NAD SERVICE MANUAL

6325

CASSETTE DECK

PAGE	CONTENTS

SPECIFICATION

Cassette mechanism: Full logic 2 motor 2 head system
Track system: 4-track, 2-channel stereo

Mechanical Performance

		Unit
Tape speed	4.75	cm/sec
Wow and flutter		
PLAYBACK (JIS WRMS)	0.05	%
Tape drive force	100~250	g
Play torque	30~75	g/cm
F.F torque	70~160	g/cm
REW torque	70~160	g/cm
F.F time (C-60)	85~120	sec
REW time (C-60)	85~120	sec

Electrical Performance

		Nominal	Limit	Unit
Input sens./impedance				
(to Dolby level)		40±1 dB/10		mV/kΩ
Frequency response				
PLAYBACK		40~12.5k		Hz
Frequency response REC/PLAY				
(at Dolby level −25 dB, Dolby NR:OFF)				
TYPE I		35~14k		Hz
TYPE II		35~15k		Hz
TYPE IV		35~15k		Hz
Signal to noise ratio at Dolby level, Dolby NR:OFF				
(CCIR ARM weighted / 20~20k Hz B.P.F)				
TYPE I	No tape	59/52	56/49	dB
	Virgin tape	54/51	52/48	dB
	Biased tape	50/49	48/46	dB
TYPE II,IV	No tape	63/54	59/51	dB
	Virgin tape	58/53	54/50	dB
	Biased tape	52/50	50/48	dB
Dolby NR effect				
(CCIR ARM at Dolby level)				
Dolby NR B		9	8.5	dB
Dolby NR C		18	17	dB
Erase effect (with 1 kHz B.P.F)				
0 VU + 10 dB input		70	65	dB

	Nominal	Limit	Unit
Separation (with 1 kHz B.P.F) REC/PLAY			
Dolby level input at 1 kHz	40	35	dB
Cross talk at 1 kHz (with 1 kHz B.P.F)			
0 VU + 10 dB input	70	65	dB
Output level at Dolby level			
MTT-150 PLAY	505	505 ± 1 dB	mV
Distortion (at Dolby level 1 kHz)			
TYPE I	1.0	2.0	%
TYPE II	2.2	2.9	%
TYPE IV	2.2	2.9	%
Compress effect (boost ratio) at Dolby level −40 dB			
30 Hz	+18	+16/+20	dB
1 kHz	+12	+10/+14	dB
15 kHz	+15	+13/+17	dB

General

		Unit
Power supply	120 V 60 Hz (for A,A1,A2)	
	220~240 V 50 Hz (for B,B1,C,C1,C2)	
Power consumption	22(0.2)	W(A)
Dimensions(W/D/H)		
(include knob and leg)	420/271/122	mm
Net weight	4.3	kg

The specifications are subject to change without prior notice.

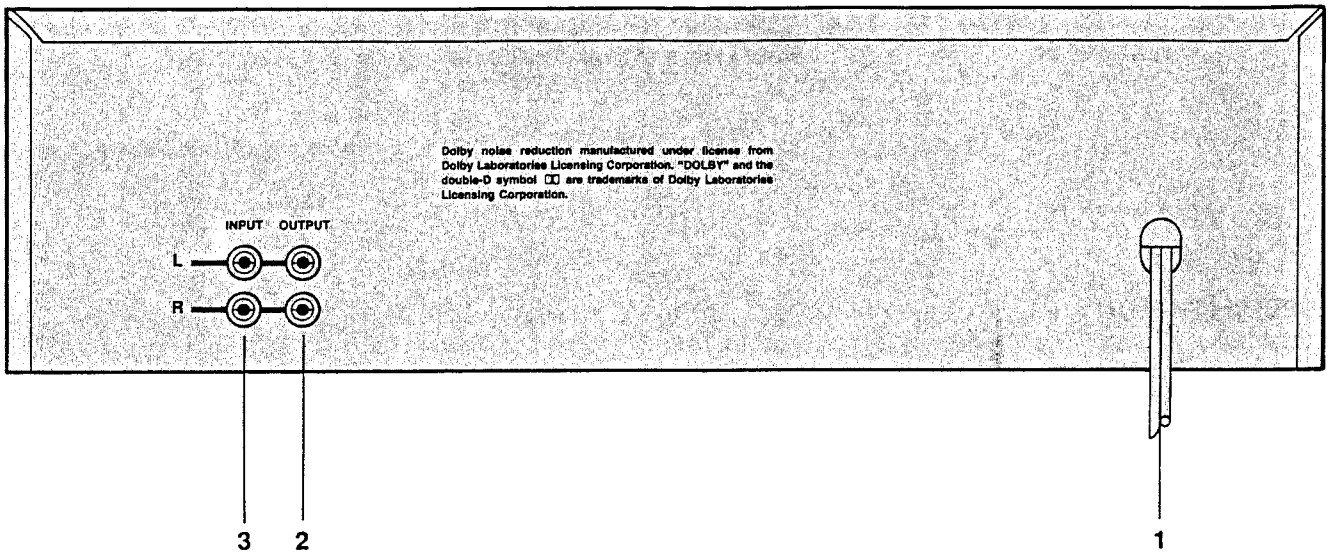
A : USA
A1 : CANADA
A2 : TAIWAN
B : U.K.
B1 : AUSTRALIA/N.Z.
C : EUROPE & OTHERS
C1 : W.GERMANY
C2 : G.P.M.

REAR PANEL

1. AC Power Cord.
2. Output.
3. Input.

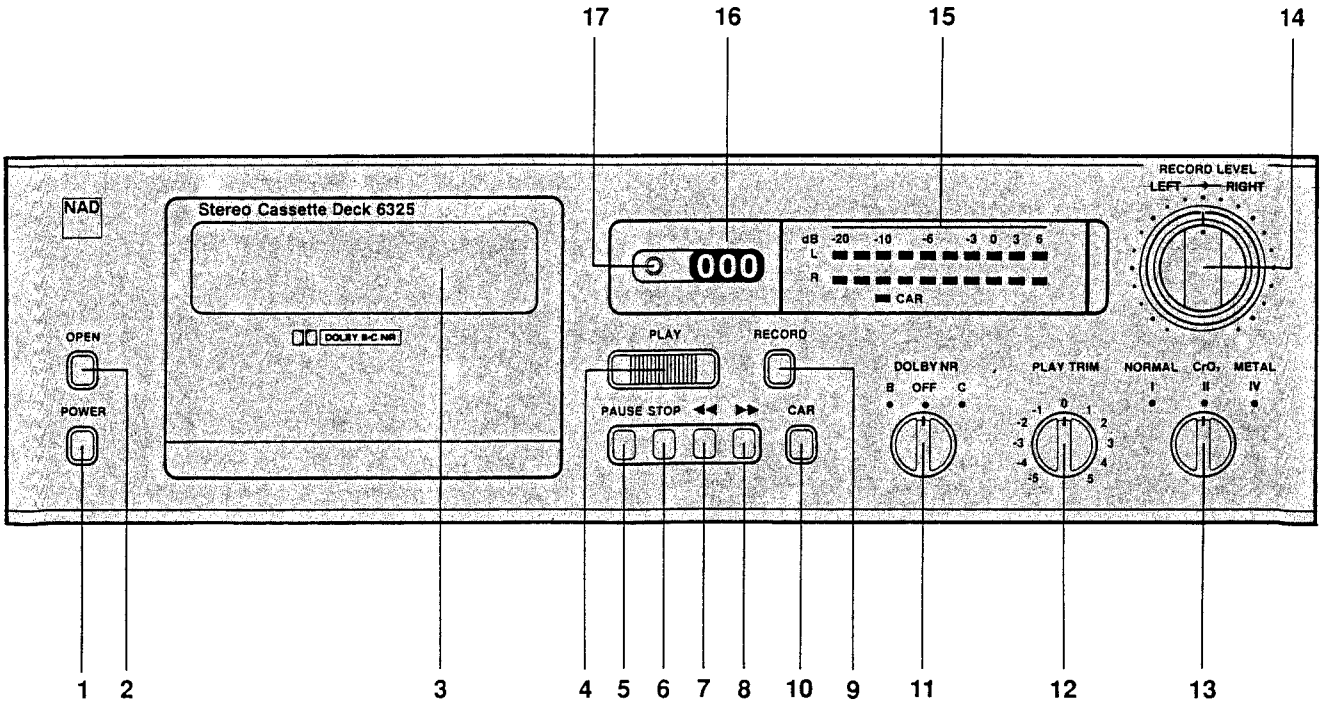
ATTENTION:
AFIN D'EVITER LINCENDIE LELECTROCUTION ET LES CONSEQUENCES GRAVES QUI POURRAIENT EN RESULTER, NE TENTEZ PAS D'OUVRIR L'APPAREIL ET DE TOUCHER AUX COMPOSANTS INTERNES SANS LA PRESENCE D'UNE PERSONNE QUALIFIEE

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



FRONT PANEL

1. Power.
2. Open.
3. Cassette Compartment.
4. Play.
5. Pause.
6. Stop.
7. Rewind (◀◀).
8. Fast Forward (▶▶).
9. Record.
10. CAR Processor.
11. Dolby* NR.
12. Play Trim.
13. Tape Selector. (Normal/CrO_2/Metal)
14. Recording Level.
15. Recording Level Display.
16. Tape Counter.
17. Re-set.



ALIGNMENT METHOD

IMPORTANT

The tape path (heads, tape guides, capstan, pinch roller) should be cleaned and degaussed before alignment.

This tape recorder is designed to work well with a variety of tapes, however, maximum performance will be obtained with recommended tapes or similar tape formulations.

Recommended tapes	For North America	For Europe-DIN
Type I	Maxell UDS-I	Maxell UD-I, BASF TP18 no, R723DG
Type II	Maxell XL-II	Maxell XL-II, Teac MTT-5561, BASF, U564W
Type IV	Maxell MX	Maxell MX, Maxell MX 422

Before adjusting, switch DOLBY NR, CAR off; and PLAY TRIM, to center position.

DOLBY NR level 200 nWb/m = 245 mV RMS on testpoints TP003 (PLAYBACK and RECORDING) on Main PCB; approximately 505 mV at line outputs.

1. TAPE SPEED

Connect one output to Wow and Flutter Meter or Frequency Counter, Play speed test tape TEAC MTT-111 = 3 kHz or TEAC MTT-211 = 3.15 kHz and adjust the semi-variable resistor, for correct reading on Wow and Flutter Meter or Frequency Counter.(See Fig. A)

Tolerance: ±1%

2. AZIMUTH

Connect VTVM's and/or Oscilloscope to outputs. Set tape selector to normal and start playing Azimuth tape TEAC MTT-113 or MTT-114. Rotate azimuth screw for maximum output and/or maximum and in phase on Oscilloscope. Reseal adjustment screw with nail polish or similar (do not use glue).(See Fig. B)

3. PLAYBACK HIGH FREQUENCY EQ

THIS ADJUSTMENT SHOULD BE DONE ONLY WHEN HEAD HAS BEEN REPLACED.

Play frequency response tape TEAC MTT-256 or MTT-256U and check playback level at 14 kHz.
Before adjust, cut the center of jumper leads E001(L) and E002(R). Adjust by disconnecting E003(L) and E004(R) if 14 kHz is too high and connecting E001(L) and E002(R) if 14 kHz is too low. Leave same component values in both channels.

Tolerance: $^{+1.5}_{-0.5}$ dB

4. PLAYBACK LEVEL

Connect VTVM to testpoints. Play Dolby NR level tape TEAC MTT-150 and adjust SVR003(L) and SVR004(R) for 245 mV RMS at testpoint TP003 on Main PCB.

Tolerance: ±2.5 mV RMS

Output should be approximately 505 mV RMS.

5. BIAS TRAP

Insert a blank type I tape and start recording. Turn record level all the way down and set tape selector to type IV position. Connect VTVM's and/or oscilloscope probe to testpoint TP201 and adjust F201(L) and F202(R) for minimum.

Tolerance: Less than 300 mV RMS.

6. RECORD LEVEL

Set tape selector to type I tape. Connect audio oscillator to line inputs, turn record levels to maximum (clockwise). Adjust audio oscillator frequency to 400 Hz and output so that VTVM's read 30 – 40 mV. (Use a convenient reference point on the VTVM's).

Reset tape counter to 0 and release pause to start recording. Record for approximately 5 seconds, rewind to 0 on tape counter and play back while observing the VTVM's. The VTVM's should indicate the same level as when the tape was recorded. Adjust SVR201(L) and SVR202(R) if necessary and repeat the record / play procedure until the readings are the same.

Tolerance: ±0.5 dB from record level. Less than 0.5 dB difference between channels.

7 BIAS ADJUST TYPE I TAPE (NORMAL)

Set audio generator to 1.2 kHz without changing output level. Reset tape counter to 0 and start recording. After 5 seconds change audio generator frequency to 12 kHz (do not stop the machine or change levels) and continue recording for another 5 seconds. Stop and rewind to 0 on tape counter. Play back while observing VTVM's. There should be no level difference between the 1.2 kHz and the 12 kHz tone when played back. If 12 kHz is different in level for 1.2 kHz, adjust SVR301(L) and SVR302(R) and repeat the record / play procedure until both frequencies play back at same level.

