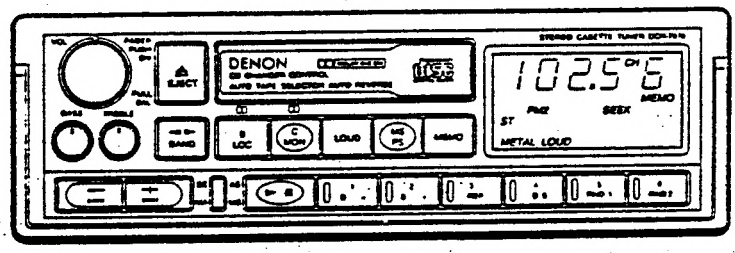
DENON

Hi-Fi Stereo Cassette ~~Receiver~~ Tuner

SERVICE MANUAL

MODEL DCR-7870

STEREO CASSETTE TUNER



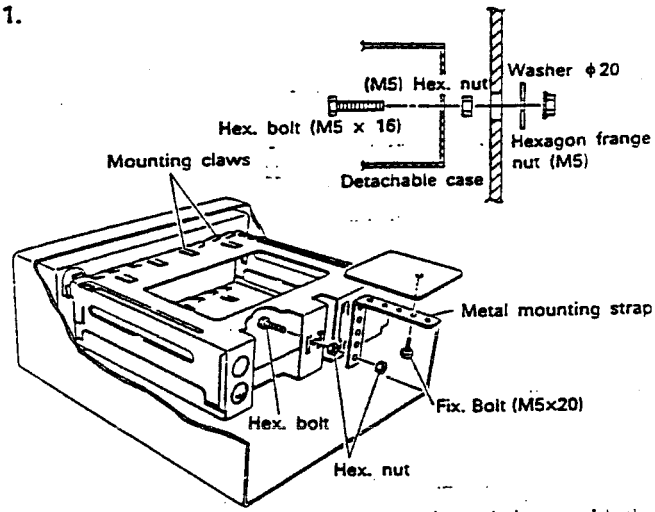
CONTENTS

NIPPON COLUMBIA CO., LTD.

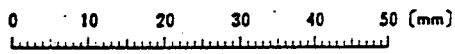
INSTALLATION

- Use screws supplied as accessories when installing the unit.

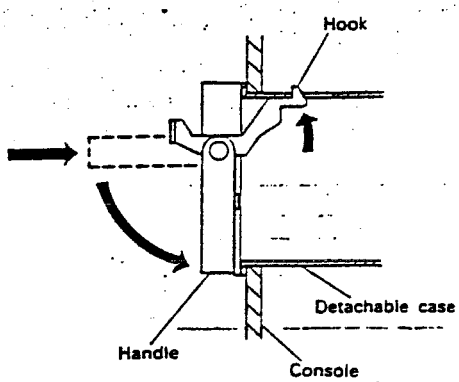
1.



Insert the detachable case into the console and clamp with the claws. If the detachable case cannot be inserted, file opening slightly to accommodate.

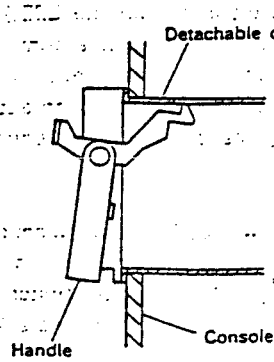


2.

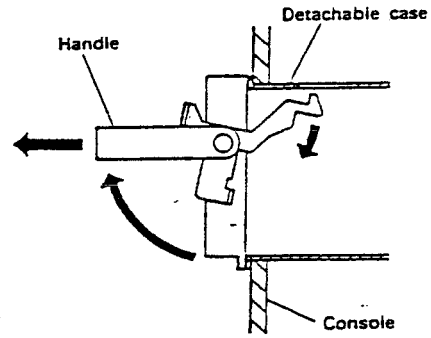


Lower the handle completely.
If the handle is lowered incompletely as shown in the diagram below, the hook will not grasp properly. Be sure to lower it fully.

3.



4.

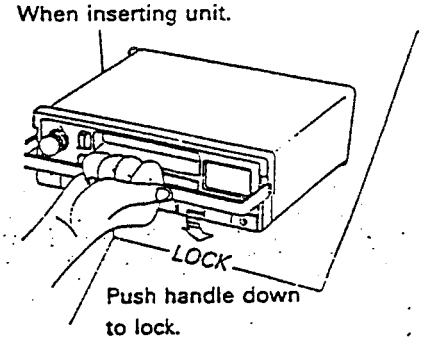


To detach the set, lift the handle and pull it in the direction o the arrow shown on the diagram.

5.

CAUTION

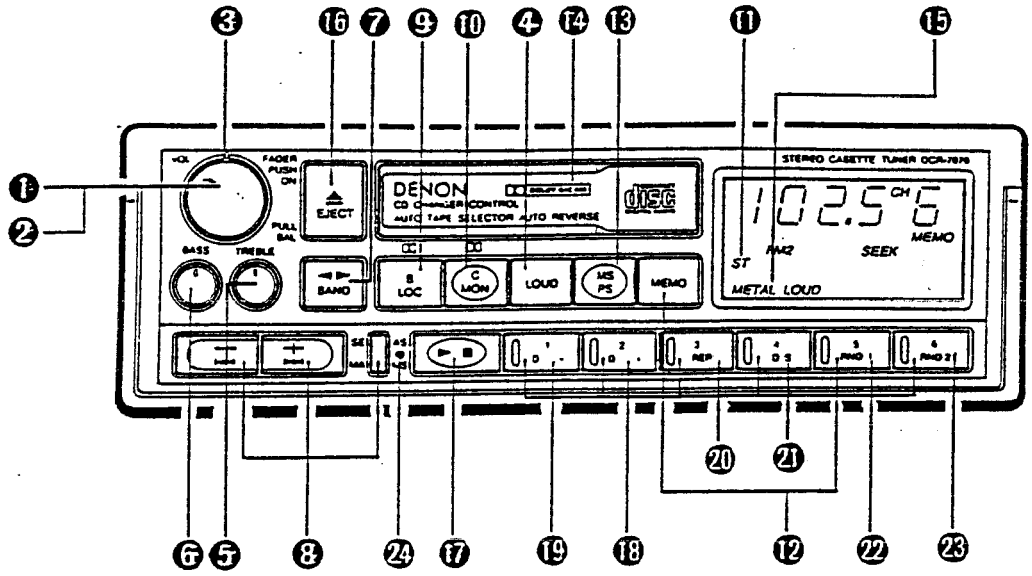
Handle must be in this position, When inserting unit.



ACCESSORIES

No.	Part name	Q'ty
①	M5 Nut	2
②	M5 Washer	2
③	M5 SP Washer	2
④	Hex. Bolt 5×16	2
⑤	Fix. Bolt 5×20	1
⑥	Nut W/Flange (M5)	1
⑦	Special Bolt	1
⑧	Metal Mounting Strap	1

CONTROLS & INDICATORS



• MAIN CONTROL

❶ TUNER ON/OFF SWITCH/VOLUME
Turn the knob for volume control.
Push the knob for tuner on/off.

❷ BALANCE CONTROL
Pull and turn the volume knob to adjust the volume of the left and right speakers.
After adjusting, press in the knob to lock the selection.

❸ FADER CONTROL
Turn the knob to adjust the balance of front and rear speakers. Clockwise for front and counter-clockwise for rear.

❹ LOUDNESS SWITCH
Push the switch for low volume listening. Low and high frequency range are enhanced. "LOUD" will be indicated on the LCD display.

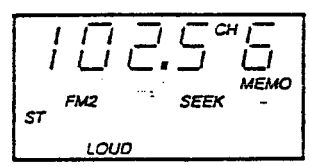
❺ TREBLE CONTROL
Turn the knob to adjust the treble.
After adjusting, push in the knob to lock the selection.

❻ BASS CONTROL
Turn the knob to adjust the bass.
After adjusting, push in the knob to lock the selection.

• Operating the Radio

PREPARE

- ❶ TUNER ON/OFF SWITCH Push this switch to turn on the radio. The frequency will be displayed on the LCD.



- ❼ BAND SELECTOR Each time this switch is pushed, the band will be changed in the order of FM1 → FM2 → FM3 → AM. The band indication (FM1, FM2, FM3, or AM) will be displayed on the LCD.

SEEK TUNING

- ❽ Push the SEEK/MANUAL switch to set the SEEK mode. ("SEEK" will be displayed on the LCD.)
- ❽ Push the UP TUNING switch to automatically tune to the next strong station of higher frequency.
- ❽ Push the DOWN TUNING switch to automatically tune to the next strong station of lower frequency.

MANUAL TUNING

- ❽ Push the SEEK/MANUAL switch to set the manual mode. (The "SEEK" indication will disappear from the LCD.)
- ❽ Each push of the UP TUNING switch raises the frequency in a 200 or 50 kHz step for FM and a 10 or 9 kHz step for AM.

• ❽ Each push of the [DOWN TUNING] switch lowers the frequency in a 200 or 50 kHz step for FM, and a 10 or 9 kHz step for AM. Holding down either of these switches changes the frequency continuously.

Note: In strong signal areas the seek function may stop at the "side" of the station and the signal may be distorted or noisy, in such a case you may elect to use the "local" switch – (See ❾).

❾ [LOCAL] LOCAL SWITCH

Your DENON Car Tuner is equipped with the most advanced mobile tuning circuitry available. You may also find using the LOCAL switch under very high signal strength situations desirable when tuning by SEEK mode. "LOCAL" will be indicated on the LCD display.

❿ [FM AUTO/MONO] FM AUTO/MONO SWITCH

Push the switch to receive FM stations in monaural. "MONO" will be indicated on the LCD display. This will be useful in difficult reception areas to improve listenability.

⓫ FM STEREO INDICATOR

"ST" will be indicated on the LCD display when any FM Stereo program is received.

⓬ [MEMORY] MEMORY SWITCH

Use to store the received station in the preset memories.

1) Select AM or FM.
2) Tune to desired station by manual or seek mode.
3) Push the memory switch and "MEMO" will be indicated the LCD display.
4) Push one of the preset switch within 5 seconds.

18 FM and 6 AM stations can be memorized.

Preset station can be called by pushing the preset switch and indicated as "CH1~6" on the LCD display.

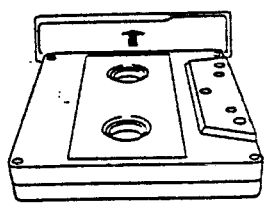
⓭ [PRESET SCAN] PRESET SCAN SWITCH

Pushing this switch causes the scanner to scan for the station frequency set in the Preset Memory for approximately 5 seconds. Pushing the switch again stops the scanner at the station set in the Preset Memory.

Note: The preset scan function can scan for between preset stations 1~6 within the current selected band.

• Cassette Tape Operation

⓮ CASSETTE TAPE SLOT



Insert the cassette into this slot with the opening of the cassette to the right side. The cassette will load and start playing automatically.

"TAPE" will be indicated on the LCD display.

❼ [PROGRAM] PROGRAM SWITCH

Push the switch to reverse the running direction of tape. When the tape comes to the end, the running direction of tape reverses automatically.

When playing back the upper track of the cassette, the forward indicator "▶" will turn on and when the lower track is played the reverse indicator "◀" will turn on.

⓯ METAL INDICATOR

This is the tape selector indicator. The tape selector determines automatically whether the tape being played is a Metal, Chrome, "High Bias" or Normal type tape, and indicates "METAL" on the LCD display when the tape is a Metal, Chrome or "High Bias" tape.

❾ ❿ [LOCAL] [FM AUTO/MONO] DOLBY B/C NR SYSTEM SWITCH**

When listening to tape that has been recorded using the DOLBY SYSTEM.

Push the DOLBY B switch, when listening to play back of a tape recorded with the DOLBY SYSTEM B type.

"DD B" will be indicated on the LCD display.

When the C type DOLBY SYSTEM recorded, push C.

"DD C" will be indicated on the LCD display.

Push off DOLBY NR switch when playing back generally recorded tape.

❽ FAST-FORWARD AND REWIND SWITCHES

- Push the [UP] switch to fast-forward the tape, regardless of the direction of playback.
  The following will appear on the LCD:
  "▶▶ (blink)" for fast-forward in the forward direction.
  "◀◀ (blink)" for fast-forward in the reverse direction.
- Push the [DOWN] switch to rewind the tape, regardless of the direction of playback.
  The following will appear on the LCD:
  "(blink) ◀▶" for rewind in the forward direction.
  "◀▶ (blink)" for rewind in the reverse direction.
- Push the PROGRAM switch ❼, to stop fast-forward or rewind.
  If the tape comes to the end by fast forward, it will play from the first program of reverse side automatically.
  If the tape comes to the end by rewind, it will play from the first program of same side automatically.

⑧ ⑬ MUSIC SENSOR

This circuit operates by searching for blank spaces between songs. It can be used to find the beginning of the next song or to return to the start of the song in play.

To operte:

1. Push the ⑧ switch so that "MS" appears on the LCD.
2. Pushing [▶▶] switch will find the beginning of the next song and resume play.
   Pushing [◀◀] switch will return to the beginning of song in play, and resume play.

> When [■] switch is pushed the MS command will be cancelled.

Note: For MS to operate normally there must be blank space of at least 5 seconds. You may find that occasionally a very soft section in the music may "fool" the MS into "thinking" there exists a pause in the music. This should be considered to be normal.

⑯ ⏏ EJECT SWITCH

Push the switch to eject the cassette.

Note: The cassette is automatically ejected if the function is switched to the tuner or CD changer mode while a tape is playing.

• CD Changer Operation

(Please connect the optional DCC-1570)

⑰ CD PLAY/STOP SWITCH

Pushing this switch will start the CD play.
The "▶" sign and the currently playing disc number and track number will be displayed on the LCD.
Pushing this switch once again will stop the CD play.

• Disc Change

- ⑱ Pushing the [▲] switch will advance the unit to the next disc and start the play from the first track.
- ⑲ Pushing the [▼] switch will return the unit to the previous disc and start the play from the first track. The number of the changed disc is displayed on the LCD.

⑧ AUTOMATIC SEARCH

1. Pushing the [AUTO/MANUAL] Auto/Manual Search switch will display "SEARCH" on the LCD and set the unit to the automatic search mode.
2. Pushing the [▶▶] switch will find the beginning of the next song and resume play.
   Pushing the [◀◀] switch will return to the beginning of the song in play, and resume play.
3. Continuing to push the [▶▶] (or [◀◀]) switch will find the beginning of the next song (or the previous song) and resume play.

* The track numbers of the songs being searched will be displayed on the LCD.
* When the unit reaches the first or last song on the disc, the search will be cancelled.

⑧ MANUAL SEARCH

1. Pushing the [AUTO/MANUAL] Auto/Manual Search switch will set the manual search mode and the "SEARCH" display on the LCD will go out.
2. Continuing to push the [▶▶] up switch will fast forward the disc. Continuing to push the [◀◀] down switch will fast reverse the disc.
   At this time the sound can be heard at a lower volume than during regular playback.

⑳ [1] REPEAT SWITCH

Pushing this switch will provide repeat playback of the song currently being played. "REPEAT" will be displayed on the LCD.

㉑ [2] DISC SCAN SWITCH

When this switch is pushed, the first ten seconds of ~~each track on~~ all discs are played in order. ~~first track of~~ "DS" is displayed on the LCD.

㉒ [3] RANDOM 1 SWITCH (for One Disc)

Pushing this switch will play back each of the tracks on the disc currently being played in random order once. When all of the tracks have been played back, the unit will advance to the next disc.
"RANDOM 1" will be displayed on the LCD.

㉓ [4] RANDOM 2 SWITCH (for All the Discs)

Pushing this switch will play back all the tracks of all the discs in random order.
"RANDOM 2" will be displayed on the LCD.

Note: When any of the switchs ⑳ through ㉓ are pushed one more time, the unit will return to the regular playback mode and the LCD display will go out.

㉔ RESET SWITCH

When the set malfunctions, push this switch with the point of a ball point pen or other sharp implement. This resets the internal microcomputer.

Note: Pushing the RESET switch cancels the tuner's preset memory, single track repeat memory, etc. Set each of these memories again after the RESET switch has been pushed.

Error Displays

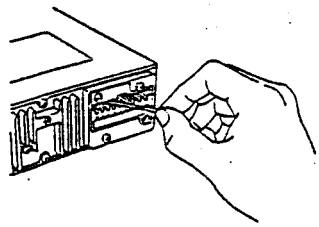
With the DCC-1570 connected, if any of the following error displays are shown on the LCD when the unit is operated, carry out the measure indicated in the table.

Error display	Cause of error	Measure
PAC	The disc magazine is not inserted in the changer.	Insert a disc magazine that has been loaded with discs into the changer.
	Discs are not loaded in the disc magazine.	Remove the disc magazine and load the discs.
Err	The DCC-1570 does not operate for some reason.	Push the DCR-7870 reset switch
HH	The temperature protection circuit of the DCC-1570 has operated.	Wait until the temperature drops.

Memory back up battery
Removable type DCR-7870 lithium battery powers the memory and preset memory.
Battery life is about 4 years.
In extremely high or low temperatures the memory back up occasionally does not work properly.
For replacement contact your DENON dealer or local DENON service center.

CLEANING

When playback sound begins to deteriorate, it is time to clean the playback head. Insert a special head cleaning cassette into the tape-loading slot and allow it to run for a few minutes to remove any foreign matter.



The connector at the rear socket sometimes makes poor connection when the unit is frequently detached. Periodically wipe the connector with a cotton swab moistened with alcohol.

PRECAUTIONS

1. Always remove the cassette tape from the unit when not in use.
2. When replacing the fuse, the replacement must be of the same amperage as shown on the fuse holder. If the fuse blows more than once, carefully check all electrical connections for shorted circuitry. Have your car's voltage regulator checked also. Do not attempt to repair the unit yourself; return the unit to your nearest DENON Service Station for servicing.
3. In extremely hot weather, let you car's interior cool down before turning your player on. Good air circulation is essential to prevent internal heat build-up in the unit.
4. C-120 type cassette tapes are not recommended for use in automobile tape players.
5. Prevent any foreign objects from entering the cassette slot as the precision mechanism and tape head could be damaged.
6. To protect your cassette tapes, store them in a cool place away from dust, dirt, and strong magnetic sources such as electric motors and TV sets.
7. Check and make sure any slack in the tape is taken up before inserting the tape into the unit. A loose tape could cause damage to the unit and the tape itself. Tighten the cassette by inserting a pencil or a similar instrument into the spindle hole and turn until all the slack has been taken up.
8. The switches used to control the CD Changer will not function if the CD Changer is not connected.

