

SERVICE MANUAL



FISHER

AM/FM DIGITAL SYNTHESIZER
STEREO RECEIVER WITH
RRS-Z1 WIRELESS REMOTE
CONTROL

RS-Z1

(EUROPE)



132 347 40 (EUROPE)
132 347 41 (SWISS)
132 347 42 (SWEDEN)

SPECIFICATIONS

Remote Control (RRS-Z1) 46-function,
Wireless Remote Control

AMPLIFIER SECTION

Minimum RMS sine wave power per channel within stated
bandwidth at no more than stated
distortion and with 8 Ω load 100 Watts
distortion and with 4 Ω load 150 Watts
Power Bandwidth 20 Hz ~ 20 kHz
Total Harmonic Distortion
(100 W/8 Ω) 0.007%
(150 W/4 Ω) 0.015%
I.M. Distortion
(100 W/8 Ω) 0.007%
(150 W/4 Ω) 0.015%
Load Impedance for Speakers
A or B 4 ~ 8 Ω
A + B 8 ~ 16 Ω
Speaker Damping > 50
Slew Factor 3
Overall Frequency Response
Phono (RIAA) (20 Hz ~ 20 kHz) ± 1.0 dB
Aux/CD/Tape (20 Hz ~ 20kHz) ± 0.5 dB

Input Sensitivity and Impedance

Phono MC
(100 W/8 Ω) 250 μ V/100 Ω
(1 W/8 Ω) 20.4 μ V/100 Ω
Phono MM
(100 W/8 Ω) 2.5 mV/50 k Ω
(1 W/8 Ω) 204 μ V/50 k Ω
Aux/CD/Tape
(100 W/8 Ω) 150 mV/50 k Ω
(1 W/8 Ω) 12 mV/50 k Ω
Output Level and Impedance
Tape Rec Out 150 mV/ < 1 k Ω
Headphones 330 mV (8 Ω)/100 Ω
Volume Control Attenuation 115 dB
Balance Control Attenuation 45 dB
Tone Controls
Bass ± 10 dB
Treble ± 10 dB
Subsonic Filter (15 Hz, -3 dB) 12 dB/Oct
Loudness Contour (-30 dB)
(100 Hz/10 kHz) +8 dB/+4 dB
Input Overload Capability
Phono MC 16 mV
Phono MM 160 mV
Aux/CD/Tape 8 V

- Specifications and design are subject to change without notice. -

REFERENCE No. WM-570346

SPECIFICATIONS (Continued)

Signal-to-Noise Ratio (IHF, A-Network)		Total Harmonic Distortion (46 dB Quieting)	
Phono MC	70 dB	Mono	0.5%
Phono MM	80 dB	Stereo	0.6%
Aux/CD/Tape	100 dB	Total Harmonic Distortion (60 dBμ)	
Crosstalk (20 Hz ~ 10 kHz)		Mono (100 Hz/1 kHz/6 kHz)	
Between Left and Right Channels	60 dB	Wide	0.05/0.05/0.1%
Between Functions	75 dB	Stereo (100 Hz/1 kHz/6 kHz)	
Speakers Selector	A, B, A + B, OFF	Wide	0.1/0.1/0.1%
Display	FL with 3-step Dimmer	Stereo Separation	
Timer	30/60 minutes	Wide (100 Hz/1 kHz/10 kHz)	45/45/35 dB
Audio Muting	-50 dB	Capture Ratio	
DIGITAL SECTION		Wide	1.3 dB
Sampling Frequency	32/44.1/48 kHz	Narrow	3.0 dB
D/A Conversion	Full-time 18-bit Linear	Selectivity	
	2 D/A Converters	Wide	40 dB
Input/Output Terminals		Narrow	80 dB
CD Input	Optical	Image Response Ratio	120 dB
Aux (Front/Rear) Input	Coaxial	Spurious Response Ratio	120 dB
DAT Input/Output	Optical	IF Response Ratio	120 dB
Optical Input	-15 dBm ~ -24 dBm	AM Suppression Ratio	60 dB
Optical Output	-15 dBm ~ -21 dBm	Audio Frequency Response	
Coaxial Input	500 mVp-p/75 Ω ±20%	(20 Hz - 15 kHz)	±0.5 dB
Filters	8-times Oversampling Digital Filter, 3rd Order Linear Phase Low Pass Filter	Sub-Carrier Rejection (19 kHz/38 kHz)	80/90 dB
Frequency Response (20 Hz ~ 20 kHz)	±0.3 dB	Stereo Threshold	19.17 dBf
Signal-to-Noise Ratio	115 dB	AM SECTION	
Dynamic Range	97 dB	Tuning Range	522 kHz ~ 1611 kHz
Total Harmonic Distortion (1 kHz)	0.004%	IHF Usable Sensitivity	
Channel Separation (1 kHz)	90 dB	External Antenna	100 μV
FM SECTION		Loop Antenna	400 μV/m
Tuning Range	87.50 MHz ~ 108.00 MHz	Signal Seeker Stop Sensitivity	500 μV/m
Antenna Terminals	(2) 75 Ω	Signal-to-Noise Ratio	55 dB
Usable Sensitivity		Image Response Ratio	40 dB
Mono	0.9 μV	IF Response Ratio	65 dB
Stereo	5.0 μV	Selectivity (±9 kHz)	50 dB
46 dB Quieting Sensitivity		Volume Sensitivity	150 μV/m
Mono	2.5 μV	Total Harmonic Distortion	0.3%
Stereo	30 μV	Frequency Response (-3 dB)	2.5 kHz
Signal Seeker Stop Sensitivity	5.0 μV	GENERAL	
Signal-to-Noise Ratio		Power Requirements	AC 220V
Mono	75 dB	(50 Hz)	400 Watts
Stereo	70 dB	AC Outlets	3
		Dimensions (WxHxD)	480 x 165 x 440cm
		Weight (approx.)	21kg

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FM TUNER ALIGNMENT

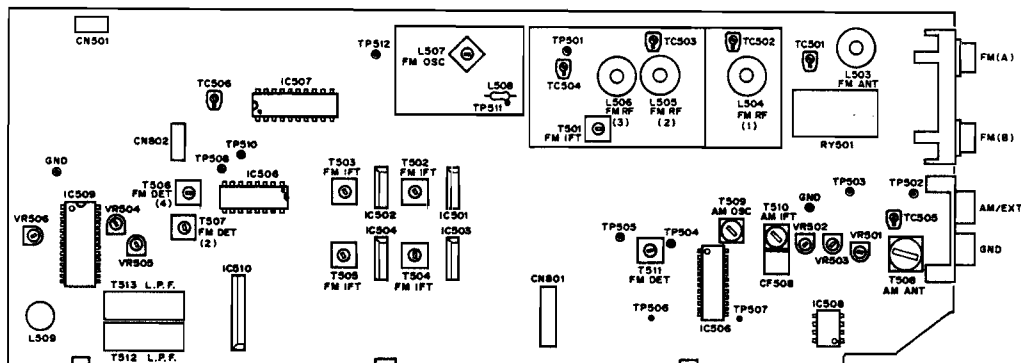
FM ALIGNMENT - Band Selector switch to FM/ST(MUTE) position.
Note is almost unnecessary to adjust coil in Front End as perfectly adjusted.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. FRONT END FREQUENCY COVER ALIGNMENT (108MHz)	Do not connect generator.	Front Panel DIGITAL Counter Display Set to 108MHz.	Connect DC Voltmeter to TP512 and ground lead to chassis.	Adjust FM OSC Coil (L507) until DC Voltmeter reads 25.0V ±0.2V.
2. (87.5MHz)	Same as above.	DIGITAL Counter Display Set to 87.5MHz.	Same as above.	Check DC Voltmeter for Indication 3.5V ~ 4.0V.
Note: Repeat the adjustments in Items 1 and 2. Then, confirm that each voltage becomes 3.5V to 25.0V at receiving frequency of 87.5MHz to 108MHz.				
3. FM RF TRACKING ALIGNMENT (88.0MHz)	Connect Spectrum analyzer (with FM RF Tracking generator) output to FM Antenna terminals. Set generator to 88.0MHz. Modulate with 1kHz to provide 2MHz deviation. Setting generator with attenuator output level for 60dBμV.	DIGITAL Counter Display Set to 88.0MHz.	Connect Spectrum analyzer input to TP501 and ground lead to chassis.	Adjust FM ANT Coil (L503) and FM RF Coil (L504 ~ L506) so that S-wave from becomes symmetrical.
4. (108MHz)	Change generator Setting to 108MHz.	Change DIGITAL Counter Display Set to 108MHz.	Same as above.	Adjust FM ANT Trimmer (TC501) and FM RF Trimmer (TC502 ~ TC504) so that S-wave from becomes Symmetrical.
Note: Repeat the adjustments in Items 3 and 4. Then, confirm there is no tracking error.				
5. REFERENCE PLL OSC ALIGNMENT	Change generator Setting to 98MHz.	Change DIGITAL Counter Display Set to 98MHz.	Connect Frequency Counter to TP511 and ground lead to chassis.	Adjust PLL OSC Trimmer (TC506) of IC507 LM7000 Side) until Frequency Counter reads 108.700MHz ±1kHz.
6. FM CENTER VOLTAGE (DETECTOR) ALIGNMENT	Same as above. Adjust attenuator output level to 60dBμV (1kHz, 40kHz deviation) /MONO Mode.	Same as above.	Connect DC Voltmeter across TP504 and TP505.	Adjust FM DET Coil (T511) until DC Voltmeter reads 0V ±20mV.
7. FM MUTING AUTO STOP SENSITIVITY ADJUSTMENT	Set generator to 98MHz. Adjust attenuator output level to 14dBμV.	Same as above.	Front panel TUNED Indicator Display.	Set Mode Switch to ST(MUTE). Adjust VR503 until the TUNED Indicator partly light up.
Note: Decrease the output level (10dBμV) of ATT and confirm that the wave form disappears. Increase the output level (20dBμV) of ATT again and confirm that the input level meets the specifications sufficiently when the wave form has appeared.				
8. FM CENTER VOLTAGE ALIGNMENT	Same as above. Adjust attenuator output level to 60dBμV /MONO Mode.	Same as above.	Connect DC Voltmeter across TP508 and TP509.	Adjust FM DET (1) Coil (T506) until DC Voltmeter reads 0V ±50mV.
9. DETECTOR ALIGNMENT (MINIMUM T.H.D.)	Same as above. (IF BAND Switch to WIDE)	Same as above.	Connect Harmonic Distortion Analyzer to Audio output (CN108).	Adjust FM DET (2) Coil (T507) and FM IFT Coil (T503, T504) for minimum gain and best linearity.
Note: Repeat Step 8 (FM DET 1 Coil T506) and 9 (FM DET 2 Coil T507 and FM IFT coil T503, T504) until optimum alignment is reached				
10. DETECTOR ALIGNMENT (MINIMUM T.H.D.)	Same as above. (Change IF BAND Switch to NARROW) Modulate with 100Hz Stereo Signal (L-R).	Same as above. Set Tuning Switch to (AUTO) ON position.	Same as above.	Adjust FM IFT (T504, T505) for minimum gain and best linearity.
Notes: Set the Modulate Signal of the FM stereo signal SG to 6 kHz (L - R) and make sure that the Distortion Analyzer indicators within the specifications. (If the distortion level at 100 Hz is wrong, adjust C609). When adjusting, do not touch the FM DET (1) coil (T506) and FM DET (2) coil (T507) adjusted in step 8 and 9.				

FM TUNER ALIGNMENT (Continued)

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
11. MPX PILOT CANCELLOR ADJUSTMENT	As this adjustment is to be fully attenuated by the backward L.P.F. (T513 and T512), turn the VR506 fully clockwise.			
12. FM STEREO SIGNAL SEPARATION CONTROL	Connect FM Stereo SG to FM Antenna terminals. 19kHz signal ON. Main channel, Sub channel signal ON. Apply 1000Hz signal from LEFT channel.	Same as above. Set Mode switch to ST(MUTE) position. (IF BAND Switch to WIDE)	Connect AC VTVM and Oscilloscope to RIGHT REC OUT.	Adjust VR505 for minimum output.
	Same as above for RIGHT channel.		Connect AC VTVM and Oscilloscope to LEFT REC OUT.	Adjust VR504 for minimum output.
13. HI - BLEND CHECKING	First receive the stereo signal and then make sure that the separation at 1 kHz shows about 16 dB in the HI - BLEND switch "ON" mode.			
14. ANT. A/B SEPARATION CHECKING	A/B Input the signal into either ANTENNA FM A or B and change the ANTENNA A or B switch. Make sure isolation at more than 35 dB can be obtained by the output difference of signal generation.			

TUNER P.C.BOARD ADJUSTMENT POINT (TOP VIEW)



AM TUNER ALIGNMENT

AM ALIGNMENT - Band Selector switch to AM position.
Maintain generator output as low as possible for suitable indication.

Note: Perform this alignment after FM Tuner Alignment.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. AM RF FREQUENCY COVER ALIGNMENT (1622kHz)	Do not connect generator.	Front Panel DIGITAL Counter Display Set to 1622kHz.	Connect DC Voltmeter to TP503 and ground lead to chassis.	Check DC Voltmeter for indication 7.0V ~ 12.0V. Do not adjust the AM OSC coil (T509).
2. (522kHz)	Same as above.	DIGITAL Counter Display Set to 522kHz.	Same as above.	Check DC Voltmeter for indication 1.0V ~ 1.5V.
Note: Repeat the adjustments in Items 1 and 2. Then, confirm that each voltage becomes 1.0V to 11.0V at receiving frequency of 522kHz to 1622kHz.				
3. AM IF ALIGNMENT	Connect 450kHz Radio IF Genescope output to AM antenna terminal. Adjust output level to 70dB μ V.	DIGITAL Counter Display Set to 999kHz.	Connect Radio IF Genescope input to TP507 and ground lead to chassis.	Adjust AM IFT (T510) for maximum gain and best symmetry. Keep signal low enough for noise on response.
4. MW RF TRACKING ALIGNMENT (603kHz)	Connect AM RF Signal Generator through AM Dummy Antenna to AM Antenna terminals. Use 4.7k Ω resistor in series with AM Dummy Antenna output lead and Connect Loop antenna (Unit) to antenna terminal. Generator Setting to 603kHz or 1404kHz. Modulate with 400Hz (30% modulation).	Change DIGITAL Counter Display Set to 603kHz.	Connect AC VTVM and Oscilloscope to REC OUT.	Adjust AM ANT Coil (T508) for maximum gain output.
5. (1404kHz)	Same as above.	Change DIGITAL Counter Display Set to 1404kHz.	Same as above.	Adjust AM ANT Trimmer (TC505) for maximum gain output.
Note: Repeat the adjustments in Items 4 and 5. Then, confirm there is no tracking error.				
6. AM TUNED INDICATOR ADJUSTMENT	Same as above. Change generator Setting to 999kHz. and output level to 54dB μ V.	Change DIGITAL Counter Display Set to 999kHz.	Front Panel TUNED Indicator Display.	Adjust VR502 until the Indicator partly light up.
Note: After adjustment, adjust the output of SG and make sure that AUTO STOP is completed at 60 dB μ V and not completed at 50 dB μ V.				
7. AGC LEVEL ADJUSTMENT	Same as above. Adjust attenuator output level to 120dB μ V.	Same as above.	Connect DC Voltmeter to TP502 and ground lead to chassis.	Adjust VR501 until DC Voltmeter reads 1.8V \pm 0.5V. Do not adjust the VR503.
Note: Make sure that the Signal Meter lights all LEDs at 100 dB μ V and over 4 LEDs at 80 dB μ V. However, if the position of the VR 501 for the AGC adjustment is not fixed (unstable), all LEDs may not light up. Therefore, check the AUTO STOP and SIGNAL METER after the AGC adjustment.				

POWER AMPLIFIER ADJUSTMENT

BEFORE ADJUSTMENT

Unplug the AC power cord and set the front panel controls as follows:

- Power Switch to OFF position.
- Set the SPEAKERS Switch to OFF position.
- Turn the MASTER VOLUME Control to minimum position.
- IDLING CURRENT ADJUSTMENT VR301/VR401 (on the Left & Right Main Amplifier P.C.Board) setting to mechanical center position.
- Connect the AC power cord and Power Switch to ON position.

IDLING CURRENT ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 2 minutes before attempting this alignment.

LEFT AMPLIFIER

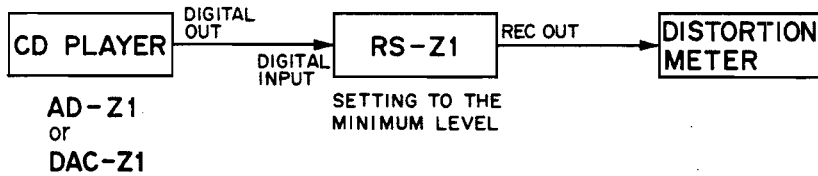
1. Connect the DC Voltmeter to the BIAS terminal on the Main Left Amplifier P.C.Board.
2. Adjust the VR301 for an indication of $15\text{ mV} \pm 5\text{ mV}$ on the DC Voltmeter.

RIGHT AMPLIFIER

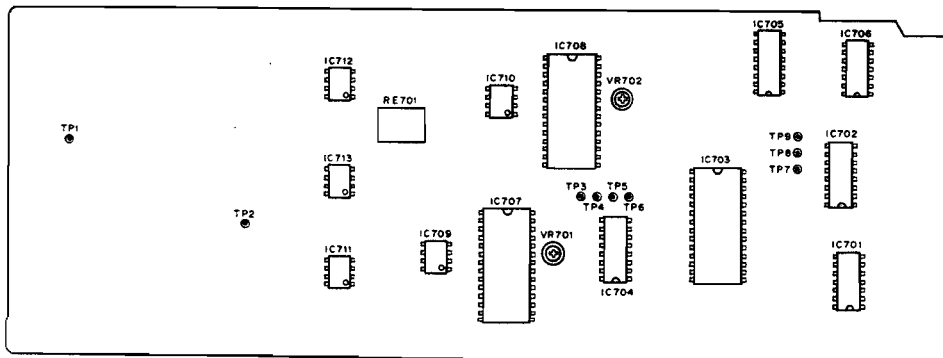
1. Connect the DC Voltmeter to the BIAS terminal on the Main Right Amplifier P.C.Board.
2. Adjust the VR401 for an indication of $15\text{ mV} \pm 5\text{ mV}$ on the DC Voltmeter.

MSB (Most Significant Bit) ADJUSTMENT (DAC P.C.BOARD)

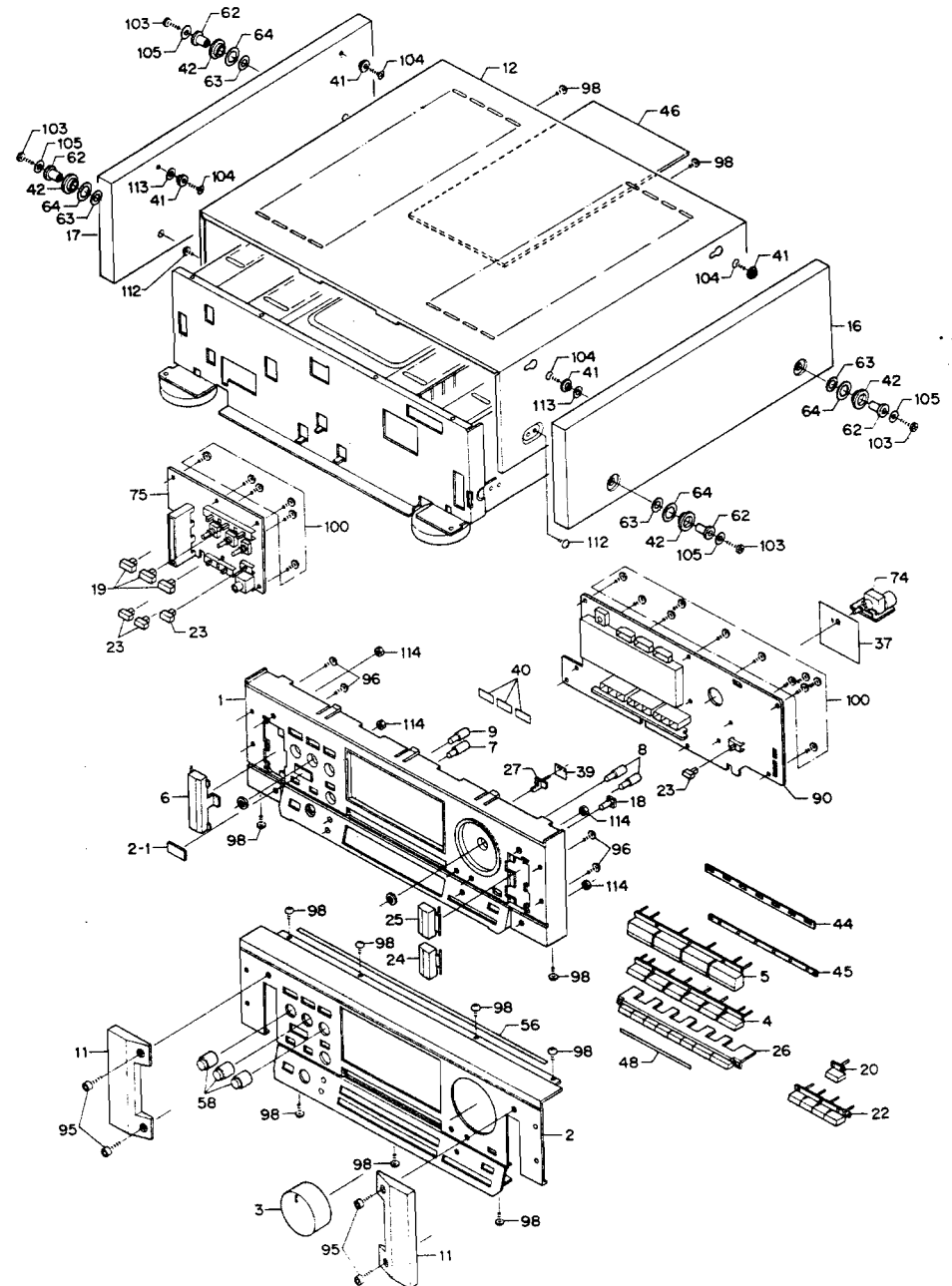
1. Connect the Digital CD Input of the AD-Z1 or DAC-Z1 to the Digital CD Input of this unit (RS-Z1) and connect the Harmonic Distortion Meter to the REC OUT jack. (See Figure)
2. Set the test disc CD-1 (CBS RECORDS) into the CD player and play back No.1. (0 dB, 1 kHz) and adjust the DAC P.C.Board VR701 (left channel) and VR702 (right channel) so that distortion is at a minimum level.



