

JVC

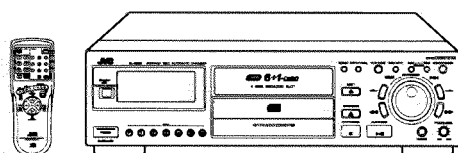
SERVICE MANUAL

COMPACT DISC AUTOMATIC CHANGER

XL-M516BK XL-M416BK XL-M316BK

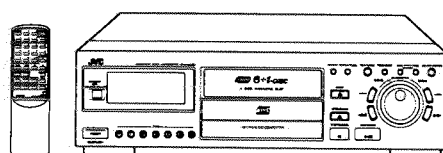
COMPACT
disc
DIGITAL AUDIO

XL-M516BK



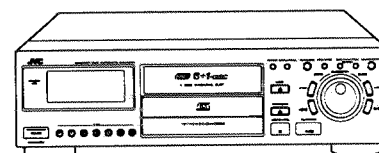
COMPU LINK
Remote
Control Component

XL-M416BK



COMPU LINK
Remote
Control Component

XL-M316BK



COMPU LINK
Component

Contents

Safety Precaution	1-2	Replacement of Laser Pickup	1-36
Important for Laser Products	1-3	Self-diagnosis for pickup	1-37
Instruction Book	1-4	Troubleshooting	1-39
Chenger mech.		Block Diagram	1-44
Tchnical Explanation	1-15	Schematic DiagramsBlock Diagram	1-45
Description of Major ICs	1-20	Printed Circuit Board	1-47
Internal Connection for the FL Display Tube	1-29	Parts List	
Disassembly Procedures	1-30	XL-M516BK	2-1
Flow of Functional Operation Until TOC is Read ...	1-35	XL-M416BK	3-1
Maintenance of Laser Pickup	1-36	XL-M316BK	4-1

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.

Important for Laser Products

1. **CLASS 1 LASER PRODUCT**
2. **DANGER** : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION** : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. **CAUTION** : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. **CAUTION** : If safety switches malfunction, the laser is able to function.
6. **CAUTION** : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

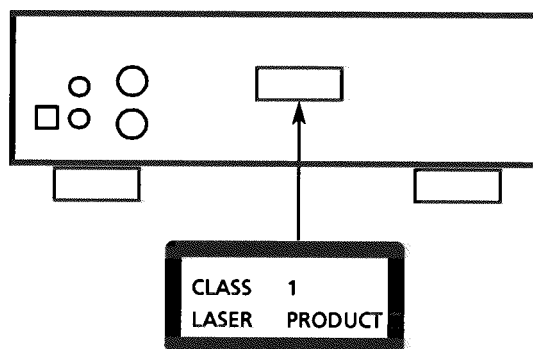
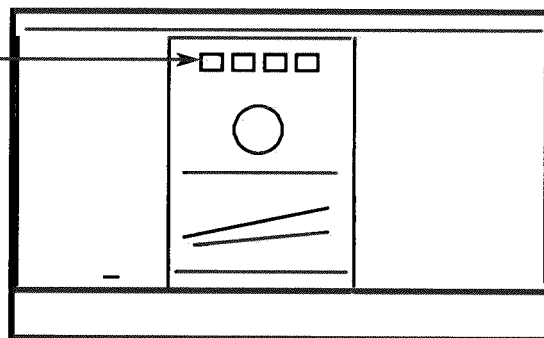
(Except for the U. S. A.)

DANGER: invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)

VARNING: Osynlig laserstrålning när denna del ä öppnad och spärren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL: Usynlig laserstrålning ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)

VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)



