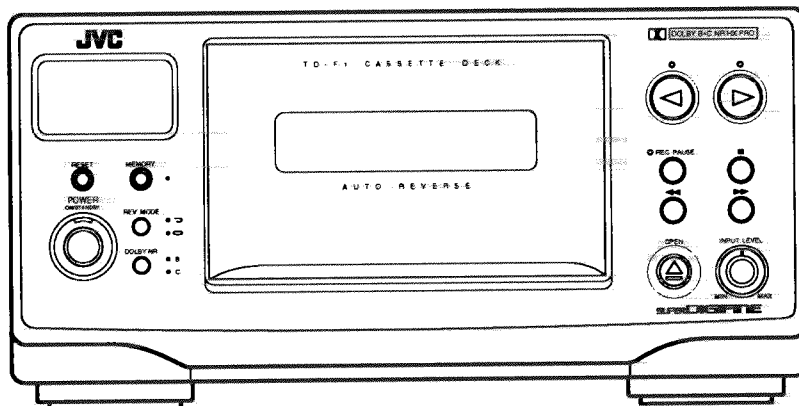


JVC

SERVICE MANUAL

CASSETTE DECK

TD-F1GD



Area Suffix

BS.....the U.K.
 EF.....Continental Europe
 except Germany and
 Italy
 EN.....Scandinavia
 G.....Germany
 UB.....Hong Kong
 US.....Singapore
 UT.....Taiwan
 U.....Other Countries

COMPU LINK
 Component

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Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

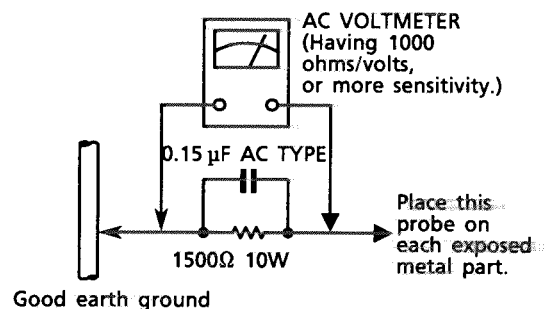
- Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor.

Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Instruction Book

Features

Power eject opens the cassette holder at the touch of a button
 The cassette holder opens with a smooth action, allowing the tape to be placed inside.

Dolby NR, Dolby HX PRO
 In addition to Dolby NR which reduces tape hiss, the cassette deck comes with Dolby HX PRO, which adapts to variations in the high frequency components of the input signal and controls the bias current so that the effective bias is always at a fixed level. This allows recording of dynamic sound, by reducing variations in low frequency signals and greatly improving the saturation level of high frequency signals.

Supplied accessories (check before use)

- Signal cord (2)
- COMPULINK cord (1)
- AC power cord (1)

English
 English

General Information

We would like to thank you for purchasing one of our JVC products. Before connecting this unit to the wall outlet, please read the instructions carefully to ensure that you obtain the best possible performance. If you have any questions, please consult your JVC dealer.

Important cautions

1. **Installation of the Unit**
 - Select a place which is level, dry and neither too hot nor too cold (Between 5°C and 35°C or 41°F-95°F).
 - Leave sufficient distance between the Unit and a TV.
 - Do not use the Unit in a place subject to vibrations.
2. **Power cord**
 - Do not handle the power cord with wet hands!
 - A small amount of power (3 watts) is always consumed as long as the power cord is connected to the wall outlet.
 - When unplugging the Unit from the wall outlet, always pull the plug, not the power cord.
3. **Misfunctions, etc.**
 - There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
 - Do not insert any metallic object into the Unit.

For safe use, observe the following

- Avoid moisture, water and dust**
 Do not set your machine in moist or dusty places.
- Avoid high temperatures**
 Do not expose your machine to direct sunlight or set near a heating device.
- Do not block the vents**
 Poor-ventilation may damage your machine. So do not block the vents nor put the unit in a poorly ventilated place.
- When you're away**
 When away on travel or otherwise for an extended period of time, pull the plug from the outlet.
- Do not insert foreign matter into the machine**
 Do not insert wires, hairpins, coins, etc. into your machine.
- Care of the cabinet**
 When cleaning your machine, use a soft cloth and follow the relevant instructions on the use of chemically-coated cloths. Avoid applying benzene, thinner or other organic solvents and disinfectants. This may cause deformation or discoloring.
- If water gets inside the machine**
 Cut the main power switch and pull the plug from the electrical socket, then call the store where you made your purchase. Using the machine in this state may cause a fire or electrical shock.

Contents

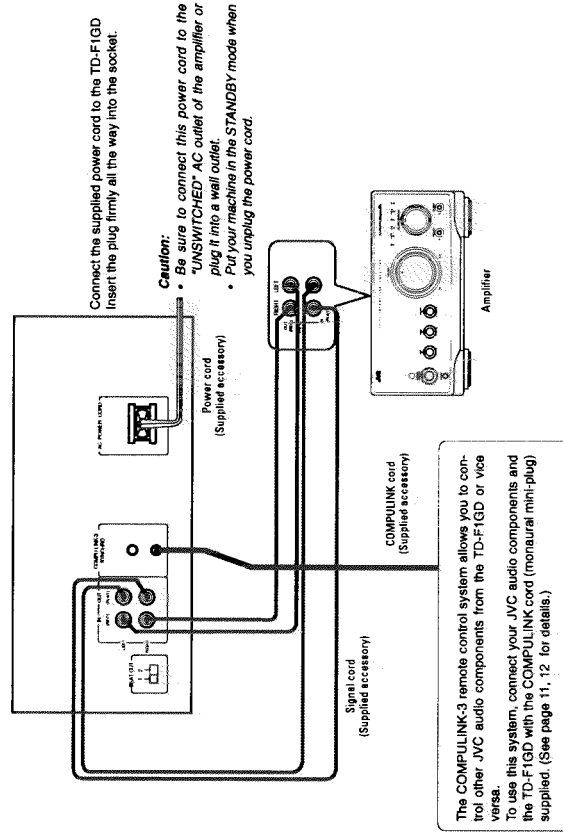
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 5 Names and functions of parts 5
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 English

Connections

Be sure not to plug in the power cord until all other connections have been made.

Connection to the amplifier



- Notes:**
1. Switch the power off when connecting any components.
 2. Connect to an amplifier with left and right channels connected correctly. Reversed channels will degrade the stereo effect.
 3. Connect plugs or cords firmly. Poor contact may result in hum.

Setting the BEAT CUT

BEAT CUT selector is used for preventing beat sound from being recorded and played. Set this selector to either 1 or 2 for better sound.

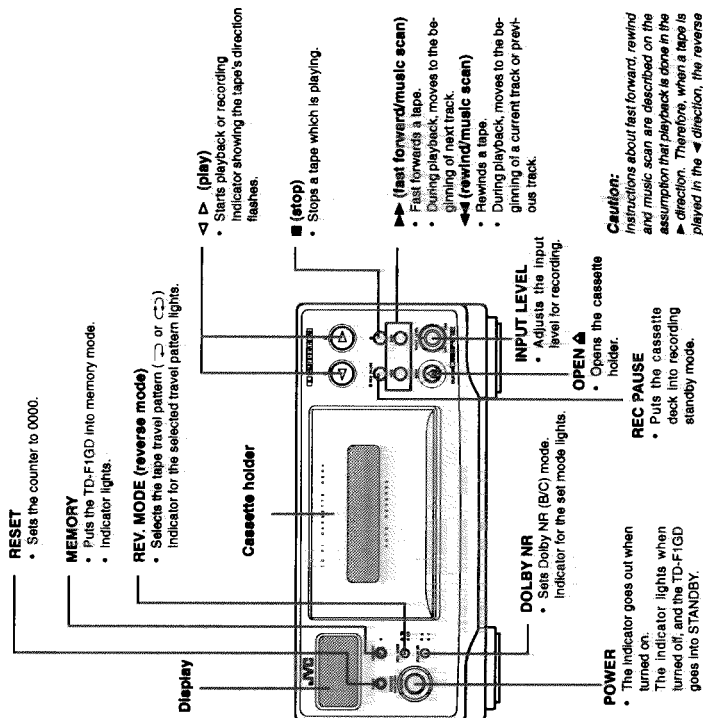
Supplying the AC power

Only when all the connections are completed, insert the power plug into the wall outlet. Then the POWER indicator lights and the setup is complete.

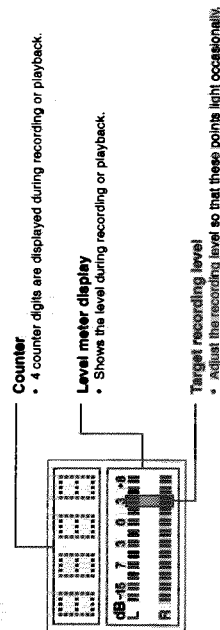
English
English

Names and functions of parts

Front panel



Display



Cleaning the heads

Head cleaning

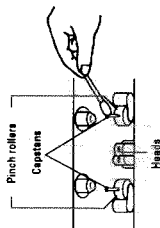
Since the tape always touches the heads as it travels, in time magnetic particles and dust build up, making the heads dirty. When the heads become extremely dirty, symptoms such as the following appear.

- The sound quality is poor
- The volume is low
- Recording doesn't work
- Previously recorded sound can't be erased

In order not to have an important recording come out a failure, before the symptoms appear, clean the heads, pinch rollers and capstans on a regular basis (after about every 10 hours of use).

Cleaning method

Wipe off the parts with a cotton swab soaked in absolute alcohol.



Head demagnetizing

If used over a long period of time, the metal parts which contact the tape may become charged. In this case, tape hiss will increase, and high pitched sounds of already recorded tapes will be erased. The same type of malfunction could be caused by bringing a charged metal object (such as a screwdriver) near the tape heads.

Demagnetize the tape heads regularly (after about every 20 to 30 hours of use) using a commercially available tape head demagnetizer.

You can also use a cassette type of demagnetizer with this cassette deck. When doing so, turn the volume of the amplifier all the way down, or you may harm the amplifier or speakers. For details, read the instructions that come with the tape head demagnetizer.

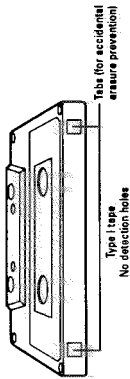
Cassette tapes

Types of cassette tapes

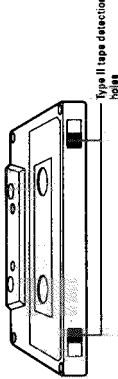
This cassette deck has an auto tape select function. Using the tape-type detection holes, the cassette deck distinguishes which type of tape is inserted, and sets the bias and equalizer automatically to the optimum settings for that tape.

The following types of tapes may be used with this cassette deck.

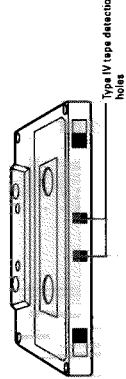
Type I (Normal) tape



Type II (CrO₂) tape



Type IV (Metallic) tape



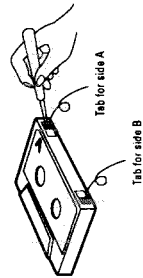
Caution:

- The use of C-120 (120 minutes total) or thinner tape is not recommended, since characteristic deterioration may occur and these tapes easily jam in the pinch roller and the capstan.
- Stack tape which hangs down can cause cassette deck malfunctions. Use a pencil or similar object to take up any slack before inserting a tape in the cassette deck.
- Place tapes in their cases for storage. Avoid storing tapes on top of TVs or speakers, in sunlight or places of high temperature, or in humid or dusty areas.

To avoid erasing important recordings

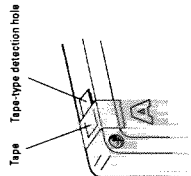
- Cassette tapes have tabs to prevent accidental erasure. If you remove the tabs after making a recording, the tape cannot be used to record. Remove the tabs so that valuable recordings will not be accidentally erased.

When the tabs are removed, recording (erasure) cannot be done



To record again on a tape which has the tabs removed, cover the tab holes with tape.

Don't cover the tape-type detection holes.



Using the cassette deck

Inserting and ejecting cassette tapes

The TD-F1GD has a power eject cassette holder, so when opening the cassette holder, be sure to connect the power cord to the outlet.

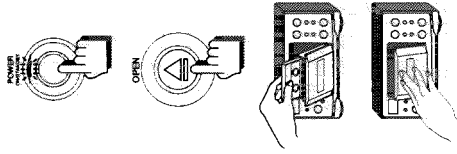
1. **Turn on the power.**
Press the POWER button to turn off the STANDBY indicator.

2. **Press OPEN.**
The cassette holder opens.

3. **Insert a tape.**
Insert the tape into the cassette holder face downward.

4. **Close the cassette holder.**

One press OPEN Δ (with the TD-F1GD in STANDBY)
Just by pressing OPEN Δ, the power comes on, the cassette holder opens, and then the power turns off.



Counter reset/memory

Counter reset

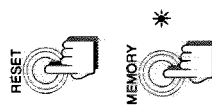
You can reset the counter to 0000 by pressing RESET. Reset the counter before recording, and then make a note of the counter reading for the beginning of each song. This is handy for finding songs during playback.

Counter memory

- Press MEMORY to put the cassette deck into memory mode.
- The indicator lights.
- When the counter reaches 0000 during fast forwarding or rewinding, the tape will stop automatically. (The stopping position may differ somewhat depending on the tape position.)
- To cancel memory mode, press MEMORY again. The indicator will go out.

Caution:

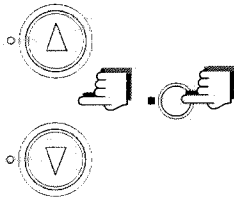
When memory mode is on, pressing RESET to reset the counter to 0000 will cause a fast forwarding or rewinding tape to stop.



English
English

Playing a tape

1. Press the play ◀ or ▶ button. When the play direction button is pressed, the indicator flashes slowly.
2. To stop playback, press the stop ■ button.



One press play (with the TD-F1GD in STANDBY)

Just by pressing ◀ or ▶, the power comes on, and tape playback begins. (When there is no tape inserted, the power just comes on.)

Music scan

Blank spaces between songs are searched, and the beginnings of songs are found. (The play button flashes twice repeatedly during music scan.)

Music scan is done when a tape is playing

- To search for the next song:
Press ►►► If ► has been pressed to play the tape.
Press ◄◄◄ If ◄ has been pressed to play the tape.
- To search for the beginning of the current song playing:
Press ◄◄ If ► has been pressed to play the tape.
Press ►► If ◄ has been pressed to play the tape.

Caution:

Music scan may not work normally in the following cases.
If the interval between songs is short, or if there is noise between songs.
With songs where there are long parts of low or no sound.

Reverse mode

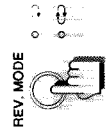
By pressing REV. MODE, you can record or play both sides of the tape continuously.

Side A/B reverse

Recording or playback continues from side A to side B or side B to side A once only.

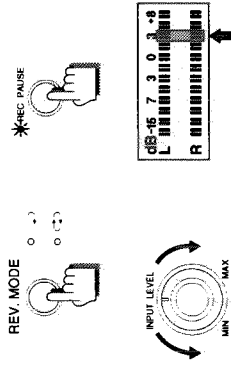
Auto reverse

Playback of both sides is endless. (If auto reverse is chosen when recording, the cassette deck switches to side A/B reverse when REC PAUSE is pressed.)



Recording

1. Insert a tape
2. Select the recording mode
To record only one side of the tape, have ◀ and ▶ indicators go out.
To record both sides of the tape from side A to side B once, have the ▶ indicator light on.
3. Adjust the recording level
1. Play the source you want to record.
2. Press REC PAUSE. The cassette deck goes into record standby, and the indicator lights.
3. Adjust the INPUT LEVEL. The recording level should be set so that the points in the display shown here by the arrow light occasionally at maximum input.
4. Press the play ◀ or ▶ button



The indicator flashes slowly and recording starts.
Press ► to record on the front side or both sides.
Press ◄ to record on the rear side. Only the rear side is recorded if the recording starts in the direction of ► in the side A/B mode.

Note:
It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.

Dolby NR and Dolby HX PRO

Dolby NR (B/C) setting

By using Dolby NR during recording or playback, you can decrease unpleasant tape hiss. The cassette deck has the commonly used Dolby NR B type, as well as the Dolby NR C type, highly effective for noise reduction.

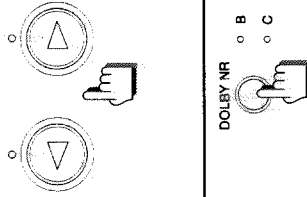
- Set the DOLBY NR switch to B or C during recording or playback. The appropriate indicator will light.
Note that if the DOLBY NR setting differs for recording and playback, the sound quality will change.

