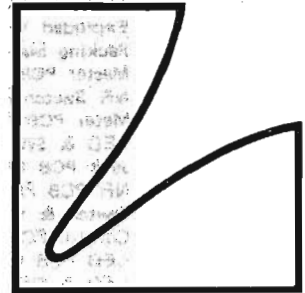


# SERVICE MANUAL



Servo Face Two Head  
Metal Cassette Deck

# KX-102

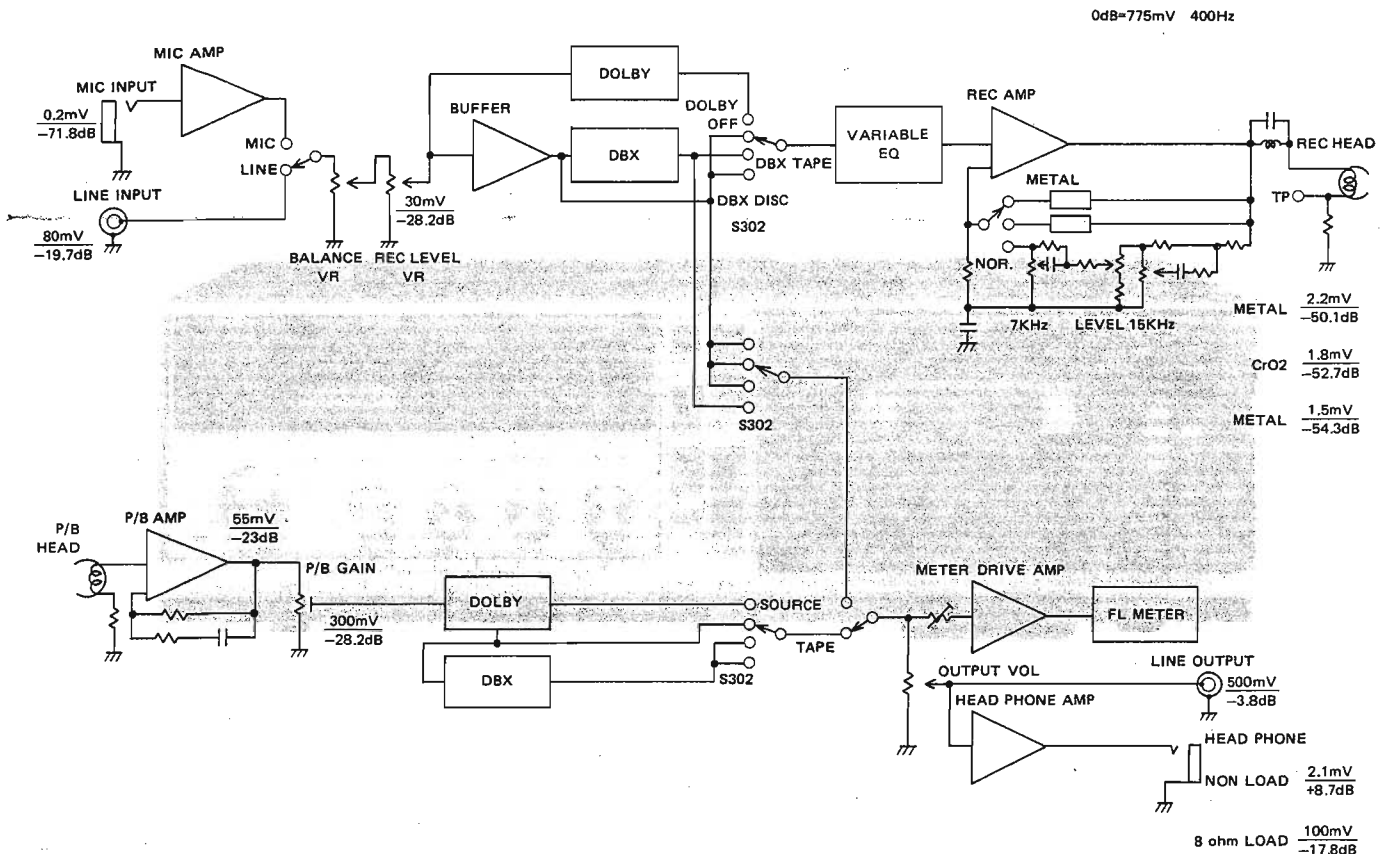


KX-102

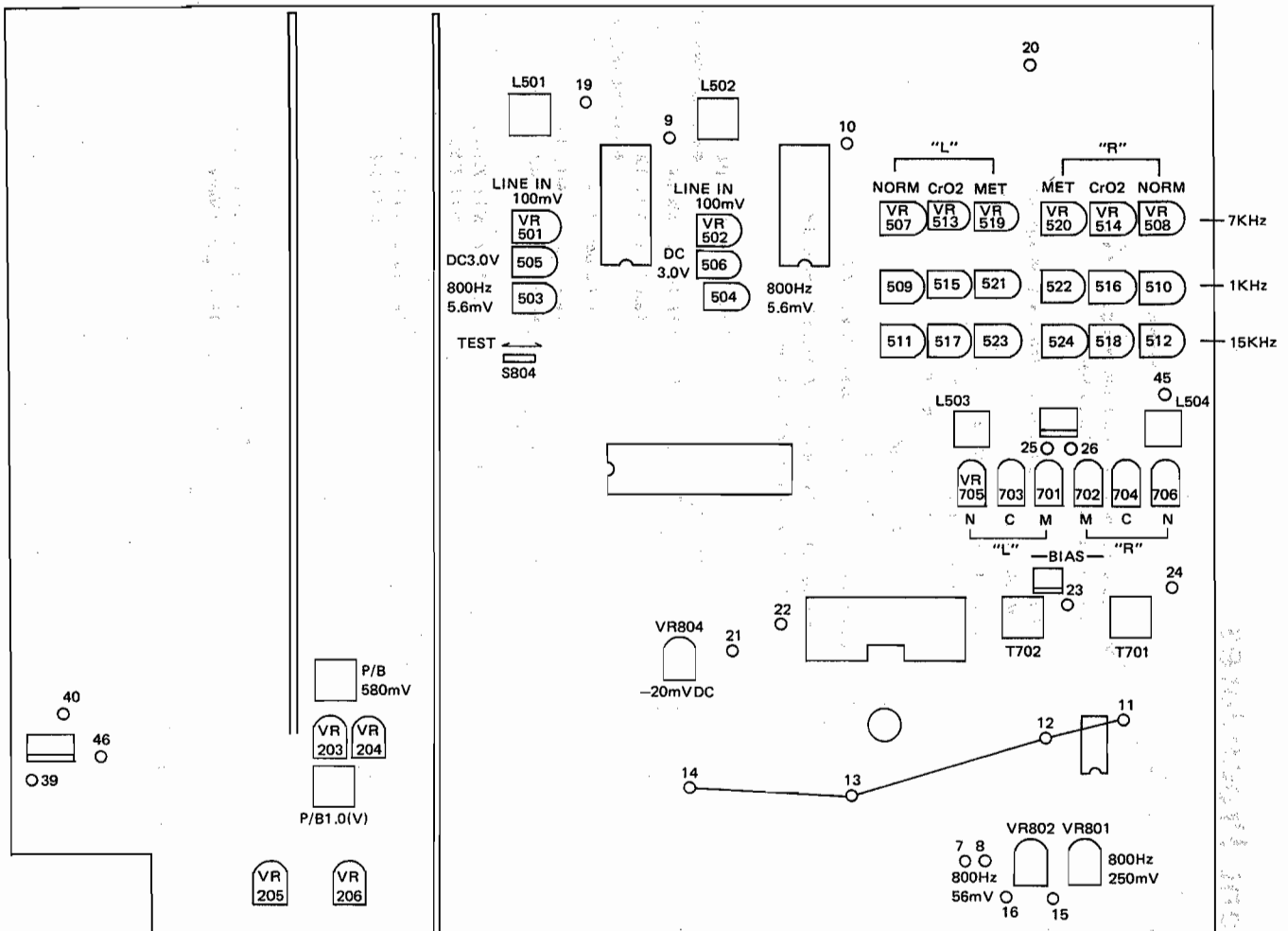
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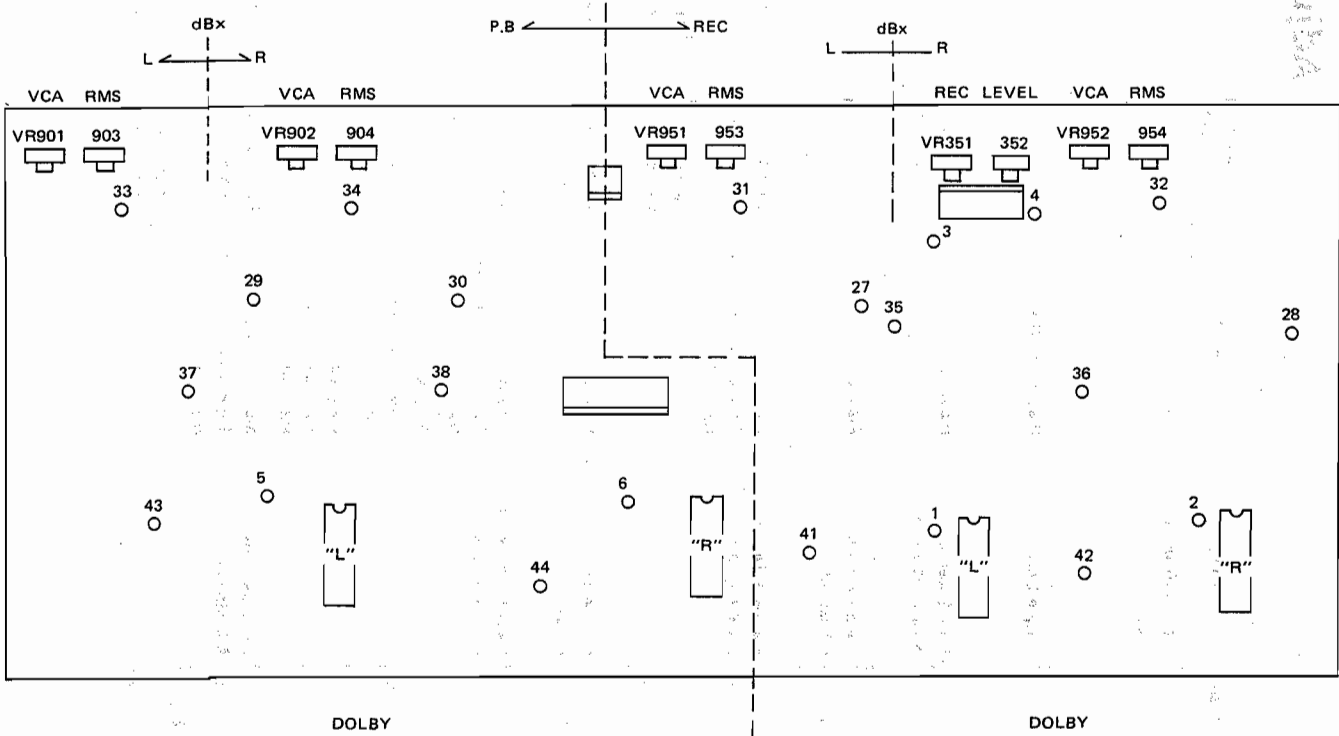
## Level Diagram






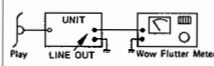
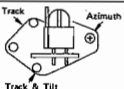
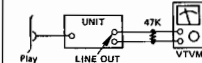
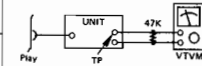

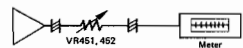
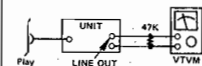
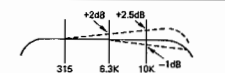
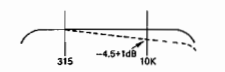
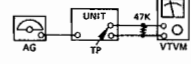
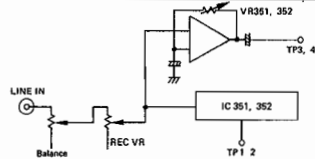
## Mother PCB Adjustment Locations



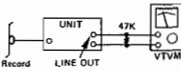
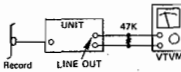
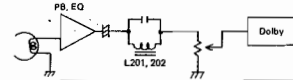
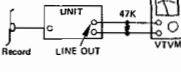
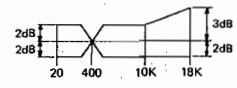
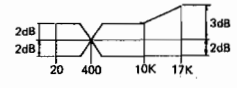
## NR PCB Adjustment Locations

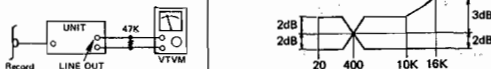

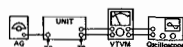
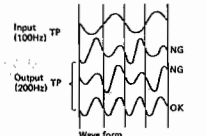
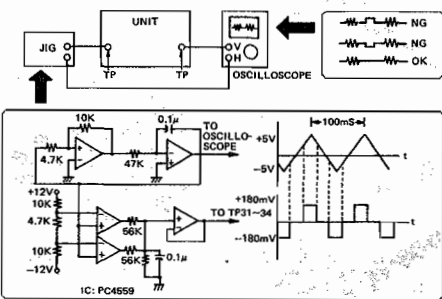
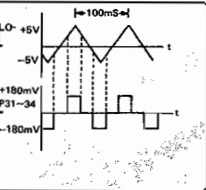


# Adjustment Procedures

Step	Description	Mode	Adjusting Point	Test point	Connection	Remarks
1	Tape Transportation Check	Play				Make sure that does not touch the tape guide of erase and R/P heads, by using "Skew Half".  Confirm that R/P head is placed without any tilt against the "M-300" gage.
2	Torque Check	Play FF & REW				Take Up Torque : 30~ 60g. cm Back Tension Torque : 4~ 8g. cm FF & REW Torque : 70~130g. cm
3	Tape Speed and Wow Fultter Check	Playback		Line Out		Test Tape : MTT-111(3KHz) Speed : 3000Hz $\pm 1.5\%$ Wow Flutter : No more than 0.05%(JIS W.R.M.S.)
4	Head Azimuth Adjustment	Playback				Test Tape : MTT-114(10KHz)or MTT-215C(315Hz, 10KHz) Line Out : Maximum of both Channel
5	Playback Dolby Level Adjustment	Playback Tape Select : Normal NR : Off	VR203-Lch VR204-Rch	TP-5 TP-6		Test Tape : MTT-150 (400Hz, 200nWb/m) TP Output : 580mV
			VR205-Lch VR206-Rch	TP-7 TP-8		Test TaPe : MTT-150 (400Hz, 200nWb/m) TP Output : 1.0V
6	F. L. Meter Adjustment	Playback	VR451-Lch VR452-Rch	Meter Display		 Test Tape : MTT-150 Meter Display : 0 dB
7	Playback Frequency Response Check	Playback TaPe Slect : Normal NR : Off	Step 1-5	Line Out		 Test Tape : MTT-217U or MTT-215C
		Playback Tape Select : Cr02 NR : Off				 Test Tape : MTT-144or MTT-215C
		Playback Tape Select : Metal NR : Off				
8	Line Input Level Adjustment	Monitor : Source Tape Select : Normal NR : Off	Rec Level VR Balance VR	TP-1 TP-2		 Line Input : 1KHz 300mV TP Output : 580mV
			VR 351-Lch VR352-Rch	TP-3 TP-4		