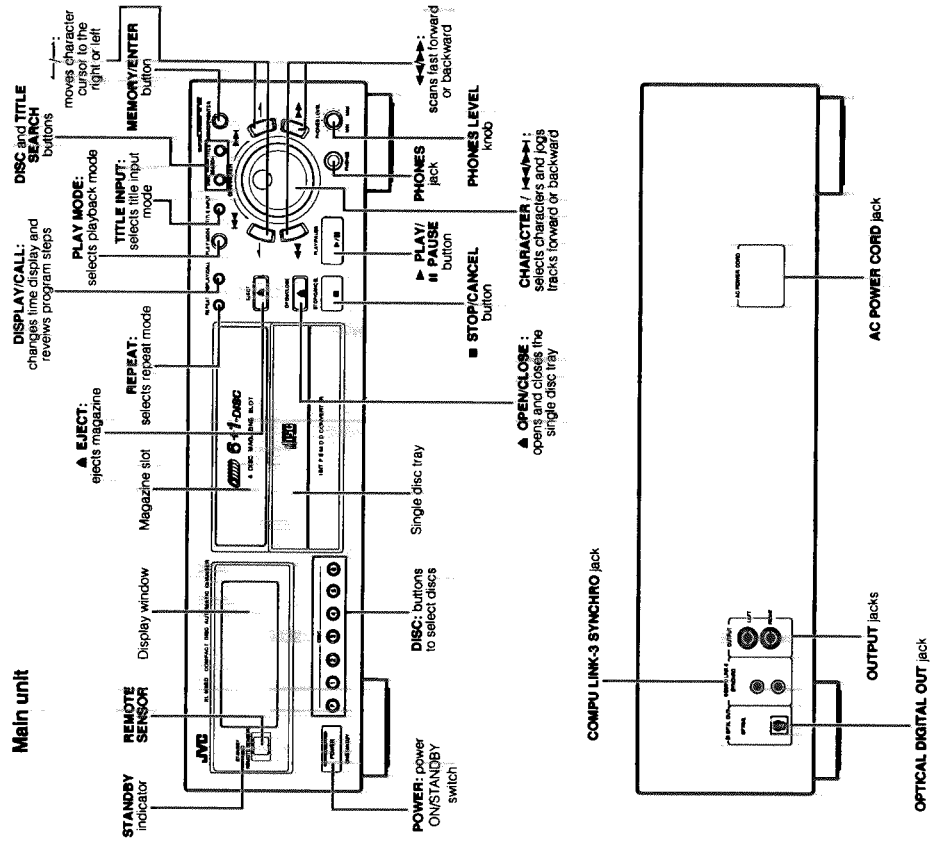
CLASSIFICATION LABEL

(Except for the U. S. A. and Canada)

INTRODUCTION

XL-M516BK

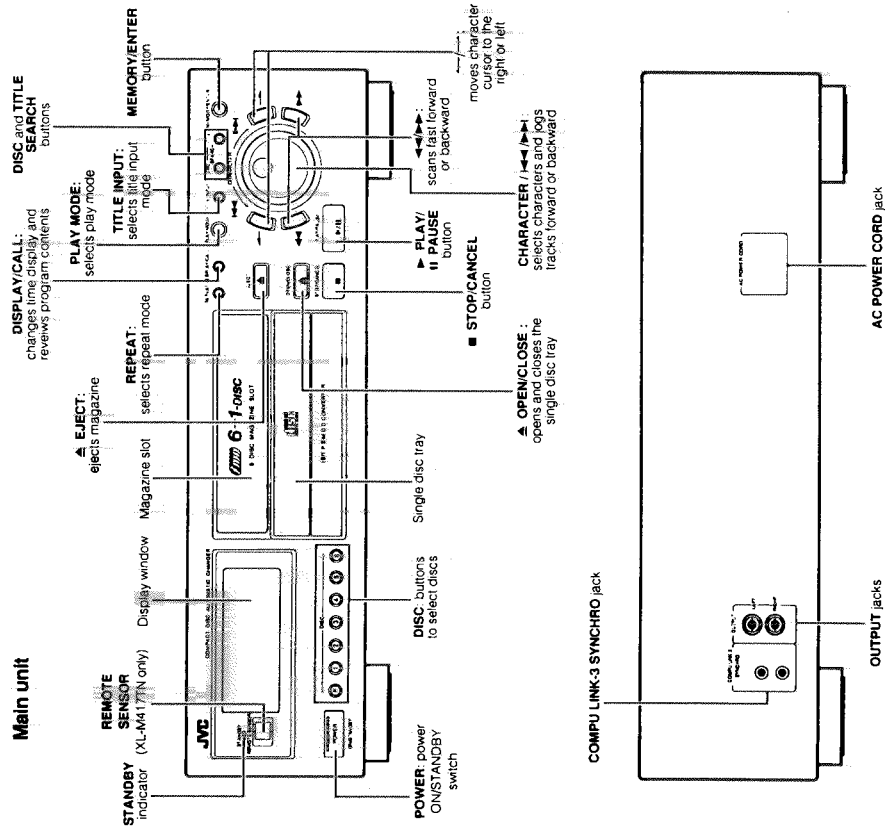
Names of buttons



INTRODUCTION

XL-M416BK
 XL-M316BK

Names of buttons



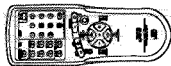
BEFORE USING FOR THE FIRST TIME

Installing the unit

Before you install the unit

Be sure all of the following accessories were included with your XL-MSSD.

Remote control unit (RM-SXUMSDU): 1



Batteries: 2
 (R6P6UM-3/AAK (1.5F) type)
 For the remote control unit



Audio cord: 1
 To make connections to other audio components



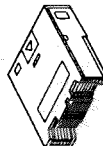
AC power cord: 1
 For connecting the unit to a wall outlet in your home.



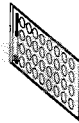
COMPU LINK cord: 1
 To make connections to use other JVC COMPU LINK components.



Magazine (MC-M75): 1



Magazine Label: 1
 Use these labels to organize your disc collection into magazines.



Best location

Select a location which is level, dry and neither too cold nor too hot (temperature range 5°C (41°F) to 35°C (95°F)). Also, avoid dusty locations or any location subject to vibration.

If interference occurs

Interference may occur, if this unit is placed near a tuner or a radio receiver tuned to an AM frequency, if this happens, we recommend that you either move the unit farther away from the tuner or radio receiver, or temporarily turn off the power to this unit.

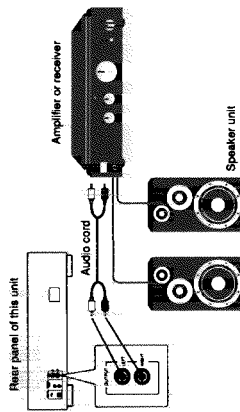
Connecting to other equipment

Connecting your XL-MSSD to an amplifier or receiver lets you listen to CDs through speakers. You can connect the CD player to an amplifier or receiver with either the analog OUTPUT jacks, or the OPTICAL DIGITAL OUT jack.

