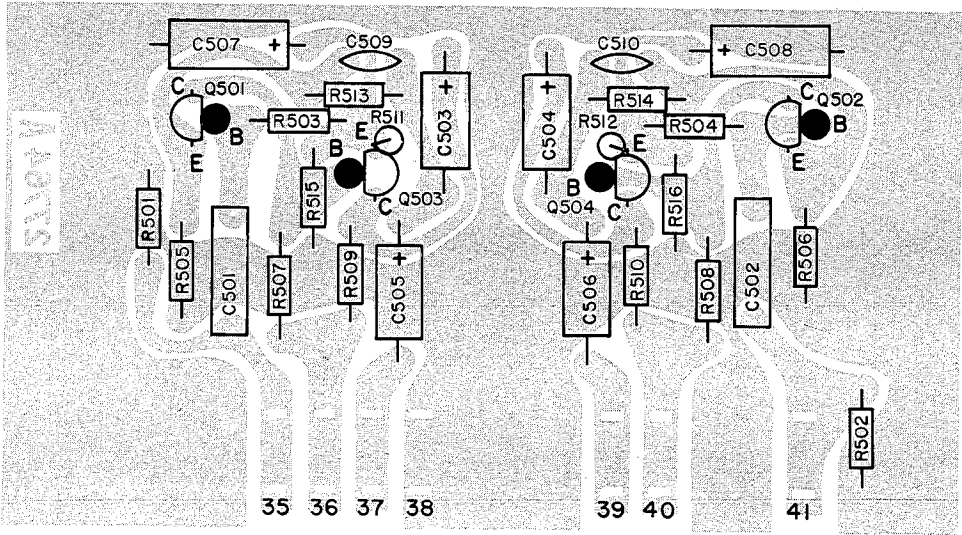
DOLBY BOARD



MULTIPLEX/MULTIPLEX FILTER BOARD



OUTPUT BOARD



CITATION FOURTEEN ALIGNMENT PROCEDURE

Do not attempt alignment unless the following equipment is available:

1. FM Signal generator
2. Oscilloscope — must have at least 4.5 MHz bandwidth
3. AC — V.T.V.M.
4. Audio Generator
5. Multiplex generator
6. Harmonic distortion analyzer
7. Frequency counter

Before FM alignment is started, check mechanical zero of center balance meter with unit off. Adjust mechanical zero if necessary.

FM ALIGNMENT

1. Observe output at the fixed output jacks with the scope and harmonic analyzer.
2. Short pin #4 of the 2nd IC-A302 to the case of IC-A302.
3. Set the offset control R322 located on the IF/meter amp board for zero center on the tuning meter.
4. Remove the short from pin 4 of IC-A302. Using only noise (No input signal of any kind), adjust the top of the ratio detector transformer for zero center on the tuning meter. Be sure that the meter swings positive and negative from this point of adjustment.
5. Set FM generator at 90 MHz — 400 Hz — 100% modulation. Use 1000 microvolts signal strength. Tune in signal for zero on tuning meter. Adjust the bottom of the ratio detector transformer for minimum harmonic distortion. Use care that output level does not drop during this adjustment.
6. Reduce the R.F. level of the generator to the weakest signal which still permits observation of the sine wave output. Set the tuning dial of the Citation 14 to 90 MHz. Adjust the coils T105 — L101 — T103 — T102 — T101 for maximum signal and best symmetry of sine wave output. (Best useable sensitivity as measured on the Harmonic analyzer).
7. Tune the Generator to 106 MHz — tune to 106 on the Citation 14. Adjust C125A — C113A — C110A — C105A — C101A as in step #6.
8. Repeat steps 6 & 7 until no further improvement can be achieved.
9. Adjust T104 for best usable sensitivity.
10. Increase R.F. input level to 1000 microvolts — modulate at 10 KHz — 100% — Slightly optimize T104 for lowest harmonic distortion. No more than 1/2 turn on either top or bottom adjustment should be necessary.
11. Recheck tuning meter for zero on noise only. If not at zero — repeat steps 4 through 9.

MX ALIGNMENT

1. Using multiplex signal at 1000 microvolt level, observe composite waveform at FM output jack. (before de-emphasis) Adjust I.F. frequency compensation control R325 for flat base line on composite signal.
2. Using CW 1000 microvolts R.F. input signal, observe counter at 19 KHz test point TP-1 on Multiplex board. Adjust 19 KHz oscillator control R 405 for 19 KC.
3. Using 9% pilot signal as the only modulation, adjust 19 KC traps L 407 and L 408 for minimum output as observed at the fixed output jacks.
4. Using 1 KHz stereo modulation, adjust separation control R 401 for maximum separation.
5. Using 10 KHz stereo modulation, optimize the 19 KHz oscillator control slightly for maximum 10 KHz separation.

MISC. ADJUSTMENTS

MONO LEVEL ADJUST

Using a mono 400 Hz 100% signal, adjust the mono level control on meter muting board so that there is no level change between the auto stereo and the mono positions of the mode switch.

QUIETING METER ADJUST

With no signal input, adjust quieting meter control for full right deflection of the quieting meter.

INTERNAL 400 Hz OSCILLATOR

Adjust oscillator output level control R811 so that the output level at the fixed output jacks is 6db below that achieved with 400 Hz 100% modulated FM mono signal with Dolby active.