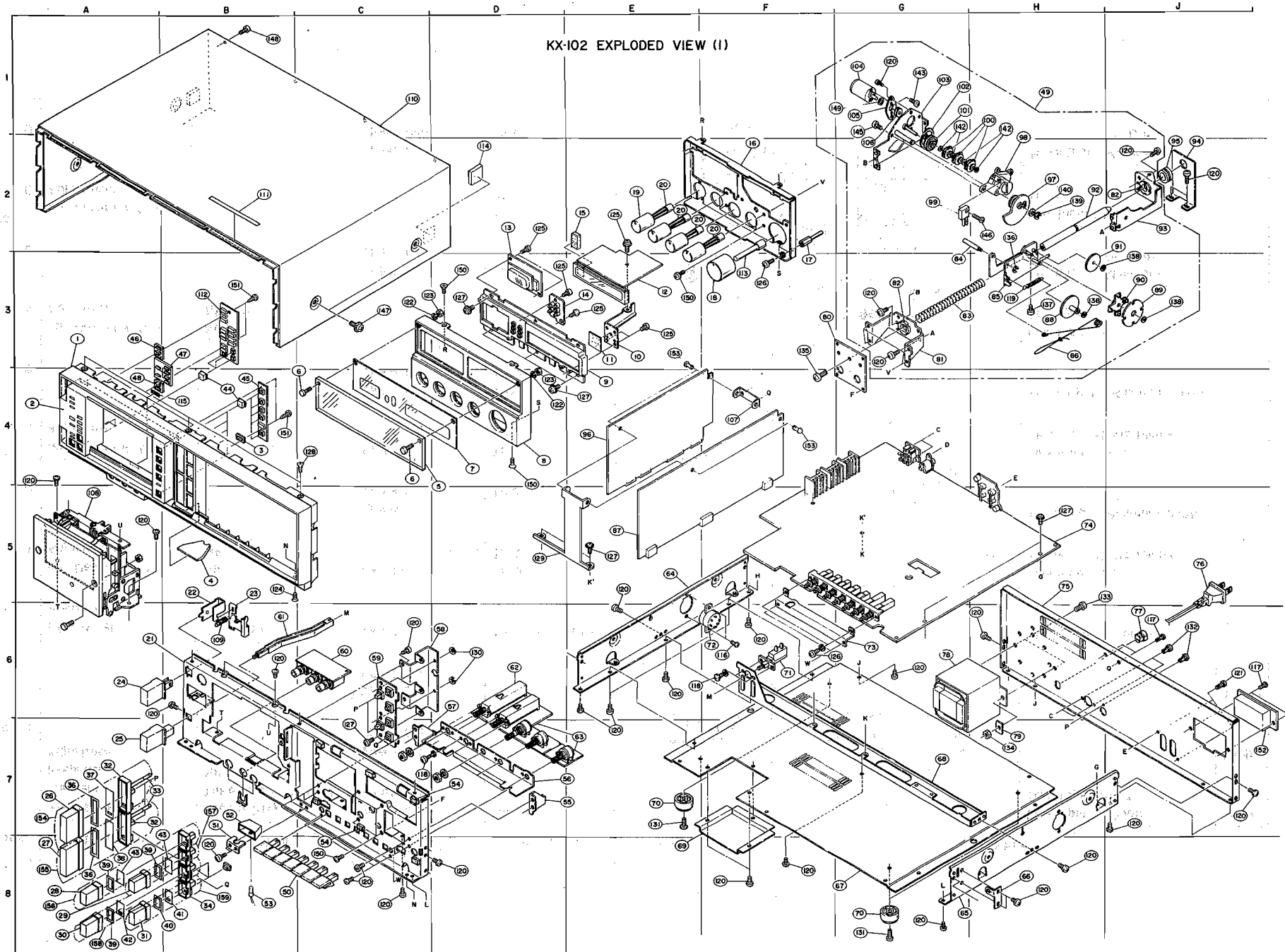
Step	Description		Mode	Adjusting Point	Test point	Connection	Remarks
9	a	Tone OSC Adjustment	Stop Mode Short circuit all four Terminals (TP11,12,13,14)	VR801	TP-15		TP Output : 800Hz 250mV
	b			VR802	TP-16		TP Output : 56mV
10		Bias OSC Frequency Adjustment	Record Tape Select : Metal NR : Off	T702	TP23-TP24(GND)		Input : Non TP Output : 105K $\pm$ 1KHz 280mV
11		Record Amp Bias Trap Adjustment	Record Tape Select : Metal NR : Off	L503-Lch L504-Rch T701	TP25-TP45(GND) TP26-TP45(GND)		Input : Non TP Output : Maximum
12	a	Bias Current Adjustment (Pre Set)	Record Tape Select : Metal NR : Off	VR701-Lch VR702-Rch			Input : Non TP Output : 1.3mV
	b		Record Tape Select : Cr02 NR : Off	VR703-Lch VR704-Rch			Input : Non TP Output : 0.7mV
	c		Record Tape Select : Normal NR : Off	VR705-Lch VR706-Rch		Input : Non TP Output : 0.65mV	
13	a	Tone OSC Rec Out Adjustment	Stop Mode Short circuit all four Terminals (TP11, 12, 13, 14)	VR505-Lch VR650-Rch	TP-9 TP-10		TP Output : 3.0V DC
	b		Record Short circuit all for Terminals (TP11, 12, 13, 14) SW(S804) : Test	VR503-Lch VR504-Rch	TP-19 TP-20		
14	a	Line Rec Out Adjustment	Stop Mode NR : Off	Rec Level VR Balance VR	TP-3 TP-4		Line Input : 800Hz 300mV TP Output : 580mV
	b		Record NR : Off	VR501-Lch VR502-Rch	TP-19 TP-20		Line Input : 800Hz 300mV TP Output : 100mV
15		Rec Equalizer Adjustment	Record Tape Select : Normal NR : Off Rec Bias : Off	L501 L502	TP25-TP45(GND) TP26-TP45(GND)		Line Input : 23KHz, 16.8mV TP Output : Maximum
16		Input Level Adjustment	Monitor : Source TaPe Select : Normal NR : Off	Rec Level VR Balance VR	Line Out		Line Input : 400Hz 300mV TP Output : 500mV

Step	Description	Mode	Adjusting Point	Test point	Connection	Remarks		
17	Record Level Adjustment	Record/Play Tape Select : Metal NR : Off	VR521-Lch VR522-Rch	Line Out		Line Input : 400Hz 300mV TP Output : 500mV $\pm$ 0.5dB		
		Record/Play Tape Select : Cr02 NR : Off	VR515-Lch VR516-Rch					
		Record/Play Tape Select : Normal NR : Off	VR509-Lch VR510-Rch					
18	Record Distortion Adjustment	Record/Play Tape Select : Metal NR : Off	VR701-Lch VR702-Rch	Line Out		Line Input : 400Hz 300mV TP Output : 500mV No more than 1.5%		
		Record/Play Tape Select : Cr02 NR : Off	VR703-Lch VR704-Rch					
		Record/Play Tape Select : Normal NR : Off	VR705-Lch VR706-Rch					
19	Playback Amp Bias Trap Adjustment	Record Tape Select : Metal Dolby NR : Off	L201-Lch L202-Rch			Input : Non Line Out : Minimum		
20	Record/Playback Frequency Response Adjustment	Record/Play Tape Select : Metal NR : Off	VR521-Lch VR522-Rch	Line Out			Line Input : -25dB Test Tape : AC711	1KHz
			VR519-Lch VR520-Rch					7KHz
			VR523-Lch VR524-Rch					15KHz
	C	Record/Play Tape Select : Cr02 NR : Off	VR515-Lch VR516-Rch				Line Input : -25dB Test Tape : AC 512	1KHz
			VR513-Lch VR514-Rch					7KHz
			VR517-Lch VR518-Rch					15KHz

Step	Description		Mode	Adjusting Point	Test point	Connection	Remarks		
20	c	Record/Playback Frequency Response Adjustment	Record/Play TaPe Select : Normal NR : Off	VR509-Lch VR510-Rch	Line Out			Line Input : -25dB Test Tape : AC223	1KHz
				VR507-Lch VR508-Rch				7KHz	
				VR511-Lch VR512-Rch				15KHz	
21	DC Off Set Adjustment		Stop Mode	VR804	TP21-TP22(GND)			TP Output : -20mVDC	
22	A	dbx Decord R. M. S. Adjustment	Stop NR : OFF	EX OSC	TP29 TP30			Line Input : Non TP Input : 100Hz 100mV	TP Output : Minimum 100Hz
	B	VR903-Lch VR904-Rch		TP33 TP34	Line Input : Non TP Input : 100Hz 100mV			TP Out put : Minimum 100Hz	
	C	dbx Encord R. M. S. Adjustment		EX OSC	TP27 TP28				
	D	VR953-Lch VR954-Rch		TP31 TP32					
23	A	dbx Decord V. C. A. Adjustment	Stop NR : OFF		TP33 TP34			Line Input : Non TP Input :	TP Output : Minimum DC Drift
	B	VR901-Lch VR902-Rch		TP37 TP38	Line Input : Non TP Input :			TP Output : Minimum DC Drift	
	C	dbx Encord V. C. A. Adjustment			TP31 TP32				
	D	VR951-Lch VR952-Rch		TP35 TP36					

KX-102 EXPLODED VIEW (1)

Exploded View(1)



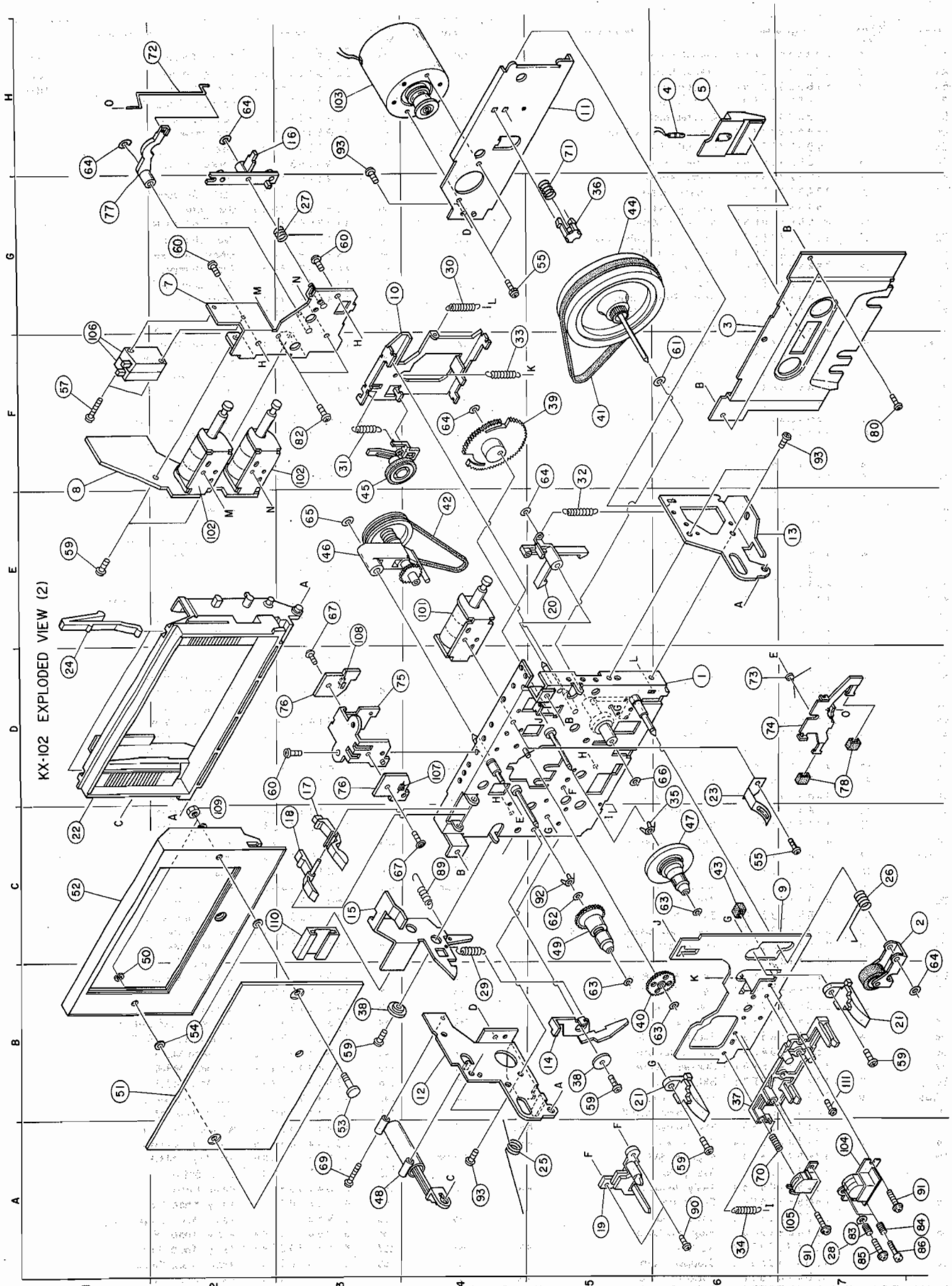


# Exploded View(1) Parts List

Index	Symbol No.	Stock No.	Description
A3	1	07D52966F04	Frame, Front
A4	2	07D55535F01	Frame, Mecha.
B4	3	61B55532F04	Crystal, Ind
B5	4	61A53115F01	Crystal, Acryl
D4	5	61B52901F02	Crystal, Meter
C4	6	03A52884F01	Scr, Spl. "B" M3x10
D4	7	61B52899F02	Crystal, Filter
D4	8	07D52909F02	Frame, Servo
E4	9	07C52903F01	Frame, Meter
E3	10	07A52887F01	Support, Meter
E3	11	75A53140F01	Cushion, Meter
E3	12	01V56500F69	Ass'y, FL Meter PCB
D2	13	65T41785F01	Lamp, FL Counter Ass'y
E3	14	01V56500F70	Ass'y, LED PCB
E2	15	75A56279F01	Cushion, Meter
F2	16	27C52908F01	Chassis, Servo
F3	17	47A52891F01	Shaft, Servo Guide
F3	18	36B52958F01	Knob, Control 28
E2	19	36A52963F01	Knob, Control
E2,F2	20	47A53082F01	Shaft, A
A6	21	27D52912F01	Chassis, Front
B5	22	45A52889F01	Lever, Eject
B5	23	45A52888F01	Arm, Eject
A6	24	36B53066F01	Knob, Push C
A7	25	36B52897F01	Knob, Power SW
A7	26	36A52961F03	Knob, Crystal B
A8	27	36A52961F04	Knob, Crystal B
A8	28	36A52962F07	Knob, Crystal A
A8	29	36A52962F08	Knob, Crystal A
A8	30	36A52962F06	Knob, Crystal A
A8	31	36A52962F05	Knob, Crystal A
A7	32	07B52959F01	Frame, Knob A
A7	33	47A52890F01	Shaft, SW Guide
B8	34	07B52960F01	Frame, Knob B
B8	35	61B53086F01	Crystal, Indicator A
A8,A7	36	43A56379F02	Spacer, Film B
A8,A7	37	43A53139F01	Spacer, Crystal D
A8	38	43A53071F01	Spacer, Crystal A
A8	39	43A56378F03	Spacer, Film A
B8	40	43A56378F03	Spacer, Film A
B8	41	43A53072F02	Spacer, Crystal B
A8	42	43A53072F01	Spacer, Crystal B
A8	43	43A53138F01	Spacer, Crystal C
B4	44	36A55533F01	Knob, Push
B4	45	01V56500F75	Ass'y, LED & SW PCB R
A3	46	61B55532F01	Crystal, Ind
B3	47	61B55532F02	Crystal, Ind
A4	48	61B55532F03	Crystal, Ind
H1	49	01C55485F01	Ass'y, Servo Mech.
B8	50	36B52896F01	Knob, Push D
B7	51	07A53113F01	Bkt, Lamp
B7	52	43A53112F01	Bashing, Lamp
B8	53	65T55548F03	Lamp, W/Cap 14V-117mA
D7,C8	54	75A53141F01	Cushion, Panel
E7	55	07A56254F01	Bkt, 3062
E7	56	07B52893F01	Support, VR
D6	57	07A56253F01	Bkt, 3061
D6	58	07B52892F01	Bkt, SW
C6	59	01V56500F66	Ass'y, Key Board SW PCB
C6	60	01V56500F60	Ass'y, Jack PCB
B6	61	45B44337F01	Lever, Knob
D6	62	01V58400F46	Ass'y, NR SW PCB
E7	63	01V56500F67	Ass'y, SW & VR PCB
E5	64	27C52907F01	Chassis, Side
G8	65	27C53392F01	Chassis, Side
H8	66	07A52885F01	Support, Guide
G8	67	15C52904F01	Cover, Bottom
G7	68	27C52906F01	Chassis, Center
E8	69	07A53356F01	Bkt, Bottom
E7,G8	70	75A52969F01	Pad, Trannleg
F6	71	40T47454F01	SW, Power SDLIP
		40T45561F02	SW, Power (AK)
		40T40705T04	SW, Select (AK)
G6	72	07B52895F01	Support, SW
H5	74	01V56500F59	Ass'y, Mother PCB
		01V58700F58	Ass'y, Mother PCB (AK)
H5	75	15D55529F01	Cover, Rear
		15D55529F02	Cover, Rear (AK)
J5	76	28T40916U01	Plug, AC Cord
		28T50179F03	AC Cord (AK)
J6	77	43B41625J01	Stopper, Cord
		43B41625J02	Support, Cord (AK)