Tolerance: ±0.5 dB

WARNING: Greater tolerance will grossly affect the Dolby NR tracking and especially the Dolby C tracking.

Record level (step 6) should be checked and if necessary adjusted.

8. FREQUENCY RESPONSE TYPE II TAPE (CrO_2)
Insert a type II tape and set selector to type II position. Adjust audio generator to 1.2 kHz and 12 kHz and repeat process described in step 7 using SVR303 to adjust both channels simultaneously.

9. FREQUENCY RESPONSE TYPE IV TAPE (METAL)
Insert a type IV tape and set selector to type IV position. Repeat procedure as in step 8 while adjusting SVR304.

10. CAR
Engage record and pause mode. Adjust audio generator to 1 kHz and output so that voltage at TP003 is 24 mV. Switch CAR on, adjust SVR101(L) and SVR102(R) to increase 5 dB at TP003.

ALIGNMENT COMPONENTS LAYOUT

Fig. A FOR ADJUSTING TAPE SPEED

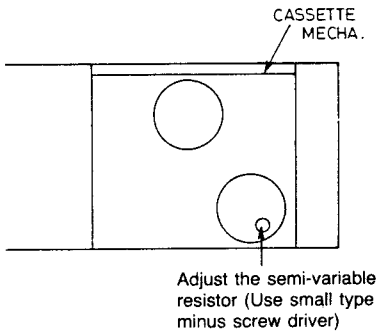


Fig. B FOR ADJUSTING AZIMUTH

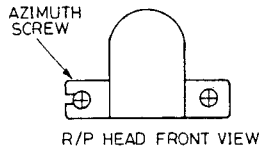
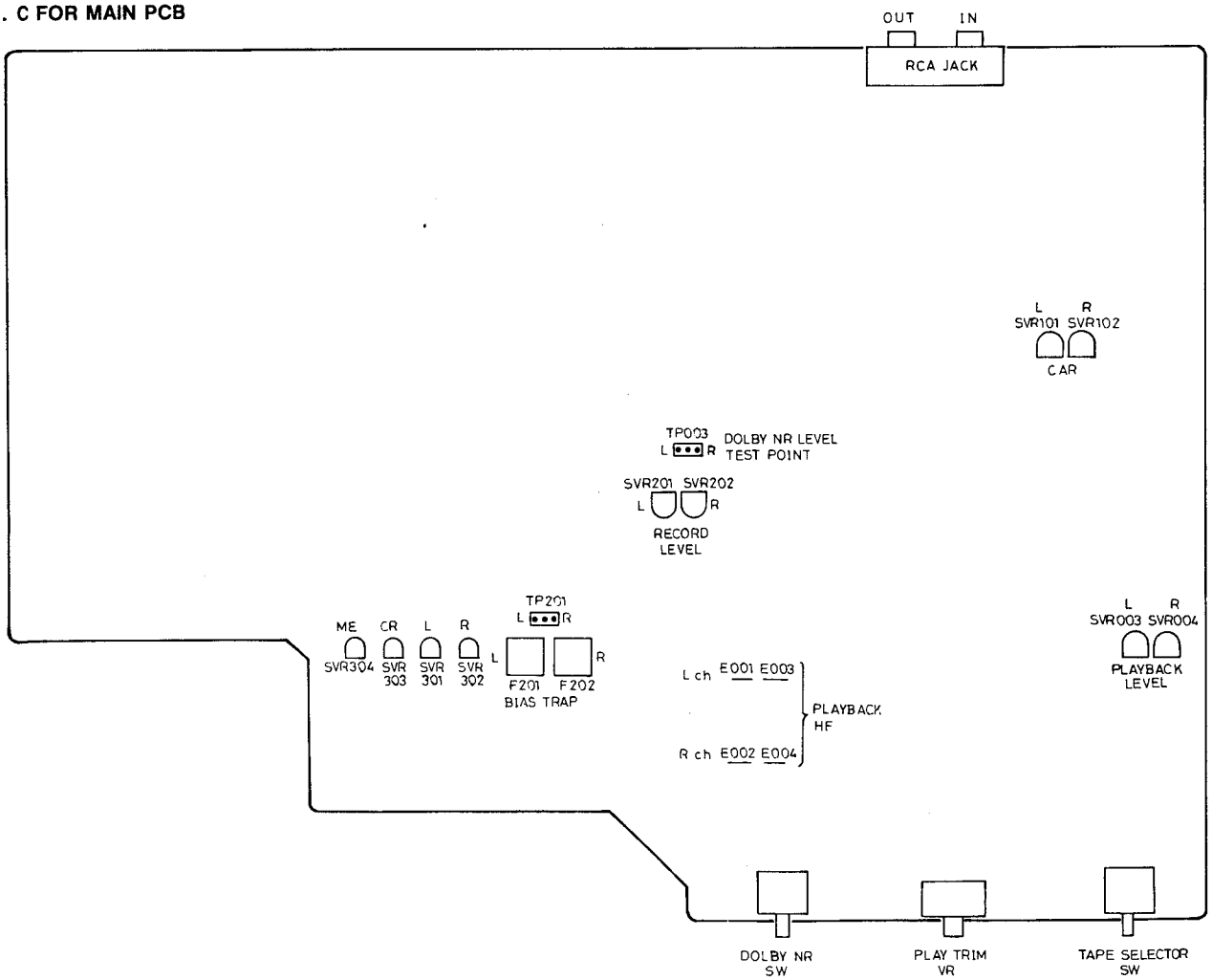
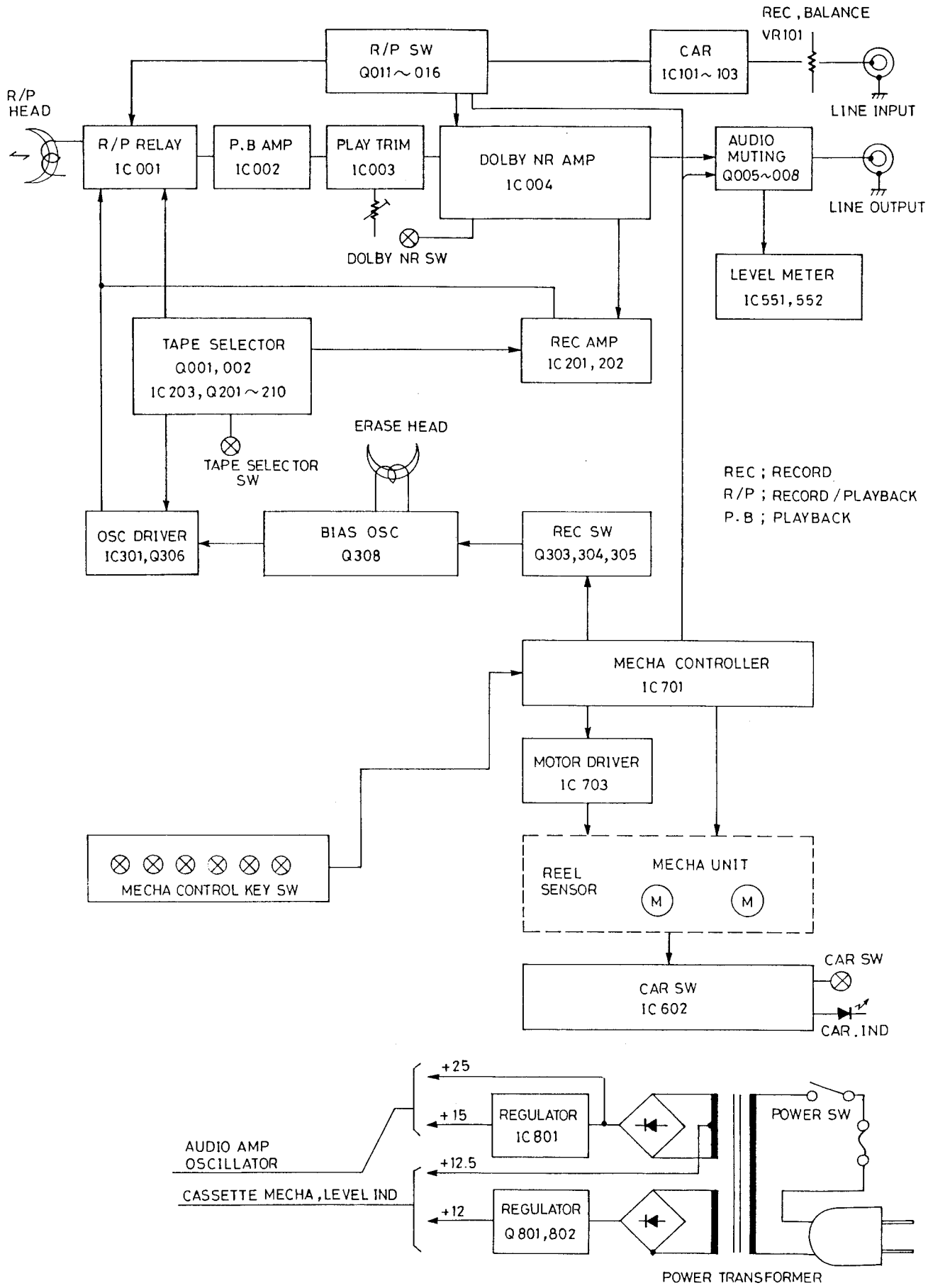