DOLBY ALIGNMENT

Right Channel

1. Short TP6 & TP2 to gnd.
2. Preset law control to **Max CCW**
3. Preset gain control to **Max CCW**
4. Preset input R1102 & output R1120 to mechanical center.
5. Insert RF signal at 1000 microvolts 400 Hz 100% modulation into antenna terminals and observe the output at the right fixed output with Dolby off.
6. Adjust the modulation level at the generator to produce 1/2 the observed output voltage — this level to be noted as zero reference.
7. Activate Dolby.
8. Adjust input control R1102 for 580 mV at TP4.
9. Adjust output control R1120 for zero reference at right fixed output jack.
10. Change the modulation frequency to 5 KHz.
11. Adjust the modulation level at generator to result in zero reference at right fixed output jack.
12. Decrease modulation level at generator by 22db.
13. Remove short from TP6.
14. Adjust gain control R1142 for —32db below zero reference at right fixed output jack.
15. Remove short from TP2.
16. Adjust law control R1130 for —30db below zero reference.

DOLBY ALIGNMENT

Left Channel

1. Short TP1 and TP5 to gnd.
2. Preset law control to **Max CW position**.
3. Preset gain control to **Max CW position**.
4. Preset input level R1101 and output level R1119 to mechanical center.
5. Insert R.F. signal at 1000 microvolts 400 Hz 100% modulation into antenna terminals and observe the output at the left fixed output jack with Dolby off.
6. Adjust the modulation level at the generator to produce 1/2 the observed output voltage — this level to be noted as zero reference.
7. Activate Dolby.
8. Adjust input level control R1101 for 580 mV at TP3.
9. Adjust the output level control R1119 for zero reference at left fixed output jack.
10. Change the modulation frequency to 5 KHz.
11. Adjust the modulation level at generator to result in zero reference at left fixed output jack.
12. Decrease modulation level at generator by 22db.
13. Remove short from TP5.
14. Adjust gain control R1141 for —32db below zero reference at left fixed output jack.
15. Remove short from TP1.
16. Adjust law control R1129 for —30db below zero reference.

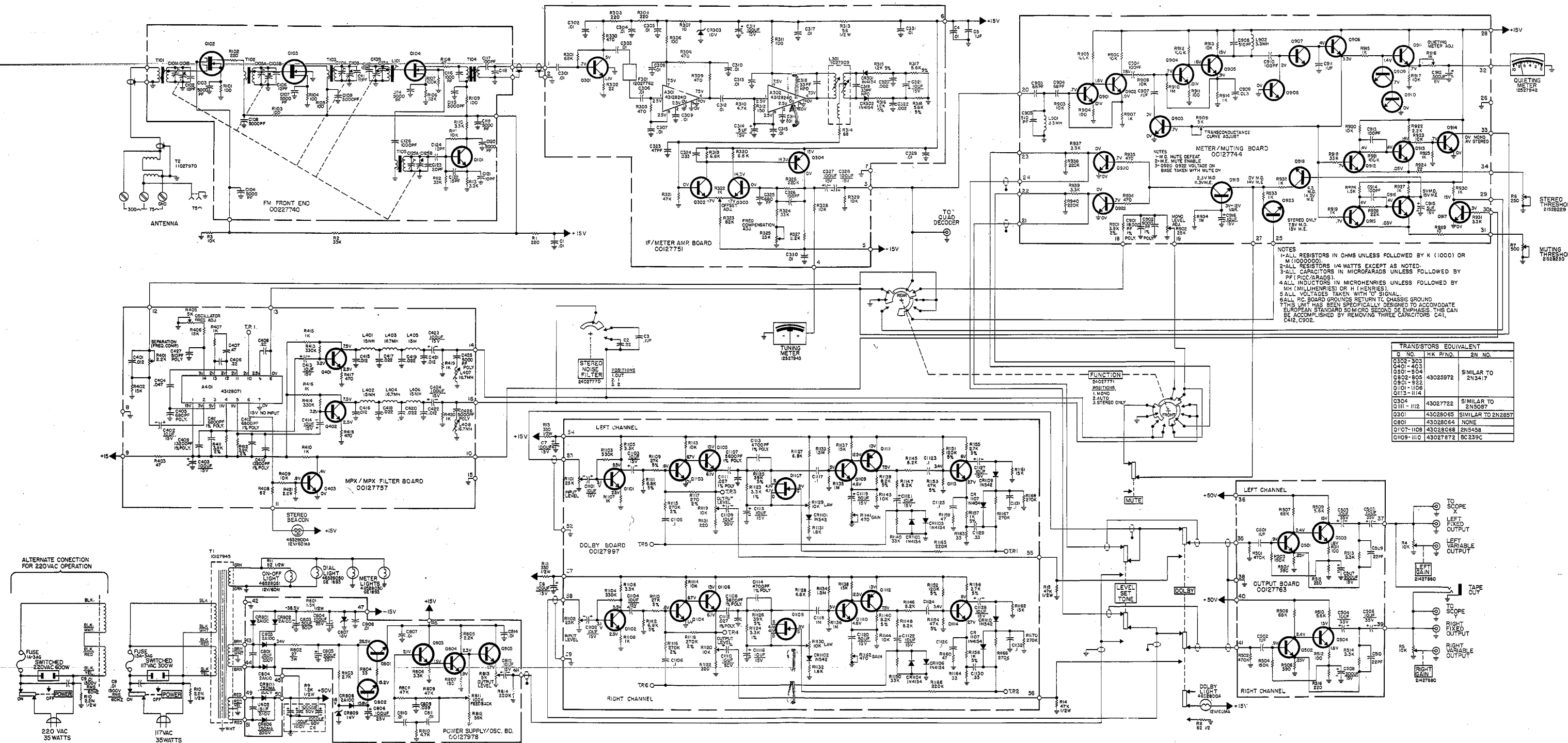
Special Notes

L-401, L-402, L-403, L-405, L-406 are factory adjusted — Do not attempt to adjust these precision inductors.