SPECIFICATIONS

FM TUNER

• Mono Usable Sensitivity	14.8 dBf 1.5 µV (75 ohms)
• 50 dB Quieting Sensitivity	20.3 dBf 2.8 µV (75 ohms)
• Alternate Channel Selectivity	70 dB
• S/N (Signal to Noise Ratio)	70 dB
• Stereo Separation	40 dB at 1 kHz
• Capture Ratio	2.0 dB
• Image Rejection	50 dB
• IF Rejection	110 dB

AM TUNER

• Sensitivity	30 µV (S/N 20 dB)

TAPE

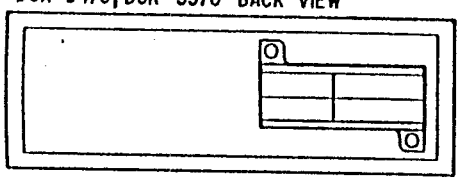
• Wow and Flutter	0.09% WRMS
• Stereo Separation	40 dB at 1 kHz
• S/N (Signal to Noise Ratio)	72 dB (Dolby C NR)**
• Frequency Response	
– with METAL/CrO_2/FeCr (70 µS) tape	30 Hz to 18 kHz ±3 dB
– with NORMAL (120 µS) tape	30 Hz to 16 kHz ±3 dB

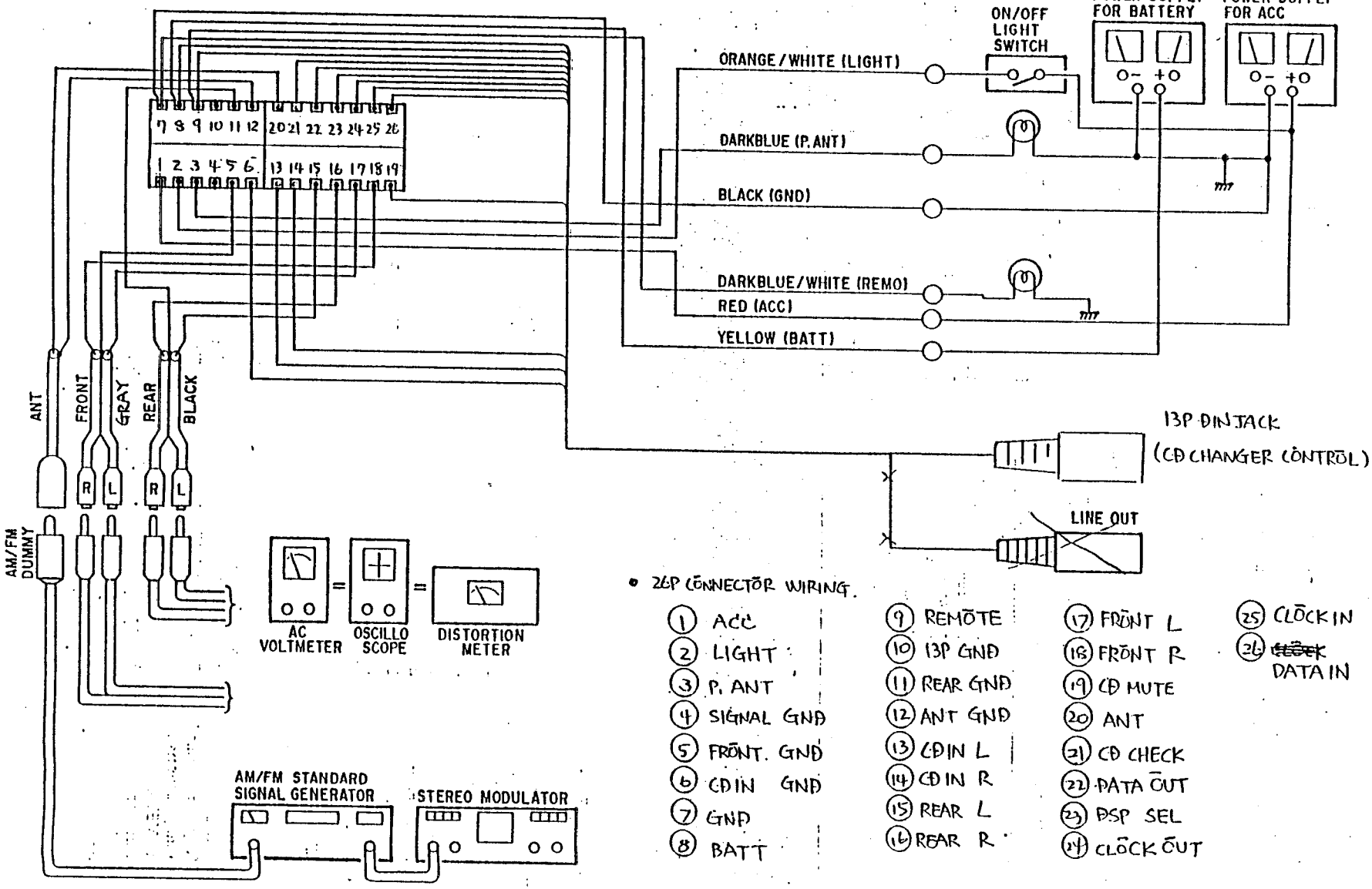
GENERAL

• Output Voltage – Pre-amp level	1 V/10 k ohms
• Bass	±10 dB at 100 Hz
• Treble	±10 dB at 10 kHz
• Loudness (Vol. –30 dB)	+8 dB at 100 Hz +8 dB at 10 kHz
• Remote Output	12 V 500 mA max.
• P. ant output	12 V 500 mA max.
• Chassis Size (W × H × D)	178 mm × 50 mm × 172 mm (7-1/64" × 2" × 6-25/32")
• Panel Size (W × H × D)	187 mm × 59 mm × 13 mm (7-23/64" × 2-21/64" × 33/64")
• Weight	1.9 kg (4 lbs 3 oz)

Design and specifications are subject to change for improvement without prior notice.

DCR-7870
-DCR-5470, DCR-5370- BACK VIEW



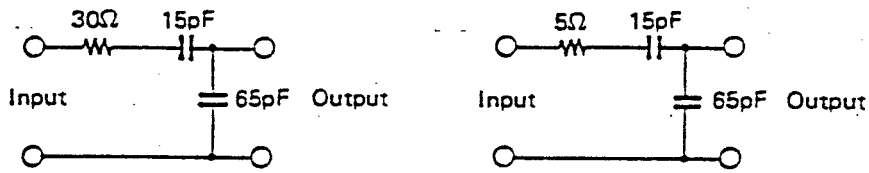


• 26P CONNECTOR WIRING.

(1) ACC	(9) REMOTE	(17) FRONT L	(25) CLOCK IN
(2) LIGHT	(10) 13P GND	(18) FRONT R	(26) ~~CLOCK~~ DATA IN
(3) P. ANT	(11) REAR GND	(19) CD MUTE	
(4) SIGNAL GND	(12) ANT GND	(20) ANT	
(5) FRONT. GND	(13) CD IN L	(21) CD CHECK	
(6) CD IN GND	(14) CD IN R	(22) DATA OUT	
(7) GND	(15) REAR L	(23) DSP SEL	
(8) BATT	(16) REAR R	(24) CLOCK OUT	

1. Conditions for adjustment (adjustment must be done in the following conditions)
   1-1 Supply voltage — 14.4V DC
   1-2 Temperature — Normal temperature
   1-3 Dummy antenna — Use standard dummy antenna

AM standard dummy



For 50Ω signal generator — For 75Ω signal generator

Note: Input level should be read at the SG output.

FM standard dummy

For 50Ω signal generator — For 75Ω signal generator

Note: Input level should be read at the unit input (antenna input).

2. Setting of controls before adjustment (controls and switches must be set as follows)
   2-1 Controls
   - Requires semifixed resistors, ~~trimmer condenser~~ — set at mechanical center position.
   - Balance, bass and treble control — set at machanical center position.
   - Volume at approximate maximum position.
   - Fader balance at center.

   2-2 Switches
   - Dolby B/C, and LOUD, MONO, LOCAL - set to OFF position.

   2-3 Specifications of cassette mechanism
   - Tape speed : 3000 Hz +5%, –1% (WS-48A (3 kHz, 0 dB) Sony)
   - Play torque (FWD/REV) : 25 to 55 g-cm (FWD: TW-2111A Sony, REV: TW-2121A Sony)
   - FF/REW torque : More than 55 to 150 g-cm (TW-2231 Sony)
   - Back tension : Less than 1.5 to 4 g-cm (FWD: TW-2111A Sony, REV: TW-2121A Sony)

ADJUSTMENT

● FM ALIGNMENT

Table 1

Step	Aligning	SG set	Tune in to	Output Connection	Adjusting Method	Remarks
1	Discriminator (FM Det Coil)	98.1 MHz 1 kHz, 75 kHz dev 60 dBμ (Ant input)	98.1 MHz	TP101 0-center meter	Adjust T~~401~~ and obtain 0-center meter indication at 0V.	Indication should be within 0 ± 0.05V.
2	FM IF (Tuner Pack)	98.1 MHz 1 kHz, 75 kHz dev Low level without limiter effect	98.1 MHz	LINE Amp output to AC voltmeter	(Adjust T~~100~~ for) maximum output.	Preset by the factory. Adjust only as necessary.
3	Muting	98.1 MHz 1 kHz, 75 kHz dev ~~68~~ dBμ (Ant input)	98.1 MHz	LINE Amp output to AC voltmeter	Set the Line output at 0dB. Adjust VR403 to obtain –25 dB noise output by moving the SG frequency from 98.1 to 99.1MHz.	None
4	Output level	98.1 MHz 1 kHz, 75 kHz dev 60 dBμ (Ant input)	98.1 MHz	LINE Amp output to AC voltmeter	None	Set the Volume control at maximum. Confirm that LINE Amp output is within 1.25V ± 0.25V (center 1.25V)
5	Auto-stop level	98.1 MHz 1 kHz 75 kHz dev 17 dBμ (Ant input)	98.1 MHz	None	Adjust VR404 and set to the range.	Select appropriate frequency point and search. Confirm that auto stop functions at 17±5dBμ ANT input.

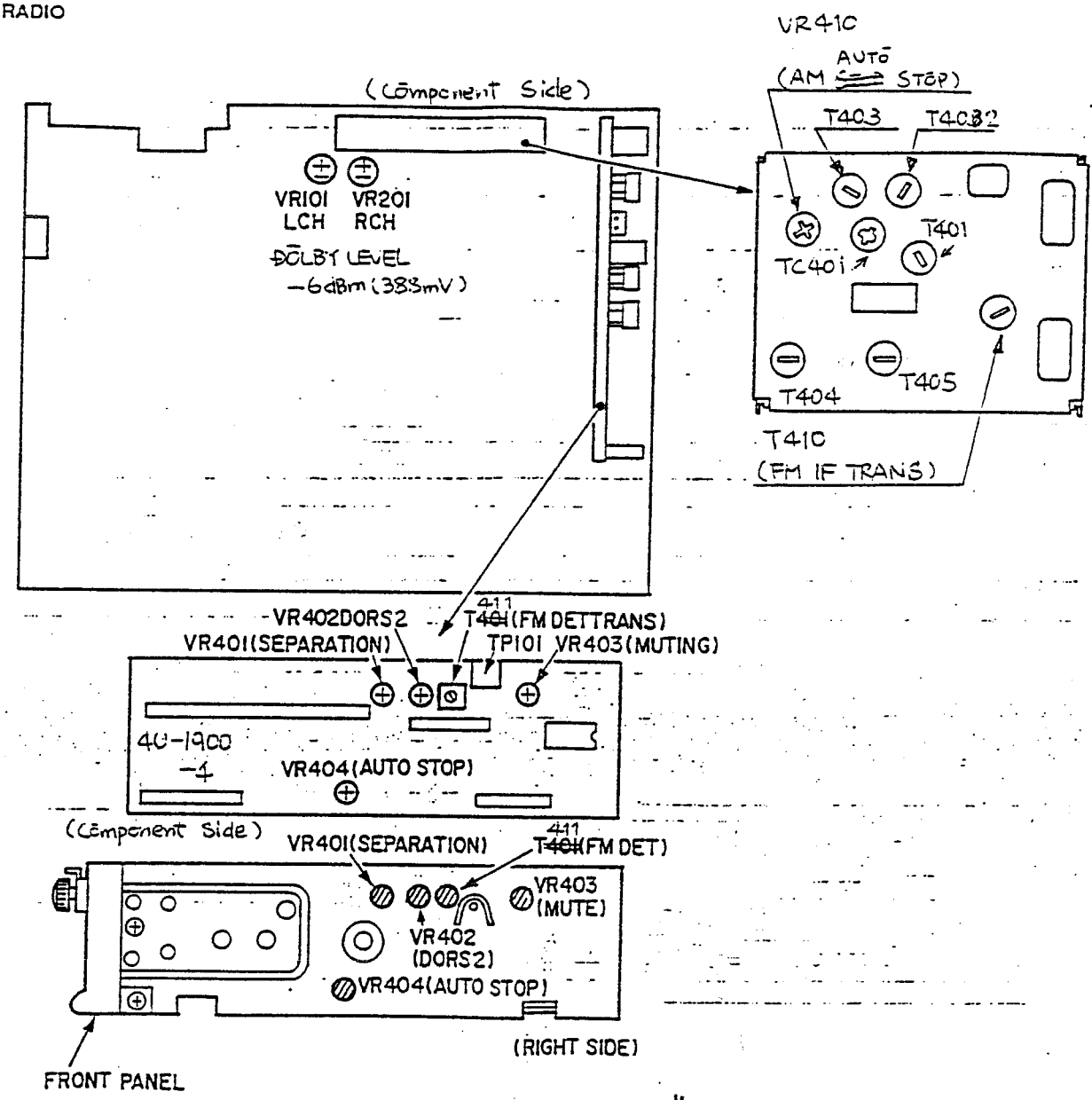
● FM MPX ALIGNMENT (Confirm that the MONO is not indicated.)

Table 2

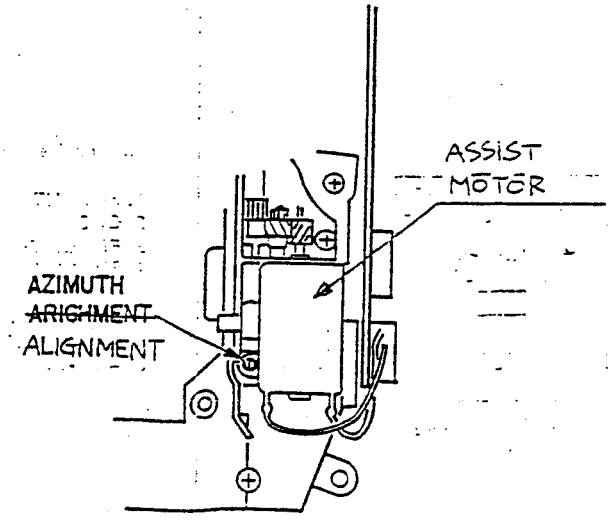
Step	Aligning	SG set	Tune in to	Output Connection	Adjusting Method	Remarks
6	Separation	98.1 MHz 1 kHz, 67.5 kHz dev Pilot 7.5kHz dev ~~dev~~ 60 dBμ (ant input)	98.1 MHz	L and R LINE Amp output to AC voltmeter	Adjust VR401 for optimum L and R separation.	
7	D.O.R.S II (Auto-blend and Auto high filter)	98.1 MHz 1 kHz, 67.5 kHz dev Pilot 7.5 kHz dev 34 dBμ (Ant input)	98.1 MHz	L and R LINE Amp output to AC voltmeter	Adjust VR402 so that the L and R separation becomes 10 ± 3 dB.	As input 60 dBμ separation occasionally changes for worse when performing adjustment, repeat adjustments Separation and Auto-blend for any number of times.

ADJUSTMENT POINT

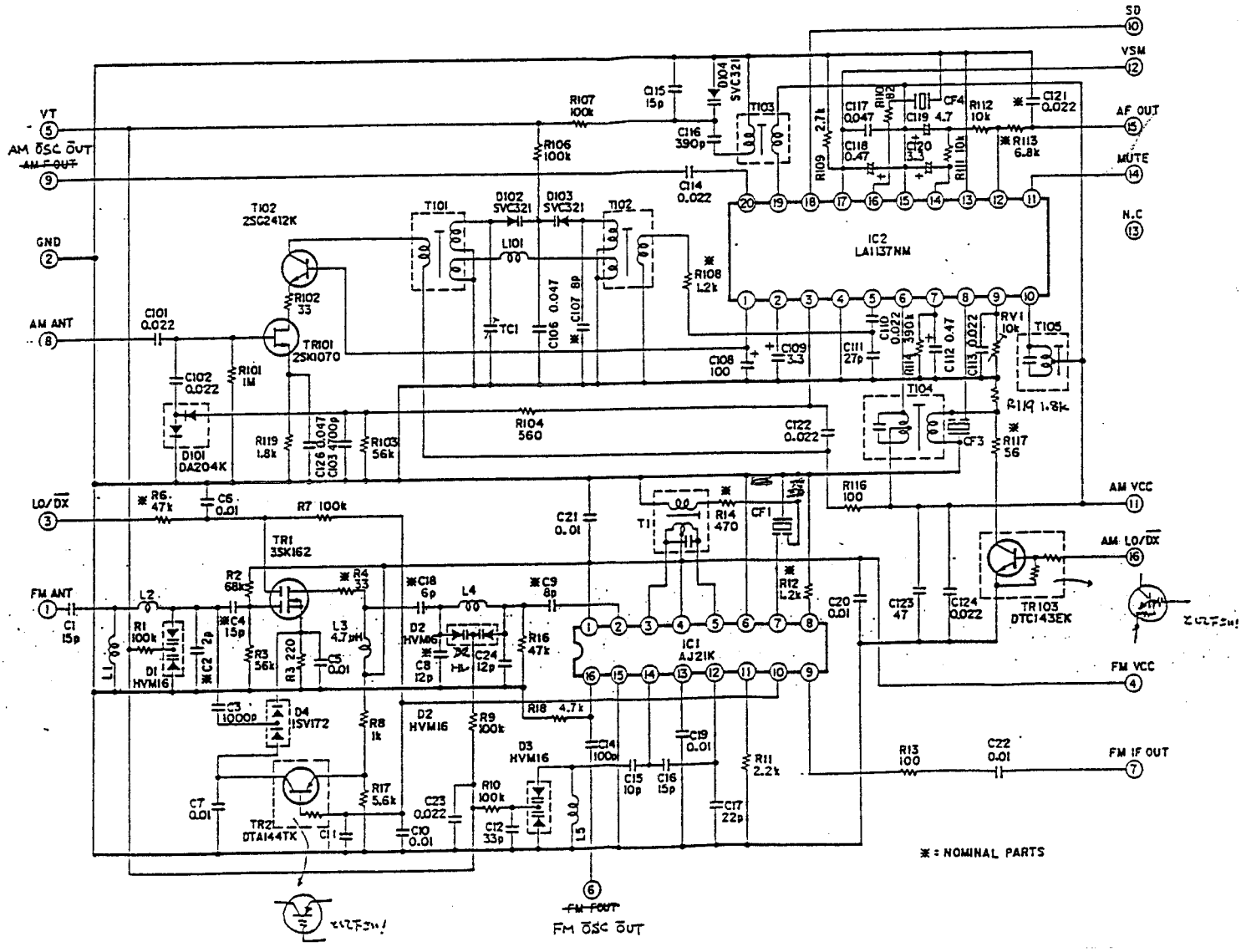
● RADIO

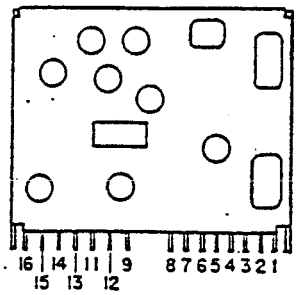


● TAPE



FM/AM TUNER PACK Part No. : 216 0078 006





External Terminals

1. FM. ANT	9. AM IF OUT
2. GND	10. SD
3. FM LO/DX	11. AM VCC
4. FM VCC	12. S meter VSM
5. VT	13. N.C
6. FM IF OUT	14. AGC
7. FM IF OUT	15. AF OUT
8. AM ANT	16. AM LO/DX