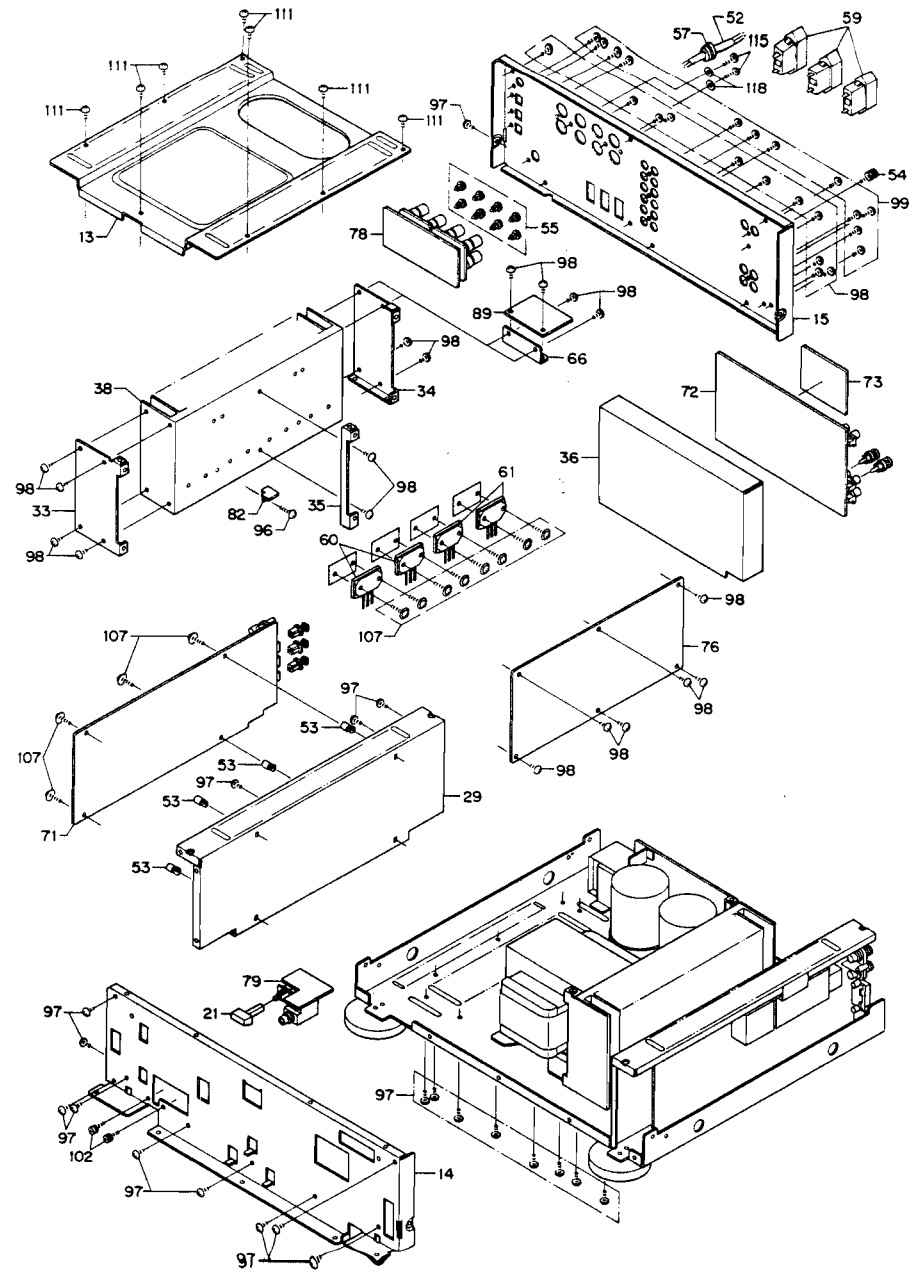
DAC P.C.BOARD ADJUSTMENT POINTS (TOP VIEW)



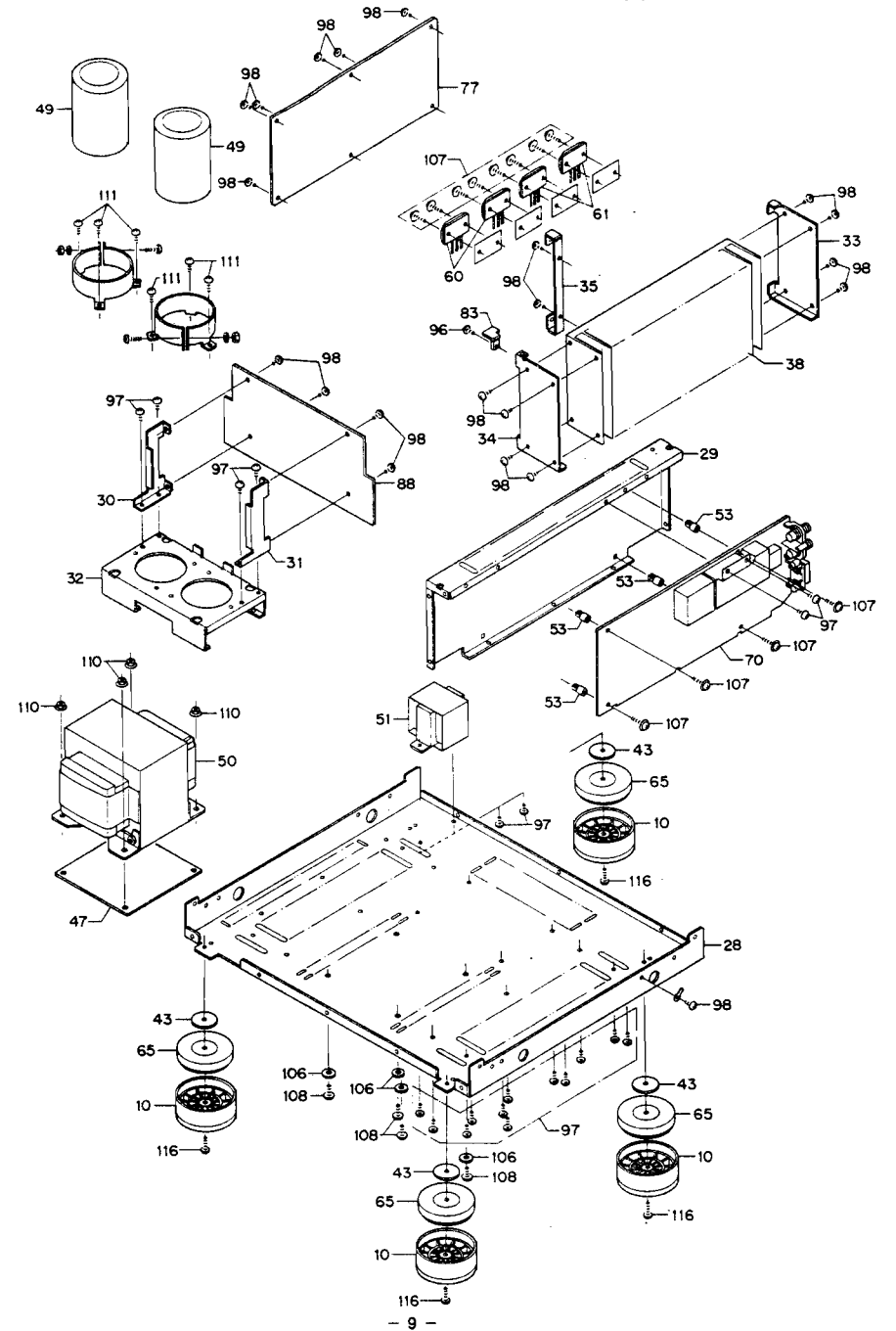
CABINET & CHASSIS EXPLODED VIEW (1)



CABINET & CHASSIS EXPLODED VIEW (2)



CABINET & CHASSIS EXPLODED VIEW (3)



P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
D529	407 008 0405	DIODE GMB01-BT	1	C577	403 069 8404	CERAMIC 0.01U Z 50V	1
D530	407 008 0405	DIODE GMB01-BT	1	C578	403 040 4807	ELECT 220U M 10V	1
D532	407 050 0408	ZENER DIODE GZA27Y-BT	1	C579	403 074 2701	CERAMIC 0.047U Z 50V	1
D533	407 005 1306	DIODE DS135C	1	C580	403 069 8404	CERAMIC 0.01U Z 50V	1
D534	407 005 1306	DIODE DS135C	1	C581	403 057 0601	POLYESTER 0.01U K 50V	1
D535	407 003 9205	DIODE DBB10C	1	C582	403 067 5603	MT-COMPO 0.1U J 50V	1
D536	407 050 7774	ZENER DIODE GZA9.1Y	1	C583	403 061 7801	POLYESTER 4700P J 50V	1
D537	407 005 4703	DIODE DS446-BT	1	C584	403 067 7706	MT-COMPO 0.047U J 50V	1
C501	403 069 8404	CERAMIC 0.01U Z 50V	1	C585	403 022 5907	CERAMIC 33P J 50V	1
C502	403 069 8404	CERAMIC 0.01U Z 50V	1	C586	403 022 5907	CERAMIC 33P J 50V	1
C503	403 069 8404	CERAMIC 0.01U Z 50V	1	C587	403 074 2701	CERAMIC 0.047U Z 50V	1
C506	403 069 8404	CERAMIC 0.01U Z 50V	1	C588	403 041 3904	ELECT 47U M 10V	1
C507	403 048 3109	ELECT 0.22U M 50V	1	C589	403 047 9607	ELECT 0.1U M 50V	1
C508	403 069 8404	CERAMIC 0.01U Z 50V	1	C590	403 042 0302	ELECT 10U M 16V	1
C511	403 006 4209	CERAMIC 1P C 50V	1	C591	403 049 1609	ELECT 1U M 50V	1
C512	403 006 4209	CERAMIC 1P C 50V	1	C592	403 049 1609	ELECT 1U M 50V	1
C513	403 069 8404	CERAMIC 0.01U Z 50V	1	C593	403 057 0601	POLYESTER 0.01U K 50V	1
C514	403 069 8404	CERAMIC 0.01U Z 50V	1	C594	403 054 1304	ELECT 47U M 35V	1
C515	403 012 4002	CERAMIC 15P J 50V	1	C595	403 054 1304	ELECT 47U M 35V	1
C516	403 022 5907	CERAMIC 33P J 50V	1	C596	403 047 9607	ELECT 0.1U M 50V	1
C517	403 008 5709	CERAMIC 10P D 50V	1	C597	403 057 0601	POLYESTER 0.01U K 50V	1
C518	403 031 8401	CERAMIC 7P D 50V	1	C598	403 028 5408	CERAMIC 47P K 50V	1
C519	403 006 4209	CERAMIC 1P C 50V	1	C599	403 047 1502	ELECT 4.7U M 25V	1
C520	403 006 4209	CERAMIC 1P C 50V	1	C600	403 050 1209	ELECT 2.2U M 50V	1
C521	403 044 0300	ELECT 47U M 16V	1	C601	403 047 1502	ELECT 4.7U M 25V	1
C522	403 069 8404	CERAMIC 0.01U Z 50V	1	C602	403 047 1502	ELECT 4.7U M 25V	1
C523	403 069 8404	CERAMIC 0.01U Z 50V	1	C603	403 069 0705	CERAMIC 1000P K 50V	1
C524	403 072 2703	CERAMIC 0.022U Z 50V	1	C604	403 023 5807	CERAMIC 330P K 50V	1
C525	403 072 2703	CERAMIC 0.022U Z 50V	1	C605	403 009 8105	CERAMIC 100P K 50V	1
C526	403 069 8404	CERAMIC 0.01U Z 50V	1	C606	403 023 5807	CERAMIC 330P K 50V	1
C527	403 069 8404	CERAMIC 0.01U Z 50V	1	C607	403 061 7801	POLYESTER 4700P J 50V	1
C528	403 069 8404	CERAMIC 0.01U Z 50V	1	C608	403 067 7706	MT-COMPO 0.047U J 50V	1
C529	403 069 8404	CERAMIC 0.01U Z 50V	1	C609	403 023 5807	CERAMIC 330P K 50V	1
C530	403 069 8404	CERAMIC 0.01U Z 50V	1	C610	403 049 1609	ELECT 1U M 50V	1
C531	403 069 8404	CERAMIC 0.01U Z 50V	1	C611	403 048 7802	ELECT 0.47U M 50V	1
C532	403 069 8404	CERAMIC 0.01U Z 50V	1	C612	403 049 1609	ELECT 1U M 50V	1
C533	403 069 8404	CERAMIC 0.01U Z 50V	1	C613	403 049 1609	ELECT 1U M 50V	1
C534	403 069 8404	CERAMIC 0.01U Z 50V	1	C614	403 057 0601	POLYESTER 0.01U K 50V	1
C535	403 069 8404	CERAMIC 0.01U Z 50V	1	C615	403 040 4807	ELECT 220U M 10V	1
C536	403 069 8404	CERAMIC 0.01U Z 50V	1	C616	403 043 7102	ELECT 330U M 16V	1
C537	403 069 8404	CERAMIC 0.01U Z 50V	1	C617	403 088 7907	STYRENE 820P J 50V	1
C538	403 069 8404	CERAMIC 0.01U Z 50V	1	C618	403 088 7907	STYRENE 820P J 50V	1
C539	403 069 8404	CERAMIC 0.01U Z 50V	1	C619	403 042 0302	ELECT 10U M 16V	1
C540	403 072 2703	CERAMIC 0.022U Z 50V	1	C620	403 042 0302	ELECT 10U M 16V	1
C541	403 072 2703	CERAMIC 0.022U Z 50V	1	C621	403 047 1502	ELECT 4.7U M 25V	1
C542	403 047 1502	ELECT 4.7U M 25V	1	C622	403 047 1502	ELECT 4.7U M 25V	1
C544	403 072 2703	CERAMIC 0.022U Z 50V	1	C623	403 008 5204	CERAMIC 10P D 50V	1
C545	403 043 1100	ELECT 220U M 16V	1	C624	403 008 5204	CERAMIC 10P D 50V	1
C546	403 072 2703	CERAMIC 0.022U Z 50V	1	C625	403 028 5408	CERAMIC 47P K 50V	1
C547	403 040 0403	ELECT 1000U M 10V	1	C626	403 028 5408	CERAMIC 47P K 50V	1
C548	403 028 5408	CERAMIC 47P K 50V	1	C627	403 044 0201	ELECT 47U M 16V	1
C549	403 042 3600	ELECT 100U M 16V	1	C628	403 044 0201	ELECT 47U M 16V	1
C550	403 057 5804	POLYESTER 1200P J 50V	1	C629	403 042 0302	ELECT 10U M 16V	1
C551	403 074 2701	CERAMIC 0.047U Z 50V	1	C630	403 042 0302	ELECT 10U M 16V	1
C552	403 026 9406	CERAMIC 5P C 50V	1	C631	403 057 7204	POLYESTER 0.012U J 50V	1
C553	403 067 5603	MT-COMPO 0.1U J 50V	1	C632	403 067 5603	MT-COMPO 0.1U J 50V	1
C554	403 026 9406	CERAMIC 47P K 50V	1	C633	403 039 7901	ELECT 100U M 10V	1
C555	403 074 2701	CERAMIC 0.047U Z 50V	1	C635	403 042 3600	ELECT 100U M 16V	1
C556	403 074 2701	CERAMIC 0.047U Z 50V	1	C636	403 042 3600	ELECT 100U M 16V	1
C557	403 069 8404	CERAMIC 0.01U Z 50V	1	C637	403 053 1400	ELECT 22U M 35V	1
C558	403 069 8404	CERAMIC 0.01U Z 50V	1	C638	403 052 8905	ELECT 10U M 35V	1
C559	403 074 2701	CERAMIC 0.047U Z 50V	1	C639	403 045 2907	ELECT 1000U M 25V	1
C560	403 074 2701	CERAMIC 0.047U Z 50V	1	C640	403 053 3101	ELECT 220U M 35V	1
C561	403 069 0705	CERAMIC 1000P K 50V	1	C641	403 049 7304	ELECT 100U M 50V	1
C562	403 069 8404	CERAMIC 0.01U Z 50V	1	C642	403 051 3905	ELECT 47U M 50V	1
C563	403 038 2402	ELECT 100U M 6.3V	1	C643	403 054 1304	ELECT 47U M 35V	1
C564	403 008 5105	CERAMIC 10P D 50V	1	C644	403 069 8404	CERAMIC 0.01U Z 50V	1
C565	403 087 3603	STYRENE 120P J 50V	1	C645	403 069 8404	CERAMIC 0.01U Z 50V	1
C566	403 088 4906	STYRENE 470P J 50V	1	C646	403 069 8404	CERAMIC 0.01U Z 50V	1
C567	403 088 4906	STYRENE 470P J 50V	1	C647	403 069 8404	CERAMIC 0.01U Z 50V	1
C568	403 008 5105	CERAMIC 10P D 50V	1	C648	403 069 8404	CERAMIC 0.01U Z 50V	1
C569	403 022 5907	CERAMIC 33P J 50V	1	C649	403 069 8404	CERAMIC 0.01U Z 50V	1
C570	403 042 0302	ELECT 10U M 16V	1	C650	403 048 7802	ELECT 0.47U M 50V	1
C571	403 047 1502	ELECT 4.7U M 25V	1	C651	403 057 5804	POLYESTER 1200P J 50V	1
C572	403 050 7706	ELECT 3.3U M 25V	1	C652	403 057 5804	POLYESTER 1200P J 50V	1
C573	403 047 1502	ELECT 4.7U M 25V	1	C661	403 072 4509	CERAMIC 270P K 50V	1
C574	403 048 1602	ELECT 0.47U M 50V	1	C663	403 070 3900	CERAMIC 120P K 50V	1
C575	403 074 2701	CERAMIC 0.047U Z 50V	1	C664	403 070 3900	CERAMIC 120P K 50V	1
C576	403 069 8404	CERAMIC 0.01U Z 50V	1	R501	401 024 8001	CARBON 1M JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R502	401 024 8001	CARBON 1M JA 1/6W	1	R581	401 024 7400	CARBON 10K JA 1/6W	1
R503	401 025 7805	CARBON 2.2K JA 1/6W	1	R582	401 024 9701	CARBON 12K JA 1/6W	1
R504	401 025 7805	CARBON 2.2K JA 1/6W	1	R583	401 027 3003	CARBON 56K JA 1/6W	1
R505	401 026 4605	CARBON 33K JA 1/6W	1	R584	401 027 3003	CARBON 56K JA 1/6W	1
R506	401 026 4605	CARBON 33K JA 1/6W	1	R585	401 025 8208	CARBON 22K JA 1/6W	1
R507	401 015 1608	CARBON 180 JA 1/4W	1	R586	401 024 7707	CARBON 100K JA 1/6W	1
R508	401 024 7707	CARBON 100K JA 1/6W	1	R587	401 025 1902	CARBON 15K JA 1/6W	1
R509	401 024 7707	CARBON 100K JA 1/6W	1	R588	401 024 7004	CARBON 1K JA 1/6W	1
R510	401 024 7707	CARBON 100K JA 1/6W	1	R589	401 024 7004	CARBON 1K JA 1/6W	1
R511	401 027 3003	CARBON 56K JA 1/6W	1	R590	401 024 7004	CARBON 1K JA 1/6W	1
R512	401 025 8208	CARBON 22K JA 1/6W	1	R591	401 026 9907	CARBON 4.7K JA 1/6W	1
R513	401 026 7408	CARBON 39K JA 1/6W	1	R592	401 027 2600	CARBON 5.6K JA 1/6W	1
R514	401 024 6700	CARBON 100 JA 1/6W	1	R593	401 027 2600	CARBON 5.6K JA 1/6W	1
R515	401 025 7102	CARBON 22 JA 1/6W	1	R594	401 012 5708	CARBON 1K JA 1/4W	1
R516	401 024 7707	CARBON 100K JA 1/6W	1	R595	401 024 7004	CARBON 1K JA 1/6W	1
R517	401 024 7707	CARBON 100K JA 1/6W	1	R596	401 027 6103	CARBON 680K JA 1/6W	1
R518	401 024 6700	CARBON 100 JA 1/6W	1	R597	401 026 7002	CARBON 3.9K JA 1/6W	1
R519	401 024 7707	CARBON 100K JA 1/6W	1	R598	401 026 9600	CARBON 470 JA 1/6W	1
R520	401 026 1000	CARBON 2.7K JA 1/6W	1	R599	401 024 9305	CARBON 1.2K JA 1/6W	1
R521	401 024 7400	CARBON 10K JA 1/6W	1	R600	401 012 5708	CARBON 1K JA 1/4W	1
R522	401 024 7400	CARBON 10K JA 1/6W	1	R601	401 018 1508	CARBON 22 JA 1/4W	1
R523	401 025 7409	CARBON 220 JA 1/6W	1	R602	401 024 7004	CARBON 1K JA 1/6W	1
R524	401 025 8703	CARBON 220K JA 1/6W	1	R603	401 024 7004	CARBON 1K JA 1/6W	1
R525	401 026 9907	CARBON 4.7K JA 1/6W	1	R604	401 024 7004	CARBON 1K JA 1/6W	1
R526	401 025 7409	CARBON 220 JA 1/6W	1	R605	401 024 7004	CARBON 1K JA 1/6W	1
R527	401 025 8703	CARBON 220K JA 1/6W	1	R606	402 037 7005	FUSIBLE RES 47 JA 1/4W	1
R528	401 027 5205	CARBON 680 JA 1/6W	1	R607	401 026 4308	CARBON 3.3K JA 1/6W	1
R529	401 027 5205	CARBON 680 JA 1/6W	1	R608	401 012 7009	CARBON 10K JA 1/4W	1
R530	401 027 5205	CARBON 680 JA 1/6W	1	R609	401 027 0309	CARBON 47K JA 1/6W	1
R531	401 025 7409	CARBON 220 JA 1/6W	1	R610	401 027 0309	CARBON 47K JA 1/6W	1
R532	401 026 3905	CARBON 330 JA 1/6W	1	R611	401 026 4308	CARBON 3.3K JA 1/6W	1
R533	401 026 3905	CARBON 330 JA 1/6W	1	R612	401 026 4308	CARBON 3.3K JA 1/6W	1
R534	401 026 3905	CARBON 330 JA 1/6W	1	R613	401 027 2600	CARBON 5.6K JA 1/6W	1
R535	401 026 3905	CARBON 330 JA 1/6W	1	R614	401 027 2600	CARBON 5.6K JA 1/6W	1
R536	401 018 2800	CARBON 330 JA 1/4W	1	R615	401 024 7707	CARBON 100K JA 1/6W	1
R537	401 026 3905	CARBON 330 JA 1/6W	1	R616	401 024 7707	CARBON 100K JA 1/6W	1
R538	401 026 3905	CARBON 330 JA 1/6W	1	R617	401 024 7707	CARBON 100K JA 1/6W	1
R539	401 024 7004	CARBON 1K JA 1/6W	1	R618	401 024 7707	CARBON 100K JA 1/6W	1
R540	401 024 7004	CARBON 1K JA 1/6W	1	R619	401 024 7707	CARBON 100K JA 1/6W	1
R54							

P.C.BOARD PARTS LIST (Continued)

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
CN204	620 021 8405	Plug 8P	1	C705	404 028 9302	CERAMIC 0.1U Z 50V	1
CN701	620 021 5923	Plug 3P	1	C706	403 177 1007	ELECT 100U M 6.3V	1
CN901	620 021 8597	Plug 4P	1	C707	404 028 9302	CERAMIC 0.1U Z 50V	1
EM11	620 197 9442	Inductor 470UH K	1	C708	404 028 9302	CERAMIC 0.1U Z 50V	1
EM12	620 197 9442	Inductor 470UH K	1	C709	403 177 1007	ELECT 100U M 6.3V	1
EM13	620 196 5016	Inductor,Ferrite BL03	1	C710	403 089 5205	CERAMIC 0.01U K 50V	1
FB701	620 196 5009	Inductor,Ferrite BL01	1	C711	403 057 0304	POLYESTER 0.01U J 50V	1
FB702	620 196 5016	Inductor,Ferrite BL03	1	C712	403 067 5603	MT-COMPO 0.1U J 50V	1
FB703	620 196 5009	Inductor,Ferrite BL01	1	C713	403 009 1700	CERAMIC 10P J 50V	1
J701	620 196 1584	Jack,RCA,1P,Horizon	1	C714	403 028 3402	CERAMIC 56P J 50V	1
L701	620 196 9504	Inductor 47UH K	1	C715	403 177 2509	ELECT 22U M 6.3V	1
L702	620 196 9504	Inductor 47UH K	1	C716	403 177 1106	ELECT 10U M 16V	1
L703	620 196 9504	Inductor 47UH K	1	C717	404 028 9302	CERAMIC 0.1U Z 50V	1
L704	620 196 9504	Inductor 47UH K	1	C720	404 028 9302	CERAMIC 0.1U Z 50V	1
L705	620 196 9504	Inductor 47UH K	1	C721	403 177 2509	ELECT 22U M 6.3V	1
L706	620 196 9504	Inductor 47UH K	1	C722	403 067 5603	MT-COMPO 0.1U J 50V	1
L708	620 196 9504	Inductor 47UH K	1	C725	404 028 9302	CERAMIC 0.1U Z 50V	1
L709	620 196 9504	Inductor 47UH K	1	C726	403 177 1304	ELECT 1U M 50V	1
L710	620 196 9504	Inductor 47UH K	1	C727	403 177 1403	ELECT 3.3U M 50V	1
L797	620 197 9466	Inductor 0.22UH M	1	C728	403 177 1403	ELECT 3.3U M 50V	1
L798	620 197 9244	Inductor 2.2UH M	1	C729	403 177 1403	ELECT 3.3U M 50V	1
L799	620 197 9244	Inductor 2.2UH M	1	C730	403 177 1403	ELECT 3.3U M 50V	1
VR701	620 196 9887	Potentiometer,100KB	1	C731	403 177 1403	ELECT 3.3U M 50V	1
VR702	620 196 9887	Potentiometer,100KB	1	C732	403 177 1403	ELECT 3.3U M 50V	1
X701	620 196 1560	Resonator,Xtal,20MHz	1	C733	403 177 1403	ELECT 3.3U M 50V	1
IC701	409 031 5600	IC MC74HC04N	1	C734	403 177 1403	ELECT 3.3U M 50V	1
IC702	409 166 3502	IC MC74HC4053N	1	C735	403 177 1403	ELECT 3.3U M 50V	1
IC703	409 161 4504	IC YM3623B	1	C736	403 177 1403	ELECT 3.3U M 50V	1
IC704	409 180 3007	IC YM3434	1	C737	403 177 1403	ELECT 3.3U M 50V	1
IC705	410 066 5404	IC UPD74HC123AC	1	C738	403 177 1403	ELECT 3.3U M 50V	1
IC706	409 060 5701	IC UPD74HC00C	1	C739	403 177 1403	ELECT 3.3U M 50V	1
IC707	409 171 1500	IC PCMS58P	1	C740	403 177 1403	ELECT 3.3U M 50V	1
IC708	409 171 1500	IC PCMS58P	1	C743	403 177 1601	POLYPRO 220P J 50V	1
IC709	409 180 3304	IC NJM5532D	1	C744	403 177 1601	POLYPRO 220P J 50V	1
IC710	409 180 3304	IC NJM5532D	1	C745	403 084 1609	OS-SOLID 3.3U M 16V	1
IC711	409 180 3304	IC NJM5532D	1	C746	403 084 1609	OS-SOLID 3.3U M 16V	1
IC712	409 180 3304	IC NJM5532D	1	C747	403 177 1106	ELECT 10U M 16V	1
IC713	409 180 3205	IC NJM4580D	1	C748	403 177 1106	ELECT 10U M 16V	1
IC714	409 140 0503	IC NJM78M12FA	1	C749	403 177 1106	ELECT 10U M 16V	1
IC715	409 140 0404	IC NJM79M12FA	1	C750	403 177 1106	ELECT 10U M 16V	1
IC716	409 039 9204	IC NJM78L05FA	1	C751	403 177 1502	POLYPRO 0.01U J 50V	1
IC717	409 169 7804	IC NJM78M05FA	1	C752	403 177 1502	POLYPRO 0.01U J 50V	1
Q701	405 034 8907	TR DTC114-ES-TP	1	C753	403 177 1106	ELECT 10U M 16V	1
Q702	405 034 8907	TR DTC114-ES-TP	1	C754	403 177 1106	ELECT 10U M 16V	1
Q703	405 034 8907	TR DTC114-ES-TP	1	C755	403 177 1700	POLYPRO 2200P J 50V	1
Q704	405 034 8907	TR DTC114-ES-TP	1	C756	403 177 1700	POLYPRO 2200P J 50V	1
Q705	405 034 6804	TR DTA114-ES-TP	1	C757	403 177 1700	POLYPRO 2200P J 50V	1
Q706	405 034 6804	TR DTA114-ES-TP	1	C758	403 177 1700	POLYPRO 2200P J 50V	1
Q707	405 039 5802	TR 2SC3792	1	C759	403 177 1700	POLYPRO 2200P J 50V	1
Q708	405 039 5802	TR 2SC3792	1	C760	403 177 1700	POLYPRO 2200P J 50V	1
Q709	405 039 5802	TR 2SC3792	1	C761	403 177 1106	ELECT 10U M 16V	1
Q710	405 039 5802	TR 2SC3792	1	C762	403 177 1106	ELECT 10U M 16V	1
Q711	405 034 8907	TR DTC114-ES-TP	1	C763	403 177 1106	ELECT 10U M 16V	1
Q712	405 034 6804	TR DTA114-ES-TP	1	C764	403 177 1106	ELECT 10U M 16V	1
Q713	405 009 6907	TR 2SB985-S	1	C765	403 177 1106	ELECT 10U M 16V	1
or	405 009 7003	TR 2SB985-T	1	C767	403 177 1106	ELECT 10U M 16V	1
Q714	405 095 4504	TR 2SD1347S	1	C768	403 177 3902	CERAMIC 0.01U Z 500V	1
or	405 095 4603	TR 2SD1347T	1	C769	403 177 3902	CERAMIC 0.01U Z 500V	1
Q715	405 034 8907	TR DTC114-ES-TP	1	C770	403 177 3902	CERAMIC 0.01U Z 500V	1
Q716	405 034 8907	TR DTC114-ES-TP	1	C771	403 177 3902	CERAMIC 0.01U Z 500V	1
D701	407 008 0405	DIODE GMB01-BT	1	C772	620 197 8230	Capacitor,1000U 35V KV	1
D702	407 008 0405	DIODE GMB01-BT	1	C773	620 197 8230	Capacitor,1000U 35V KV	1
D703	407 008 0405	DIODE GMB01-BT	1	C774	620 197 8230	Capacitor,1000U 35V KV	1
D704	407 008 0405	DIODE GMB01-BT	1	C775	620 197 8230	Capacitor,1000U 35V KV	1
D705	407 088 6502	DIODE MPG06D-PKG3	1	C784	403 001 2309	CERAMIC 0.01U N 16V	1
D706	407 088 6502	DIODE MPG06D-PKG3	1	C785	403 089 0705	CERAMIC 100P K 50V	1
D707	407 088 6502	DIODE MPG06D-PKG3	1	C786	403 068 9105	CERAMIC 100P K 50V	1
D708	407 088 6502	DIODE MPG06D-PKG3	1	C787	403 068 9105	CERAMIC 100P K 50V	1
D709	407 049 5506	ZENER DIODE GZA10Y	1	C788	403 068 9105	CERAMIC 100P K 50V	1
D795	407 089 7409	DIODE SD104G	1	C789	403 074 2701	CERAMIC 0.047U Z 50V	1
or	407 075 4900	DIODE SD184-1	1	C790	403 072 4509	CERAMIC 270P K 50V	1
D796	407 008 0405	DIODE GMB01-BT	1	C791	403 026 0809	CERAMIC 47P J 50V	1
D797	407 008 0405	DIODE GMB01-BT	1	C792	403 026 0809	CERAMIC 47P J 50V	1
D798	407 008 0405	DIODE GMB01-BT	1	C793	403 026 0809	CERAMIC 47P J 50V	1
D799	407 088 6502	DIODE MPG06D-PKG3	1	C794	403 026 0809	CERAMIC 47P J 50V	1
C701	404 028 9302	CERAMIC 0.1U Z 50V	1	C795	403 072 4509	CERAMIC 270P K 50V	1
C702	403 177 1007	ELECT 100U M 6.3V	1	C796	403 069 5205	CERAMIC 0.01U K 50V	1
C703	404 028 9302	CERAMIC 0.1U Z 50V	1	C797	403 026 0809	CERAMIC 47P J 50V	1
C704	403 177 1007	ELECT 100U M 6.3V	1	C798	403 068 9105	CERAMIC 100P K 50V	1