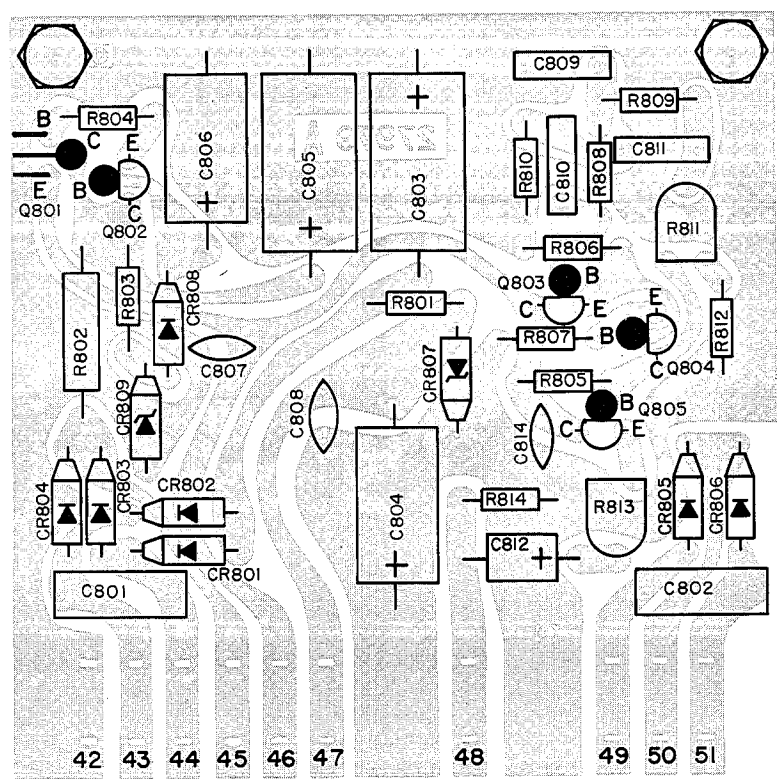
If any have been maladjusted, the procedure to be followed is:

1. Remove inductor from P.C. Board.
2. Adjust inductor to schematic value with inductance bridge.
3. Replace in P.C. Board.