For analog connections

Connect the OUTPUT jacks on the rear of this unit to the CD or AUX input jacks on an amplifier or receiver with the supplied audio cord.

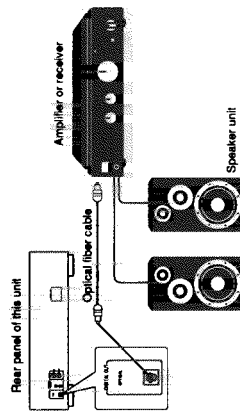
- Notes**
- Never connect this unit's OUTPUT jacks to an amplifier or receiver's PHONO jacks. It may damage the components.
 - Make sure the same channels are connected between this unit and the amplifier or receiver: LEFT to LEFT and RIGHT to RIGHT.
 - Do not connect the power plug until all other connections are complete.
 - Connect the plugs firmly. Loose connections may cause noise or malfunction.



For digital connections

Connect the OPTICAL DIGITAL OUT jack on this unit to the OPTICAL DIGITAL INPUT jack on your amplifier or receiver with an optical fiber cable (optional).

- Notes**
- Be sure your amplifier or receiver has the same type of optical transmitter/reception module.
 - OPTICAL DIGITAL INPUT jacks before inserting the optical fiber cable.
 - Be careful not to fold or crimp the cable. When coiling an optical fiber cable for storage, make sure that the diameter of the coil is at least 15 cm (6 inches).
 - Use an optical fiber cable less than 3 m (9 feet) long.
 - Protect the optical fiber cable plugs from scratches and dust.
 - Keep the protective dust cap plugged into the optical digital output jack when not using an optical fiber cable to connect the unit.

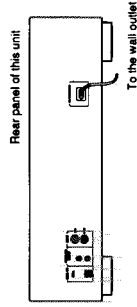


Supplying the power

Connecting the AC power cord

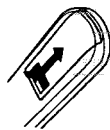
Connect the AC power cord to a wall outlet after completing all other connections.

Note
 Do not connect this unit's power cord to the SWITCHED AC OUTLET on an amplifier or receiver when using the COMPU LINK Remote Control System.

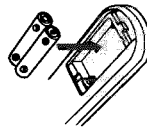


Installing the batteries in the remote control

- Before operating the remote control, install two batteries.
1. Remove the battery cover on the back of the remote by simultaneously pressing down and pulling it backwards.



2. Install the batteries. Be sure to install with the correct polarity, (+) and (-).



3. Slide the cover back into position.



- Notes**
- Incorrect battery usage can cause corrosion and damage the remote.
 - To prevent damage to the remote and extend battery life:
 - Install batteries observing the correct polarity, (+) and (-).
 - Do not use a combination of old and new batteries.
 - Be sure to use the correct batteries (batteries with similar shapes may have different voltage ratings).
 - Remove the batteries from the remote if it is not going to be used for a long time.
 - Do not expose batteries to heat or flame.

Battery replacement
 Battery life varies depending on the conditions of use but standard life is about one year. When batteries become weak, the remote control's operating distance decreases. If this happens, replace the batteries with new ones. Use two (2) dry cell batteries of the R6P (SUM-3)/AA(1.5F) type.

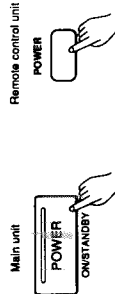
Note
 Extremely low temperatures may shorten battery life.

BASIC OPERATIONS

Preliminary operations

Turning on the power

Press the **POWER** button.



Press again to turn the unit off and activate standby mode.

- The power turns on automatically when you:
 - Insert a magazine.
 - Press the **▶** (PLAY/PAUSE) button on the main unit or the **▶** button on the remote.

Note
 This unit consumes approximately 5 watts of power in standby mode. To turn the power completely off, disconnect the power cord from the wall outlet.

Loading the single disc tray

Use the **OPEN/CLOSE** button.

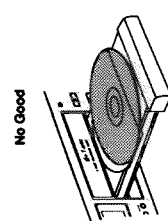
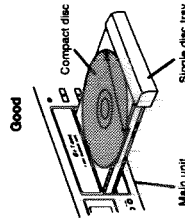


1. Press the **OPEN/CLOSE** button to open the single disc tray.
2. Place a disc flat in the grooved depression on the single disc tray with its label side facing up.
3. Press the **OPEN/CLOSE** button to close the single disc tray.

Note
 When loading a disc on to the single disc tray, be sure to place the disc so that it lies flat in the grooved depression. Otherwise, the disc may be damaged or stuck in the unit when the tray is closed.

Remote control operation

Point the remote control towards the **REMOTE SENSOR** on the front of the main unit and operate steadily and carefully. The remote control unit can be used within a range of about 7 meters (23 feet) from the **REMOTE SENSOR**, and at angles of up to about 30 degrees.



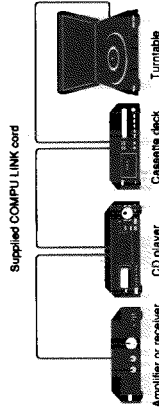
COMPU LINK connections

Connecting LVC audio components with the **COMPU LINK** jacks provides automatic control of relative operations between components and facilitates various operations. With a **COMPU LINK** connection to an amplifier/receiver, you can operate the XL-M5SD with the amplifier or receiver's remote control. Connecting to a tape deck lets you conduct synchronized recording.