BLOCK DIAGRAM

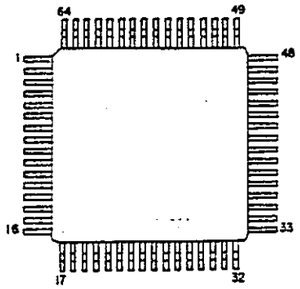
ANT
FM FRONTEND & AM TUNER
TN401
FM IF/DET
IC402
NOISE CANCELLER & MPX
IC401
SD BUFFER
TR505
TR506
RADIO +9V
MONO ON/OFF
AM OSC
FM OSC
AM +9V
FM +9V
VT LO/DX
SEEK MUTE2
SD
LPF
TR501
TR502
PLL
IC501
DOLBY LEVEL ADJ
VR101, 201
9V AVR
FM/AM CONTROL
TR509
TR508
TR510
TR503
TR507
DOLBY B/C NR
~~DOLBY~~
IC309
TR905
TR904
TR706
8V+B
EQ. AMP
IC604
NORMAL/CrO2
AMS
IC603
RADIO ON/OFF
RUSH ON/OFF
HV
SD
DOLBY ON/OFF
DOLBY B/C
TU/TA
LOUD
CD
MUTE
MASTER CONTROL
IC904
REMO
P.ANT
VDD
5V
RESET
5V AVR
TR811
ZD803
BATT (14V)
MODE SWITCH
C.MECHA
MTL. SENS.
MOTOR CONTROL
TR602
TR603
C.MOTOR REEL SENS
SOLENOID
S.CONTROL
TR607
MECHA CONTROL
TR601
TR610
TR104
IC605
MOTOR CONTROL
REEL 1
REEL 2
M.ON
CAP. M
LOADING MOTOR
LM+
LM−
TAPE POSITION SW
T.IN
F/R
P1
P2
P3
P4
CASSET MECHA CONTROL
IC601
MTL
AMS
VDD
RESET
IC602
TR605
TR606
RESET
BUFFER AMP
IC302
MODE CONTROL
IC307
BUFFER AMP
IC304
LOUDNESS ON/OFF
IC308
TR908
TR909
CD
LOUD
VOLUME BALANCE
VR301
BUFFER AMP
IC305
VR303
TONE CONTROL
BASS
TREBLE
VR302
VR303
BUFFER AMP
IC306
MUTE
TR102
MUTE
TR202
FADER
VR301
VR301
LINE AMP
IC102
IC202
TR103
MUTE
TR104
TR203
MUTE
TR204
LINE OUT
MUTE
IC303
BUFFER AMP
IC101, 201, 301
ISOLATION AMP
CD CHANGER
HV
CD CHANGER
LINE IN
TO CD CHANGER
CD CHANGER
HV
CD CHANGER
CONTROL
CD CHANGER
HV
LCD DRIVER
IC901
VDD
INH
LCD
+B
8V
+8V
AUDIO
8V AVR
TR809
TR808
ZD801
BATT (14V) HV
RIGHT (14V)
LIGHT
LAMP
×6 ×2
ACC (14V)
RESET
IC902
IC903
TR907
5V AVR
TR807
ZD802
TR813
TR802
TR804
TR806
REMOTE OUT CONTROL
TR805
TR801
TR812
TR803
P. ANTENA CONTROL
P. ANTENA
HV
P.ANT
LAMP
×2
REMOTE OUT
E
2.73 (5W)

PCR-7870
B/D

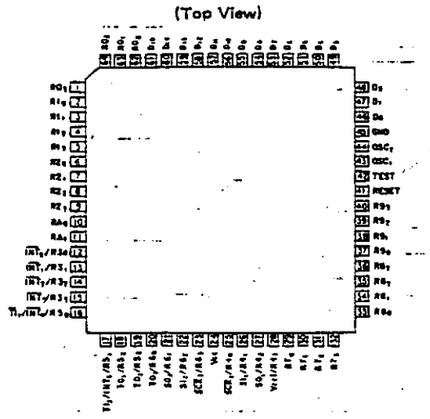
1.10.14

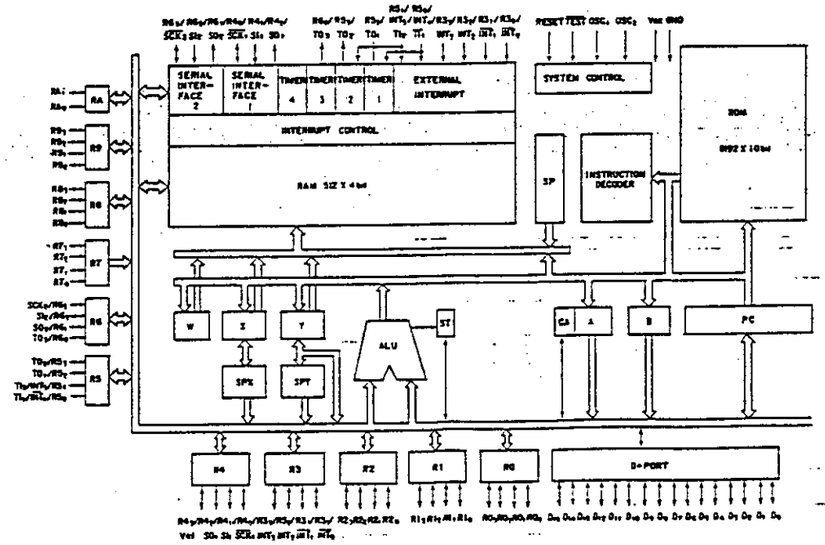
● IC's

HD404418A25H
HD404418A24H



(Top View)





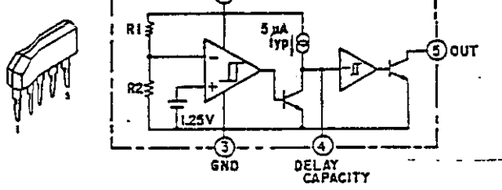
Terminal Function

Table-1

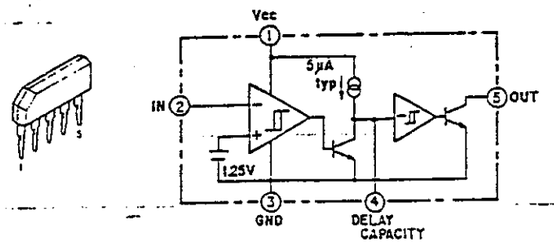
Pin No. DC-64S DP-64S	Pin No. FP-64	Pin No. FP-64A	Terminal Function	I/O	Pin No. DC-64S DP-64S	Pin No. FP-64	Pin No. FP-64A	Terminal Function	I/O
1	59	57	D_{11}	I/O	33	27	25	$R4_0/\overline{SCK_1}$	I/O
2	60	58	D_{12}	I/O	34	28	26	$R4_1/S_{11}$	I/O
3	61	59	D_{13}	I/O	35	29	27	$R4_2/SO_1$	I/O
4	62	60	D_{14}	I/O	36	30	28	$R4_3$/Vref	I/O
5	63	61	D_{15}	I/O	37	31	29	$R7_0$	I
6	64	62	RO_0	I/O	38	32	30	$R7_1$	I
7	1	63	RO_1	I/O	39	33	31	$R7_2$	I
8	2	64	RO_2	I/O	40	34	32	$R7_3$	I
9	3	1	RO_3	I/O	41	35	33	$R8_0$	I/O
10	4	2	$R1_0$	I/O	42	36	34	$R8_1$	I/O
11	5	3	$R1_1$	I/O	43	37	35	$R8_2$	I/O
12	6	4	$R1_2$	I/O	44	38	36	$R8_3$	I/O
13	7	5	$R1_3$	I/O	45	39	37	$R9_0$	I/O
14	8	6	$R2_0$	I/O	46	40	38	$R9_1$	I/O
15	9	7	$R2_1$	I/O	47	41	39	$R9_2$	I/O
16	10	8	$R2_2$	I/O	48	42	40	$R9_3$	I/O
17	11	9	$R2_3$	I/O	49	43	41	RESET	I
18	12	10	RA_0	I/O	50	44	42	$\overline{TEST}$	I
19	13	11	RA_1	I/O	51	45	43	OSC_1	I
20	14	12	$R3_0/\overline{INT_0}$	I/O	52	46	44	OSC_2	O
21	15	13	$R3_1/\overline{INT_1}$	I/O	53	47	45	GND	—
22	16	14	$R3_2/\overline{INT_2}$	I/O	54	48	46	D_0	I/O
23	17	15	$R3_3/\overline{INT_3}$	I/O	55	49	47	D_1	I/O
24	18	16	$R5_0/\overline{INT_4}/\overline{TI_1}$	I/O	56	50	48	D_2	I/O
25	19	17	$R5_1/\overline{INT_5}/TI_2$	I/O	57	51	49	D_3	I/O
26	20	18	$R5_2/TO_1$	I/O	58	52	50	D_4	I/O
27	21	19	$R5_3/TO_2$	I/O	59	53	51	D_5	I/O
28	22	20	$R6_0/TO_3$	I/O	60	54	52	D_6	I/O
29	23	21	$R6_1/SO_2$	I/O	61	55	53	D_7	I/O
30	24	22	$R6_2/SI_2$	I/O	62	56	54	D_8	I/O
31	25	23	$R6_3/\overline{SCK_2}$	I/O	63	57	55	D_9	I/O
32	26	24	Vcc	—	64	58	56	D_{10}	I/O

NOTE: I/O : Input/Output Port
I : Input Port
O : Output Port

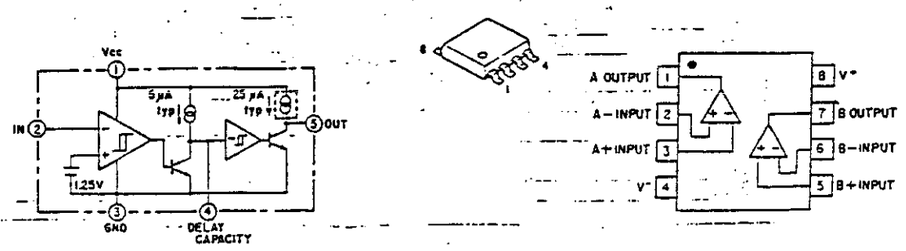
M51953B



M51957B



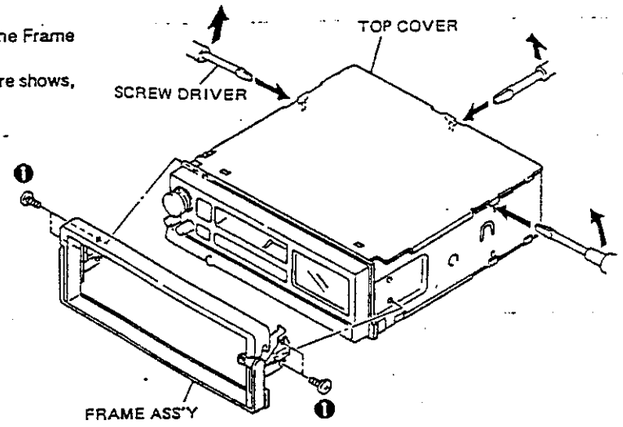
M5218FP



REMOVAL OF EACH SECTION

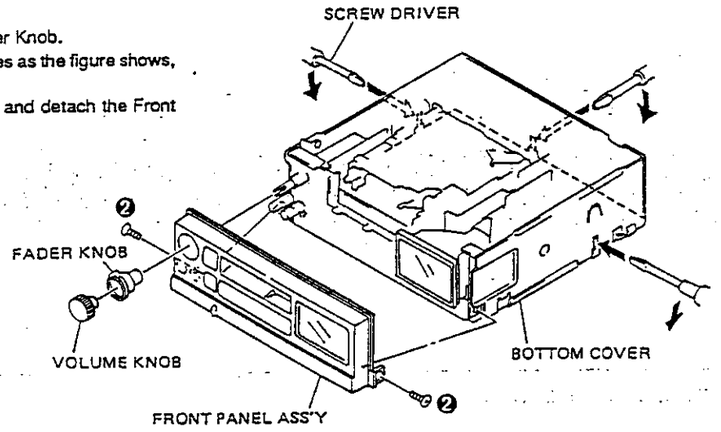
Top Cover and Frame Ass'y

1) Remove 4 screws ❶ in both sides, and detach the Frame Ass'y.
2) By inserting a driver at 3 ports grooves as the figure shows, detach the Top Cover.



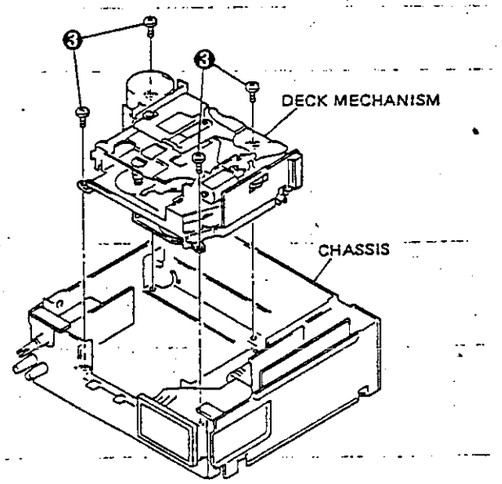
Front Panel and Bottom Cover

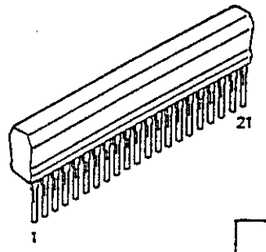
1) Remove the Volume Knob and Fader Knob.
2) By inserting a driver at 3 ports grooves as the figure shows, detach the Bottom Cover.
3) Remove 2 screws ❷ in both sides, and detach the Front Panel Ass'y.



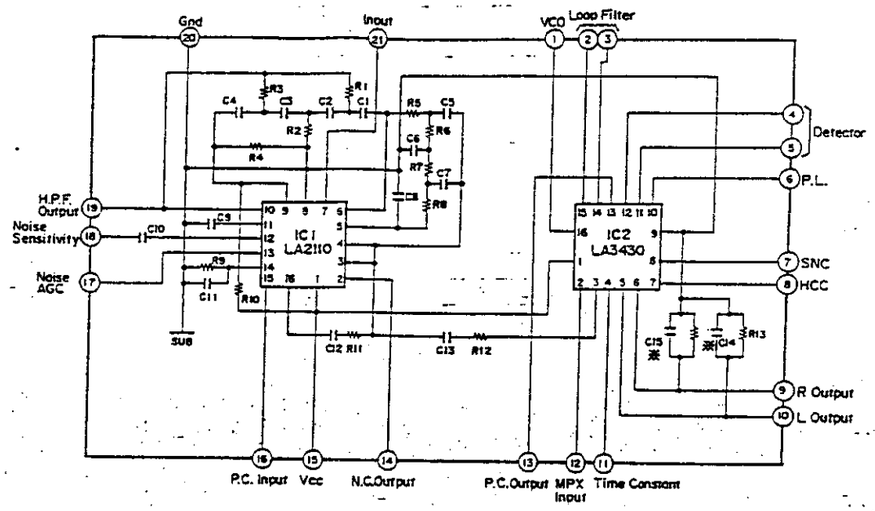
Deck Mechanism

Remove 4 screws ❸, and pull the Deck Mechanism upward from the chassis.

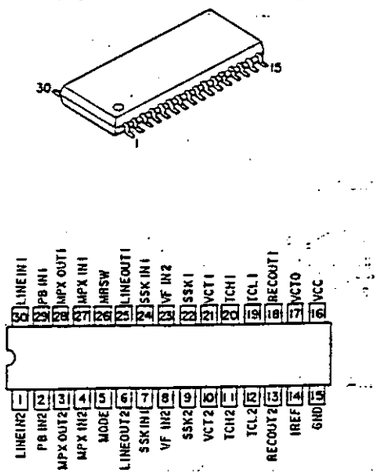




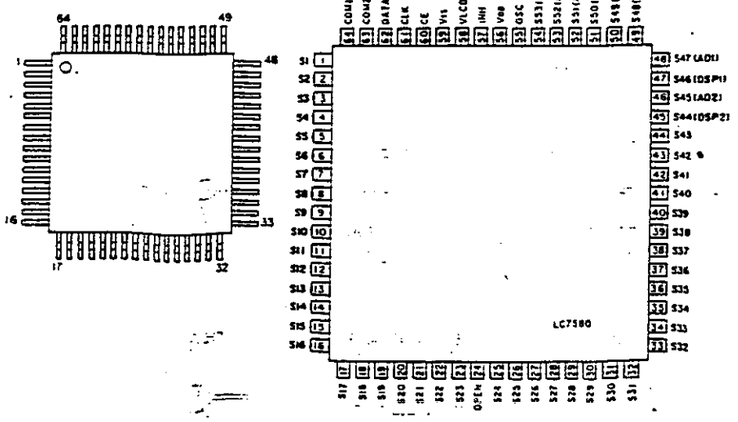
Model	De-emphasis constant
STK 3400A	50μs C14, 15 : 0.015μF for Europe
STK 3400B	75μs C14, 15 : 0.022μF for U.S.A. & Canada



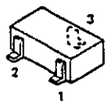
CXA1332M



LC7580



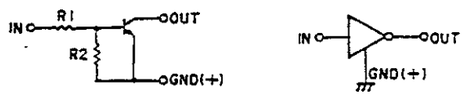
● TRANSISTORS



1: GND/ Emitter
2: In/ Base
3: Out/ Collector

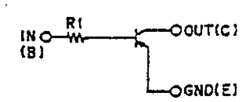
DTA114EK
DTA114TK
DTA143EK
DTA144EK
DTA114YK
DTC114EK
DTC143EK
DTC144EK
DTC143TK
(Chip)

DTAEK Series



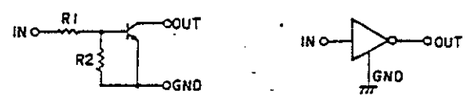
	R1	R2
DTA114EK	10kΩ	10kΩ
DTA143EK	4.7kΩ	4.7KΩ
DTA144EK	47kΩ	47kΩ
DTA114EK	10kΩ	47kΩ