Fig. C FOR MAIN PCB



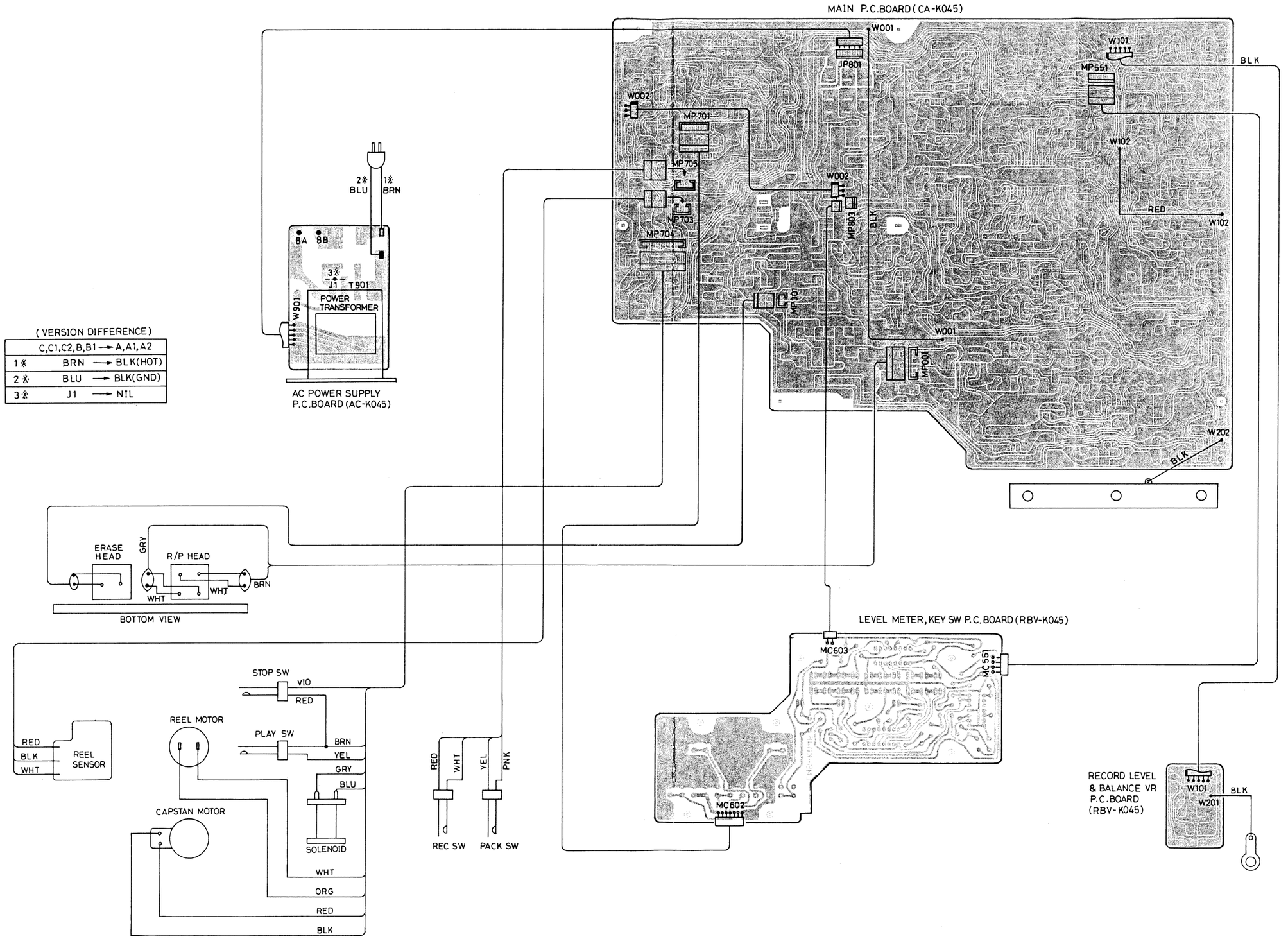
BLOCK DIAGRAM



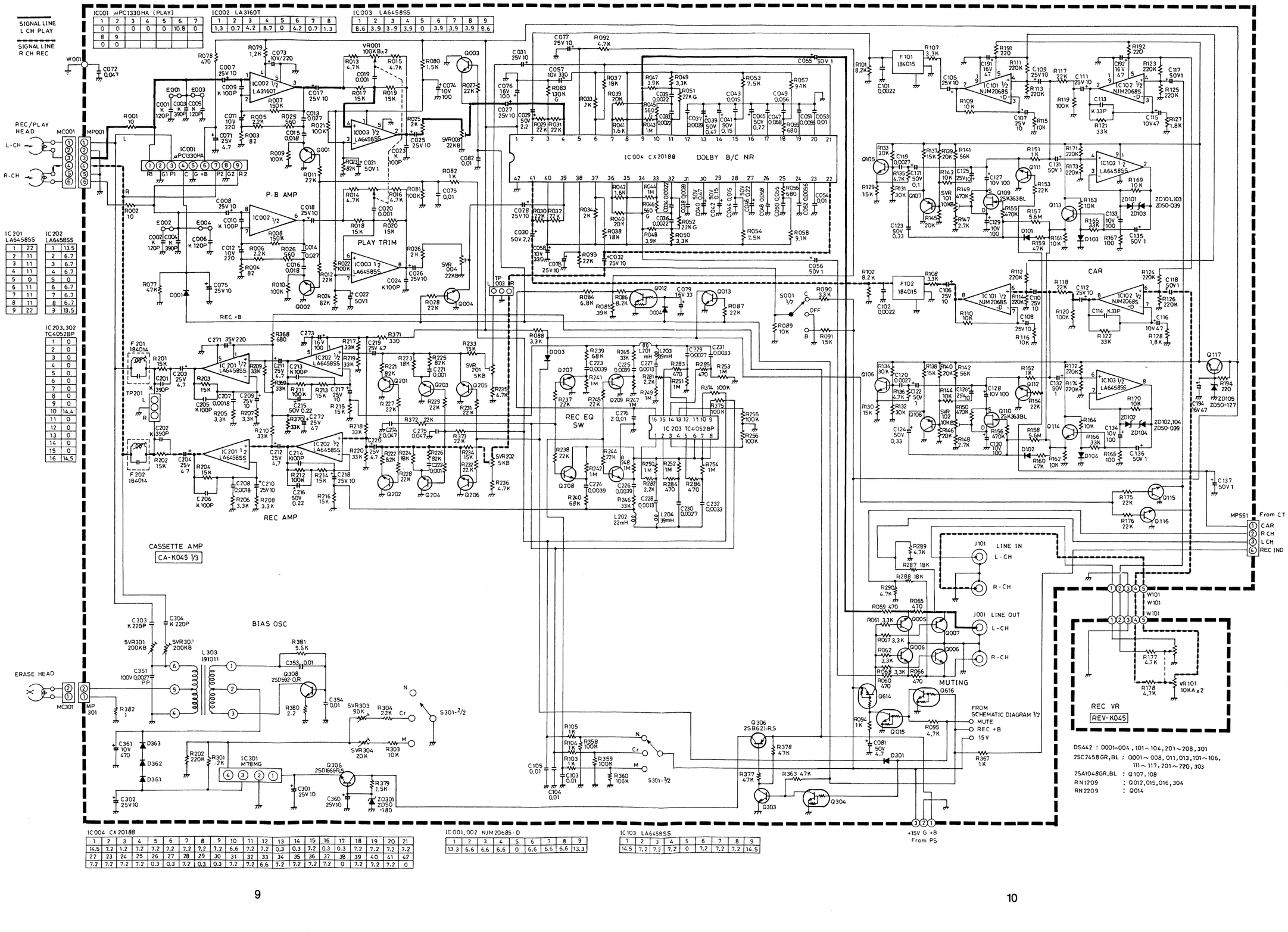
WIRING DIAGRAM (Component side)

(VERSION DIFFERENCE)

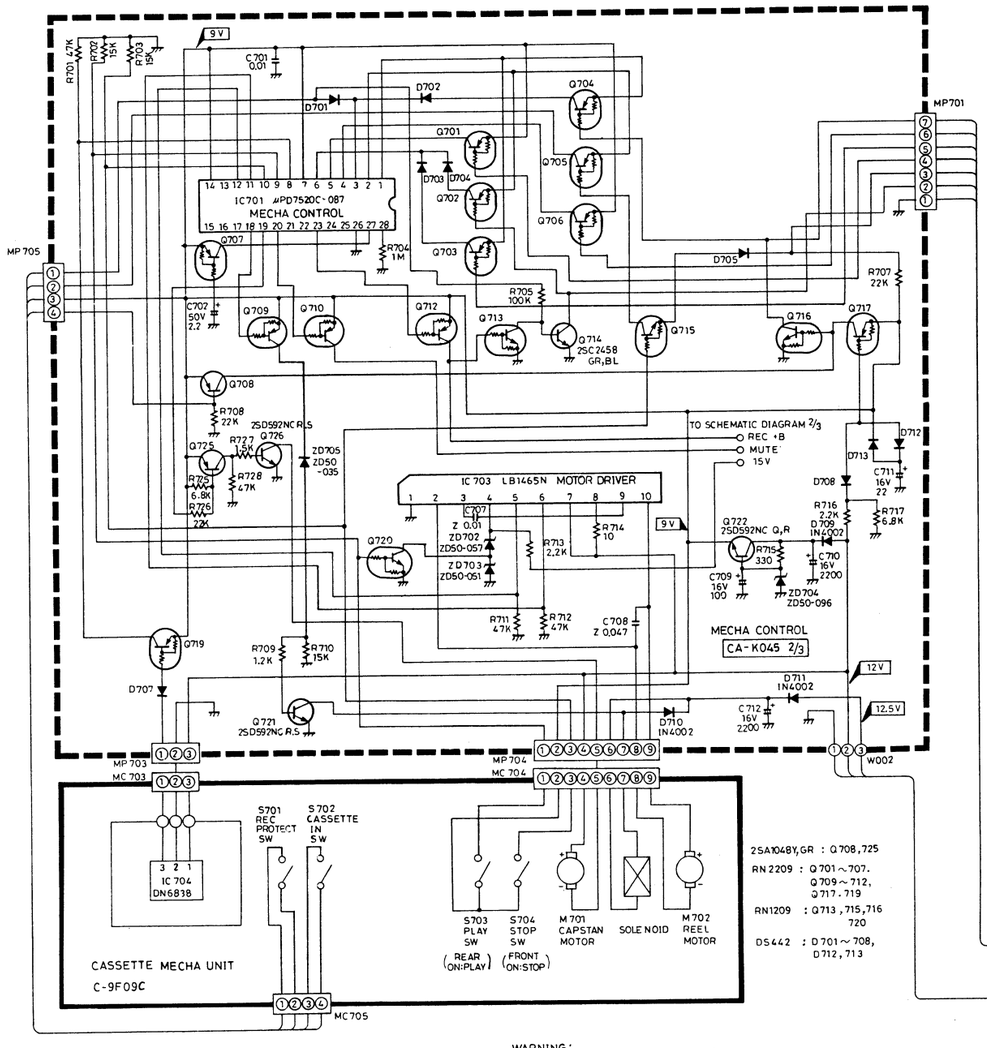
	C,C1,C2,B,B1	→ A,A1,A2
1※	BRN	→ BLK(HOT)
2※	BLU	→ BLK(GND)
3※	J1	→ NIL



SCHEMATIC DIAGRAM



DS442 : D001~004, 101~104, 201~208, 301
2SC2458GR,BL : Q001~008, 011, 013, 101~106, 111~117, 201~220, 303
2SA1048GR,BL : Q107, 108
RN1209 : Q012, 015, 016, 304
RN2209 : Q014



IC701 μPD7520C-087

1	2	3	4	5	6	7	8	9	10	11	12	13	14
8.6	0.6	0	0	0	0	9.2	0	0	9.2	0	0	0	9.2
15	16	17	18	19	20	21	22	23	24	25	26	27	28
0	0	0	9.2	9.2	2.1	9.2	9.2	9.2	9.2	9.2	0	0	7.0

IC703 LB1465N

1	2	3	4	5	6	7	8	9	10
0	0	0.6	0	9.~	0	0	12	7.5	0.6

NOTE : VOLTAGE MEASUREMENT TAKEN WITH A HIGH IMPEDANCE VOLTMETER

WARNING:
Parts marked with the symbol ⚠ have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check, If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 500 K ohms, the unit is defective.

WARNING- DO NOT return the unit to the customer until the problem is located and corrected.

TOLERANCE AND UNIT:

CAPACITOR ± 20% (μF) } NOT Specify
J ± 5% (μF) }
K ±10% (μF)
N ±30% (μF)
Z +80% (μF) -20% (μF)

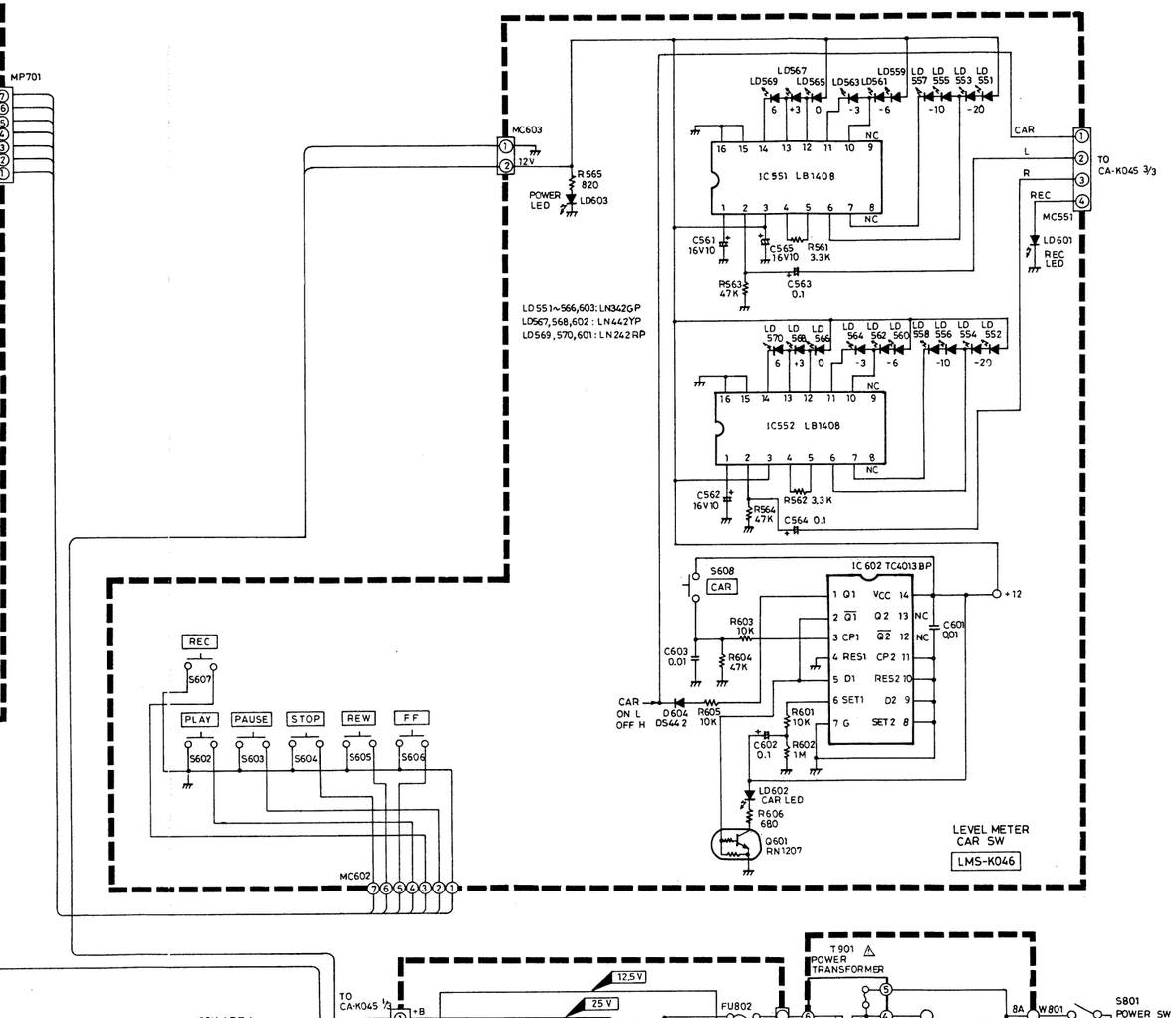
RESISTOR ± 5% (Ω) 1/4W AND 1/6W - NOT Specify
G ± 2% (Ω) 1/4W