Index	Symbol No.	Stock No.	Description
G6	78	25T52166F01	Trans, Power (UZ)
		25T51182F01	Trans, Power (AK)
		25T52165F01	Trans, Power (UQ)
H7	79	07A40871F01	Support, Trans Washer
F3	80	07A52886F01	Support, Servo
G3	81	07B53095F01	Bkt, Panel
G3,J2	82	43A52932F01	Sleeve, A
G3	83	41A52935F01	Spring, Servo
G3	84	47A52931F02	Shaft, 3
H3	85	01A57211F01	Ass'y, Stopper Bkt.
H3	86	30S43803G05	Dial Cord
E5	87	01V56500F62	Ass'y, NR PCB
H3	88	44A52923F01	Gear, Dumper A
J3	89	49A52922F01	Wheel, Dumper
J3	90	44A53019F01	Gear, Dumper C
J2	91	44A52924F01	Gear, Dumper B
H2	92	47A52930F01	Shaft, 10
J2	93	07B53096F01	Bkt, Slide
J2	94	07B52894F01	Support, Servo A
J2	95	43A55383F01	Bushing, Shaft
E4	96	01V56500F61	Ass'y, Control PCB
H2	97	45B52928F01	Cam, Servo
H1	98	44B52927F01	Gear, Fix
G2	99	40T52936F01	Switch, Servo
H1	100	01V41500F30	Ass'y, Planet Gear
G1	101	49A52926F01	Wheel, 20
G1	102	42A50299F01	Belt, Counter
G1	103	01A57210F01	Ass'y, Motor Bkt.
G1	104	59T52973F01	Motor, Servo
G1	105	07A53094F01	Support, Motor
G2	106	49A52925F01	Wheel, 10
F4	107	07A55530F01	Bkt, Panel
A5	108	01U55000F99	FL87E32C, CAS. DK.
B6	109	41A53142F01	Spring, Eject
C1	110	15D52911F01	Cover, Top
B2	111	43A56871F01	Spacer, 1187
B3	112	01V56500F74	Ass'y, LED & SW PCB L
F3	113	47A56389F01	Shaft, 1376
D2	114	43A56380F01	Spacer, Rubber 1184
B4	115	43A57045F01	Spacer, Frame
F6	116	03S44205G03	Scr, T-Tite M3x8 (AK)
J6	117	03S44205G38	Scr, T-Tite M3x6
C7,E6	118	03C40014G04	Scr, Mch M3x6
H3	119	41A52934F01	Spring, Dumper
	120	03S44205G05	Scr, T-Tite M3x5
J6	121	03S40012G41	Scr, Tpg. M3x8
C3,D4	122	04S40071G01	Washer, 3.1x5.9x0.7
C3,D4	123	02S40000G12	Nut, Hex. M3
B5	124	03S44205G50	Scr, T-Tite M3x6 Fit.
D2,E3	125	03S40012G03	Scr, Tpg. M3x6
F6,F3	126	03C40014G09	Scr, Mch M3x5
	127	03C42723U01	Scr, Cup. M3x6
C4	128	03S44205G46	Scr, T-Tite M3x6 TRS
D5	129	07B55531F01	Bkt, Panel
D6	130	04C42091G11	Wash, "C" 2.5
E7,G8	131	03S44205G25	Scr, T-Tite M4x10
J6	132	05B41635J03	Rivet, Push
H5	133	03S40036U07	Scr, T-Tite M4x12
H7	134	02S40000G09	Nut, Hex M4
F3	135	03S43997P60	Scr, Mch M4x8
H2	136	04C42091G06	Washer, "C" 1.5
H3	137	03S40011G22	Scr, Mch M3x12
H3,J3	138	04A41345P01	Washer, 1.2x3.5x0.25
H2	139	04C42091G04	Washer, "C" 3.0
H2	140	04S40075G18	Washer, 4.1x6.5x0.25
H1,G1	142	04S40075G06	Washer, 2.1x4x0.25
G1	143	03S43997P58	Scr, Mch M2x3
G1	145	03S40011G17	Scr, Mch M3x6
H2	146	03S40011G30	Scr, Mch M2x6
C3	147	03S40036U01	Scr, T-Tite M4x8
B1	148	03S44205G02	Scr, T-Tite M3x6
G1	149	43A44303P04	Washer, Oil Shiel
	150	03S44205G16	Scr, T-Tite M3x6
B3,B4	151	03S40012G09	Scr, Tpg. M3x8
J7	152	15B50733F01	Case, Battery
E3,F3	153	05B41635J02	Rivet, Push
A7	154	01V56700F92	Ass'y, Knob Play
A8	155	01V56700F93	Ass'y, Knob Stop
A8	156	01V56700F94	Ass'y, Knob FF
B7	157	01V56700F95	Ass'y, Knob Rew
A8	158	01V56700F96	Ass'y, Knob Pause
B8	159	01V56700F97	Ass'y, Knob Rec

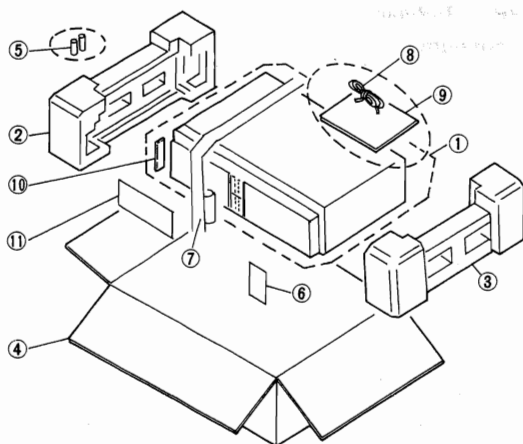
# Exploded View(2)



## Exploded View(2) Parts List

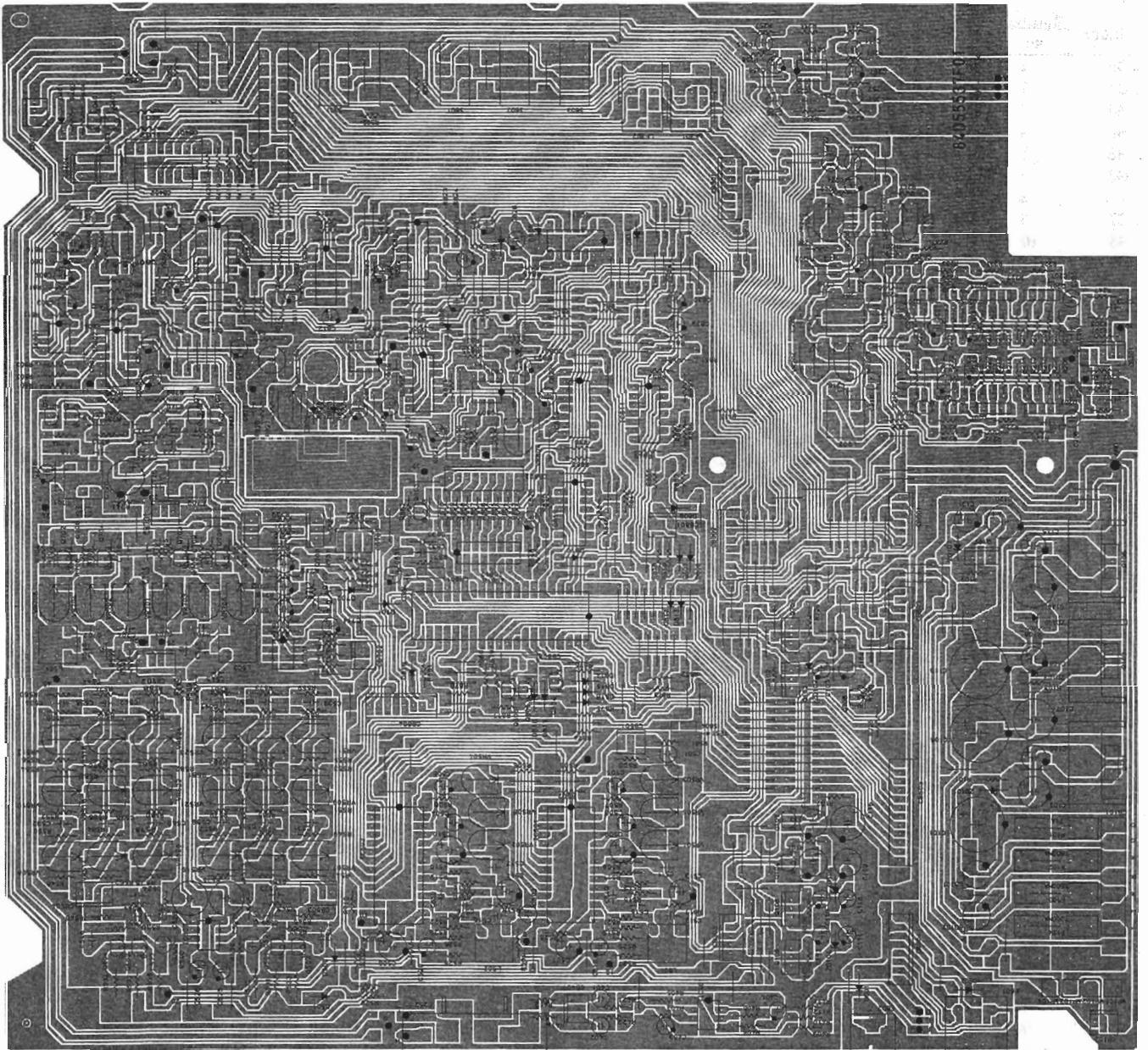
Index	Symbol No.	Stock No.	Description	Index	Symbol No.	Stock No.	Description
D6	1	F011-139	Ass'y, Chassis	C1	50	04S40071G01	Washer, 3.1x5.9x0.7
C7	2	F014-053	Ass'y, Pinchroller	B1	51	61B52902F01	Crystal, Door
G6	3	15B44924F05	Cover, Dust	Cl	52	07C47355F02	Frame, Door
H6	4	65T55548F02	Lamp, 14V 50mA	A3	53	03A52883F01	Scr, Special M3x9
H6	5	61A44936F01	Lens, Indicator	B2	54	04S40070G39	Washer, 3.2x6x0.5
G2	7	F214-015	Bkt, Solenoid	C6,G5	55	FG114-15	Scr, M2. 6x4.5
F1	8	FP11N-11	Panel,Connector	F1	57	FG143-26	Scr, Mch. M2. 6x5
C7	9	FC17D-11	Base, Head		59	KG194-12	Scr, T-Tite M3x6
G3	10	FR346-11	Base, Assist		60	KG194-46	Scr, T-Tite M3x4.5
H5	11	FR347-12	Bkt, Motor	F6	61	FJ111-40	Washer, Pol. 2.1x0.5
B4	12	FR349-13	Bkt, Dumper	C5	62	FJ111-18	Washer, Pol. 2x0.25
E7	13	FR350-12	Bkt, Door		63	FJ123-14	Washer, Lock 1.7
B5	14	FR352-11	Lever, Safety		64	FJ123-21	Washer, Lock 2.6
C3	15	FC11H-12	Arm, Eject Lock	E3	65	FJ123-19	Washer, Lock 3.5
H3	16	FR355-14	Arm, FF Solenoid	D6	66	FJ141-12	Washer, Oil Shiel
D3	17	FR356-14	Arm, Switch	C3,E3	67	FG137-11	Scr, F-Lock M2x3
C3	18	FD17T-12	Arm, Record	A3	69	UG11D-11	Scr, T-Tite M2x12
A5	19	FR13V-12	Ass'y, Tension Arm	A6	70	FK572-11	Spring, Azimuth
E5	20	FR359-12	Arm, Play Solenoid	H5	71	FK11F-16	Spring, Thrust
B5,B7	21	FR360-12	Guide, Cassette	H2	72	FK11Y-13	Rod, Brake
C1	22	FD19L-12	Frame, Door	D6	73	FK12A-11	Spring, Brake
D6	23	FK551-13	Spring, Cassette	D6	74	FC15G-13	Lever, Brake
D1	24	FK553-12	Spring, Hold	D3	75	FC15H-11	Bkt, Sensor
A5	25	FK568-11	Spring, Door	D3	76	FP11E-11	Panel, Sensor
C7	26	FK569-13	Spring, Pinchroller	G1	77	FD12W-12	Arm, Brake
G3	27	FK570-12	Spring, Sol. Bkt.	D7	78	FF11C-13	Rubber, Brake
A7,A6	28	FK572-11	Spring, Azimuth	F7	80	03S40036U03	Scr, T-Tite M3x6
B4	29	FK573-11	Sprig, Arm Lock	F3	82	FG143-17	Scr, Mch. M2.6x3
G4	30	FK574-12	Spring, Assist Base	A7	83	FJ151-11	Washer
F3	31	FK575-11	Spring, Play Idler	A7	84	FK11F-23	Spring, Tilt
F5	32	FK576-12	Spring, Play Sol. Arm	A7	85	UG11K-12	Scr, Bind M2x18
F4	33	FK577-12	Sprndg, Head Base	A7	86	UG11M-11	Scr, Tilt
A6	34	FK578-13	Spring, Head Base	C4	89	FK11C-11	Spring, Brake Arm
D6	35	FK579-11	Spring, Back Tension	A6	90	FG137-12	Scr, F-Lock M2x4
G5	36	FM281-11	Spacer, Flywheel	A7	91	UG11K-11	Scr, Bind M2x11.5
B6	37	FD14U-11	Spacer, Head	C5	92	FK579-13	Spring, Back Tension
B3,B5	38	FM296-11	Spacer		93	KG189-11	Scr, Mch. M3x5
F5	39	FM153-11	Gear, Play	E4	101	F082-044	Ass'y, Solenoid Bkt
B5	40	FN154-13	Gear, Idler	E2,E3	102	PKA16106	Solenoid
F5	41	FP462-11	Belt, Main	H3	103	F064-093	Ass'y, Motor
E4	42	FP463-11	Belt, Sub	A7	104	FU12G-12	Head, R/P
C6	43	FP464-11	Pad, Cushion	A7	105	FU163-11	Head, Erase
G5	44	FR13L-11	Ass'y, Flywheel	G1	106	FE173-11	SW, Slide
E3	45	FP469-12	Ass'y, Idler	D4	107	AU11C-00	LED, Sensor TLN104
E3	46	FP470-11	Ass'y, Clutch	E3	108	AZ11H-00	Tr, Sensor TPS605
C6	47	FR12N-11	Ass'y, Take Up Reel	C2	109	02S40000G12	Nut, Bex. M3
A3	48	FP472-11	Ass'y, Dumper	B3	110	43A51937F01	Spacer, Eject
C5	49	FR12P-11	Ass'y, Supply Reel	B7	111	FG137-13	Scr, F-Lock M2x5

## Packing Material Parts List



Symbol No.	Stock No.	Description
1	56B40442T02	Pkg, Front Frame
2	56D55867F02	Pkg, Tray
3	56D55868F02	Pkg, Tray
4	56C53420F14	Carton, Pkg
5	60T58064F01	Battery, SUM-3
6	43A56256F01	Spacer, Packing
7	42A56255F01	Belt, Packing
8	28T44352F01	Plug, Out Put Cord
9	ME0249	Owner's Manual
10	56A57313F01	Pkg, Spacer
11	15A41885U01	Covev, Door

## Master PCB



## Remarks

Capacitor : El. . . Electrolytic, Ce. . . Ceramic, My. . . Mylar, BP. . . Bi-Polar  
Pp. . . Polypropylene, Pe. . . Polyethylene, Ta. . . Tantalum  
Resistor : Rd. . . Carbon