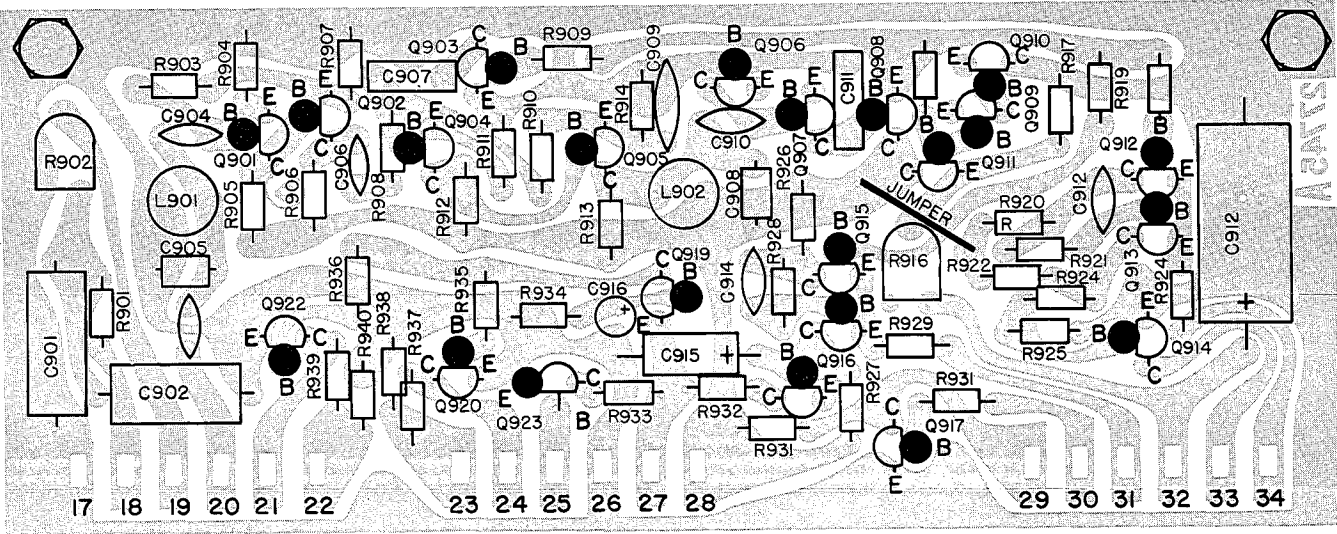
SCHEMATIC DIAGRAM — CITATION FOURTEEN



POWER SUPPLY/OSCILLATOR BOARD



METER MUTING BOARD



REPLACEMENT PARTS LIST

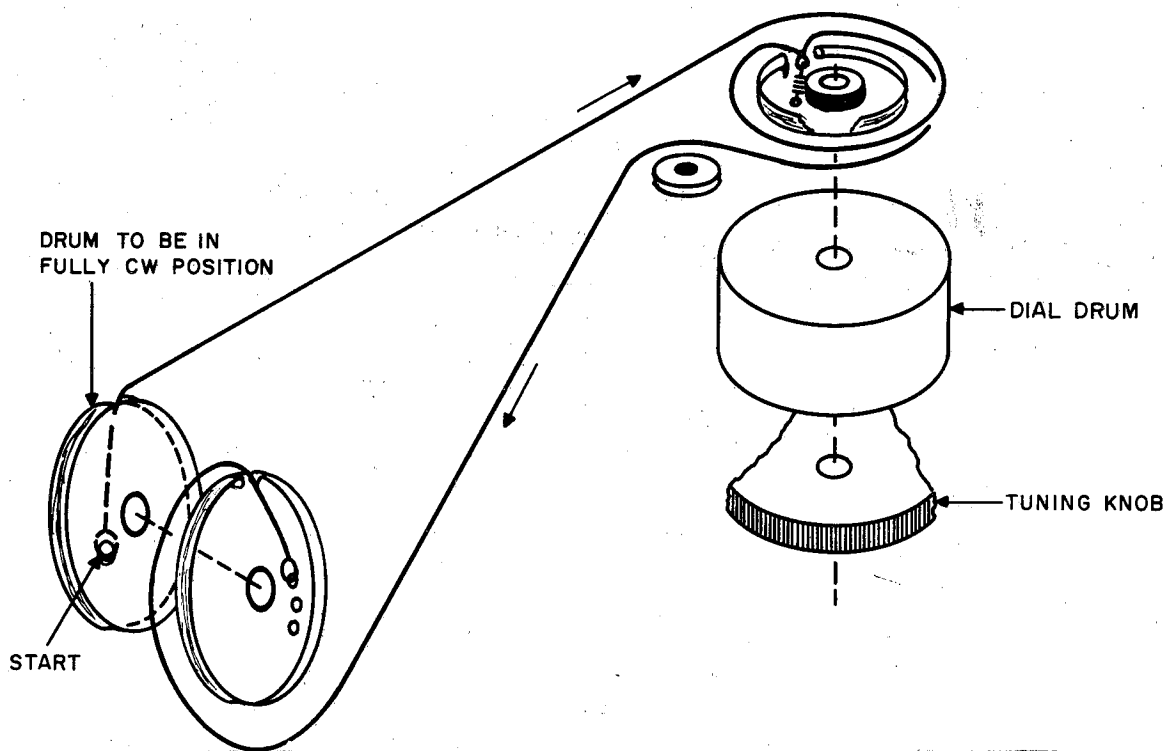
CIRCUIT REF.	DESCRIPTION	HK PART NO.	CIRCUIT REF.	DESCRIPTION	HK PART NO.
INTEGRATED CIRCUITS			C501, C502	Mylar, 1 UF $\pm 10\%$, 100V	31918839
A1-A300	Not Used		C503, C504	Lytic, 10 UF, 35V	31518805
A301, A302	IC RCA CA 3076	43128240	C505, C506	Lytic, 10 UF, 35V	31518805
A303-A400	Not Used		C507, C508	Lytic, 200 UF, 15V	31518802
A401	IC Motorola MC 1310	43128071	C509, C510	Disc, 22 PF $\pm 10\%$, 500V	31718798
CAPACITORS			C511-C800	Not Used	
C1	Disc, .01 UF +80, -20%, 100V	30418491	C801, C802	Mylar, .15 UF $\pm 10\%$, 250V	31919119
C2	Mylar, .22 UF $\pm 10\%$, 100V	30219145	C803	Lytic, 50 UF, 50V	31519122
C3	Mylar, .1 UF $\pm 10\%$, 100V	30222073	C804	Lytic, 100 UF, 25V	31519121
C4	Disc, .01 UF +80, -20%, 100V	30418491	C805	Lytic, 100 UF, 35V	31519120
C5	Mylar, 1 UF $\pm 10\%$, 100V	31918839	C806	Lytic, 100 UF, 25V	31519121
C6	Lytic, 100 UF, 100V, 100 UF, 50V, 1000 UF, 6V	31437778	C807, C808	Disc, .01 UF +80, -20%, 100V	31719830
C7, C8	Lytic, 100 UF, 15V	31519129	C809	Mylar, .039 UF $\pm 10\%$, 100V	31919118
C9	Disc, .01 UF (1500 VRMS @ 60Hz)	30419090	C810, C811	Mylar, .01 UF $\pm 10\%$, 250V	31918774
C10-C100	Not Used		C812	Lytic, 10 UF, 15V	31518926
C101-C126	P/O FM Front End	Not Supplied	C813	Not Used	
C127-C300	Not Used		C814	Disc, .01 UF +80, -20%, 100V	31718930
C301, C302	Disc, .01 UF +80, -20%, 100V	31718930	C815-C900	Not Used	
C303, C304	Disc, .01 UF +30, -20%, 100V	31718930	C901	Polystyrene, 18000 PF $\pm 1\%$, 63V	30619138
C305, C306	Disc, .01 UF +80, -20%, 100V	31718930	C902	Polystyrene, 9000 PF $\pm 1\%$, 63V	30619137
C307, C308	Disc, .01 UF +80, -20%, 100V	31718930	C903, C904	Disc, 68 PF $\pm 10\%$	31722086
C309, C310	Disc, .01 UF +80, -20%, 100V	31718930	C905	Polystyrene, 510 PF $\pm 10\%$, 63V	30619124
C311	Lytic, 100 UF, 15V	31818880	C906	Disc, 100 PF	31718778
C312, C313	Disc, .01 UF +80, -20%, 100V	31718930	C907	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C314	Lytic, 5 UF, 15V	31818834	C908	Polystyrene, 510 PF $\pm 10\%$, 63V	30619124
C315, C316	Disc, .01 UF +80, -20%, 100V	31718930	C909	Disc, .003 UF $\pm 10\%$	31718832
C317	Disc, .01 UF +80, -20%, 100V	31718930	C910	Disc, 100 PF	31718778
C318, C319	Disc, 33 PF $\pm 10\%$, 500V	31718947	C911	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C320	Disc, .002 UF $\pm 10\%$, 500V	31718794	C912	Lytic, 500 UF, 6V	31519123