DTATK Series



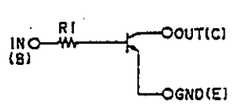
	R1
DTA114TK	10kΩ

DTCEK Series



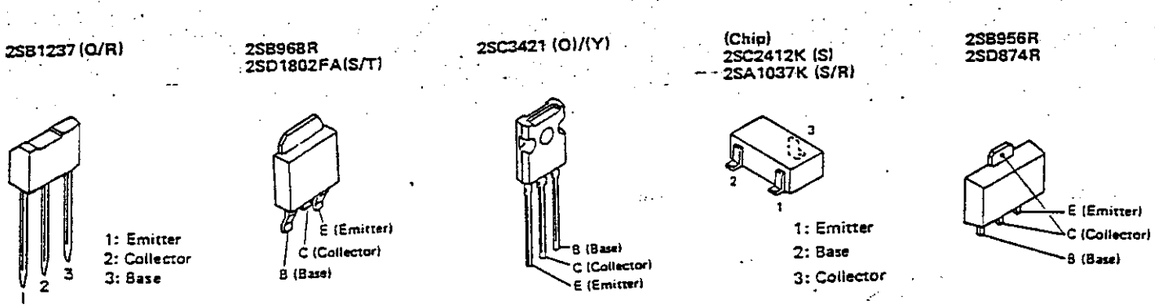
	R1	R2
DTC114EK	10kΩ	10kΩ
DTC143EK	4.7kΩ	4.7kΩ
DTC144EK	47kΩ	47kΩ

DTCTK Series



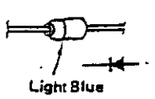
	R1
DTC143TK	4.7kΩ

2SB1237 (O/R)
2SB968R
2SD1802FA(S/T)
2SC3421 (O)/(Y)
(Chip)
2SC2412K (S)
2SA1037K (S/R)
2SB956R
2SD874R

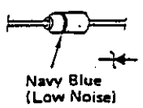


● DIODES

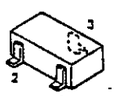
1SS270



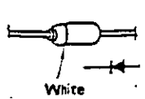
HZS7C-1
HZS9C-1
HZS4B-3
HZS3C-2
HZS4C-3
HZS6B-1
HZS7A-1
HZS9C-2
HZS11B-1



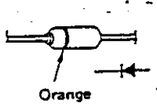
MA151A



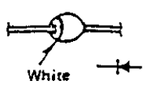
DSM1A2



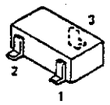
DSP301N-A21F
(Surge Protector)



DSA1A2

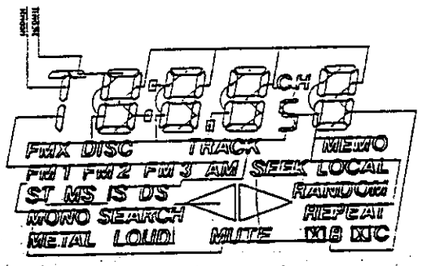


MA151WK

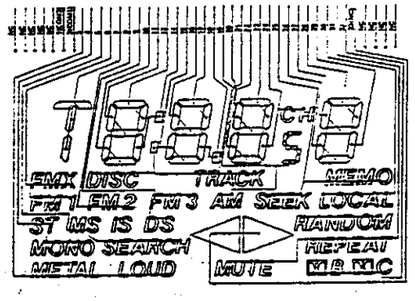


● LCD ASS'Y (393 4084 005)

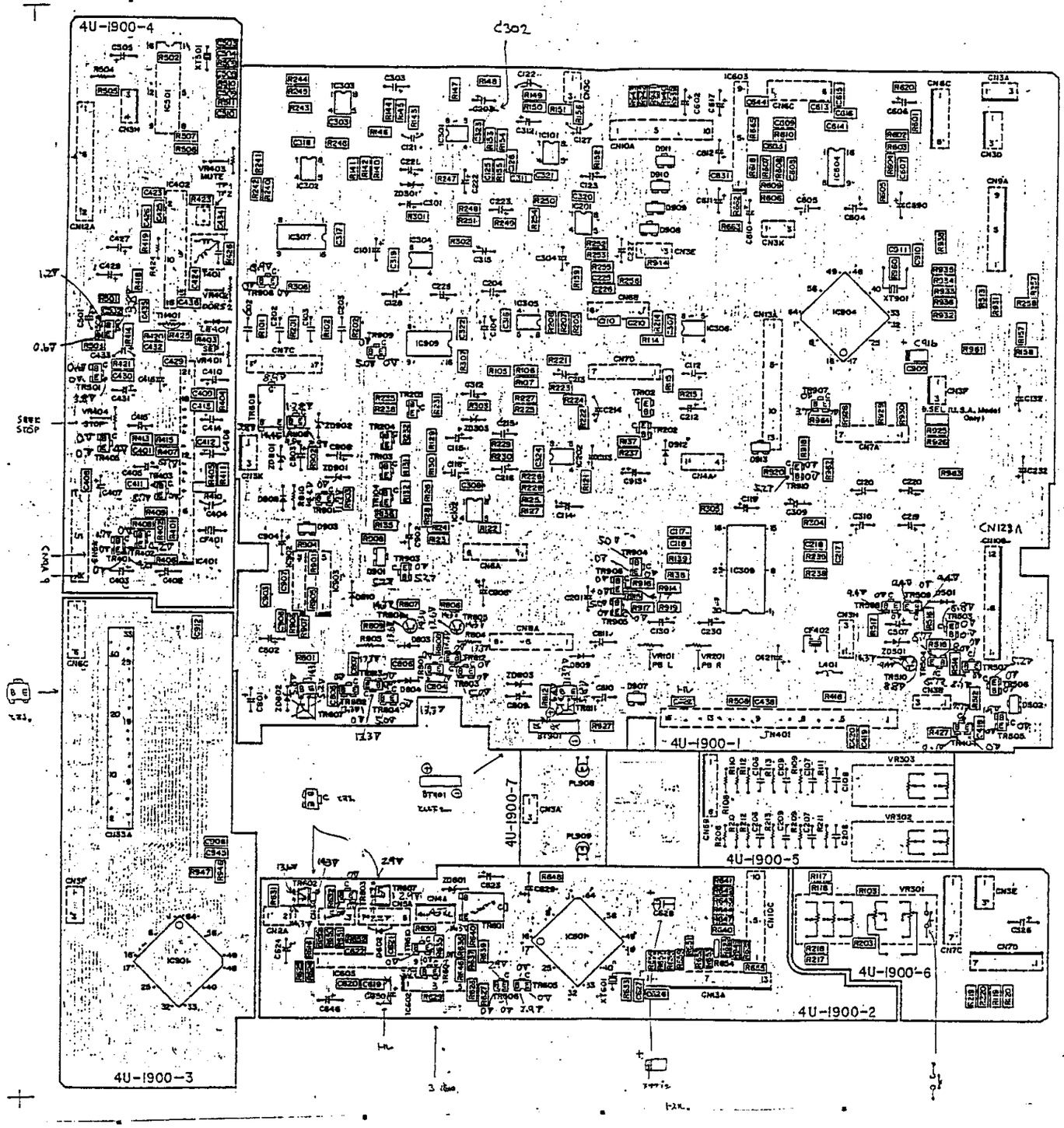
COMMON



SEGMENT



4U-1900 MAIN UNIT
Pattern Side



Pin	IC301
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC302
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC303
1	[2.0V]
2	[0V]
3	[2.1V]
4	
5	[0V]
6	[0V]
7	
8	
9	[8.9V]

Pin	IC307
1	0V
2	0V
3	4.5V
4	4.5V
5	4.5V
6	0V
7	0V
8	0V
9	8.9V
10	8.9V
11	8.9V
12	4.5V
13	4.5V
14	4.5V
15	
16	8.9V

Pin	IC308
1	4.5V
2	4.5V
3	
4	
5	
6	
7	
8	
9	
10	0V
11	0V
12	4.5V
13	4.5V
14	4.5V
15	4.5V
16	

Pin	IC501
1	1.2V
2	1.7V
3	0V
4	0V
5	0V
6	0V
7	0.7V
8	0.1V
9	2.1V(0.1V)
10	0V(1.8V)
11	2.6V(0V)
12	4.3V
13	4.3V
14	-
15	1.2V
16	0V

Pin	IC901	Pin	IC901
1	2.3V	33	
2	2.3V	34	
3	2.3V	35	
4	2.3V	36	
5	2.3V	37	
6	2.3V	38	
7	2.3V	39	
8	2.3V	40	
9	2.3V	41	
10	2.3V	42	
11	2.3V	43	
12	2.3V	44	
13	2.3V	45	
14	2.3V	46	
15	2.3V	47	
16	2.3V	48	
17	2.3V	49	
18	2.3V	50	
19	2.3V	51	
20	2.3V	52	
21	2.3V	53	
22	2.3V	54	
23	2.3V	55	4.0V
24		56	5.2V
25	2.3V	57	3.7V
26	2.3V	58	4.6V
27	2.3V	59	0V
28	2.3V	60	0.5V
29	2.3V	61	0V
30	2.3V	62	0.1V
31	2.3V	63	2.3V
32	2.3V	64	2.3V

Pin	IC902
1	[3.1V]
2	
3	[0V]
4	[1.2V]
5	[2.9V]

Pin	IC903
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC904
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC905
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC906
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC102
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC202
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC101
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC201
1	4.5V
2	4.5V
3	4.5V
4	0V
5	4.5V
6	4.5V
7	4.5V
8	8.9V

Pin	IC401
1	3.4V(2.0V)
2	2.7V
3	2.8V
4	2.8V(4.9V)
5	2.8V
6	4.1V
7	0V(3.5V)
8	0V(8.5V)
9	4.0V
10	4.0V
11	2.7V
12	3.3V
13	0.6V
14	3.6V
15	8.7V
16	4.7V
17	0.7V(0V)
18	0V
19	
20	0V
21	5.0V

Pin	IC402
1	2.6V
2	2.8V
3	2.8V
4	0V
5	2.0V
6	0.7V
7	4.9V
8	5.0V
9	4.9V
10	0V
11	5.0V
12	8.6V
13	4.9V
14	1.9V
15	1.0V
16	4.1V

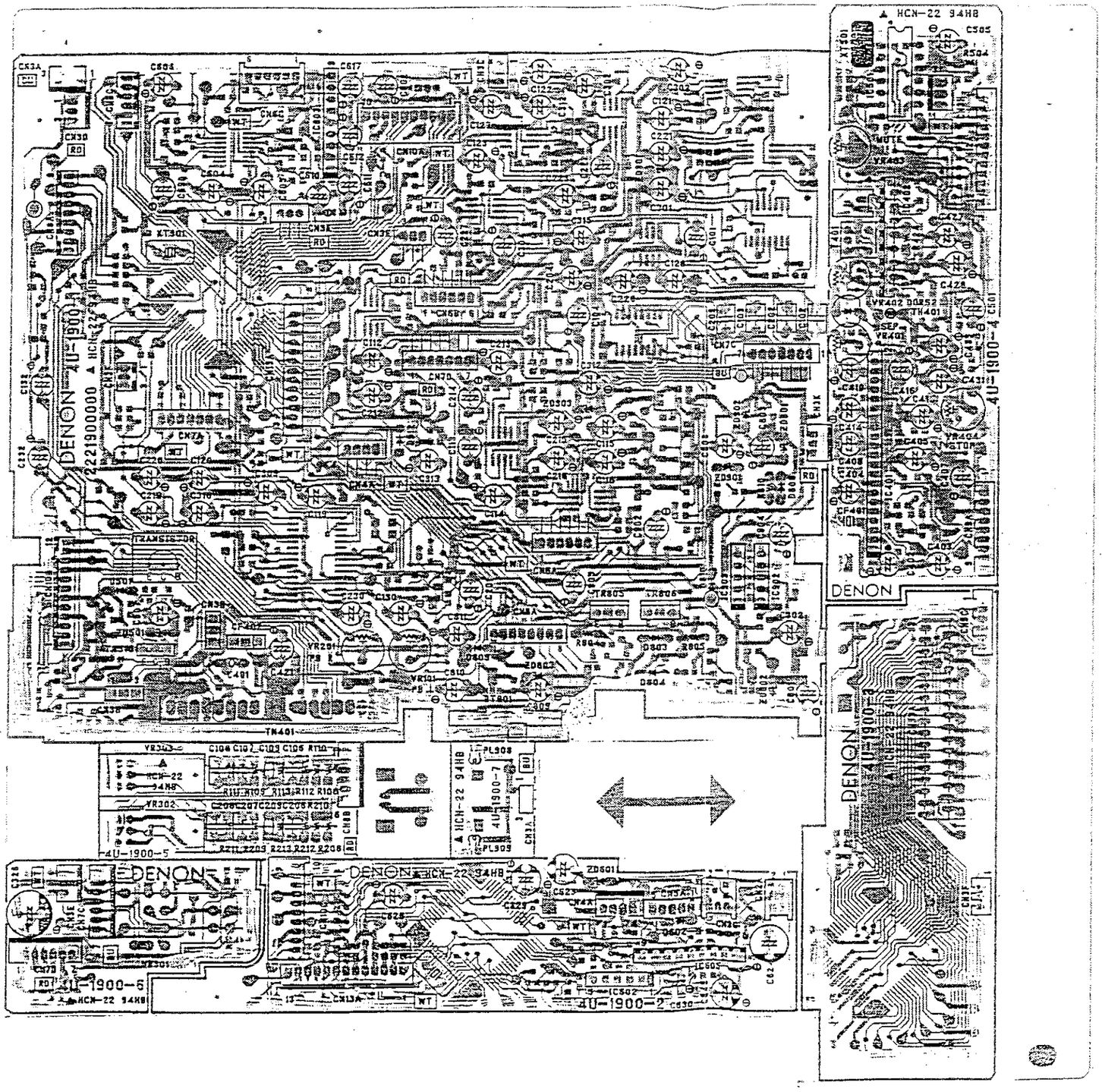
Pin	IC309
1	4.1V
2	4.1V
3	
4	4.1V(0V)
5	4.1V
6	4.1V
7	4.1V
8	4.1V
9	4.1V
10	
11	0.4V
12	0.4V
13	
14	1.3V
15	0V
16	8.1V
17	4.1V
18	
19	0.4V
20	0.4V
21	
22	4.1V
23	4.1V
24	4.1V
25	4.1V
26	0.7V
27	
28	
29	4.1V
30	4.1V

Pin	IC903
1	5.2V
2	5.2V
3	0V
4	1.2V
5	5.0V

Pin	IC902
1	5.2V
2	2.5V
3	0V
4	1.2V
5	5.0V

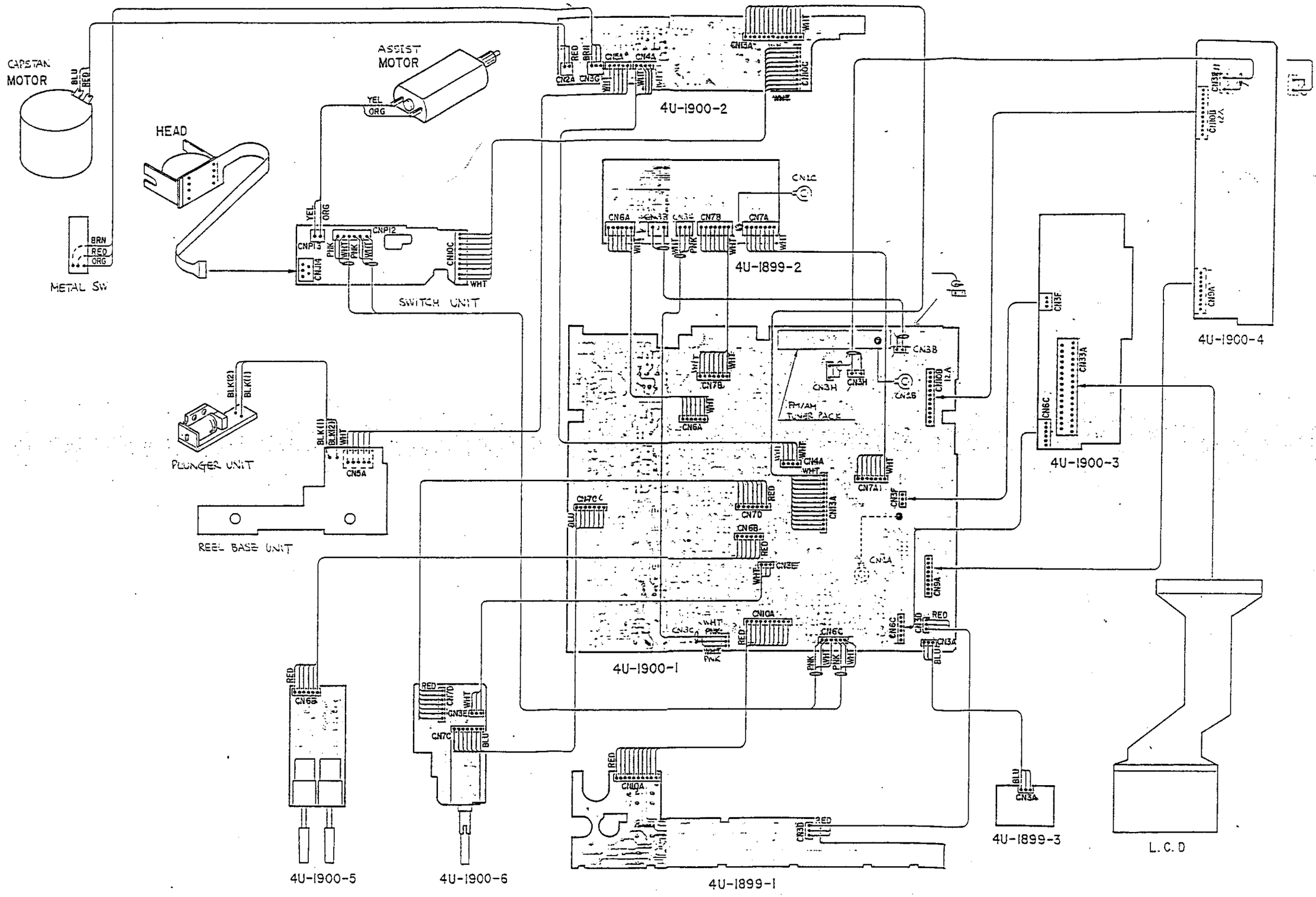
Pin	IC501	Pin	IC501
1	[5.0V]	33	[0V]
2		34	[5.0V]
3		35	[0V]
4		36	[0V]
5		37	
6		38	
7		39	
8		40	
9		41	[0V]
10		42	[0V]
11	[0.1V]	43	[2.3V]
12	[5.0V]	44	[2.3V]
13	[0V]	45	[0V]
14	[0V]	46	
15	[0V]	47	
16		48	
17	[0V]	49	
18	[0V]	50	
19	[0V]	51	
20		52	
21		53	
22		54	[0V]
23		55	[0V]
24	[5.0V]	56	[5.0V]
25		57	[5.0V]
26		58	[5.0V]
27		59	[5.0V]
28		60	[0V]
29	0V	61	[0V]
30	0V	62	[0V]
31	0V	63	[0V]
32	0V	64	[0V]