# Master PCB Parts List

Symbol No.	Stock No.	Description
(Filter)		
CF301	91T4 2537U01	MPX LP-V20
CF302	91T4 2537U01	MPX LP-V20
(IC)		
IC201	51S4 3471U02	uPC4558C
IC251	51S4 3471U02	uPC4558C
IC401	51S4 3471U01	uPC4557C
IC501,502	51T5 2145F01	HA12020
IC503	51T5 1173F01	uPC4556C
IC701	51S4 3471U02	uPC4558C
IC801	51S4 3471U01	uPC4558C
IC802	51T4 0941U01	MC14066BCP
IC803	51T4 0941U01	MC14066BCP
IC804	51T5 2154F01	NJM2901N
IC805	51T5 2154F01	NJM2901N
IC806	51S4 3471U02	uPC4558C
IC807	51T5 2144F01	NJM072D
IC808	51T4 0941U01	MC14066BCP
IC809	51T5 2157F01	MC14081
IC810	51T5 1781F01	MC14049UB
IC811	51T5 2154F01	NJM2901N
IC812	51T5 2158F01	TD62504
IC813	51T5 1993F01	HD44801A48
IC814	51T4 0242T01	MC14011BCP
(Transistor & FET)		
Q101	48T5 6031F01	2SD1266P, Q
Q102	48T5 6031F01	2SD1266P, Q
Q103	48T5 6030F01	2SB941P, Q
Q104	48T4 0081T03	2SA733P
Q105	48T5 6030F01	2SB941P, Q
Q106	48T5 6031F01	2SD1266P, Q
Q107	48S4 3239G02	2SC509Y
Q108	48T5 6031F01	2SD1266P, Q
Q109	48T5 6031F01	2SD1266P, Q
Q201,202	48T4 4982P01	2SC1583G
Q203,204	48T4 3816F01	2SA798F, G
Q205,206	48T5 1175F01	2SC1775F
Q207,208	48T5 1175F01	2SC1775E
Q401,402	48T5 1878F01	2SC2878A, B
Q501,502	48T5 1878F01	2SC2878A, B
Q503,504	48S4 3525F05	2SC1815Y, GR
Q701,702	48S4 1196U03	2SC1980T
Q703,704	48S4 1196U03	2SC1980T
Q706	48S4 3525F05	2SC1815Y, GR
Q707	48T5 6030F01	2SB941P, Q
Q708	48T5 6030F01	2SB941P, Q
Q709	48T5 6031F01	2SD1266P, Q
Q710	48S4 3525F05	2SC1815Y, GR
Q711	48S4 3525F05	2SC1815Y, GR
Q712	48S4 3525F05	2SC1815Y, GR
Q713	48S4 3525F05	2SC1815Y, GR
Q801	48T5 2152F01	2SK30A, GR FET
Q802	48T5 2122F01	2SK301R FET
Q803	48S4 3525F05	2SC1815Y, GR
Q804	48S4 3525F05	2SC1815Y, GR
Q805	48S4 3525F05	2SC1815Y, GR
Q806	48S4 3525F05	2SC1815Y, GR
(Variable Resistor)		
VR203,204	18T5 2946F17	47K

Symbol No.	Stock No.	Description
VR205,206	18T5 2946F11	4.7K
VR501,502	18T5 2946F13	10K
VR503,504	18T5 2946F13	10K
VR505,506	18T5 2946F15	22K
VR507,508	18T5 2946F19	100K
VR509,510	18T5 2946F13	10K
VR511,512	18T5 2946F13	10K
VR513,514	18T5 2946F19	100K
VR515,516	18T5 2946F13	10K
VR517,518	18T5 2946F13	10K
VR519,520	18T5 2946F19	100K
VR521,522	18T5 2946F13	10K
VR523,524	18T5 2946F13	10K
VR701,702	18T5 2946F15	22K
VR703,704	18T5 2946F13	10K
VR705,706	18T5 2946F13	10K
VR801	18T5 2946F19	100K
VR802	18T5 2946F07	1K
VR804	18T5 2946F15	22K
(Diode, Bridge)		
BD101	48T5 0629F01	WL-02
BD102	48T5 0629F01	WL-02
(Terminal)		
E251	09T5 6001F01	Phono, Plate
E601	09T5 0261F01	Jack Control
E602	09T5 2976F01	Plate, Phono 1P
(Trans, OSC)		
T701	25T5 6004F01	Trans, OSC
T702	25T5 6004F01	Trans, OSC
(Coil)		
L201,202	24T5 1914F02	Trap, 10mH
L501,502	24T5 1914F08	Trap, 6.8mH
L503,504	24T5 1914F01	Trap, 4.7mH
L801	24S4 1449F08	Radial, 22mH
(Switch)		
S251,401	40T5 5541F01	SUL731A Push
S301,302		
S601,603		
S804	40T5 6373F01	SSS312 Slide
(Diode)		
D401	48T5 1582F01	MA-150
D501	48T5 1582F01	MA-150
D601	48T4 3982F01	OA95
D602	48T4 3982F01	OA95
D701	48T5 1582F01	MA-150
D801	48T5 1582F01	MA-150
D802	48T5 1582F01	MA-150
D803	48T5 1582F01	MA-150
D804	48T5 1582F01	MA-150
D805	48T5 1582F01	MA-150
D806	48T5 1582F01	MA-150
D807	48T5 1582F01	MA-150
D808	48T5 1582F01	MA-150
D809	48T5 1582F01	MA-150
D810	48T5 1582F01	MA-150
D811	48T5 1582F01	MA-150
D812	48T5 1582F01	MA-150
D813	48T5 1582F01	MA-150
D814	48T5 1582F01	MA-150



Symbol No.	Stock No.	Description	Symbol No.	Stock No.	Description
D815	48T51582F01	MA-150	C513,514	23S41198U34	100uF 16V E1
D816	48T51582F01	MA-150	C515,516	08S40656F05	0.0022uF My
D817	48T51582F01	MA-150	C517,518	08S40656F11	0.0068uF My
D818	48T51582F01	MA-150	C519,520	23S40657F29	2.2uF 50V E1
D819	48T51582F01	MA-150	C521,522	23T42477F06	10uF 16V BP E1
(Diode, Zener)			C523,524	08S40154T09	4.7pF Ce
ZD101	48T52739F73	HZ12B-1	C525,526	23S40657F16	4.7uF 25V E1
ZD102	48T52739F42	HZ6C-3	C527,528	23T41366F12	220uF 10V NP E1
ZD103	48T52739F75	HZ12B-3	C531,532	08S40656F07	0.0033uF My
ZD104	48T52739F49	HZ7C-1	C533,534	08S40656F08	0.0039uF My
ZD105	48T52739F75	HZ12B-3	C535,536	08S40656F07	0.0033uF My
ZD106	48T52739F49	HZ7C-1	C537,538	08S40656F08	0.0039uF My
ZD107	48T52739F83	HZ18-2	C539,540	08S40656F07	0.0033uF My
ZD108	48T52739F14	HZ3C-2	C541,542	08S40656F08	0.0039uF My
(Capacitor)			C543,544	08T42081U09	220pF Pe
C101	23S41198U72	220uF 25V E1	C545,546	08T52448F05	0.00047uF Pp
C102	23S40657F14	100uF 16V E1	C547,548	08S40656F11	0.0068uF My
C103	23S40657F14	100uF 16V E1	C549,550	08S44505P51	1500pF Ce
C104	23S40657F10	10uF 16V E1	C701,702	08T52448F25	0.0033uF Pp
C105	23S40657F08	100uF 10V E1	C703,704	08T52448F21	0.0022uF Pp
C106	23S41198U73	2200uF 35V E1	C705,706	08T52448F01	0.00033uF Pp
C107	23S41198U57	470uF 25V E1	C707,708	08S44505P61	10000pF Ce
C108	23S40657F21	100uF 25V E1	C709,710	08S44505P61	10000pF Ce
C109	23S40657F14	100uF 16V E1	C711	23S40657F21	100uF 25V E1
C110	23S41198U34	100uF 16V E1	C713,714	23S40657F08	100uF 10V E1
C111	23S40657F51	330uF 10V E1	C715	08S44505P61	10000pF Ce
C112	23S41198U33	100uF 10V E1	C716	23S40657F16	4.7uF 25V E1
C113	23S41198U73	2200uF 35V E1	C717	08S40656F05	0.0022uF My
C114	23S41198U57	470uF 25V E1	C718	08S40656F05	0.0022uF My
C115	23S40657F21	100uF 25V E1	C719	08S40656F01	0.001uF My
C116	23S41198U41	220uF 16V E1	C720	23S41198U42	220uF 25V E1
C117	23S40657F08	100uF 10V E1	C721	08S40656F07	0.0033uF My
C118	23S41198U47	330uF 10V E1	C722	08S40656F07	0.0033uF My
C119	23S41198U33	100uF 10V E1	C723	08S40656F13	0.01uF My
C120	23S41198U57	470uF 25V E1	C724	08S40656F13	0.01uF My
C121	23S40657F21	100uF 25V E1	C725	08T52448F19	0.0018uF Pp
C201,202	08T42081U07	180pF Pe	C726	08T52448F35	0.0082uF Pp
C203,204	08T42081U01	100pF Pe	C801	08S40656F08	0.0039uF My
C205,206	23T42477F06	10uF 16V BP E1	C802	08S40656F08	0.0039uF My
C207,208	08S40656F10	0.0056uF My	C803	23S40657F16	4.7uF 25V E1
C209,210	23S41192U17	4.7uF 25V BP E1	C804	23S40657F16	4.7uF 25V E1
C211,212	23S40657F16	4.7uF 25V E1	C805	23S41059P03	0.22uF 35V Ta
C213,214	23S40657F16	4.7uF 25V E1	C806	23T42477F06	10uF 16V BP E1
C215,216	23T42477F09	4.7uF 25V BP E1	C809	23S40657F16	4.7uF 25V E1
C217,218	08T42081U09	220pF Pe	C810	23S40657F16	4.7uF 25V E1
C219,220	08T52448F13	0.001uF Pp	C813	23S40657F16	4.7uF 25V E1
C221,222	23S41192U28	10uF 16V BP E1	C814	23S40657F16	4.7uF 25V E1
C223,224	23S40657F16	4.7uF 25V E1	C815	08S44503P19	0.033uF 50V My
C251,252	23T42477F06	10uF 16V BP E1	C816	08T52448F16	0.0013uF Pp
C255,256	23T42477F18	2.2uF 50V BP E1	C819	08T50579F16	0.18uF Pp
C257,258	23S41198U09	4.7uF 50V E1	C820	08T44481F41	0.015uF Pp
C401,402	23T42477F06	10uF 16V BP E1	C821	23S40657F16	4.7uF 25V E1
C403,404	23S40657F16	4.7uF 25V E1	C822	23S40657F16	4.7uF 25V E1
C501,502	23T42477F16	1uF 50V BP E1	C823	23S41059P08	1uF 35V Ta
C503,504	23S41198U12	10uF 50V E1	C828	23S40657F16	4.7uF 25V E1
C505,506	23S40657F10	10uF 16V E1	C829	23S40657F16	4.7uF 25V E1
C507,508	23S40657F14	100uF 16V E1	C830	23S40657F16	4.7uF 25V E1
C509,510	23S40657F14	100uF 16V E1	C831	23T40475U14	10uF 16V E1
C511,512	08S40656F15	0.015uF My	C832	08S44505P53	2200pF Ce

Symbol No.	Stock No.	Description	
C833	08S44505P45	470pF	Ce
C834	08T44979P01	1000pF	Ce
(Resistor)			
R101	06S44593P57	470 1/4W	Rd
R102	06S44593P65	1K 1/4W	Rd
R103	06S44593P59	560 1/4W	Rd
R104	06S44593P65	1K 1/4W	Rd
R105	06S44593P65	1K 1/4W	Rd
R106	06S44593P59	560 1/4W	Rd
R107	06S44593P57	470 1/4W	Rd
R108	06S44593P65	1K 1/4W	Rd
R109	06S44593P59	560 1/4W	Rd
R201,202	06S44593P01	2.2 1/4W	Rd
R203,204	06S44594P04	39K 1/4W	Rd
R205,206	06S44594P22	220K 1/4W	Rd
R207,208	06S44593P83	5.6K 1/4W	Rd
R209,210	06S44593P98	24K 1/4W	Rd
R211,212	06S44593P83	5.6K 1/4W	Rd
R213,214	06S44593P51	270 1/4W	Rd
R215,216	06S44593P94	16K 1/4W	Rd
R217,218	06S44593P55	390 1/4W	Rd
R219,220	06S44593P94	16K 1/4W	Rd
R221,222	06S44593P79	3.9K 1/4W	Rd
R223,224	06S44593P93	15K 1/4W	Rd
R225,226	06S44593P91	12K 1/4W	Rd
R227,228	06S44594P34	680K 1/4W	Rd
R229,230	06S44594P42	1.5M 1/4W	Rd
R231,232	06S44593P87	8.2K 1/4W	Rd
R233,234	06S44593P79	3.9K 1/4W	Rd
R235,236	06S44593P81	4.7K 1/4W	Rd
R239,240	06S44593P77	3.3K 1/4W	Rd
R241,242	06S44594P14	100K 1/4W	Rd
R243,244	06S44593P33	47 1/4W	Rd
R245,246	06S44594P14	100K 1/4W	Rd
R251,252	06S44593P89	10K 1/4W	Rd
R253,254	06S44593P41	100 1/4W	Rd
R255,256	06S44594P06	47K 1/4W	Rd
R257,258	06S44594P14	100K 1/4W	Rd
R259,260	06S44593P93	15K 1/4W	Rd
R301,302	06S44594P14	100K 1/4W	Rd
R401,402	06S44593P59	560 1/4W	Rd
R403,404	06S44593P81	4.7K 1/4W	Rd
R405,406	06S44594P18	150K 1/4W	Rd
R407,408	06S44593P97	22K 1/4W	Rd
R409,410	06S44593P47	180 1/4W	Rd
R411,412	06S44593P73	2.2K 1/4W	Rd
R413,414	06S44593P41	100 1/4W	Rd
R415	06S44594P14	100K 1/4W	Rd
R416	06S44593P67	1.2K 1/4W	Rd
R417,418	06S44593P67	1.2K 1/4W	Rd
R419,420	06S44593P67	1.2K 1/4W	Rd
R421,422	06S44594P02	33K 1/4W	Rd
R501,502	06S44593P95	18K 1/4W	Rd
R503,504	06S44593P77	3.3K 1/4W	Rd
R505,506	06S44594P22	220K 1/4W	Rd
R507,508	06S44593P97	22K 1/4W	Rd
R509,510	06S44593P69	1.5K 1/4W	Rd
R511,512	06S44593P83	5.6K 1/4W	Rd
R513,514	06S44593P83	5.6K 1/4W	Rd

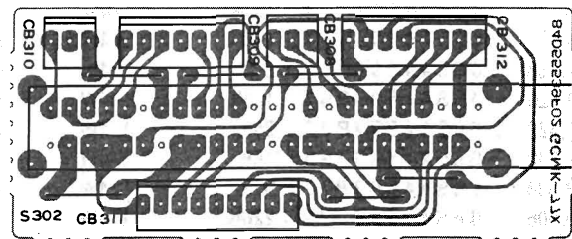
Symbol No.	Stock No.	Description	
R515,516	06S44593P87	8.2K 1/4W	Rd
R517,518	06S44593P89	10K 1/4W	Rd
R519,520	06S44593P87	8.2K 1/4W	Rd
R521,522	06S44593P49	220 1/4W	Rd
R523,524	06S44593P87	8.2K 1/4W	Rd
R525,526	06S44593P89	10K 1/4W	Rd
R527,528	06S44594P14	100K 1/4W	Rd
R529	06S44594P14	100K 1/4W	Rd
R531,532	06S44593P89	10K 1/4W	Rd
R533,534	06S44593P89	10K 1/4W	Rd
R535,536	06S44593P89	10K 1/4W	Rd
R537,538	06S44593P87	8.2K 1/4W	Rd
R539,540	06S44593P89	10K 1/4W	Rd
R541,542	06S44593P89	10K 1/4W	Rd
R547,548	06S44593P81	4.7K 1/4W	Rd
R549,550	06S44593P91	12K 1/4W	Rd
R551,552	06S44593P97	22K 1/4W	Rd
R553,554	06S44593P81	4.7K 1/4W	Rd
R555,556	06S44593P81	4.7K 1/4W	Rd
R557,558	06S44593P57	470 1/4W	Rd
R559,560	06S44593P73	2.2K 1/4W	Rd
R561,562	06S44593P81	4.7K 1/4W	Rd
R563,564	06S44593P91	12K 1/4W	Rd
R565,566	06S44593P97	22K 1/4W	Rd
R567,568	06S44593P81	4.7K 1/4W	Rd
R569,570	06S44593P81	4.7K 1/4W	Rd
R571,572	06S44593P57	470 1/4W	Rd
R573,574	06S44593P73	2.2K 1/4W	Rd
R575,576	06S44593P81	4.7K 1/4W	Rd
R577,578	06S44593P91	12K 1/4W	Rd
R579,580	06S44593P97	22K 1/4W	Rd
R581,582	06S44593P81	4.7K 1/4W	Rd
R583,584	06S44593P81	4.7K 1/4W	Rd
R585,586	06S44593P57	470 1/4W	Rd
R587,588	06S44593P73	2.2K 1/4W	Rd
R589,590	06S44593P79	3.9K 1/4W	Rd
R591,592	06S44593P17	10 1/4W	Rd
R701,702	06S44593P89	10K 1/4W	Rd
R703,704	06S44593P73	2.2K 1/4W	Rd
R705,706	06S44593P89	10K 1/4W	Rd
R707,708	06S44593P73	2.2K 1/4W	Rd
R709	06S44594P34	680K 1/4W	Rd
R710	06S44594P10	68K 1/4W	Rd
R711	06S44594P22	220K 1/4W	Rd
R712	06S44593P87	8.2K 1/4W	Rd
R713	06S44593P87	8.2K 1/4W	Rd
R714	06S44593P83	5.6K 1/4W	Rd
R719,720	06S44593P83	5.6K 1/4W	Rd
R721	06S44593P59	560 1/4W	Rd
R722	06S44593P59	560 1/4W	Rd
R723	06S44593P59	560 1/4W	Rd
R724	06S44593P41	100 1/4W	Rd
R725	06S44593P97	22K 1/4W	Rd
R726	06S44593P97	22K 1/4W	Rd
R727	06S44593P89	10K 1/4W	Rd
R728	06S44593P89	10K 1/4W	Rd
R729	06S44593P45	150 1/4W	Rd
R730	06S44593P37	68 1/4W	Rd