Dolby HX PRO

When recording signals contain a lot of high frequency components, those components work as a bias, so the effective bias current changes and low frequency level variations and high frequency distortion may be generated.

Dolby HX PRO adapts to variations in the high frequency components of the input signal and controls the bias current so that the effective bias is always at a fixed level. This allows recording of dynamic sound by reducing variations in low frequency signals and greatly improving the saturation level of high frequency signals.

- Dolby HX PRO is always working during recording, so there is no need to turn it on.
- Sound recorded with this system and played on a cassette deck without Dolby HX PRO will still have the Dolby HX PRO effect.
- Dolby HX PRO is not noise reduction.



Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. DOLBY, the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

COMPULINK Remote Control System

Operations by synchro connection (COMPULINK-3) to the separately sold JVC audio components.

COMPULINK basics

The following section describes the COMPULINK Remote Control System. In these instructions we refer to the COMPULINK Remote Control System as 'COMPULINK' for convenience's sake.

Buying a separate MD recorder, CD player, amplifier or other components to enjoy just the combination you want is a good way to get high-quality sound. However, since each component has to be operated individually, this method has the drawback of difficult operation. JVC's COMPULINK Remote Control System meets the demand for a system made up of single components, and has the ease of operation of a single unit.

Products that are compatible with COMPULINK have terminals marked either COMPULINK-1, COMPULINK-2, or COMPULINK-3 (referred to collectively as COMPULINK terminals). When components are linked by the COMPULINK terminals, simple operations like those of a single unit component system can be achieved.

About the COMPULINK version

- There are three versions of COMPULINK currently on sale by JVC. These are COMPULINK-1, COMPULINK-2, and COMPULINK-3. COMPULINK-3 is the newest version, with more functions than COMPULINK-1 and COMPULINK-2.

Distinguishing versions

The version is displayed at the terminals of the components.

Caution: COMPULINK-3 components may be connected to other version components, but in this case the newest functions may not work.

COMPULINK 3 functions

The following is a brief overview of COMPULINK-3 functions.

One press play

This function lets you listen without operating the amplifier, just by putting the source component (the component which plays the sound source such as the CD player or MD recorder) into play mode.

Synchro recording

Allows recording to start automatically when the source starts playing.

Timer operation

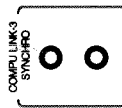
Recording or playback can be made to start at a preset time using the timer function built into the tuner.

Total operation by remote control

All source components, such as the CD player and cassette deck, can be operated by one amplifier remote control. See the amplifier's instructions for how to use the remote control.

Minidisc recorder automatic input switching

When the setting of the input selector in the minidisc is set to digital input, digital input is done only when the amplifier's source selector is set to CD. When it is set to other sources, analog input is done. This saves the labor of switching every time.

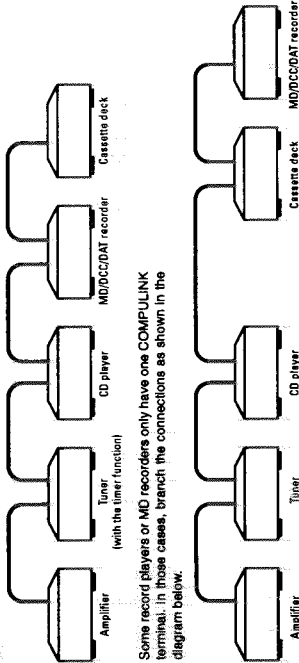


English
English

Connections

Connection example

This is the basic connection example of the JVC audio components. Connection is done so that all functions are bridged. There is no set order.



Some record players or MD recorders only have one COMPULINK terminal. In those cases, branch the connections as shown in the diagram below.

Connect the COMPULINK terminals of each component to each other using the connection cable with mono mini plugs.

- When there is more than one COMPULINK terminal, any terminal can be used.
 - Plug the power plugs of each component into the UNSWITCHED outlet or a wall outlet. If components are plugged into the SWITCHED outlet, COMPULINK functions will not work normally.
 - If there are no input/output terminals for an MD recorder or DCC deck on the amplifier, use the DAT terminals. If other terminals are used, COMPULINK will not work normally.
- Cautions:**
- Among MD recorders, DCC decks and DAT decks, two different types of components cannot be connected in the COMPULINK system at the same time. Select the more commonly used component to connect.
 - If the amplifier is not connected, only the synchro recording function will work.
 - The timer operation function will only work if a tuner with a timer function is connected.

Synchro recording

See pages 11, 12 for the COMPULINK Remote Control System connection (connection through other JVC audio components). See the amplifier instructions for information on making connections to the entire line of JVC audio components.

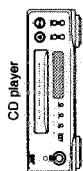
With the synchro recording function, recording can be made to start automatically at the same time as the start of the source playback. PROGRAM play can also be recorded.

1. **Prepare the disc or tape in the source component.**
See the source component instructions for details.
2. **Prepare the tape in the TD-F1GD.**
3. **Press the REC PAUSE button of the TD-F1GD.**
4. **Make the preparations for recording.**
 - Tune into the desired radio station, adjust the INPUT LEVEL, and set REV. MODE and DOLBY NR (B, C) as desired. (See pages 9, 10)
5. **Press the PLAY button of the source component.**

The recording component begins recording at the same time as playback of the source component starts.

Cautions:

- Synchro recording cannot be done to 2 components beginning at the same time (such as an MD recorder and cassette deck). Synchro recording cannot be done from a cassette deck.
- You cannot change the recording source setting on the amplifier during synchro recording.
- When doing synchro recording of PROGRAM play to a cassette deck, a 4-second blank is created automatically between each track. This enables music scan (moving quickly to the beginning of a song) after recording, and is not a malfunction.



Timer play

See pages 11, 12 for the COMPULINK Remote Control System connection (connection through other JVC audio components). See the amplifier instructions for information on making connections to the entire line of JVC audio components.

Using the DAILY timer
When the start and stop time are set, and a tape is inserted, the cassette deck plays the tape every day at the same time.

1. **Insert a tape into the TD-F1GD.**
2. **Set the DAILY timer.**
See the tuner (with the timer function) instructions for details.
3. **Playback of the tape starts automatically when the start time is reached.**
4. **Playback stops automatically when the stop time is reached.**



Using the SLEEP timer

During playback of a tape, the power is automatically turned off when the set time is reached.

1. **Play a tape into the TD-F1GD.**
2. **Set the SLEEP timer.**
See the tuner (with the timer function) instructions for details.
3. **When the set amount of time has passed, the power is automatically turned off.**



Tape playback also stops.

Timer recording

Recording is done after setting the times for the start and end of recording, and the radio station to record from.

See pages 11, 12 for the COMPULINK Remote Control System connection (connection through other JVC audio components). See the amplifier instructions for information on making connections to all JVC audio components.

1. **Insert a tape into the TD-F1GD.**
2. **Make the preparations for recording.**
Tune into the desired radio station, adjust the INPUT LEVEL, and set REV. MODE and DOLBY NR (B, C) as desired. (See pages 9, 10)
3. **Set the REC timer.**
See the tuner (with the timer function) instructions for details.
4. **When the set recording start time is reached, recording starts automatically.**
 - Recording stops automatically when the recording stop time is reached.



Troubleshooting

- If you are having a problem with your TD-F1GD, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

SYMPTOM	POSSIBLE CAUSE	ACTION
There is no sound	<ul style="list-style-type: none"> • Connections are incorrect. • The amplifier is selecting another component. 	<ul style="list-style-type: none"> • Connect the cords correctly. • Set amplifier's SOURCE SELECTOR to the correct setting.
TD-F1GD cannot record any sound on a tape	<ul style="list-style-type: none"> • The erasure prevention tabs have been removed. • The input level is too low. • The amplifier volume is too low. 	<ul style="list-style-type: none"> • Cover the holes with tape. • Adjust the input level. • Adjust the volume.
Music scan does not work properly	<ul style="list-style-type: none"> • There are no blank spaces or a lot of noise between songs, or a lot of quiet or silent parts within songs. 	<ul style="list-style-type: none"> • This is not a malfunction.
There is hissing sound	<ul style="list-style-type: none"> • The heads, capstans and pinch rollers are dirty. 	<ul style="list-style-type: none"> • Clean the heads, capstans and pinch rollers.
The cassette holder doesn't open	<ul style="list-style-type: none"> • The power cord is not plugged in. 	<ul style="list-style-type: none"> • Plug in the power cord.

English
English

Specifications

Track format: Compact cassette stereo
 Heads: Erase (2 separate)
 Record/play (metaparm)
 Motor: For capstans (electronically controlled DC motor) (1)
 For reels (DC motor) (1)
 For mechanism control (DC motor) (1)
 ±0.13% W. PEAK
 0.07% WFRMS
 Wow/flutter:
 Fast forward/rewind speed: Approx. 95 sec (C-60)
 Frequency Response: Metallic (30 Hz to 17 kHz)
 CrO₂ (30 Hz to 16 kHz)
 Normal (30 Hz to 15 kHz)
 56 dB (metallic tape)
 40 dB (1 kHz)
 100 mV/40 k ohms
 400 mV/1 k ohms
 SN ratio:
 Channel separation:
 Input Sensitivity/impedance:
 Line Input (O VU)
 Output Level/impedance:
 Line Output (O VU)
 Power requirement:
 Power consumption:
 Dimensions:
 Mass:

AC 230 V_~, 50Hz
 10 Watts
 3 Watts (STANDBY)
 245 x 120 x 281 mm (W/H/D)
 9-11/16 x 4-3/4 x 11-1/8 inches
 2.9 kg (6.4 lbs)

Measured at peak level, weighted, without Dolby NR. The SN is improved about 15dB at 500Hz and maximum 20dB at 1kHz. -10dB with Dolby-C NR on, 5dB at 1kHz and 10dB above 5kHz with Dolby-B NR on.

Specifications and appearance subject to change for improvements without prior notice.

■ Description of ICs

■ MB88514B-1695(IC701):System Controller

Terminal layout

POWER ON	1	64	VCC
P.MUTE	2	63	NC
R.MUTE	3	62	PLS
BIAS	4	61	FWD REC SW IN
NORM	5	60	REV REC SW IN
NORM	6	59	PULL UP
CrO2	7	58	CrO2 SW IN
METAL	8	57	METAL SW IN
DBI/DCI	9	56	PACK SW IN
NR OFF	10	55	INH IN
NR REC	11	54	METER L
REEL	12	53	METER R
F.CAM	13	52	KEY 0
R.CAM	14	51	KEY 1
F.REEL	15	50	CAM 0
R.REEL	16	49	CAM 1
CAP MOTOR	17	48	CAM 2
EJECT	18	47	NC
MEMORY IND	19	46	VCC
REC IND	20	45	VCC
FWD PLAY IND	21	44	GND
FWD PLAY IND	22	43	GND
REV PLAY IND	23	42	NC
REV PLAY IND	24	41	NC
OSC	25	40	DCS IN
OSC	26	39	MSI
RESET	27	38	NC
DCS OUT	28	37	NC
NC	29	36	NC
PULL UP	30	35	CS
NC	31	34	DATA
GND	32	33	CLK

Key input

KEY IN 0 (S2PIN)	KEY IN 1 (S1PIN)
OPEN (S701)	▶▶ (S707)
POWER (S702)	◀◀ (S708)
DOLBY (S703)	■ (S709)
REV.MODE (S704)	REC PAUSE (S710)
MEMORY (S705)	▶ (S711)
RESET (S706)	◀ (S712)

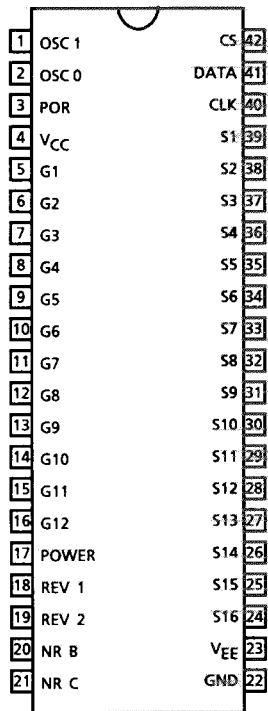
Terminal Description

Pin	Symbol	I/O	Description	Pin	Symbol	I/O	Description
1	POWER ON	O	Power ON/OFF signal output (H:ON,L:OFF)	33	CLK	O	Clock for data transfer
2	P.MUTE	O	P.B muting control signal	34	DATA	O	Data output
3	R.MUTE	O	REC. muting control signal	35	CS	O	Chip select signal
4	BIAS	O	Bias ON/OFF control signal (H:ON,L:OFF)	36	NC	--	Not used
5	NORM	O	"HXPRO" Bias control signal	37	NC	--	Not used
6	NORM	O	Normal tape, record	38	NC	--	Not used
7	CrO2	O	CrO2 tape, record	39	MSI	I	Blank detect terminal for music scan
8	METAL	O	Metal tape, record	40	DCS IN	I	Compulink signal input
9	DBI/DCI	O	NR B / C switching signal output	41	NC	--	Not used
10	NR OFF	O	NR ON/OFF signal output	42	NC	--	Not used
11	NR REC	O	NRREC signal output	43	GND	--	GND
12	REEL	O	Reel motor speed control signal	44	GND	--	GND
13	F.CAM	O	Cam motor control signal	45	VCC	--	Power supply(+ 5V)
14	R.CAM	O	Cam motor control signal	46	VCC	--	Power supply(+ 5V)
15	F.REEL	O	Reel motor control signal	47	NC	--	Not used
16	R.REEL	O	Reel motor control signal	48	CAM 2	I	Input terminal for mech and head status
17	CAPMOTOR	O	Capstan motor control signal	49	CAM 1	I	Input terminal for mech and head status
18	EJECT	O	Plunger control signal	50	CAM 0	I	Input terminal for mech and head status
19	MEMORYIND	O	"MEMORY" indication signal	51	KEY 1	I	Key input
20	REC IND	O	"REC" indication signal	52	KEY 0	I	Key input
21	FWD PLAYIND	O	Indication signal for forward play	53	METER R	I	Audio signal (R) input
22	FWD PLAYIND	O	Indication signal for forward play	54	METER L	I	Audio signal (L) input
23	REV PLAYIND	O	Indication signal for reverse play	55	INH IN	I	Inhibit signal input
24	REV PLAYIND	O	Indication signal for reverse play	56	PAC SW IN	I	Leaf switch input
25	OSC	--	Clock oscillation terminal	57	METALSWIN	I	Leaf switch input
26	OSC	--	Clock oscillation terminal	58	CrO2SW IN	I	Leaf switch input
27	RESET	I	Reset signal input	59	PULL UP	--	
28	DCS OUT	O	Compulink signal output	60	REV REC IN	I	Leaf switch input
29	NC	--	Not used	61	FWD REC IN	I	Leaf switch input
30	PULL UP	--		62	PLS	I	Pulse signal input from Reel
31	NC	--	Not used	63	NC	--	Not used
32	GND	--	GND	64	VCC	--	Power supply(+ 5V)

TD-F1GD

■ MSC7112-01SS(IC702) : FL Display Driver

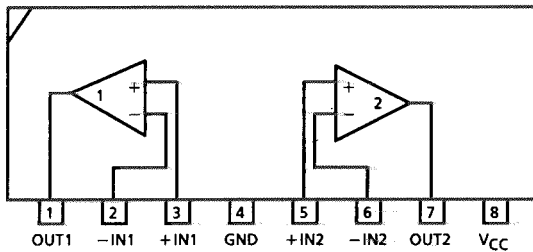
(1) Top View



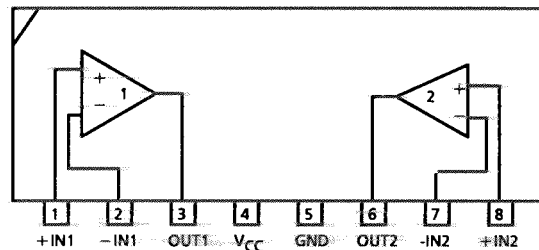
(2) Pin Functions

Pin No.	Pin Name	I/O	Functions
1	OSC 1	I	Input to the oscillator circuit. Oscillator circuit is made up by connecting an external capacitor and resistor.
2	OSC 0	O	
3	POR	--	Not used
4	V _{CC}	--	Power supply for the internal logic circuit.
5~10	G1~G6	O	FL display tube drive signal.
11~16	G7~G12	--	Not used
17	POWER	O	"POWER" indication contol signal.
18	REV 1	O	"REV 1" indication contol signal.
19	REV 2	O	"REV 2" indication contol signal.
20	NR B	O	"NR B" indication contol signal.
21	NR C	O	"NR C" indication contol signal.
22	GND	--	GND
23	V _{EE}	--	Power supply for the FL drive circuit.
24~26	S14~S16	--	Not used
27~39	S1~S13	O	FL display tube drive signal.
40	CLK	I	Clock signal to the shift register.
41	DATA IN	I	Display data to the shift register.
42	CS	I	Chip select signal input.