Component Side

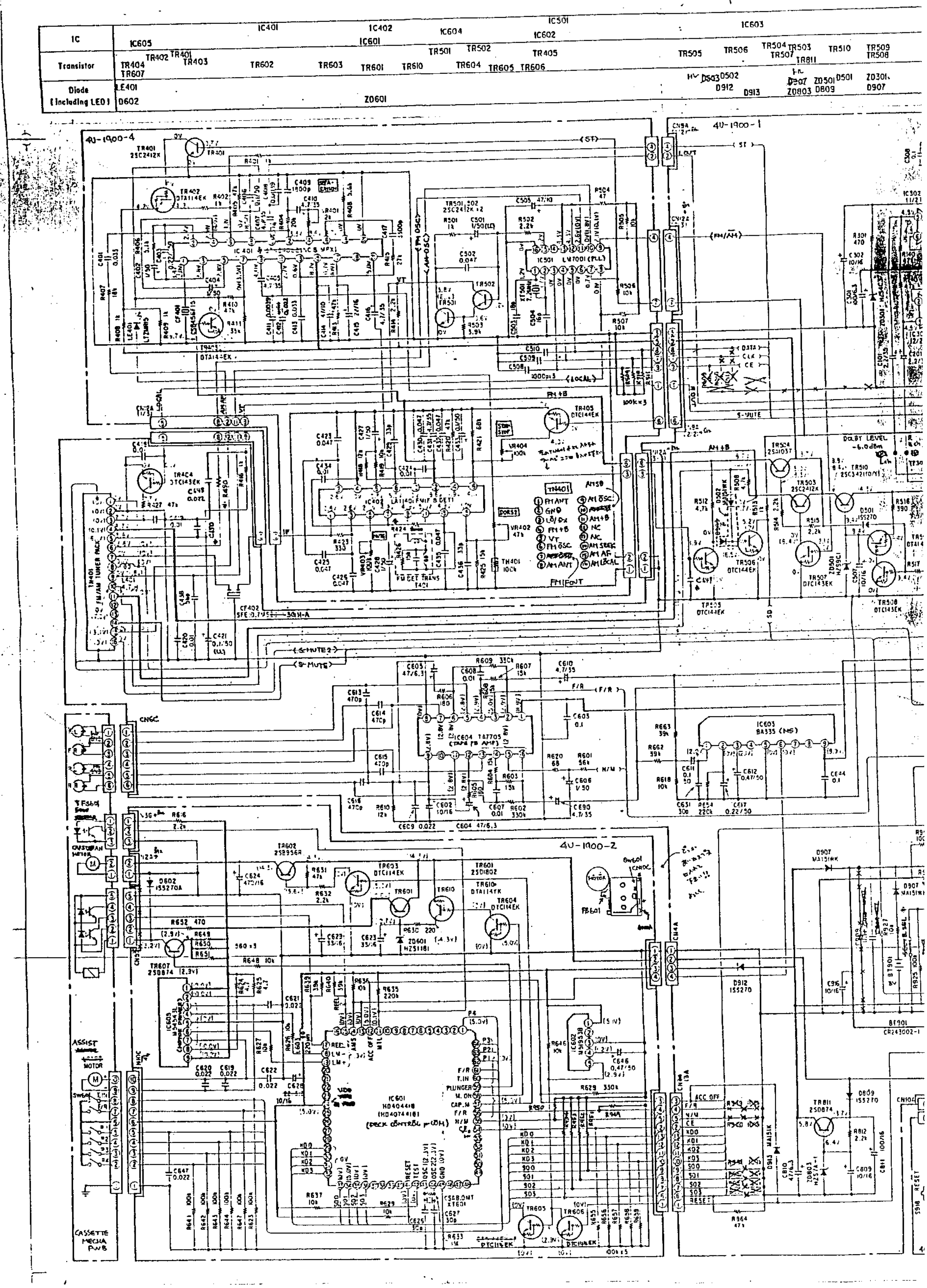


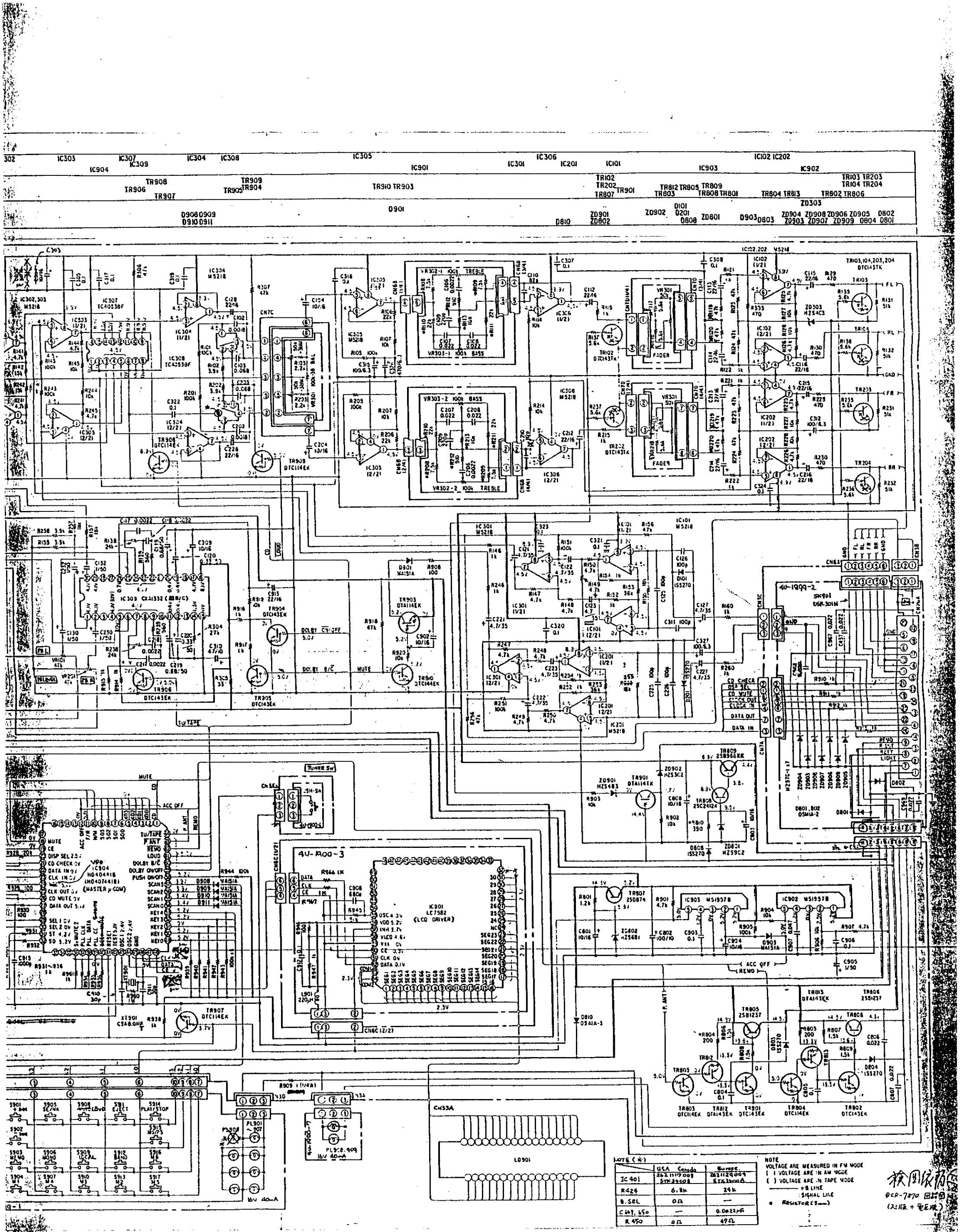
DCR-7870
4U-1900
Top

WIRING DIAGRAM



SCHEMATIC DIAGRAM (1)





NOTE (*)

	USA Canada	Europe
IC 401	262 1117 008 STK3400B	262 1129 009 STK3400A
R424	6.8k	24k
B.SEL	0Ω	—
C441, 450	—	0.0022μF
R 450	0Ω	47Ω

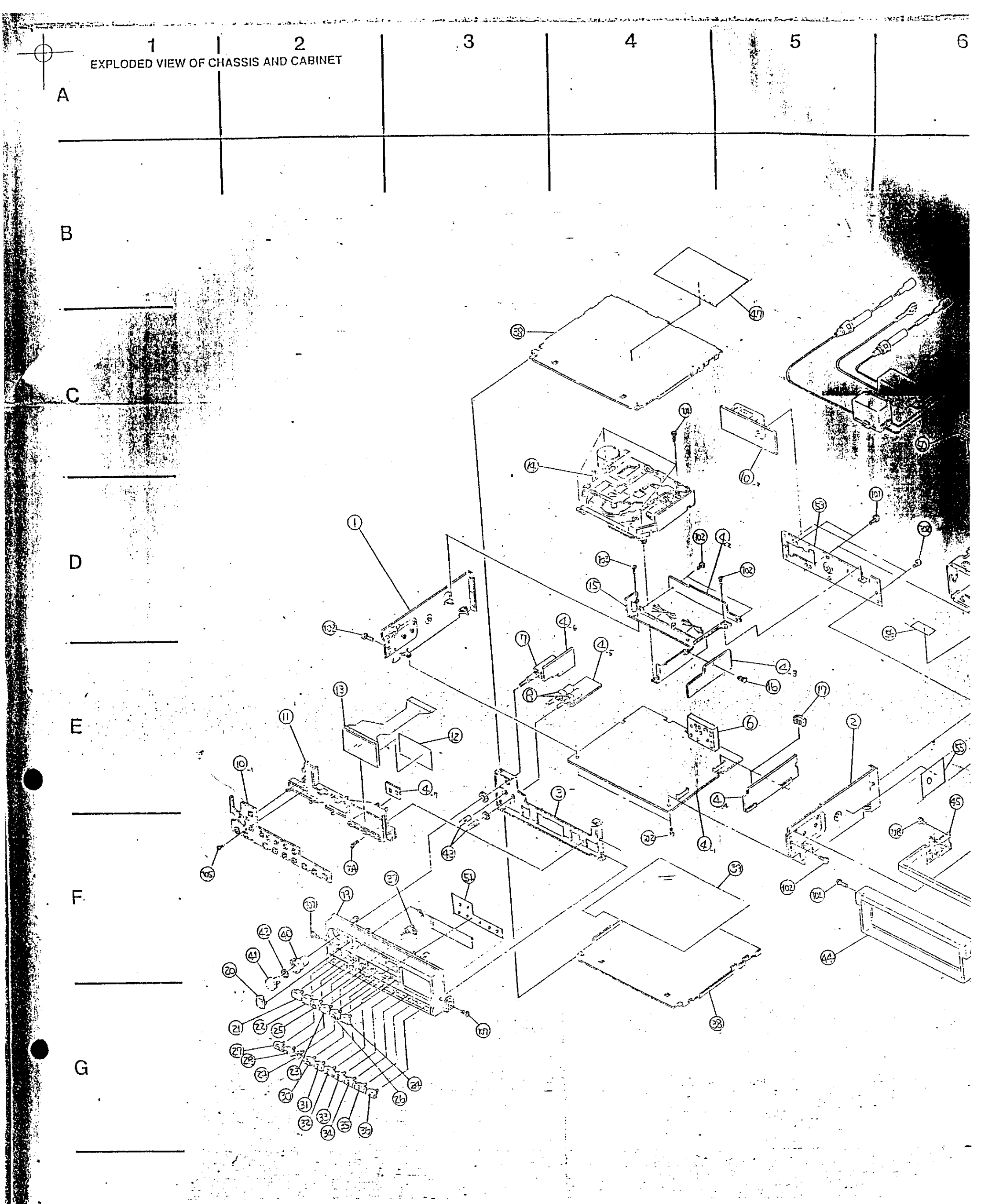
NOTE
VOLTAGE ARE MEASURED IN FM MODE
( ) VOLTAGE ARE IN AM MODE
[ ] VOLTAGE ARE IN TAPE MODE
+B LINE
SIGNAL LINE
• RESISTOR (5mm)

NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD P = MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

NOTE (*)

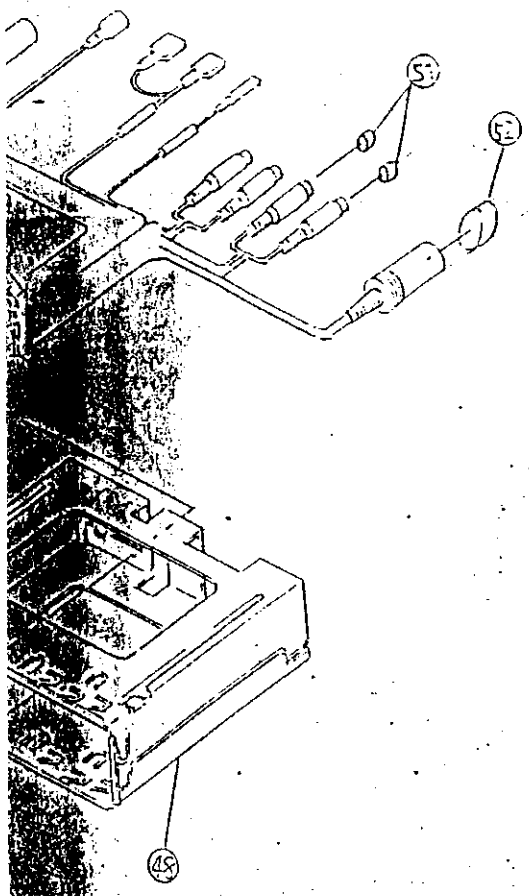
	CF402	IC401	R424
U.S.A. Canada	261 0089 008 (SFE10.7MS2GH-A)	262 1117 008 STK3400B	6.8K
Europe	261 0097 003 (SFE10.7MS3GH-A)	262 1129 009 STK3400A	20K

EXPLODED VIEW OF CHASSIS AND CABINET



NOTE FOR PARTS LIST

- Part indicated with the mark " ⊙ " are not always in stock and possibly to take a lon some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the



EXPLODED VIEW OF PARTS LIST

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
1		411 0895 004	Side Chassis (L) Ass'y	1
2		411 0897 015	Side Chassis (R) Ass'y	1
3		411 0899 107	Front Chassis (A) Ass'y	1
⊙ 4		Note	Main Unit Ass'y	1*
4-1		Note	Main Unit	—
4-2		Note	Deck Unit	—
4-3		Note	Tone Unit	—
4-4		Note	VR Unit	—
4-5		Note	LCD Drive Unit	—
5		252 1117 008	IC STK3400S (IC401)	1
6		216 0078 006	FM/AM Tuner Pack	1
7		211 0625 001	Variable Resistor (Vol. Bal. Fad.)	1
8		211 0617 006	Variable Resistor (Tone)	1
9		205 0557 022	33P FPC Conn. Base	1
⊙ 10		4U-1899	Front Unit Ass'y	1*
10-1		4U-1899-1	Front Unit	—
10-2		4U-1899-2	Conn. P.W.B. Unit	—
10-3		Note	LCD Lamp Unit	—
11		441 1121 008	P.W.B. Holder	1
12		143 0649 001	Filter	1
13		393 4045 005	LCD Ass'y	1
⊙ 14		338 0123 002	MGU-55 Cassette Mech.	1
15		412 2841 004	Deck Bracket	1
16		770 0210 003	Push Rivet	1
17		441 1123 006	P.W.B. Holder (s)	2
18		445 8004 007	Wire Clamper	5
⊙ 19		103 1290 008	Front Panel Ass'y	1
20		113 1248 002	Eject Button	1
21		113 1249 001	Band Button	1
22		113 1250 003	Function Button (A)	1
23		113 1250 016	Function Button (A)	1
24		113 1250 029	Function Button (A)	1
25		113 1251 002	Function Button (B)	1
26		113 1251 015	Function Button (B)	1
27		113 1252 001	Seek Button (–)	1
28		113 1253 000	Seek Button (+)	1
29		112 0574 101	Push Knob (A)	1
30		113 1254 009	CD Function Button	1
31		113 1255 008	Preset Button	1
32		113 1255 011	Preset Button	1
33		113 1255 024	Preset Button	1
34		113 1255 037	Preset Button	1
35		113 1255 040	Preset Button	1
36		113 1255 053	Preset Button	1
37		113 1256 007	Preset Button	1
38		412 2840 005	Cover	2
39		415 0514 002	Insulating Sheet	1
40		112 0584 104	Fader Knob	1
41		112 0583 008	Vol. Knob	1
42		463 0474 002	Knob Spring	1
43		112 0585 006	Tone Knob	2
44		103 1200 412	Frame	1
45		106 0060 102	Handle Ass'y	1
46		412 2775 002	Arm Bracket	—
47		513 1553 007	Rating Sheet	1
48		412 2686 104	Mount Sleeve (A)	1
49		412 2687 103	Mount Sleeve (B)	—
50			TRC Connector	1
51		415 0453 008	RCA Cap	2
52			13P DIN Cap	1
53		411 0894 115	Connector Bracket	1
54			Illumination Sheet	1
55			Marking Label	1
56			Warning Label (B)	1

SCREWS

101	473 7500 015	Tapping Screw (P) 3x8	2
102	473 7002 005	Tapping Screw (S) 3x6	10
103	471 3302 017	Bind Screw 3x5	2
104	473 7001 006	Tapping Screw (S) 2.6x5	5
105	473 7506 006	Tapping Screw (P) 2x5	2
106	471 3201 011	Bind Screw 2.6x4	2
107	471 3303 016	Bind Screw 3x6	2
108	473 7016 033	Tapping Screw (S) 2.6x4	2
109	473 7001 035	Tapping Screw (S) 2.6x8	2
110	473 7002 018	Tapping Screw (S) 3x8	2
111			

PACKING & ACCESSORIES (Not Included EXPLODED VIEW)

201	505 0099 024	Poly Cover	1
202	505 0061 007	Envelope	1
203	Note	Inst. Manual	1
204	Note	DAI Warranty Card	1
205	Note	Custom Card	1
⊙ 206	505 0179 009	Envelope Sub Ass'y	1*
206-1	505 0099 082	Poly Cover	1
206-2	475 6010 007	Nut M5	2
206-3	475 2005 003	S. Washer ϕ5	2
206-4	475 1006 003	Washer ϕ5	2
206-5	477 0289 005	Hex. Screw 5x16	2
206-6	477 0291 006	Hex. Tapping Screw 5x20	1
207-7	477 0293 004	Nut-Washer M5	1
206-8	477 0271 000	Special Bolt	1
207	503 0804 006	Cushion Ass'y	1
208	412 2036 000	Metal Mount Strap	1
209	501 1371 011	Individual Carton	1
210	Note	Master Carton	1/4
211	513 1338 015	Control Card Base	2
212	513 1349 004	Thermal Carbon Film	1