Connecting the COMPU LINK cord
 The **COMPU LINK-3SYNCHRO** jacks are used to output and input the control signals for the **COMPU LINK** remote control system. **COMPU LINK**-compatible products are provided with the jacks marked **COMPU LINK-1**, **COMPU LINK-2** or **COMPU LINK-3**, depending on the **COMPU LINK** version. The XL-M5SD is equipped with **COMPU LINK-3**. You can connect the XL-M5SD to components with previous versions of **COMPU LINK**, but only the previous versions features will be available.

Plug the supplied **COMPU LINK** cord into the **COMPU LINK-3SYNCHRO** jack on the rear of XL-M5SD. Plug the other end into the **COMPU LINK** jack of an amplifier or receiver. If the amplifier or receiver has two **COMPU LINK** jacks, you can use either one.

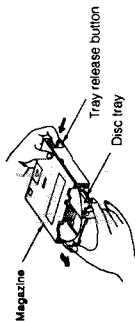
COMPU LINK system components connected with COMPU LINK



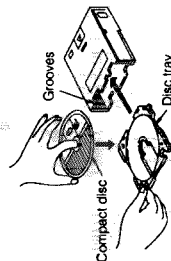
Loading the magazine

Use the magazine when you want to play 2 or more discs.

- Slide the disc tray out of the magazine while pressing the tray release button.



- Place a disc on the disc tray with its label side facing up. It's not possible to play discs inserted upside-down. Also, never place discs directly into the magazine without using a disc tray.



- Line up the disc tray with the grooves in the magazine and push the tray back in. It's unnecessary to press the tray release button when inserting the disc trays.

Notes

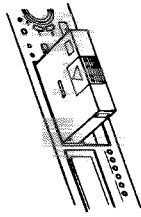
- Be careful of the following when handling the disc trays.*
- Never bend the disc tray or force it into the magazine.
 - A skewed disc tray may cause a malfunction.
 - Hold the magazine horizontally when inserting or removing the disc trays.
 - The openings on the disc trays are for passage of the laser signal. These openings leave part of the shiny surface on the bottom of the disc exposed, please be careful not to touch this surface.

Optional magazines

If you wish to use 8cm (3 inch) CDs, please obtain the special magazine (XC-M73) designed for these discs. If you wish to use additional, 12cm (5 inch) disc magazines, please obtain the special magazine (XC-M75) designed for this unit.

Inserting the magazine

Insert the loaded magazine into the magazine slot and push lightly until it clicks into place.



To remove the magazine, press the **EJECT** button.

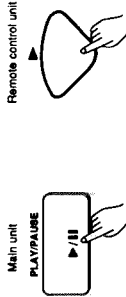


Note
 The player may be damaged if the magazine is pushed in with too much force.

Basic functions for disc playback

Playing a disc

Press the **▶/II** button on the main unit or the **▶** button on the remote.

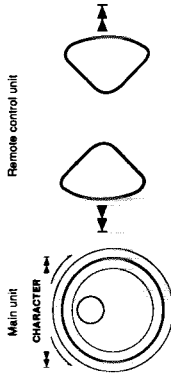


The **▶** indicator lights in the display and playback starts. If there are no discs loaded in the unit, the disc tray opens.

To stop playback temporarily, press the **▶/II** button on the main unit or the **II** button on the remote. The **II** indicator lights in the display and playback stops temporarily. To resume playback, press the **▶/II** button on the main unit or the **▶** button on the remote.

Skipping to a desired track

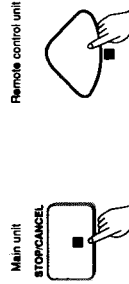
Use the **CHARACTER** dial.



To skip to the beginning of the current track being, turn the **CHARACTER** dial to the left (towards **◀◀**). To skip to the beginning of previous tracks, continue turning the dial in the **◀◀** direction. To skip to the beginning of following tracks, turn the **CHARACTER** dial to the right (towards **▶▶**). Turn the **CHARACTER** dial in the direction you want to advance until the track you desire appears in the display.

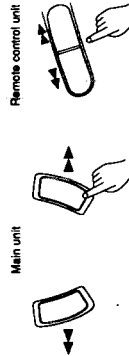
Stopping playback

Press the **■ STOP/CANCEL** button on the main unit or the **■** button on the remote.



Searching for a desired section

Hold down the **◀◀** or **▶▶** button during playback.



Playback advances or reverses rapidly. The **◀◀** buttons put playback into rapid reverse and the **▶▶** buttons put playback into rapid advance. Release the button when you reach the section you desire, and the player returns to normal playback.

Specifying a desired track

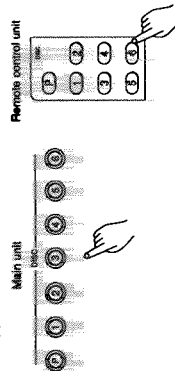
Use the TRACK number buttons (1-10, +10) on the remote control.



The unit searches for the selected track and playback starts automatically. When selecting track numbers 1 through 10, press the corresponding number button. When selecting a track number greater than 10, use the [+10] button.
 Example: To select track number 12, press [+10] and then [2].
 To select track number 25, press [+10] twice and then [5].
 To select track number 30, press [+10] twice and then [10].

Specifying a desired disc

Use the DISC buttons.