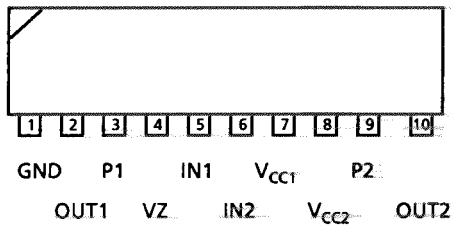
■ BA15218N(IC301,IC703) ... Dual OP Amp.



■ μPC1228HA(IC201) ... Dual OP Amp.



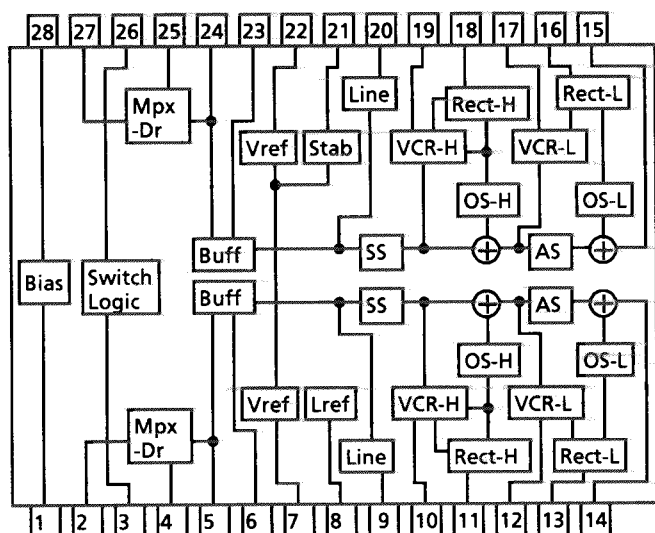
■ LB1641 (IC704~705) : DC Motor Driver



Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

■ AN7374K (IC401) : Dolby IC

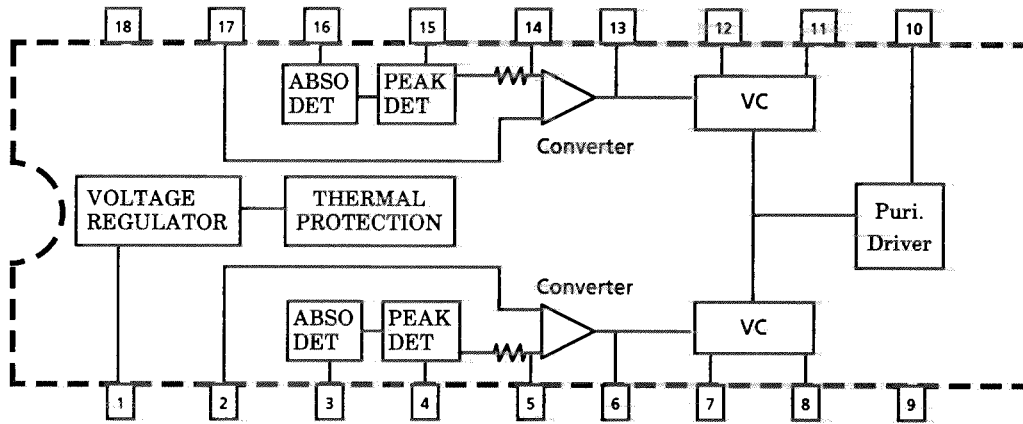
1. Block Diagram



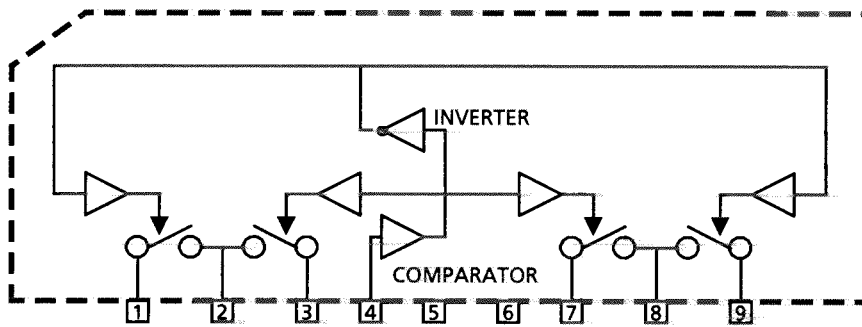
2. Pin function

Pin No	Symbol	Function	Pin No	Symbol	Function
1	GND	GND	15	REC OUT-L	Ch. B REC-OUT
2	REC IN-R	Ch. A REC-IN	16		Ch. B LLS control signal rectifier
3	OFF/B/C	C-type/B-type/OFF NR switch	17		Ch. B LLS control resistance
4	PB IN-R	Ch. A PB-IN	18		Ch. B HLS control signal rectifier
5		Ch. A MPX filter driver output	19		Ch. B HLS control resistance
6		Ch. A Processor input	20	PB OUT-L	Ch. B LINE -OUT
7		Ch. A reference voltage output	21		Reference voltage input
8		Reference current generator	22		Ch. B reference voltage output
9	PB OUT-R	Ch. A LINE -OUT	23		Ch. B Processor input
10		Ch. A HLS control resistance	24		Ch. B MPX filter driver output
11		Ch. A HLS control signal rectifier	25	PB IN-L	Ch. B PB-IN
12		Ch. A LLS control resistance	26	PB/REC	PB/REC/PBmpx Mode switch
13		Ch. A LLS control signal rectifier	27	REC IN-L	Ch. B REC-IN
14	REC OUT-R	Ch. A REC-OUT	28	Vcc	Power supply

■ μ PC1297CA (IC501) : Dolby HX PRO System IC



■ μ PC1330 HA (IC202) : HEAD SWITCH



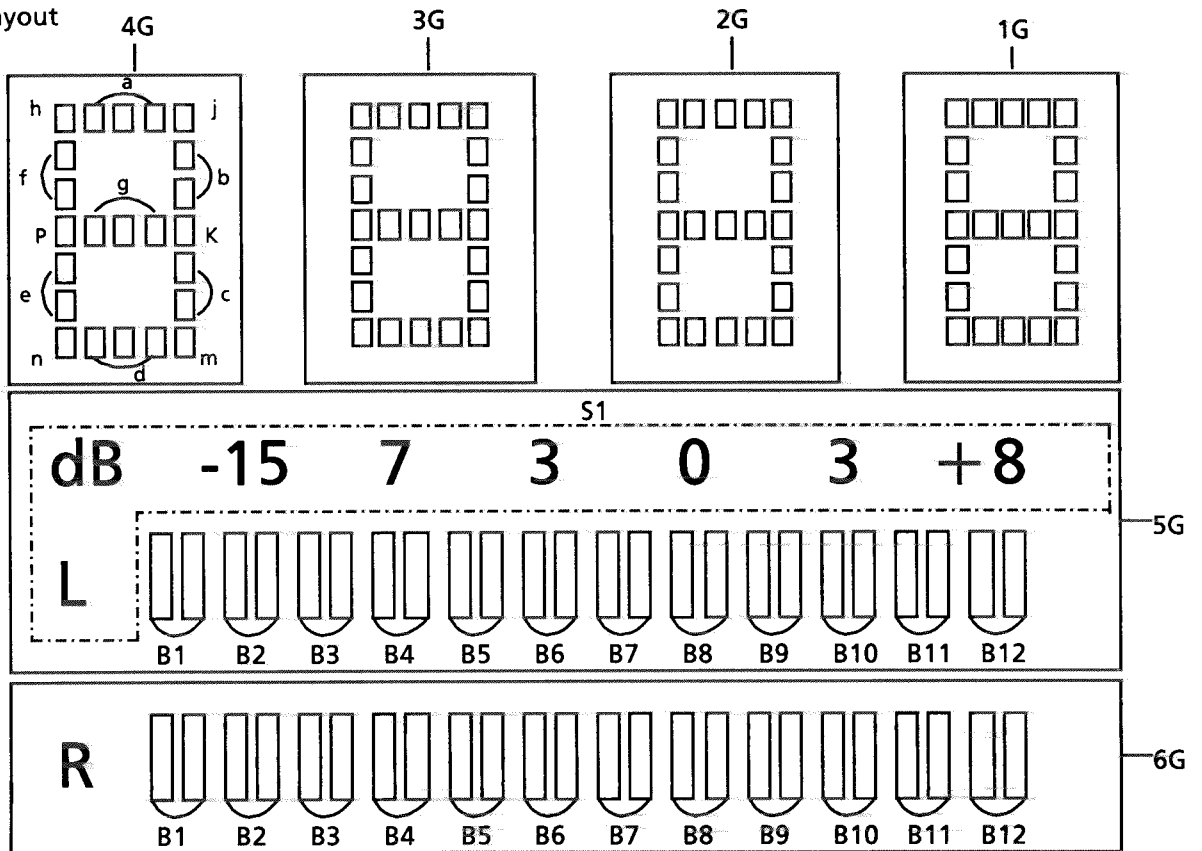
Function

	4pin
PB	L
REC	H

Internal Connections of FL Display

■ ELU0001-177(FL701):FL Display

1. Grid Layout



2. Anode Designation

	6G	5G	4G	3G	2G	1G
P1	B1	B1	h	h	h	h
P2	B2	B2	a	a	a	a
P3	B3	B3	j	j	j	j
P4	B4	B4	f	f	f	f
P5	B5	B5	b	b	b	b
P6	B6	B6	p	p	p	p
P7	B7	B7	g	g	g	g
P8	B8	B8	k	k	k	k
P9	B9	B9	e	e	e	e
P10	B10	B10	c	c	c	c
P11	B11	B11	n	n	n	n
P12	B12	B12	d	d	d	d
P13	R	S1	m	m	m	m

3. Pin Connections

TERMINAL NO.	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
ELECTRODE	F1	F1	F1	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	NP	F2	F2	F2
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
ELECTRODE	F1	F1	F1	NP	1G	2G	3G	4G	5G	6G	NC	NC	NC	P12	P13	NP	F2	F2	F2

(Notes) F: Filament G: Grid P: Anode NP: No Pin NC: No Connection

Disassembly Procedures

(1) Top cover removal

1. Remove 4 screws (A) on the rear side and 2 screws (B) on both sides of the cover. (Fig.1)
2. Remove the cover.

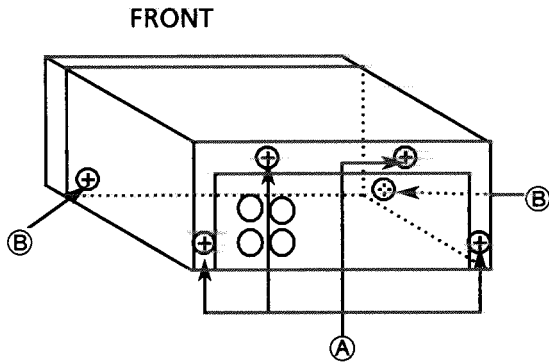


Fig.1

(2) Rear panel removal

1. Remove the top cover.
2. Remove the 4 screws (C). (Fig.2)
(* U,UB,US,UT: With remove the 2 screws (F).)
3. Remove the rear panel.

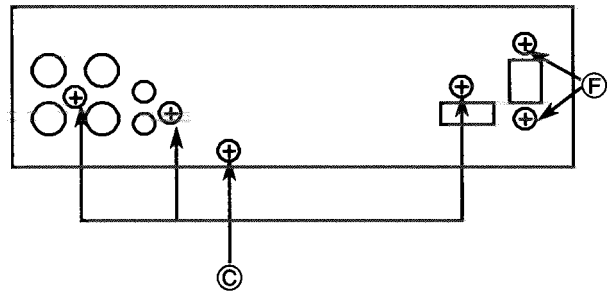


Fig.2 Rear view

(3) Front panel assembly with cassette mechanism assembly removal

1. Remove the top cover.
2. Disconnect the JB701, J451, PA102 and P201. (Fig. 4)
3. Remove the 3 screws (B). (Fig.3)
4. Release the 3 hooks (E) holding the front panel, and remove the front panel assembly.

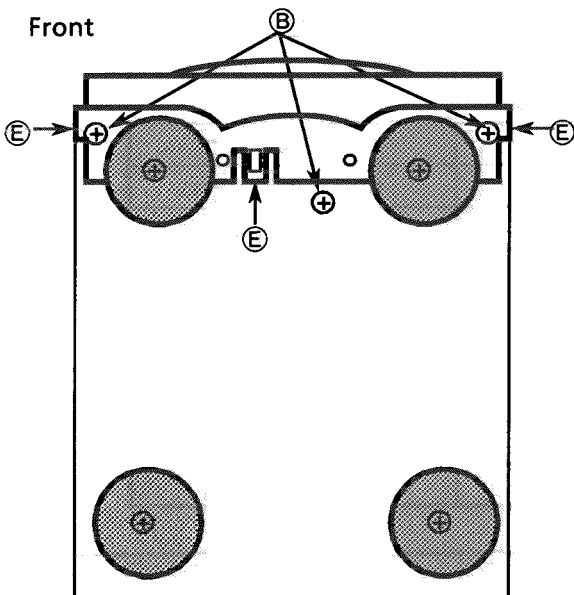


Fig.3 Bottom view

(4) Main PCB(ENJ-091-1) removal

1. Remove the top cover and rear panel.
2. Disconnect the JB701, J451, PA102 and P201. (Fig. 4)
3. Remove the 3 screws (A) fixing Main PCB.
4. Remove the 2 screws (D) fixing power transformer.
5. Remove it.

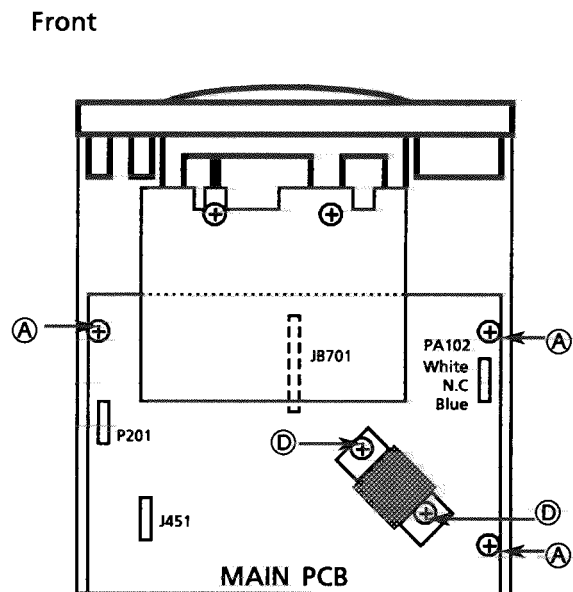


Fig.4 Top view

- | | | | |
|-------------------|-------------------|--------------------|--------------------|
| (A) .. GBSG3008CC | (B) ... SDSG3008N | (C) ... E73273-003 | (D) ... E61661-003 |
| (E) .. SBSF2608CC | | | |

- (5) Control PCB (ENJ-091-2) removal
1. Remove the top cover.
 2. Remove the 2 screws (G). (Fig.5)
 3. Remove the control PCB up side.

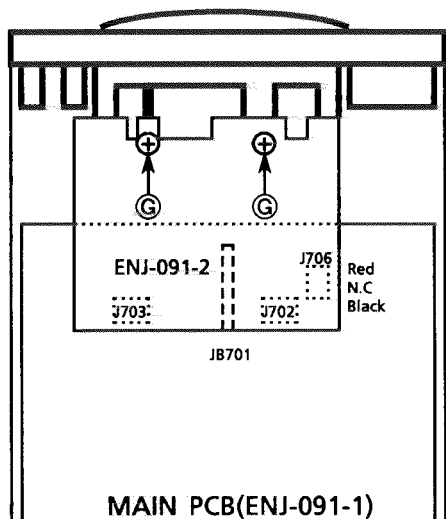


Fig.5 Top view

- (6) Eject mechanism assembly removal
1. Remove the top cover.
 2. Remove the 2 screws (G) the cassette mechanism assembly side. (Fig.6)
 3. Remove the eject mechanism assembly.