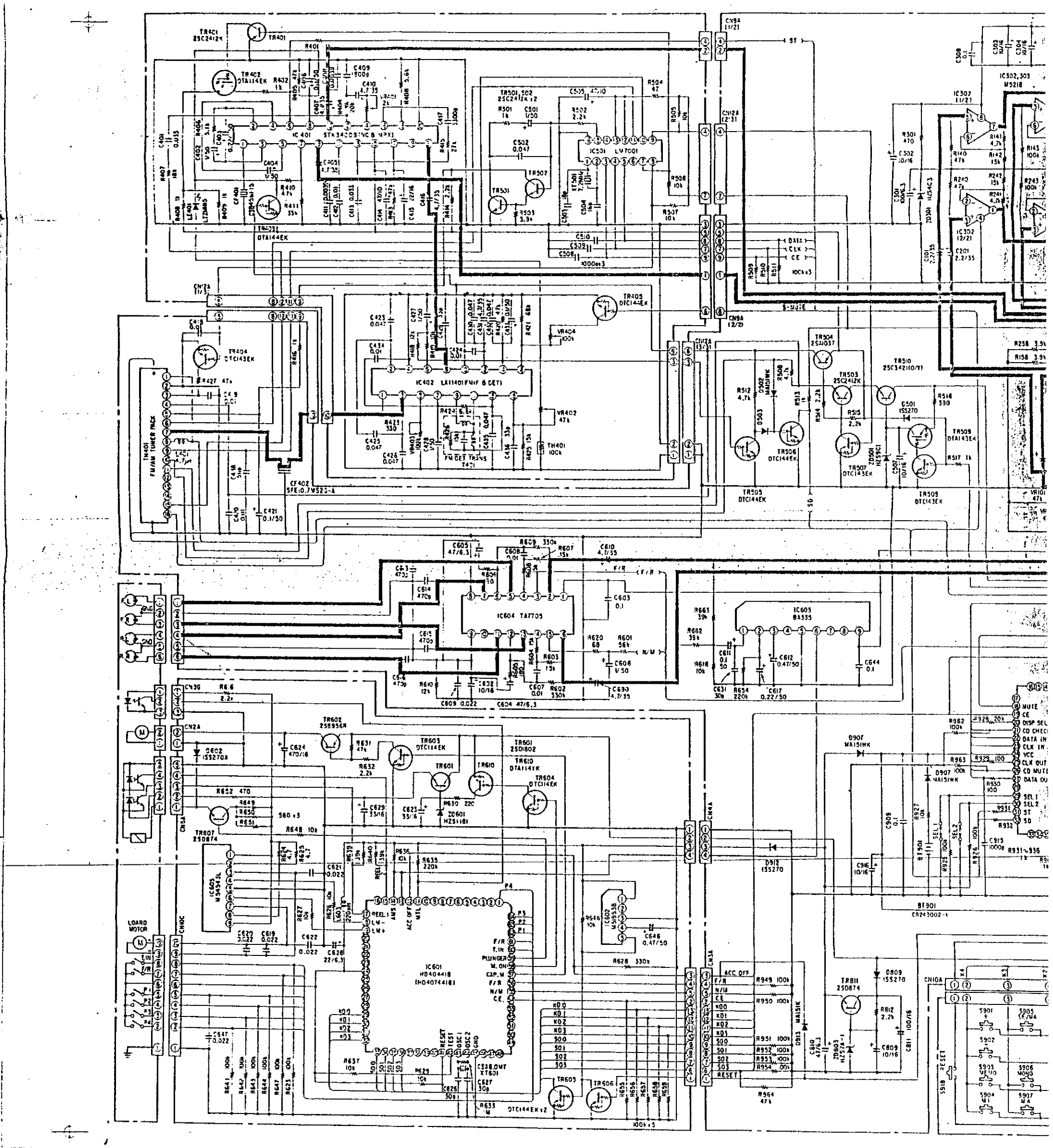
ADDENDUM LIST

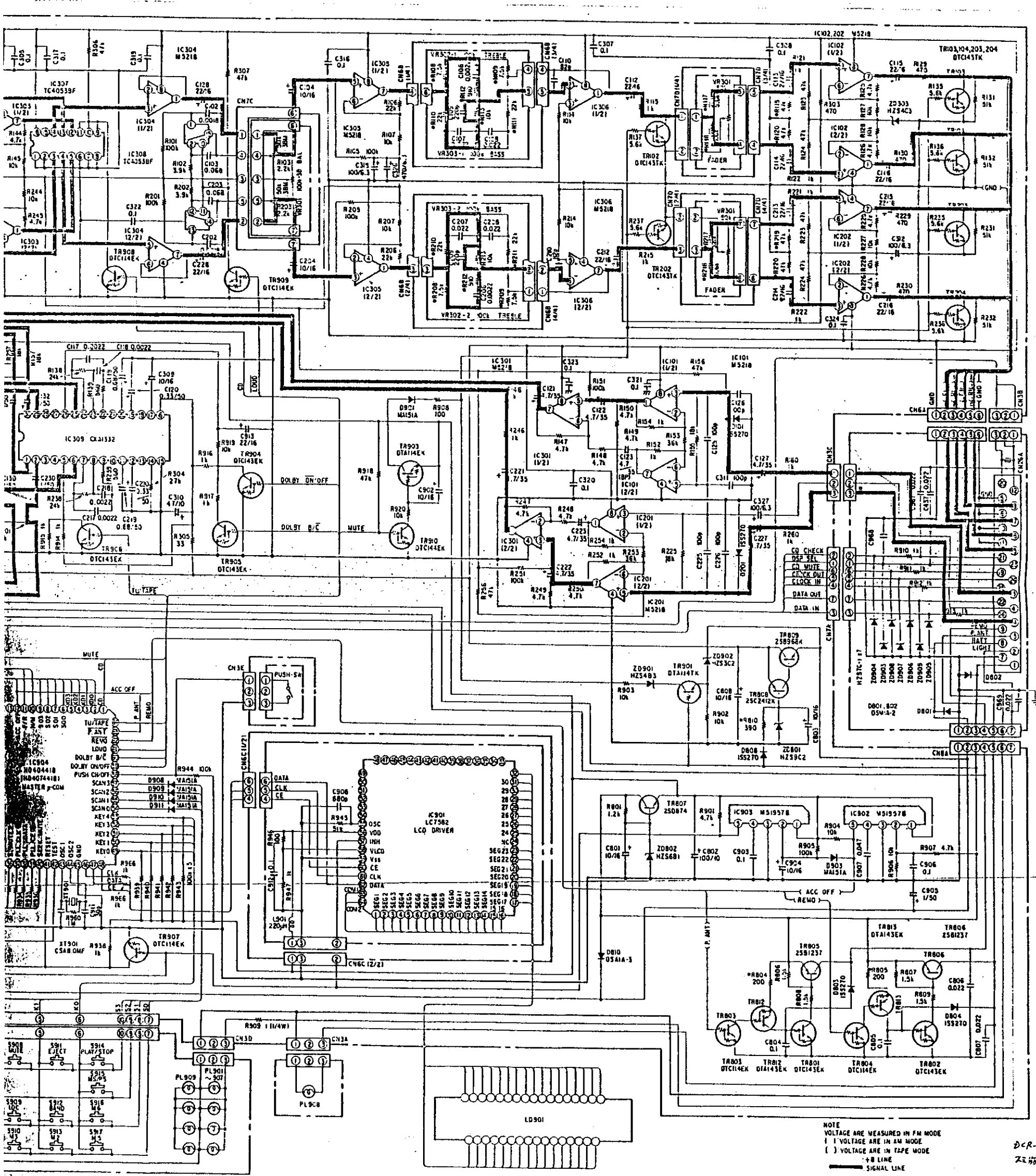
Ref. No.	Address	Part Name & Descriptions	Part No. for U.S.A.	Part No. for Europe	Q'ty
⊙ 4		Main Unit Assy'	4U-1900	4U-1900B	1*
4-1		Main Unit	4U-1900-1	4U-1900B-1	—
4-2		Deck Unit	4U-1900-2	4U-1900B-2	—
4-3		Tone Unit	4U-1900-3	4U-1900B-3	—
4-4		VR Unit	4U-1900-4	4U-1900B-4	—
4-5		LCD Drive Unit	4U-1900-5	4U-1900B-5	—
4-7		LCD Lamp Unit			
4-6		Tuner Unit			
PACKING & ACCESSORIES (not included EXPLODED VIEW)					
203		Inst. Manual	511 1875 006	511 1927 006	1
		DAI Warranty Card	515 0333 203	—	1
		Custom Card	515 0337 204	—	1
		Master Carton	501 1375 017	501 1375 020	1

time for supplying, or in

: Diagram for those parts.)

SCHEMATIC DIAGRAM (2)





校正位置

DCR-7870 回路図

スピーカー+信号系

PRINTED WIRING BOARD PARTS LIST

4U-1899 FRONT UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions	
SEMICONDUCTORS			
D801,802	276 0433 902	DSM1A2	Diode (Type 2)
D903-909	276 0466 005	HZS7C-1	Zener
SK901	399 0039 007	DSP-301N	Surge Protector
RESISTORS			
R910-913	241 2398 955	1Kohm ±5%	1/4W Carbon Film
~~R801-804~~	~~241 2203 901~~	~~100ohm ±5%~~	~~1/4W Carbon Film~~ HL
CAPACITORS			
(Ceramic Capacitor)			
C437	253 ~~1181 001~~ 1025 002	~~0.01µF~~ 0.022µF	+80,-20% 50V ~~D=8~~
C967,968	253 1025 002	0.022µF	+80,-20% 50V
C969	253 ~~1181 014~~ 1025 002	0.022µF	+80,-20% 50V ~~D=8~~
E.U. PARTS			Q'ty
S901-904	212 4388 004	Tact Switch	4
S905	212 4616 006	Tact Switch	1
S906-917	212 4388 004	Tact Switch	12
S918	212 4616 006	Tact Switch	1
PL901-907	393 0098 202	Lamp Ass'y	7
OTHER PARTS			Q'ty
⊙	—	P.W. Board	1
CN1C	203 0405 000	1P Contact Ass'y	1
	461 0415 007	Rubber Sheet	3
CN3B	205 0234 031	3P EH SID Connector Base	1
CN3C	205 0355 033	3P KR Con. Base (L)	1
CN6A	205 0355 062	6P KR Con. Base (L)	1
CN7A	205 0355 075	7P KR Con. Base (L)	1
CN8A	205 0355 088	8P KR Con. Base (L)	1
CN3K	203 4589 016	3P KR-DS Conn. Cord	1
CN10A	204 2385 008	10P KR-DS Conn. Cord	1
CN26A	205 0533 004	26P Connector (S)	1

4U-1900B MAIN UNIT (for Europe)

(Same as U.S.A. Version * marks except the followings.)

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
SEMICONDUCTORS			
IC401	262 1129 009	STK3400A IC	1
E.U. PARTS			
~~CF402~~	~~261 0027 003~~	~~FMC. Filter (SFE 10.7MS3GH-A)~~	~~1~~
R424	241	24 kohm	I5% 1/4W Carbon Film
R450	241	49 ohm	±5% 1/4W Carbon Film
C649.650	253 1025 002	0.022µF	+80,-20% 50V

NOTE FOR PARTS LIST

- Part indicated with the mark " ⊙ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "l" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- ~~Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)~~ HL

4U-1900 MAIN UNIT PARTS LIST

Ref. No.	Part No.	Part Name.& Descriptions	
		SEMICONDUCTORS	
IC101,102	263 0424 902	M5218FP	IC
IC201,202	263 0424 902	M5218FP	IC
IC301-306	253 0424 902	M5218FP	IC
IC307,308	262 0707 901	TC4053BF	IC
IC309	252 1193 006	CXA1332M	IC
IC401	262 1117 008	STK3400B (FMNC&MPX)	IC
IC402	263 0193 000	LA1140	IC
IC501	262 0719 009	LM7001	IC
IC601	262 1214 008	HD404418A25H (Mech. Control)	IC
IC602	253 0423 000	M51953B	IC
IC603	262 0325 008	BA335	IC
IC604	263 0679 906	TA7705FL	IC
IC605	263 0662 007	M54543L	IC
IC901	263 0533 000	LC7582	IC
IC902,903	263 0454 008	M51957B	IC
IC904	262 1191 008	HD404418A24H (Master)	IC
TR102-104	269 0091 906	DTC143TK	D. Transistor
TR202-204	269 0091 906	DTC143TK	D. Transistor
TR401	273 0384 900	2SC2412K (S)	Transistor
TR402	269 0083 901	DTA114EK	D. Transistor
TR403	269 0055 900	DTA144EK	D. Transistor
TR404	269 0048 904	DTC143EK	D. Transistor
TR405	269 0054 901	DTC144EK	D. Transistor
TR501-503	273 0384 900	2SC2412K (S)	Transistor
TR504	271 0238 908	2SA1037K (S/R)	Transistor
TR505,506	269 0054 901	DTC144EK	D. Transistor
TR507,508	269 0048 904	DTC143EK	D. Transistor
TR509	269 0047 905	DTA143EK	D. Transistor
TR510	273 0323 000	2SC3421 (O/Y)	Transistor
TR601	274 0152 009	2SD1802FA (S/T)	Transistor
TR602	272 0080 900	2SB956R	Transistor
TR603-605	269 0082 902	DTC114EK	D. Transistor
TR606	269 0054 901	DTC144EK	D. Transistor
TR607	274 0114 908	2SD874R	Transistor
TR610	269 0101 906	DTA114YK	D. Transistor
TR801,802	269 0048 904	DTC143EK	D. Transistor
TR803,804	269 0082 902	DTC114EK	D. Transistor
TR805,806	272 0099 904	2SB1237 (O/R)	Transistor
TR807	274 0114 908	2SD874R	Transistor
TR808	273 0384 900	2SC2412K (S)	Transistor
TR809	272 0082 005	2SB968R	Transistor
TR811	274 0114 908	2SD874R	Transistor
TR812,813	269 0047 905	DTA143EK	D. Transistor
TR901	269 0086 908	DTA114TK	D. Transistor
TR903	269 0047 905	DTA143EK	D. Transistor
TR904-906	269 0048 904	DTC143EK	D. Transistor
TR907-909	269 0082 902	DTC114EK	D. Transistor
TR910	269 0054 901	DTC144EK	D. Transistor
D101,201	276 0417 009	1SS270	Diode
D501	276 0417 009	1SS270	Diode
D502	276 0438 949	MA151WK	Diode
D602	276 0417 009	1SS270	Diode
D803,804	276 0417 009	1SS270	Diode
D808,809	276 0417 009	1SS270	Diode
D810	276 0427 918	DSA1A2 (Type-3)	Diode

Ref. No.	Part No.	Part Name & Descriptions	
D901	276 0438 910	MA151A	Diode
D903	276 0438 910	MA151A	Diode
D907	276 0438 949	MA151WK	Diode
D908-911	276 0438 910	MA151A	Diode
D912	276 0417 009	1SS270	Diode
D913	276 0438 910	MA151A	Diode
ZD301	266 0457 920	HZS4C-3	Zener Diode
ZD303	276 0457 920	HZS4C-3	Zener Diode
ZD501	276 0469 905	HZS9C-1	Zener Diode
ZD601	276 0471 906	HZS11B-1	Zener Diode
ZD801	276 0469 918	HZS9C-2	Zener Diode
ZD802	276 0462 902	HZS6B-1	Zener Diode
ZD803	276 0464 900	HZS7A-1	Zener Diode
ZD901	276 0456 921	HZS4B-3	Zener Diode
ZD902	276 0454 910	HZS3C-2	Zener Diode
TH401	279 0029 001	NTH5D104LA	Thermister
LE401	276 0443 002	LTZ-MR15	Diode

RESISTORS

(Mount Resistor)

R108,109 208,209	241 2400 966	7.5Kohm	±5%	1/4W	Carbon Film
R110,111 210,211	241 2401 978	220Kohm	±5%	1/4W	Carbon Film
R112,212	241 2398 942	910ohm	±5%	1/4W	Carbon Film
R113,213	241 2400 995	10Kohm	±5%	1/4W	Carbon Film
R160,260	241 2398 052	1Kohm	±5%	1/4W	Carbon Film
R424	241 2400 953	6.8Kohm	±5%	1/4W	Carbon Film
R504	241 2395 945	47ohm	±5%	1/4W	Carbon Film
R804,805	241 2396 999	200ohm	±5%	1/4W	Carbon Film
R810	241 2397 969	390ohm	±5%	1/4W	Carbon Film
R909	241 2387 908	1ohm	±5%	1/4W	Carbon Film (NB)
R965,966	241 2398 052	1Kohm	±5%	1/4W	Carbon Film
R996-999	241 2396 928	100ohm	±5%	1/4W	Carbon Film

(Chip Resistor)

R101,201	247 0012 927	100Kohm	±5%	1/10W
R102,202	247 0008 986	3.9Kohm	±5%	1/10W
R103,203	247 0008 928	2.2Kohm	±5%	1/10W
R105,205	247 0012 927	100Kohm	±5%	1/10W
R106,206	247 0010 961	22Kohm	±5%	1/10W
R107,207	247 0009 985	10Kohm	±5%	1/10W
R114,214	247 0009 985	10Kohm	±5%	1/10W
R115,215	247 0007 945	1Kohm	±5%	1/10W
R117,118 217,218	247 0009 927	5.6Kohm	±5%	1/10W
R121,122 221,222	247 0007 945	1Kohm	±5%	1/10W
R119,120 219,220	247 0011 944	47Kohm	±5%	1/10W

R141, 247 0009 901 4.7kohm ±5% 1/10W
241

Ref. No.	Part No.	Part Name & Descriptions		
R123,124 223,224	247 0011 944	47Kohm	±5%	1/10W
R125,126 225,226	247 0009 901	4.7Kohm	±5%	1/10W
R127,128 227,228	247 0009 985	10Kohm	±5%	1/10W
R129,130 229,230	247 0006 962	470ohm	±5%	1/10W
R131,132 231,232	247 0011 957	51Kohm	±5%	1/10W
R135-137 235-237	247 0009 927	5.6Kohm	±5%	1/10W
R138,238	247 0010 974	24Kohm	±5%	1/10W
R139,239	247 0006 988	560ohm	±5%	1/10W
R140,~~141~~ 240,~~241~~	247 0011 944	47Kohm	±5%	1/10W
R142,242	247 0010 929	15Kohm	±5%	1/10W
R143,243	247 0012 927	100Kohm	±5%	1/10W
R144	247 0009 901	4.7Kohm	±5%	1/10W
R145	247 0009 985	10Kohm	±5%	1/10W
R146,246	247 0007 945	1Kohm	±5%	1/10W
R147-150 247-250	247 0009 901	4.7Kohm	±5%	1/10W
R151,251	247 0012 927	100Kohm	±5%	1/10W
R152,252	247 0007 945	1Kohm	±5%	1/10W
R153,253	247 0011 915	36Kohm	±5%	1/10W
R154,254	247 0007 945	1Kohm	±5%	1/10W
R155,255	247 0010 945	18Kohm	±5%	1/10W
R156,256	247 0011 944	47Kohm	±5%	1/10W
R157,257	247 0010 945	18Kohm	±5%	1/10W
R158,258	247 0001 986	3.9Kohm	±5%	1/10W
R244	247 0009 985	10Kohm	±5%	1/10W
R245	247 0009 901	4.7Kohm	±5%	1/10W
R301	247 0006 962	470ohm	±5%	1/10W
R303	247 0006 962	470ohm	±5%	1/10w
R304	247 0010 987	27Kohm	±5%	1/10W
R305	247 1003 980	~~330~~ 33ohm	±5%	1/8W
R306,307	247 0011 944	47Kohm	±5%	1/10W
R401,402	247 0007 945	1Kohm	±5%	1/10W
R403	247 0009 927	5.6Kohm	±5%	1/10W
R404	247 0010 958	20Kohm	±5%	1/10W
R405	247 0011 944	47Kohm	±5%	1/10W
R406	247 0009 914	5.1Kohm	±5%	1/10W
R407	247 0010 945	18Kohm	±5%	1/10W
R408,409	247 0007 945	1Kohm	±5%	1/10W
R410	247 0011 944	47Kohm	±5%	1/10W
R411	247 0011 902	33Kohm	±5%	1/10W
R413	247 0011 944	47Kohm	±5%	1/10W
R414	247 0008 928	2.2Kohm	±5%	1/10W
R415	247 0010 987	27Kohm	±5%	1/10W
R416	247 0007 945	1Kohm	±5%	1/10W
R418	247 0010 903	12Kohm	±5%	1/10W
R419	247 0009 985	10Kohm	±5%	1/10W
R420	247 0011 944	47Kohm	±5%	1/10W
R421	247 0011 986	68Kohm	±5%	1/10W
R423	247 0006 920	330ohm	±5%	1/10W