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
C799	403 177 2509	ELECT 22U M 6.3V	1	CN111	620 196 2512	Assy,Wire,SRA-SAN 1P	1
R701	401 025 1308	CARBON 150 JA 1/8W	1	CN112	620 196 2512	Connector-P.TYC-B15P-F1	1
R702	401 025 1308	CARBON 150 JA 1/8W	1	L101	620 197 9275	Inductor 22UH K	1
R703	401 026 7408	CARBON 39K JA 1/8W	1	L102	620 197 9275	Inductor 22UH K	1
R704	401 025 7805	CARBON 2.2K JA 1/8W	1	IC101	409 180 3205	IC NJM4580D	1
R705	401 026 7408	CARBON 39K JA 1/8W	1	IC102	409 180 3205	IC NJM4580D	1
R706	401 025 7805	CARBON 2.2K JA 1/8W	1	IC104	409 109 5105	IC LC7821	1
R707	401 024 7400	CARBON 10K JA 1/8W	1	IC105	409 109 5303	IC LC7823	1
R708	401 027 8602	CARBON 8.2K JA 1/8W	1	IC106	409 180 3205	IC NJM4580D	1
R709	401 020 0801	CARBON 470 JA 1/4W	1	Q101	405 027 4909	TR 2SK386-BL	1
R710	401 025 1308	CARBON 150 JA 1/8W	1	or	405 027 5005	TR 2SK388-GR	1
R711	401 025 1308	CARBON 150 JA 1/8W	1	Q102	405 027 4909	TR 2SK388-BL	1
R712	401 024 7707	CARBON 100K JA 1/8W	1	or	405 027 5005	TR 2SK388-GR	1
R713	401 024 7400	CARBON 10K JA 1/8W	1	Q103	405 039 5802	TR 2SC3792-AA	1
R714	401 025 2305	CARBON 150K JA 1/8W	1	Q104	405 039 5802	TR 2SC3792-AA	1
R716	401 025 8703	CARBON 220K JA 1/8W	1	Q105	405 039 5802	TR 2SC3792-AA	1
R717	401 024 7707	CARBON 100K JA 1/8W	1	Q106	405 039 5802	TR 2SC3792-AA	1
R718	401 024 7707	CARBON 100K JA 1/8W	1	Q107	405 039 5802	TR 2SC3792-AA	1
R719	401 026 4902	CARBON 330K JA 1/8W	1	Q108	405 039 5802	TR 2SC3792-AA	1
R720	401 026 4902	CARBON 330K JA 1/8W	1	Q109	405 004 3901	TR 2SA808-E-NP-AA	1
R721	401 026 4308	CARBON 3.3K JA 1/8W	1	or	405 004 4502	TR 2SA808-F-NP-AA	1
R722	401 018 3807	CARBON 3.3K JA 1/4W	1	Q110	405 034 8907	TR DTC114-ES-TP	1
R723	401 026 4605	CARBON 33K JA 1/8W	1	C101	403 073 7004	CERAMIC 470P K 50V	1
R724	401 026 4605	CARBON 33K JA 1/8W	1	C102	403 073 7004	CERAMIC 470P K 50V	1
R725	401 026 7002	CARBON 3.9K JA 1/8W	1	C103	403 056 7809	POLYESTER 1000P J 50V	1
R726	401 026 7002	CARBON 3.9K JA 1/8W	1	C104	403 056 7809	POLYESTER 1000P J 50V	1
R727	401 027 9302	CARBON 820K JA 1/8W	1	C105	403 177 2301	POLYPRO 0.018U J 50V	1
R728	401 027 9302	CARBON 820K JA 1/8W	1	C106	403 177 2301	POLYPRO 0.018U J 50V	1
R729	401 025 1605	CARBON 1.5K JA 1/8W	1	C107	403 177 2400	POLYPRO 4700P J 50V	1
R730	401 025 1605	CARBON 1.5K JA 1/8W	1	C108	403 177 2400	POLYPRO 4700P J 50V	1
R731	401 027 0309	CARBON 47K JA 1/8W	1	C109	620 197 0739	Capacitor,2200U 6.3V KV	1
R732	401 027 0309	CARBON 47K JA 1/8W	1	C110	620 197 0739	Capacitor,2200U 6.3V KV	1
R733	401 025 7805	CARBON 2.2K JA 1/8W	1	C111	403 177 1106	ELECT 10U M 16V	1
R734	401 025 7805	CARBON 2.2K JA 1/8W	1	C112	403 177 1106	ELECT 10U M 16V	1
R735	401 025 1605	CARBON 1.5K JA 1/8W	1	C113	404 028 9302	CERAMIC 0.1U Z 50V	1
R736	401 025 1605	CARBON 1.5K JA 1/8W	1	C114	404 028 9302	CERAMIC 0.1U Z 50V	1
R737	401 025 1605	CARBON 1.5K JA 1/8W	1	C115	403 061 8006	POLYESTER 4700P J 50V	1
R738	401 014 4105	CARBON 1.5K JA 1/4W	1	C116	403 061 8006	POLYESTER 4700P J 50V	1
R739	401 025 1605	CARBON 1.5K JA 1/8W	1	C117	403 177 1106	ELECT 10U M 16V	1
R740	401 025 1605	CARBON 1.5K JA 1/8W	1	C118	403 177 1106	ELECT 10U M 16V	1
R741	401 020 7909	CARBON 510 JA 1/4W	1	C119	403 068 9402	CERAMIC 100P K 50V	1
R742	401 027 1306	CARBON 510 JA 1/8W	1	C120	403 068 9402	CERAMIC 100P K 50V	1
R743	401 024 6700	CARBON 100 JA 1/8W	1	C121			

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
C162	403 071 6207	CERAMIC 220P K 50V	1	R175	401 024 7004	CARBON 1K JA 1/8W	1
C163	403 071 6207	CERAMIC 220P K 50V	1	R176	401 024 7004	CARBON 1K JA 1/8W	1
C164	403 071 6207	CERAMIC 220P K 50V	1	R177	401 024 7004	CARBON 1K JA 1/8W	1
C165	403 071 6207	CERAMIC 220P K 50V	1	R178	401 024 7004	CARBON 1K JA 1/8W	1
C166	403 071 6207	CERAMIC 220P K 50V	1	R179	401 024 6700	CARBON 100 JA 1/8W	1
C167	403 071 6207	CERAMIC 220P K 50V	1	R180	401 024 6700	CARBON 100 JA 1/8W	1
C168	403 071 6207	CERAMIC 220P K 50V	1	R181	401 024 6700	CARBON 100 JA 1/8W	1
C169	403 071 6207	CERAMIC 220P K 50V	1	R182	401 024 6700	CARBON 100 JA 1/8W	1
C170	403 071 6207	CERAMIC 220P K 50V	1	R183	401 027 2600	CARBON 5.6K JA 1/8W	1
C171	403 071 6207	CERAMIC 220P K 50V	1	R184	401 025 4200	CARBON 1.8K JA 1/8W	1
C172	403 071 6207	CERAMIC 220P K 50V	1	R185	401 027 0309	CARBON 47K JA 1/8W	1
C173	403 071 6207	CERAMIC 220P K 50V	1	R186	401 024 7707	CARBON 100K JA 1/8W	1
C174	403 071 6207	CERAMIC 220P K 50V	1	R187	401 022 0809	CARBON 68 JA 1/4W	1
C175	403 071 6207	CERAMIC 220P K 50V	1	R188	401 022 0809	CARBON 68 JA 1/4W	1
C176	403 071 6207	CERAMIC 220P K 50V	1	R189	401 014 2903	CARBON 150 JA 1/4W	1
C177	403 071 6207	CERAMIC 220P K 50V	1	R190	401 014 2903	CARBON 150 JA 1/4W	1
C178	403 071 6207	CERAMIC 220P K 50V	1	R191	401 024 7004	CARBON 1K JA 1/8W	1
C179	403 071 6207	CERAMIC 220P K 50V	1	R192	401 012 5708	CARBON 1K JA 1/4W	1
C180	403 071 6207	CERAMIC 220P K 50V	1	R193	401 024 7707	CARBON 100K JA 1/8W	1
R101	401 027 0309	CARBON 47K JA 1/8W	1	R194	401 024 7707	CARBON 100K JA 1/8W	1
R102	401 027 0309	CARBON 47K JA 1/8W	1	R195	401 026 9600	CARBON 470 JA 1/8W	1
R103	401 024 6700	CARBON 100 JA 1/8W	1	R196	401 026 9600	CARBON 470 JA 1/8W	1
R104	401 024 6700	CARBON 100 JA 1/8W	1	R197	401 024 7707	CARBON 100K JA 1/8W	1
R105	401 026 9600	CARBON 470 JA 1/8W	1	R198	401 024 7707	CARBON 100K JA 1/8W	1
R106	401 026 9600	CARBON 470 JA 1/8W	1	R251	401 024 7707	CARBON 100K JA 1/8W	1
R107	401 149 1307	MT-FILM 3.9K GC 1/4W	1	R252	401 024 7707	CARBON 100K JA 1/8W	1
R108	401 149 1307	MT-FILM 3.9K GC 1/4W	1	R253	401 024 7707	CARBON 100K JA 1/8W	1
R109	401 149 1307	MT-FILM 3.9K GC 1/4W	1	R254	401 024 7707	CARBON 100K JA 1/8W	1
R110	401 149 1307	MT-FILM 3.9K GC 1/4W	1	R255	401 024 7707	CARBON 100K JA 1/8W	1
R111	401 148 8703	MT-FILM 4.7K GC 1/4W	1	R257	401 024 7707	CARBON 100K JA 1/8W	1
R112	401 148 8703	MT-FILM 4.7K GC 1/4W	1	R258	401 024 7707	CARBON 100K JA 1/8W	1
R113	401 024 6700	CARBON 100 JA 1/8W	1	R259	401 024 7707	CARBON 100K JA 1/8W	1
R114	401 024 6700	CARBON 100 JA 1/8W	1	R260	401 024 7707	CARBON 100K JA 1/8W	1
R115	401 025 8709	CARBON 200K JA 1/8W	1	R261	401 024 7707	CARBON 100K JA 1/8W	1
R116	401 025 8709	CARBON 200K JA 1/8W	1	R262	401 024 7707	CARBON 100K JA 1/8W	1
R117	401 025 1902	CARBON 15K JA 1/8W	1	R263	401 148 8406	MT-FILM 10K GC 1/4W	1
R118	401 025 1902	CARBON 15K JA 1/8W	1	R264	401 148 8406	MT-FILM 10K GC 1/4W	1
R119	401 026 2700	CARBON 300 JA 1/8W	1	R265	401 148 8703	MT-FILM 4.7K GC 1/4W	1
R120	401 026 2700	CARBON 300 JA 1/8W	1	R266	401 148 8703	MT-FILM 4.7K GC 1/4W	1
R121	401 026 2601	CARBON 30 JA 1/8W	1	R267	401 024 7004	CARBON 1K JA 1/8W	1
R122	401 026 2601	CARBON 30 JA 1/8W	1	R268	401 012 5708	CARBON 1K JA 1/4W	1
R123	401 026 9600	CARBON 470 JA 1/8W	1	R269	401 024 7707	CARBON 100K JA 1/8W	1
R124	401 026 9600	CARBON 470 JA 1/8W	1	R270	401 024 7707	CARBON 100K JA 1/8W	1
R125	401 024 7707	CARBON 100K JA 1/8W	1	R271	401 024 6700	CARBON 100 JA 1/8W	1
R126	401 024 7707	CARBON 100K JA 1/8W	1	R272	401 024 6700	CARBON 100 JA 1/8W	1
R127	401 024 7707	CARBON 100K JA 1/8W	1	R274	401 024 7400	CARBON 10K JA 1/8W	1
R128	401 024 7707	CARBON 100K JA 1/8W	1	R281	401 024 6403	CARBON 10 JA 1/8W	1
R129	401 024 7707	CARBON 100K JA 1/8W	1	R282	401 024 6403	CARBON 10 JA 1/8W	1
R130	401 024 7707	CARBON 100K JA 1/8W	1				
R131	401 024 7707	CARBON 100K JA 1/8W	1				
R132	401 024 7707	CARBON 100K JA 1/8W	1				
R133	401 024 7707	CARBON 100K JA 1/8W	1				
R134	401 024 7707	CARBON 100K JA 1/8W	1				
R135	401 024 7707	CARBON 100K JA 1/8W	1				
R136	401 024 7707	CARBON 100K JA 1/8W	1				
R151	401 024 7004	CARBON 1K JA 1/8W	1				
R152	401 024 7004	CARBON 1K JA 1/8W	1				
R153	401 026 9600	CARBON 470 JA 1/8W	1				
R154	401 020 0801	CARBON 470 JA 1/4W	1				
R155	401 024 7004	CARBON 1K JA 1/8W	1				
R156	401 012 5708	CARBON 1K JA 1/4W	1				
R157	401 024 7004	CARBON 1K JA 1/8W	1				
R158	401 024 7004	CARBON 1K JA 1/8W	1				
R159	401 024 7004	CARBON 1K JA 1/8W	1				
R160	401 024 7004	CARBON 1K JA 1/8W	1				
R161	401 024 7004	CARBON 1K JA 1/8W	1				
R162	401 024 7004	CARBON 1K JA 1/8W	1				
R163	401 024 7004	CARBON 1K JA 1/8W	1				
R164	401 024 7004	CARBON 1K JA 1/8W	1				
R165	401 024 7004	CARBON 1K JA 1/8W	1				
R166	401 024 7004	CARBON 1K JA 1/8W	1				
R167	401 024 7004	CARBON 1K JA 1/8W	1				
R168	401 024 7004	CARBON 1K JA 1/8W	1				
R169	401 012 5708	CARBON 1K JA 1/4W	1				
R170	401 012 5708	CARBON 1K JA 1/4W	1				
R171	401 012 5708	CARBON 1K JA 1/4W	1				
R172	401 012 5708	CARBON 1K JA 1/4W	1				
R173	401 026 4308	CARBON 3.3K JA 1/8W	1				
R174	401 026 4308	CARBON 3.3K JA 1/8W	1				

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
	620 196 1577	Jack,RCA,1P,Vertical	1		620 196 3342	Heat Sink	2
	620 197 5307	Assy,Wire,SMR-SAN 7P	1		620 031 4763	Wire Wrap Terminal	4
	620 197 5314	Assy,Wire,KR-DA 3P	1	CN105	620 021 1700	Plug 2P	1
	620 197 5321	Assy,Wire,51004-SAN 8P	1	CN202	620 021 8313	Plug 3P	1
	620 197 5338	Assy,Wire,KR-DA 8P	1	CN305	620 196 2574	Connector-S,TKC-B10X-E1	1
SW201	620 196 2390	Switch,Push,2P-1S,NS	1	CN401	620 022 0002	Plug 2P	1
SW202	620 196 2383	Switch,Push,2P-2S NS	1	CN804	620 021 8320	Plug 5P	1
SW203	620 196 2376	Switch,Push,2P-3S NS	1	CN903	620 022 0262	Plug 5P	1
SW204	620 016 7796	Tact Switch	1	CN908	620 021 5923	Plug 3P	1
VR201	620 196 2352	VR,Rotary 2X250KSW	1	F301	620 017 0727	Protector ICP-N10	1
VR202	620 196 2352	VR,Rotary 2X250KSW	1	F302	620 017 0727	Protector ICP-N10	1
VR203	620 196 2369	VR,Rotary 1X150KW	1	L301	620 196 1690	Inductor,AIR,2.5UH,0FC	1
IC201	409 180 3205	IC NJM4580D	1	RE301	620 196 1744	Relay,U T-Cross DC24V	1
Q201	405 010 9102	TR 2SC1570-F-NP-AA	1	RE302	620 196 1645	Relay,T-Cross DC24V	1
or	405 010 9201	TR 2SC1570-G-NP-AA	1	RE303	620 196 1645	Relay,T-Cross DC24V	1
Q202	405 010 9102	TR 2SC1570-F-NP-AA	1	VR301	620 196 1737	Potentiometer,200B,Metal	1
or	405 010 9201	TR 2SC1570-G-NP-AA	1	IC301	409 018 4503	IC LA64580S	1
D201	407 062 7204	LED SEL2213C	1	IC302	409 079 9509	IC LA2500	1
D202	407 062 7204	LED SEL2213C	1	Q301	405 027 4908	TR 2SK368-BL	1
D203	407 062 7204	LED SEL2213C	1	or	405 027 5005	TR 2SK368-GR	1
C201	403 067 6709	MT-COMPO 0.22U J 50V	1	Q302	405 010 9102	TR 2SC1570-F-NP-AA	1
C202	403 067 6709	MT-COMPO 0.22U J 50V	1	or	405 010 9201	TR 2SC1570-G-NP-AA	1
C203	403 067 6709	MT-COMPO 0.22U J 50V	1	Q303	405 016 9106	TR 2SC3067-F	1
C204	403 067 6709	MT-COMPO 0.22U J 50V	1	or	405 016 9205	TR 2SC3067-G	1
C205	403 177 3209	ELECT 4.7U M 25V	1	Q304	405 010 9102	TR 2SC1570-F-NP-AA	1
C206	403 177 3209	ELECT 4.7U M 25V	1	or	405 010 9201	TR 2SC1570-G-NP-AA	1
C207	403 068 9402	CERAMIC 100P K 50V	1	Q305	405 003 0000	TR 2SA1240-G	1
C208	403 068 9402	CERAMIC 100P K 50V	1	Q305	405 003 0109	TR 2SA1240-G	1
C209	403 068 9402	CERAMIC 100P K 50V	1	Q306	405 006 0592	TR 2SA929-F-AA	1
C210	403 068 9402	CERAMIC 100P K 50V	1	or	405 006 0601	TR 2SA929-G-AA	1
C211	403 069 1207	CERAMIC 1000P K 50V	1	Q307	405 006 0502	TR 2SA929-F-AA	1
C212	403 069 1207	CERAMIC 1000P K 50V	1	or	405 006 0601	TR 2SA929-G-AA	1
C213	403 058 3106	POLYESTER 0.015U J 50V	1	Q308	405 002 9103	TR 2SA1209-S	1
C214	403 058 3106	POLYESTER 0.015U J 50V	1	or	405 002 9202	TR 2SA1209-T	1
C215	403 057 7402	POLYESTER 0.012U J 50V	1	Q309	405 010 9102	TR 2SC1570-F-NP-AA	1
C216	403 057 7402	POLYESTER 0.012U J 50V	1	or	405 010 9201	TR 2SC1570-G-NP-AA	1
C217	403 177 2509	ELECT 22U M 6.3V	1	Q310	405 016 3906	TR 2SC2911-S	1
C218	403 177 2509	ELECT 22U M 6.3V	1	or	405 016 4002	TR 2SC2911-T	1
C219	404 028 9302	CERAMIC 0.1U Z 50V	1	Q312	405 017 9600	TR 2SC3300-S-AC	1
C220	404 028 9302	CERAMIC 0.1U Z 50V	1	or	405 017 9600	TR 2SC3300-T-AC	1
C221	403 177 2509	ELECT 22U M 6.3V	1	Q313	405 003 5203	TR 2SA1317-S-AC	1
C222	403 177 2509	ELECT 22U M 6.3V	1	or	405 003 5203	TR 2SA1317-T-AC	1
C223	404 028 9302	CERAMIC 0.1U Z 50V	1	Q314	405 017 2600	TR 2SC3117-S	1
C224	404 028 9302	CERAMIC 0.1U Z 50V	1	or	405 017 2700	TR 2SC3117-T	1
Q921	403 143 2809	CERAMIC 0.047U Z 50V	1	Q315	405 003 1601	TR 2SA1249-S	1
R201	401 024 7004	CARBON 1K JA 1/8W	1	or	405 003 1700	TR 2SA1249-T	1
R202	401 024 7004	CARBON 1K JA 1/8W	1	Q320	405 019 1909	TR 2SC536-E-NP-AA	1
R203	401 024 7707	CARBON 100K JA 1/8W	1	or	405 019 2708	TR 2SC536-F-NP-AA	1
R204	401 024 7707	CARBON 100K JA 1/8W	1	Q321	405 019 1909	TR 2SC536-E-NP-AA	1
R205	401 025 0004	CARBON 120K JA 1/8W	1	or	405 019 2708	TR 2SC536-F-NP-AA	1
R206	401 025 0004	CARBON 120K JA 1/8W	1	Q322	405 019 1909	TR 2SC536-E-NP-AA	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
or	407 049 7609	ZENER DIODE GZA16Z-BT	1	R351	401 021 4105	CARBON 56K JA 1/4W	1
D322	407 088 6502	DIODE MPG06D-PKG3	1	R352	401 021 4105	CARBON 56K JA 1/4W	1
D323	407 004 8105	DIODE DSF10C-BT	1	R353	401 104 8600	OXIDE-MT 680 JB 3W	1
D324	407 004 8105	DIODE DSF10C-BT	1	R354	401 104 8600	OXIDE-MT 680 JB 3W	1
D326	407 005 3805	DIODE DS44Z-BT	1	R355	401 016 7500	CARBON 240 JA 1/4W	1
TH301	407 065 0707	THERMISTOR ZPP221E501A	1	R356	401 016 7500	CARBON 240 JA 1/4W	1
C301	403 074 8303	CERAMIC 560P K 50V	1	R357	401 016 7500	CARBON 240 JA 1/4W	1
C302	403 071 8207	CERAMIC 220P K 50V	1	R358	401 016 7500	CARBON 240 JA 1/4W	1
C303	403 177 1304	ELECT 1U M 50V	1	R359	401 024 7004	CARBON 1K JA 1/8W	1
C304	403 177 3208	ELECT 4.7U M 25V	1				
C306	403 036 2503	CERAMIC 47P K 500V	1				
C307	403 034 8101	CERAMIC 1P C 500V	1				
C308	403 067 5603	MT-COMPO 0.1U J 50V	1				
C309	403 036 3005	CERAMIC 5P C 500V	1				
C310	403 057 7402	POLYESTER 0.012U J 50V	1				
C311	403 057 7402	POLYESTER 0.012U J 50V	1				
C312	403 035 7103	CERAMIC 220P K 500V	1				
C313	403 034 9900	CERAMIC 100P K 500V	1				
C314	403 177 3605	ELECT 22U M 100V	1				
C315	403 177 3605	ELECT 22U M 100V	1				
C316	403 161 9101	MT-POLYEST 0.047U K 250V	1				
C317	403 177 3704	ELECT 220U M 100V	1				
C318	403 177 3704	ELECT 220U M 100V	1				
C319	403 177 3308	ELECT 4.7U M 25V	1				
C320	403 177 3308	ELECT 4.7U M 25V	1				
C321	403 044 0300	ELECT 47U M 16V	1				
C323	403 052 8107	ELECT 100U M 35V	1				
C342	403 050 3708	ELECT 22U M 50V	1				
C343	403 050 3708	ELECT 22U M 50V	1				
C922	403 069 1207	CERAMIC 1000P K 50V	1				
R301	401 024 7004	CARBON 1K JA 1/6W	1				
R302	401 024 7004	CARBON 10K JA 1/6W	1				
R303	401 027 2303	CARBON 560 JA 1/6W	1				
R304	401 149 1000	MT-FILM 15K GC 1/4W	1				
R305	401 149 1000	MT-FILM 15K GC 1/4W	1				
R306	401 026 6609	CARBON 390 JA 1/6W	1				
R307	401 025 7805	CARBON 2.2K JA 1/6W	1				
R308	401 012 7009	CARBON 100K JA 1/4W	1				
R309	401 149 0904	MT-FILM 100K GC 1/4W	1				
R310	401 026 4308	CARBON 3.3K JA 1/6W	1				
R311	401 026 1307	CARBON 27K JA 1/6W	1				
R312	401 013 7305	CARBON 120K JA 1/4W	1				
R313	401 025 8208	CARBON 22K JA 1/6W	1				
R314	401 027 2303	CARBON 560 JA 1/6W	1				
R315	401 149 1208	MT-FILM 3.9K GC 1/4W	1				
R316	401 027 2303	CARBON 560 JA 1/6W	1				
R317	401 149 1208	MT-FILM 3.9K GC 1/4W	1				
R318	401 025 8208	CARBON 22K JA 1/6W	1				
R319	401 150 4908	MT-FILM 180 GC 1/4W	1				
R320	401 150 4908	MT-FILM 180 GC 1/4W	1				
R321	401 018 4903	CARBON 33K JA 1/4W	1				
R322	401 018 4903	CARBON 33K JA 1/4W	1				
R323	402 037 7005	FUSIBLE RES 47 JA 1/4W	1				
R324	402 037 7005	FUSIBLE RES 47 JA 1/4W	1				
R325	401 026 3905	CARBON 330 JA 1/6W	1				
R327	401 025 0004	CARBON 120K JA 1/6W	1				
R328	401 025 0004	CARBON 120K JA 1/6W	1				
R329	401 027 8107	CARBON 82 JA 1/6W	1				
R330	401 027 8107	CARBON 82 JA 1/6W	1				
R331	401 016 0601	CARBON 200K JA 1/4W	1				
R332	401 016 0601	CARBON 200K JA 1/4W	1				
R333	401 105 9903	OXIDE-MT 10K JB 1/2W	1				
R334	402 051 7401	FUSIBLE RES 220 JA 1/4W	1				
R335	401 012 5708	CARBON 1K JA 1/4W	1				
R336	401 012 5708	CARBON 1K JA 1/4W	1				
R337	620 196 2338	Resistor,0.22 5W Cement	1				
R338	620 196 2338	Resistor,0.22 5W Cement	1				
R339	620 196 2338	Resistor,0.22 5W Cement	1				
R340	620 196 2338	Resistor,0.22 5W Cement	1				
R341	401 012 4503	CARBON 100 JA 1/4W	1				
R342	401 064 6203	OXIDE-MT 10 JB 2W	1				
R343	402 016 5503	FUSIBLE RES 47 J-1/2W	1				
R344	402 016 5503	FUSIBLE RES 47 J-1/2W	1				
R345	401 067 6200	OXIDE-MT 3.3K JB 2W	1				
R346	401 067 6200	OXIDE-MT 3.3K JB 2W	1				
R347	401 016 4906	CARBON 22K JA 1/4W	1				
R348	401 012 7009	CARBON 10K JA 1/6W	1				
R349	401 024 7400	CARBON 10K JA 1/6W	1				
R350	401 025 1902	CARBON 15K JA 1/6W	1				