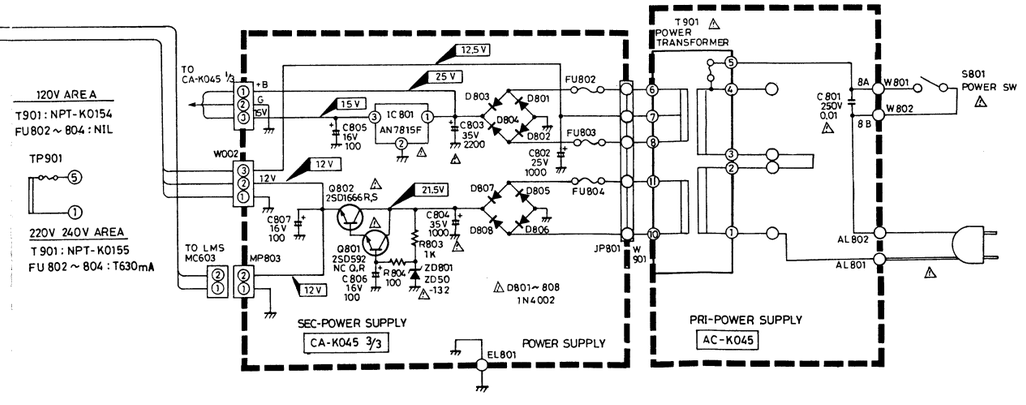
IC602 TC4013BP (CAR: OFF)

1	2	3	4	5	6	7	8	
12	0	0	0	0	0	0	0	
9	10	11	12	13	14			
0	0	0	0	12	12			(V)

IC551, 552 LB1408

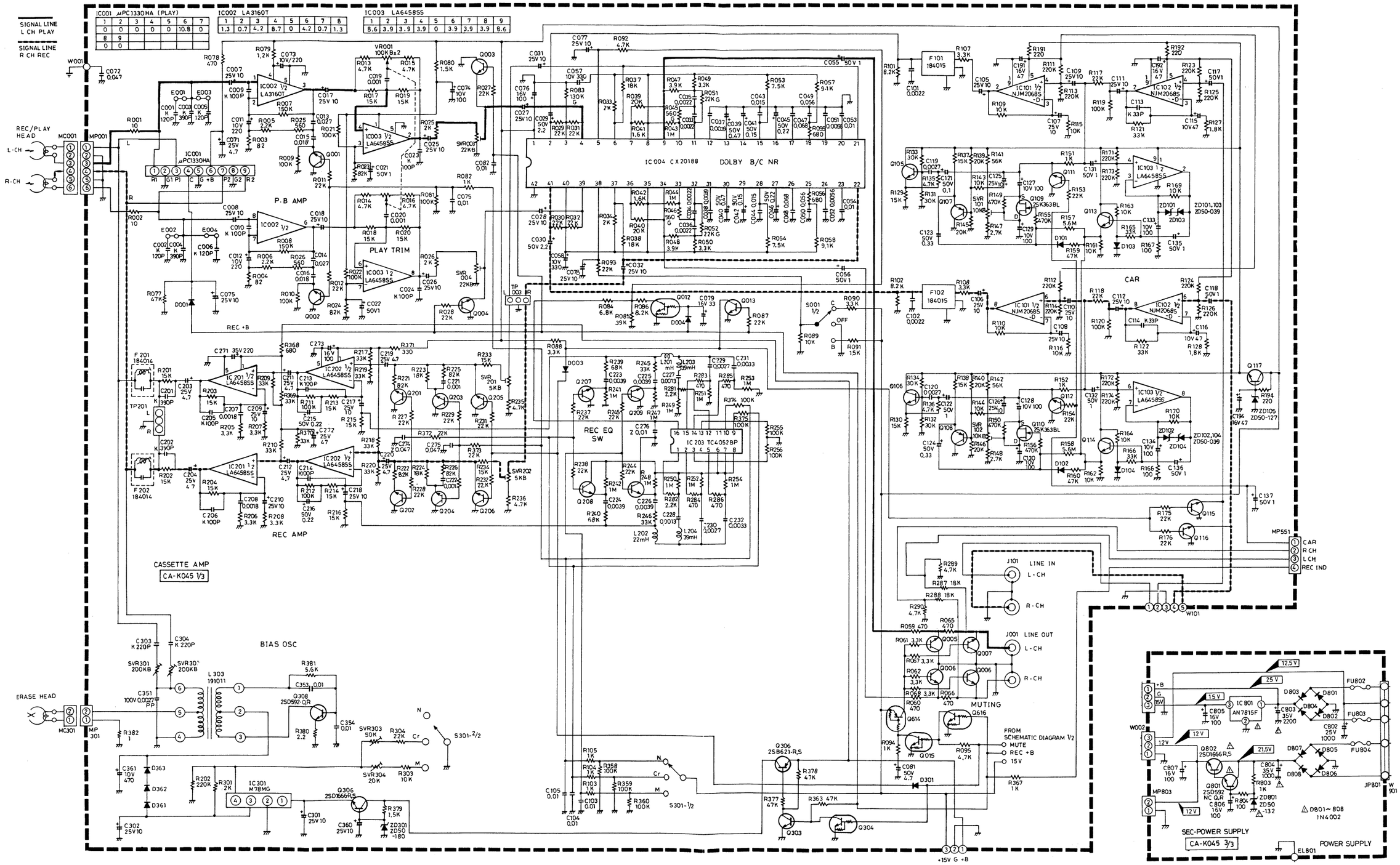
1	2	3	4	5	6	7	8	9	10	11	
0	0	12	5	1	11	11	—	0.5	11	11	
12	13	14	15	16							
11	11	11	0	0							(V)

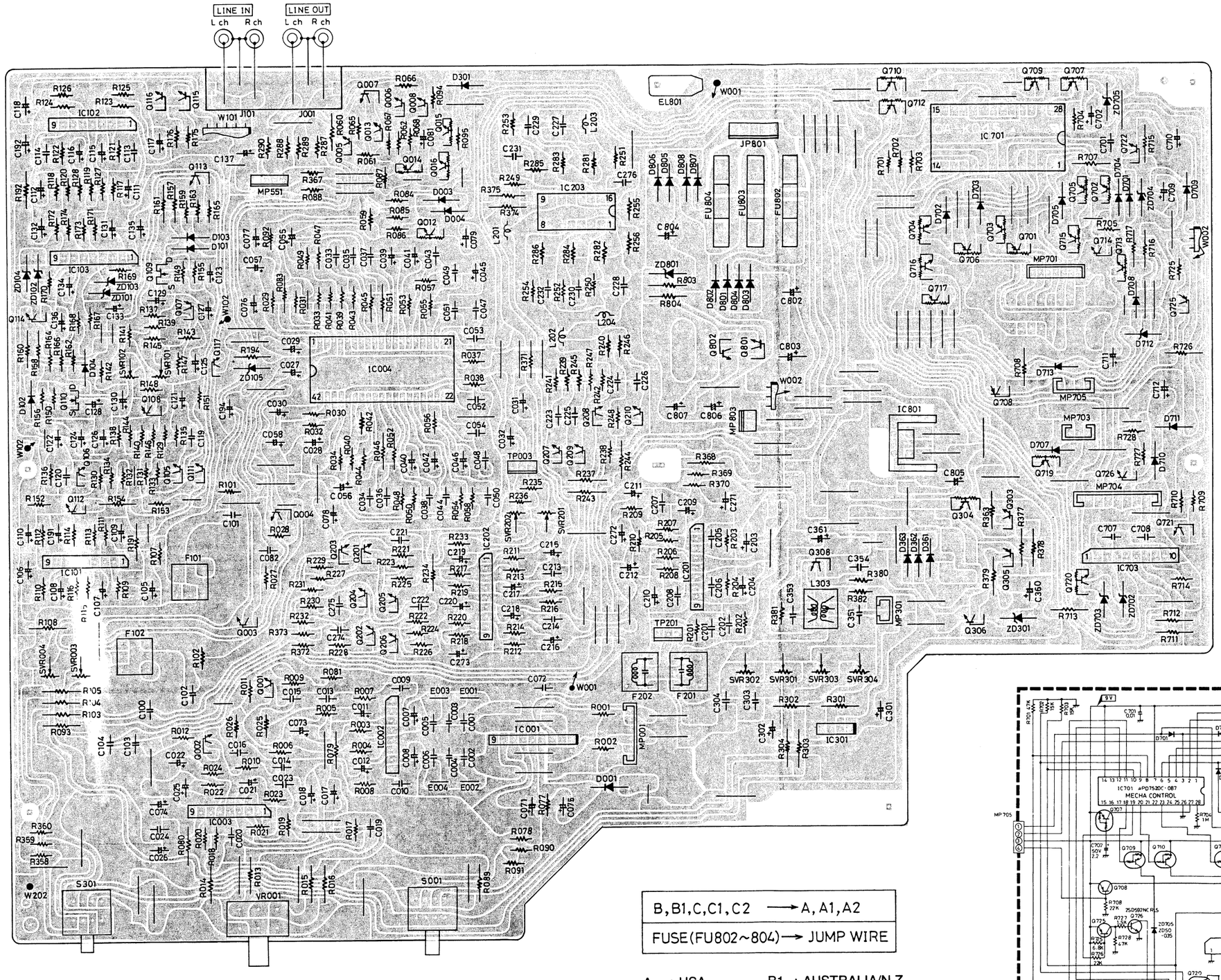




SCHEMATIC AND PCB LAYOUT (Foil side)

Main (CA-PCB)




LINE IN
L ch R ch
LINE OUT
L ch R ch
W101 J101
J001
EL801
W001
JP801
IC102
IC103
IC004
IC203
IC701
IC801
IC703
IC001
IC301
IC003
IC101
MP551
MP701
MP705
MP703
MP704
MP803
MP301
MP001
FU804
FU803
FU802
F101
F102
F202
F201
S301
S001
VR001
TP003
TP201
W002
W202
SVR004
SVR003
SVR302
SVR301
SVR303
SVR304
SVR201
SVR202
ZD801
ZD101
ZD103
ZD105
D001
D301
D003
D004
D101
D103
D303
D304
D305
D306
D307
D308
D801
D802
D803
D804
Q007
Q008
Q012
Q013
Q014
Q015
Q016
Q113
Q003
Q004
Q201
Q202
Q203
Q204
Q205
Q206
Q801
Q802
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Q716
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Q720
Q721
Q722
Q725
Q726
L201
L202
L203
L204
L303
L301
C804
C802
C803
C807
C806
C805
C361
C354
C353
C351
C380
C382
C301
C302
C303
C304
R803
R804
R380
R381
R382
R379
R377
R378
R368
R369
R370
R302
R301
R303
R304
R360
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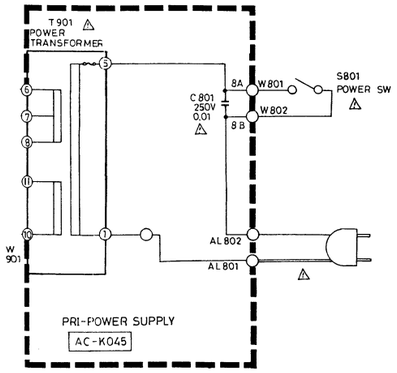
R740
R741
R742
R743
R744
R745
R746
R747
R748
R749
R750
R751
R752

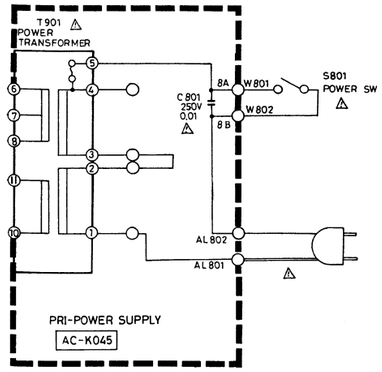
SCHEMATIC AND PCB LAYOUT (Foil side)

AC Power Supply (AC-PCB)

(For A, A1, A2 Version)