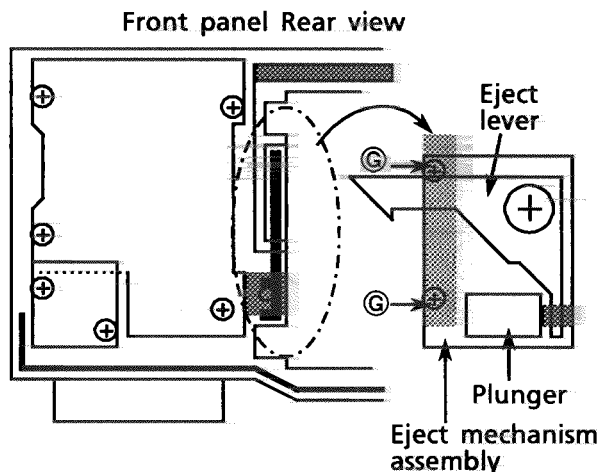


Fig.6 Rear view

- (7) Front PCB(ENJ-091-4) removal
1. Remove the top cover.
 2. Remove the 4 screws (H). (Fig.7)
 3. Remove the Front PCB.

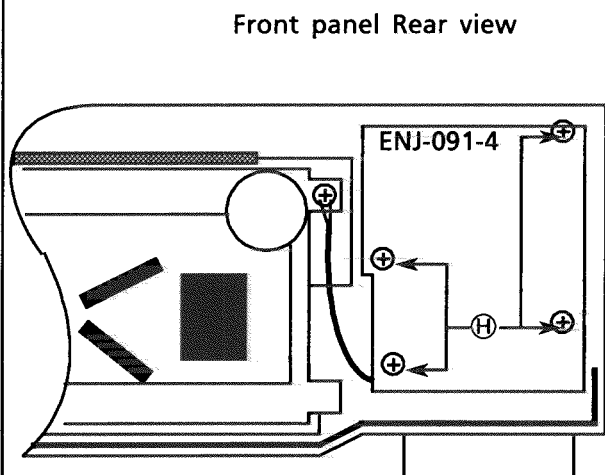


Fig.7 Rear view

- (6) Key PCB (ENJ-091-3) & Input vol. PCB (ENJ-091-5) removal
1. Remove the top cover.
 2. Remove the Input vol. knob.
 3. Remove the eject mechanism assembly.
 4. Remove the 6 screw (H). (Fig.8)
 5. Remove the Key PCB & Input Vol. PCB.

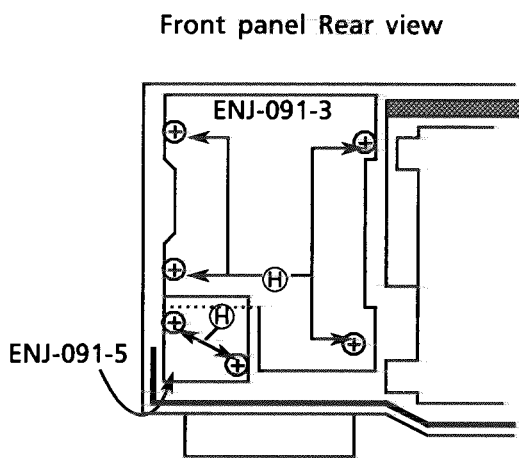


Fig.8 Rear view

(G) .. SPST2604Z (H) ... SDSF2608Z

(9) Cassette mechanism assembly removal

1. Switch on the power, press the OPEN switch to bring the cassette door open, switch off the power.
2. Remove the top cover and front panel assembly.
3. Remove the 2 screws ①.(Fig.5)
4. Disconnect the JB701,J702,J703 and J706. (Fig.5)
4. Remove the control PCB up side.
5. Remove the 2 screws ② and 2 screws ③.(Fig.9)
- * If the power does not, push the plunger or pull the eject lever on the cassette mechanism assembly to open the door.

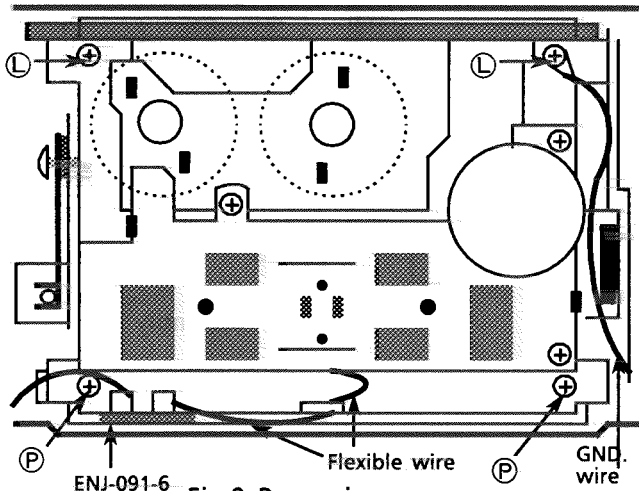


Fig.9 Rear view

(10) Damper removal

1. Remove the top cover, front panel assembly and cassette mechanism assembly.
2. Press the damper holder and release it to remove the damper. (See an arrow)

Front panel rear view

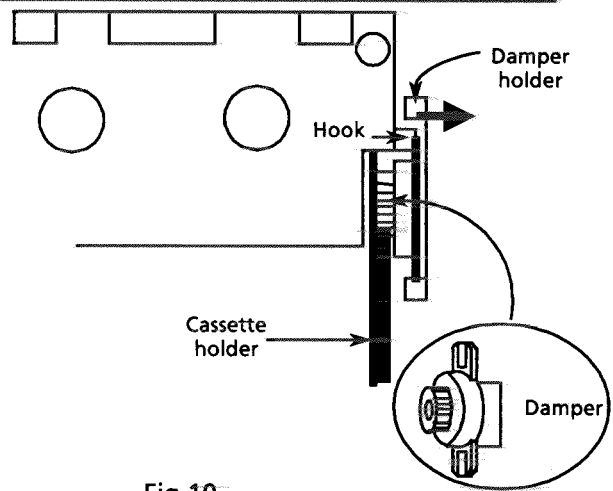


Fig.10

(11)Cassette holder removal

1. Remove the top cover, front panel assembly and cassette mechanism assembly.
2. Remove the damper.
3. Remove the spring. (Fig.11)
4. Remove the cassette holder.

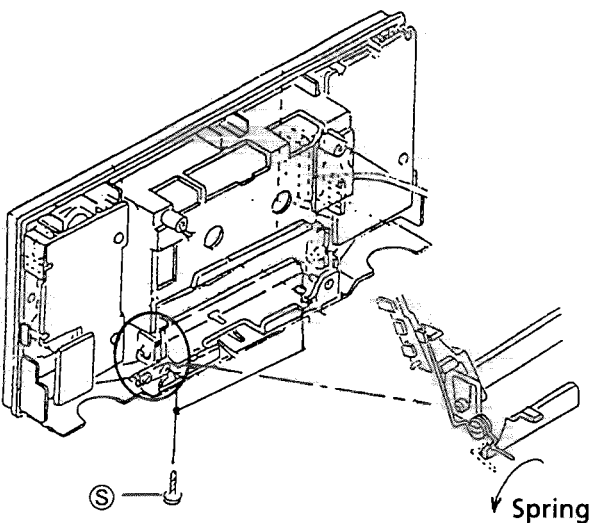


Fig. 11 Rear view

(12)Indicator and LED (ENJ-091-7) PCB removal

1. Remove the (11).
2. Press the indicator hook and release it to remove the indicator.(Fig.12)
3. Remove the LED PCB (ENJ-091-7).

Cassette holder

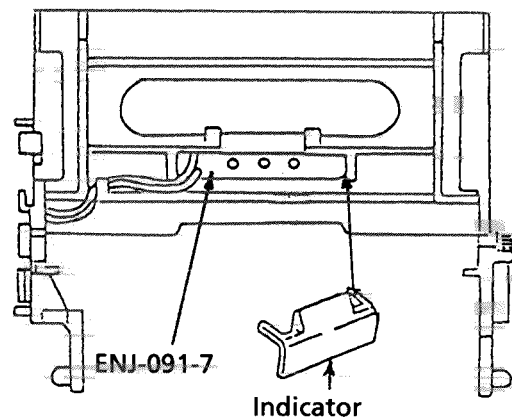


Fig. 12 Rear view

① .. SBSF3008C ② ... SBST3006C ③ ... SBST3006Z

(13) Head assembly
 The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head.

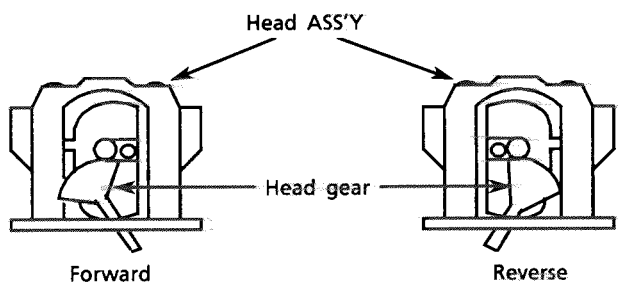


Fig. 13 Head ass'y bottom view

(14) Pinch roller arm assembly removal
 Release the hook holding the pinch roller arm assembly to remove the assembly.

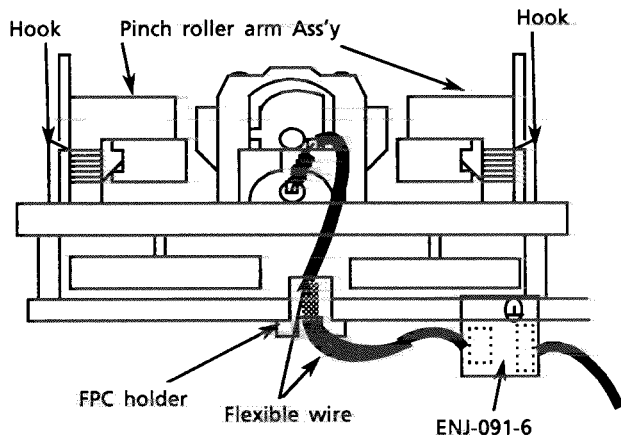


Fig14 Cassette mechanism bottom view

(15) Fly wheel removal

- 1.Remove the cassette mechanism assembly.
- 2.Remove the cassette controller PCB.
- 3.Remove the 3 screws ④.(Fig.15)
- 4.Release the hooks.
5. Remove the bracket with the capstan motor.
- 6.Release the flywheels.

* The oil on the capstan must be wiped out after re-assembling.

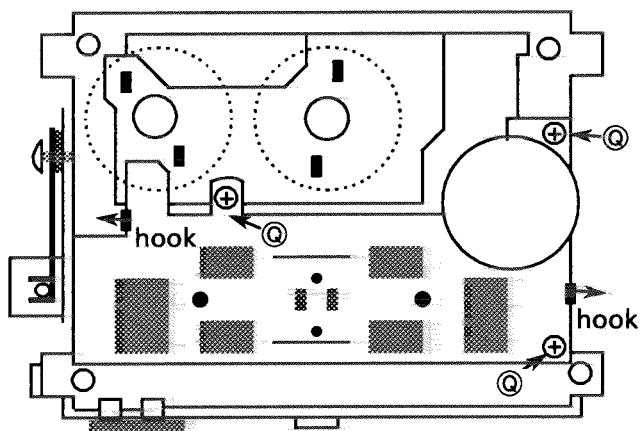


Fig 15 Cassette mechanism rear view

(16) Install flywheels assembly

- 1.Install the belt of boss as shown in Fig 16 up side.
- 2.Assemble the bracket with the capstan motor.
- 3.Hang the belt of the motor pulley using a tweezers and the like as shown in Fig 16 down side .

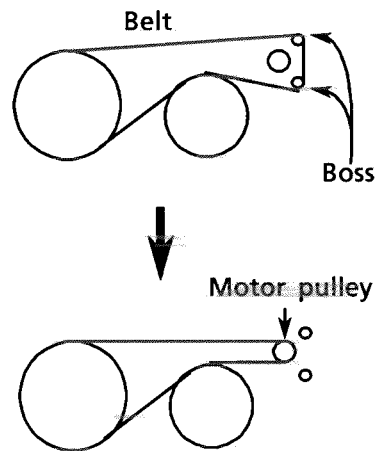


Fig 16 Flaywheel view

- (17) Cam & reel motor PCB removal
1. Remove the top cover, front panel assembly and cassette mechanism assembly.
 2. Remove the cassette controller PCB.
 3. Remove the bracket and the flywheels.
 4. Remove the 2 screws ① and 2 screws ②. (Fig.17)
 5. take off the PCB with motors.
 5. Unsolder the reel and cam motor PCB. (Fig.18)

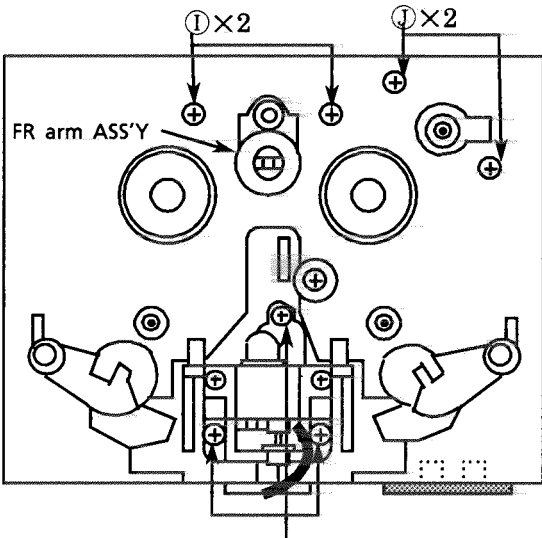


Fig 17 Cassette mecha. top view

- (18) Cam SW PCB removal
1. Remove the (17).
 2. Remove the screw ③. (Fig.18)
 2. Release the hooks holding the cam SW PCB.
 3. Remove the cam SW PCB.

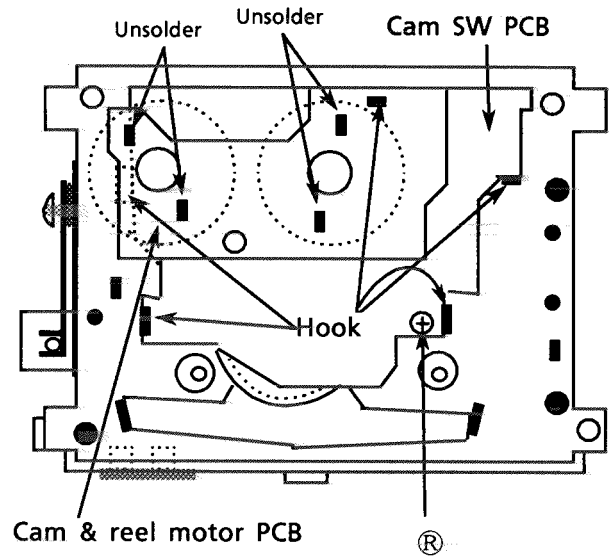


Fig 18 Cassette mecha. bottom view

- (19) Install cam sw. PCB
- Install the cam PCB for the cassette mechanism assembly.
- * Install it so that the part ④ meets the part ⑤. (Fig.19)

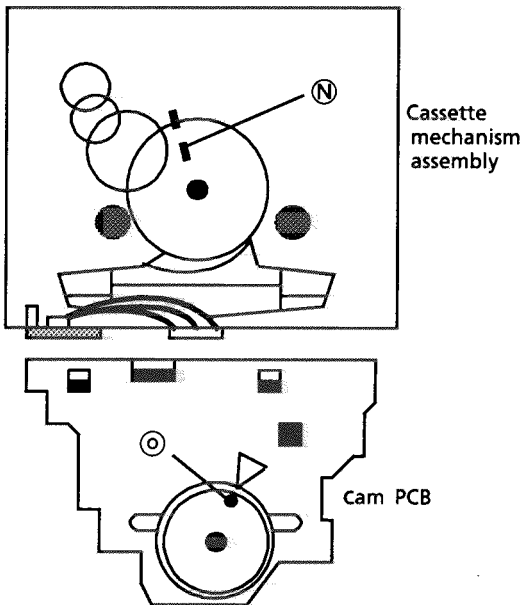


Fig 19 Cam PCB view

- (20) Head assembly removal
1. Remove the cassette mechanism assembly.
 2. Remove the FPC wire to the Cassette control PCB.
 3. Remove the 3 screws ⑥ holding the Cassette control PCB. (Fig.20)

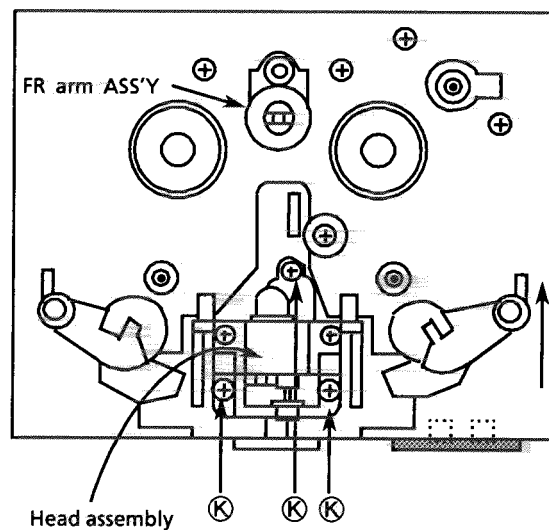


Fig 20 Cassette mechanism top view

① .. VKZ4705-001 ② ... VKZ4705-002 ③ ... SDST2004Z ④ ... SDSP2612Z

■ Adjustment Procedures

1. Measuring instruments

Audio frequency signal generator (0dbS output at the 600 ohm output terminal from 50Hz to 20KHz)

Electronic voltmeter

Frequency counter

Wow & Flutter meter

Distortion Meter with band pass filter

Attenuator (600 ohm impedance)

A resistor with 600Ω

Standard Tape

0dbS = 0.775V

Tape No.	Frequency	Level (Wow & Fkutter)	Purpose
VTT-703L	10kHz	-10dBs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dBs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	-4dBs	Standard Level
TMT-6447	—	—	Blunk Skip
TMT-6247 , TMT-6237	—	—	Music Scan
TMT-7046	—	—	Recording standard Normal : UR
AC-712	—	—	Recording standard METAL : MA
AC-513	—	—	Recording standard CrO ₂ : SA
TW-2111, TW-2121	—	—	Forward /reverse play torque measuring
TW-2231	—	—	Feed forward /rewind torque measuring
C-120 Tape	—	—	Confirming the tape running

2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	<ol style="list-style-type: none"> 1. Connect an electronic voltmeter to the NR TP (figure 3) to playback VTT-703L. 2. Adjust screw (A) so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw (B) so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 	Maximum	<ol style="list-style-type: none"> 1. Refer to figure 1. 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torqu meter.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torqu meter.	80 ~ 170 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Rewind torque	1. Measure the torque in the rewind mode by the torqu meter.	80 ~ 170 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & flutter	<ol style="list-style-type: none"> 1. Connect the wow & flutter meter to the NR TP (figure 3) and play back VTT-712 . 2. Its reading should be within 0.18% (WTD). 	Less than 0.18%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.