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
D407	407 005 3805	DIODE DS44Z-BT	1	D407	407 005 3805	DIODE DS44Z-BT	1
D408	407 005 3805	DIODE DS44Z-BT	1	D408	407 005 3805	DIODE DS44Z-BT	1
D409	407 051 6706	ZENER DIODE GZS5.1Y-BT	1	D409	407 051 6706	ZENER DIODE GZS5.1Y-BT	1
or	407 051 6805	ZENER DIODE GZS5.1Z-BT	1	or	407 051 6805	ZENER DIODE GZS5.1Z-BT	1
D410	407 051 6706	ZENER DIODE GZS5.1Y-BT	1	D410	407 051 6706	ZENER DIODE GZS5.1Y-BT	1
or	407 051 6805	ZENER DIODE GZS5.1Z-BT	1	or	407 051 6805	ZENER DIODE GZS5.1Z-BT	1
D411	407 005 3805	DIODE DS44Z-BT	1	D411	407 005 3805	DIODE DS44Z-BT	1
D412	407 008 0405	DIODE GMB01-BT	1	D412	407 008 0405	DIODE GMB01-BT	1
D413	407 008 0405	DIODE GMB01-BT	1	D413	407 008 0405	DIODE GMB01-BT	1
D414	407 008 7206	DIODE MA700	1	D414	407 008 7206	DIODE MA700	1
D415	407 008 7206	DIODE MA700	1	D415	407 008 7206	DIODE MA700	1
D416	407 008 0405	DIODE GMB01-BT	1	D416	407 008 0405	DIODE GMB01-BT	1
D417	407 008 0405	DIODE GMB01-BT	1	D417	407 008 0405	DIODE GMB01-BT	1
D420	407 049 7708	ZENER DIODE GZA18X-BT	1	D420	407 049 7708	ZENER DIODE GZA18X-BT	1
or	407 049 7809	ZENER DIODE GZA16Z-BT	1	or	407 049 7809	ZENER DIODE GZA16Z-BT	1
D421	407 049 7708	ZENER DIODE GZA18X-BT	1	D421	407 049 7708	ZENER DIODE GZA18X-BT	1
or	407 049 7809	ZENER DIODE GZA16Z-BT	1	or	407 049 7809	ZENER DIODE GZA16Z-BT	1
D422	407 088 6502	DIODE MPG06D-PKG3	1	D422	407 088 6502	DIODE MPG06D-PKG3	1
D423	407 088 6502	DIODE MPG06D-PKG3	1	D423	407 088 6502	DIODE MPG06D-PKG3	1
D424	407 088 6502	DIODE MPG06D-PKG3	1	D424	407 088 6502	DIODE MPG06D-PKG3	1
D425	407 088 6502	DIODE MPG06D-PKG3	1	D425	407 088 6502	DIODE MPG06D-PKG3	1
D426	407 088 6502	DIODE MPG06D-PKG3	1	D426	407 088 6502	DIODE MPG06D-PKG3	1
D427	407 088 6502	DIODE MPG06D-PKG3	1	D427	407 088 6502	DIODE MPG06D-PKG3	1
D428	407 088 6502	DIODE MPG06D-PKG3	1	D428	407 088 6502	DIODE MPG06D-PKG3	1
D429	407 088 6502	DIODE MPG06D-PKG3	1	D429	407 088 6502	DIODE MPG06D-PKG3	1
D430	407 088 6502	DIODE MPG06D-PKG3	1	D430	407 088 6502	DIODE MPG06D-PKG3	1
D431	407 088 6502	DIODE MPG06D-PKG3	1	D431	407 088 6502	DIODE MPG06D-PKG3	1
D432	407 050 6509	ZENER DIODE GZA6.8X-BT	1	D432	407 050 6509	ZENER DIODE GZA6.8X-BT	1
or	407 050 6301	ZENER DIODE GZA6.2Z-BT	1	or	407 050 6301	ZENER DIODE GZA6.2Z-BT	1
TH401	407 065 0707	THERMISTOR ZPP221E501A	1	TH401	407 065 0707	THERMISTOR ZPP221E501A	1
C401	403 074 6303	CERAMIC 560P K 50V	1	C401	403 074 6303	CERAMIC 560P K 50V	1
C402	403 071 6207	CERAMIC 220P K 50V	1	C402	403 071 6207	CERAMIC 220P K 50V	1
C403	403 177 1304	ELECT 1U M 50V	1	C403	403 177 1304	ELECT 1U M 50V	1
C404	403 177 3209	ELECT 4.7U M 25V	1	C404	403 177 3209	ELECT 4.7U M 25V	1
C406	403 036 2503	CERAMIC 47P K 500V	1	C406	403 036 2503	CERAMIC 47P K 500V	1
C407	403 034 8101	CERAMIC 1P C 500V	1	C407	403 034 8101	CERAMIC 1P C 500V	1
C408	403 067 5603	MT-COMPO 0.1U J 50V	1	C408	403 067 5603	MT-COMPO 0.1U J 50V	1
C409	403 036 3005	CERAMIC 5P C 500V	1	C409	403 036 3005	CERAMIC 5P C 500V	1
C410	403 057 7402	POLYESTER 0.012U J 50V	1	C410	403 057 7402	POLYESTER 0.012U J 50V	1
C411	403 057 7402	POLYESTER 0.012U J 50V	1	C411	403 057 7402	POLYESTER 0.012U J 50V	1
C412	403 035 7103	CERAMIC 220P K 500V	1	C412	403 035 7103	CERAMIC 220P K 500V	1
C413	403 034 9900	CERAMIC 100P K 500V	1	C413	403 034 9900	CERAMIC 100P K 500V	1
C414	403 177 3605	ELECT 22U M 100V	1	C414	403 177 3605	ELECT 22U M 100V	1
C415	403 177 3605	ELECT 22U M 100V	1	C415	403 177 3605	ELECT 22U M 100V	1
C416	403 161 9101	MT-POLYEST 0.047U K 250V	1	C416	403 161 9101	MT-POLYEST 0.047U K 250V	1
C417	403 177 3704	ELECT 220U M 100V	1	C417	403 177 3704	ELECT 220U M 100V	1
C418	403 177 3704	ELECT 220U M 100V	1	C418	403 177 3704	ELECT 220U M 100V	1
C419	403 177 3308	ELECT 4.7U M 25V	1	C419	403 177 3308	ELECT 4.7U M 25V	1
C420	403 177 3308	ELECT 4.7U M 25V	1	C420	403 177 3308	ELECT 4.7U M 25V	1
C421	403 054 0680	ELECT 470U M 35V	1	C421	403 054 0680	ELECT 470U M 35V	1
C422	403 044 0300	ELECT 47U M 16V	1	C422	403 044 0300	ELECT 47U M 16V	1
C423	403 044 0300	ELECT 47U M 16V	1	C423	403 044 0300	ELECT 47U M 16V	1
C424	403 177 3803	ELECT 470U M 100V	1	C424	403 177 3803	ELECT 470U M 100V	1
C425	403 177 3803	ELECT 470U M 100V	1	C425	403 177 3803	ELECT 470U M 100V	1
C426	403 184 7106	ELECT 470U M 35V	1	C426	403 184 7106	ELECT 470U M 35V	1
C427	403 184 7106	ELECT 470U M 35V	1	C427	403 184 7106	ELECT 470U M 35V	1
C428	403 177 2806	ELECT 22U M 25V	1	C428	403 177 2806	ELECT 22U M 25V	1
C429	403 177 2806	ELECT 22U M 25V	1	C429	403 177 2806	ELECT 22U M 25V	1
C430	403 051 2106	ELECT 4.7U M 50V	1	C430	403 051 2106	ELECT 4.7U M 50V	1
C431	403 177 3902	CERAMIC 0.01U Z 500V	1	C431	403 177 3902	CERAMIC 0.01U Z 500V	1
C432	403 177 3902	CERAMIC 0.01U Z 500V	1	C432	403 177 3902	CERAMIC 0.01U Z 500V	1
C433	403 177 3902	CERAMIC 0.01U Z 500V	1	C433	403 177 3902	CERAMIC 0.01U Z 500V	1
C434	403 177 3902	CERAMIC 0.01U Z 500V	1	C434	403 177 3902	CERAMIC 0.01U Z 500V	1
C435	403 177 3902	C					

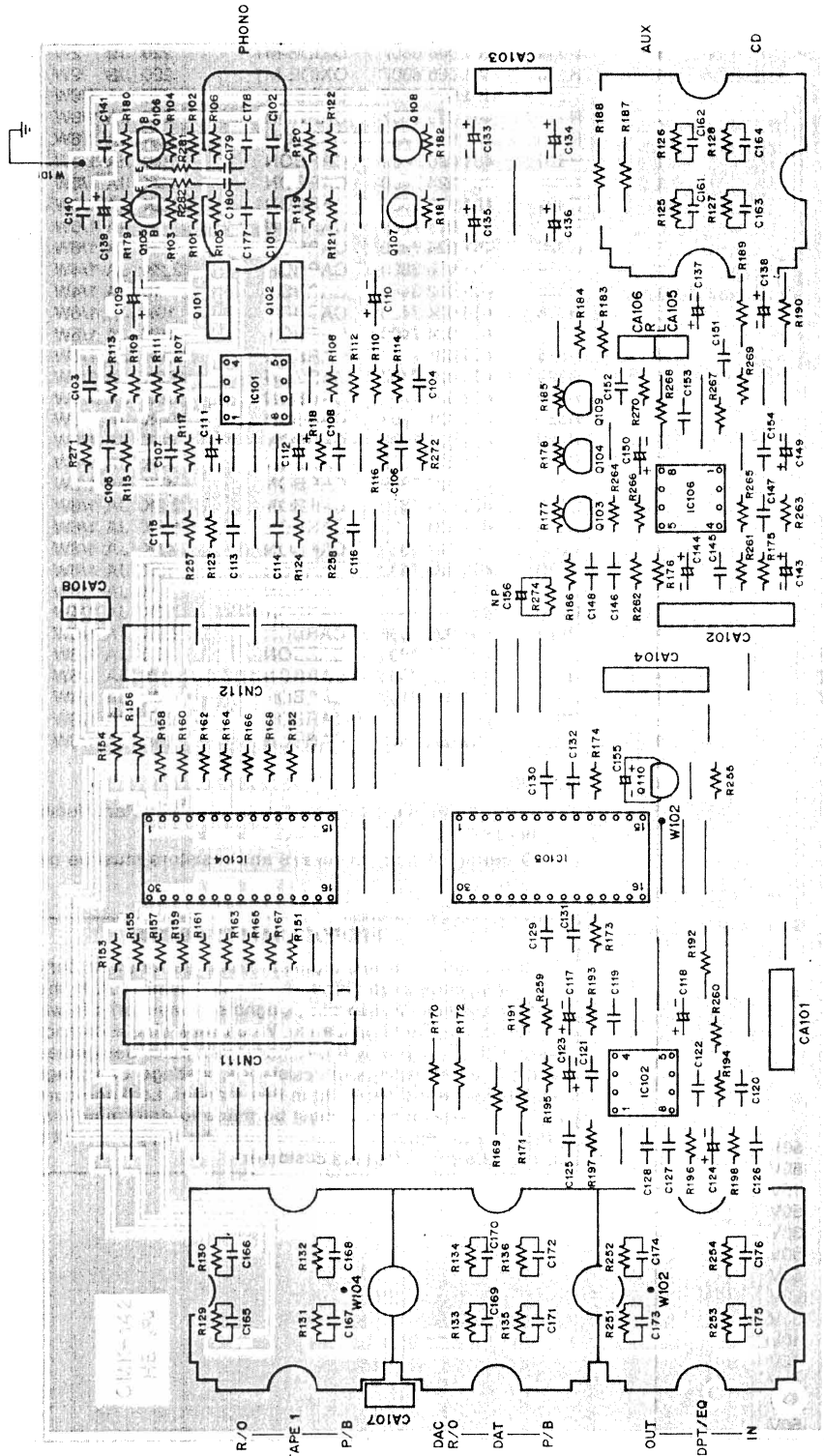
P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,SHIELD (2) LEFT							
85	620 197 0401	Assy,PCB,Shield (2) Left	1	620 031 4763	Wire Wrap Terminal	8	
	620 197 0081	PCB,Shield (2) Left	1	ASSY,PCB-W,MICON			
ASSY,PCB,SHIELD (1) RIGHT							
86	620 197 0425	Assy,PCB,Shield (1) Right	1	90	620 201 9499	Assy,PCB-W,Micon	1
	620 197 0098	PCB,Shield (1) Right	1	620 186 8254	Digitron 11-BT-80GK	1	
ASSY,PCB,SHIELD (2) RIGHT							
87	620 197 0432	Assy,PCB,Shield (2) Right	1	620 195 7907	Reflector	3	
	620 197 0104	PCB,Shield (2) Right	1	620 195 8089	Spacer,4K,LED	3	
ASSY,PCB,POWER SUPPLY							
88	620 201 9505	Assy,PCB,Power Supply	1	620 195 8096	Spacer,8K,LED	3	
	620 197 0210	PCB,Power Supply	1	620 190 6431	Cushion	2	
	620 017 2721	Fuse Clip	6	620 124 8123	Cushion	2	
	620 022 3454	Terminal Lug	1	620 197 5239	Assy,Wire,KR-DA 5P	1	
Δ	423 005 0507	FUSE 250V T1.0A	2	620 197 5260	Assy,Wire,KR-DA 8P	1	
Δ	423 007 4404	FUSE 250V T5.0A	1	620 197 5263	Assy,Wire,KR-DA 8P	1	
	411 020 8004	SCR S-TPG BRZ 3X8	1	620 197 5246	Assy,Wire,KR-DA 5P	1	
	411 002 6509	SCR PAN 3X12	1	620 197 5819	Assy,Wire,SAN-SAN 2P	1	
	620 196 3359	Heat Sink	1	620 197 5859	Assy,Wire,SDF-SAN 1P	1	
	620 201 9581	Heat Sink IC3030ST	1	620 197 5727	Assy,Wire,SAN-SAN 6P	1	
	620 201 9628	Label,75.0A	1	620 197 5710	Assy,Wire,SAN-SAN 4P	1	
	620 053 8899	Cover Safety	1	620 197 5703	Assy,Wire,SAN-SAN 3P	2	
	620 197 5352	Assy,Wire,KR-DA 4P	1	620 197 5697	Assy,Wire,SAN-SAN 3P	1	
	620 197 5369	Assy,Wire,VH-SIN 5P	1	620 196 5382	Assy,Wire,SAN-SAN,2P	1	
	620 197 5376	Assy,Wire,VH-SIN 4P	1	620 196 5399	Assy,Wire,SAN-SAN,2P	1	
	620 203 4706	Assy,Wire,XH-SCN 3P	1	CN104	620 196 4677	Connector-S,7P Bottom In	1
	620 197 5475	Assy,Wire,SRA-SIN 1P	1	CN203	620 196 4684	Connector-S,8P Bottom In	1
	620 197 5505	Assy,Wire,SRA-SIN 1P	1	LA801	620 188 0861	Lamp (16V, 67mA)	1
	620 197 5499	Assy,Wire,SRA-SIN 1P	1	LA802	620 188 0861	Lamp (16V, 67mA)	1
	620 197 5482	Assy,Wire,SRA-SIN 1P	1	LA803	620 188 0861	Lamp (16V, 67mA)	1
CN905	620 196 2587	Connector-P,TKC-B10P-E1	1	LA804	620 188 0861	Lamp (16V, 67mA)	1
CN906	620 196 2543	Connector-P,TKC-B06P-E1	1	RS801	620 004 5209	Resistor 4X10K J	1
CN907	620 196 2543	Connector-P,TKC-B06P-E1	1	RS802	620 004 5551	Resistor 3X10K J	1
CN908	620 022 0262	Plug 5P	1	RS803	620 004 5551	Resistor 3X10K J	1
CN910	620 021 8313	Plug 3P	1	RS804	620 004 5209	Resistor 4X10K J	1
RE901	620 018 9707	Relay	1	S801	620 016 7796	Tact Switch (TIMER)	1
Q901	405 052 8002	TR 25B1274-R	1	S802	620 016 7796	Tact Switch (DIMMER)	1
or	405 052 8101	TR 25B1274-S	1	S803	620 016 7796	Tact Switch (PS 1)	1
Q904	405 013 6801	TR 25C2274-E-AA	1	S804	620 016 7796	Tact Switch (PS 2)	1
or	405 013 7006	TR 25C2274-F-AA	1	S805	620 016 7796	Tact Switch (PS 3)	1
D902	407 119 8109	DIODE KBPC902	1	S806	620 016 7796	Tact Switch (PS 4)	1
D903	407 004 9105	DIODE DSF10C-BT	1	S807	620 016 7796	Tact Switch (PS 5)	1
D904	407 004 9105	DIODE DSF10C-BT	1	S808	620 016 7796	Tact Switch (PS 6)	1
D905	407 050 2709	ZENER DIODE GZA36X-BT	1	S809	620 016 7796	Tact Switch (FM)	1
or	407 050 2808	ZENER DIODE GZA36V-BT	1	S810	620 016 7796	Tact Switch (AM)	1
D907	407 051 2906	ZENER DIODE GZB5.8B	1	S811	620 016 7796	Tact Switch (MEMO SCAN)	1
D908	407 004 9105	DIODE DSF10C-BT	1	S812	620 016 7796	Tact Switch (AUTO/MANUAL)	1
C907	403 137 4406	CERAMIC 0.01U P 500V	1	S813	620 016 7796	Tact Switch (IF BAND)	1
C908	403 137 4406	CERAMIC 0.01U P 500V	1	S814	620 016 7796	Tact Switch (HI BLEND)	1
C909	403 137 4406	CERAMIC 0.01U P 500V	1	S815	620 016 7796	Tact Switch (ANT A-B)	1
C910	403 137 4406	CERAMIC 0.01U P 500V	1	S816	620 016 7796	Tact Switch (TAPE)	1
C911	403 137 4406	CERAMIC 0.01U P 500V	1	S817	620 016 7796	Tact Switch (DAT)	1
C912	403 137 4406	CERAMIC 0.01U P 500V	1	S818	620 016 7796	Tact Switch (AUX)	1
C913	Δ 620 006 8879	Capacitor 0.01MF400V	1	S819	620 016 7796	Tact Switch (CU)	1
C915	403 049 7304	ELECT 100U M 50V	1	S820	620 016 7796	Tact Switch (TUNER)	1
C916	403 049 1708	ELECT 1U M 50V	1	S821	620 016 7796	Tact Switch (PHONO)	1
C917	403 121 0803	ELECT 220U M 63V	1	S822	620 016 7796	Tact Switch (SOURCE DIRECT)	1
C918	403 039 4504	ELECT 470U M 6.3V	1	S823	620 016 7796	Tact Switch (DIGITAL AUX)	1
C919	403 052 9609	ELECT 1000U M 35V	1	S824	620 016 7796	Tact Switch (DIGITAL DAT)	1
C920	403 145 3705	CERAMIC 0.047U Z 50V	1	S825	620 016 7796	Tact Switch (DIGITAL CD)	1
R904	402 016 5503	FUSIBLE RES 47 J-1/2W	1	S826	620 197 0760	Switch,Tact,W/LED RED (REC OUT LOCK)	1
R905	401 016 3809	CARBON 2.2K JA 1/4W	1	S827	620 016 7796	Tact Switch (LONEDNESS)	1
R906	401 089 6109	OXIDE-MT 82 JB 2W	1	S828	620 016 7796	Tact Switch (MUTING)	1
R907	402 016 4704	FUSIBLE RES 120 J-1/2W	1	S829	620 016 7796	Tact Switch (TUNING DOWN)	1
R908	401 020 2003	CARBON 4.7K JA 1/4W	1	S830	620 016 7796	Tact Switch (TUNING UP)	1
R910	401 148 2008	OXIDE-MT 10K JB 2W	1	S831	620 196 2390	Switch,Push,2P-1S,NS (PHONO MM-MC)	1
R911	401 148 2008	OXIDE-MT 10K JB 2W	1	X801	620 026 9070	CSA 4, 19M Resonator	1
R912	402 016 4704	FUSIBLE RES 120 J-1/2W	1	IC801	410 067 9401	IC TMP47P870N-RS-Z1	1
R913	401 100 0608	OXIDE-MT 88 JB 2W	1	IC802	409 042 8300	IC SN74LS145N	1
R914	401 018 2800	CARBON 330 JA 1/4W	1	IC803	409 183 6906	IC SN74LS139N	1
ASSY,PCB,LINE FILTER							
89	620 201 9550	Assy,PCB,Line Filter	1	IC804	409 114 4803	IC LB1641	1
	620 017 2721	Fuse Clip	4	Q801	405 012 8509	TR 25C2021-R	1
	620 022 2587	EC Terminal 1P	2	Q802	405 012 8509	TR 25C2021-R	1
Δ	423 006 4702	FUSE 250V T2.5A	2	Q803	405 012 8509	TR 25C2021-R	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
Q813	405 012 8509	TR 25C2021-R	1	R811	401 020 2003	CARBON 4.7K JA 1/4W	1
Q814	405 012 8509	TR 25C2021-R	1	R812	401 026 9907	CARBON 4.7K JA 1/6W	1
Q815	405 012 8509	TR 25C2021-R	1	R813	401 024 7004	CARBON 1K JA 1/6W	1
Q816	405 012 8509	TR 25C2021-R	1	R814	401 066 8607	OXIDE-MT 220 JB 2W	1
Q817	405 034 8608	TR DTC114-EF	1	R815	401 066 8607	OXIDE-MT 220 JB 2W	1
Q818	405 034 7108	TR DTA114-TF	1	R816	401 026 0607	CARBON 270 JA 1/6W	1
Q819	405 034 7108	TR DTA114-TF	1	R817	401 026 0607	CARBON 270 JA 1/6W	1
Q820	405 034 7108	TR DTA114-TF	1	R818	401 024 7400	CARBON 10K JA 1/6W	1
Q821	405 034 6705	TR DTA114-EF	1	R819	401 025 7409	CARBON 220 JA 1/6W	1
Q822	405 012 8509	TR 25C2021-R	1	R820	401 024 7400	CARBON 10K JA 1/6W	1
Q823	405 012 8509	TR 25C2021-R	1	R821	401 025 7805	CARBON 2.2K JA 1/6W	1
Q824	405 006 2704	TR 25A937-R	1	R822	401 024 7004	CARBON 1K JA 1/6W	1
Q825	405 006 2704	TR 25A937-R	1	R823	401 024 7400	CARBON 10K JA 1/6W	1
Q826	405 034 8608	TR DTC114-EF	1	R824	401 016 3809	CARBON 2.2K JA 1/4W	1
	407 088 6601	SENSOR BX-1407	1	R825	401 012 3407	CARBON 10 JA 1/4W	1
DL801	407 062 7303	LED SEL2413E	1	R826	401 024 7400	CARBON 10K JA 1/6W	1
DL802	407 062 7303	LED SEL2413E	1	R827	401 024 7400	CARBON 10K JA 1/6W	1
DL803	407 062 7204	LED SEL2213C	1	R828	401 024 7707	CARBON 100K JA 1/6W	1
DL804	407 062 7204	LED SEL2213C	1	R829	401 024 7707	CARBON 100K JA 1/6W	1
DL805	407 062 7204	LED SEL2213C	1	R830	401 024 7707	CARBON 100K JA 1/6W	1
DL806	407 062 7204	LED SEL2213C	1	R831	401 024 7707	CARBON 100K JA 1/6W	1
DL807	407 062 7204	LED SEL2213C	1	R832	401 027 5908	CARBON 68K JA 1/6W	1
DL808	407 062 7204	LED SEL2213C	1	R833	401 027 5908	CARBON 68K JA 1/6W	1
DL809	407 062 7204	LED SEL2213C	1	R834	401 027 0309	CARBON 47K JA 1/6W	1
DL810	407 062 7204	LED SEL2213C	1	R835	401 025 7805	CARBON 2.2K JA 1/6W	1
DL811	407 062 7204	LED SEL2213C	1	R836	401 025 1605	CARBON 1.5K JA 1/6W	1
D802	407 008 0405	DIODE GMB01-BT	1	R837	401 027 0309	CARBON 47K JA 1/6W	1
D803	407 089 7409	DIODE SD104G	1	R838	401 024 7400	CARBON 10K JA 1/6W	1
D804	407 089 7409	DIODE SD104G	1	R839	401 024 9001	CARBON 1M JA 1/6W	1
D805	407 008 0405	DIODE GMB01-BT	1	R840	401 012 7009	CARBON 10K JA 1/4W	1
D806	407 008 0405	DIODE GMB01-BT	1	R841	401 025 7805	CARBON 2.2K JA 1/6W	1
D807	407 050 3702	ZENER DIODE GZA4.7Y-BT	1	R842	401 026 9600	CARBON 470 JA 1/6W	1
D808	407 050 4802	ZENER DIODE GZA5.1Y-BT	1	R843	401 024 7004	CARBON 1K JA 1/6W	1
D809	407 050 4802	ZENER DIODE GZA5.1Y-BT	1	R844	401 027 8107	CARBON 82 JA 1/6W	1
D810	407 008 0405	DIODE GMB01-BT	1	R845	401 024 7400	CARBON 10K JA 1/6W	1
D811	407 008 0405	DIODE GMB01-BT	1	R846	401 024 7400	CARBON 10K JA 1/6W	1
D812	407 008 0405	DIODE GMB01-BT	1	NOTES:			
D813	407 008 0405	DIODE GMB01-BT	1	1. Parts order must contain Model Number, Part Number and Description.			
D814	407 008 0405	DIODE GMB01-BT	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
D815	407 008 0405	DIODE GMB01-BT	1	PRODUCT SAFETY NOTICE			
D816	407 008 0405	DIODE GMB01-BT	1	Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.			
D817	407 008 0405	DIODE GMB01-BT	1				
D818	407 008 0405	DIODE GMB01-BT	1				
D819	407 008 0405	DIODE GMB01-BT	1				
D820	407 008 0405	DIODE GMB01-BT	1				
D821	407 008 0405	DIODE GMB01-BT	1				