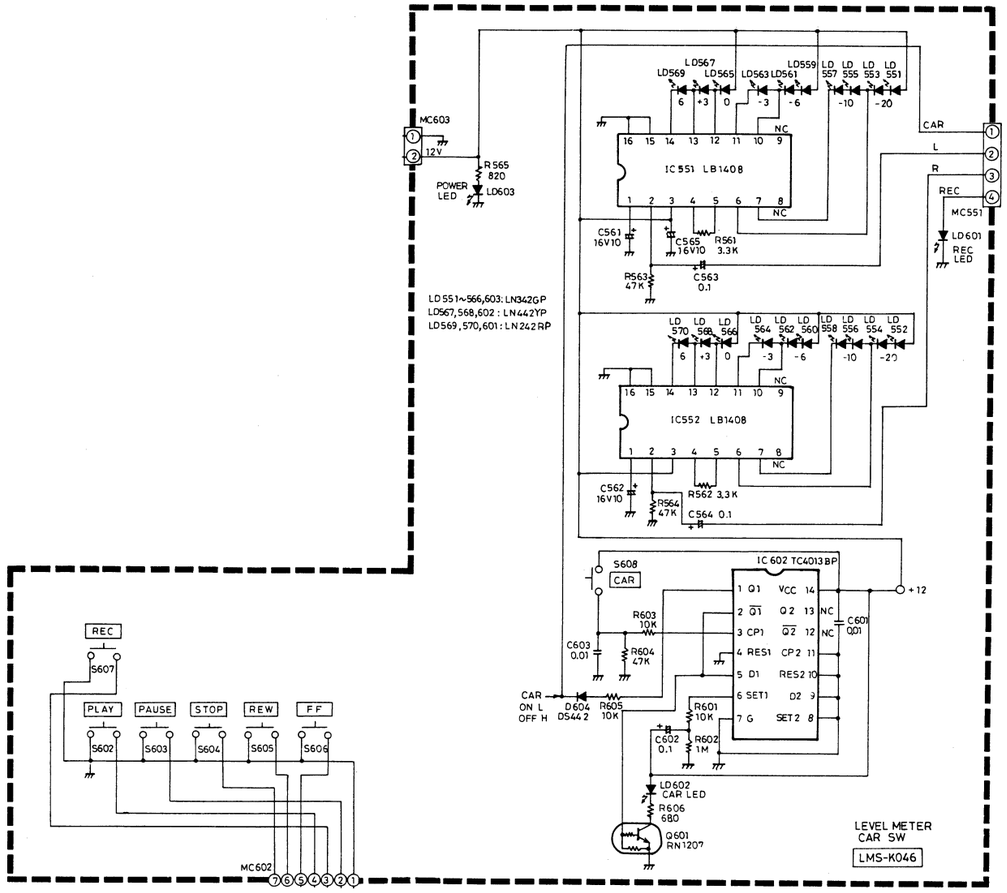
(For B, B1, C, C1, C2 Version)

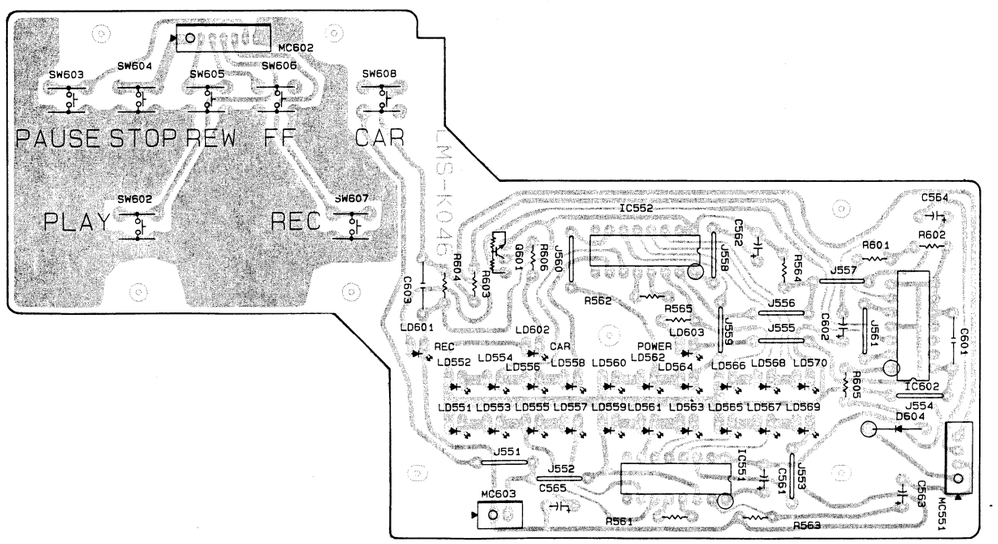


B, B1, C, C1, C2 → A, A1, A2
JUMP WIRE (J1) → NIL

SCHEMATIC AND PCB LAYOUT (Foil side)

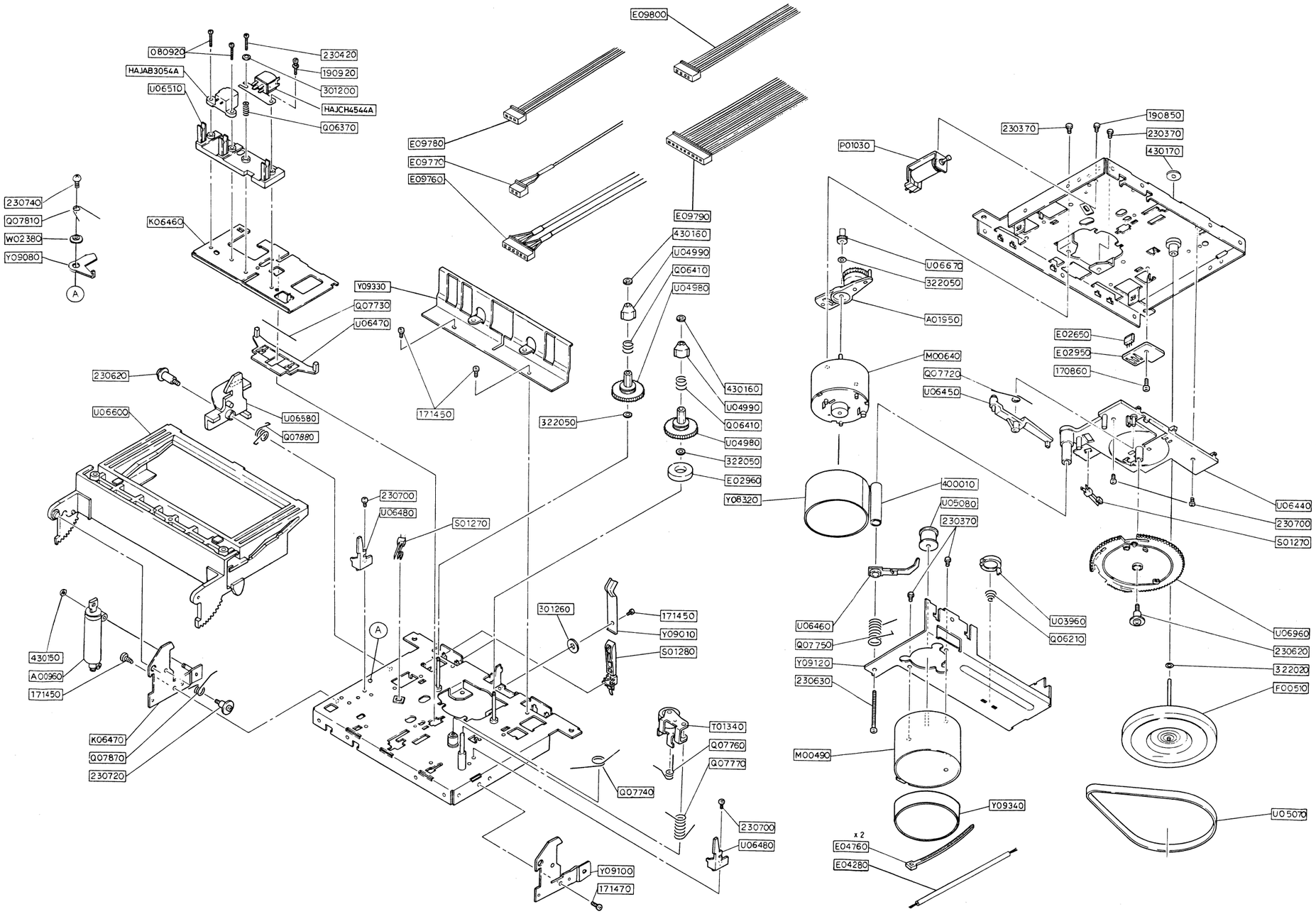
Level Meter, Key SW (LMS-PCB)