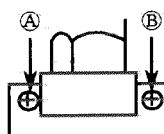


Figure 1

3. Electrical Adjustments (Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.

Set the LINE INPUT VOL. maximam, NR switch to OFF and the BEAT CUT switch to "1".

Adjustments marked with an asterisk (*) should always be made after the head is replaced

0dBs=0.775V.

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
1	Tape Speed 1. Connect a frequency counter to the LINE OUT and play back VTT-712. 2. Tape speed Adjustment play back deck adjust the semi-fixed resistor R730 on ENJ-091-2.	R730	3,000 Hz ±10Hz	—
* 2	Standard level (Playback Level) 1. Connect an electronic voltmeter to the NR TP (figure 3). Play back VTT-724 (1 kHz : -4dBs) to adjust the semi-fixed resistors.	L: R219 R: R220	-5.5dBs (411mV) ±1dB	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
* 3	Playback Frequency Response 1. Connect an electronic voltmeter to the NR TP (figure 3). 2. Play VTT-703L (10kHz : -10dBs) and adjust semi-fixed resistors to obtain the standard values.	L: R203 R: R204	-11.5dBs (206mV) ±3dB	—
* 4	Recording Bias Frequency 1. Connect a frequency counter to the BIAS TP (figure 3), and perform a recording to adjust bias frequency.	L531	100 kHz ±5 kHz	Set the BEAT CUT SWITCH to "1".
* 5	Record / Play Frequency Response (Bias current) 1. Supply 1kHz and 12.5kHz with 30mV signals to LINE INPUT terminals respectively to record them. 2. Connect an electronic voltmeter to the NR TP (figure 3) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signals again to confirm the values.	L: R513 R: R514	0±3 dB for 12.5 kHz with 1 kHz as the standard.	Refer to figure 2 below. 1) The recording and playback frequency response of a cassette deck are adjusted by adjusting the bias current. 2) Perform the adjustment with normal tape and confirm that the values are within the range for CrO ₂ tape and METAL tape.
* 6	Record / Playback Sensitivity 1. Input a 1 kHz (-8.2dBs: 300mV) signal to LINE INPUT terminals and record it on the left and right channels. 2. Connect an electronic voltmeter to the NR TP (figure 3) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signals again to confirm the values.	L: R417 R: R418	-5.5dBs (411mV)	Adjust with normal tape and make sure that the left / right level difference is 1.0dB or less.
* 7	Adjustment HX PRO 1. Conenect an electornic voltmeter to the HX PRO TP (Figure 3), and record the no signal Metal tape. 2. Adjust to the least volues.	L: L501 R: L502	—	HX PRO TP. W161(L) W163(R) W162(C)

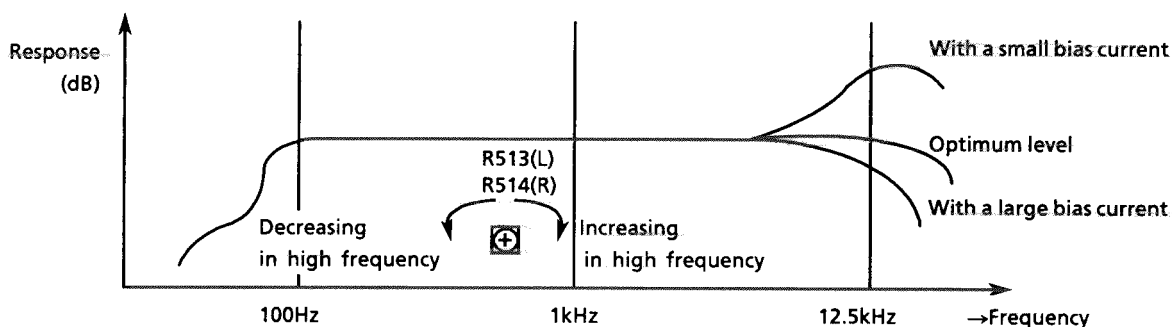


Figure 2

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
8	Erase ratio check 1. Record a music source using the METAL tape. 2. Rewind and erase the recorded section. 3. Confirm nothing can be heard.	—	—	—
9	Auto-stop check 1. Make sure to operate AUTO STOP at the end of tape running and not to operate on the way of the playing.	—	—	—
10	Music Scan 1. Make sure not to work the music scanning operation at the start of tape wind using TMT-6237. 2. Make sure to work the music scanning operation at the end of tape wind using TMT-6247.	—	—	—

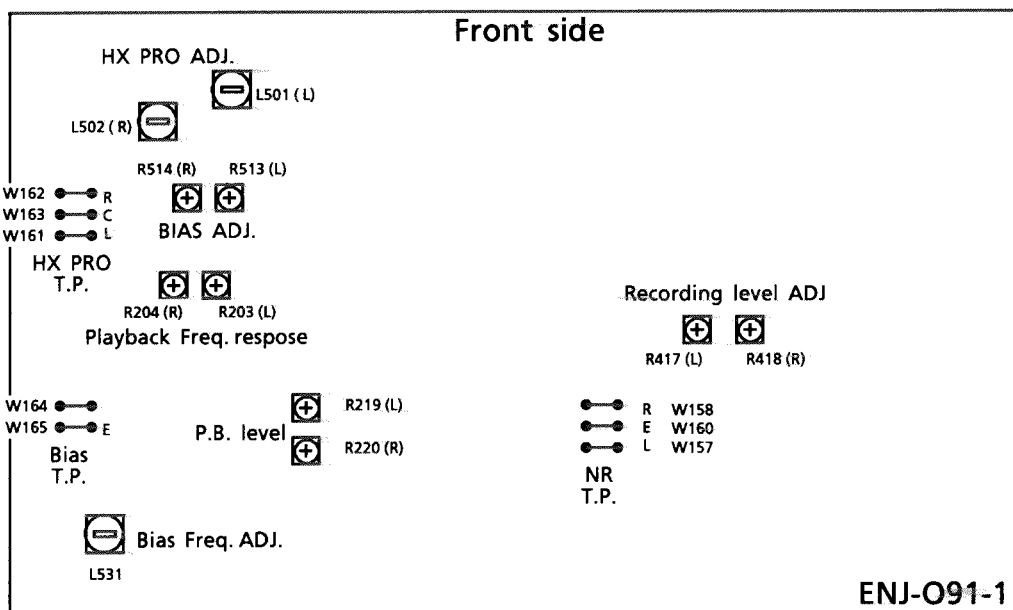
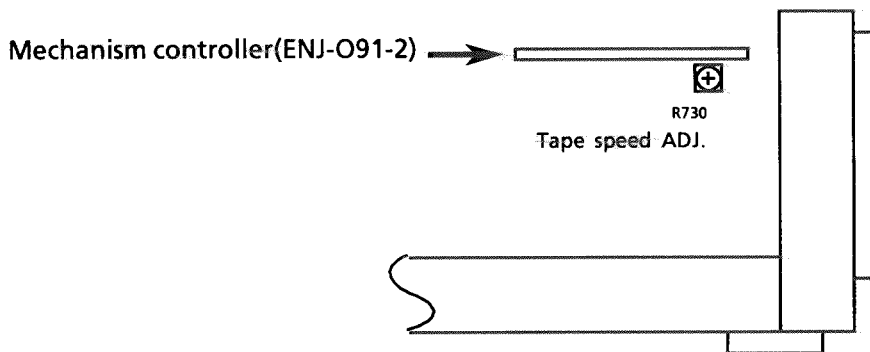
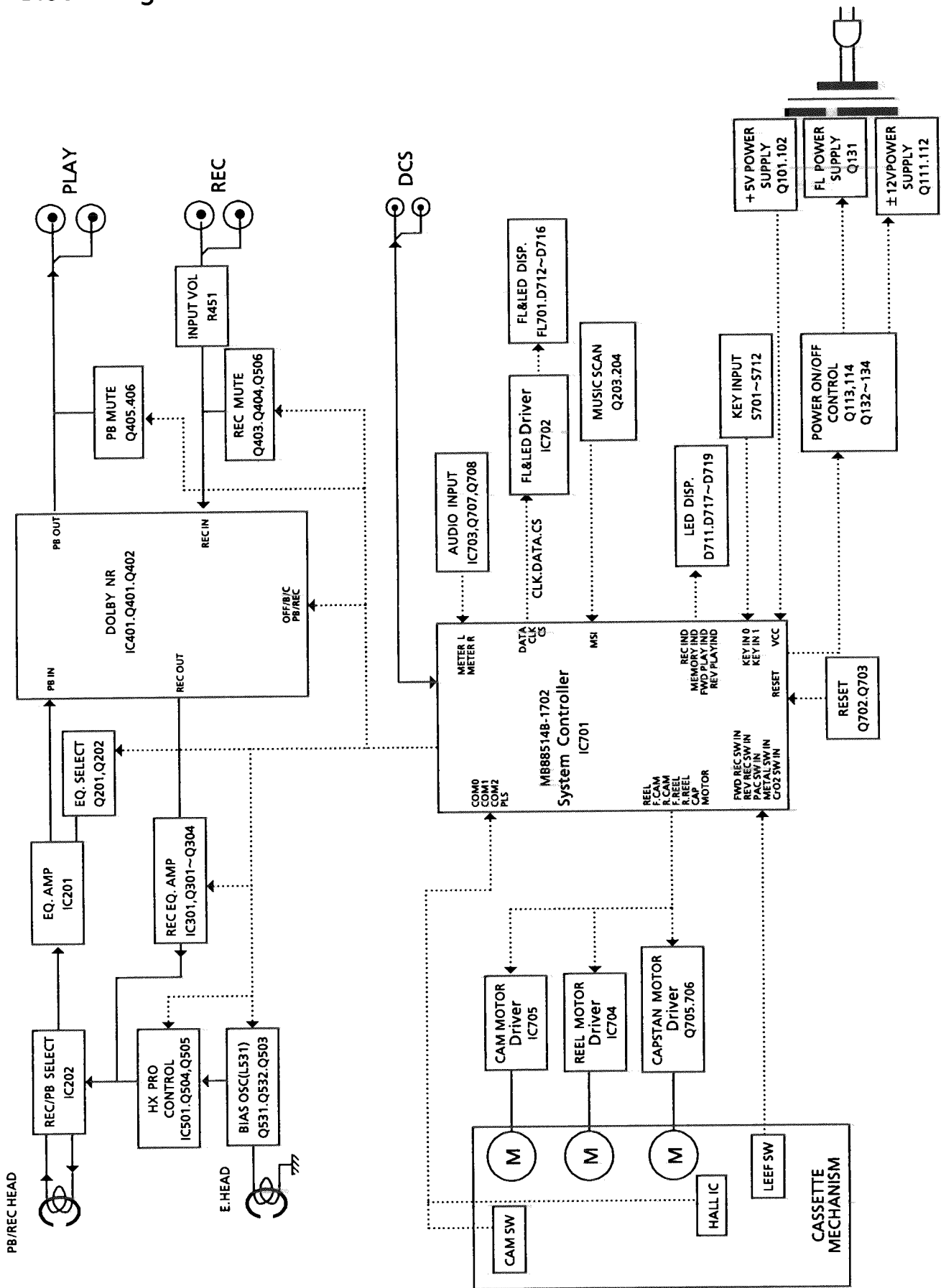