C321	Lytic, 100 UF, 15V	32418571	C913, C914	Disc, 100 PF	31718778
C322	Disc, .002 UF $\pm 10\%$, 500V	31718794	C915	Lytic, 5 UF, 16V	31519146
C323	Disc, 47 PF $\pm 10\%$, 500V	31719149	C916	Lytic, 10 UF, 15V	32418571
C324	Mylar, .003 UF $\pm 10\%$, 100V	31919101	C917-C1100	Not Used	
C325	Disc, 680 PF $\pm 10\%$	30418372	C1101, C1102	Lytic, 10 UF, 15V	32418571
C326	Disc, 150 PF $\pm 10\%$	31718873	C1103, C1104	Lytic, 10 UF, 15V	32418571
C327, C328	Lytic, 100 UF, 15V	31818880	C1105, C1106	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C329, C330	Disc, .01 UF +80, -20%, 100V	31718930	C1107, C1108	Polystyrene, 5600 PF $\pm 1\%$, 33V	30619127
C331	Disc, .01 UF +80, -20%, 100V	31718930	C1109, C1110	Lytic, 10 UF, 50V	32419144
C332-C400	Not Used		C1111, C1112	Polystyrene, .027 UF $\pm 1\%$, 33V	30619125
C401	Mylar, .012 UF $\pm 10\%$, 250V	31919130	C1113, C1114	Polystyrene, 4700 PF $\pm 1\%$, 33V	30619126
C402	Lytic, 10 UF, 15V	31518926	C1115, C1116	Lytic, 10 UF, 15V	32418571
C403	Lytic, 100 UF, 15V	31818880	C1117, C1118	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C404	Mylar, .047 UF $\pm 10\%$, 100V	31918808	C1119, C1120	Lytic, 50 UF, 15V	31818812
C405	Polystyrene, 680 PF $\pm 5\%$, 63V	30619136	C1121, C1122	Lytic, 10 UF, 15V	32418571
C406	Mylar, .22 UF $\pm 10\%$, 100V	31918791	C1123, C1124	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C407	Mylar, .47 UF $\pm 10\%$, 100V	31918842	C1125, C1126	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C408	Mylar, .22 UF $\pm 10\%$, 100V	31918791	C1127, C1128	Lytic, 10 UF, 15V	32418571
C409, C410	Polystyrene, 13200 PF $\pm 1\%$, 63V	30619134	C1129, C1130	Mylar, .33 UF $\pm 10\%$, 100V	31919128
C411, C412	Polystyrene, 6800 PF $\pm 1\%$, 63V	30619133	C1131, C1132	Mylar, .1 UF $\pm 10\%$, 100V	31918784
C413, C414	Lytic, 10 UF, 15V	31518926	DIODES		
C415, C416	Mylar, .012 UF $\pm 10\%$, 250V	31919130	CR1-CR300	Not Used	
C417, C418	Mylar, .022 UF $\pm 10\%$, 250V	31919099	CR301, CR302	Diode 1N4154	41622859
C419, C420	Mylar, .022 UF $\pm 10\%$, 250V	31919099	CR303	Zener, 10V, 1W	42020737
C421, C422	Mylar, .012 UF $\pm 10\%$, 250V	31919130	CR304-CR800	Not Used	
C423, C424	Lytic, 100 UF, 15V	31518129	CR801, CR802	Diode, 2A, 100V	41020618
C425, C426	Polystyrene, .005 UF $\pm 5\%$, 63V	30619112	CR803, CR804	Diode, 2A, 100V	41020618
C427-C500	Not Used		CR805, CR806	Diode, 200V, PIV, 750mA	41022464
			CR807	Zener, 16V, 1W, 10%	42027092