INPUT P.C. BOARD (BOTTOM VIEW)



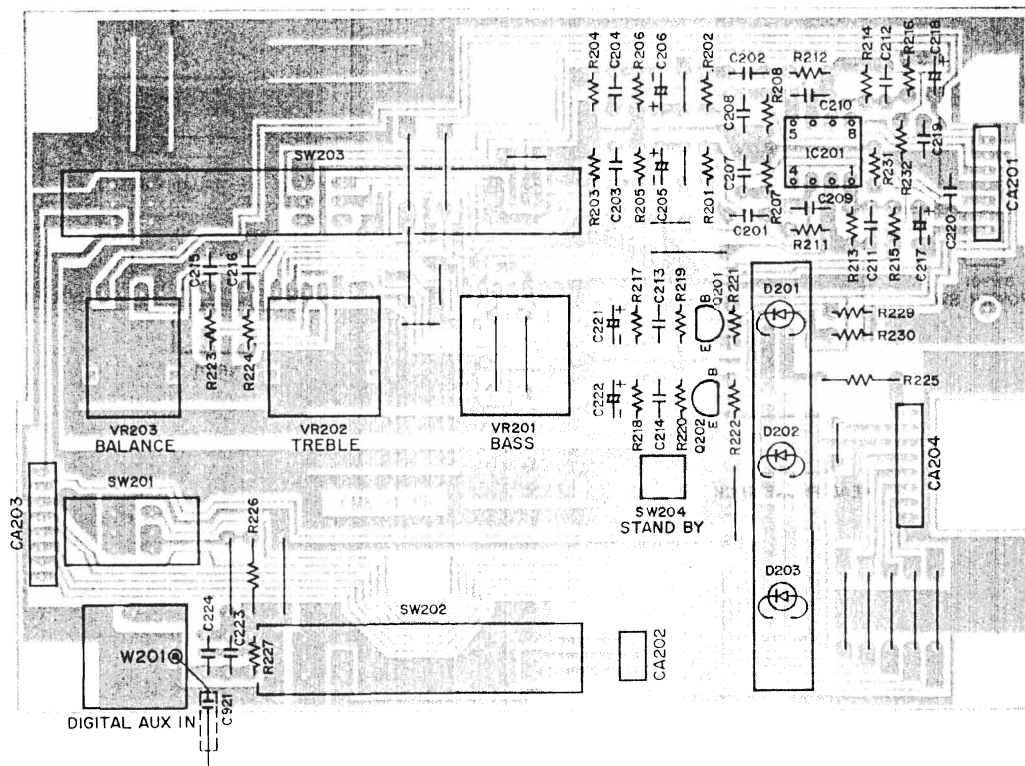
IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC101	NJM4580	0V	8.4V	8.4V	-16.2V	8.4V	8.4V	0V	15.2V	-	-	-	-	-	-	-	-	-	-	-	-
IC102	NJM4580	0V	0V	0V	-14.7V	0V	0V	0V	13.7V	-	-	-	-	-	-	-	-	-	-	-	-
IC103	LC7821	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	-18.2V	0V	0V	0V	0V	0V	16.9V	17.2V	0V
IC104	LC7821	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
IC105	LC7823	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V
IC106	NJM4580	0V	0V	0V	-14.7V	0V	0V	0V	13.7V	-	-	-	-	-	-	-	-	-	-	-	-

TRANSISTOR DC VOLTAGES

Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q103	2SC3792	-1.7V	0V	0V	Q107	2SC3792	0V	0V	0V
Q104	2SC3792	-1.7V	0V	0V	Q108	2SC3792	0V	0V	0V
Q105	2SC3792	0V	0V	0V	Q109	2SA608	5.7V	-1.7V	4.2V
Q106	2SC3792	0V	0V	0V	Q110	2SC536	0.4V	16.9V	0V
					Q101	2SK389	0V	8.4V	0.3V
					Q102	2SK389	0V	8.4V	0.3V

TONE P.C.BOARD (BOTTOM VIEW)



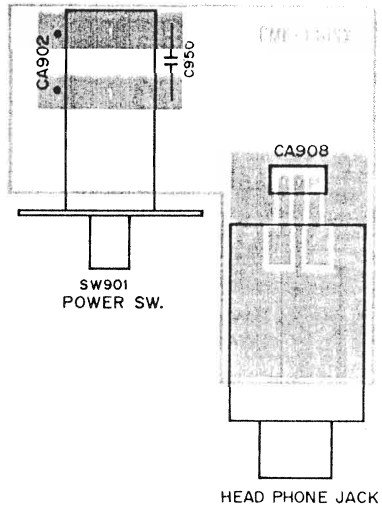
IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8
IC201	NJM4580	0V	0V	0V	-15.7V	0V	0V	0V	14.8V

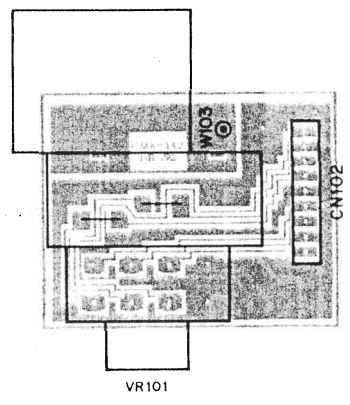
TRANSISTOR DC VOLTAGES

Ref. No.	DEVICE	B	C	E
Q201	2SC1570	-0.6V	12.7V	-1.2V
Q202	2SC1570	-0.6V	12.7V	-1.2V

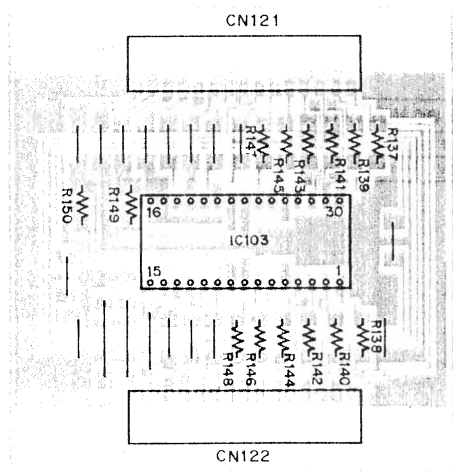
**POWER SW. P.C.BOARD
(BOTTOM VIEW)**



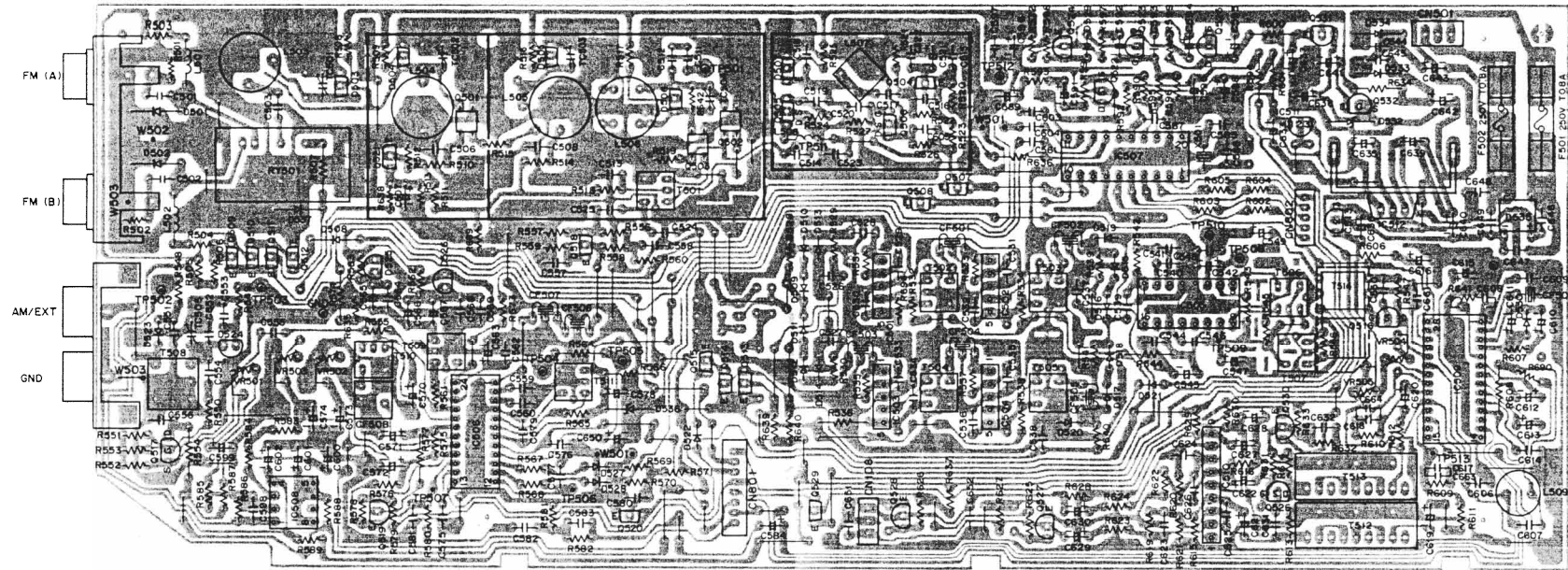
**MAIN VOLUME P.C.BOARD
(BOTTOM VIEW)**



**INPUT SELECTOR P.C.BOARD
(BOTTOM VIEW)**



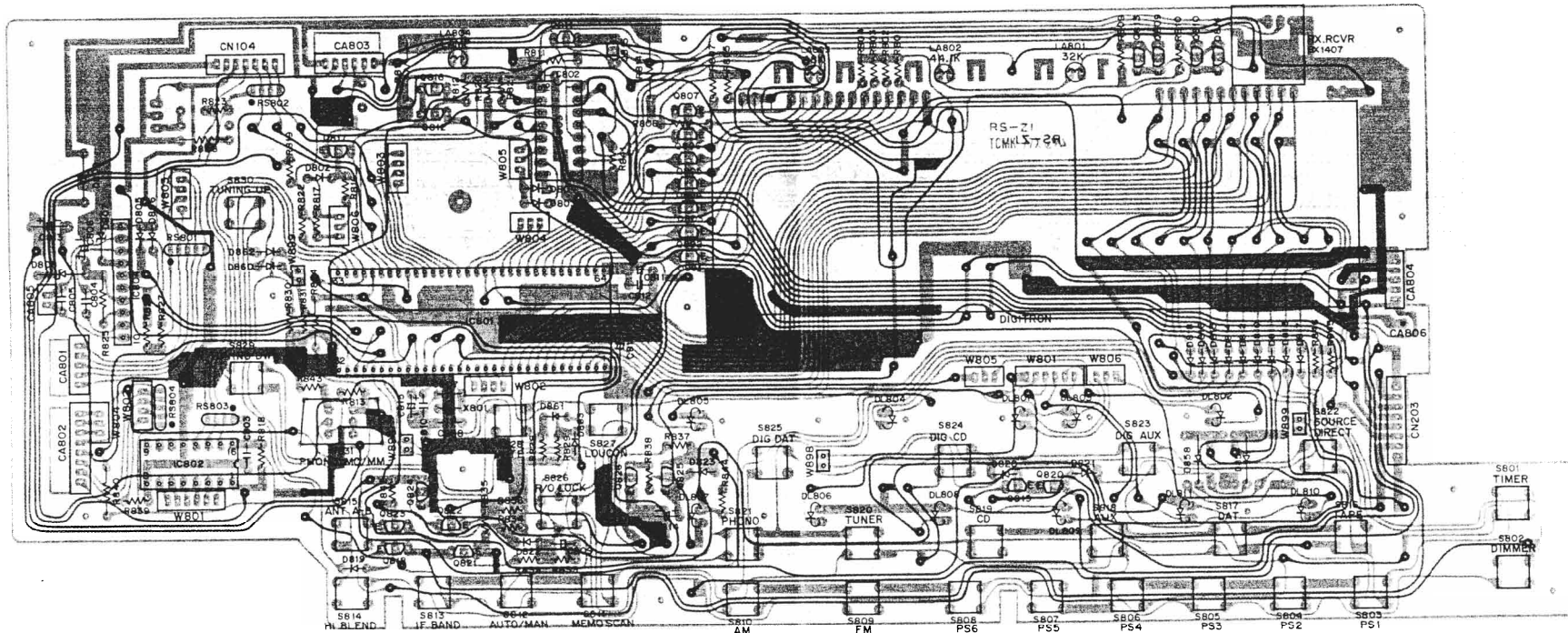
TUNER PRINTED CIRCUIT BOARD (BOTTOM VIEW)



IC PIN NUMBERS DC VOLTAGES																						
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
IC501	TA7060AP	1.4V	1.4V	0V	12.4V	12.4V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
IC502	TA7060AP	1.4V	1.4V	0V	12.4V	12.4V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
IC503	TA7060AP	1.4V	1.4V	0V	12.4V	12.4V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
IC504	TA7060AP	1.4V	1.4V	0V	12.4V	12.4V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
IC505	LA1235	2.9V	2.9V	2.9V	0V	0V	6.2V	6.2V	6.2V	6.2V	6.2V	13.0V	--	--	0V	--	--	--	--	--	--	--
IC506	LA1266	2.6V	2.6V	2.6V	0V	9.7V	9.6V	9.6V	5.0V	4.0V	2.5V	2.8V	3.2V	9.6V	1.3V	1.5V	0V	0V	1.0V	1.5V	9.5V	--
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	--
IC507	LM7000	1.5V	0V	0V	0V	0V	5.4V	--	--	15.0V	9.5V	--	--	--	5.2V	5.2V	--	--	--	0V	1.5V	--
IC508	LA6458	-9.0V	0.4V	0V	-11.0V	12.3V	12.3V	--	12.3V	--	--	--	--	--	--	--	--	--	--	--	--	--
IC509	LA3450	5.5V	3.3V	2.6V	2.6V	2.6V	2.6V	2.6V	2.6V	2.6V	0V	5.6V	4.7V	0.6V	0V	--	--	5.5V	5.5V	5.5V	5.5V	--
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	--
IC510	LA6458	--	0V	0V	0V	-13.0V	0V	0V	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IC511	NJM78L05	5.6V	0V	15.0V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IC512	NJM78M15	15.0V	0V	21.0V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IC513	NJM79L15	0V	-23.0V	-15.0V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TRANSISTOR DC VOLTAGES														
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q504	2SC2999	7.1V	14.4V	8.5V	Q515	2SC3399	-30.0V	0V	0V	Q531	2SC2274	27.5V	40.0V	27.5V
Q507	2SA1345	15.0V	15.0V	15.0V	Q518	2SC2839	2.6V	13.3V	1.7V					
Q508	2SA1345	9.5V	0V	9.5V	Q519	2SA608	0V	1.5V	1.5V			G	D	8
Q509	2SA1345	-0.8V	-11.0V	15.0V	Q520	2SC3399	0V	15.0V	0V	Q505	2SK241	0V	15.0V	0V
Q510	2SA1345	0V	-0.8V	15.0V	Q527	2SC3792	-14.9V	0V	0V	Q506	2SK241	0V	13.4V	0V
Q511	2SA1345	0V	12.0V	15.0V	Q528	2SC3792	-14.9V	0V	0V	Q516	2SK583	-0.4V	0V	5.5V
Q512	2SC3399	4.8V	0V	0V	Q529	2SA1345	--	-14.9V	5.6V	Q517	2SK248	4.0V	13.0V	6.5V
Q513	2SA1345	15.0V	15.0V	15.0V	Q530	2SA1345	4.0V	-7.4V	5.6V	Q532	2SK248	27.5V	27.5V	40.0V
Q514	2SA1345	-30.0V	-0.4V	15.0V										

MICRO COMPUTER PRINTED CIRCUIT BOARD (BOTTOM VIEW)



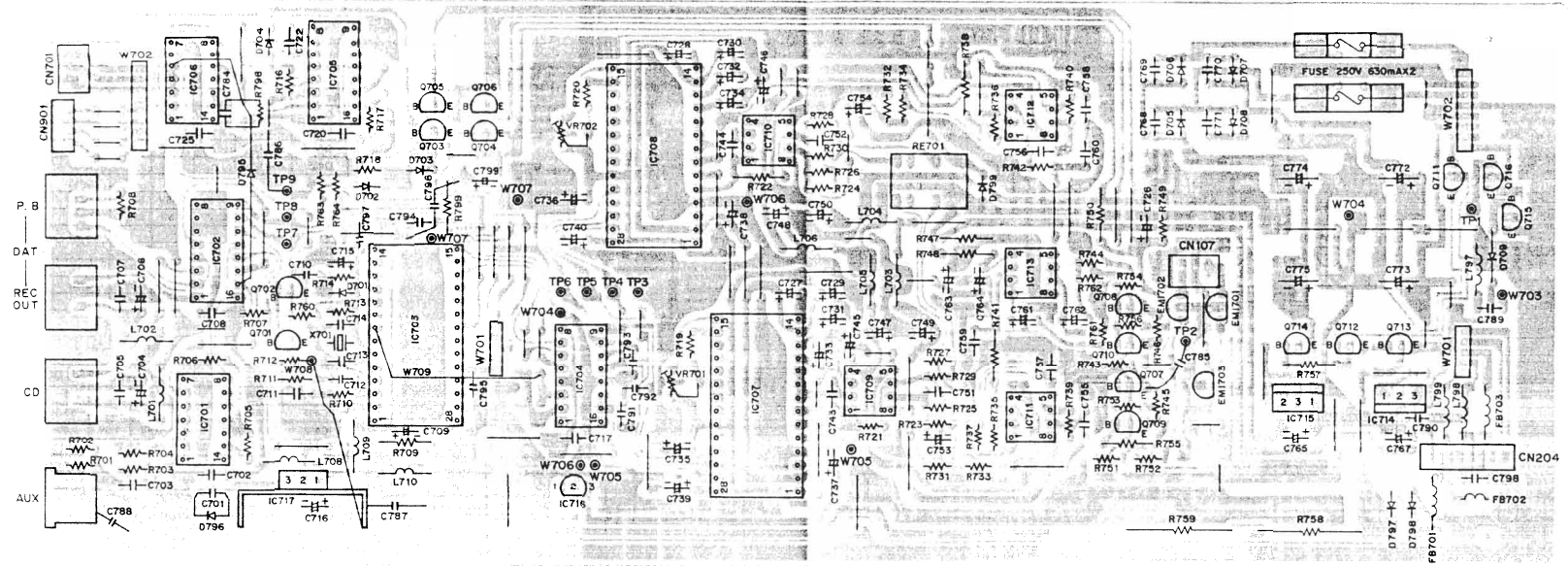
IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
IC801	TMP47P870N	-34.0V	0V	0V	-1.0V	-13.0V	0V	-34.0V	-1.8V	-34.0V	-21.0V	-10.0V	0V	-34.0V	0.2V	5.3V	5.3V	5.3V	0V	2.2V	2.2V			
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
		4.7V	5.6V	5.2V	0V	8V	0V	0V	5.4V	5.6V	0V	0V	0V	0V	5.6V	5.6V	0V	3.8V	3.7V	0V	0V			
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60			
		5.5V	0V	0V	0V	0V	0V	4.7V	-34.0V	-7.0V	4.7V	4.7V	-32.0V	-32.0V	-32.0V	-32.0V	-32.0V	-32.0V	-32.0V	-32.0V	-32.0V			
		61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80			
		-32.0V	-32.0V	-32.0V	4.8V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
		IC802	SN74LS145N	0V	1.3V	1.3V	1.3V	1.3V	0.3V	0V	0V	0V	0V	0V	5.6V	5.6V	0V	5.6V	-	-	-	-	-	-
		IC803	SN74LS139N	3.6V	0V	0V	4.1V	4.1V	5.0V	4.1V	0V	5.0V	5.0V	5.0V	5.0V	0V	3.7V	5.4V	5.6V	-	-	-	-	-
		IC804	LB1641	0V	0.5V	0.7V	0.45V	0V	0V	16.5V	5.0V	0.7V	0.5V	-	-	-	-	-	-	-	-	-	-	