Symbol No.	Stock No.	Description
R731	06 S44593P89	10K 1/4W Rd
R732	06 S44593P89	10K 1/4W Rd
R733	06 S44594P02	33K 1/4W Rd
R734	06 S44594P02	33K 1/4W Rd
R735	06 S44593P21	15 1/4W Rd
R736	06 S44593P21	15 1/4W Rd
R737	06 S44593P97	22K 1/4W Rd
R738	06 S44593P97	22K 1/4W Rd
R739	06 S44593P21	15 1/4W Rd
R740	06 S44593P21	15 1/4W Rd
R741	06 S44593P01	2.2 1/4W Rd
R801	06 S44593P76	3K 1/4W Rd
R802	06 S44593P85	6.8K 1/4W Rd
R803	06 S44594P07	51K 1/4W Rd
R804	06 S44593P85	6.8K 1/4W Rd
R805	06 S44593P76	3K 1/4W Rd
R806	06 S44594P07	51K 1/4W Rd
R807	06 S44593P75	2.7K 1/4W Rd
R808	06 S44593P89	10K 1/4W Rd
R809	06 S44593P81	4.7K 1/4W Rd
R810	06 S44593P81	4.7K 1/4W Rd
R811	06 S44594P14	100K 1/4W Rd
R812	06 S44593P89	10K 1/4W Rd
R813	06 S44594P14	100K 1/4W Rd
R814	06 S44594P14	100K 1/4W Rd
R815	06 S44593P89	10K 1/4W Rd
R816	06 S44593P89	10K 1/4W Rd
R817	06 S44593P89	10K 1/4W Rd
R818	06 S44593P89	10K 1/4W Rd
R819	06 S44593P89	10K 1/4W Rd
R820	06 S44593P89	10K 1/4W Rd
R821	06 S44593P96	20K 1/4W Rd
R822	06 S44593P89	10K 1/4W Rd
R823	06 S44593P89	10K 1/4W Rd
R824	06 S44593P89	10K 1/4W Rd
R825	06 S44593P81	4.7K 1/4W Rd
R826	06 S44594P02	33K 1/4W Rd
R827	06 S44593P97	22K 1/4W Rd
R828	06 S44594P12	82K 1/4W Rd
R829	06 S44593P81	4.7K 1/4W Rd
R831	06 S44593P65	1K 1/4W Rd
R833	06 S44594P22	220K 1/4W Rd
R834	06 S44593P87	8.2K 1/4W Rd
R836	06 S44594P20	180K 1/4W Rd
R837	06 S44593P73	2.2K 1/4W Rd
R838	06 S44593P89	10K 1/4W Rd
R839	06 S44593P49	220 1/4W Rd
R840	06 S44593P89	10K 1/4W Rd
R841	06 S44593P89	10K 1/4W Rd
R842	06 S44593P89	10K 1/4W Rd
R843	06 S44594P14	100K 1/4W Rd
R844	06 S44593P89	10K 1/4W Rd
R845	06 S44593P97	22K 1/4W Rd
R846	06 S44593P97	22K 1/4W Rd
R847	06 S44593P97	22K 1/4W Rd
R848	06 S44593P97	22K 1/4W Rd
R849	06 S44593P97	22K 1/4W Rd
R851	06 S44593P89	10K 1/4W Rd
R852	06 S44593P96	20K 1/4W Rd

Symbol No.	Stock No.	Description
R853	06 S44593P72	2K 1/4W Rd
R854	06 S44593P89	10K 1/4W Rd
R855	06 S44593P89	10K 1/4W Rd
R856	06 S44593P96	20K 1/4W Rd
R857	06 S44594P38	1M 1/4W Rd
R858	06 S44593P89	10K 1/4W Rd
R859	06 S44593P89	10K 1/4W Rd
R860	06 S44593P89	10K 1/4W Rd
R861	06 S44593P89	10K 1/4W Rd
R862	06 S44593P89	10K 1/4W Rd
R863	06 S44593P57	470 1/4W Rd
R864	06 S44593P59	560 1/4W Rd
R865	06 S44593P57	470 1/4W Rd
R866	06 S44593P57	470 1/4W Rd
R867	06 S44593P57	470 1/4W Rd
R868	06 S44593P59	560 1/4W Rd
R869	06 S44593P57	470 1/4W Rd
R870	06 S44593P57	470 1/4W Rd
R871	06 S44594P38	1M 1/4W Rd
R872	06 S44593P97	22K 1/4W Rd
R873	06 S44593P97	22K 1/4W Rd
R875	06 S44593P97	22K 1/4W Rd
R876	06 S44593P97	22K 1/4W Rd
R877	06 S44593P97	22K 1/4W Rd
R881	06 S44593P89	10K 1/4W Rd
R882	06 S44593P96	20K 1/4W Rd
R883	06 S44593P89	10K 1/4W Rd
R878	06 S44593P89	10K 1/4W Rd
R879	06 S44593P89	10K 1/4W Rd
R880	06 S44593P89	10K 1/4W Rd
R881	06 S44593P89	10K 1/4W Rd
R882	06 S44593P96	20K 1/4W Rd
R883	06 S44593P89	10K 1/4W Rd
R884	06 S44593P89	10K 1/4W Rd

## NR Switch PCB Parts List

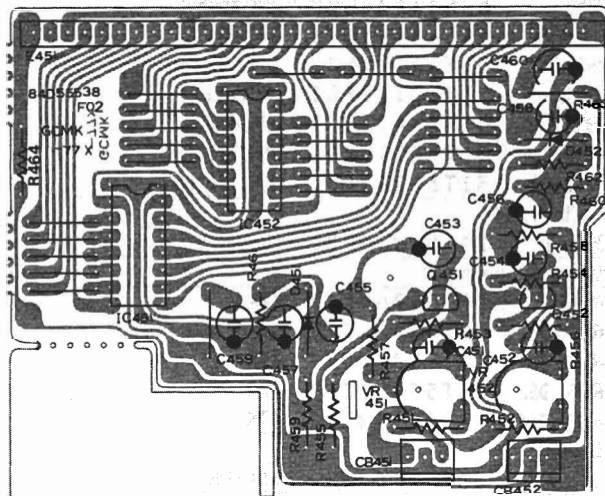
Symbol No.	Stock No.	Description
(Switch)		
S302	40T55540F01	Rotary SRZ084N





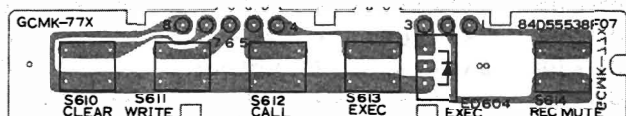
## Meter PCB parts List

Symbol No.	Stock No.	Description
(IC)		
IC451,452	51T42626F01	HA12019
(FL Meter)		
E451	65T52950F01	12DW7YS
(Variable Resistor)		
VR451,452	18T52946F17	47K
(Transistor)		
Q451,452	48S43525F05	2SC1815Y, GR
(Diode)		
D451,452	48T43982F01	0A95
(Capacitor)		
C451,452	23S40657F10	10uF 16V E1
C453,454	23S40657F10	10uF 16V E1
C455,456	23S40657F10	10uF 16V E1
C457,458	23T42478F21	0.33uF 50V LN E1
(Resistor)		
R451,452	06S44593P97	22K 1/4W Rd
R453,454	06S44594P29	430K 1/4W Rd
R455,456	06S44593P71	1.8K 1/4W Rd
R457,458	06S44594P18	150K 1/4W Rd
R459,460	06S44594P50	3.3M 1/4W Rd
R461,462	06S44593P85	6.8K 1/4W Rd
R464	06S44593P33	47 1/4WRd



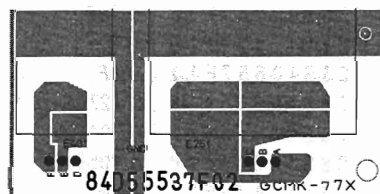
## LED & SW PCB(R) Parts List

Symbol No.	Stock No.	Description
(Switch)		
S610	40T51411F01	TACT
S611	40T51411F01	TACT
S612	40T51411F01	TACT
S613	40T51411F01	TACT
S614	40T51411F01	TACT



## Jack PCB Parts List

Symbol No.	Stock No.	Description
(Jack, Mic)		
E401	09T55174F12	Metal-6.5
E251	09T52956F01	M1665



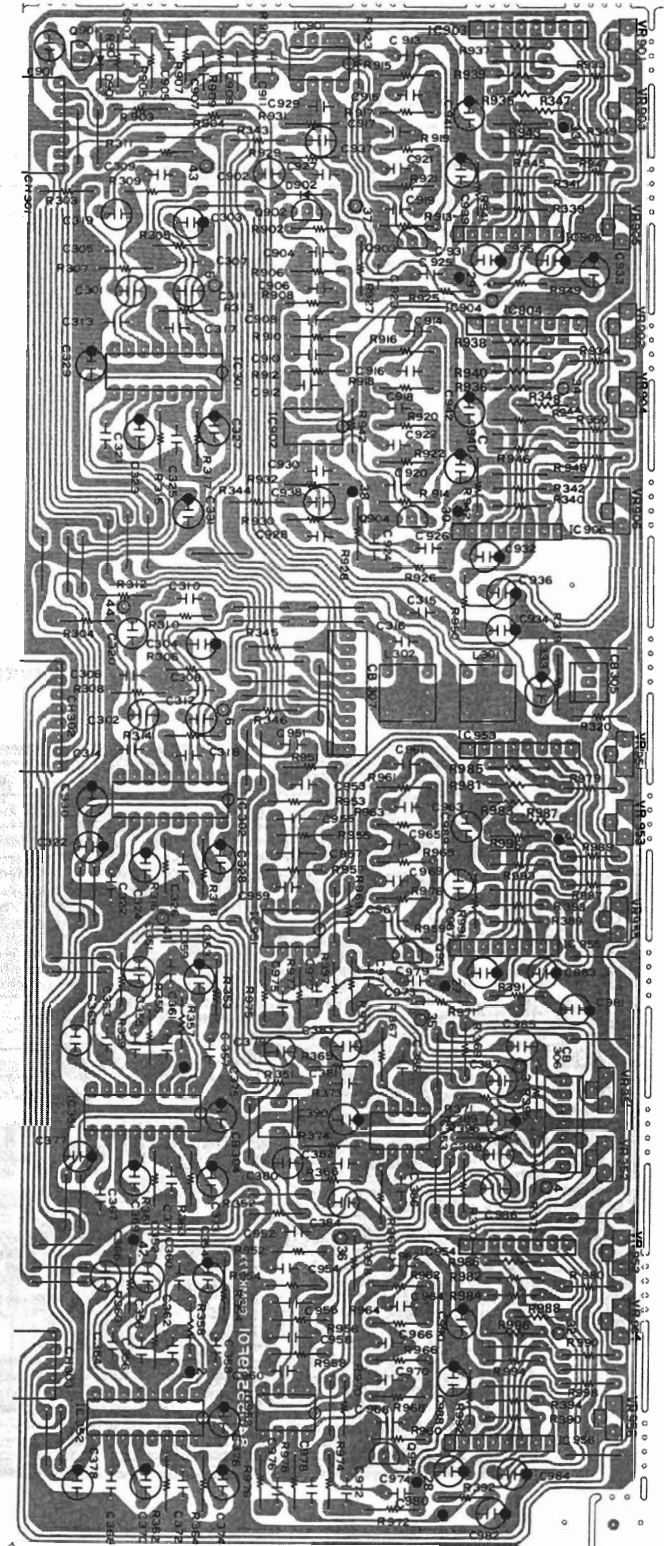
# NR PCB Parts List

Symbol No.	Stock No.	Description	Symbol No.	Stock No.	Description
(IC)			C903,904	08S40656F25	0.1uF My
IC301,302	51S40114T03	NE650N	C905,906	08S40656F25	0.1uF My
IC351,352	51S40114T03	NE650N	C907,908	08T50579F15	0.15 Tf
IC353	51S43471U02	uPC4558C	C909,910	08T50579F15	0.15 Tf
IC901,902	51S43471U02	uPC4558C	C911,912	08T42081U08	200pF Pe
IC903,904	51T52116F01	uPC1252H	C913,914	08S40656F25	0.1uF My
IC905,906	51T52117F01	uPC1253H	C915,916	08S40656F25	0.1uF My
IC951,952	51S43471U02	uPC4558C	C917,918	08S40656F07	0.0033uF My
IC953,954	51T52116F01	uPC1252H	C919,920	08S40656F07	0.0033uF My
IC955,956	51T52117F01	uPC1253H	C921,922	08T52448F01	0.00033uF Pp
(Coil, Trap)			C923,924	08S40656F25	0.1uF My
L301,302	24T51914F02	10mH	C925,926	08S40656F13	0.01uF My
(Variable Resistor)			C927,928	08S40656F13	0.01uF My
VR351,352	18T55064F17	47K	C929,930	08T42081U01	100pF Pe
VR901,902	18T55064F17	47K	C931,932	23S40657F28	1uF 50V E1
VR903,904	18T55064F17	47K	C933,934	23T56604F01	10uF 16V E1
VR951,952	18T55064F17	47K	C935,936	23S40657F10	10uF 16V E1
VR953,954	18T55064F17	47K	C937,938	23T42477F06	10uF 16V BP E1
(Diode)			C939,940	23S40657F16	4.7uF 25V E1
D301,302	48T51582F01	MA-150	C941,942	23S40657F16	4.7uF 25V E1
(Transistor)			C951,952	08S40656F25	0.1uF My
Q901,902	48T52122F01	23K301R	C953,954	08S40656F25	0.1uF My
Q903,904	48S44578J01	2SC945L, P	C955,956	08T50579F15	0.15 Tf
Q951,952	48S44578J01	2SC945L, P	C957,958	08T50579F15	0.15 Tf
(Capacitor)			C959,960	08S40656F13	0.01uF My
C301,302	23T42477F16	1uF 50V BP E1	C961,962	08S40656F25	0.1uF My
C303,304	23S40657F10	10uF 16V E1	C963,964	08S40656F25	0.1uF My
C305,306	08S40656F18	0.027uF My	C965,966	08S40656F07	0.0033uF My
C307,308	08S40656F09	0.0047uF My	C967,968	08S40656F07	0.0033uF My
C309,310	08S40656F10	0.0056uF My	C969,970	08T52448F01	0.00033uF Pp
C311,312	23T42477F06	10uF 16V BP E1	C971,972	08S40666F25	0.1uF My
C315,316	08T42081U09	220pF Pe	C973,974	08S40656F13	0.01uF My
C317,318	08S40656F03	0.0015uF My	C975,976	08T42081U01	100pF Pe
C319,320	23T42477F06	10uF 16V BP E1	C977,978	08T42081U01	100pF Pe
C321,322	08S40656F21	0.047uF My	C979,980	23S40657F28	1uF 50V E1
C323,324	23S40657F10	10uF 16V E1	C981,982	23T56604F01	10uF 16V E1
C325,326	08S40656F25	0.1uF My	C983,984	23S40657F10	10uF 16V E1
C327,328	23T42478F21	0.33uF 50V LN E1	C985,986	23T42477F06	10uF 16V BP E1
C329,330	23S40657F16	4.7uF 25V E1	C987,988	23S40657F16	4.7uF 25V E1
C331,332	23S40657F16	4.7uF 25V E1	C989,990	23S40657F16	4.7uF 25V E1
C333	23S40657F16	4.7uF 25V E1	(Resistor)		
C351,352	23T42477F16	1uF 50V BP E1	R303,304	06S44593P65	1K-1/4W Rd
C353,354	23S40657F10	10uF 16V E1	R305,306	06S44594P06	47K-1/4W Rd
C355,356	08S40656F18	0.027uF My	R307,308	06S44593P77	3.3K-1/4W Rd
C357,358	08S40656F09	0.0047uF My	R309,310	06S44593P47	180-1/4W Rd
C359,360	08S40656F10	0.0056uF My	R311,312	06S44594P14	100K-1/4W Rd
C365,366	23T42477F06	10uF 16V BP E1	R313,314	06S44594P14	100K-1/4W Rd
C367,368	08S40656F21	0.047uF My	R315,316	06S44594P20	180K-1/4W Rd
C369,370	23S40657F10	10uF 16V E1	R317,318	06S44594P24	270K-1/4W Rd
C371,372	08S40656F25	0.1uF My	R319	06S44594P14	100K-1/4W Rd
C373,374	23T42478F21	0.33uF 50V LN E1	R320	06S44594P02	33K-1/4W Rd
C375,376	23S40657F16	4.7uF 25V E1	R339,340	06T58273F01	22 1/2W Rd
C377,378	23S40657F16	4.7uF 25V E1	R341,342	06S44593P65	1K-1/4W Rd
C379,380	23T42477F06	10uF 16V BP E1	R343,344	06S44593P41	100-1/4W Rd
C381,382	08T52448F05	0.00047uF Pp	R345,346	06S44594P14	100K-1/4W Rd
C383,384	23T42477F06	10uF 16V BP E1	R347,348	06S44593P99	27K-1/4W Rd
C387,388	23T42477F09	4.7uF 25V BP E1	R349,350	06S44593P96	20K-1/4W Rd
C389,390	23S40657F16	4.7uF 25V E1	R351,352	06S44593P65	1K-1/4W Rd
C901,902	23T42477F06	10uF 16V BP E1	R353,354	06S44594P06	47K-1/4W Rd