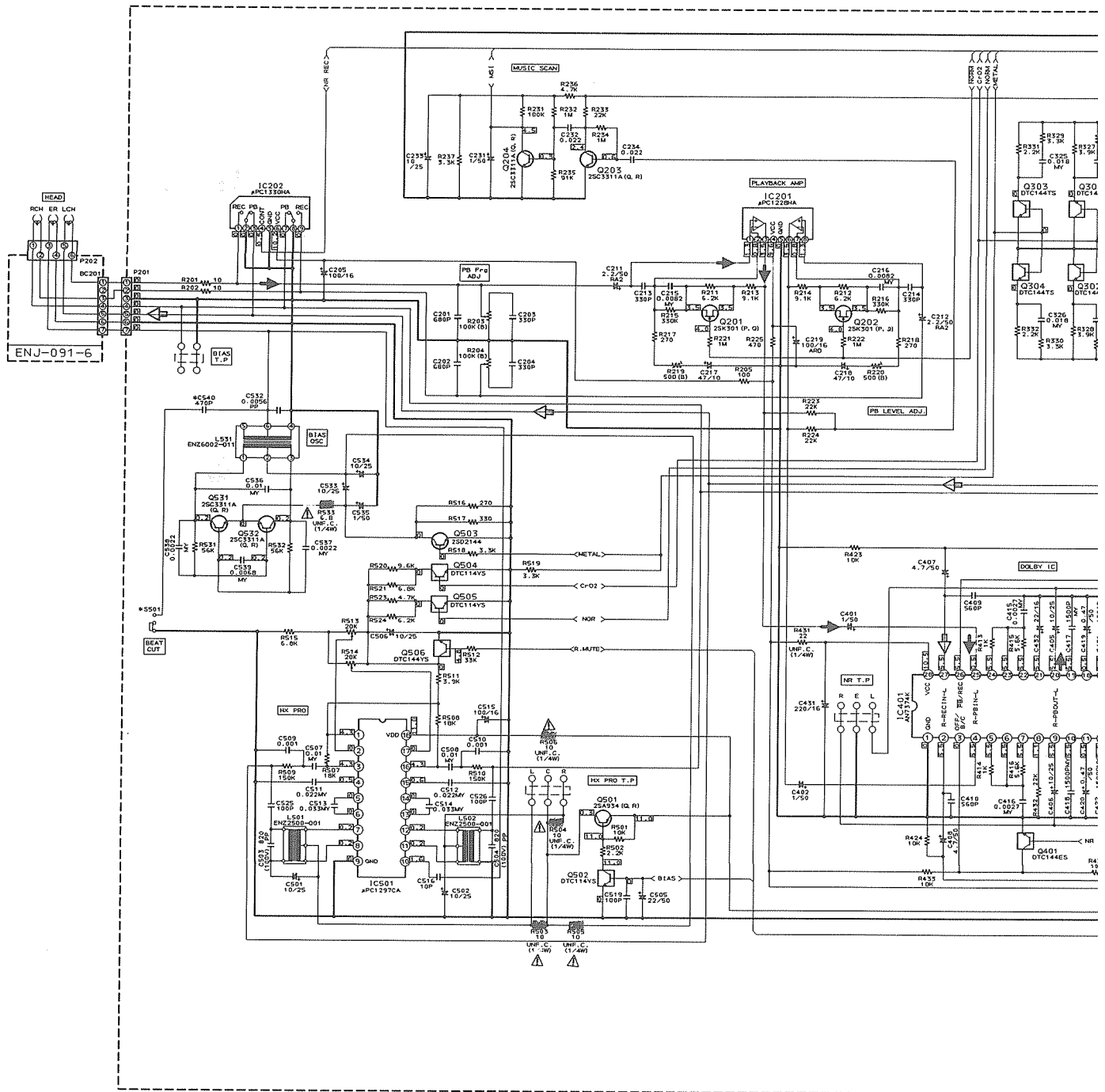
Figure 3

Block Diagram







Schematic Diagram

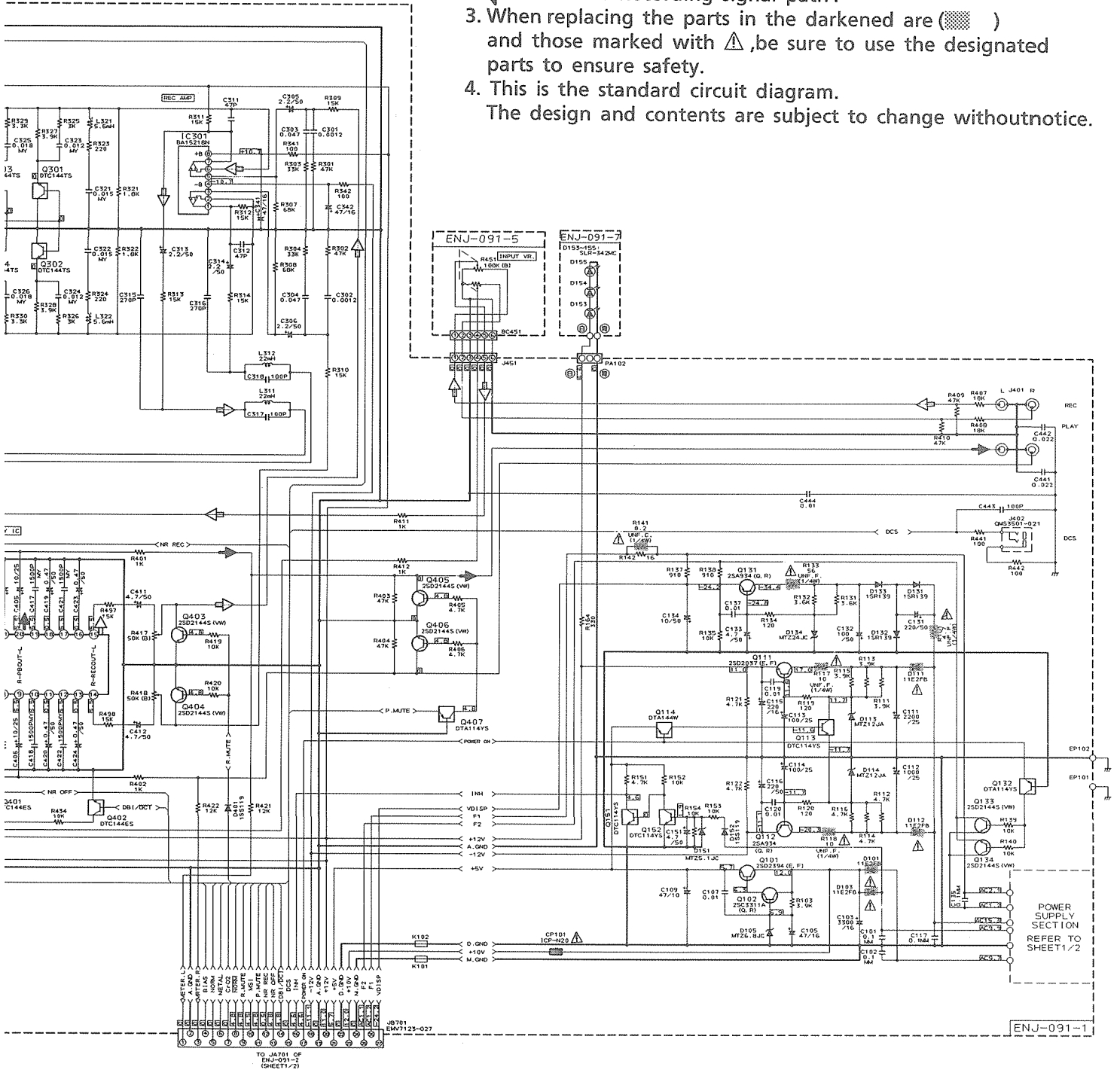
(1) Play & Recoding Amplifier Section



**MARK		
	EF, EN, Q, BS (U, UT, US, UA)	
C640	USED	NONE
S501	USED	NONE

How to use Schematic Diagrams:

1.  indicates Play signal path.
2.  indicates Recording signal path.
3. When replacing the parts in the darkened are () and those marked with  , be sure to use the designated parts to ensure safety.
4. This is the standard circuit diagram.
The design and contents are subject to change without notice.



(2) Front & Power Supply Section

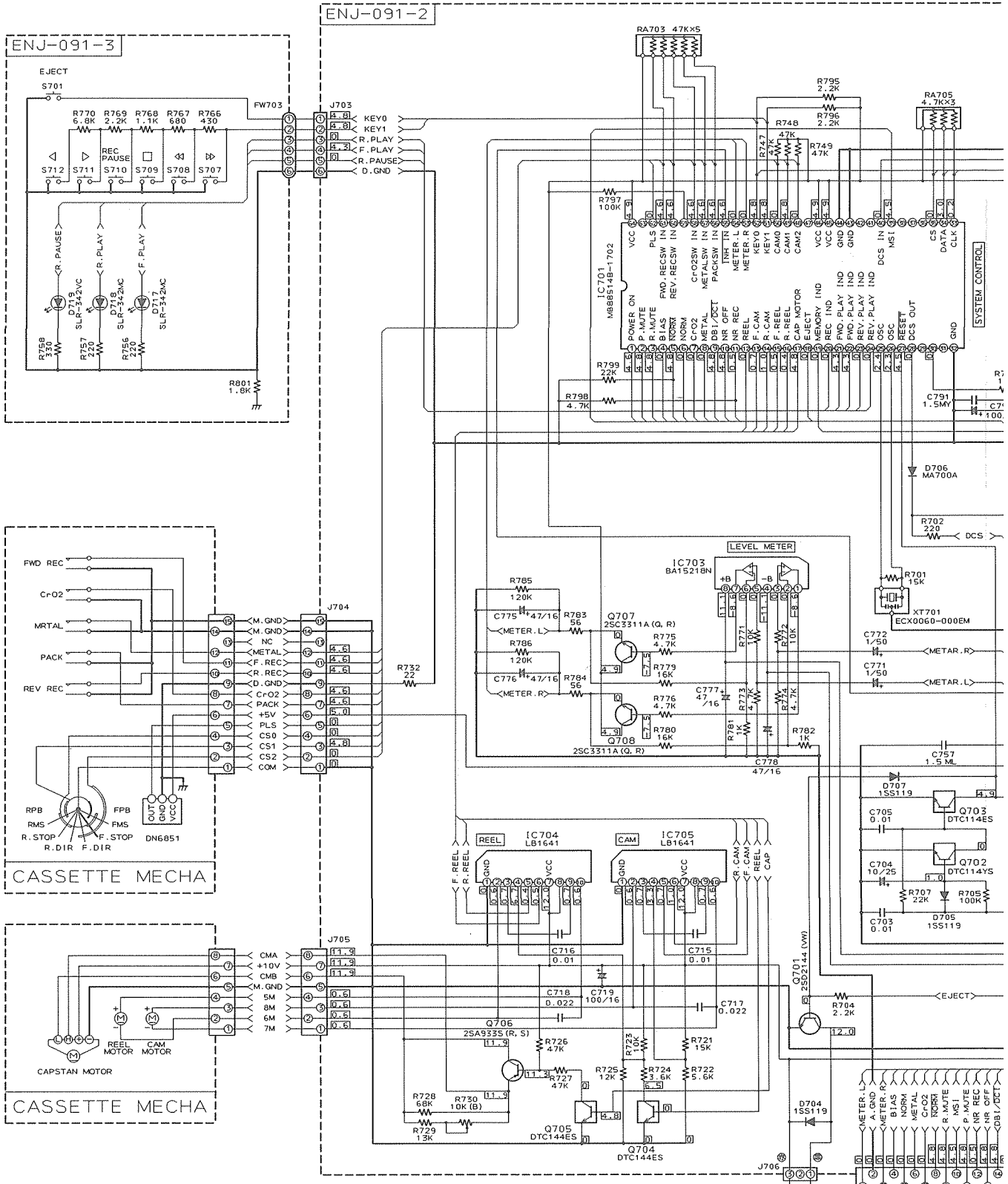
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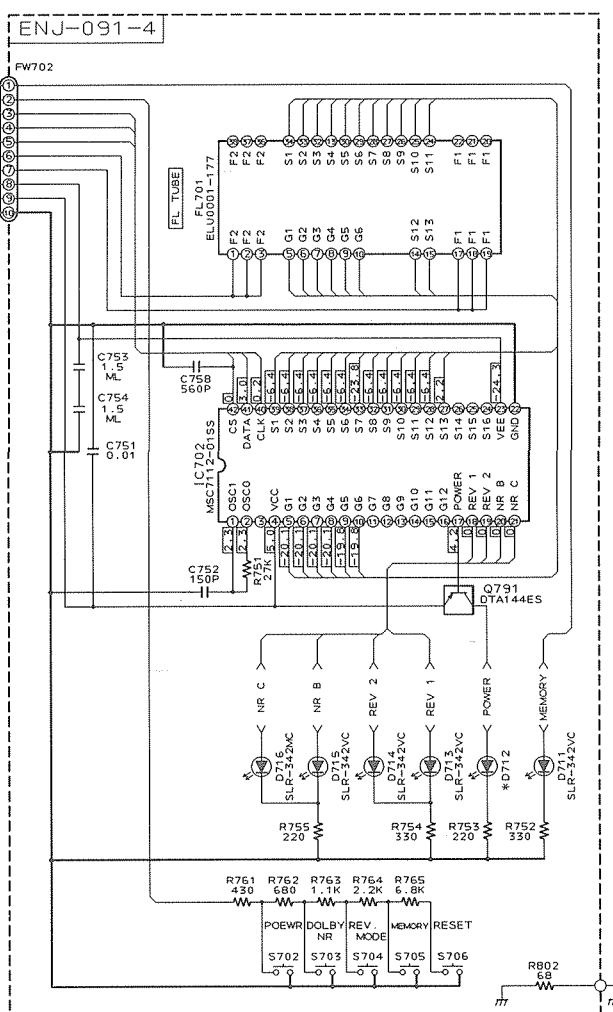
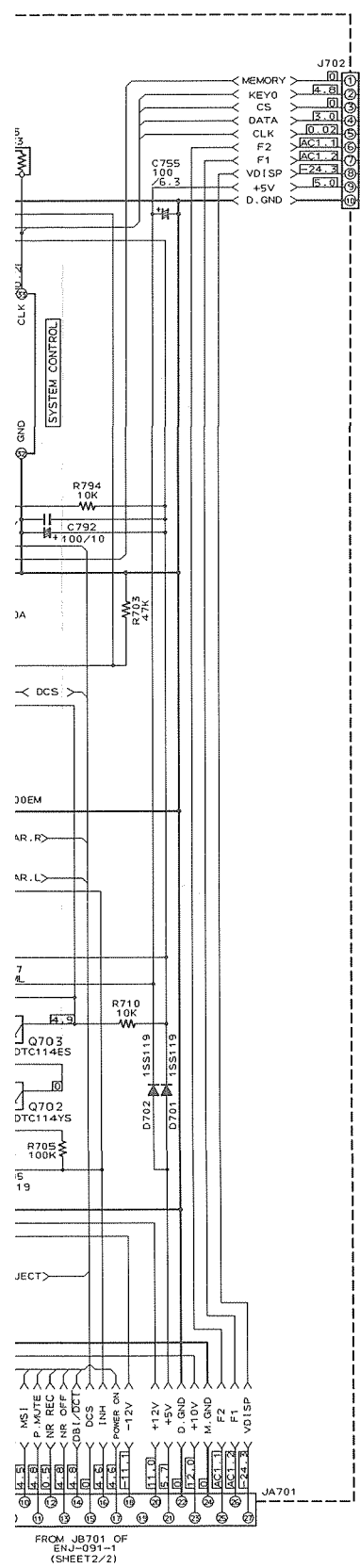
4

3

2

1





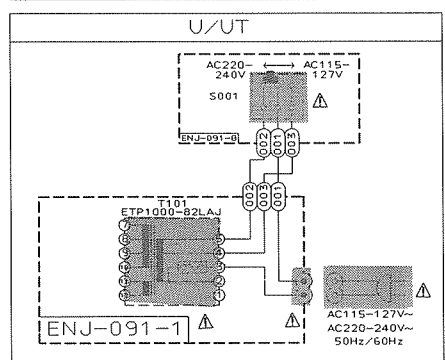
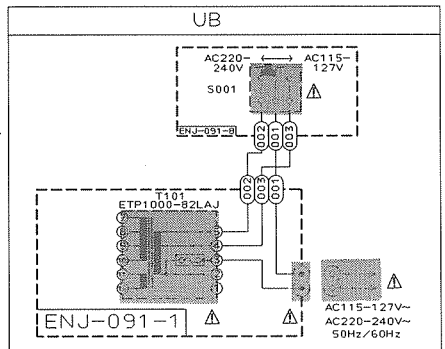
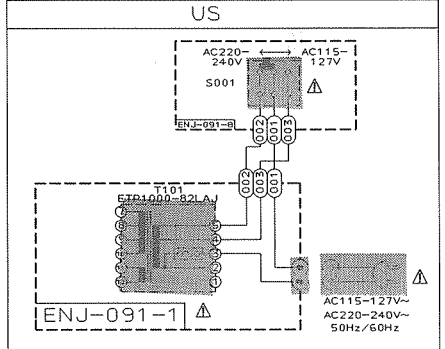
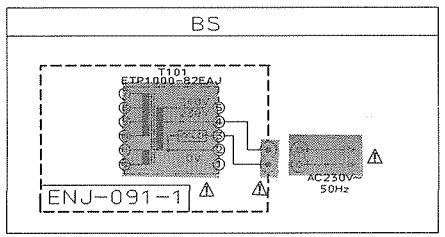
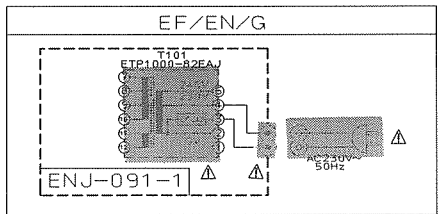
VERSION CODES

EN: NORDIC COUNTRIES
 G: GERMANY
 EF: CONTINENTAL EUROPE EXCEPT GERMANY AND ITALY
 BS: U.K.
 US: SINGAPORE
 UT: TAIWAN
 UB: HONG KONG
 U: UNIVERSAL EXCEPT ALL OF ABOVE'S