TRANSISTOR DC VOLTAGES

Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q801	2SC2021	-32.0V	5.6V	-32.0V	Q811	DTC114E	4.1V	0V	0V	Q819	DTA114	5.6V	0V	3.5V
Q802	2SC2021	-32.0V	5.6V	-32.0V	Q812	DTC114E	-7.0V	0.7V	0V	Q820	DTA114	5.6V	0V	3.5V
Q803	2SC2021	-32.0V	5.6V	-32.0V	Q813	2SC2021	0V	26.0V	0V	Q821	DTA114	5.6V	0V	5.6V
Q804	2SC2021	-32.0V	5.6V	-32.0V	Q814	2SC2021	0V	26.0V	0V	Q822	2SC2021	0V	4.7V	0V
Q805	2SC2021	-32.0V	5.6V	-32.0V	Q815	2SC2021	0V	26.0V	0V	Q823	2SC2021	5.6V	4.8V	4.8V
Q806	2SC2021	-32.0V	5.6V	-32.0V	Q816	2SC2021	0.7V	0V	0V	Q824	2SA937	4.8V	0V	2.3V
Q807	2SC2021	-32.0V	5.6V	-32.0V	Q817	DTC114	3.7V	0.4V	0V	Q825	2SA937	5.6V	0V	5.4V
Q808	DTC114E	4.1V	0V	0V	Q818	DTA114	5.6V	0V	3.2V	Q826	DTC114	0V	5.6V	0V
Q810	DTC114E	4.1V	0V	0V										

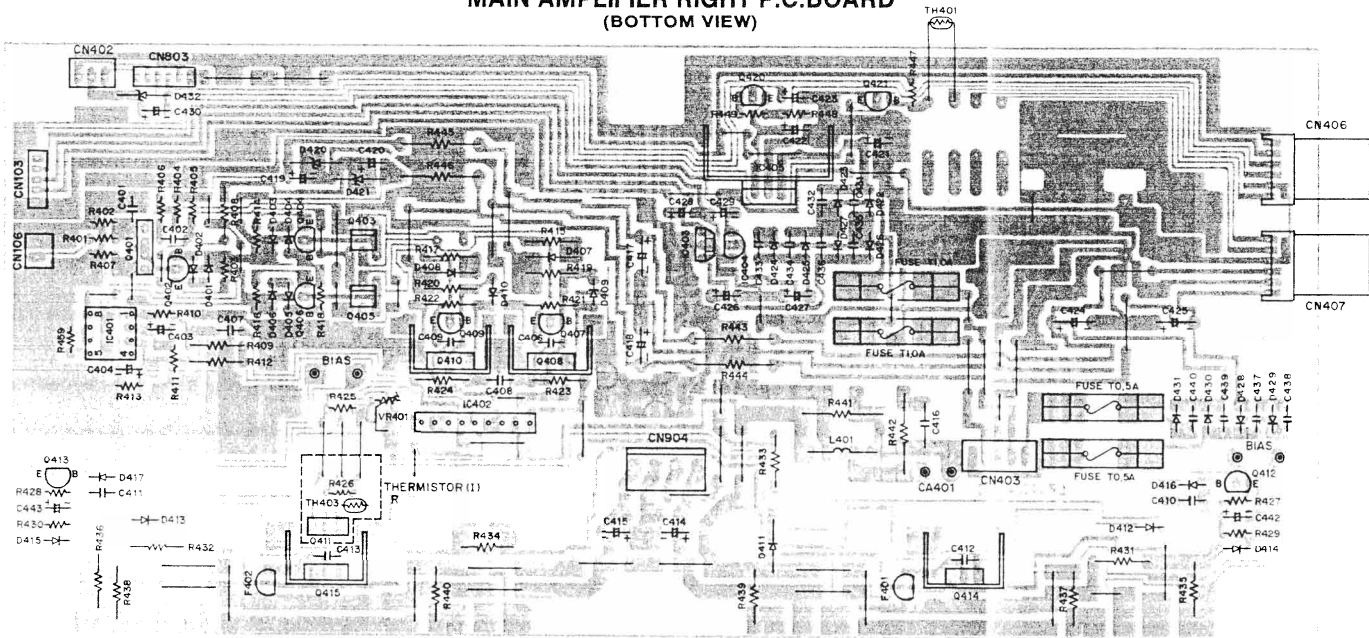
DAC PRINTED CIRCUIT BOARD (BOTTOM VIEW)



IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC701	MC74HC04	2.12V	2.12V	2.12V	2.5V	2.5V	0.42V	0V	0.23V	2.93V	2.93V	2.1V	2.1V	2.1V	5.0V	-	-	-	-	-	-
IC702	MC74HC4053	0.33V	0.35V	0.34V	0.35V	0.42V	0V	0V	0V	3.85V	0.11V	5.0V	0.23V	0.42V	0.35V	5.0V	-	-	-	-	-
IC703	YM3623F	5.1V	0V	5.1V	0V	2.3V	2.3V	6.1V	2.12V	1.22V	5.1V	5.1V	1.97V	4.92V	0V	2.54V	0V	0V	2.5V	1.27V	1.27V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
IC704	YM3434	4.84V	5.1V	0V	0.1V	0V	5.1V	0V	0.35V	-	-	-	-	-	-	-	-	-	-	-	-
IC705	UPD74HC123	0V	0V	5.0V	5.0V	0V	0V	5.0V	0V	0V	0V	4.8V	5.0V	5.0V	0V	5.0V	5.0V	-	-	-	-
IC706	UPD74HC00	5.0V	0V	5.0V	5.0V	5.0V	0V	0V	0V	4.8V	4.8V	0V	5.0V	5.0V	5.0V	-	-	-	-	-	-
IC707,708	PCM58P	2.4V	5.0V	-6.2V	2.95V	0V	0V	0V	-11.7V	0V	0V	-	-	-	-	-	-	-	-	-	-
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
IC709,710	NJM5532D	0V	0V	0V	-11.7V	0V	0V	0V	11.8V	-	-	-	-	-	-	-	-	-	-	-	-
IC711,712	NJM532D	0V	-0.18V	0V	-11.7V	0V	-0.16V	0V	11.8V	-	-	-	-	-	-	-	-	-	-	-	-
IC713	NJM4380D	10.3V	0V	0V	0V	0V	0V	0V	0V	-	-	-	-	-	-	-	-	-	-	-	-
IC714	NJM79M12	17.0V	0V	11.8V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IC715	NJM79M12	0V	-11.7V	-20.3V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IC716	NJM79M05	11.5V	0V	5.0V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IC717	NJM79M05	5.1V	0V	11.5V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TRANSISTOR DC VOLTAGES															
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	
Q701	DTC114	-	-	-	Q707	2SC3792	0.7V	0V	0V	Q712	DTA114	0V	16.6V	16.5V	
Q702	DTC114	-	-	-	Q708	2SC3792	0.7V	0V	0V	Q713	2SB560	16.5V	17.0V	17.6V	
Q703	DTC114	3.6V	0V	0V	Q709	2SC3792	0.65V	0V	0V	Q714	2SD438	-19.8V	-20.3V	-20.5V	
Q704	DTC114	0V	11.8V	0V	Q710	2SC3792	0.65V	0V	0V	Q715	DTC114	7.5V	0V	0V	
Q705	DTA114	0V	11.8V	11.8V	Q711	DTC114	2.6V	0V	0V	Q716	DTC114	0V	3.6V	0V	
Q706	DTA114	11.8V	-11.7V	11.8V											

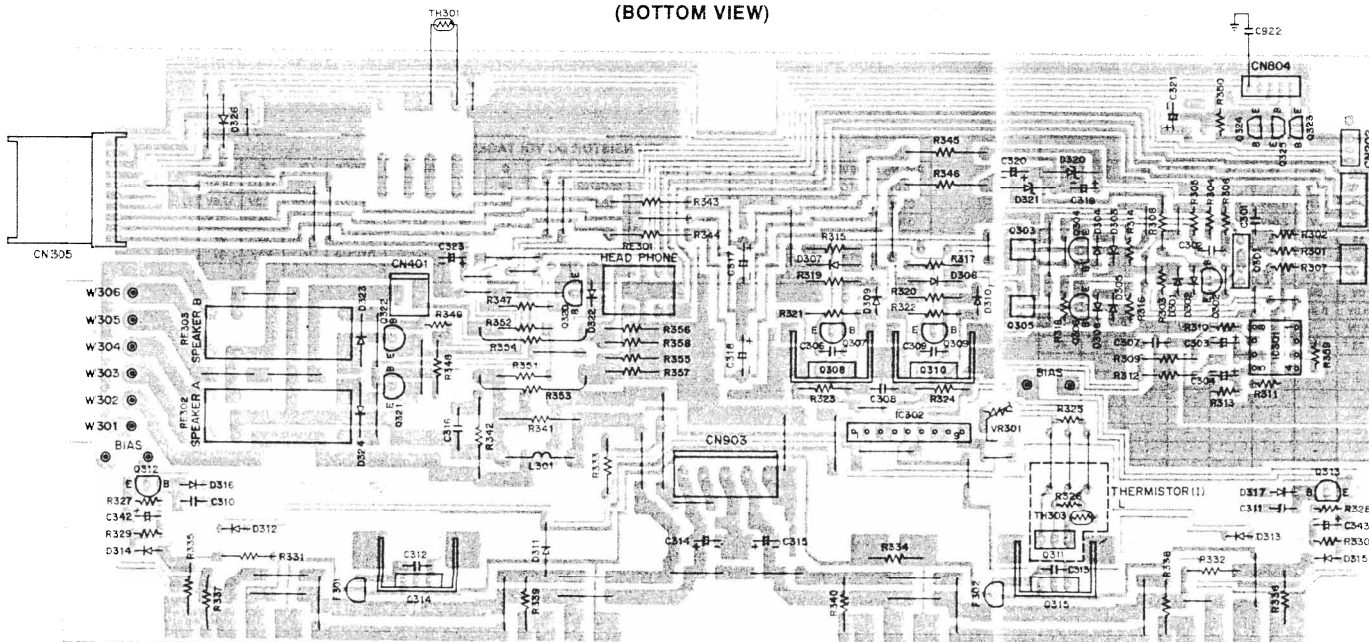
MAIN AMPLIFIER RIGHT P.C.BOARD (BOTTOM VIEW)



TRANSISTOR DC VOLTAGES									
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q402	2SC1570	-17.1V	0.3V	-17.7V	Q414	2SC3117	1.1V	69.3V	0.6V
Q403	2SC3067	9.9V	66.4V	9.4V	Q415	2SA1249	-1.1V	-69.3V	-0.6V
Q404	2SC1570	-17.1V	9.4V	-17.7V	Q416	2SC2922	0.6V	69.3V	0V
Q405	2SA1240	-	-	-	Q417	2SC2922	0.6V	69.3V	0V
Q406	2SA929	-	-	-	Q418	2SA1216	-0.6V	-69.3V	0V
Q407	2SA929	66.3V	62.6V	66.8V	Q419	2SA1216	-0.6V	-69.3V	0V
Q408	2SA1209	62.0V	1.3V	62.6V	Q420	2SA606	5.3V	5.7V	6.1V
Q409	2SC1570	-	-	-	Q421	2SC536	0V	5.7V	0V
Q410	2SC2911	-	-	-					
Q411	2SD1682	0.1V	0.4V	0V			G	D	S
Q412	2SC3330	0V	1.0V	0V	Q401	2SK389	0V	9.9V	0.3V
Q413	2SA1317	0V	-1.0V	0V					

IC PIN NUMBERS DC VOLTAGES											
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10
IC401	LA6458	0V	0V	0V	-18.3V	0V	0V	0V	18.5V	-	-
IC402	LA2500	1.1V	0.4V	1.0V	1.0V	-1.1V	0V	-0.5V	-0.5V	-0.4V	-
IC403	NJM78L18A	17.2V	0V	27.6V	-	-	-	-	-	-	-
IC404	NJM79L18A	0V	-28.6V	-18.2V	-	-	-	-	-	-	-
IC405	NJM79M06	6.1V	0V	26.9V	-	-	-	-	-	-	-

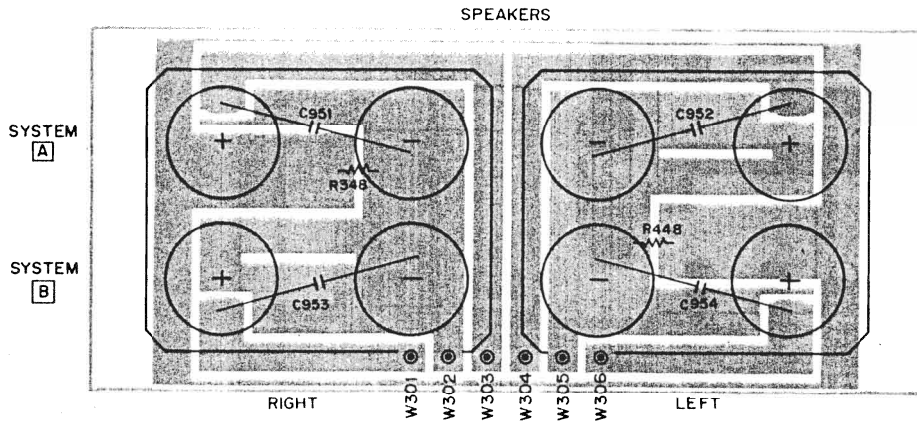
MAIN AMPLIFIER LEFT P.C.BOARD (BOTTOM VIEW)



TRANSISTOR DC VOLTAGES									
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q302	2SC1570	-17.1V	0.3V	-17.7V	Q316	2SC2922	0.6V	69.3V	0V
Q303	2SC3067	9.9V	66.4V	9.4V	Q317	2SC2922	0.6V	69.3V	0V
Q304	2SC1570	1.0V	9.4V	-17.7V	Q318	2SA1216	-0.6V	-69.3V	0V
Q305	2SA1240	9.9V	-66.4V	10.5V	Q319	2SA1216	-0.6V	-69.3V	0V
Q306	2SA929	17.3V	10.5V	17.9V	Q320	2SC536	0.6V	0V	0V
Q307	2SA929	66.3V	62.0V	66.8V	Q321	2SC536	0.6V	0V	0V
Q308	2SA1209	62.0V	1.3V	62.0V	Q322	2SC536	0V	26.8V	0V
Q309	2SC1570	-66.3V	-62.6V	-66.8V	Q323	DTA114	5.7V	0V	5.7V
Q310	2SC2911	-62.0V	-1.1V	62.6V	Q324	2SC536	0V	5.7V	0V
Q311	2SD1682	0.1V	0.4V	-0.4V	Q325	2SC536	0V	5.7V	0V
Q312	2SC3330	0V	1.0V	0V					
Q313	2SA1317	0V	-1.0V	0V			G	D	S
Q314	2SC3117	1.3V	69.3V	0.6V	Q301	2SK389	0V	9.9V	0.3V
Q315	2SA1249	-1.1V	-69.3V	-0.6V					

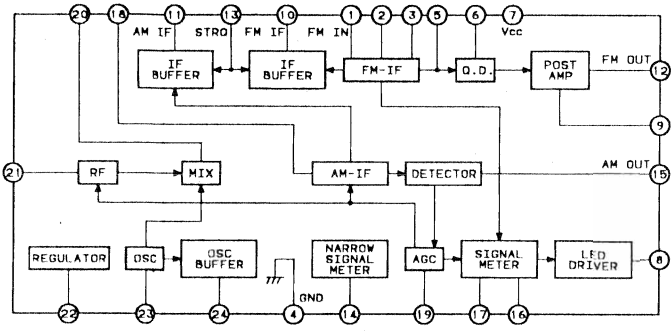
IC PIN NUMBERS DC VOLTAGES											
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10
IC301	LA6458	0V	0V	0V	-18.3V	0V	0V	0V	18.5V	-	-
IC302	LA2500	1.1V	0.4V	1.0V	1.0V	-1.1V	0V	-0.5V	-0.5V	-0.4V	-

SPEAKER TERMINAL P.C.BOARD (BOTTOM VIEW)

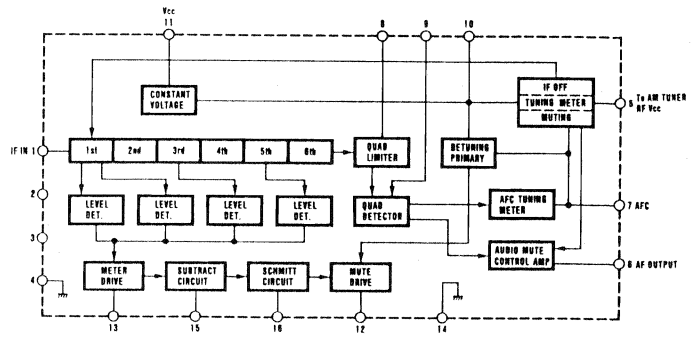


IC BLOCK DIAGRAM

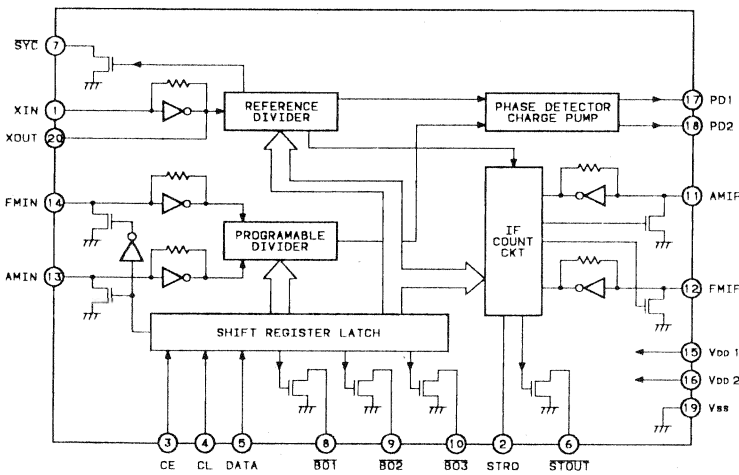
LA1266 BLOCK DIAGRAM



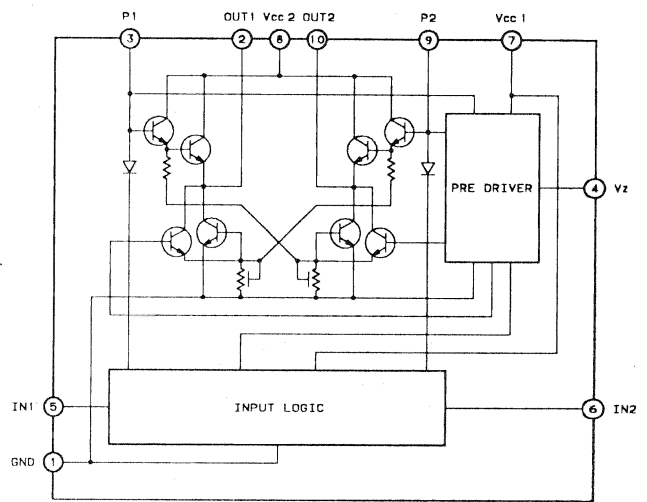
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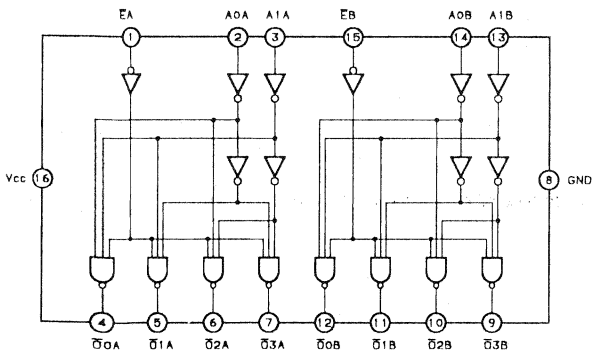
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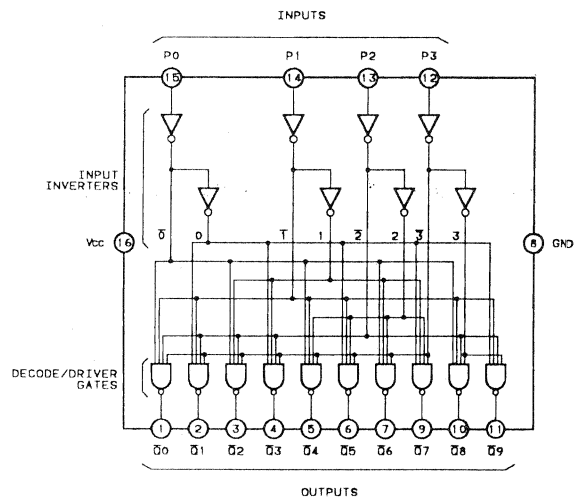
LB1641 BLOCK DIAGRAM



SN74LS139N BLOCK DIAGRAM

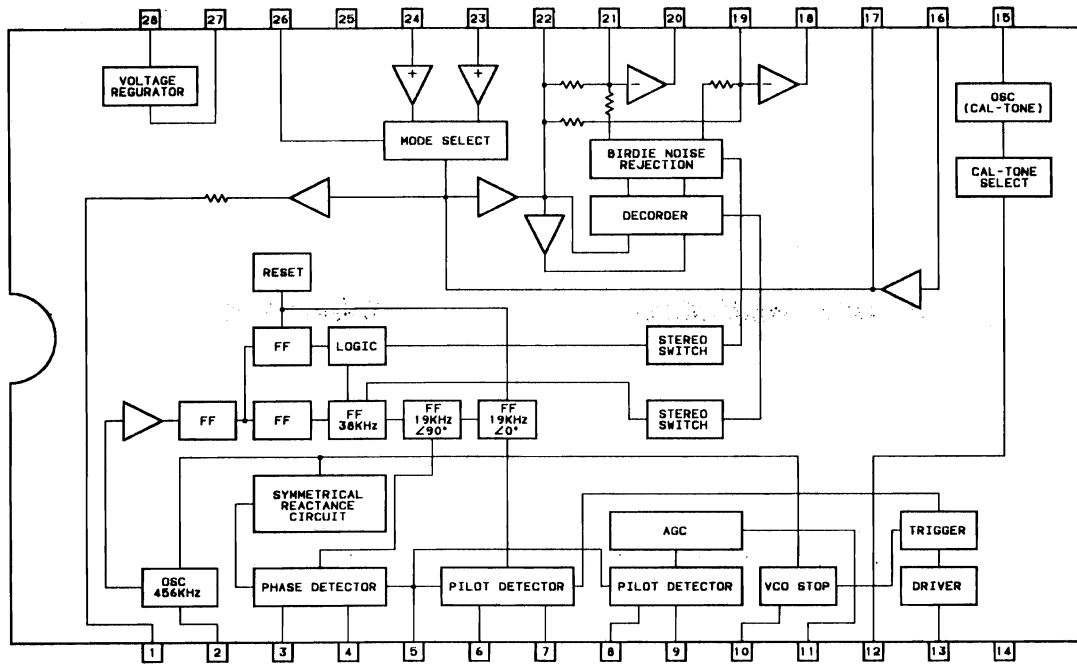


SN74LS145N BLOCK DIAGRAM

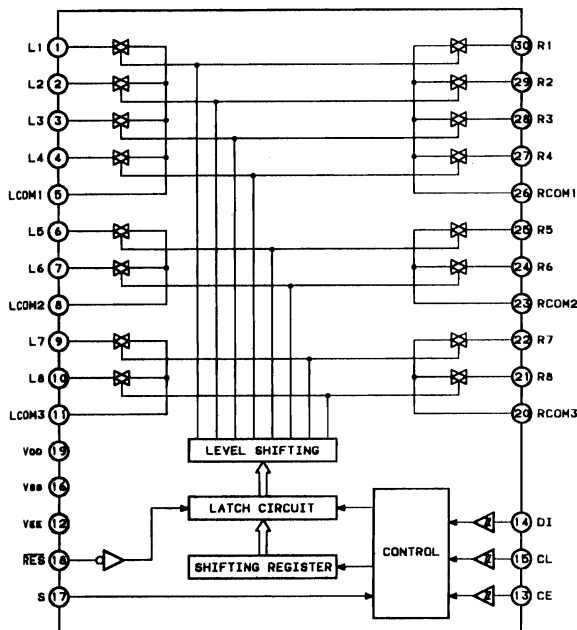


IC BLOCK DIAGRAM (Continued)

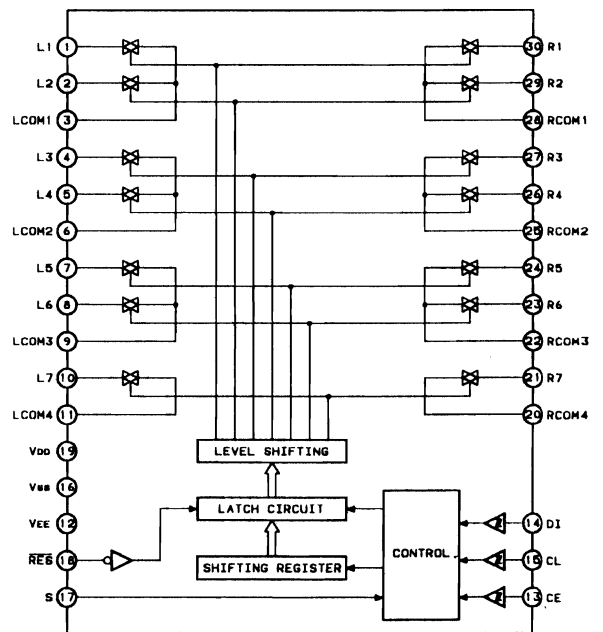
LA3450 BLOCK DIAGRAM



LC7821 BLOCK DIAGRAM

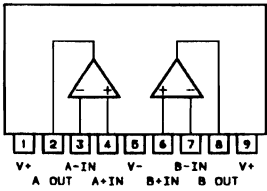


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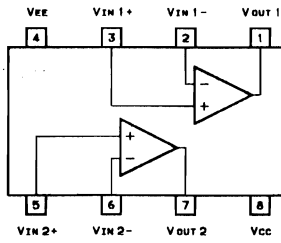