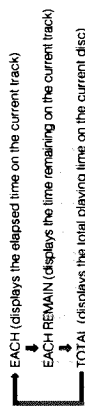
To start playback from the beginning of a specific disc, press the DISC button that corresponds to the disc you want to play.
 You can also use the DISC SKIP buttons on the remote control to choose discs. To start playback after choosing a disc with the DISC SKIP buttons, press the [▶] button.

Changing the time display

Use the DISPLAY/CALL button on the main unit during playback.

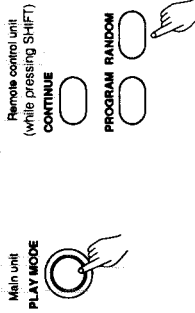


Each time you press the DISPLAY/CALL button during playback, the following indicators light to show the display mode:

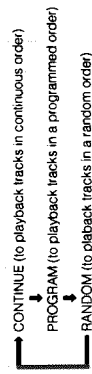


Changing the playback mode

Use the PLAY MODE button on the main unit or hold down the SHIFT button and press the CONTINUE, PROGRAM, or RANDOM button on the remote control. The playback mode can only be changed when the player is in stop mode.



Each time you press the PLAY MODE button on the main unit, the indicator changes in the following order:

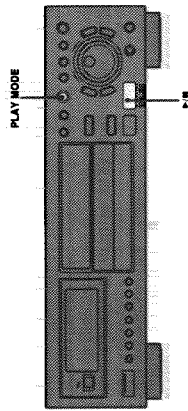


Note
 The unit remembers the last playback mode when in standby mode.

VARIOUS PLAYBACK PATTERNS

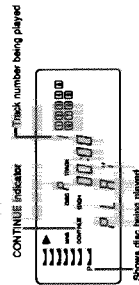
Playing tracks in continuous order

With the continue function, you can start playback from any track on any disc and play continuously through to the final track on disc number 6. When discs are inserted in both the single disc tray and the magazine, playback starts from the disc in the single disc tray.



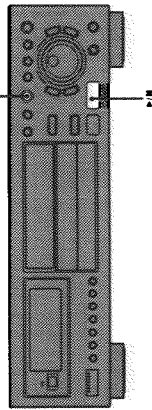
Press the PLAY MODE button to light the CONTINUE indicator. Then press the [▶] button.

Playback starts from the first disc in the magazine (if a disc is not loaded in the single disc tray) or the disc loaded in the single disc tray. If the single disc tray is left open, pressing the [▶] button closes the tray before starting playback. The following display appears:



Playing tracks in a random order

With the random playback function, the unit plays tracks at random from among all the discs loaded in the unit. Each track is played only once.



1. In stop mode, press the PLAY MODE button to light the RANDOM indicator.
 2. Press the [▶] button to start playback.

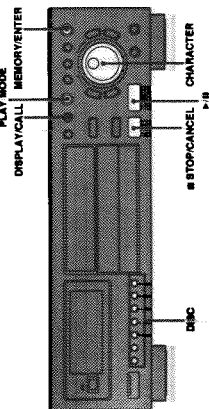
- To skip to the next track to be played, turn the CHARACTER dial clockwise (towards ▶).
- To play all tracks repeatedly in random order, press the REPEAT button so that the REPEAT indicator lights in the display.

To cancel random playback

Press the PLAY MODE button to select another playback mode. The RANDOM indicator goes out and the unit enters the selected playback mode.

Playing tracks in a desired order

With the program function, you can play tracks from discs in the magazine and single disc tray in the order you desire.



1. In stop mode, press the PLAY MODE button to light the PROGRAM indicator.
2. Use the DISC buttons to select the disc containing the track you want to program.
3. Rotate the CHARACTER dial to display the track number you desire.
4. Press the MEMORYENTER button to store the selected track number in the program memory.

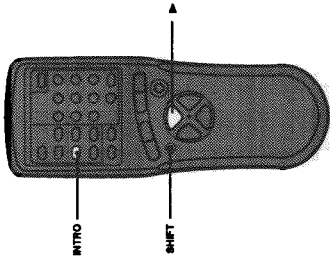
Disc number for step 1 Track number for step 1



- You can select the desired track number with the TRACK buttons on the remote control unit. Press the TRACK buttons on the remote control. It is not necessary to press the MEMORYENTER button after selecting the track number.
- If you want to cancel the step being displayed, press the STOP/CANCEL button (or the CANCEL button on the remote) and enter a new track number.
- 5. Repeat steps 2, 3, and 4 to program additional tracks or discs. You can program up to 32 steps.
- 6. Press the = button to start playback. The programmed tracks playback in the programmed order.
- You can skip to another program step during playback by turning the CHARACTER dial.

Playing just the beginning of each disc or track

With the intro scan function, you can easily find the disc, or track, you desire.



In stop mode, hold down the SHIFT button and press the INTRO button on the remote to light either the DISC INTRO or INTRO indicator, then press the > button.

When you select DISC INTRO, the unit plays the first 15 seconds of the first track on each disc, starting from the disc in the single disc tray and continuing through to disc number 6 in the magazine.

When you select INTRO, the unit plays the first 15 seconds of each track on all the discs loaded in the unit, starting from the first track of the disc in the single disc tray and continuing through to the last track on disc number 6 in the magazine.

To cancel the intro scan when you reach the track you desire

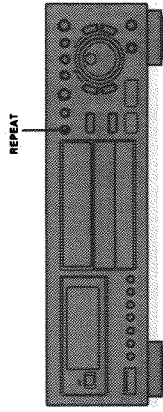
Press either < or >, the intro scan mode is cancelled and the unit resumes normal playback.