CIRCUIT REF.	DESCRIPTION	HK PART NO.	CIRCUIT REF.	DESCRIPTION	HK PART NO.
DIODES					
CR808	Diode, 2A, 100V	41020618	R9	1.2K $\pm$ 10%, $\frac{1}{2}$ W	33311221
CR809	Zener, 16V, 1W, 10%	42027092	R10	2.2M $\pm$ 10%, $\frac{1}{2}$ W	33312251
CR810-CR1100	Not Used		R11	82 $\pm$ 10%, $\frac{1}{4}$ W	33318201
CR1101, CR1102	Diode 1N542 (GE)	41522875	R12, R13	330 $\pm$ 10%, $\frac{1}{2}$ W	33313311
CR1103, CR1104	Diode 1N4154 (SI)	41622859	R14, R15	47K $\pm$ 10%, $\frac{1}{2}$ W	33314731
CR1105, CR1106	Diode 1N4154 (SI)	41622859	R16-R100	Not Used	
CR1107, CR1108	Diode 1N4154 (SI)	41622859	R101-R113	P/O FM Front End	Not Supplied
CR1109, CR1110	Diode 1N542 (GE)	41522875	R114-R300	Not Used	
COILS			R301	68K $\pm$ 10%, $\frac{1}{4}$ W	33216831
L1-L100	Not Used		R302	22 $\pm$ 10%, $\frac{1}{4}$ W	33212201
L101	P/O FM Front End	Not Supplied	R303, R304	220 $\pm$ 10%, $\frac{1}{4}$ W	33212211
L102-L300	Not Used		R305	470 $\pm$ 10%, $\frac{1}{4}$ W	33214711
L301	Ratio Detector	11027909	R306	100 $\pm$ 10%, $\frac{1}{4}$ W	33211011
L302-L400	Not Used		R307	10 $\pm$ 10%, $\frac{1}{4}$ W	33211001
L401, L402	Inductor, 15mH, VAR	12027960	R308, R309	470 $\pm$ 10%, $\frac{1}{4}$ W	33214711
L403, L404	Inductor, 16.7mH, VAR	12027961	R310	4.7K $\pm$ 10%, $\frac{1}{4}$ W	33214721
L405, L406	Inductor, 15mH, VAR	12027960	R311	100 $\pm$ 10%, $\frac{1}{4}$ W	33211011
L407, L408	Inductor, 16.7mH, VAR	12027961	R312	150 $\pm$ 10%, $\frac{1}{4}$ W	33211511
L409-L900	Not Used		R313	56 $\pm$ 10%, $\frac{1}{2}$ W	33315601
L901, L902	Inductor, 3.3mH	12028060	R314	68 $\pm$ 10%, $\frac{1}{4}$ W	33216801
TRANSISTORS			R315, R316	1.2K $\pm$ 5%, $\frac{1}{4}$ W	33211225
Q1-Q100	Not Used		R317, R318	5.6K $\pm$ 5%, $\frac{1}{4}$ W	33215625
Q101-Q104	P/O FM Front End	Not Supplied	R319, R320	6.8K $\pm$ 10%, $\frac{1}{4}$ W	33216821
Q105-Q300	Not Used		R321	47K $\pm$ 10%, $\frac{1}{4}$ W	33214731
Q301	Transistor, RF RCA 40897	43028065	R322	1K Trim Pot Linear (Hor Mtg)	23528062
Q302, Q303	Transistor	43025972	R323	82K $\pm$ 10%, $\frac{1}{4}$ W	33218231
Q304	Transistor	43027722	R324	33K $\pm$ 10%, $\frac{1}{4}$ W	33213331
Q305-Q400	Not Used		R325	25K Trim Pot Linear (Hor Mtg)	23527511
Q401-Q403	Transistor	43025972	R326	220K $\pm$ 10%, $\frac{1}{4}$ W	33212241
Q404-Q500	Not Used		R327	2.2K $\pm$ 10%, $\frac{1}{4}$ W	33212221
Q501-Q504	Transistor	43025972	R328, R329	10K $\pm$ 10%, $\frac{1}{4}$ W	33211031
Q505-Q800	Not Used		R330	470 $\pm$ 10%, $\frac{1}{4}$ W	33214711
Q801	Transistor Regulator	43028064	R331-R400	Not Used	
Q802-Q805	Transistor	43025972	R401	2.2K Trimpot Linear (Hor Mtg)	23528063
Q806-Q900	Not Used		R402	15K $\pm$ 10%, $\frac{1}{4}$ W	33211531
Q901-Q920	Transistor	43025972	R403	47 $\pm$ 10%, $\frac{1}{4}$ W	33214701
Q921	Not Used		R404	Not Used	
Q922, Q923	Transistor	43025972	R405	5K Trimpot Linear (Hor Mtg)	23528061
Q924-Q1100	Not Used		R406	15K $\pm$ 10%, $\frac{1}{4}$ W	33211531
Q1101-Q1106	Transistor	43025972	R407	1K $\pm$ 10%, $\frac{1}{4}$ W	33211021
Q1107, Q1108	Transistor FET N-CHAN, Motorola 2N5428	43028068	R408	82 $\pm$ 10%, $\frac{1}{4}$ W	33218201
Q1109, Q1110	Transistor, Seimans BC239C	43027872	R409	10K $\pm$ 10%, $\frac{1}{4}$ W	33211031
Q1111, Q1112	Transistor	43027722	R410	1K $\pm$ 10%, $\frac{1}{4}$ W	33211021
Q1113, Q1114	Transistor	43025972	R411, R412	3.9K $\pm$ 10%, $\frac{1}{4}$ W	33213924
RESISTORS			R413, R414	330K $\pm$ 10%, $\frac{1}{4}$ W	33213341
R1	220 $\pm$ 10%, $\frac{1}{4}$ W	33212211	R415, R416	1K $\pm$ 10%, $\frac{1}{4}$ W	33211021
R2	33K $\pm$ 10%, $\frac{1}{4}$ W	33213331	R417, R418	470 $\pm$ 10%, $\frac{1}{4}$ W	33214711
R3	10K $\pm$ 10%, $\frac{1}{4}$ W	33211031	R419, R420	1K $\pm$ 10%, $\frac{1}{4}$ W	33211021
R4, R5	Slide Pot, 10K Volume	21427880	R421	2.2K $\pm$ 10%, $\frac{1}{4}$ W	33212221
R6	250 Stereo Threshold Control	21528230	R422-R500	Not Used	
R7	500 FM Muting Control	21528229	R501, R502	470K $\pm$ 10%, $\frac{1}{4}$ W	33214741
R8	82 $\pm$ 10%, $\frac{1}{2}$ W	33318201	R503, R504	150K $\pm$ 10%, $\frac{1}{4}$ W	33211541
			R505, R506	390 $\pm$ 10%, $\frac{1}{4}$ W	33213911
			R507, R508	68K $\pm$ 10%, $\frac{1}{4}$ W	33216831
			R509, R510	5.6K $\pm$ 10%, $\frac{1}{4}$ W	33215621
			R511, R512	100 $\pm$ 10%, $\frac{1}{4}$ W	33211011
			R513, R514	3.3K $\pm$ 10%, $\frac{1}{4}$ W	33213321
			R515, R516	220 $\pm$ 10%, $\frac{1}{4}$ W	33212211