EXPLODED VIEW AND PARTS LIST

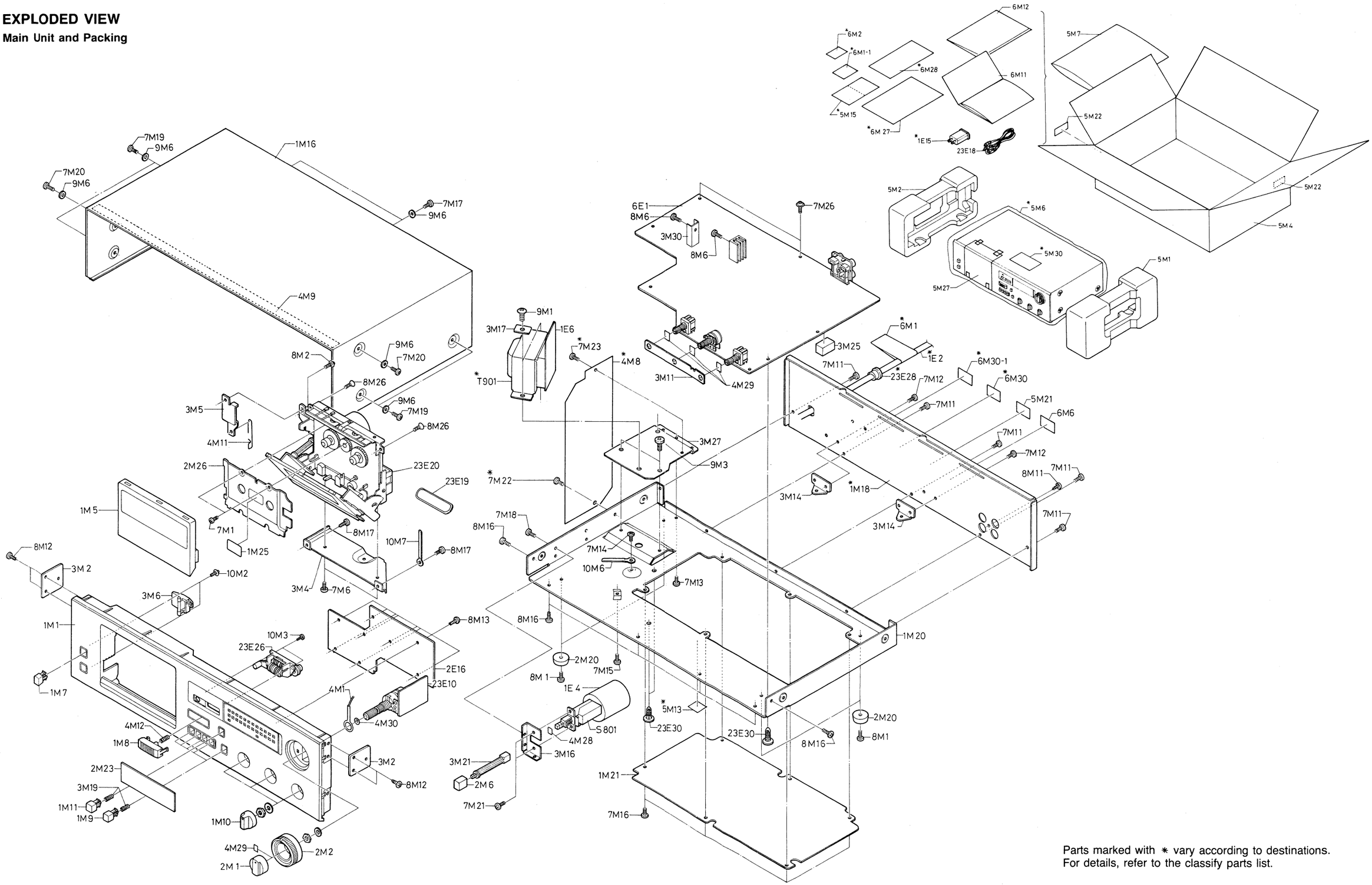
Cassette Mechanism



Q'TY	PART NO.	DESCRIPTION
1	A00960	SOFT DAMP ASSY 3B
1	A01950	RF ASSY 90A
1	E02650	HALL IC DN6838-A
1	E02950	PCB, IC-20
1	E02960	MAGNET 15X7.2X3-12
1	E04280	WIRE,1571(RE) 35X3X3#28
2	E04760	HARNESS BAND PL-100
1	E09760	CONNECTOR ASSY 25C-06F-05
1	E09770	CONNECTOR ASSY 25C-02F-04
1	E09780	CONNECTOR ASSY 25C-03F-04
1	E09790	CONNECTOR ASSY 25C-09F-05
1	E09800	CONNECTOR ASSY 25C-04F-05
1	F00510	FLYWHEEL 90B
1	HAJCH4544A	REC/PLAY HEAD
1	HAJAB3054A	ERASE HEAD
1	T01340	PINCH ROLLER ASSY 90A
1	K06460	HEAD PLATE 90A
1	K06470	CASE HOLDER 90A-L
1	M00490	MOTOR EG500AD-2B
1	M00640	MOTOR RF-510T-081200-N
1	P01030	SOLENOID NSO-4-00102-12V19
1	Q06210	SP, CAPSTAN SUPPORT 8RA
1	Q06370	SP, HEAD 9FA
2	Q06410	SP, REEL SUPPORT 9FA
1	Q07720	SP, LEVER TRIGGER 90A
1	Q07730	SP, ARM BRAKE 90A
1	Q07740	SP, HEAD PANEL 90A
1	Q07750	SP, ARM GEAR 90A
1	Q07760	SP, PINCH ROLLER 90A
1	Q07770	SP, PINCH RET 90A
1	Q07810	SP, ARM SAFETY 90A
1	Q07870	SP, CASSETTE CASE 90B
1	Q07880	SP, CASE LOCK 90B
2	S01270	LEAF SW LSA-1119R-1
2	S01280	LEAF SW LSA-1132FAU
1	U03960	CAPSTAN SUPPORT 9B
2	U04980	GEAR,REEL PLATE 9FA
2	U04990	REEL DRIVE 9FA
1	U05070	FLAT BELT 58.5X3.5X0.4
1	U05080	MOTOR PULLEY 2X9.2R-U
1	U06440	GEAR,BASE 90A
1	U06450	LEVER,TRIGGER 90A
1	U06460	ARM,GEAR 90A
1	U06470	ARM,BRAKE 90A
2	U06480	CASSETTE GUIDE 90A
1	U06510	HEAD BASE 90B
1	U06580	LEVER, CASE LOCK 90A
1	U06600	CASSETTE CASE 90A
1	U06670	GEAR,RF PULLEY 90A
1	U06960	GEAR,DRIVE 90A
1	W02380	COLLAR,ARM SAFETY 90A
1	Y08320	SHIELD PLATE T-2.0 30X17
1	Y09010	SP PLATE,PACK 90A
1	Y09080	ARM,SAFETY 90A
1	Y09100	CASE HOLDER 90A-R
1	Y09120	BRACKET,FLYWHEEL 90A
1	Y09330	COVER,SW 90B
1	Y09340	SHIELD PLATE T-2.0 34X17
2	080920	SCREW,BIND 2.0X11
1	170860	SCREW,TAP TITE 2.0X5
4	171450	SCREW,TAP TITE 2.6X4
1	171470	SCREW,TAP TITE 2.6X6
1	190850	SCREW,2.0X4W/SPRING WASHER
1	190920	SCREW,2.0X11W/SPRING WASHER
4	230370	SCREW,2.6X2.5
1	230420	SCREW,BIND 2.0X10
2	230620	SCREW,SHOULDECK 2.6X9
1	230630	SCREW,TAP TITE 2.6X23.5
4	230700	SCREW,BIND TAP TITE 2.0X4
1	230720	SCREW,SHOULDECK 2.6X5
1	230740	SCREW,TRUSS TAP TITE 2.6X6
1	301200	FW 2.2X6.0X0.4
1	301260	FW 2.8X7.5X0.5
1	322020	PSW 2.1X4.0X0.25
3	322050	PSW 2.1X4.0X0.5
1	400010	SPACER M2.6X20 ZMC
1	430150	PSW 2.1X4.0X0.4C
2	430160	PSW 1.6X3.2X0.40C
1	430170	NLW 1.9X7.0X0.5

EXPLODED VIEW

Main Unit and Packing



Parts marked with ✳ vary according to destinations.
For details, refer to the classify parts list.

PARTS LIST

• Parts marked with ✳ vary according to destinations. For details, refer to the calssify parts list.

MAIN UNIT AND PACKING

REF. NO.	Q'TY	PART NO.	DESCRIPTION
COILS			
✳ T901	1	NPT-K0154	POWER TRANSFORMER
SWITCHES			
S801	1	SW-1101222	POWER SWITCH
MISCELLANEOUS			
✳ 1E 2	1	ACC-033D3-4EC1	LINE CORD
1E 4	1	U9-7/8004	UL TYPE TUBE
1M 1	1	N10509-1	FRONT PANEL
1M 5	1	N21669-2	CASSETTE LID
1M 7	1	N45392-BK	PUSH BUTTON
1M 8	1	N45391A-GY1	PUSH BUTTON
1M 9	5	N45390-BK	PUSH BUTTON
1M10	3	N45438-BK	KNOB 19
1M11	1	N45390-RD1	PUSH BUTTON
1M16	1	N21668	CABINET
✳ 1M18	1	N21667-4	REAR PANEL
1M20	1	N21670A	BOTTOM CHASSIS
1M21	1	N31053	BOTTOM PLATE
1M25	1	N45349A	CASSETTE MIRROR
2M 1	1	12-3123	VOLUME KNOB
2M 2	1	12-3124	BALANCE KNOB
2M 6	1	12-3122	POWER KNOB
2M20	4	NO.7102	FUOT
2M23	1	N45439-2	DISPLAY GLASS
2M26	1	N31055	COVER,CASSETTE MECH.
3M 2	2	N45389	JOINT PLATE
3M 4	1	N45385	BRACKET,CASSETTE MECH.
3M 5	1	N45352	EJECT PLATE
3M 6	1	N31054	OPERATION PLATE,EJECT
3M11	1	N45495	EARTH PLATE
3M14	2	N44963-0S	FITTINGS (P.C.B.)
3M16	1	N45386	BRACKET,SW
3M17	2	2AB-258-0S	REINFORCEMENT (P.T.)
3M19	6	N44959-0S	KNOB SPRING
3M21	1	N43269-0S	KNOB SHAFT
3M25	1	N44844-0S	CUSHION
3M27	1	N45503	BRACKET,P.T.
3M30	1	N45291	HEAT SINK
4M 1	1	N41622A	LUG (TUNING)
4M 9	1	N44967-35	CABINET MAT
4M11	1	N45354	COUPLER
4M12	1	N44960	KNOB SPRING
4M28,M29	4	N40848G	SHAFT TAPE
4M30	1	N45476GL	SPACER,SHAFT
5M 1	1	N21688A-R	PACKING PAD
5M 2	1	N21688-L	PACKING PAD
5M 4	1	N21711	INNER CARTON
✳ 5M 6	1	N41318-1-0S	POLYETHYLENE BAG (UNIT)
5M 7	1	N40487-0S	POLYETHYLENE BAG (ACCESSORIES)
✳ 5M13	1	N44043-0S	LABEL, SA1965(LIGHTNING FLASH)
✳ 5M15	1	N45359	CARD,WARRANTY REGISTRATION
5M21,M22	3	N45330	SERIAL LABEL
5M27	1	N45481	PROTECTION SHEET
6M 6	1	N45447	LABEL,CHINA
6M11	1	UM-891	INSTRUCTION MANUAL (COVER)
6M12	1	TEXT-891-E	INSTRUCTION MANUAL (TEXT)
✳ 6M27	1	BK3035	SAFETY INSTRUCTION SHEET
✳ 6M28	1	N45475	SHEET,PORTABLE CART WARNING
7M 1	2	TSB+26X05-B	TAP SCREW S, BIND HEAD, B
7M 6	2	TSB+30X05-Y	TAP SCREW S, BIND HEAD, Y
7M11~M18	19	TSB+30X06-B	TAP SCREW S, BIND HEAD, B
7M19,M20	6	TSB+30X08-B	TAP SCREW S, BIND HEAD, B
7M21	2	TSB+30X06-B	TAP SCREW S, BIND HEAD, B
7M26	2	TSC+30X06-Y	TAP SCREW S, WASHER FACED, Y
8M 1,M 2	5	TSC+30X06-B	TAP SCREW S, WASHER FACED, B
8M 6	2	TSB+30X08-Y	TAP SCREW S, BIND HEAD, Y
8M11~M13, M16,M17	21	TPM+30X08-B	TAP SCREW P, ROUND HEAD, B
8M26	2	TPS+30X10-Y	TAP SCREW P,FLAT HEAD, Y
9M 1	2	TST+40X08-Y	TAP SCREW S, TRUSS, Y
9M 3	2	TSB+40X06-Y	TAP SCREW S, BIND HEAD, Y
9M 6	8	2AWX0830-05-B	PLAIN WASHER, B
10M 2	2	TPPW07+26X06-Y	TAP SCREW P,W ASSY,PAN HEAD,Y
10M 3	2	TSB+26X08-Y	TAP SCREW B, BIND HEAD, Y
10M 6,M 7	2	VJR-3	SNAKE LUG
23E18	2	PC-060	RCA PIN CORD ASS'Y
23E20	1	C-90F09C	CASSETTE MECHANISM
23E26	1	SG10-05081-839	COUNTER
✳ 23E28	1	SR-4N-4	CORD STOPPER
23E30	3	KGLS-10RT	SPACER

Classify Parts List

A : USA A2: TAIWAN B1: AUSTRALIA/N.Z. C1: W.GERMANY
A1: CANADA B : U.K. C : EUROPE & OTHERS C2: G.P.M

Ref.No.	Description	A	A1	A2	B	B1	C/C1	C2
EXPLODED VIEW								
1E 2	LINE CORD	ACC-033D3-4EC1	←	←	ACC-013D3-4EC4	ACC-030D3-4EC1	ACC-005D3-4EC1	←
1E15	CONVERSION PLUG	Nil	←	←	←	←	←	S-16115#01
23E28	CORD STOPPER	SR-4N-4	←	←	SR-5N-4	SR-4N-4	←	←
1M18	REAR PANEL	N21667-4	←	←	N21667-5	←	N21667-6	←
4M 8	COVER, INSULATION	Nil	←	←	N45496	←	←	←
5M 6	POLYETHYLENE BAG (UNIT)	N41318-1-0S	←	←	N44660-0S	N41318-1-0S	←	←
5M13	LABEL, SA1965(LIGHTNING FLASH)	N44043-0S	←	←	Nil	←	←	←
5M15	CARD, WARRANTY REGISTRATION	N45359	Nil	N45359	Nil	←	←	←
5M30	STICKER, WARNING	Nil	←	←	N45418	Nil	←	←
6M 1	TAG (AC CORD)	Nil	←	←	N41117	Nil	←	←
6M 1-1	NON-WARRANTY CARD	Nil	LEN-200	Nil	←	←	←	←
6M 2	CARD, WARRANTY	Nil	LEN-201	Nil	←	←	←	←
6M27	SAFETY INSTRUCTION SHEET	BK3035	Nil	BK3035	Nil	←	←	←
6M28	SHEET, PORTABLE CART WARNING	N45475	Nil	N45475	Nil	←	←	←
6M30	LABEL, UL	N44934A	Nil	←	←	←	←	←
6M30-1	CSA LL LABEL (NL)	Nil	N45535-NL	Nil	←	←	←	←
7M22,23	TAP SCREW S, BIND HEAD, B	Nil	←	←	TSB+30X06-B	←	←	←
T901	POWER TRANSFORMER	NPT-K0154	←	←	NPT-K0155	←	←	←
MAIN PCB ASS'Y								
1E10	FUSE HOLDER	Nil	←	←	23165102-BB-C	←	←	←
FU802~ 804	FUSE or JUMP WIER	E100-UA	←	←	FU-526317T	←	←	←
AC POWER SUPPLY PCB ASS'Y								
C801	METALLIZED FILM CAPACITOR	ECQU2A103MN	←	←	ECQU2A103MF	←	←	←
J1	JUMP WIRE	Nil	←	←	E100-UA	←	←	←