Ref. No.	Part No.	Part Name & Descriptions		
R425,426	247 0010 929	15Kohm	±5%	1/10W
R427	247 0011 944	47Kohm	±5%	1/10W
R501	247 0007 945	1Kohm	±5%	1/10W
R502	247 0008 928	2.2Kohm	±5%	1/10W
R503	247 0008 986	3.9Kohm	±5%	1/10W
R505-507	247 0009 985	10Kohm	±5%	1/10W
R508	247 0009 901	4.7Kohm	±5%	1/10W
R509-511	247 0012 927	100Kohm	±5%	1/10W
R512	247 0009 901	4.7Kohm	±5%	1/10W
R513	247 0007 945	1Kohm	±5%	1/10W
R514,515	247 0008 928	2.2Kohm	±5%	1/10W
R516	247 0006 946	390ohm	±5%	1/10W
R517	247 0007 945	1Kohm	±5%	1/10W
R601	247 0011 960	56Kohm	±5%	1/10W
R602	247 0013 942	330Kohm	±5%	1/10W
R603,604	247 0010 929	15Kohm	±5%	1/10W
R605,606	247 0005 963	180ohm	±5%	1/10W
R607,608	247 0010 929	15Kohm	±5%	1/10W
R609	247 0013 942	330Kohm	±5%	1/10W
R610	247 0010 903	12Kohm	±5%	1/10W
R616	247 0008 928	2.2Kohm	±5%	1/10W
R618	247 0009 985	10Kohm	±5%	1/10W
R620	247 0004 964	68ohm	±5%	1/10W
R623	247 0012 927	100Kohm	±5%	1/10W
R624,625	247 0001 983	4.7ohm	±10%	1/10W
R626,627	247 0009 985	10Kohm	±5%	1/10W
R628	247 0013 942	330Kohm	±5%	1/10W
R629	247 0009 985	10Kohm	±5%	1/10W
R630	247 0005 989	220ohm	±5%	1/10W
R631	247 0011 944	47Kohm	±5%	1/10W
R632	247 0008 928	2.2Kohm	±5%	1/10W
R633	247 0014 967	1Mohm	±5%	1/10W
R635	247 0013 900	220Kohm	±5%	1/10W
R636,637	247 0009 985	10Kohm	±5%	1/10W
R639,640	247 0011 928	39Kohm	±5%	1/10W
R641-644	247 0012 927	100Kohm	±5%	1/10W
R646	247 0009 985	10Kohm	±5%	1/10W
R647	247 0012 927	100Kohm	±5%	1/10W
R648	247 0009 985	10Kohm	±5%	1/10W
R649-651	247 0006 988	560ohm	±5%	1/10W
R652	247 0006 962	470ohm	±5%	1/10W
R655-659	247 0012 927	100Kohm	±5%	1/10W
R662,663	247 0011 928	39Kohm	±5%	1/10W
R665	247 0013 900	220Kohm	±5%	1/10W
R801	247 0007 961	1.2Kohm	±5%	1/10W
R806-809	247 0007 987	1.5Kohm	±5%	1/10W
R812	247 0008 928	2.2Kohm	±5%	1/10W
R901	247 0009 901	4.7Kohm	±5%	1/10W
R902-904	247 0009 985	10Kohm	±5%	1/10W
R905	247 0012 927	100Kohm	±5%	1/10W
R906	247 0009 985	10Kohm	±5%	1/10W
R907	247 0011 944	47Kohm	±5%	1/10W
R908	247 0005 905	100ohm	±5%	1/10W
R914-917	247 0007 945	1Kohm	±5%	1/10W
R918	247 0011 944	47Kohm	±5%	1/10W
R919,920	247 0009 985	10~~Kohm~~ ohm	±5%	1/10W

Ref. No.	Part No.	Part Name & Descriptions			
R925,926	247 0012 927	100Kohm	±5%	1/10W	
R927	247 0009 985	10Kohm	±5%	1/10W	
R928	247 0010 958	20Kohm	±5%	1/10W	
R929,930	247 0005 905	100ohm	±5%	1/10W	
R931-936	247 0007 945	1Kohm	±5%	1/10W	
R938	247 0007 945	1Kohm	±5%	1/10W	
R939-944	247 0012 927	100Kohm	±5%	1/10W	
R945	247 0011 957	51Kohm	±5%	1/10W	
R946	247 0005 905	100ohm	±5%	1/10W	
R947	247 0007 945	1Kohm	±5%	1/10W	
R949-954	247 0012 927	100kohm	±5%	1/10W	
R960	247 0014 967	1Mohm	±5%	1/10W	
R961	247 0007 945	1Kohm	±5%	1/10W	
R962,963	247 0012 927	100Kohm	±5%	1/10W	
R964	247 0011 944	47Kohm	±5%	1/10W	
VR101,201	211 6064 019	Semi Fixed Resistor 47Kohm			
VR301	211 0625 001	Variable Resistor (Vol. Bal. Fd.)			
VR302,303	211 0617 006	Variable Resistor 100Kohm (Tone)			
VR401	211 6064 077	Semi fixed Resistor 2Kohm			
VR402	211 6064 019	Semi Fixed Resistor 47kohm			
VR403,404	211 6064 022	Semi fixed Resistor 100Kohm			

CAPACITORS

(Ceramic Capacitor)

C109,209	253 1179 042	220PF	±10%	50V	D=3
C647	253 1025 002	0.022µF	+80,-20%	50V	
C915	253 1004 007	1000PF	±10%	50V	
C645	253 1025 002	0.022µF	+80,-20%	50V	

(Electrolytic Capacitor)

C101,201	254 4304 008	2.2µF	±20%	35V	(SRE)
C104,204	254 4299 003	10µF	±20%	16V	(SRE)
C112-116	254 4299 016	22µF	±20%	16V	(SRE)
C212-216	254 4299 016	22µF	±20%	16V	(SRE)
C119,219	254 4305 052	0.68µF	±20%	50V	(SRE)
C120,220	254 4305 036	0.33µF	±20%	50V	(SRE)
C121-123 221-223	254 4304 024	4.7µF	±20%	35V	(SRE)
C127,227	254 4195 013	4.7µF	±20%	35V	(SRA)
C128,228	254 4299 016	22µF	±20%	16V	(SRE)
C130,230	254 4305 065	1µF	±20%	50V	(SRE)
C132,232	254 4305 065	1µF	±20%	50V	(SRE)
C301	254 4300 060	100µF	±20%	6.3V	(SRE)
C302-304	254 4299 003	10µF	±20%	16V	(SRE)
C309	254 4299 003	10µF	±20%	16V	(SRE)
C310	254 4302 055	47µF	±20%	10V	(SRE)
C312	254 4300 060	100µF	±20%	6.3V	(SRE)
C315	254 4300 060	100µF	±20%	6.3V	(SRE)
C326	254 4250 055	470µF	±20%	6.3V	~~(SRE)~~(SME)
C327	254 4300 060	100µF	±20%	6.3V	(SRE)
C402	254 4305 065	1µF	±20%	50V	(SRE)
C403	254 4305 023	0.22µF	±20%	50V	(SRE)
C404	254 4305 065	1µF	±20%	50V	(SRE)
C405	254 4304 024	4.7µF	±20%	35V	(SRE)

C651 254 100µF ±20% 6.3V (SME)

Ref. No.	Part No.	Part Name & Descriptions			
C406	254 4305 007	0.1µF	±20%	50V	(SRE)
C407	254 4304 024	4.7µF	±20%	35V	(SRE)
C410	254 4304 024	4.7µF	±20%	35V	(SRE)
C414	254 4302 055	47µF	±20%	10V	(SRE)
C415	254 4299 016	22µF	±20%	16V	(SRE)
C416	254 4304 024	4.7µF	±20%	35V	(SRE)
C421	254 4228 003	0.1µF	±20%	50V	(Low Leak)
C427,428	254 4305 065	1µF	±20%	50V	(SRE)
C431	254 4304 024	4.7µF	±20%	35V	(SRE)
C433	254 4305 007	0.1µF	±20%	50V	(SRE)
C501	254 4228 061	1µF	±20%	50V	(Low Leak)
C505	254 4302 055	47µF	±20%	10V	(SRE)
C507	254 4299 003	10µF	±20%	16V	(SRE)
C602	254 4299 003	10µF	±20%	16V	(SRE)
C604,605	254 4300 044	47µF	±20%	6.3V	(SRE)
C606	254 4305 065	1µF	±20%	50V	(SRE)
C610	254 4304 024	4.7µF	±20%	35V	(SRE)
C611	254 4305 007	0.1µF	±20%	50V	(SRE)
C612	254 4305 049	0.47µF	±20%	50V	(SRE)
C617	254 4305 023	0.22µF	±20%	50V	(SRE)
C623	254 4299 058	33µF	±20%	16V	(SRE)
C624	254 4254 077	470µF	±20%	16V	(SME)
C629	254 4299 058	33µF	±20%	16V	(SRE)
C646	254 4305 049	0.47µF	±20%	50V	(SRE)
C690	254 4304 024	4.7µF	±20%	35V	(SRE)
C801	254 4299 003	10µF	±20%	16V	(SRE)
C802	254 4302 071	100µF	±20%	10V	(SRE)
C803	254 4299 003	10µF	±20%	16V	(SRE)
C808,809	254 4299 003	10µF	±20%	16V	(SRE)
C810	254 4300 044	47µF	±20%	6.3V	(SRE)
C811	254 4254 048	100µF	±20%	16V	(SME)
C902	254 4299 003	10µF	±20%	16V	(SRE)
C904	254 4299 003	10µF	±20%	16V	(SRE)
C905	254 4305 065	1µF	±20%	50V	(SRE)
C913	254 4299 016	22µF	±20%	16V	(SRE)

(Plastic Film Capacitor)

C102,202	255 1120 039	0.0018µF	±5%	50V
C106,206	255 1120 042	0.0022µF	±5%	50V
C107,207	255 1125 0	0.022µF	±5%	50V
207,208				

(Metalized Capacitor)

C103,203	256 1034 050	0.068µF	±5%	50V

(Chip Ceramic Capacitor)

C110,210	257 0004 945	82PF	±5%	50V
C117,118 217,218	257 1007 983	2200PF	±5%	50V
C125,126 225,226	257 0004 961	100PF	±5%	50V

Ref. No.	Part No.	Part Name & Descriptions		
C305	257 0014 935	0.1µF	+80,–20%	25V
C307,308	257 0014 935	0.1µF	+80,–20%	25V
C311	257 0004 961	100PF	±5%	50V
C316–324	257 0014 935	0.1µF	+80,–20%	25V
C401	257 0011 967	0.033µF	±10%	25V
C408	257 0009 953	3900PF	±10%	50V
C409	257 0007 968	1800PF	±5%	50V
C411	257 0009 953	3900PF	±10%	50V
C412	257 0010 942	0.022µF	±10%	50V
C413	257 0011 967	0.033µF	±10%	25V
C417	257 0009 940	3300PF	±10%	50V
C418–420	257 0010 900	0.01µF	±10%	50V
C423	257 0013 907	0.047µF	+80,–20%	50V
C424	257 0010 900	0.01µF	±10%	50V
C425,426	257 0013 907	0.047µF	+80,–20%	50V
C429	257 0003 946	33PF	±5%	50V
C430	257 0013 907	0.047µF	+80,–20%	50V
C432	257 0013 907	0.047µF	+80,–20%	50V
C434	257 0010 900	0.01µF	±10%	50V
C435	257 0013 907	0.047µF	+80,–20%	50V
C436	257 0003 946	33PF	±5%	50V
C438	257 0004 903	56PF	±5%	50V
C502	257 1011 982	0.047µF	±10%	50V
C503	257 0002 989	18PF	±5%	50V
C504	257 0002 976	16PF	±5%	50V
C508–510	257 0008 983	1000PF	±10%	50V
C603	257 1016 916	0.1µF	+80,–20%	25V
C607,608	257 1011 908	0.01µF	±10%	50V
C609	257 0010 942	0.022µF	±10%	50V
C613–616	257 0006 927	470PF	±5%	50V
C619–622	257 0010 942	0.022µF	±10%	50V
C626,627	257 0003 933	30PF	±5%	50V
C631	257 0003 933	30PF	±5%	50V
C644	257 0014 935	0.1µF	+80,–20%	25V
C804,805	257 0014 935	0.1µF	+80,–20%	25V
C806,807	257 0010 942	0.022µF	±10%	50V
C903	257 0014 935	0.1µF	+80,–20%	25V
C906	257 0014 935	0.1µF	+80,–20%	25V
C907	257 1011 982	0.047µF	±10%	50V
C908	257 0006 969	680PF	±5%	50V
C909	257 0014 935	0.1µF	+80,–20%	25V
C910,911	257 0003 933	30PF	±5%	50V
C912	257 0014 935	0.1µF	+80,–20%	25V

(Other Chip Capacitor)				
C628	257 2004 943	10µF	±20%	16V
C914	257 2004 943	10µF	±20%	16V

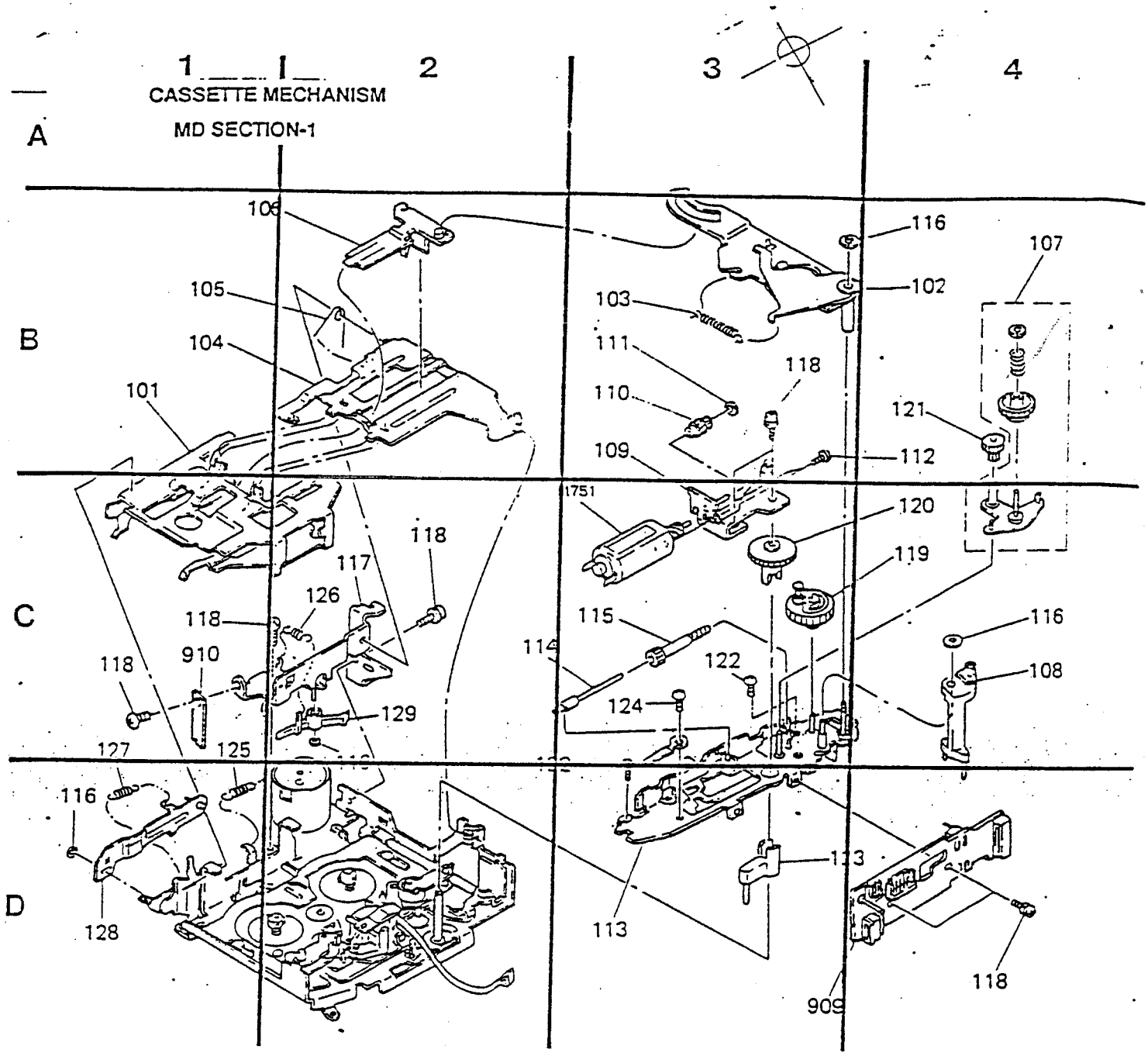
E.U. PARTS			Q'ty
L401	235 0025 982	Inductor 4.7µH	1
L603	235 0078 007	Inductor 220µH	1
L901	235 0078 007	Inductor 220µH	1
TN401	216 0078 006	FM/AM Tuner Pack	1
CF401	261 0104 006	AMC Filter (CSB456F15)	1
CF402	261 0097 003	FMC Filter (SFE10.7MS3GH-A)	1

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
T401	231 2074 007	FM Det. Trans	1
~~T501~~	~~231 2074 007~~	~~FM Det. Trans~~ HV	~~1~~
XT501	399 0075 003	X'tal (7.2MHz)	1
XT601,901	399 0063 002	Ceramic Element (CSA8.00MT)	2
BT901	394 0015 000	Battery	1
PL908, 909	393 0098 202	Lamp Ass'y	2