CIRCUIT REF.	DESCRIPTION	HK PART NO.	CIRCUIT REF.	DESCRIPTION	HK PART NO.
RESISTORS					
R517-R800	Not Used		R1109, R1110	27K $\pm 5\%$, $\frac{1}{4}W$	33212735
R801	1.5K $\pm 10\%$, $\frac{1}{2}W$	33311521	R1111, R1112	6.8K $\pm 5\%$, $\frac{1}{4}W$	33216825
R802	27 $\pm 10\%$; 3W WW	36612701	R1113, R1114	10K $\pm 10\%$, $\frac{1}{4}W$	33211031
R803	2.7K $\pm 10\%$, $\frac{1}{4}W$	33212721	R1115-R1118	270K $\pm 2\%$, $\frac{1}{4}W$	33212744
R804	33 $\pm 10\%$, $\frac{1}{4}W$	33213301	R1119, R1120	10K Trimpot Linear (Hor Mtg)	23526612
R805	2.2K $\pm 10\%$, $\frac{1}{4}W$	33212221	R1121, R1122	220 $\pm 10\%$, $\frac{1}{4}W$	33212211
R806	3.3K $\pm 10\%$, $\frac{1}{4}W$	33213321	R1123, R1124	3.3K $\pm 10\%$, $\frac{1}{4}W$	33213323
R807	150 $\pm 10\%$, $\frac{1}{4}W$	33211511	R1125, R1126	39K $\pm 5\%$	33213935
R808, R809	47K $\pm 10\%$, $\frac{1}{4}W$	33214731	R1127, R1128	6.8K $\pm 10\%$, $\frac{1}{4}W$	33216821
R810	4.7K $\pm 10\%$, $\frac{1}{4}W$	33214721	R1129, R1130	10K Trimpot Linear (Hor Mtg)	23526612
R811	100K Trimpot Linear (Hor Mtg)	23526611	R1131, R1132	1.8K $\pm 10\%$, $\frac{1}{4}W$	33211821
R812	56K $\pm 10\%$, $\frac{1}{4}W$	33215631	R1133, R1134	1.5M $\pm 10\%$, $\frac{1}{4}W$	33211551
R813	4.7K Trimpot Linear (Hor Mtg)	23528061	R1135, R1136	1M $\pm 10\%$, $\frac{1}{4}W$	33211051
R814	220K $\pm 10\%$, $\frac{1}{4}W$	33212241	R1137, R1138	15K $\pm 10\%$, $\frac{1}{4}W$	33211531
R815-R900	Not Used		R1139, R1140	8.2K $\pm 5\%$, $\frac{1}{4}W$	33218225
R901	3.9K $\pm 2\%$, $\frac{1}{4}W$	33213924	R1141, R1142	470 Trimpot Linear (Hor Mtg)	23528067
R902	25K Trimpot Linear (Hor Mtg)	23527511	R1143, R1144	10K $\pm 10\%$, $\frac{1}{4}W$	33211031
R903	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	R1145-R1148	8.2K $\pm 10\%$, $\frac{1}{4}W$	33218221
R904	100 $\pm 10\%$, $\frac{1}{4}W$	33211011	R1149, R1150	33K $\pm 10\%$, $\frac{1}{4}W$	33213331
R905	100K $\pm 10\%$, $\frac{1}{4}W$	33211041	R1151, R1152	120K $\pm 5\%$, $\frac{1}{4}W$	33211245
R906	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	R1153, R1154	47K $\pm 5\%$, $\frac{1}{4}W$	33214735
R907	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	R1155, R1156	2.7K $\pm 5\%$, $\frac{1}{4}W$	33212725
R908	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	R1157, R1158	1K $\pm 5\%$, $\frac{1}{4}W$	33211025
R909	5K Trimpot (Vert. Mtg)	23523349	R1159, R1160	47 $\pm 10\%$, $\frac{1}{4}W$	33214701
R910	1M $\pm 10\%$, $\frac{1}{4}W$	33211051	R1161, R1162	15K $\pm 10\%$, $\frac{1}{4}W$	33211531
R911	100 $\pm 10\%$, $\frac{1}{4}W$	33211011	R1163, R1164	33 $\pm 10\%$, $\frac{1}{4}W$	33213301
R912	100K $\pm 10\%$, $\frac{1}{4}W$	33211041	R1165, R1166	220K $\pm 10\%$, $\frac{1}{4}W$	33212241
R913	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	R1167-R1170	270K $\pm 10\%$, $\frac{1}{4}W$	33212741
R914, R915	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	TRANSFORMER		
R916	1K Trimpot Linear (Hor Mtg)	23528062	T1	Power Transformer	10127945
R917	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	T2	Antenna, Matching Transformer	11027970
R918	33K $\pm 10\%$, $\frac{1}{4}W$	33213331	T3-T100	Not Used	
R919	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	T101-T105	P/O FM Front End	Not Supplied
R920	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	FILTER		
R921	100K $\pm 10\%$, $\frac{1}{4}W$	33211041	F301	IF Filter	12027962
R922	2.2K $\pm 10\%$, $\frac{1}{4}W$	33212221	MISCELLANEOUS		
R923	10K $\pm 10\%$, $\frac{1}{4}W$	33211031	Knob, Rotary	63228028	
R924	22 $\pm 10\%$, $\frac{1}{4}W$	33212201	Knob, Slide	63228033	
R925	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	Knob, Pushbutton	00226644	
R926	1.5K $\pm 10\%$, $\frac{1}{4}W$	33211521	Escutcheon	00227993	
R927	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	Plexiglas	61627840	
R928	22K $\pm 10\%$, $\frac{1}{4}W$	33212231	Top Cover	60127959	
R929	10 $\pm 10\%$, $\frac{1}{4}W$	33211001	Bottom Plate	60127788	
R930	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	Rubber Feet	62011692	
R931	3.3K $\pm 10\%$, $\frac{1}{4}W$	33213321	Tape Out Jack	65428021	
R932, R933	1K $\pm 10\%$, $\frac{1}{4}W$	33211021	Tuning Meter	12527943	
R934	1M $\pm 10\%$, $\frac{1}{4}W$	33211051	Quieting Meter	12527942	
R935, R936	470 $\pm 10\%$, $\frac{1}{4}W$	33214711	Meter Shield	61828167	
R937	3.3K $\pm 10\%$, $\frac{1}{4}W$	33213321	Tuning Knob	63228003	
R938	220K $\pm 10\%$, $\frac{1}{4}W$	33212241	Tuning Drum	61627677	
R939	3.3K $\pm 10\%$, $\frac{1}{4}W$	33213321	Dial Scale	91227966	
R940	220K $\pm 10\%$, $\frac{1}{4}W$	33212241	Dial Drum Shield	61828026	
R941-R1100	Not Used		Planetary Drive	60427035	
R1101, R1102	25K Trimpot Linear (Hor Mtg)	23527511	Tuning Knob Bracket	60127681	
R1103, R1104	330K $\pm 10\%$, $\frac{1}{4}W$	33213341	Drum Mounting Bracket	60127680	
R1105, R1106	3.3K $\pm 10\%$, $\frac{1}{4}W$	33213321			
R1107, R1108	1K $\pm 10\%$, $\frac{1}{4}W$	33211021			