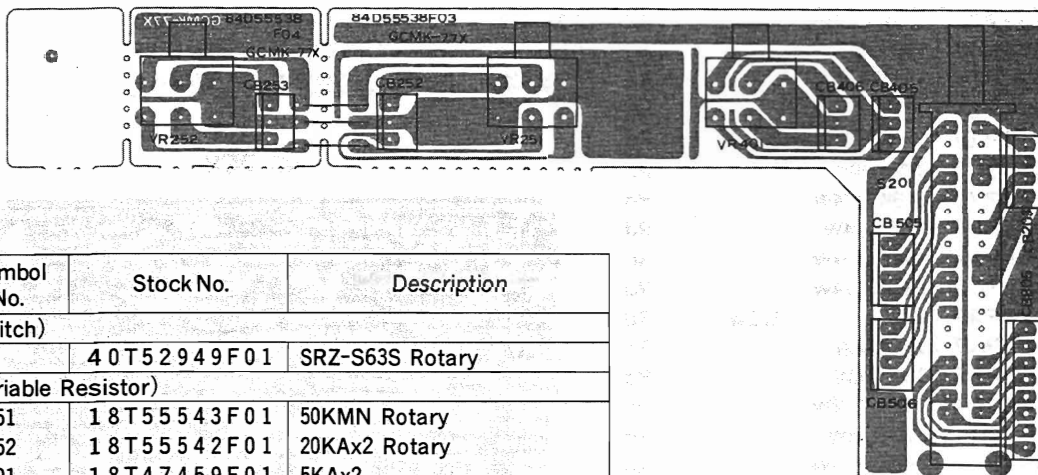
Symbol No.	Stock No.	Description	
R355,356	06 S4 4593 P77	3.3K-1/4W	Rd
R357,358	06 S4 4593 P47	180-1/4W	Rd
R359,360	06 S4 4594 P14	100K-1/4W	Rd
R361,362	06 S4 4594 P20	180K-1/4W	Rd
R363,364	06 S4 4594 P24	270K-1/4W	Rd
R365,366	06 S4 4593 P65	1K-1/4W	Rd
R367,368	06 S4 4593 P79	3.9K-1/4W	Rd
R369,370	06 S4 4594 P06	47K-1/4W	Rd
R371,372	06 S4 4594 P14	100K-1/4W	Rd
R373,374	06 S4 4594 P22	220K-1/4W	Rd
R389,390	06 T5 8273 F01	22 1/2W	Rd
R391,392	06 S4 4593 P17	1K-1/4W	Rd
R393,394	06 S4 4593 P65	1K-1/4W	Rd
R395,396	06 S4 4594 P14	100K-1/4W	Rd
R397,398	06 S4 4593 P41	100-1/4W	Rd
R901,902	06 S4 4594 P14	100K-1/4W	Rd
R903,904	06 S4 4594 P14	100K-1/4W	Rd
R905,906	06 S4 4594 P01	30K-1/4W	Rd
R907,908	06 S4 4594 P16	120K-1/4W	Rd
R909,910	06 S4 4594 P02	33K-1/4W	Rd
R911,912	06 S4 4593 P89	10K-1/4W	Rd
R913,914	06 S4 4594 P02	33K-1/4W	Rd
R915,916	06 S4 4594 P13	91K-1/4W	Rd
R917,918	06 S4 4593 P81	4.7K-1/4W	Rd
R919,920	06 S4 4594 P02	33K-1/4W	Rd
R921,922	06 S4 4593 P85	6.8K-1/4W	Rd
R923,924	06 S4 4593 P81	4.7K-1/4W	Rd
R925,926	06 S4 4594 P02	33K-1/4W	Rd
R927,928	06 S4 4593 P77	3.3K-1/4W	Rd
R929,930	06 S4 4593 P89	10K-1/4W	Rd
R931,932	06 S4 4594 P02	33K-1/4W	Rd
R933,934	06 S4 4594 P14	100K-1/4W	Rd
R935,936	06 S4 4593 P34	51-1/4W	Rd
R937,938	06 S4 4593 P89	10K-1/4W	Rd
R939,940	06 S4 4593 P79	3.9K-1/4W	Rd
R941,942	06 S4 4594 P30	470K-1/4W	Rd
R943,944	06 S4 4593 P24	20-1/4W	Rd
R945,946	06 S4 4594 P43	1.6M-1/4W	Rd
R949,950	06 S4 4593 P17	10-1/4W	Rd
R951,952	06 S4 4594 P03	36K-1/4W	Rd
R953,954	06 S4 4594 P16	120K-1/4W	Rd
R955,956	06 S4 4594 P02	33K-1/4W	Rd
R957,958	06 S4 4593 P89	10K-1/4W	Rd
R959,960	06 S4 4594 P02	33K-1/4W	Rd
R961,962	06 S4 4594 P13	91K-1/4W	Rd
R963,964	06 S4 4593 P81	4.7K-1/4W	Rd
R965,966	06 S4 4594 P02	33K-1/4W	Rd
R967,968	06 S4 4593 P85	6.8K-1/4W	Rd
R969,970	06 S4 4593 P81	4.7K-1/4W	Rd
R971,972	06 S4 4594 P02	33K-1/4W	Rd
R973,974	06 S4 4593 P77	3.3K-1/4W	Rd
R975,976	06 S4 4593 P89	10K-1/4W	Rd
R977,978	06 S4 4594 P02	33K-1/4W	Rd
R979,980	06 S4 4594 P14	100K-1/4W	Rd
R981,982	06 S4 4593 P34	51-1/4W	Rd
R983,984	06 S4 4593 P79	3.9K-1/4W	Rd
R985,986	06 S4 4593 P89	10K-1/4W	Rd
R987,988	06 S4 4593 P99	27K-1/4W	Rd
R989,990	06 S4 4593 P96	20K-1/4W	Rd

Symbol No.	Stock No.	Description	
R991,992	06 S4 4594 P30	470K-1/4W	Rd
R993,994	06 S4 4594 P43	1.6M-1/4W	Rd
R995,996	06 S4 4593 P24	20-1/4W	Rd

# NR PCB

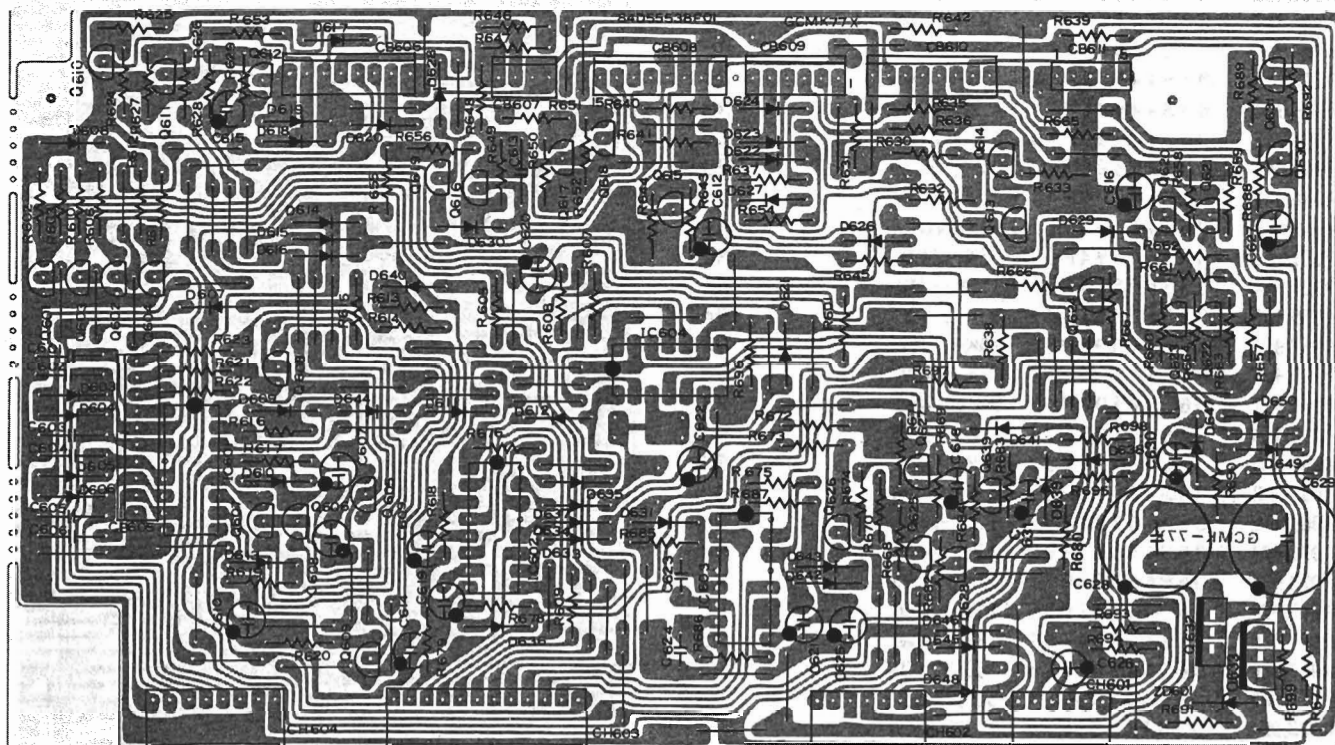


## Switch & VR PCB Parts List



Symbol No.	Stock No.	Description
(Switch)		
S201	4 0 T 5 2 9 4 9 F 0 1	SRZ-S63S Rotary
(Variable Resistor)		
VR251	1 8 T 5 5 5 4 3 F 0 1	50KMN Rotary
VR252	1 8 T 5 5 5 4 2 F 0 1	20Kax2 Rotary
VR401	1 8 T 4 7 4 5 9 F 0 1	5Kax2

## Control PCB





## Control PCB Parts List

Symbol No.	Stock No.	Description
(IC)		
IC601	51S47110F01	BA843
IC602	51T51781F01	MC14049UB
IC603	51T51781F01	MC14049UB
IC604	51T52157F01	MC14081
(Transistor)		
Q601	48S44578J01	2SC945L, P
Q602	48S44578J01	2SC945L, P
Q603	48S44578J01	2SC945L, P
Q604	48S44578J01	2SC945L, P
Q605	48S44578J01	2SC945L, P
Q606	48S44578J01	2SC945L, P
Q607	48S44578J01	2SC945L, P
Q608	48S44578J01	2SC945L, P
Q609	48S44578J01	2SC945L, P
Q610	48S40832F04	2SC1318NC-S
Q611	48S40832F04	2SC1318NC-S
Q612	48S40832F04	2SC1318NC-S
Q613	48S44578J01	2SC945L, P
Q614	48S44578J01	2SC945L, P
Q615	48S44578J01	2SC945L, P
Q616	48S44578J01	2SC945L, P
Q617	48T40081T03	2SA733P
Q618	48T40081T03	2SA733P
Q619	48S44578J01	2SC945L, P
Q620	48S44578J01	2SC945L, P
Q621	48S44578J01	2SC945L, P
Q622	48S44578J01	2SC945L, P
Q623	48S44578J01	2SC945L, P
Q624	48S44578J01	2SC945L, P
Q625	48T40081T03	2SA733P
Q626	48S44578J01	2SC945L, P
Q627	48S44578J01	2SC945L, P
Q628	48T40081T03	2SA733P
Q630	48S40832F04	2SC1318NC-S
Q631	48S40832F04	2SC1318NC-S
Q632	48T42620F02	2SD880Y
Q633	48T44652P01	2SA490Y
Q639	48S44578J01	2SC945L, P
(Diode)		
D603	48T51582F01	MA-150
D604	48T51582F01	MA-150
D605	48T51582F01	MA-150
D606	48T51582F01	MA-150
D607	48T51582F01	MA-150
D608	48T51582F01	MA-150
D609	48T51582F01	MA-150
D610	48T51582F01	MA-150
D611	48T51582F01	MA-150
D612	48T51582F01	MA-150
D613	48T51582F01	MA-150
D614	48T51582F01	MA-150
D615	48T51582F01	MA-150
D616	48T51582F01	MA-150
D617	48T55186F01	GP10D
D618	48T55186F01	GP10D
D619	48T55186F01	GP10D
D620	48T55186F01	GP10D
D621	48T51582F01	MA-150

Symbol No.	Stock No.	Description
D622	48T51582F01	MA-150
D623	48T51582F01	MA-150
D624	48T51582F01	MA-150
D624	48T51582F01	MA-150
D626	48T51582F01	MA-150
D627	48T51582F01	MA-150
D628	48T51582F01	MA-150
D629	48T51582F01	MA-150
D630	48T51582F01	MA-150
D631	48T51582F01	MA-150
D633	48T51582F01	MA-150
D634	48T51582F01	MA-150
D635	48T51582F01	MA-150
D636	48T51582F01	MA-150
D637	48T51582F01	MA-150
D638	48T51582F01	MA-150
D639	48T51582F01	MA-150
D640	48T51582F01	MA-150
D641	48T51582F01	MA-150
D642	48T51582F01	MA-150
D643	48T51582F01	MA-150
D644	48T51582F01	MA-150
D645	48T51582F01	MA-150
D646	48T51582F01	MA-150
D647	48T51582F01	GP10D
D648	48T51582F01	GP10D
D649	48T51582F01	MA-150
D650	48T51582F01	MA-150
D651	48T51582F01	MA-150
(Capacitor)		
C601	08S44505P61	10000pF Ce
C602	08S44505P61	10000pF Ce
C603	08S44505P61	10000pF Ce
C604	08S44505P61	10000pF Ce
C605	08S44505P61	10000pF Ce
C606	08S44505P61	10000pF Ce
C607	23S40657F05	22uF 10V E1
C608	23S40657F05	22uF 10V E1
C609	23S40657F16	4.7uF 25V E1
C610	23S40657F16	4.7uF 25V E1
C612	23S40657F10	10uF 16V E1
C613	08S44505P61	10000pF Ce
C614	23S40657F16	4.7uF 25V E1
C615	23S40657F10	10uF 16V E1
C618	23S40657F10	10uF 16V E1
C619	23S40657F28	1uF 50V E1
C620	23S40657F28	1uF 50V E1
C621	23S40657F07	47uF 10V E1
C622	23S40657F10	10uF 16V E1
C623	08S40656F25	0.1uF My
C624	08S40656F25	0.1uF My
C625	23S40657F10	10uF 16V E1
C626	23S40657F05	22uF 10V E1
C627	23S40657F10	10uF 16V E1
C628	23S41198U76	3300uF 16V E1
C629	23S41198U76	3300uF 16V E1
C630	23S40657F07	47uF 10V E1
C631	23S40657F16	4.7uF 25V E1