* MARK

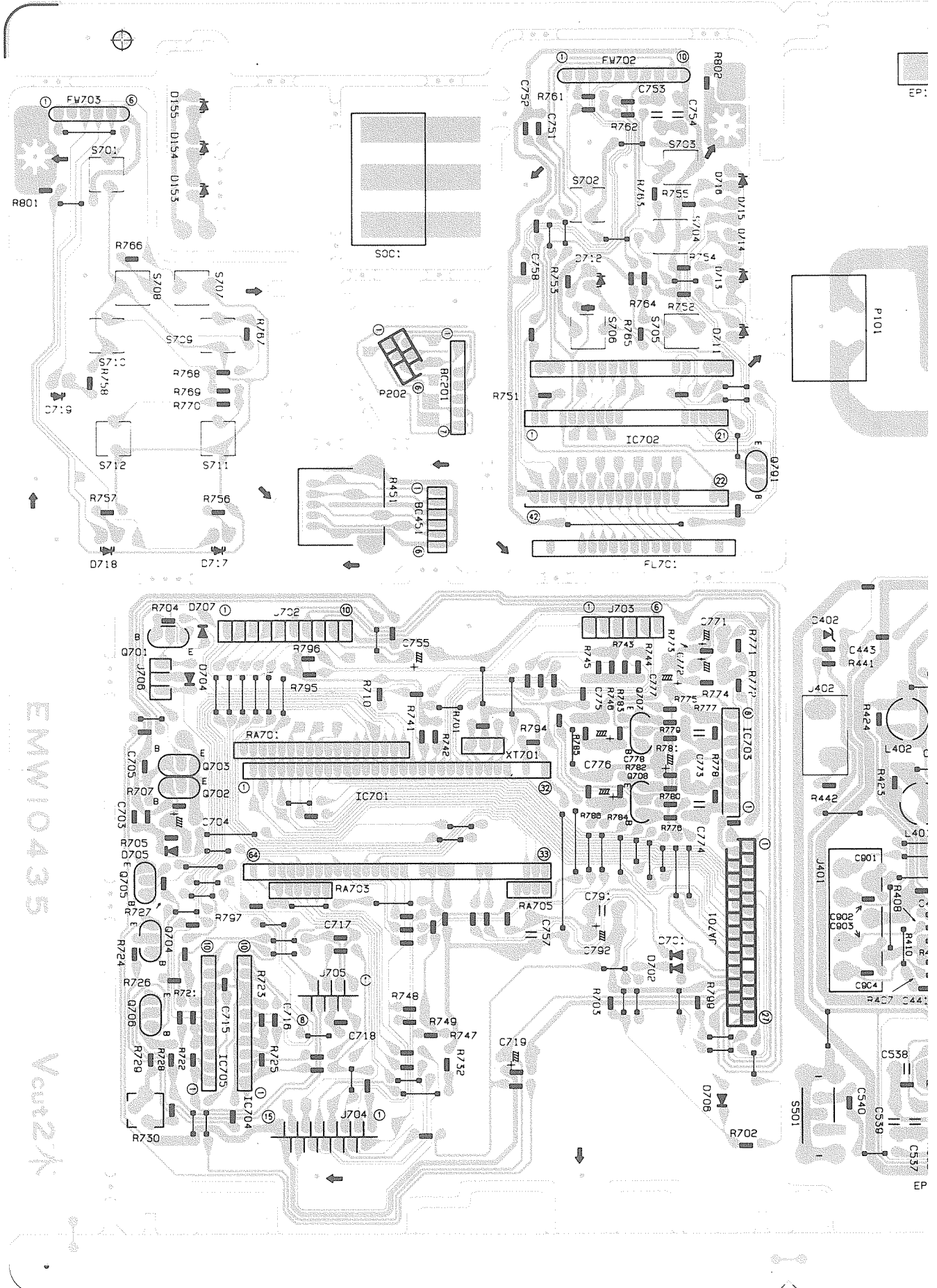
	BS	EXCEPT BS
D712	SLA-380LT	SLR-342VC

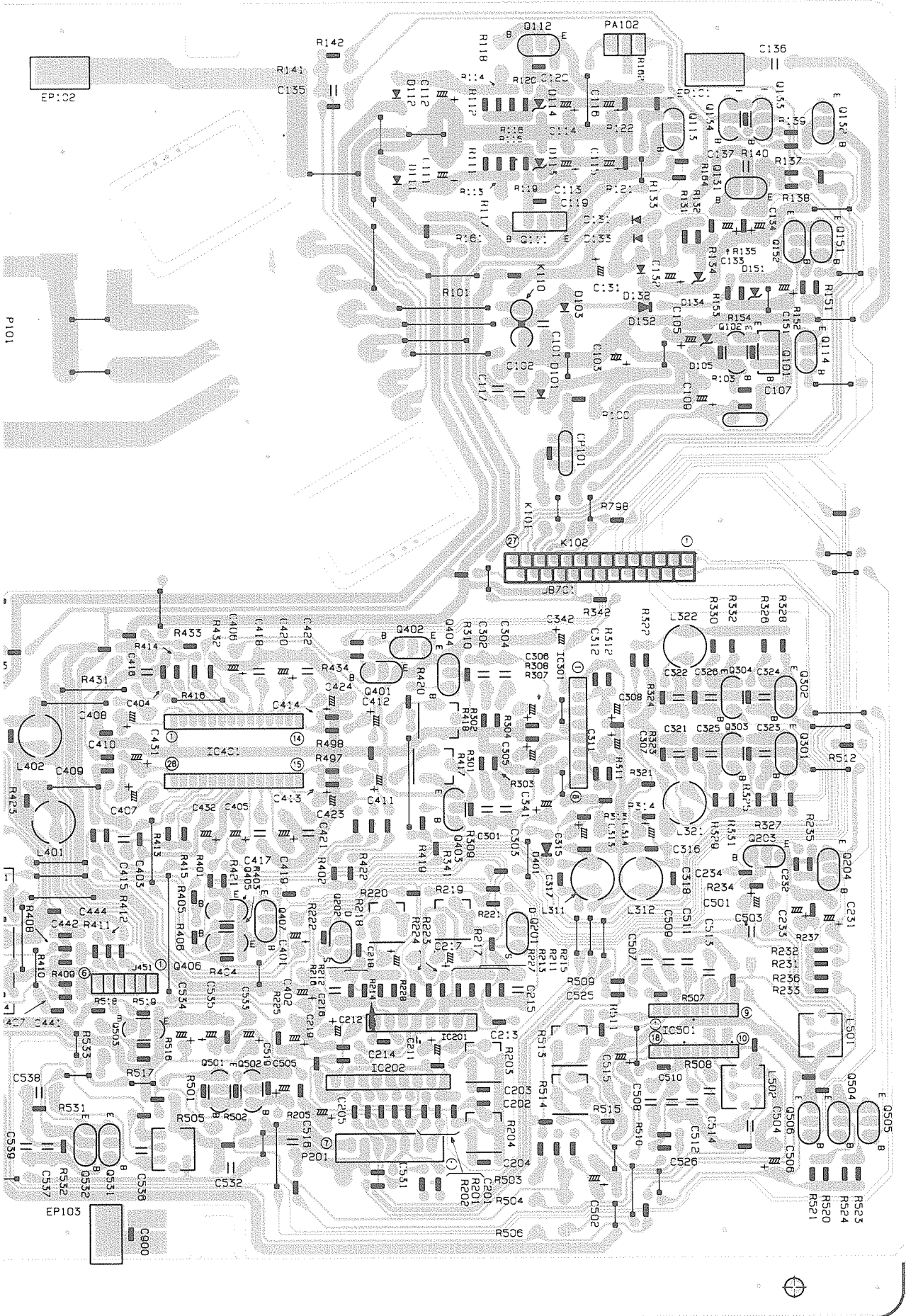
POWER SUPPLY SECTION



Printed Circuit Board

■ Main P.C. Board (ENJ-091)





PARTS LIST

Note : Printed circuit board assembly are not available as service parts.

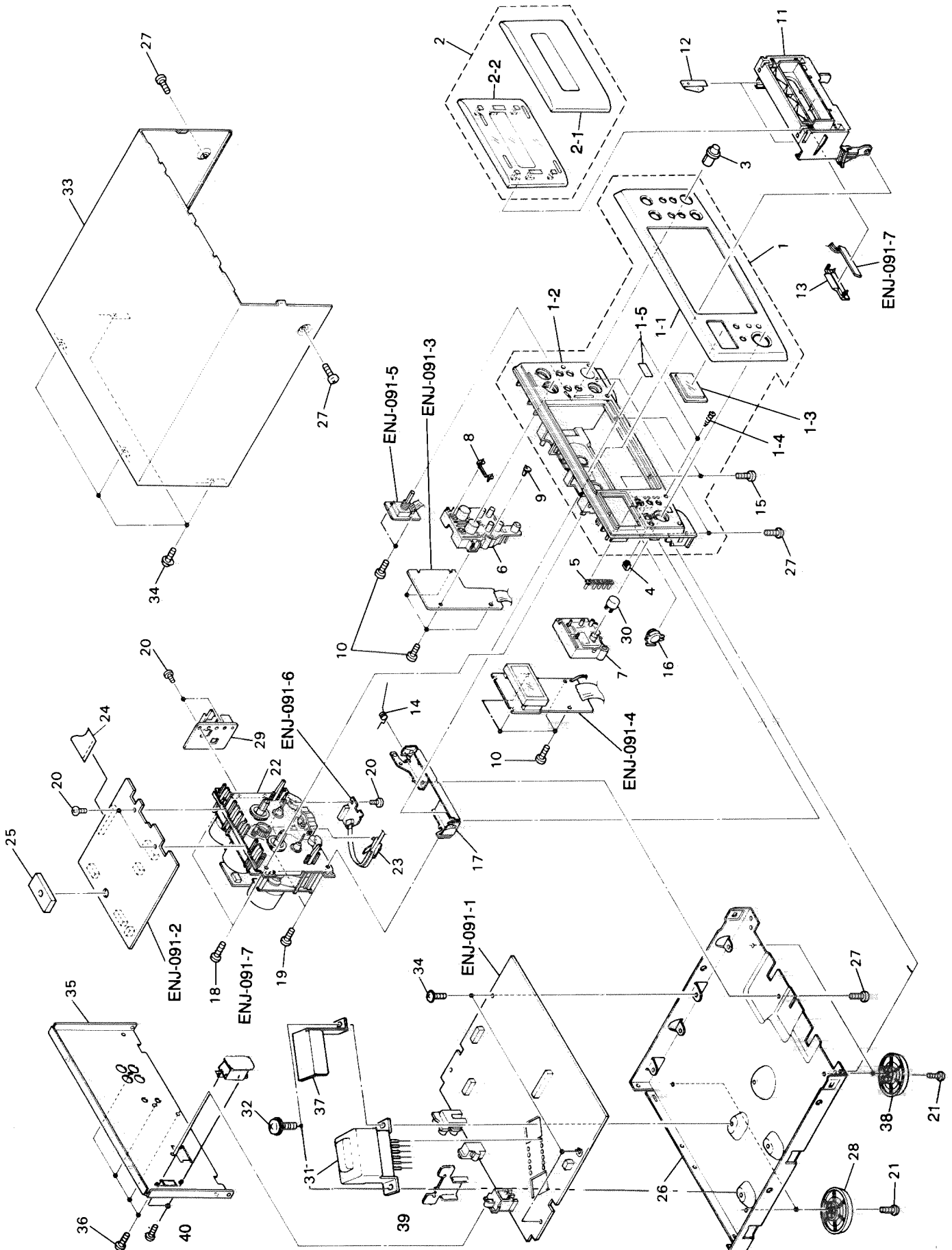
Contents

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Electrical Parts List	2-5
■ ENJ-091 Main PC Board Ass'y	2-5
Accessories List	2-8
Packing Materials and Part Numbers	2-9

General Exploded View and Parts List

Symbol No.

M	1	M	M
---	---	---	---



■ Parts List

Symbol No.

M	1	M	M
---	---	---	---

△	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-TDF1GDBS(S)	FRONT PANEL ASS'Y	1		BS
		EFP-TDF1GDE(S)	FRONT PANEL ASS'Y	1		Except BS
	1-1	E102868-002	FRONT PANEL	1		Except BS
		E102868-003	FRONT PANEL	1		BS
	1-2	E102870-002ST	FRONT BASE	1		
	1-3	E308976-002	W.SCREEN	1		
	1-4	E408132-002	SPRING	2		
	1-5	E69777-003	REFLECTION PLATE	1		
	2	E308980-002SA	CASSETTE LID ASS'Y	1		
	2-1	E308980-002	CASSETTE LID	1		
	2-2	E208187-001	CASSETTE LENS	1		
	3	E408127-004	KNOB	1		
	4	E408128-001ST	INDICATOR	1	POWER	Except BS
		E408128-002ST	INDICATOR	1	POWER	BS
	5	E408133-001ST	INDICATOR	1		
	6	E208198-004	PUSH BUTTON	1		
	7	E308978-002	POWER BUTTON	1		
	8	E408134-001ST	INDICATOR	1	PLAY	
	9	E408135-001ST	INDICATOR	1	REC	
	10	SDSF2608Z	SCREW	10		
	11	E208186-001	CASSETTE HOLDER	1		
	12	E406713-001	CASSETTE SPRING	2		
	13	E408136-001	INDICATOR	1		
	14	E408058-001	HOLDER SPRING	1		
	15	SBST3006Z	TAPPING SCREW	2		
	16	E308545-003	DAMPER ASSY	1		
	17	E308982-001ST	HOLDER BRACKET	1		
	18	SBSF3008C	TAPPING SCREW	2		
	19	SBST3006C	TAPPING SCREW	2		
	20	SPST2604Z	TAPPING SCREW	5		
	21	SBST3008Z	TAPPING SCREW	4		
	22	-----	CASSETTE MECH. ASS'Y	1	SEE 2-4 PEGE	
	23	VKS3655-002	HOLDER	1		
	24	VWF1227-20TTB	FFC CABLE	1	FW701	
	25	E408191-001	SPACER	1		
	26	E102871-003	CHASSIS BASE	1		
	27	SDSG3008N	TAPPING SCREW	5		
	28	E75281-007	FOOT	2	REAR	
	29	E309025-001ST	EJECT MECHA	1		
	30	E408130-002	CAP	1	POWER	
△	31	ETP1000-82EAJ	POWER TRANSFORMER	1	T101	BS,EF,EN,G
△		ETP1000-82LAJ	POWER TRANSFORMER	1	T101	U,UB,US,UT
	32	E61661-003	SPECIAL SCREW	2		
	33	E208174-006(S)	METAL COVER	1		
	34	GBSG3008CC	TAPPING SCREW	7		
	35	E208184-003	REAR PANEL	1		BS,EF,EN,G
		E208184-004	REAR PANEL	1		U,UB,US,UT
	36	E73273-003	SPECIAL SCREW	4		
	37	E309116-002	SHIELD COVER	1		
	38	E75281-008	FOOT	2	FRONT	

△	Item	Part Number	Part Name	Q'ty	Description	Area
	39	E408936-001	PROTECT SHEET	1		
	40	SBSF2608CC	SCREW	2		U,UB,US,UT
	-	E309383-010	TD-F1GDUT R.LAB	1		UT
	-	E61029-005	NUMBER LABEL	1		
	-	E70028-001	APPROVAL LABEL	1		EN
	-	QZL1007-001	BEAB LABEL	1		BS
	-	QZL1031-101	LABEL	1		EF

The Marks for Designated Areas

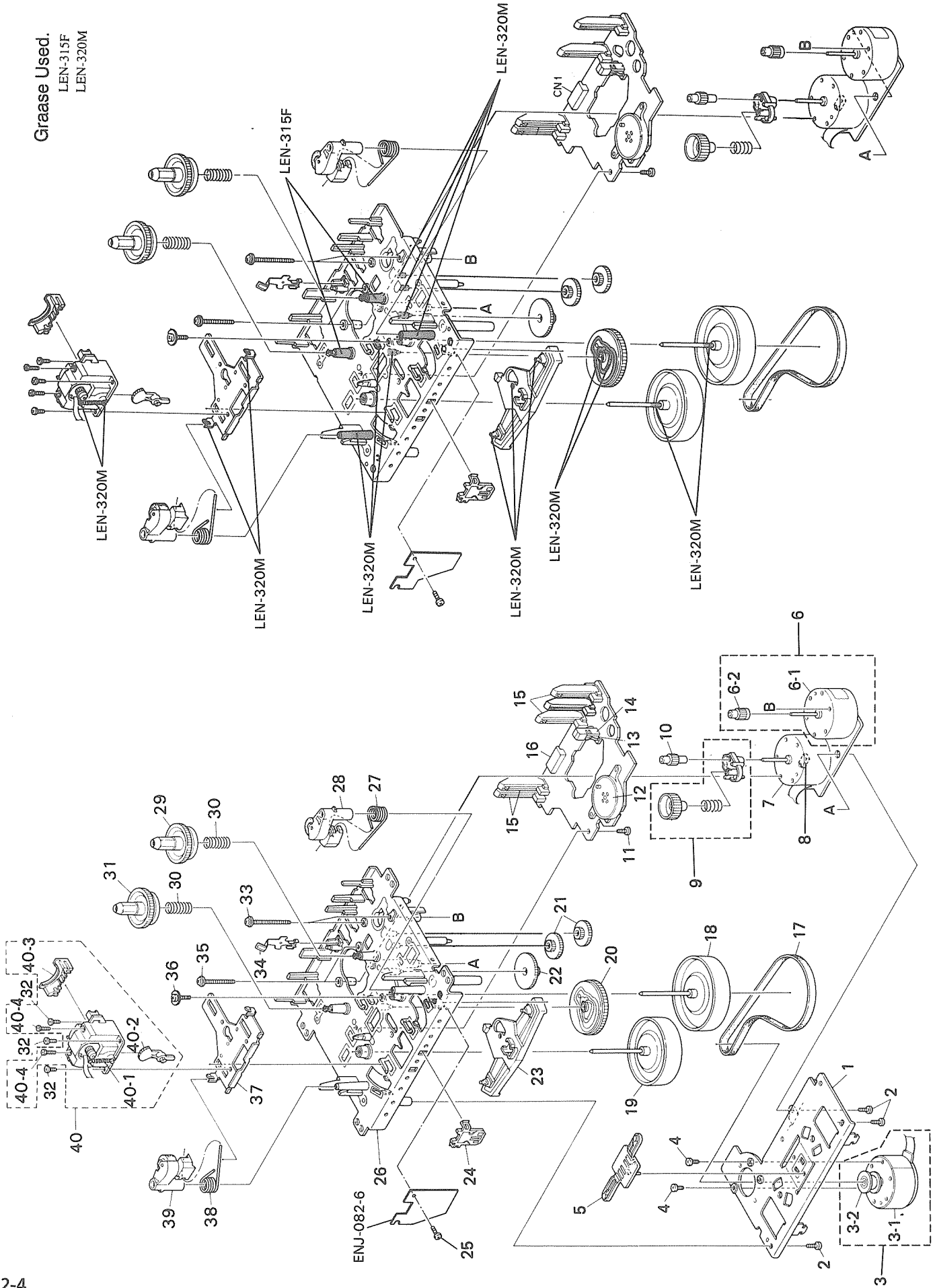
BS the U.K. G Germany EF Continental Europe EN Nordic Countries
 UB Hong Kong US Singapore UT Taiwan
 U Universal
 No mark indicates all area.