MAIN PCB ASS'Y

REF. NO.	Q'TY	PART NO.	DESCRIPTION
P.C.BOARD			
6E 1	1	CA-K045	PRINTED CIRCUIT BOARD
SEMICONDUCTORS			
D001,003, 004,101~ 104,301	8	1N4148-UA	DIODE
D361~363	3	1N4002-UA	DIODE
D701~705, 707,708	7	1N4148-UA	DIODE
D709~711	3	1N4002-UA	DIODE
D712,713	2	1N4148-UA	DIODE
D801~808	8	1N4002-UA	DIODE
Q001~008	8	2SC2458-GRBL	TRANSISTOR
Q012	1	RN-1209	TRANSISTOR
Q013	1	2SC2458-GRBL	TRANSISTOR
Q014	1	RN-2209	TRANSISTOR
Q015,016	2	RN-1209	TRANSISTOR
Q105,106	2	2SC2458-GRBL	TRANSISTOR
Q107,108	2	2SA1048-GRBL	TRANSISTOR
Q109,110	2	2SK363-BL	TRANSISTOR
Q111~117, 201~210, 303	18	2SC2458-GRBL	TRANSISTOR
Q304	1	RN-1209	TRANSISTOR
Q305	1	2SB621NC-R,S	TRANSISTOR
Q306	1	2SD1666-R,S	TRANSISTOR
Q308	1	2SD592NC-Q,R	TRANSISTOR
Q701~707	7	RN-2209	TRANSISTOR
Q708	1	2SA1048-Y,GR	TRANSISTOR
Q709,710, 712	3	RN-2209	TRANSISTOR
Q713	1	RN-1209	TRANSISTOR
Q714	1	2SC2458-GRBL	TRANSISTOR
Q715,716	2	RN-1209	TRANSISTOR
Q717,719	2	RN-2209	TRANSISTOR
Q720	1	RN-1209	TRANSISTOR
Q721	1	2SD592NC-R,S	TRANSISTOR
Q722	1	2SD592NC-Q,R	TRANSISTOR
Q725	1	2SA1048-Y,GR	TRANSISTOR
Q726	1	2SD592NC-R,S	TRANSISTOR
Q801	1	2SD592NC-Q,R	TRANSISTOR
Q802	1	2SD1666-R,S	TRANSISTOR
IC001	1	UPC1330HA	IC
IC002	1	LA3160T	IC
IC003	1	LA6458SS	IC
IC004	1	CX20188	IC
IC101,102	2	NJM2068S-D	IC
IC103,201, 202	3	LA6458SS	IC
IC203	1	TC4052BP	IC
IC301	1	L78MG	IC
IC701	1	UPD7520C-087	IC
IC703	1	LB1645N	IC
IC801	1	AN7815F	IC
ZD101~104	4	ZD50-039-UA	ZENER DIODE,1/2W,3.9V
ZD105	1	ZD50-127-UA	ZENER DIODE,1/2W,12.7V
ZD301	1	ZD50-180-UA	ZENER DIODE,1/2W,18.0V
ZD702	1	ZD50-057-UA	ZENER DIODE
ZD703	1	ZD50-051-UA	ZENER DIODE,1/2W,5.1V
ZD704	1	ZD50-096-UA	ZENER DIODE,1/2W,9.6V
ZD705	1	ZD50-035-UA	ZENER DIODE,1/2W,3.5V
ZD801	1	ZD50-132-UA	ZENER DIODE, 1/2W,13.7V
CAPACITORS			
C001,002	2	HE40SJYB121K	CERAMIC CAPACITOR
C003,004	2	HE40SJYB471K	CERAMIC CAPACITOR
C005,006	2	HE40SJYB121K	CERAMIC CAPACITOR
C007,008	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C009,010	2	HE40SJYB101K	CERAMIC CAPACITOR
C011,012	2	NS-10TW221M	ELECTROLYTIC CAPACITOR
C013,014	2	MY-50VS273J	MYLAR CAPACITOR
C015,016	2	MY-50VS183J	MYLAR CAPACITOR
C017,018	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C019,020	2	MY-50VS102J	MYLAR CAPACITOR
C021,022	2	NS-50TW1R0M	ELECTROLYTIC CAPACITOR
C023,024	2	HE40SJYB101K	CERAMIC CAPACITOR
C025~028	4	NS-25TW100M	ELECTROLYTIC CAPACITOR
C029,030	2	NS-50TW2R2M	ELECTROLYTIC CAPACITOR
C031,032	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C033~036	4	MY-50VS222J	MYLAR CAPACITOR
C037,038	2	MY-50VS392J	MYLAR CAPACITOR
C039,040	2	NS-50TWR47M	ELECTROLYTIC CAPACITOR
C041,042	2	NS-50TWR15M	ELECTROLYTIC CAPACITOR
C043,044	2	MY-50VS153J	MYLAR CAPACITOR
C045,046	2	NS-50TWR22M	ELECTROLYTIC CAPACITOR
C047,048	2	MY-50VS683J	MYLAR CAPACITOR
C049,050	2	MY-50VS563J	MYLAR CAPACITOR
C051,052	2	MY-50VS562J	MYLAR CAPACITOR
C053,054	2	MY-50VS103J	MYLAR CAPACITOR
C055,056	2	NS-50TW1R0M	ELECTROLYTIC CAPACITOR
C057,058	2	NS-10TW331M	ELECTROLYTIC CAPACITOR
C071	1	NS-25TW4R7M	ELECTROLYTIC CAPACITOR
C072	1	HC10SJZF473Z	CERAMIC CAPACITOR
C073	1	NS-10TW221M	ELECTROLYTIC CAPACITOR
C074	1	NS-10TW101M	ELECTROLYTIC CAPACITOR
C075	1	NS-25TW100M	ELECTROLYTIC CAPACITOR
C076	1	NS-16TW101M	ELECTROLYTIC CAPACITOR
C077,078	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C079	1	NS-16TW330M	ELECTROLYTIC CAPACITOR
C081	1	NS-50TW4R7M	ELECTROLYTIC CAPACITOR
C082	1	HE70SJYF103Z	CERAMIC CAPACITOR
C100	1	HC10SJZF473Z	CERAMIC CAPACITOR
C101,102	2	MY-50VS222J	MYLAR CAPACITOR
C103,104	2	HC10SJZF473Z	CERAMIC CAPACITOR
C105~112	8	NS-25TW100M	ELECTROLYTIC CAPACITOR
C113,114	2	HE40SJSL330K	CERAMIC CAPACITOR
C115,116	2	NS-10TW470M	ELECTROLYTIC CAPACITOR
C117,118	2	NS-50TW1R0M	ELECTROLYTIC CAPACITOR
C119,120	2	MY-50VS272J	MYLAR CAPACITOR
C121,122	2	NS-50TWR10M	ELECTROLYTIC CAPACITOR
C123,124	2	NS-50TWR33M	ELECTROLYTIC CAPACITOR
C125,126	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C127~130	4	NS-10TW101M	ELECTROLYTIC CAPACITOR
C131,132	2	NS-50TW1R0M	ELECTROLYTIC CAPACITOR
C133,134	2	NS-10TW101M	ELECTROLYTIC CAPACITOR
C135~137	3	NS-50TW1R0M	ELECTROLYTIC CAPACITOR
C191,192, 194	3	NS-16TW470M	ELECTROLYTIC CAPACITOR
C201,202	2	HE40SJYB391K	CERAMIC CAPACITOR
C203,204	2	NS-25TW4R7M	ELECTROLYTIC CAPACITOR
C205,206	2	HE40SJYB101K	CERAMIC CAPACITOR
C207,208	2	MY-50VS182J	MYLAR CAPACITOR
C209,210	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C211,212	2	NS-25TW4R7M	ELECTROLYTIC CAPACITOR
C213,214	2	HE40SJYB101K	CERAMIC CAPACITOR
C215,216	2	NS-50TWR22M	ELECTROLYTIC CAPACITOR
C217,218	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C219,220	2	NS-25TW4R7M	ELECTROLYTIC CAPACITOR
C221,222	2	MY-50VS102J	MYLAR CAPACITOR
C223~226	4	MY-50VS392J	MYLAR CAPACITOR
C227,228	2	MY-50VS132J	MYLAR CAPACITOR
C229,230	2	MY-50VS272J	MYLAR CAPACITOR
C231,232	2	MY-50VS332J	MYLAR CAPACITOR
C271	1	NS-35TW221M-KF	ELECTROLYTIC CAPACITOR
C272	1	NS-25TW470M	ELECTROLYTIC CAPACITOR
C273	1	NS-16TW101M	ELECTROLYTIC CAPACITOR
C274,275	2	HC10SJZF473Z	CERAMIC CAPACITOR
C276	1	HE70SJYF103Z	CERAMIC CAPACITOR
C301,302	2	NS-25TW100M	ELECTROLYTIC CAPACITOR
C303,304	2	HE40SJYB221K	CERAMIC CAPACITOR
C351	1	PP100VS272J	POLYESTER FILM CAPACITOR
C353,354	2	MY-50VS103J	MYLAR CAPACITOR
C360	1	NS-25TW100M	ELECTROLYTIC CAPACITOR
C361	1	NS-10TW471M	ELECTROLYTIC CAPACITOR
C701	1	HE70SJYF103Z	CERAMIC CAPACITOR
C702	1	NS-50TW2R2M	ELECTROLYTIC CAPACITOR
C707	1	HE70SJYF103Z	CERAMIC CAPACITOR
C708	1	HC10SJZF473Z	CERAMIC CAPACITOR
C709	1	NS-16TW101M	ELECTROLYTIC CAPACITOR
C710	1	NS-16TW222M-KF	ELECTROLYTIC CAPACITOR
C711	1	NS-16TW220M	ELECTROLYTIC CAPACITOR
C712	1	NS-16TW222M-KF	ELECTROLYTIC CAPACITOR
C802	1	NS-25TW102M-KF	ELECTROLYTIC CAPACITOR
C803	1	NS-35TW222M-KF	ELECTROLYTIC CAPACITOR
C804	1	NS-35TW102M-KF	ELECTROLYTIC CAPACITOR
C805~807	3	NS-16TW101M	ELECTROLYTIC CAPACITOR
RESISTORS			
R001,002	2	KA16ST100J-UA	CARBON RESISTOR
R003,004	2	KA16ST820J-UA	CARBON RESISTOR
R005,006	2	KA16ST222J-UA	CARBON RESISTOR
R007,008	2	KA16ST124J-UA	CARBON RESISTOR
R009,010	2	KA16ST104J-UA	CARBON RESISTOR
R011,012	2	KA16ST223J-UA	CARBON RESISTOR
R013~016	4	KA16ST472J-UA	CARBON RESISTOR
R017~020	4	KA16ST153J-UA	CARBON RESISTOR
R021,022	2	KA16ST104J-UA	CARBON RESISTOR
R023,024	2	KA16ST823J-UA	CARBON RESISTOR
R025,026	2	KA16ST561J-UA	CARBON RESISTOR
R027~032	6	KA16ST223J-UA	CARBON RESISTOR
R033,034	2	KA16ST202J-UA	CARBON RESISTOR
R037,038	2	KA16ST183J-UA	CARBON RESISTOR
R039,040	2	KA16ST203J-UA	CARBON RESISTOR
R041,042	2	KA16ST162J-UA	CARBON RESISTOR
R043,044	2	KA16ST105J-UA	CARBON RESISTOR
R045,046	2	MF25ST561G-UA	METAL FILM RESISTOR
R047,048	2	KA16ST392J-UA	CARBON RESISTOR
R049,050	2	KA16ST332J-UA	CARBON RESISTOR
R051,052	2	MF25ST223G-UA	METAL FILM RESISTOR
R053,054	2	KA16ST752J-UA	CARBON RESISTOR
R055,056	2	KA16ST681J-UA	CARBON RESISTOR
R057,058	2	KA16ST912J-UA	CARBON RESISTOR
R059,060	2	KA16ST471J-UA	CARBON RESISTOR
R061,062	2	KA16ST332J-UA	CARBON RESISTOR
R065,066	2	KA16ST471J-UA	CARBON RESISTOR
R067,068	2	KA16ST332J-UA	CARBON RESISTOR
R077	1	KA16ST473J-UA	CARBON RESISTOR
R078	1	KA16ST471J-UA	CARBON RESISTOR
R079	1	KA16ST122J-UA	CARBON RESISTOR
R080	1	KA16ST152J-UA	CARBON RESISTOR
R081	1	KA16ST104J-UA	CARBON RESISTOR
R083	1	MF25ST134G-UA	METAL FILM RESISTOR
R084	1	KA16ST682J-UA	CARBON RESISTOR
R095	1	KA16ST393J-UA	CARBON RESISTOR