Symbol No.	Stock No.	Description	
(Resistor)			
R601	06 S44593P97	22K-1/4W	Rd
R602	06 S44593P97	22K-1/4W	Rd
R603	06 S44593P97	22K-1/4W	Rd
R605	06 S44593P97	22K-1/4W	Rd
R606	06 S44593P97	22K-1/4W	Rd
R607	06 S44593P97	22K-1/4W	Rd
R608	06 S44593P97	22K-1/4W	Rd
R609	06 S44593P97	22K-1/4W	Rd
R610	06 S44593P97	22K-1/4W	Rd
R611	06 S44593P97	22K-1/4W	Rd
R612	06 S44593P97	22K-1/4W	Rd
R613	06 S44593P97	22K-1/4W	Rd
R614	06 S44593P97	22K-1/4W	Rd
R615	06 S44593P89	10K-1/4W	Rd
R616	06 S44593P97	22K-1/4W	Rd
R617	06 S44593P97	22K-1/4W	Rd
R618	06 S44594P14	100K-1/4W	Rd
R619	06 S44593P81	4.7K-1/4W	Rd
R620	06 S44594P14	100K-1/4W	Rd
R621	06 S44593P41	100K-1/4W	Rd
R622	06 S44593P41	100-1/4W	Rd
R623	06 S44593P41	100-1/4W	Rd
R624	06 S44593P57	470-1/4W	Rd
R625	06 S44593P73	2.2K-1/4W	Rd
R626	06 S44593P57	470-1/4W	Rd
R627	06 S44593P73	2.2K-1/4W	Rd
R628	06 S44593P57	470-1/4W	Rd
R629	06 S44593P73	2.2K-1/4W	Rd
R630	06 S44593P89	10K-1/4W	Rd
R631	06 S44593P89	10K-1/4W	Rd
R632	06 S44593P89	10K-1/4W	Rd
R633	06 S44593P89	10K-1/4W	Rd
R635	06 S44593P89	10K-1/4W	Rd
R636	06 S44593P89	10K-1/4W	Rd
R637	06 S44593P89	10K-1/4W	Rd
R638	06 S44593P89	10K-1/4W	Rd
R639	06 S44593P41	100-1/4W	Rd
R640	06 S44593P89	10K-1/4W	Rd
R641	06 S44593P89	10K-1/4W	Rd
R642	06 S44593P89	10K-1/4W	Rd
R643	06 S44593P97	22K-1/4W	Rd
R644	06 S44593P97	22K-1/4W	Rd
R645	06 S44594P02	33K-1/4W	Rd
R646	06 S44593P59	560-1/4W	Rd
R647	06 S44593P69	1.5K-1/4W	Rd
R648	06 S44594P02	33K-1/4W	Rd
R649	06 S44593P77	3.3K-1/4W	Rd
R650	06 S44593P89	10K-1/4W	Rd

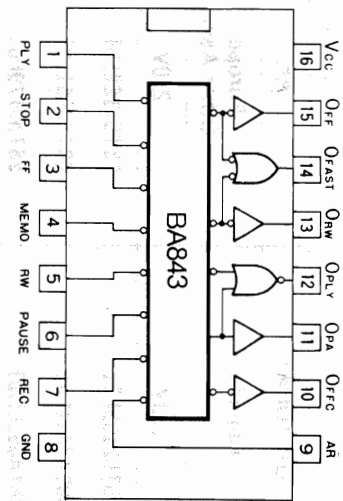
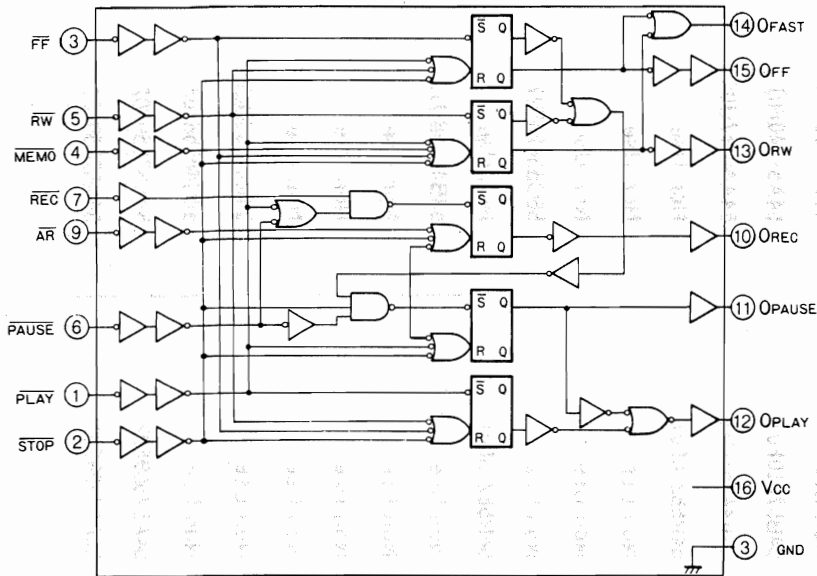
Symbol No.	Stock No.	Description	
R651	06 S44593P89	10K-1/4W	Rd
R652	06 S44593P89	10K-1/4W	Rd
R653	06 S44593P89	10K-1/4W	Rd
R654	06 S44593P89	10K-1/4W	Rd
R655	06 S44593P89	10K-1/4W	Rd
R656	06 S44593P89	10K-1/4W	Rd
R657	06 S44593P77	3.3K-1/4W	Rd
R658	06 S44593P89	10K-1/4W	Rd
R659	06 S44593P89	10K-1/4W	Rd
R660	06 S44593P77	3.3K-1/4W	Rd
R661	06 S44593P89	10K-1/4W	Rd
R662	06 S44593P89	10K-1/4W	Rd
R663	06 S44593P89	10K-1/4W	Rd
R664	06 S44593P89	10K-1/4W	Rd
R665	06 S44593P59	560-1/4W	Rd
R666	06 S44593P97	22K-1/4W	Rd
R667	06 S44593P97	22K-1/4W	Rd
R668	06 S44593P89	10K-1/4W	Rd
R669	06 S44593P89	10K-1/4W	Rd
R670	06 S44593P89	10K-1/4W	Rd
R671	06 S44593P97	22K-1/4W	Rd
R672	06 S44593P97	22K-1/4W	Rd
R673	06 S44593P97	22K-1/4W	Rd
R674	06 S44593P97	22K-1/4W	Rd
R675	06 S44594P14	100K-1/4W	Rd
R676	06 S44593P97	22K-1/4W	Rd
R677	06 S44593P73	2.2K-1/4W	Rd
R678	06 S44593P97	22K-1/4W	Rd
R679	06 S44593P97	22K-1/4W	Rd
R680	06 S44593P89	10K-1/4W	Rd
R682	06 S44593P89	10K-1/4W	Rd
R683	06 S44593P89	10K-1/4W	Rd
R684	06 S44593P89	10K-1/4W	Rd
R685	06 S44594P22	220K-1/4W	Rd
R686	06 S44594P14	100K-1/4W	Rd
R687	06 S44594P14	100K-1/4W	Rd
R688	06 S44593P73	2.2K-1/4W	Rd
R689	06 S44593P73	2.2K-1/4W	Rd
R690	06 S44593P73	2.2K-1/4W	Rd
R691	06 S44593P59	560-1/4W	Rd
R692	06 S44593P69	1.5K-1/4W	Rd
R693	06 S44593P97	22K-1/4W	Rd
R694	06 S44593P97	22K-1/4W	Rd
R695	06 S44593P97	22K-1/4W	Rd
R696	06 S44593P97	22K-1/4W	Rd
R697	06 S44593P97	22K-1/4W	Rd
R698	06 S44593P97	22K-1/4W	Rd
R699	06 S44593P73	2.2K-1/4W	Rd

## Destinations Parts List

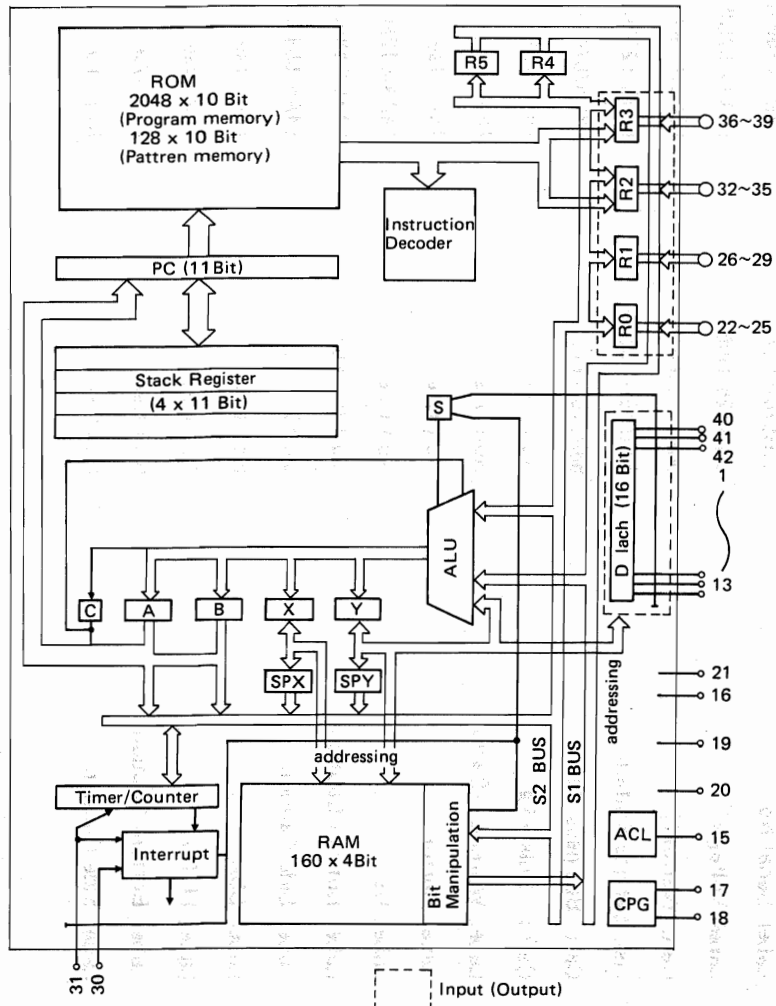
	UZ	UC (UL, CSA)	UP (OHA)	AK
	USA	USA	Canada	Europe Other Asia
	120V	120V	120V	220V
Trans, Power	25T52166F01	25T52166F01	25T52165F01	25T51182F01
SW, Power	40T47454F01	40T47454F01	40T47454F01	40T45561F02
AC Cord	28T40916U01	28T40916U01	28T40916U01	28T50179F03
Stopper, Cord	43B41625J01	43B41625J01	43B41625J01	43B41625J02
Cover, Rear	15D55529F01	15D55529F01	15D55529F01	15D55529F02
SW, Selector	Non Use	Non Use	Non Use	40T40705T04
Label, Serial No.	54B57610F01	54B57610F01	54B57610F01	54A51740F01
Label, Voltage	54A44257U06	54A44257U07	54A44257U10	54A44257U09
Card, Warranty	68R51625F01	68R51625F01	54R58216F01	Non Use
List, Service Station	68R51626F01	68R51626F01	Non Use	Non Use
Card, Business Reply	68R57674F01	68R57674F01	Non Use	Non Use
Carton, Bulk Pkg.	Non Use	Non Use	Non Use	56C53420F27
Label, Warning (Carton)	Non Use	Non Use	54R58215F01	Non Use
Label, Carton	Non Use	Non Use	Non Use	54B44258U17
Label, UL	Non Use	54A44912F01	Non Use	Non Use
Label, Bottom Caution	54A57559F02	54A57559F02	Non Use	Non Use
Label, Side Caution	54A57559F01	54A57559F01	Non Use	Non Use
Label, CSA	Non Use	Non Use	Non Use	Non Use
Label, LL No.	Non Use	Non Use	Non Use	54A44553G01
Label, Bottom Caution	Non Use	Non Use	Non Use	54C44558J02
Label, Side Caution	Non Use	Non Use	54A57559F02	54A57559F02
			54A57559F01	54A57559F01

# BA843

Block Diagram



# HD44801A48

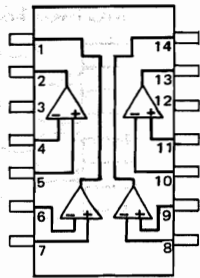


PIN No.	DESCRIPTION
1	CPSR
2	LRLS
3	ADRT
4	ADST
5	ADRS
6	TEST
7	PWFL
8	ADSL
9	STD
10	ERR
11	BIAS
12	OK
13	MEM
14	BAT
15	RESET
16	GND
17	OSC1
18	OSC2
19	HLT
20	TEST
21	Vcc
22	NOR
23	CrO2
24	FeCr
25	METAL
26	DT0
27	ATST
28	DT1
29	DT2
30	MEMW
31	DT3
32	PLM
33	PLUS
34	ATRL
35	STOP
36	REW
37	RPPS
38	NINH
39	LTS0
40	LTS1
41	OSC0
42	OSC1
43	DT4
44	BATT
45	ADIN
46	BAT X
47	CPS L

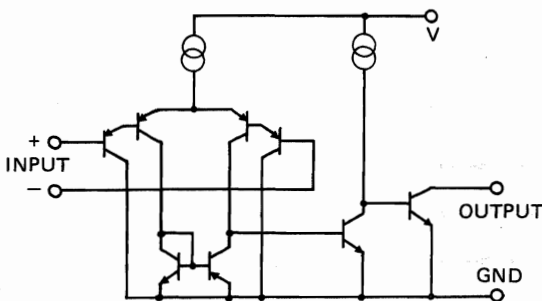


## NJM2901N Quad Single

### Supply Comparator

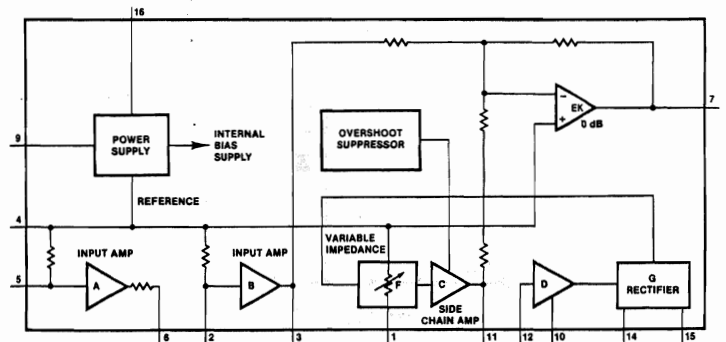
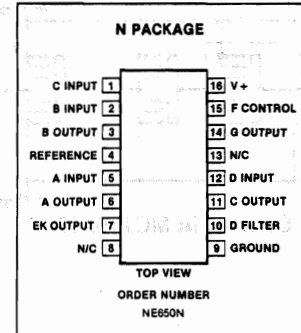


1. OUTPUT 2
2. OUTPUT 1
3. V<sub>+</sub>
4. - INPUT 1
5. + INPUT 1
6. - INPUT 2
7. + INPUT 2
8. - INPUT 3
9. + INPUT 3
10. - INPUT 4
11. + INPUT 4
12. GROUND
13. OUTPUT 4
14. OUTPUT 3



## NE650N Dolby B/C Type Noise Reduction

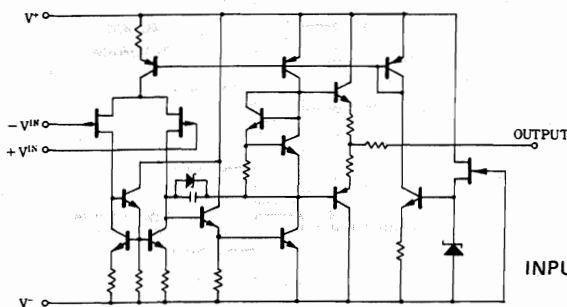
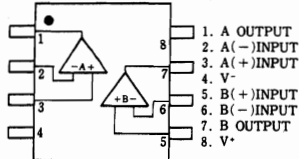
### PIN CONFIGURATION



## NJM072D Dual J-FET

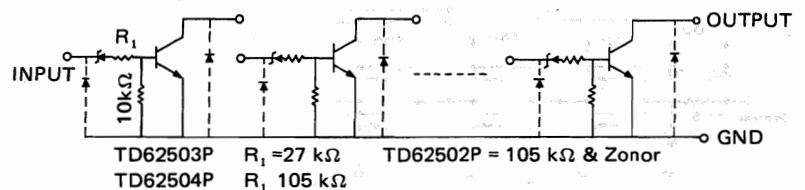
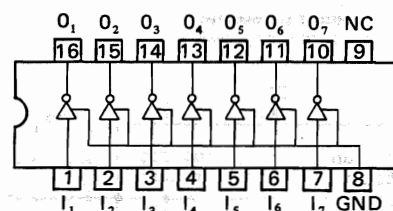
### Input Operational Amplifier

(TOP View)