The following operations will also cancel the intro scan mode:

- Pressing the PLAY MODE button to change the playback mode.
- Pressing one of the DISC buttons on the main unit or the remote.
- Pressing one of the TRACK buttons on the remote.

Playing repeatedly

With the repeat function, you can play all the discs, or just one track repeatedly. You can also use the repeat function together with the random playback and program functions.



Press the REPEAT button on the main unit, or hold down the SHIFT button and press REPEAT on the remote control, so that either the REPEAT or REPEAT 1 indicator lights in the display.

When the REPEAT indicator is lit, all tracks are played back repeatedly. When the REPEAT 1 indicator is lit, the current track is played back repeatedly.

To cancel repeat mode

Press the REPEAT button on the main unit or hold down the SHIFT button and press REPEAT on the remote control to turn off the REPEAT or REPEAT 1 indicator.

Can you remember which discs you stored in which magazines? If you have more than one magazine you probably store your discs in them, and you may find it difficult to locate the discs you want to playback. This unit is provided with a magazine memory function to help you keep track of which discs are loaded in up to 32 different magazines.

Once the disc titles are stored, you can easily find out which discs are stored in which magazines.

When using the magazine memory function

Attach a supplied label (letters A-Z and numbers 1-6) to each magazine after entering the disc titles into the unit's memory. Be sure the label you attach matches the magazine identification symbol shown in the display after inserting the respective magazine.

Disc title input

Enter the magazine identification symbol (A-Z or 1-6), the disc tray number (1-6), and corresponding disc titles.

Disc search

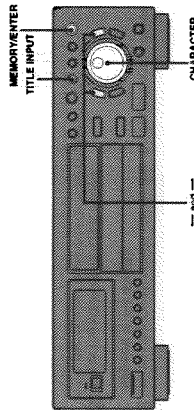
You can easily locate the magazine and disc numbers of the stored discs by specifying one or more letters of the disc title. You can choose to specify as much of the disc title as you desire, starting from the first letter in the title.

Title search

You can also display the disc title of any disc stored in the disc title memory by specifying the magazine identification symbol and disc tray number.

Inputting a disc title

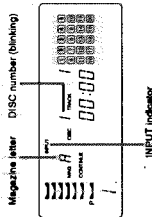
With the disc title input, you can use the memory to store disc titles. After inputting a disc title, it appears in the display automatically whenever you choose that disc.



Title input is only available in the continue mode. Insert a disc magazine and press the **MEMORY/ENTER** button before you start to input a disc title.

1. Press the TITLE INPUT button.

The unit automatically gives the magazine a letter (starting with 'A') and the disc number blinks in the display.



2. Use the CHARACTER dial to select the number of the disc you want to title.

3. Press MEMORY/ENTER.

The cursor blinks in the display.

4. Use the CHARACTER dial to select a character, and push the — and — buttons to move the cursor to the place you want to input the next character.

Repeating this, you can enter up to 8 characters for each disc title.

5. Press MEMORY/ENTER to store the disc title.

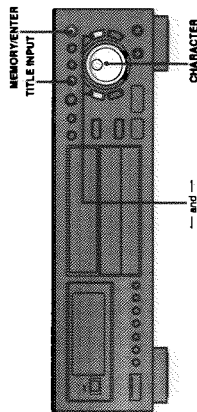
The unit automatically advances to the next disc in the magazine. Repeat steps 4 and 5 to enter titles for all 6 discs and the unit exits the title input mode automatically.

To exit the title input mode before entering a title

Press the TITLE INPUT button. You can also exit the title input mode by pressing the **▶/⏪** or **PLAY MODE** button.

Modifying a disc title

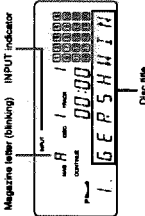
You can easily modify or change disc titles stored in the unit's memory.



Title modification is only available in the continue mode. Eject the magazine and stop playback before you start to modify a disc title.

1. Press the TITLE INPUT button.

A magazine letter blinks in the display. If a title has been stored for disc 1 of that magazine, it also appears in the display.



2. Rotate the CHARACTER dial to display the letter of the magazine containing the disc whose title you want to change.

3. Press the MEMORY/ENTER button.

The disc number blinks in the display.

4. Rotate the CHARACTER dial to display the number of the disc whose title you want to change.

5. Press the MEMORY/ENTER button.

6. Use the CHARACTER dial to select a character, and push the — and — buttons to move the cursor to the place you want to input the next character.

Repeating this, you can enter up to 8 characters for each disc title. To erase the previously entered title, press the **MEMORY/ENTER** button and repeat steps 4 and 5.

7. Press the MEMORY/ENTER button to store the disc title.

The unit automatically advances to the next disc. Repeat steps 6 and 7 for each title you want to change.

To exit the disc title mode.

Press the TITLE INPUT button.

To erase an entire magazine (discs 1-6) from the memory
Press the TITLE INPUT button and rotate the CHARACTER dial to select the letter of the magazine you want to erase then press the **MEMORY/ENTER** button.

To modify the title of disc in a currently loaded magazine
In stop mode, press the TITLE INPUT button and follow steps 4 through 7 above. The unit exits the disc title mode automatically if you proceed through to disc 6.