REF. NO.	Q'TY	PART NO.	DESCRIPTION
R086	1	KA16ST822J-UA	CARBON RESISTOR
R087	1	KA16ST223J-UA	CARBON RESISTOR
R088	1	KA16ST332J-UA	CARBON RESISTOR
R089	1	KA16ST103J-UA	CARBON RESISTOR
R090	1	KA16ST332J-UA	CARBON RESISTOR
R091	1	KA16ST153J-UA	CARBON RESISTOR
R092	1	KA16ST472J-UA	CARBON RESISTOR
R093	1	KA16ST223J-UA	CARBON RESISTOR
R094	1	KA16ST102J-UA	CARBON RESISTOR
R095	1	KA16ST472J-UA	CARBON RESISTOR
R101,102	2	KA16ST822J-UA	CARBON RESISTOR
R103~105	3	KA16ST102J-UA	CARBON RESISTOR
R107,108	2	KA16ST332J-UA	CARBON RESISTOR
R109,110	2	KA16ST103J-UA	CARBON RESISTOR
R111~114	4	KA16ST224J-UA	CARBON RESISTOR
R115,116	2	KA16ST103J-UA	CARBON RESISTOR
R117,118	2	KA16ST223J-UA	CARBON RESISTOR
R119,120	2	KA16ST104J-UA	CARBON RESISTOR
R121,122	2	KA16ST333J-UA	CARBON RESISTOR
R123~126	4	KA16ST224J-UA	CARBON RESISTOR
R127,128	2	KA16ST182J-UA	CARBON RESISTOR
R129,130	2	KA16ST153J-UA	CARBON RESISTOR
R131~134	4	KA16ST303J-UA	CARBON RESISTOR
R135,136	2	KA16ST472J-UA	CARBON RESISTOR
R137,138	2	KA16ST153J-UA	CARBON RESISTOR
R139,140	2	KA16ST203J-UA	CARBON RESISTOR
R141,142	2	KA16ST563J-UA	CARBON RESISTOR
R143,144	2	KA16ST103J-UA	CARBON RESISTOR
R145,146	2	KA16ST203J-UA	CARBON RESISTOR
R147,148	2	KA16ST272J-UA	CARBON RESISTOR
R149,150	2	KA16ST474J-UA	CARBON RESISTOR
R151,152	2	KA16ST102J-UA	CARBON RESISTOR
R153,154	2	KA16ST223J-UA	CARBON RESISTOR
R155,156	2	KA16ST474J-UA	CARBON RESISTOR
R157,158	2	KA16ST565J-UA	CARBON RESISTOR
R159,160	2	KA16ST473J-UA	CARBON RESISTOR
R161~164	4	KA16ST103J-UA	CARBON RESISTOR
R165,166	2	KA16ST333J-UA	CARBON RESISTOR
R167,168	2	KA16ST101J-UA	CARBON RESISTOR
R169,170	2	KA16ST103J-UA	CARBON RESISTOR
R171~174	4	KA16ST224J-UA	CARBON RESISTOR
R175,176	2	KA16ST223J-UA	CARBON RESISTOR
R191,192, 194	3	KA16ST221J-UA	CARBON RESISTOR
R201~204	4	KA16ST153J-UA	CARBON RESISTOR
R205~208	4	KA16ST332J-UA	CARBON RESISTOR
R209,210	2	KA16ST333J-UA	CARBON RESISTOR
R211,212	2	KA16ST223J-UA	CARBON RESISTOR
R213~216	4	KA16ST153J-UA	CARBON RESISTOR
R217~220	4	KA16ST333J-UA	CARBON RESISTOR
R221,222	2	KA16ST823J-UA	CARBON RESISTOR
R223,224	2	KA16ST183J-UA	CARBON RESISTOR
R225,226	2	KA16ST823J-UA	CARBON RESISTOR
R227~232	6	KA16ST223J-UA	CARBON RESISTOR
R233,234	2	KA16ST153J-UA	CARBON RESISTOR
R235,236	2	KA16ST472J-UA	CARBON RESISTOR
R237,238	2	KA16ST223J-UA	CARBON RESISTOR
R239,240	2	KA16ST683J-UA	CARBON RESISTOR
R241,242	2	KA16ST105J-UA	CARBON RESISTOR
R243,244	2	KA16ST223J-UA	CARBON RESISTOR
R245,246	2	KA16ST333J-UA	CARBON RESISTOR
R247~254	8	KA16ST105J-UA	CARBON RESISTOR
R255,256	2	KA16ST101J-UA	CARBON RESISTOR
R281,282	2	KA16ST222J-UA	CARBON RESISTOR
R283~286	4	KA16ST471J-UA	CARBON RESISTOR
R287,288	2	KA16ST183J-UA	CARBON RESISTOR
R289,290	2	KA16ST472J-UA	CARBON RESISTOR
R301	1	KA16ST123J-UA	CARBON RESISTOR
R302	1	KA16ST224J-UA	CARBON RESISTOR
R303	1	KA16ST103J-UA	CARBON RESISTOR
R304	1	KA16ST223J-UA	CARBON RESISTOR
R358~360	3	KA16ST104J-UA	CARBON RESISTOR
R363	1	KA16ST473J-UA	CARBON RESISTOR
R367	1	KA16ST102J-UA	CARBON RESISTOR
R368	1	KA16ST681J-UA	CARBON RESISTOR
R369,370	2	KA16ST333J-UA	CARBON RESISTOR
R371	1	KA16ST331J-UA	CARBON RESISTOR
R372,373	2	KA16ST223J-UA	CARBON RESISTOR
R374,375	2	KA16ST104J-UA	CARBON RESISTOR
R377,378	2	KA16ST472J-UA	CARBON RESISTOR
R379	1	KA16ST152J-UA	CARBON RESISTOR
R380	1	KA16ST2R2J-UA	CARBON RESISTOR
R381	1	KA16ST562J-UA	CARBON RESISTOR
R382	1	KA16ST1R0J-UA	CARBON RESISTOR
R701	1	KA16ST473J-UA	CARBON RESISTOR
R702,703	2	KA16ST153J-UA	CARBON RESISTOR
R704	1	KA16ST105J-UA	CARBON RESISTOR
R705	1	KA16ST104J-UA	CARBON RESISTOR
R707,708	2	KA16ST223J-UA	CARBON RESISTOR
R709	1	KA16ST122J-UA	CARBON RESISTOR
R710	1	KA16ST153J-UA	CARBON RESISTOR
R711,712	2	KA16ST473J-UA	CARBON RESISTOR
R713	1	KA16ST222J-UA	CARBON RESISTOR
R714	1	KA16ST100J-UA	CARBON RESISTOR
R715	1	KA16ST331J-UA	CARBON RESISTOR
R716	1	KA16ST222J-UA	CARBON RESISTOR
R717,725	2	KA16ST682J-UA	CARBON RESISTOR
R726	1	KA16ST223J-UA	CARBON RESISTOR
R727	1	KA16ST152J-UA	CARBON RESISTOR

REF. NO.	Q'TY	PART NO.	DESCRIPTION
R728	1	KA16ST473J-UA	CARBON RESISTOR
R803	1	KA16ST102J-UA	CARBON RESISTOR
R804	1	KA16ST101J-UA	CARBON RESISTOR
VR001	1	EWG-G1A301B15	ROTARY POTENTIOMETER
SVR003,004	2	SVR-06T3B203	SEMI-VARIABLE
SVR101,102	2	SVR-06T3B103	SEMI-VARIABLE RESISTOR
SVR201,202	2	SVR-06T3B502	SEMI-VARIABLE
SVR301,302	2	SVR-06T3B204	SEMI-VARIABLE
SVR303	1	SVR-06T3B503	SEMI-VARIABLE
SVR304	1	SVR-06T3B203	SEMI-VARIABLE
COILS			
F101,102	2	184015	FILTER BLOCK
F201,202	2	184014	FILTER BLOCK
L201,202	2	RC875-223J	INDUCTOR
L203,204	2	RC875-393J	INDUCTOR
L303	1	191011	OSC COIL
SWITCHES			
S001,301	2	SW-2233236	ROTARY SWITCH
MISCELLANEOUS			
W001	1	007S240B22-J-J	SOLDER-PLATED WIRE
W002	1	468S243B18-J-J	3-LEAD, FLAT CABLE
W102	1	007S240R10-J-J	SOLDER-PLATED WIRE
EL801	1	59851692	GND LUG
JP801	1	S2011-0510	CONNECTOR
MP001	1	PI25C-06M	MICRO PLUG
MP301	1	PI25C-02M	MICRO PLUG
MP551	1	171825-4	MICRO PLUG
MP701	1	IL-S07PS2T2-EF	CONNECTOR
MP703	1	PI25C-03M	MICRO PLUG
MP704	1	PI25C-09M	MICRO PLUG
MP705	1	PI25C-04M	MICRO PLUG
MP803	1	B2P-SHF-1AA	MICRO PLUG
TP003,201	2	171825-3	MICRO PLUG
16E 1	1	YKC21-0018A	RCA JACK 4P
23E 7	101	E100-UA	JUMP WIRE
23E 8	19	E050-UA	JUMP WIRE
23E25	1	OSH-1625-MP	HEAT SINK

REC. & BALANCE PCB ASS'Y

REF. NO.	Q'TY	PART NO.	DESCRIPTION
P.C.BOARD			
23E10	1	R8V-K045	PRINTED CIRCUIT BOARD
RESISTORS			
R177,178	2	KA16ST472J-UA	CARBON RESISTOR
VR101	1	EWJ-S1AW24A14	ROTARY POTENTIOMETER
MISCELLANEOUS			
W101	1	468S245B30-J-J	5-LEAD, FLAT CABLE
W201,202	2	007S240B07-C-C	SOLDER-PLATED WIRE

AC POWER SUPPLY PCB ASS'Y

REF. NO.	Q'TY	PART NO.	DESCRIPTION
P.C.BOARD			
1E 6	1	AC-K045	PRINTED CIRCUIT BOARD
CAPACITORS			
* C801	1	ECQU2A103MN	METALLIZED FILM CAPACITOR
MISCELLANEOUS			
W901	1	468S245B26-J-Z	5-LEAD, FLAT CABLE
1E 7	1	E100-UA	JUMP WIRE
AL801,802	2	59854795	GND LUG

LEVEL METER, KEY SW PCB ASS'Y

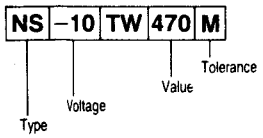
REF. NO.	Q'TY	PART NO.	DESCRIPTION
P.C.BOARD			
2E16	1	LMS-K046	PRINTED CIRCUIT BOARD
SEMICONDUCTORS			
D604	1	1N4148-UA	DIODE
Q601	1	RN1207	TRANSISTOR
IC551,552	2	L81408	IC
IC602	1	TC4013BP	IC
LD551~566	16	LN342GP	LED
LD567,568	2	LN442YP	LED
LD569,570, 601	3	LN242RP	LED
LD602	1	LN442YP	LED
LD603	1	LN342GP	LED
CAPACITORS			
C561,562	2	S5-16TW100M-KF	ELECTROLYTIC CAPACITOR
C563,564	2	S5-50TWR10M-KF	ELECTROLYTIC CAPACITOR
C565	1	S5-16TW100M-KF	ELECTROLYTIC CAPACITOR
C601	1	TP125X103N-UA	CERAMIC CAPACITOR
C602	1	S5-50TWR10M-KF	ELECTROLYTIC CAPACITOR
C603	1	TP125X103N-UA	CERAMIC CAPACITOR
RESISTORS			
R561,562	2	KA16ST332J-UA	CARBON RESISTOR
R563,564	2	KA16ST473J-UA	CARBON RESISTOR
R565	1	KA16ST821J-UA	CARBON RESISTOR
R601	1	KA16ST103J-UA	CARBON RESISTOR
R602	1	KA16ST105J-UA	CARBON RESISTOR
R603	1	KA16ST103J-UA	CARBON RESISTOR
R604	1	KA16ST473J-UA	CARBON RESISTOR
R609	1	KA16ST103J-UA	CARBON RESISTOR
R696	1	KA16ST681J-UA	CARBON RESISTOR
SWITCHES			
S602~608	7	SKHHAK	TACT SWITCH
MISCELLANEOUS			
3E24	11	E100-UA	JUMP WIRE
MC551	1	MC04-K070	MICRO SOCKET ASS'Y
MC602	1	MK07-K084	MICRO SOCKET ASS'Y
MC603	1	MC02-K083	MICRO SOCKET ASS'Y

OTHER PARTS

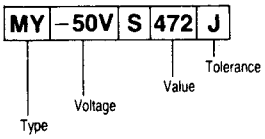
REF. NO.	Q'TY	PART NO.	DESCRIPTION
MISCELLANEOUS			
W801	1	672S220T20-C-D	SOLDER-PLATED WIRE
W802	1	672S220A20-C-D	SOLDER-PLATED WIRE
23E19	1	CV-6255	COUNTER BELT
23E23	4	BK-1	CORD CLAMP
23E24	5	NO.5167	CORD CLAMP

Capacitors Description

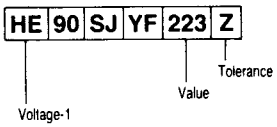
• **Electrolytic**

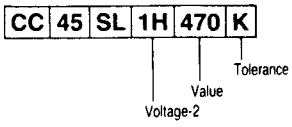


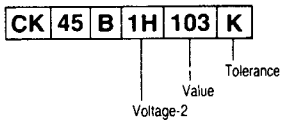
• **Mylar · Styrol**



• **Ceramic**







• **Electrolytic**

Type	Voltage	Value	Tolerance
LL: Low Leak	-10: 10V	R47: 0.47μF	K: ±10%
NP: Non-Pole	-50: 50V	4R7: 4.7μF	M: ±20%
NS: Standard	6R3: 6.3V	470: 47μF	
		471: 470μF	
		472: 4700μF	

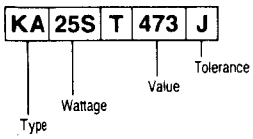
• **Mylar · Styrol**

Type	Voltage	Value	Tolerance
MY: Mylar	-25V: 25V	4R7: 4.7pF	G: ±2%
ST: Styrol	125V: 125V	470: 47pF	J: ±5%
	-63T: 63V	471: 470pF	K: ±10%
		472: 4700pF	M: ±20%
		473: 0.047μF	
		474: 0.47μF	
		(1000pF=0.001μF)	

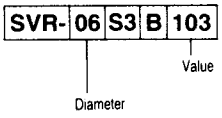
Voltage-1	Voltage-2	Value	Tolerance
HC: 25V	1E: 25V	4R7: 4.7pF	C: ±0.25pF
HE: 50V	1H: 50V	470: 47pF	D: ±0.5pF
H: 100V	2H: 500V	471: 470pF	F: ±1pF
HK: 250V		472: 4700pF	J: ±5%
HM: 500V		473: 0.047μF	K: ±10%
		474: 0.47μF	M: ±20%
		(1000pF=0.001μF)	Z: +80~-20%

Resistors Description

• **Fixed**



• **Semi-Variable**



Type	Wattage	Value	Tolerance	Diameter
CE: Cement Case	-2W: 2W	R47: 0.47Ω	M: ±20%	08: 8φ
FR: Flame Proof	10W: 10W	4R7: 4.7Ω	K: ±10%	10: 10φ
KA: Carbon	16S: 1/6W	470: 47Ω	J: ±5%	06: 6φ
MF: Metal Film	20S: 1/5W	471: 470Ω	G: ±2%	
RF: Fusible	25S: 1/4W	472: 4.7kΩ	F: ±1%	
SA: Metal Oxide	50S: 1/2W	473: 47kΩ	D: ±0.5%	
	50X: 1/2W	474: 470kΩ		
	S3W: 3W	475: 4.7MΩ		