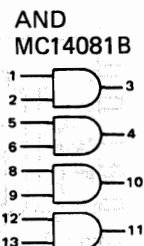
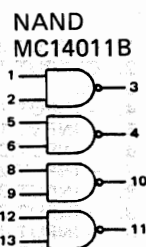
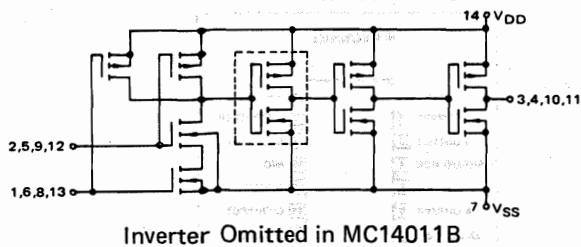


## TD62504

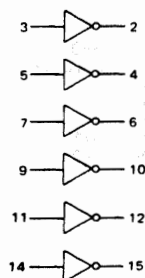
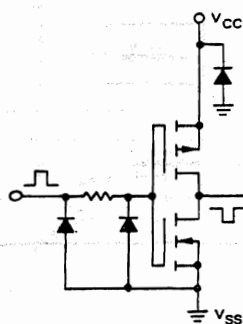
(TOP VIEW)



**MC14011B** Quad 2-Input NAND Gate  
**MC14081B** Quad 2-Input AND Gate

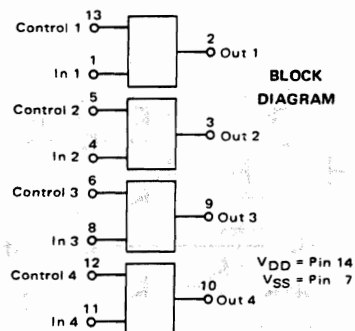
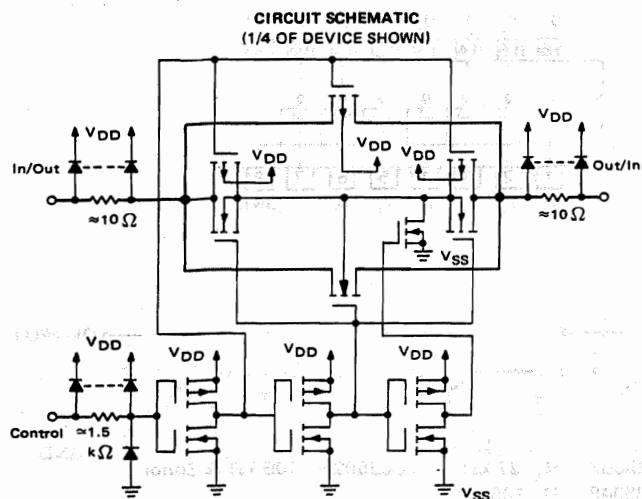


**MC14049UB** Hex Buffers



NC = Pin 13, 16  
VSS = Pin 8  
VCC = Pin 1

**MC14066B** Quad Analog Switch/Quad Multiplexer



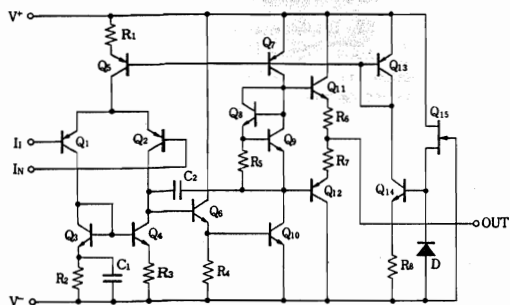
# $\mu$ PC4556C, $\mu$ PC4557C, $\mu$ PC4558C

## High Performance Dual Operational Amplifier

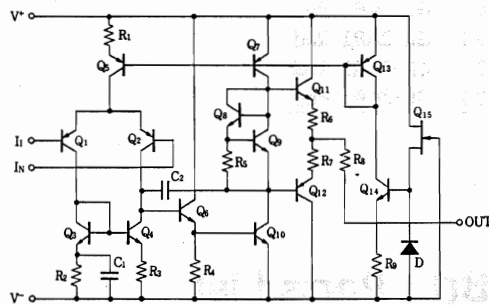
$\mu$ PC4556C,  $\mu$ PC4557

$\mu$ PC4558C

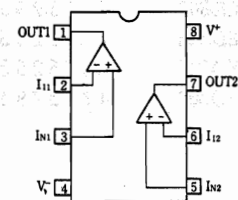
Equivalent Circuit



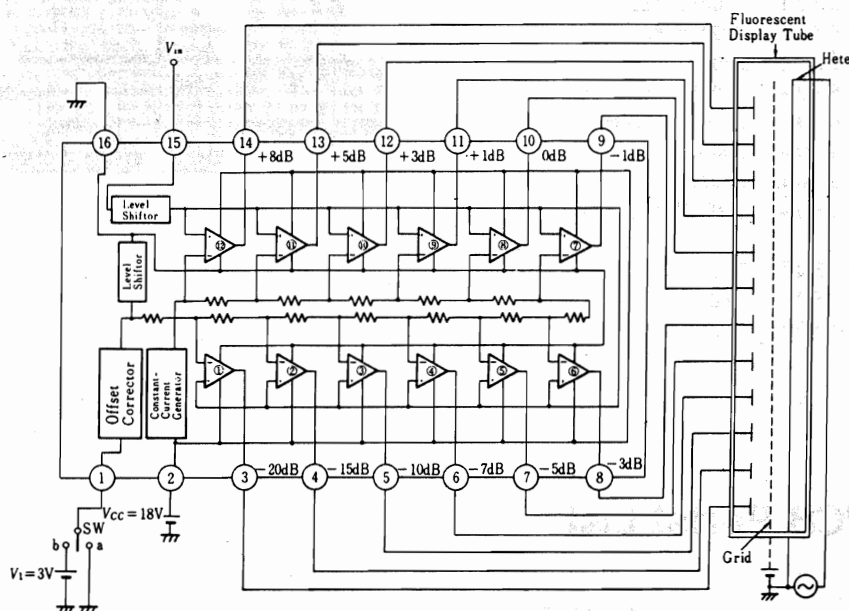
Equivalent Circuit



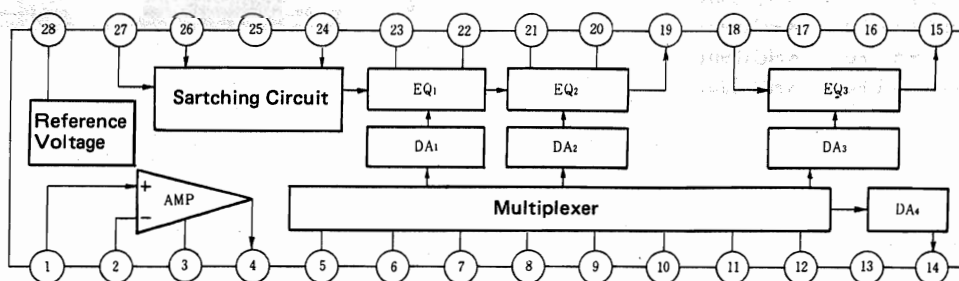
Connection Diagram (Top View)



# HA12019 Fluorescent Tube Driver for Graph Display

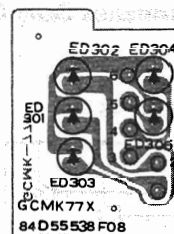


# HA12020 Automatic Equalizer



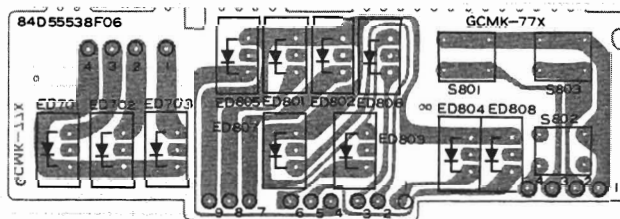
## LED PCB Parts List

Symbol No.	Stock No.	Description
(LED)		
ED301	48T52955F01	GL-2AR1 Red
ED302	48T52955F01	GL-2AR1 Red
ED303	48T52955F01	GL-2AR1 Red
ED304	48T52955F01	GL-2AR1 Red
ED305	48T52955F01	GL-2AR1 Red



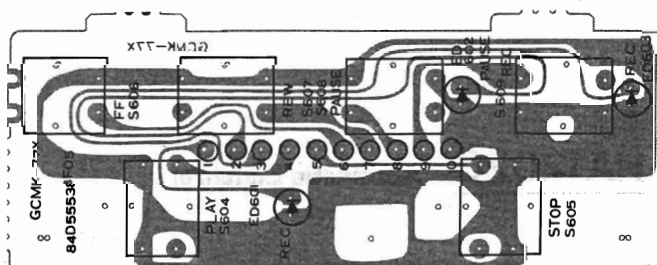
## LED & SW PCB(L) Parts List

Symbol No.	Stock No.	Description
(LED)		
ED701	48T55546F01	LD001
ED702	48T55546F01	LD001
ED703	48T55546F01	LD001
ED801	48T55546F04	LD001Y YEL
ED802	48T55546F04	LD001Y YEL
ED803	48T55546F01	LD001
ED804	48T55546F04	LD001Y YEL
ED805	48T55546F02	LD001GG GRN
ED806	48T55546F04	LD001Y YEL
ED807	48T55546F01	LD001
ED808	48T55546F04	LD001Y YEL
(Switch)		
S801	40T51411F01	TACT
S802	40T51411F01	TACT
S803	40T51411F01	TACT



## KB Switch PCB Partst List

Symbol No.	Stock No.	Description
(LED)		
ED601	48T52953F01	BR3432S
ED602	48T52953F01	BR3432S
ED603	48T52953F01	BR3432S
(Switch)		
S604	40T52952F01	KHC10903
S605	40T52952F01	KHC10903
S606	40T52951F01	KHC10901
S607	40T52951F01	KHC10901
S608	40T52951F01	KHC10901
S609	40T52951F01	KHC10901



KX-102

The schematic diagram illustrates the internal circuitry of the KX-102, organized into several functional blocks:

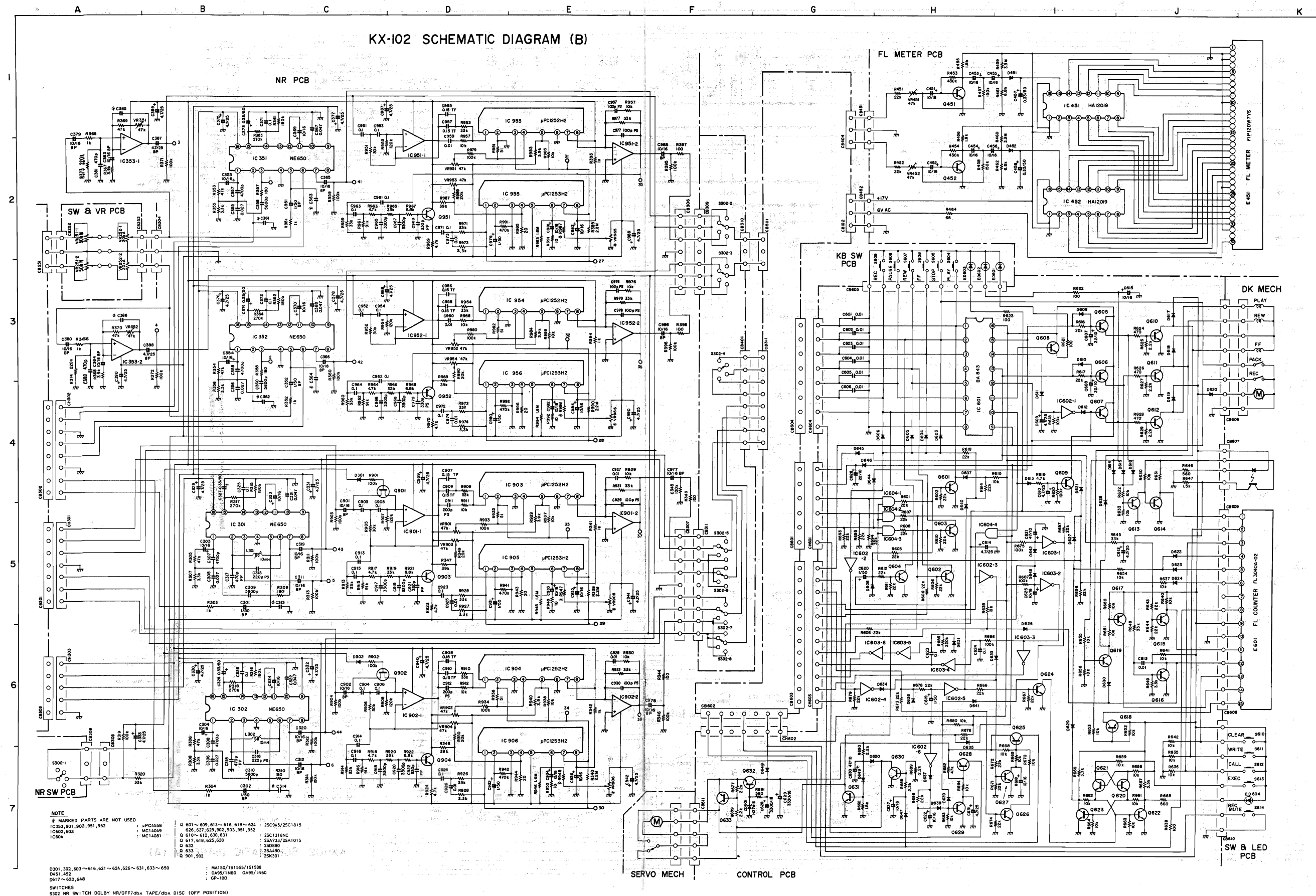
- NR SW PCB:** Includes components like IC251-1, IC251-2, and various resistors and capacitors for the NR SW section.
- SW & VR PCB:** Features IC501, IC502, and IC503, along with numerous resistors and capacitors for the SW & VR section.
- LED PCB:** Contains IC801, IC802, and IC803, along with various resistors and capacitors for the LED section.
- CONTROL PCB:** Includes IC804, IC805, and IC806, along with various resistors and capacitors for the control section.
- REC HEAD:** Includes IC807, IC808, and IC809, along with various resistors and capacitors for the recording head section.
- ERASE HEAD:** Includes IC810, IC811, and IC812, along with various resistors and capacitors for the erasing head section.
- POWER TRANS:** Includes IC813, IC814, and IC815, along with various resistors and capacitors for the power transformer section.
- VOLTAGE SELECT SW:** Includes IC816, IC817, and IC818, along with various resistors and capacitors for the voltage select switch section.
- POWER SW:** Includes IC819, IC820, and IC821, along with various resistors and capacitors for the power switch section.
- FL METER PCB:** Includes IC822, IC823, and IC824, along with various resistors and capacitors for the flow meter section.

**NOTE 1**  
MARKED PARTS ARE NOT USED  
SEMI-CONDUCTORS

IC 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807,

# Schematic Diagram(B)

## KX-102 SCHEMATIC DIAGRAM (B)



# Specifications

Heads :	Record/Playback head (Sendust), Erase head (Ferrite)		
Wow & Flutter :	no more than 0.04% (W.R.M.S.)		
Signal-to-Noise Ratio : (CCIR weighted)	Metal-Tape :	Better than 61dB	without NR
		Better than 68dB	with Dolby-B-NR
		Better than 94dB	with dbx NR
	Cr02-Tape :	Better than 59dB	without NR
		Better than 67dB	with Dolby-B-NR
		Better than 92dB	with dbx NR
Nor.-Tape :	Better than 58dB	without NR	
	Better than 67dB	with Dolby-B-NR	
	Better than 90dB	with dbx NR	
Frequency Response :	20-22,000 Hz (metal tape)		
	(20-20,000 Hz $\pm 3$ dB)		
	20-20,000 Hz (Cr02 tape)		
	(20-19,000 Hz $\pm 3$ dB)		
	20-18,000 Hz (Nor, tape)		
	(20-18,000 Hz $\pm 3$ dB)		
Overall Distortion :	no more than 0.7% (Normal tape, 1kHz, 0dB)		
Input Sensitivity :	line in ;	100mV	
	mic.;	0.25mV (recommeded microphone impedance : 600 10K ohms)	
Output Level :	line out ;	500mV	
	headphone ;	1mW (8 ohms load)	
Power Consumption :	35W		
Dimensions :	453(W) x 365(W) x 147(H) mm		
	(17.8" x 14.4" x 5.8")		
	(including Legs, Rear Protrusions & Knobs)		
Weight :	Net	9.5kgs (20.9 lbs.)	
	Gross	12.0kgs (26.4 lbs.)	

Specifications and appearance design subject to change without notice.

\* NOISE REDUCTION CIRCUIT MADE UNDER LICENCE FROM DOLBY LABORATORIES.  
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