During playback, press the TITLE INPUT button and follow steps 6 and 7 above. The unit exits the disc title mode automatically after you enter the title for the current disc. If you want to erase a title, press **MEMORY/ENTER** to put the unit in stop mode before proceeding.

GENERAL INFORMATION

The COMPU LINK remote control system

The COMPU LINK Remote Control System controls relative operations between components automatically and facilitates various operations.



This is a system originated and developed by JVC for facilitating various system operations. The following is a brief explanation of this system:

Automatic source selection
When you use the provided COMPU LINK cord to connect this unit to other JVC products equipped with COMPU LINK jacks, you can switch system components with a touch of a button. One touch of the source selector button on a JVC amplifier or receiver starts operation of the selected component automatically. Likewise, when you press the play button on one of the system components, the source selector on the amplifier or receiver changes automatically and the previously selected component stops operation within five seconds.

Synchronized recording

Synchronized recording refers to the process in which a JVC cassette deck starts recording, synchronized with this unit. Synchronized recording is carried out as follows:

1. Set the cassette deck to the recording pause mode in accordance with its instructions.
2. To record only certain tracks, make a program of the tracks you desire.
3. Press the **▶** button on the front panel of this unit. The cassette deck automatically starts recording, synchronized with this unit.

Notes

- Synchronized recording stops automatically when this unit stops playback.
- To cancel synchronized recording, press the **■** STOP button on this unit or on the cassette deck.
- Setting the recording pause mode by pressing the **||** PAUSE button after pressing the **■** REC and **▶** PLAY buttons simultaneously, synchronized recording will not be possible. For details, refer to the instructions for the cassette deck.

Automatic power on/off function

This function controls the power of the receiver or amplifier or the power of this unit in the following manner:

- When this unit enters playback mode, the receiver or amplifier turns on automatically.
- When the source selector of the receiver or amplifier is set to the CD function mode, this unit turns on automatically.

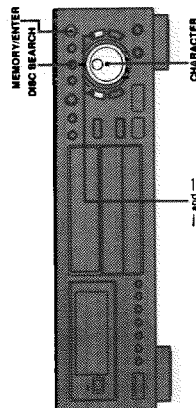
Notes

- Abnormal operation will result if the power supply of the component(s) is interrupted. If this happens, you must start over again.
- Be sure that the COMPU LINK jacks of the individual components are connected with the provided COMPU LINK cord. Also, be sure to fully read the instructions for each component.

MAGAZINE MEMORY FUNCTION

Locating a disc by entering the disc title

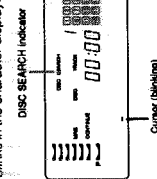
Use disc search to find discs by entering all or just part of the disc title.



Disc search is only available in the continue mode.

1. Press the DISC SEARCH button.

The cursor blinks in the character display.



2. Use the CHARACTER dial and the - and - buttons to enter either the disc title or the first few characters of the title.

Place the cursor on the last character you entered. If the cursor is placed on the space after the last character, the space is also recognized as a character. If you place the cursor on a character in the middle, the unit searches for the disc title by reading only from the first character to the cursor position. The remaining characters will not be read.

3. Press the MEMORY/ENTER button

The unit searches for a matching disc title and displays it along with the magazine and disc numbers. Use the CHARACTER dial to advance or reverse through the disc titles if there are multiple references.

To exit the disc search mode

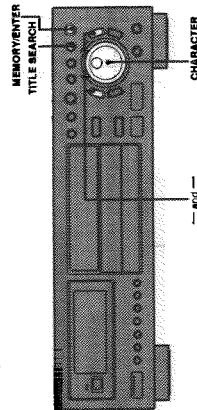
Press the DISC SEARCH button.

Note

The unit returns to the continue mode if you wait longer than 10 second before inputting the disc title information.

Locating a title by entering the disc number

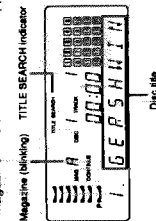
Use the title search to recall the title of a disc in a specific magazine.



Title search is only available in the continue mode.

1. Press the TITLE SEARCH button.

'A' blinks in the display. (The title for magazine 'A' disc number 1 also appears.)



2. Rotate the CHARACTER dial so that the magazine you desire appears in the display.

3. Press the MEMORY/ENTER button

The disc number starts to blink in the display.

4. Rotate the CHARACTER dial so that the disc number you desire appears in the display.

The disc title appears in the display for about 10 seconds. You can enter the title input mode by pressing the TITLE INPUT button.

Advancing past the last disc in a given magazine continues to the first track in the next magazine. Likewise, reversing past the first disc in a given magazine continues to the last disc in the previous magazine.
EXAMPLE: magazine D disc 6 → magazine E disc 1
magazine D disc 1 → Magazine C disc 6

To exit the title search mode

Press the TITLE SEARCH button.

To search the title with the remote control

Press the TITLE SEARCH button on the main unit, then hold down the SHIFT button and use the TITLE DISC NEXT, TITLE DISC BEFORE, TITLE MAG. NEXT, and TITLE MAG BEFORE buttons on the remote control to find the title you desire.

Note

The unit returns to the continue mode if you wait longer than 10 second before inputting the magazine or disc information.