IC BLOCK DIAGRAM (Continued)

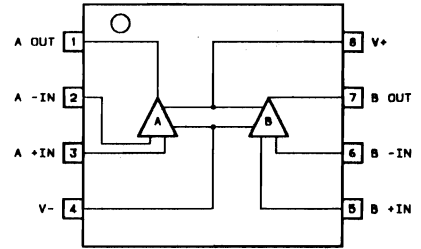
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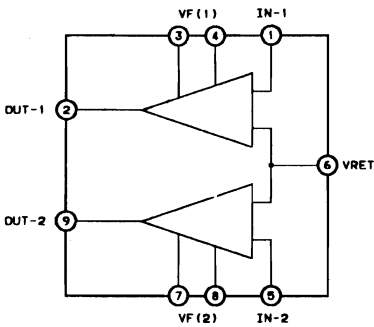
**LA6458D BLOCK DIAGRAM
LA6458DS BLOCK DIAGRAM**



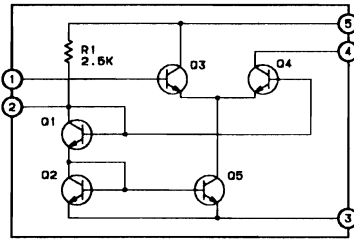
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NJM5532D BLOCK DIAGRAM**



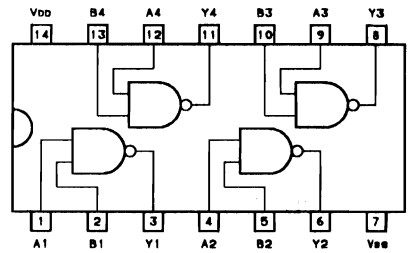
LA2500 BLOCK DIAGRAM



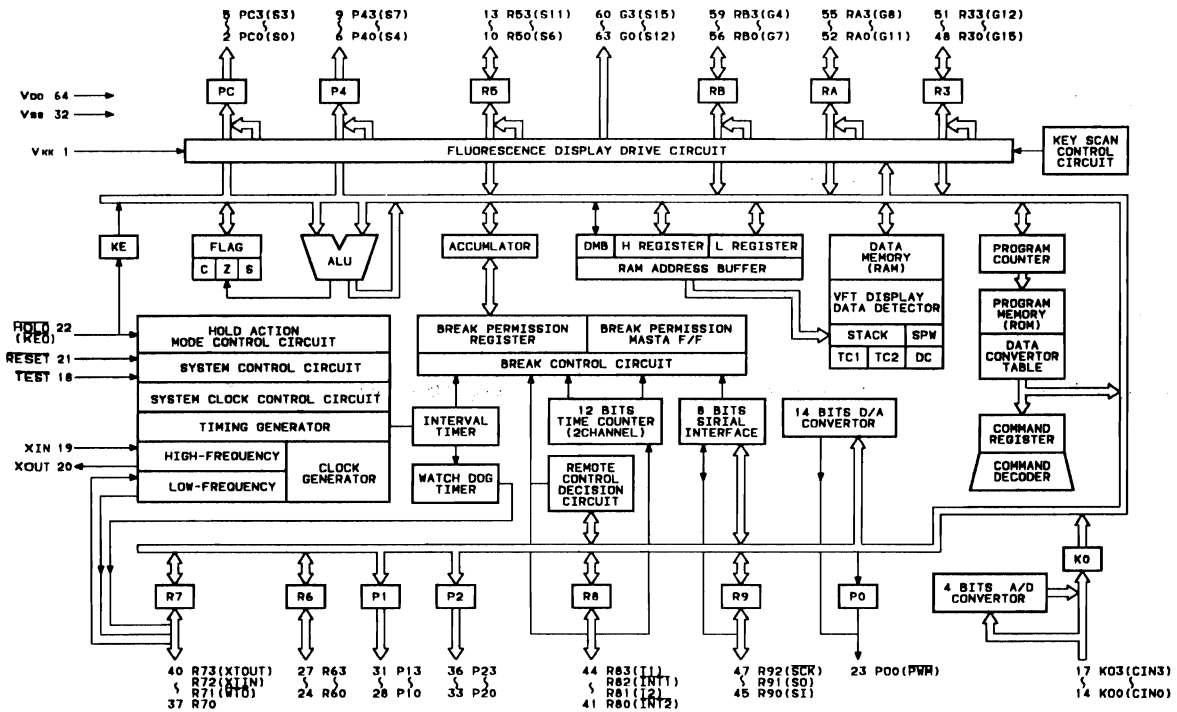
TA7060AP BLOCK DIAGRAM



UPD74HC00C BLOCK DIAGRAM

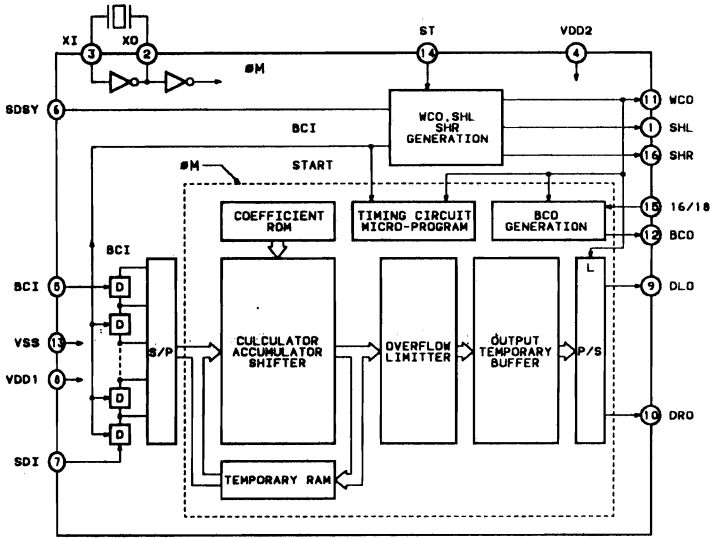


TMP47P870N-RS-Z1 BLOCK DIAGRAM

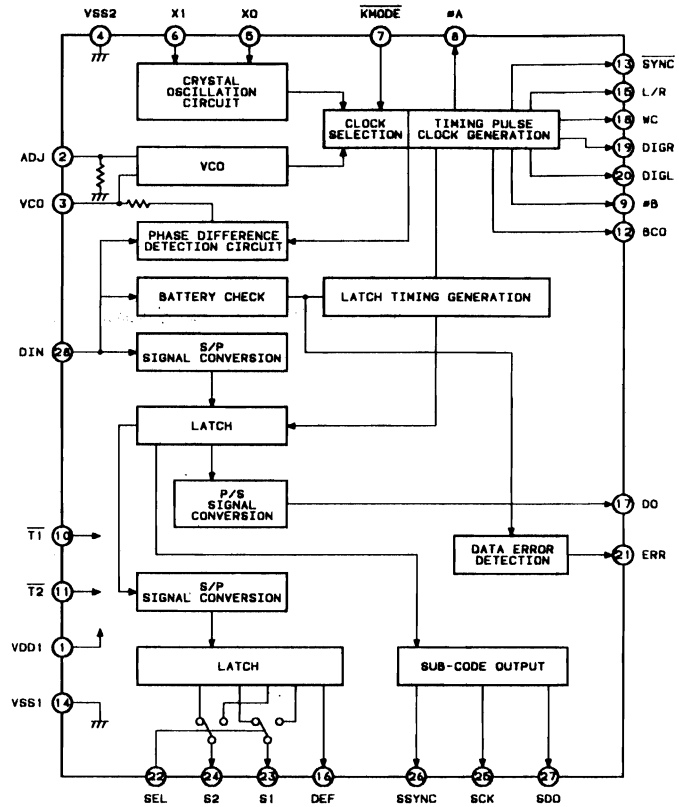


IC BLOCK DIAGRAM (Continued)

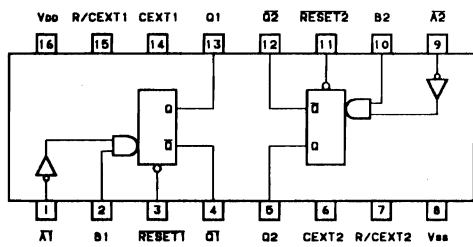
YM3434 BLOCK DIAGRAM



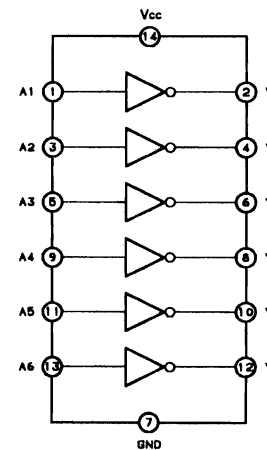
YM3623B BLOCK DIAGRAM



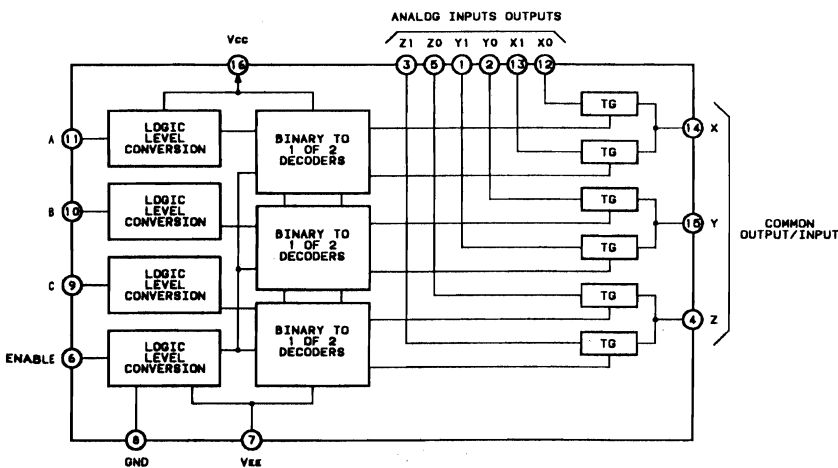
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MC74HC04N BLOCK DIAGRAM

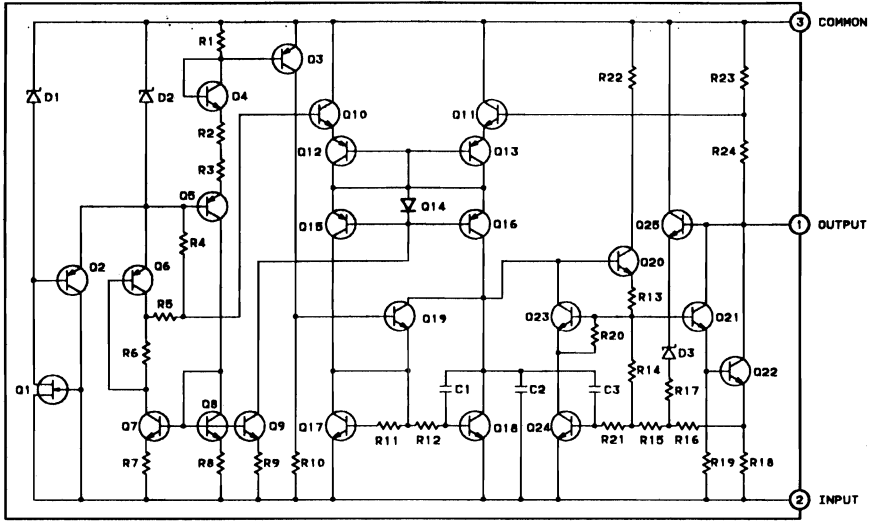


MC74HC4053N BLOCK DIAGRAM

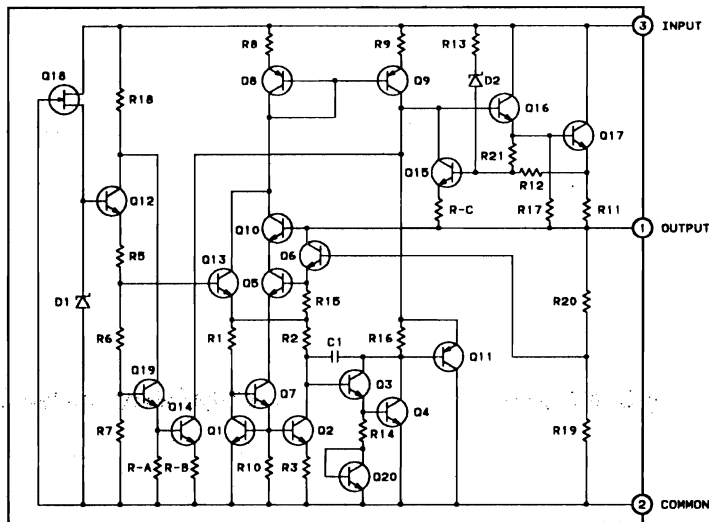


IC BLOCK DIAGRAM (Continued)

NJM79L15A BLOCK DIAGRAM NJM79L18A BLOCK DIAGRAM

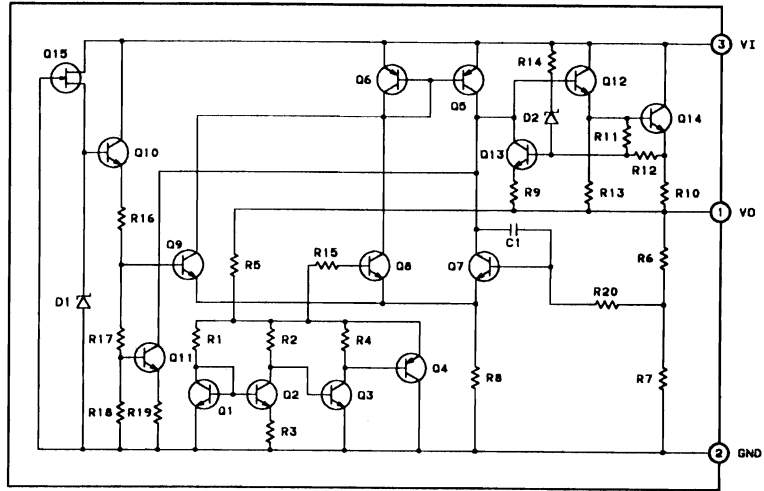


NJM78M05FA BLOCK DIAGRAM NJM78M06FA BLOCK DIAGRAM NJM78M12FA BLOCK DIAGRAM NJM78M15FA BLOCK DIAGRAM NJM78M18FA BLOCK DIAGRAM

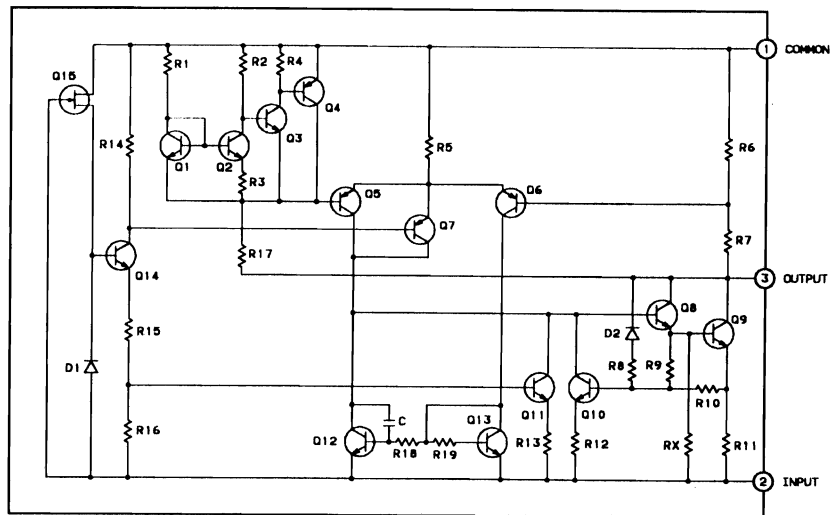


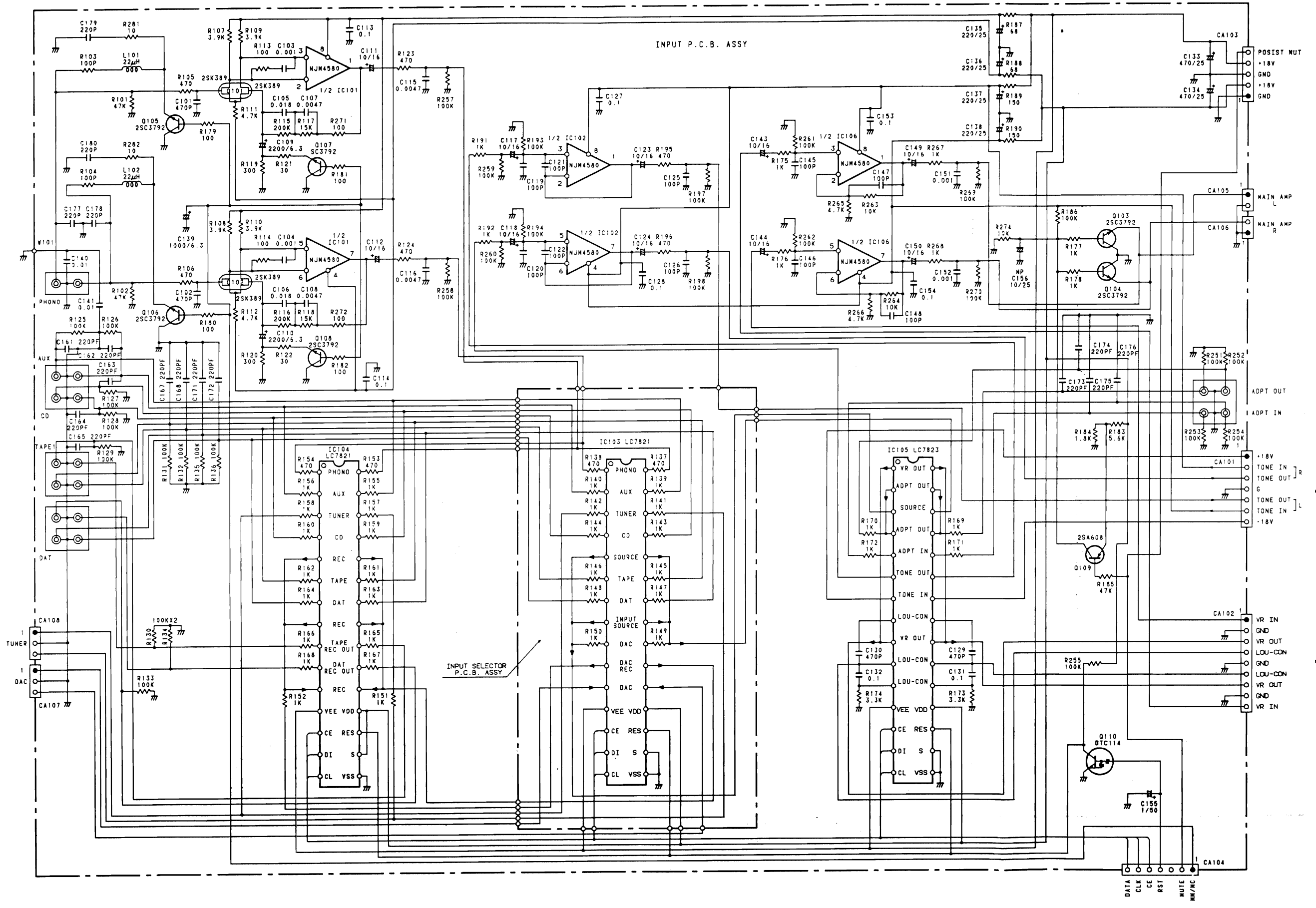
IC BLOCK DIAGRAM (Continued)

NJM78L05A BLOCK DIAGRAM



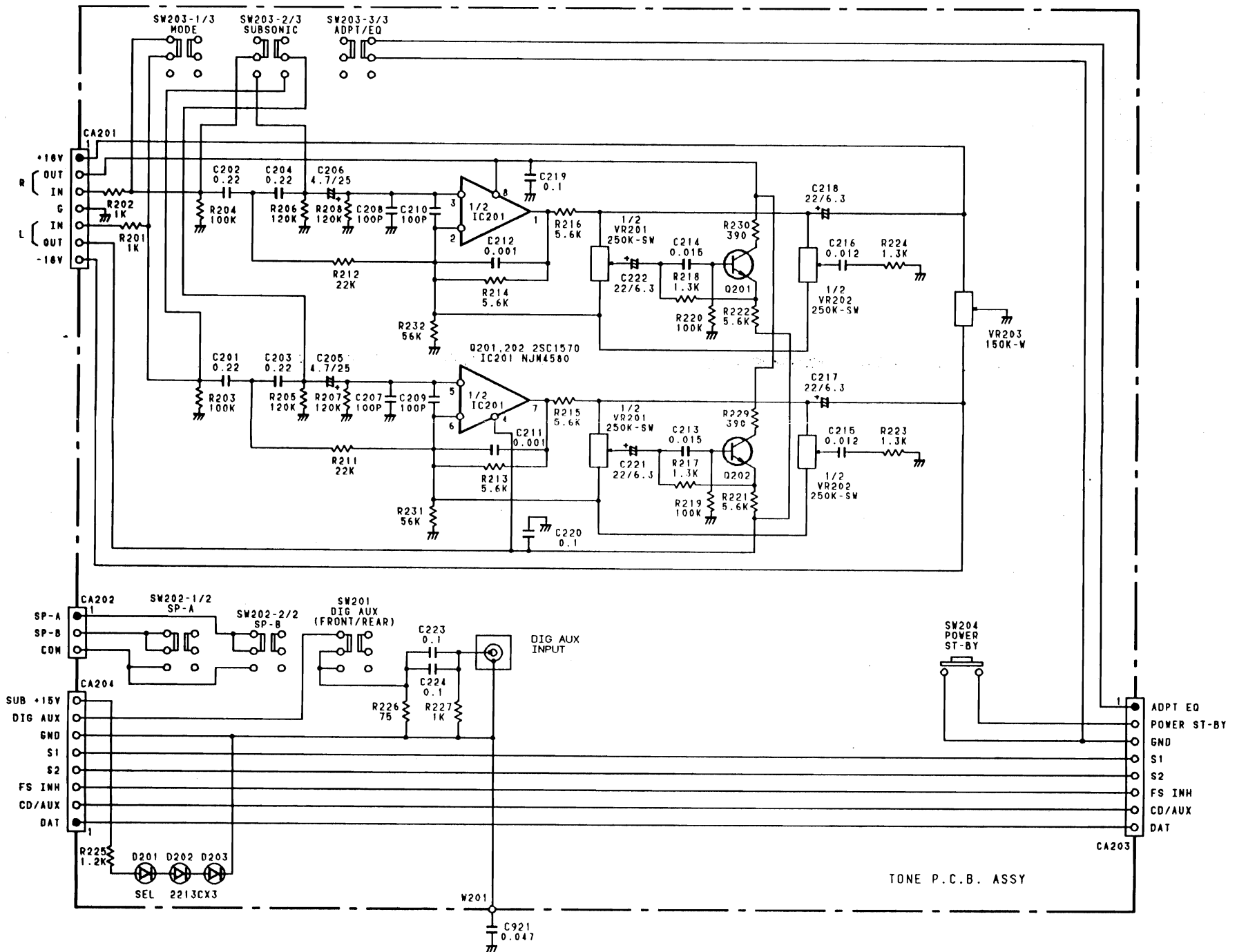
NJM79M12FA BLOCK DIAGRAM





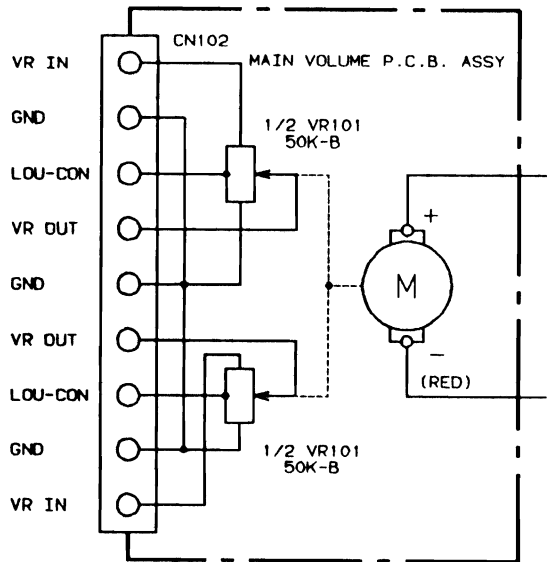
SCHEMATIC DIAGRAM (INPUT Section)

SCHEMATIC DIAGRAM (TONE CONTROL Section)