OTHER PARTS			
O	—	P.W. Board	1
CN1A	203 0404 014	1P Contact Ass'y	1
CN1B	203 0404 001	1P Contact Ass'y	1
CN33A	205 0557 022	33P FPC Conn. Base	1
CN9A	205 0535 015	9P Conn. Base	1
CN12A	205 0535 028	12P Conn. Base	1
CN9A	205 0536 014	9P Conn. Socket	1
CN12A	205 0536 027	12P Conn. Socket	1
CN3H	205 0233 032	3P EH Connector Base	1
CN3A	205 0406 034	3P Conn. Base (KR-PH)	1
CN3D	205 0321 038	3P Conn. Base (Red)	1
CN3E	205 0343 032	3P Conn. Base (KR-PH)	1
CN3K	205 0321 038	3P Conn. Base (Red)	1
CN4A	205 0343 045	4P Conn. Base (KR-PH)	1
CN6B	205 0321 067	6P Conn. Base (Red)	1
CN6D	205 0355 062	6P KR Conn. Base (L)	1
CN7C	205 0406 076	7P Conn. Base (KR-PH)	1
CN7D	205 0321 070 HV	7P conn. Base (Red)	1
CN10A,~~10~~	205 0480 005	10P KR Conn. Base (L)	2
CN13A	205 0375 039	13P Conn. Base (KR-PH)	1
CN3F	205 0535 044	3P Conn. Base	1
CN6C	205 0535 031	6P Conn. Base	1
CN3F	205 0536 043	3P Conn. Socket	1
CN6C	205 0536 030	6P Conn. Socket	1
CN2B	205 0355 020	2P KR Conn. Base (L)	1
CN2A	205 0571 024	2P M15 Conn. Base (L)	1
CN3G	205 0571 037	3P M15 Conn. Base (L)	1
CN3D	203 4589 029	3P KR-DS Conn. Cord	1
CN3A	203 4638 006	3P KR-DS Conn. Cord	1
CN3E	203 4639 005	3P KR-DS Conn. Cord	1
CN3C	203 4640 007	3P PH-SAN Shield Cord	1
CN3B	203 4641 006	3P EH-SCN Shield Cord	1
CN3H	203 4598 010	3P EH-SCN Shield Cord	1
CN4A	203 6181 072	4P KR-DS Conn. Cord	1
CN6A	204 0283 005	6P KR-DS Conn. Cord	1
CN6B	204 0172 019	6P KR-DS Conn. Cord	1
CN7A	204 2309 013	7P KR-DS Conn. Cord	1
CN7C	204 2382 001	7P KR-DS Conn. Cord	1
CN7D	204 2383 000	7P KR-DS Conn. Cord	1
CN8A	204 2384 009	8P PH-SAN Conn. Cord	1
CN13A	204 6237 013	13P KR-DS Conn. Cord	1
CN5A	204 8262 009	5P SAN-M04 Conn. Cord	1
CN6D	204 0284 004	6P PH-M04 Conn. Cord	1
CN10C	204 2386 007	10P PH-M04 Conn. Cord	1

CASSETTE MECHANISM

MD SECTION-1

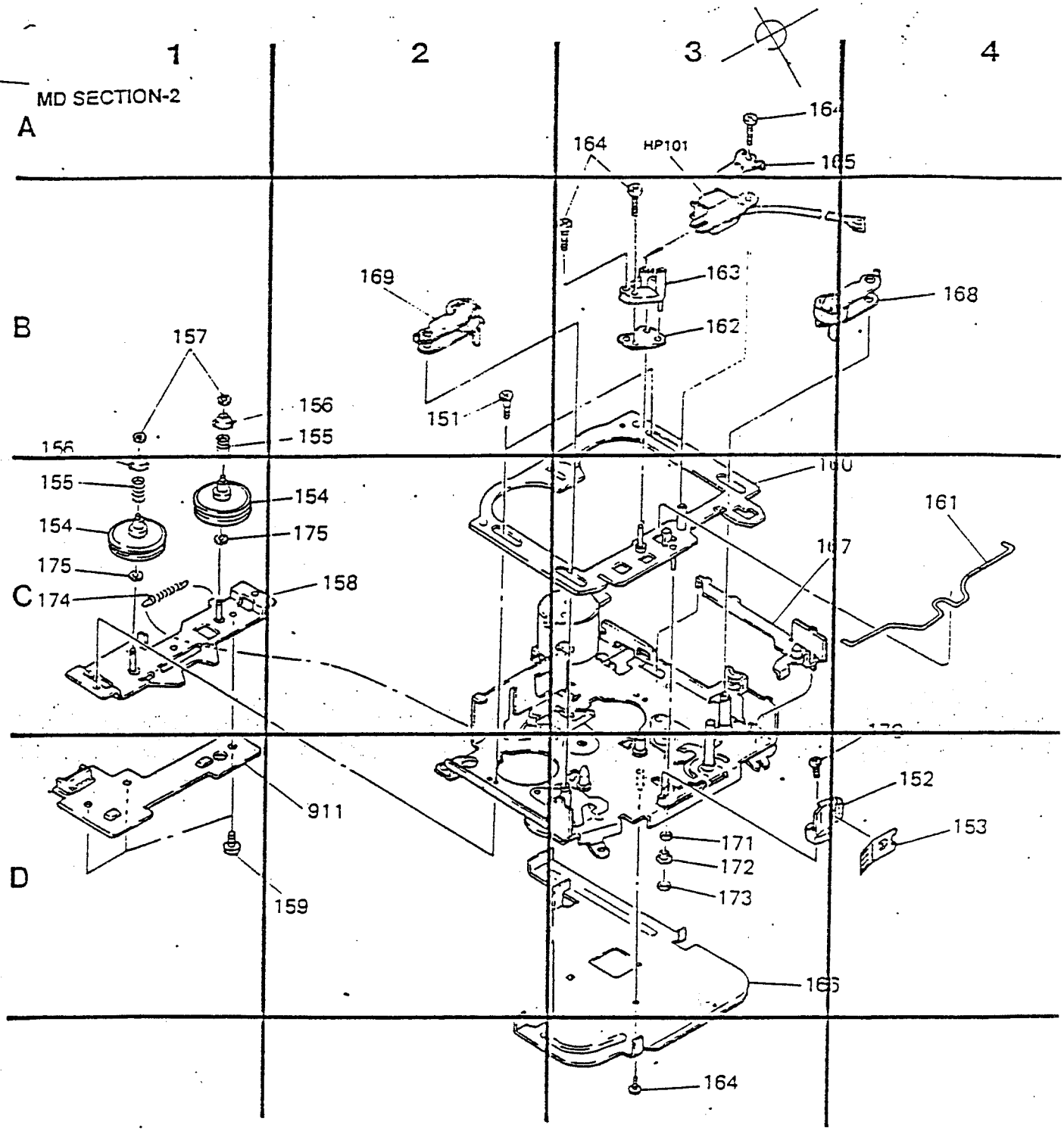


MD SECTION-1 PARTS LIST

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
101	B-1		Cassette Housing	
102	B-4		Draw Arm Ass'y	
103	B-3		Coil Spring (Draw Arm)	
104	B-1		Housing Hanger (B) Ass'y	
105	B-1		Hanger Limitter Spring	
106	B-1		Catch	
107	B-4		Arm Gear Ass'y	
108	C-4		Reverse Arm Ass'y	
109	B-3		Motor Bracket Ass'y	
110	B-3		Gear (A)	
111	B-3		Washer (Cut)	
112	B-4		Special Screw +P 2x2.5 Type 1	
113	D-3		MCU Unit Ass'y	1*
114	C-3		Gear (B) Shaft	
115	C-3		Gear (B)	
116	D-1	—	—	
117	C-2		Hanger Bracket (B) Ass'y	

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
118	C-1		Screw +PS 2x4	
119	C-4		Loading Cam Gear Ass'y	
120	C-4		Mode Gear	
121	B-4		Friction Gear (A)	
122	C-3		Screw +P 2x4	
123	D-3		Mode Arm Ass'y	
124	C-3		Screw +P 2.6x4	
125	C-1		Draw Coil Spring	
126	C-2		Draw Coil Spring	
127	C-1	—	—	
128	D-1	—	—	
129	C-2		TS Arm	
909	D-4		Switch Unit	
910	C-1		Metal SW Unit	
M751	C-3		L Motor Sub Ass'y	

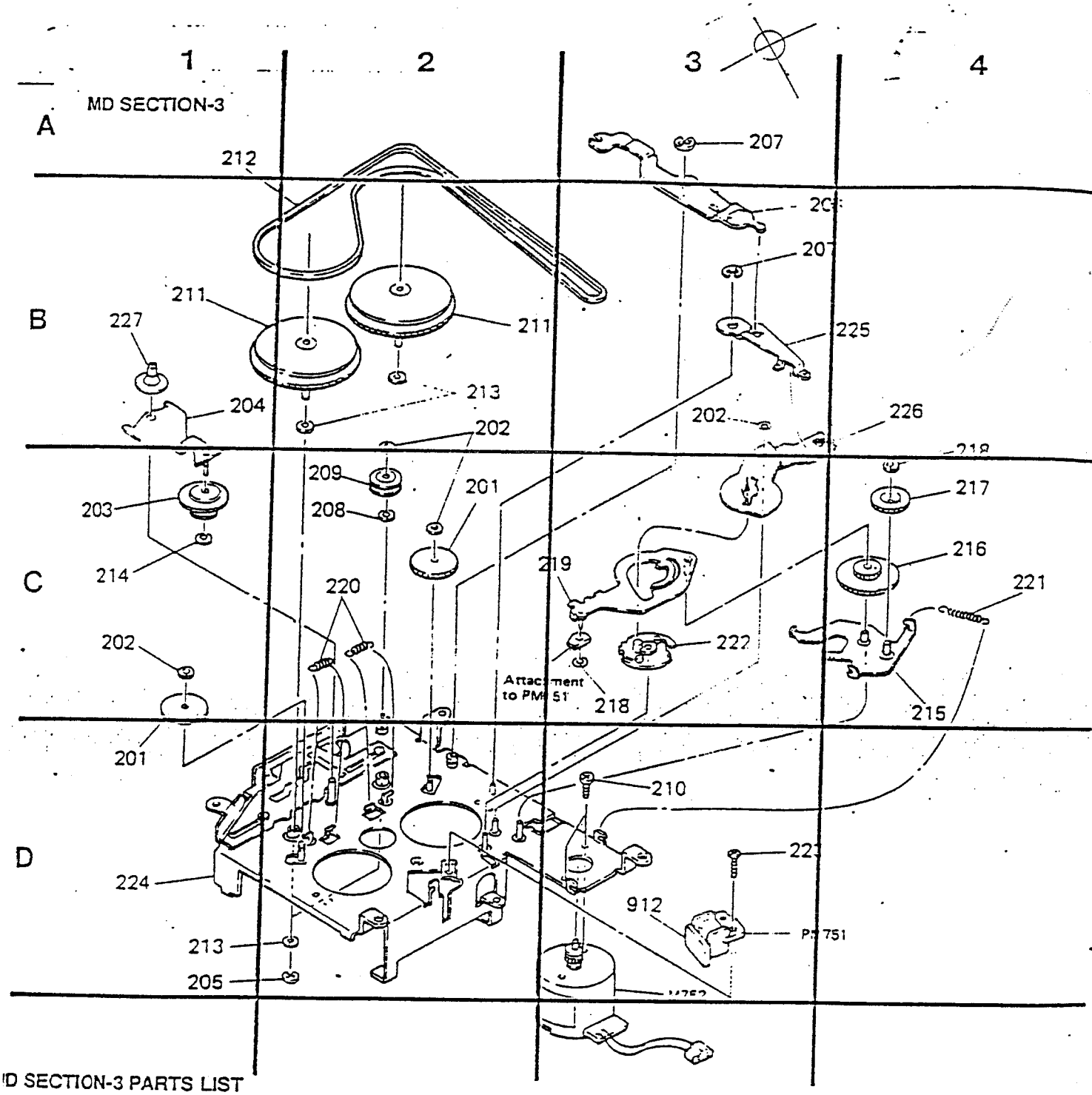
MD SECTION-2



MD SECTION-2 PARTS LIST

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
151	B-2		Special Screw (HB)	
152	D-4		Contact Holder	
153	D-4		Contact (Switch)	
154	C-1		Reel Ass'y	
155	C-1		Compress Coil Spring (BT)	
156	B-1		Reel Cap	
157	B-1		Washer (Cut)	
158	C-2		Reel Bracket Ass'y	
159	D-2		Special Screw +P 2x2.5 Type 1	
160	C-3		Head Base Ass'y	
161	C-4		Pinch Spring	
162	B-3		DAH Holder	
163	B-3		DAH Arm	
164	A-3		Special Screw +P 1.4x4.0 Type 3	
165	A-3		Head Holder	

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'
166	D-3		MD Cover	
167	C-3		RVS Change Lever Ass'y	
168	B-4		Pinch Arm (F) Ass'y	
169	B-2		Pinch Arm (R) Ass'y	
170	D-3		Special Screw +P 1.4x2.5 Type 3	
171	D-3		H/B Roller (A)	
172	D-3		H/B Roller (B)	
173	D-3		Washer (Cut)	
174	C-1		Draw Coil Spring (Cam Lock Lever	
175	C-1		Polyslider (A)	
911	D-2		Reel Base Unit	
HP101	A-3		PB Head	



ID SECTION-3 PARTS LIST

Ref. No.	Address	Part No.	Part Name & descriptions	Q'ty
201	D-1		Play Gear	
202	C-1		Washer (Cut)	
203	C-1		FR Gear Ass'y	
204	B-1		FR Arm Ass'y	
205	D-1		E Ring (A)	
206	B-3		Power Arm	
207	A-3		E Ring 2.0	
208	C-2		1.6φ Poly Washer	
209	C-2		Between Pulley (Ass'y)	
210	D-3		Special Screw +P 2x2.5 Type 1	
211	B-1		Fly Wheel (A)	
212	B-2		Belt	
213	B-2		Poly Slider (A)	
214	C-1		Poly Washer (Cut)	
215	C-4		RVS Gear (B) Lever Ass'y	
216	C-4		RVS Gear (B)	

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
217	C-4		RVS Gear (A)	
218	C-3		Washer (Cut)	
219	C-3		Cam Lock Lever Ass'y	
220	C-2		Draw Coil Spring (Play Arm)	
221	C-4		Draw Coil Spring (Gear B Lever SP.)	
222	C-3		RVS Cam Gear	
223	D-3		Special Screw +P 1.4x40 Type 3	
224	D-1		Mech Unit Ass'y	
225	B-3		LDG Lever	
226	B-4		RVS Lever Ass'y	
227	B-1		Mode Lever Holder	
912	D-3		Plunger Unit	
M752	D-3		Capstan Motor Sub Ass'y	1s
PM751	D-3		Plunger	

● AM ALIGNMENT

Table 3

Step	Aligning	SG set	Tune in to	Output Connection	Adjusting Point	Adjusting Method	Remarks
8	AM IF	1000 kHz [999 kHz] 400 Hz 30% Level at no AGC effect	1000 kHz [999 kHz]	L and R Line Amp output to AC voltmeter	T403 T404	Preset by the factory. Adjust only as necessary.	
9	Tuning Voltage		530 kHz [531 kHz] 1620 kHz [1602 kHz]		T405	Preset by the factory. Adjust only as necessary.	
10	Tracking	600kHz [603] kHz 400 Hz 30% Low level without limiter effect 1400kHz [1404] kHz 400 Hz 30% Low level without limiter effect		L and R Line Amp output to AC voltmeter	T401 T402 TC401 None	Preset by the factory. Adjust only as necessary.	
11	Auto-stop level	1000 kHz [999 kHz] 400 Hz 30% 35 dBμ (Ant input)	Select appropriate frequency point and search.		~~None~~ VR401	None	Indication should be within 35 ± 5dBμ
12	Output level	1000 kHz [999 kHz] 400 Hz 90% 74 dBμ (Ant input)	1000 kHz [999 kHz]	L and R Line Amp output to AC voltmeter	None	None	Set the Volume control at maximum. Confirm that LINE Amp output is within 1.25V ± 0.25V (center 1.25V)

* The value in [ ] is Europe Versions.

● TAPE DECK ALIGNMENT

Table 4

Step	Aligning	Test Tape	Output Connection	Adjustment Method	Remarks
13	Tape level	MTT-150 (TCC-130)	IC309 ~~18~~ pin, 6 ~~18~~ pin to AC voltmeter 25	Adjust VR101, 201 obtain ~~-10 dBm (245 mV)~~ on the AC voltmeter. ↑ −6 dBm (388 mV)	Set the Volume control at maximum. Set the Fader control at fully counter-clockwise. Balance, Treble and Bass Control at center position. Confirm that LINE Amp output is within 1.25V ± 0.25V (center 1.25V).
14	Azimuth angle	MTT-144 (TCC-15~~0~~) 3	LINE Amp output to AC voltmeter	Adjust azimuth adjustment screw so that the L and R output level become same and maximum.	Adjust both forward and reverse modes. (Preset by the factory. Adjust only as necessary.)
15	Wow and Flutter	MTT-111 (TCC-111)	LINE Amp output to AC voltmeter	~~Adjust azimuth adjustment screw so that the L and R output level become same and maximum.~~ Hz	Confirm that wow and flutter is within 0.09%.

HD404418A25H, HD404418A24H

Terminal Function

Terminal No.	Terminal Symbol	I/O	Terminal Function
1	P4	I	Input terminal port of position data from Cassette Mechanical.
2–10	N.C.	—	
11	MTI IN	I	Metal input terminal. High: Metal, Low: Normal.
12	ACC OFF	I	ACC ON at High Input, ACC OFF at Low Input.
13	AMS H	I	Detect sound signal input (High input receives sound).
14	AMS L	I	At FWD Playback time and FF Position. Detection Input of Reeler action for Take Up.
15	REEL 2	I	Detection input of Reeler action for Take Upside at FWD play time and FF position.
16	N.C.	—	
17	REEL 1	I	Detection Input of Reeler action for Take Up side at REV Play time and REW UP position.
18	LM –	O	Drive output terminal for Loading motor.
19	LM+	O	
20–23	N.C.	—	
24	Vcc	—	Power supply terminal (5V).
25–28	N.C.	—	
29	KD0	I	Data input terminal from Master Micro Computer.
30	KD1	I	Data input terminal from Master Micro Computer.
31	KD2	I	Data input terminal from Master Micro Computer.
32	KD3	I	Data input terminal from Master Micro Computer.
33	SO 0	O	Data output terminal for Master Micro Computer.
34	SO 1	O	Data output terminal for Master Micro Computer.
35	SO 2	O	Data output terminal for Master Micro Computer.
36	SO3	O	Data output terminal for Master Micro Computer.
37–40	N.C.	—	
41	RESET	I	Reset in High and start at Program Address $0000 in the next Low Level Position.
42	TEST	—	Connecting terminal for Vcc.
43	OSC 1	—	Connecting terminal for System Clock oscillation circuit.
44	OSC 2	—	
45	GND	—	GND
46–53	N.C.	—	
54	CE	I	Latch signal for receiving of Data from Master Micro-Computer.
55	$\overline{N}$/M	O	Metal output terminal. High: Metal, Low: Normal.
56	F/$\overline{R}$ OUT	O	Output terminal of Tape running direction. High output at FWD time; Low at REV time.
57	CAP. M	O	Drive output terminal for Capstan Motor (Capstan Motor ON in High output)
58	M. ON	O	Detecting action of all Loading Motor, Capstan Motor, Plunger and Reel, and Metal detecting, Controlling Power Supply (ON in High)
59	PLUNGER	O	Drive Plunger (solenoid) output terminal (Plunger ON in High output; Plunger OFF in Low)
60	T. IN	I	Low in Tape Insertion; High in Tape Ejection.
61	F/$\overline{R}$ IN	I	Input terminal of Tape running Direction. Low (input) in FWD; High in REV.
62	P1	I	Position Data Input Terminal from Cassette Mechanical
63	P2	I	Position Data Input Terminal from Cassette Mechanical
64	P3	I	Position Data Input Terminal from Cassette Mechanical