Cassette Mechanism Ass'y and Parts List

Symbol No.

M	2	M	M
---	---	---	---

Graze Used.
LEN-315F
LEN-320M



△	Item	Part Number	Part Name	Q'ty	Description	Area
	1	VKM3636-002	MOTOR BRACKET	1	PRESS KIT S	
	2	SBSF2608Z	TAPPING SCREW	3		
	3	MSI5B2LW-SA1	CAPSTAN MOTOR	1		
	3-1	MSI-5B2LW	CAPSTAN MOTOR	1	FOR CAP,MOTOR K	
	3-2	VKR4364-002MM	MOTOR PULLEY	1		
	4	SPSP2603Z	WOOD SCREW	2		
	5	VKS5327-005MM	LOCK PLATE	1		
	6	MSN5D257A-SA1	DC MOTOR	1		
	6-1	MSN-5D257A	DC MOTOR	1	FOR ACT,MOTOR K	
	6-2	VKS5433-001	ACTUATER MOTOR GEAR	1	GEAR KIT S	
	7	MMN-6F4RA38	DC MOTOR	1	FOR REEL,MOTOR	
	8	VMC0234-R08	CONNECT TERMINAL	1		
	9	VKS5430-00CMM	F.F/REW.ARM	1		
	10	VKS5432-001	REEL MOTOR GEAR	1	GEAR KIT S	
	11	SDST2612Z	SCREW	1		
	12	VKS3616-00A	CAM SWITCH	1	S6	
	13	DN6851-HI	I.C(M)	1		
	14	VKS3630-001MM	I.C.PROTECTOR	1	IC1	
	15	MXS00220MVL0	CASSETTE SWITCH	5		
	16	VMC0234-R15	CONNECT TERMINAL	1		
	17	VKB3001-051	MAIN BELT	1		
	18	VKF3184-00H	FLYWHEEL	1		
	19	VKF3186-00H	FLYWHEEL	1		
	20	VKS2224-002	CONTROL CAM	1		
	21	VKS5454-001	ACTUATER GEAR	2		
	22	VKS5455-001	ACTUATER GEAR	1		
	23	VKS3627-002	PINCH ROLLER LEVER	1		
	24	VKS3655-002	HOLDER	1		
	25	SPST2604Z	TAPPING SCREW	1		
	26	VKS1126-00B	CHASSIS BASE	1		
	27	VKW5045-003	PINCH ROLLER SPRING	1	FOR PINCH (R)	
	28	VKP4227-00B	PINCH ROLLER (R)	1		
	29	VKS5428-00C	TAKE-UP REEL DISK	1		
	30	VKW5043-001	TENSION SPRING	2		
	31	VKS3617-003	SUPPLY REEL DISK	1		
	32	SDST2004Z	SCREW	3		
	33	VKZ4705-002	SPECIAL SCREW	2		
	34	VKY4670-001	SPRING	1	PRESS KIT S	
	35	VKZ4705-001	SPECIAL SCREW	2		
	36	VKZ4708-001	SPECIAL SCREW	1		
	37	VKM3632-001	HEAD BASE	1	PRESS KIT S	
	38	VKW5046-003	PINCH ROLLER SPRING	1	FOR PINCH (L)	
	39	VKP4229-00B	PINCH ROLLER (L)	1		
	40	VKS3629-00F	HEAD BLOCK	1		
	40-1	VKW5063-003	HEAD SPRING	1		
	40-2	VKS3614-001	TURN GEAR	1		
	40-3	VKS3654-001	HEAD MOUNT COVER	1		
	40-4	VKZ4629-003	SCREW	2		

RESISTORS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R764	QRD161J-222	2.2K 1/6W CARBON RES	
	R765	QRD167J-682	6.8K 1/6W CARBON RES	
	R766	QRD167J-431	430 1/6W CARBON RES	
	R767	QRD161J-681	680 1/6W CARBON RES	
	R768	QRD161J-112	1.1K 1/6W CARBON RES	
	R769	QRD161J-222	2.2K 1/6W CARBON RES	
	R770	QRD167J-682	6.8K 1/6W CARBON RES	
	R771	QRD161J-103	10K 1/6W CARBON RES	
	R772	QRD161J-103	10K 1/6W CARBON RES	
	R773	QRD161J-472	4.7K 1/6W CARBON RES	
	R774	QRD161J-472	4.7K 1/6W CARBON RES	
	R775	QRD161J-472	4.7K 1/6W CARBON RES	
	R776	QRD161J-472	4.7K 1/6W CARBON RES	
	R779	QRD161J-163	16K 1/6W CARBON RES	
	R780	QRD161J-163	16K 1/6W CARBON RES	
	R781	QRD161J-102	1K 1/6W CARBON RES	
	R782	QRD161J-102	1K 1/6W CARBON RES	
	R783	QRD167J-560	56 1/6W CARBON RES	
	R784	QRD167J-560	56 1/6W CARBON RES	
	R785	QRD161J-124	120K 1/6W CARBON RES	
	R786	QRD161J-124	120K 1/6W CARBON RES	
	R794	QRD161J-103	10K 1/6W CARBON RES	
	R795	QRD161J-222	2.2K 1/6W CARBON RES	
	R796	QRD161J-222	2.2K 1/6W CARBON RES	
	R797	QRD161J-104	100K 1/6W CARBON RES	
	R798	QRD161J-472	4.7K 1/6W CARBON RES	
	R799	QRD167J-223	22K 1/6W CARBON RES	
	R801	QRD161J-182	1.8K 1/6W CARBON RES	
	R802	QRD167J-680	68 1/6W CARBON RES	
	RA703	QRB039J-473	47K 1/10W RESISTOR A	
	RA705	QRB039J-472A	4.7K 1/10W NETWORK RE	

OTHERS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	S501	QSS7A12-E01	SLIDE SWITC	EN
	S501	QSS7A12-E01	SLIDE SWITC	G
	S701	ESP0001-023M	TACT SWITCH	
	S702	ESP0001-023M	TACT SWITCH	
	S703	ESP0001-023M	TACT SWITCH	
	S704	ESP0001-023M	TACT SWITCH	
	S705	ESP0001-023M	TACT SWITCH	
	S706	ESP0001-023M	TACT SWITCH	
	S707	ESP0001-023M	TACT SWITCH	
	S708	ESP0001-023M	TACT SWITCH	
	S709	ESP0001-023M	TACT SWITCH	
	S710	ESP0001-023M	TACT SWITCH	
	S711	ESP0001-023M	TACT SWITCH	
	S712	ESP0001-023M	TACT SWITCH	
	BC201	EMS247-016J	SOCKET WIRE	
	BC431	EMS295-013D	SOCKET WIRE	
Δ	CP101	ICP-N20	I.C.P. PROTECT	
	EP101	EMZ4002-001Z	EARTH PLATE	
	EP102	EMZ4002-001Z	EARTH PLATE	
	FL701	ELU0001-177	FLUORESCENT	
	FS701	ES06805-172	SPACER	
	FW702	EWR3AB-24LST	FLAT WIRE A	
	FW703	EWR36B-22LST	FLAT WIRE A	
	JA701	EMV7123-027R	MALE CONNec	
	JB701	EMV7123-027	MALE CONNec	
	JT701	EMV7122-005	MALE CONNec	
	JT702	EMV7122-005	MALE CONNec	
	JT703	EMV7122-103	CONNECT TER	
	JT704	EMV7122-103	CONNECT TER	
	PA102	EMV7122-103	CONNECT TER	
	XT701	EXX0060-000EM	CERAMIC RES	

Δ : SHARP/TYPICAL PARTS

OTHERS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10435-102	CIR. BOARD	EF
		EMW10435-102	CIR. BOARD	EN
		EMW10435-102	CIR. BOARD	G
		EMW10435-102	CIR. BOARD	U
		EMW10435-102	CIR. BOARD	UB
		EMW10435-102	CIR. BOARD	US
		EMW10435-102	CIR. BOARD	UT
		EMW10435-102	CIR. BOARD	BS
		EWTO11-091	TERMINAL WI	
		QWE350-10RR	SHIELD WIRE	
		QWE356-50RD	WIRE	
		QWE359-50RD	WIRE	
		QWE881-15RR	VINYL WIRE	U
		QWE881-15RR	VINYL WIRE	UB
		QWE881-15RR	VINYL WIRE	US
		QWE881-15RR	VINYL WIRE	UT
		QWE886-16RR	PIN WIRE	U
		QWE886-16RR	PIN WIRE	UB
		QWE886-16RR	PIN WIRE	US
		QWE886-16RR	PIN WIRE	UT
		QWE888-17RR	VINYL WIRE	U
		QWE888-17RR	VINYL WIRE	UB
		QWE888-17RR	VINYL WIRE	US
		QWE888-17RR	VINYL WIRE	UT
	J401	EMN00TV-406A	JACK BOARD	
	J402	QMS3501-020	PIN JACK	
	J451	EMV5109-006A	CONNECT TER	
	J704	VMC0234-P15	CONNECT TER	
	J705	VMC0234-P08	CONNECT TER	
	J706	EMV7122-103	CONNECT TER	
	K101	ENZ8101-008	INDUCTOR	
	K102	ENZ8101-008	INDUCTOR	
	L311	EQL2106-223	INDUCTOR	
	L312	EQL2106-223	INDUCTOR	
	L321	EQL2106-562	INDUCTOR	
	L322	EQL2106-562	INDUCTOR	
	L501	ENZ2500-001	OSCILLATOR	
	L502	ENZ2500-001	OSCILLATOR	
	L531	ENZ6002-011J2	OSC COIL	
Δ	P101	QMCB001-E02H	AC SOCKET	EF
Δ	P101	QMCB001-E02H	AC SOCKET	EN
Δ	P101	QMCB001-E02H	AC SOCKET	G
Δ	P101	QMCB001-E02H	AC SOCKET	U
Δ	P101	QMCB001-E02H	AC SOCKET	UB
Δ	P101	QMCB001-E02H	AC SOCKET	US
Δ	P101	QMCB001-E02H	AC SOCKET	UT
Δ	P101	QMCB001-E02HBS	AC SOCKET	BS
	P201	EMV5133-007K	PLUG	
	P202	EMV7155-106R	CONNECT TER	
	S001	QSS1L22-E01	SLIDE SWITC	U
	S001	QSS1L22-E01	SLIDE SWITC	UB
	S001	QSS1L22-E01	SLIDE SWITC	US
	S001	QSS1L22-E01	SLIDE SWITC	UT
	S501	QSS7A12-E01	SLIDE SWITC	BS
	S501	QSS7A12-E01	SLIDE SWITC	EF

Accessories List

Symbol No.

M	3	M	M
---	---	---	---

Item	Part Number	Part Name	Q'ty	Description	Area
1	E30580-2361A	INSTRUCTION BOOK	1		BS,EF,EN,G
	E30580-2363A	INSTRUCTION BOOK	1		U,UB,US,UT
2	QMP39F0-183E	POWER CORD	1		EF,EN,G,US
	QMP5520-1835BS	POWER CORD	1		BS,UB
	QMP7530-183	POWER CORD	1		U,UT
3	EWP302-013K	SIGNAL CORD	2		
4	EWP805-012	PLUG WIRE ASSY.	1		
5	ENZ2202-001	SIEMENS PLUG	1		US
	ENZ2203-001	ADAPTOR PLUG	1		U,UT
6	E300196-010B	ENVELOPE	1		
7	E300196-172	POLY BAG	1		BS,UB
	BT-20066A	DISTRIBUTOR LIST	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT-54003-1	WARRANTY CARD	1		BS
	E43486-340A	SAFETY SHEET	1		BS

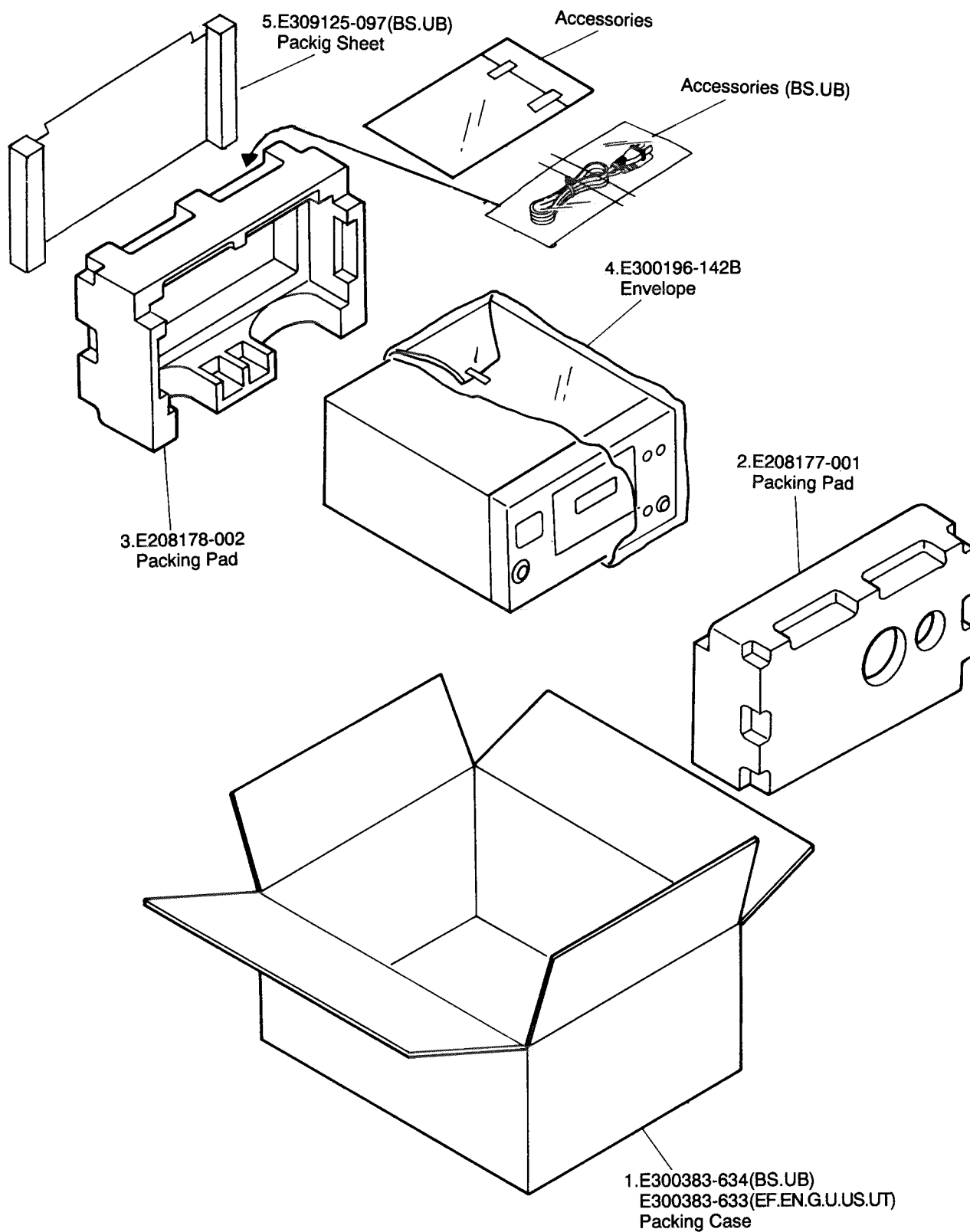
The Marks for Designated Areas

BS the U.K. G Germany EF Continental Europe EN Nordic Countries
 UB Hong Kong US Singapore UT Taiwan
 U Universal
 No mark indicates all area.

Packing Materials and Part Numbers

Symbol No.

M	4	M	M
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The Marks for Designated Areas

BS the U.K.	EF Continental Europe :Except Germany and Italy		
G Germany	EN Nordic contries	U Universal	UT Taiwan
UB Hong Kong	US Singapore		

No mark indicates all area.

TD-F1GD

-MEMO-

-MEMO-

JVC

VICTOR COMPANY OF JAPAN, LIMITED

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