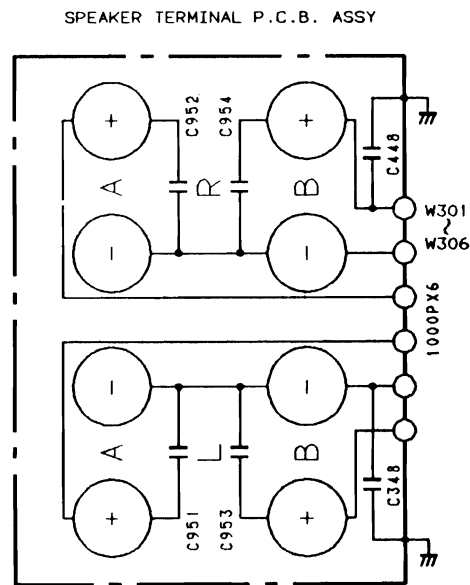


SCHEMATIC DIAGRAM

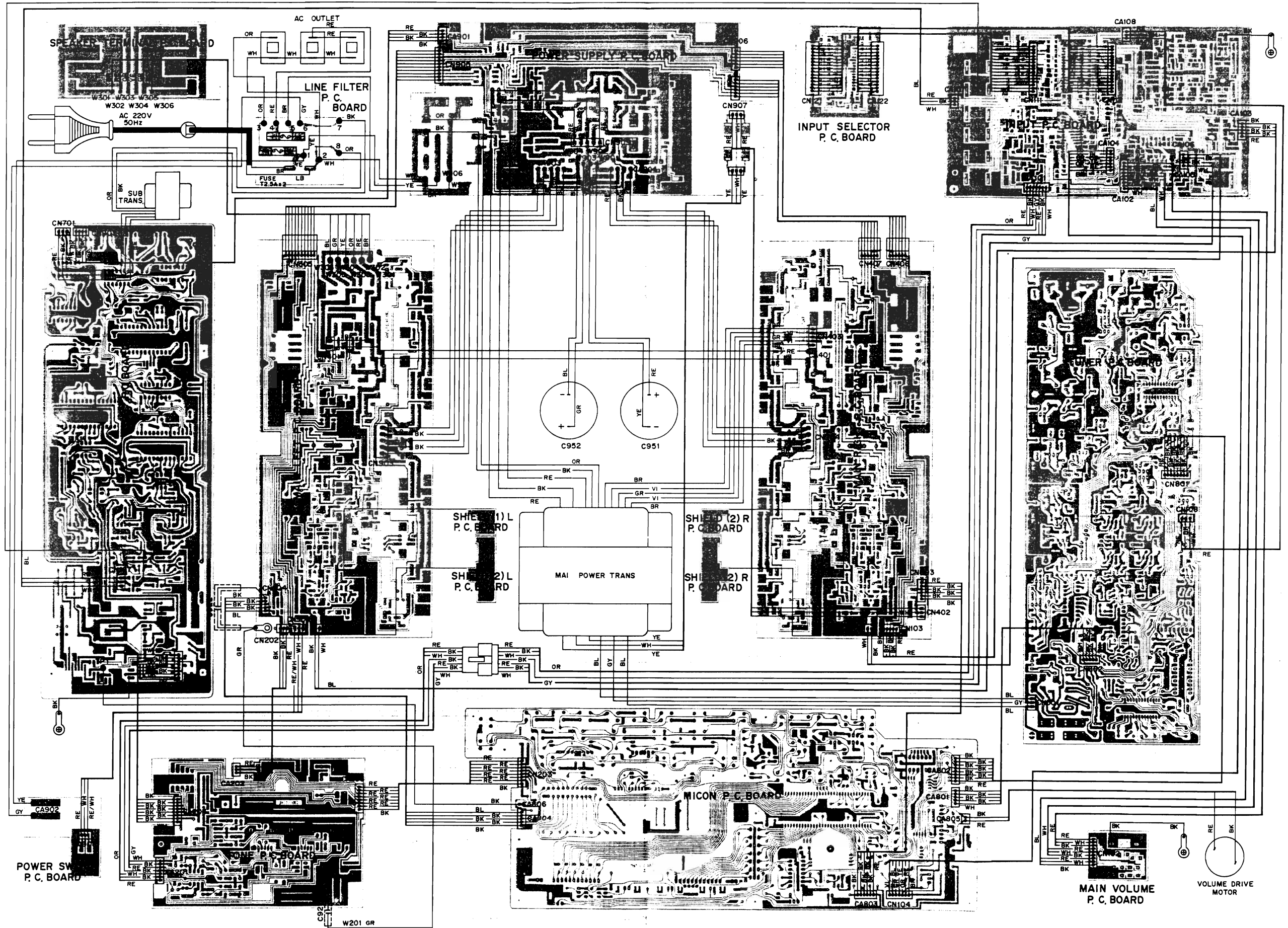
(MAIN VR P.C.B.)



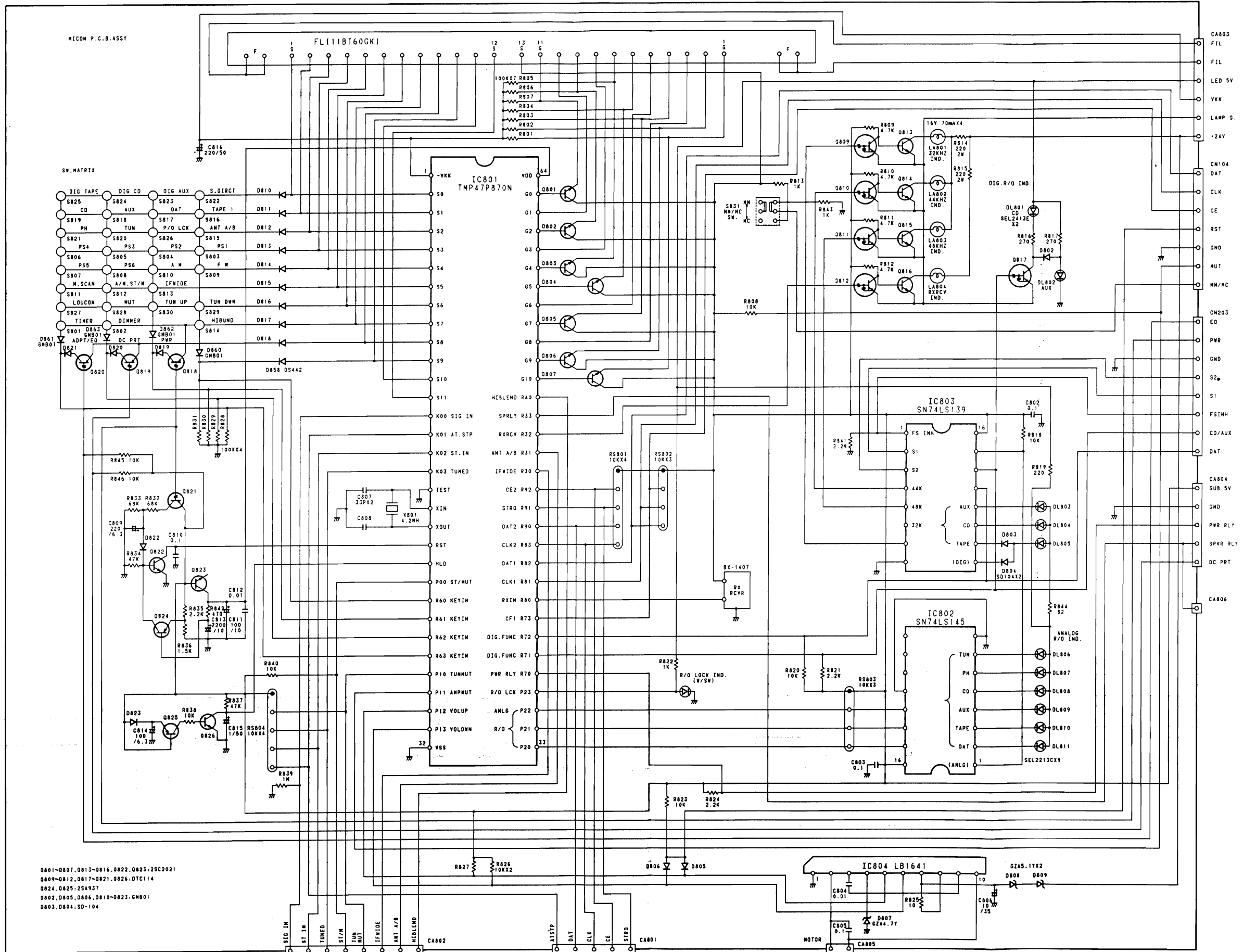
(SP. TERMINAL P.C.B.)



POINT TO POINT WIRING DIAGRAM

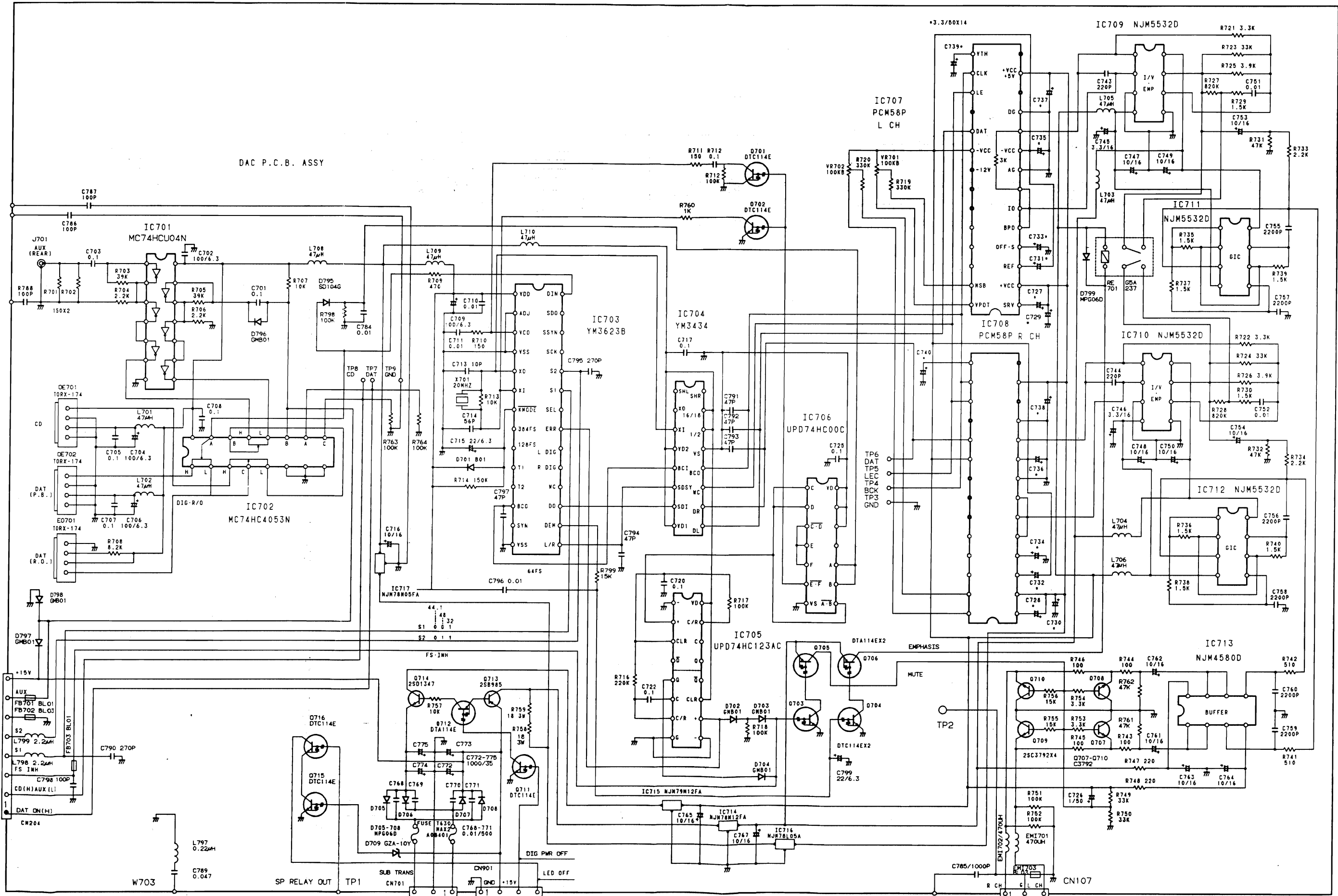


SCHEMATIC DIAGRAM (FUNCTION SELECTOR Section)

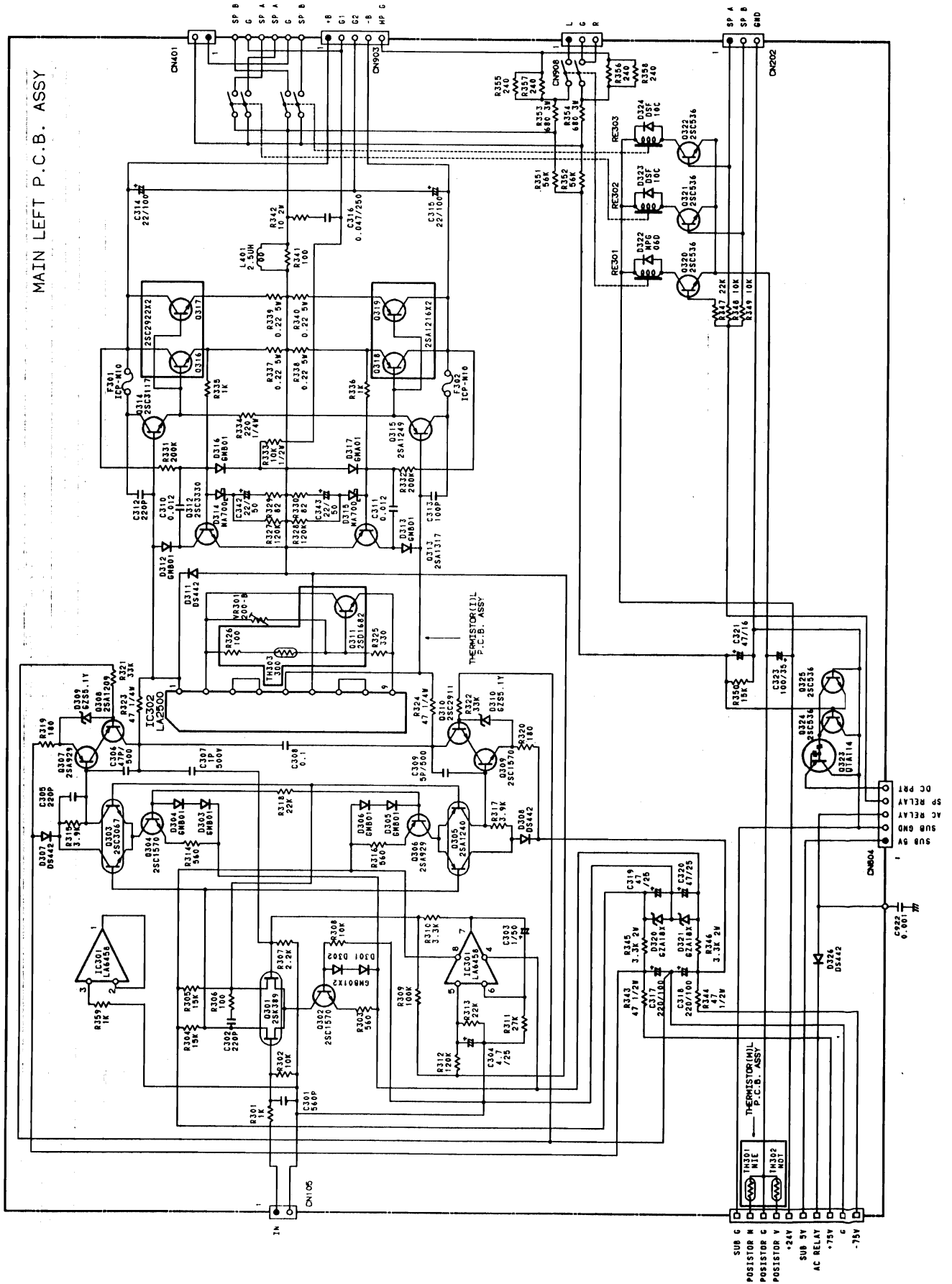


0801-0807, 0813-0816, 0822, 0823, 25C2021
 0809-0812, 0817-0821, 0826, DTC114
 0824, 0825: 25A937
 0802, 0805, 0806, 0810-0823, 0801
 0803, 0804, SD-104

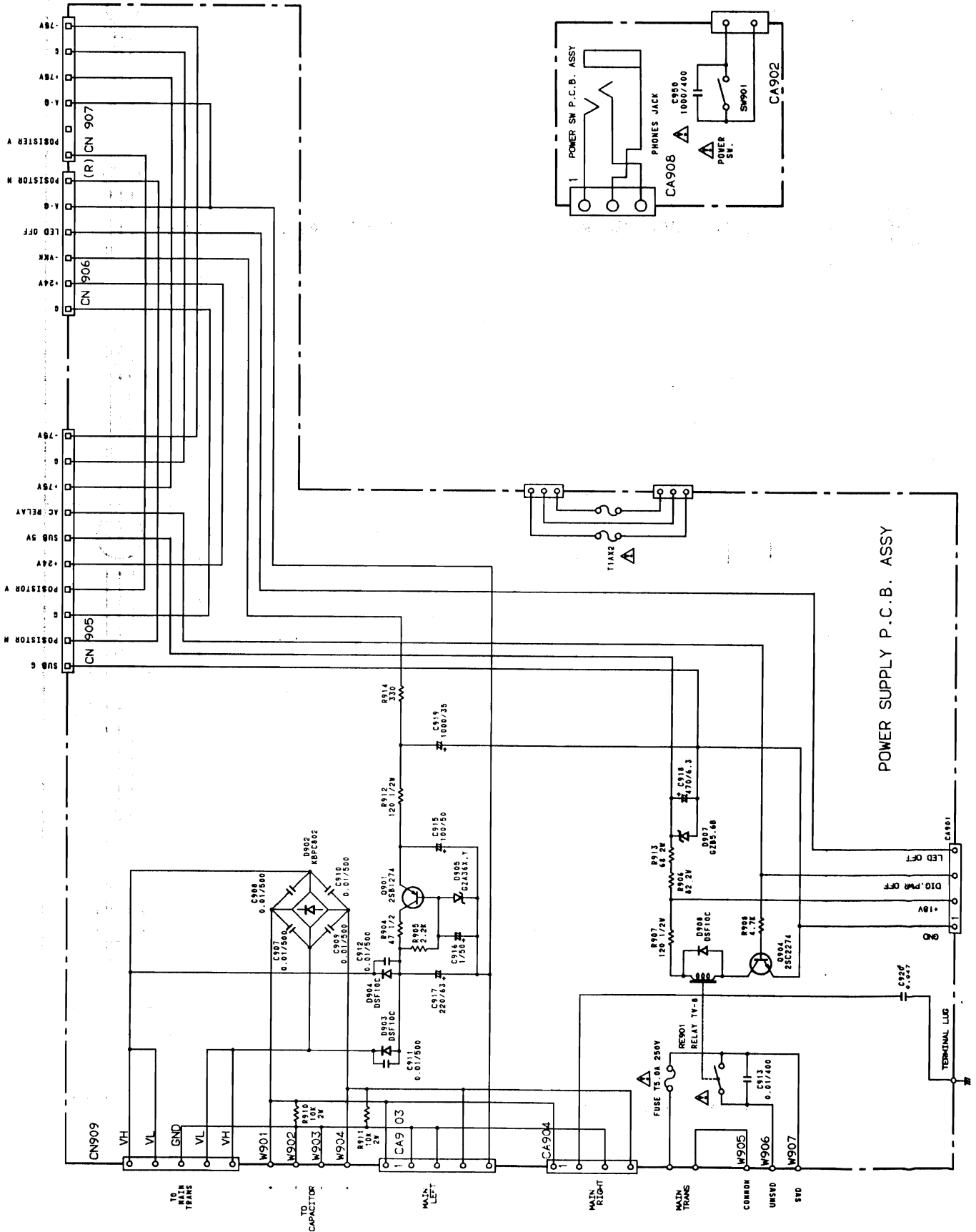
SCHEMATIC DIAGRAM (DIGITAL/ANALOG CONVERTER Section)








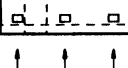












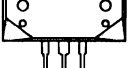





SCHEMATIC DIAGRAM (MAIN AMP. Left Section)



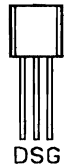

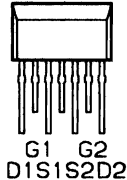
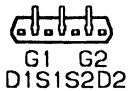
SCHEMATIC DIAGRAM (POWER SW./SUPPLY Section)



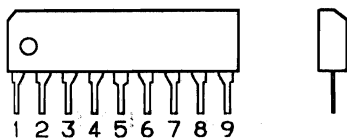
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SA929 2SC1570 2SC2274 2SC3792 2SC536	 ECB	 ECB	2SB985 2SD1347	 ECB	 ECB
DTA114 DTC114 2SA937 2SC2021	 E C B	 E C B	2SA1209 2SA1249 2SC2911 2SC3117	 ECB	 ECB
2SB1274	 BCE	 BCE	DTA114 DTC114 2SA1317 2SA1345 2SC2839 2SC2999 2SC3330 2SC3399 2SC536 2SD1012	 ECB	 ECB
2SK241	 DSG	 DSG	2SK246	 SGD	 SGD
2SA1240 2SC3067	 ECB	 ECB	2SA1216 2SC2922	 BCE	 BCE
2SD1682	 ECB	 ECB	3SK73	 D G	 D G
TERMINAL NAME					
		B → BASE C → COLLECTOR E → EMITTER			S → SOURCE G → GATE D → DRAIN

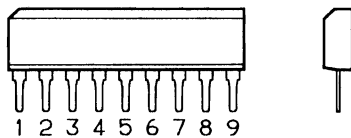
IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SK583			2SK389		
TERMINAL NAME					
B → BASE C → COLLECTOR E → EMITTER			S → SOURCE G → GATE D → DRAIN		

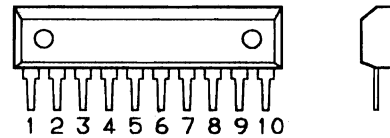
LA6458SS FRONT/SIDE VIEWS



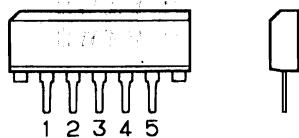
LA2500 FRONT/SIDE VIEWS



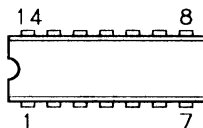
LB1641 FRONT/SIDE VIEWS



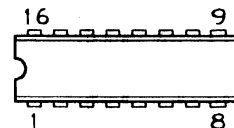
TA7060AP FRONT/SIDE VIEWS



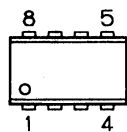
UPD74HC00C TOP VIEW



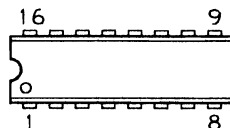
UPD74HC123AC TOP VIEW



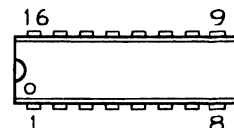
**LA6458D TOP VIEW
LA6458DS TOP VIEW
NJM4580D TOP VIEW
NJM5532D TOP VIEW**



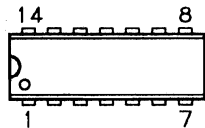
**SN74LS139N TOP VIEW
SN74LS145N TOP VIEW**



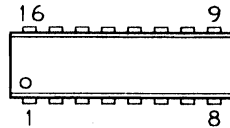
**LA1235 TOP VIEW
MC74HC4053N TOP VIEW**



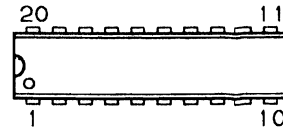
MC74HCU04N TOP VIEW



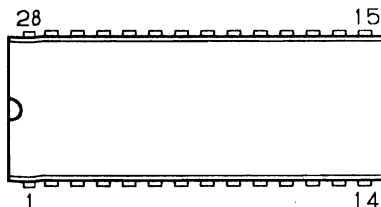
YM3434 TOP VIEW



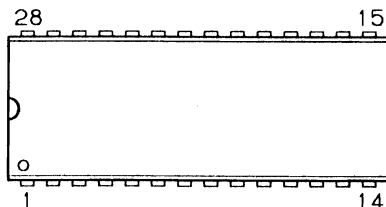
LM7000 TOP VIEW



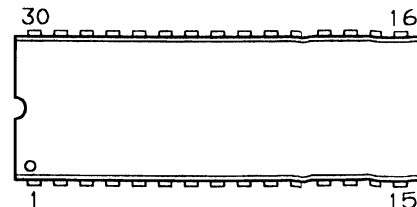
**PCM58P TOP VIEW
YM3623B TOP VIEW**



LA3450 TOP VIEW

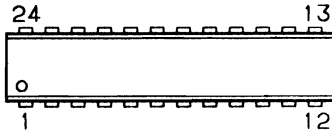


LC7823 TOP VIEW

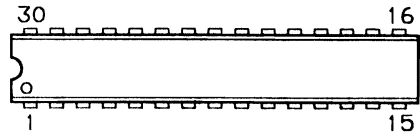


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

LA1266 TOP VIEW



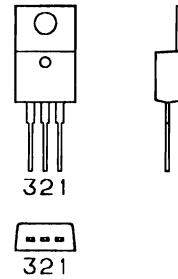
LC7821 TOP VIEW



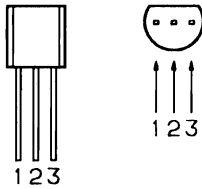
TMP47P870N-RS-Z1 TOP VIEW



NJM78M05FA TOP/SIDE VIEWS



**NJM78L05A TOP/SIDE VIEWS
NJM79M12FA TOP/SIDE VIEWS**



**NJM78M06FA TOP/SIDE VIEWS
NJM78M12FA TOP/SIDE VIEWS
NJM78M15FA TOP/SIDE VIEWS
NJM78M18FA TOP/SIDE VIEWS
NJM79L15A TOP/SIDE VIEWS
NJM79L18A TOP/SIDE VIEWS**