CIRCUIT REF.	DESCRIPTION	HK PART NO.	CIRCUIT REF.	DESCRIPTION	HK PART NO.
MISCELLANEOUS					
	Light Shield Controls	61426352		AC Receptacle	65412751
	Pushbutton Switch Dolby, Tone Level Set	25027902		Antenna Terminal Strip	65427994
	Pushbutton Switch Power, Mute	25027964		Connector 75 Ohm Jack	65423483
	AC Slide Switch W/Solder Shield & Cover	24526153		Phono Jack Assembly	65427995
	Function Switch	24027771		IF/Meter Amp P. C. Board W/Components	00127751
	Stereo Noise Filter Switch	24027770		MPX & MPX Filter P. C. Board W/Components	00127757
	FM Front End	00227740		Meter/Muting P. C. Board W/Components	00127744
	Lamp (Power)	46528051		Output P. C. Board W/Components	00127763
	Lamp (Meter)	46528050		Power Supply/Oscillator P. C. Board W/Components	00127978
	Lamp (Dial)	46528050		Dolby P. C. Board W/Components	00127997
	Green Filter (Dial Lamp)	61228074		P. C. Board Connector Housing	65425952
	Lamp (Stereo, Dolby)	46528004		P. C. Board Connector Terminal Pin (Male)	65425915
	Fuse Holder	65427001		Owner Manual	90728011
	Light Shield	61828223		Technical Manual	90728012
	Line Cord	53021115			
	Strain Relief	65421116			

STRINGING DIAGRAM



90728012