Care and handling

How to handle CDs

When handling compact discs, do not touch the bottom (reflective silver side - the side without the label) of the disc. Since compact discs are made of plastic, they are easily damaged. If the disc gets dirty, dusty, scratched or warped, the sound will not be picked up correctly and, may cause the CD player to malfunction.



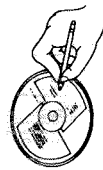
Maintenance of discs

- When there are fingerprints or other dirt adhering to a disc, use a soft, dry cloth, and wipe the disc in a straight line starting from the inside and moving outwards.
- If difficult to clean, wipe the disc with a cloth moistened with water.
- Never use record cleaners, petrol, alcohol or any anti-static agents.



Even on the label side

Do not damage the label side, stick paper to or use adhesive on this surface.

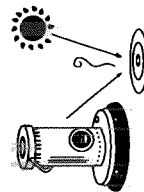


Recommendations for handling the magazine

- Always keep the magazine loaded with 6 disc trays.
- Do not expose it to high temperatures or direct sunlight.
- Do not disassemble the magazine.
- Take care not to drop or hit the magazine. Do not apply any pressure to the disc trays, especially when they are removed from the magazine.
- Never apply solvents such as petrol, thinner, or insecticide to the surfaces of the magazine or disc trays. Such solvents may damage their surfaces.

Storage

Make sure to keep discs in their cases. If discs are piled one on top of another without their protective cases, they can be damaged. Do not put discs in a location where they will be exposed to direct sunlight - or in any place with high temperature or humidity. Avoid leaving discs in your car!



Troubleshooting

What appears to be a malfunction may not always be serious. Please go through the following list before requesting service.

Symptom	Possible cause	Remedy
The magazine is not expelled when the ▲ button is pressed.	The Power plug is disconnected from the AC outlet.	Connect the plug to an AC outlet.
No sound.	Incorrect output connections	Connect properly.
The remote control unit does not function.	Batteries are exhausted	Replace both batteries.
	There is an obstacle between remote control unit and the REMOTE SENSOR of the main unit.	Remove the obstacle
	Direct sunlight is shining on the REMOTE SENSOR of the main unit.	Shade the unit from the direct sunlight.
Playback is not possible.	A disc is inserted upside down.	Load the discs label-side up
	Disc is not loaded in the correct position.	Load the disc according to the groove of the disc tray.
	Moisture is condensed inside the unit.	Leave the unit turned on until the moisture evaporates.
A track on a CD is not played.	A CD is missing.	Load the CD.
	A CD is loaded upside down.	Load the CD with the label side up
No sound from the headphones.	Output volume is set to the minimum level.	Adjust the volume with the PHONES LEVEL knob.
Sound is intermittent and/or harsh to the ear.	Disc is dirty	Wipe off the disc surface with a soft cloth.
	Disc is warped	Replace the disc
	Disc is scratched	Replace the disc.

GENERAL INFORMATION
 XL-M516BK

Specifications

General

Format: Compact disc digital audio
 Signal detection system: Non-contact optical detection
 CD capacity: 7 discs
 Sampling frequency: 44.1 kHz
 Number of Channels: 2
 Power requirements: AC 120 V \sim 60 Hz
 Power consumption: 14 watts (POWER ON)
 5 watts (STANDBY)
 Dimensions (W x H x D): 435 x 126.5 x 337.5 mm
 17-3/16 x 5 x 13-5/16 inches
 Mass: 10.2 lbs (4.6 kg)

Audio performance

Frequency response: 2 Hz to 20,000 Hz (\pm 1 dB)
 Dynamic range: More than 98 dB (at 1 kHz)
 Signal to noise ratio: More than 107 dB
 Total harmonic distortion: Less than 0.002% (at 1 kHz)
 Channel separation: More than 94 dB (at 1 kHz)
 Wow and flutter: Below the measurable limit

Outputs

OUTPUT
 output level: 2.0 Vrms (at 10 k Ohms)
 OPTICAL
 output level: -21 dBm to -15 dBm
 wavelength: 660nm
 PHONES
 Jack type: 6.35 mm in diameter, stereo

Design and specifications subject to change without notice.

GENERAL INFORMATION
 XL-M416BK
 XL-M316BK

Specifications

General

Format: Compact disc digital audio
 Signal detection system: Non-contact optical detection
 CD capacity: 7 discs
 Sampling frequency: 44.1 kHz
 Number of Channels: 2
 Power requirements: AC 120 V \sim 60 Hz
 Power consumption: 14 watts (POWER ON)
 5 watts (STANDBY)
 Dimensions (W x H x D): 435 x 126.5 x 337.5 mm
 17-3/16 x 5 x 13-3/16 inches
 Mass: 10.1 lbs (4.6 kg)

Audio performance

Frequency response: 2 Hz to 20,000 Hz (\pm 1 dB)
 Dynamic range: More than 98 dB (at 1 kHz)
 Signal to noise ratio: More than 107 dB
 Total harmonic distortion: Less than 0.002% (at 1 kHz)
 Channel separation: More than 94 dB (at 1 kHz)
 Wow and flutter: Below the measurable limit

Outputs

OUTPUT
 output level: 2.0 Vrms (at 10 kohms)
 OPTICAL
 output level: -21 dBm to -15 dBm
 wavelength: 660nm
 PHONES
 Jack type: 6.35 mm in diameter, stereo

Design and specifications subject to change without notice.

■ CHANGER MECH. (ELM-C600) Technical Explanation

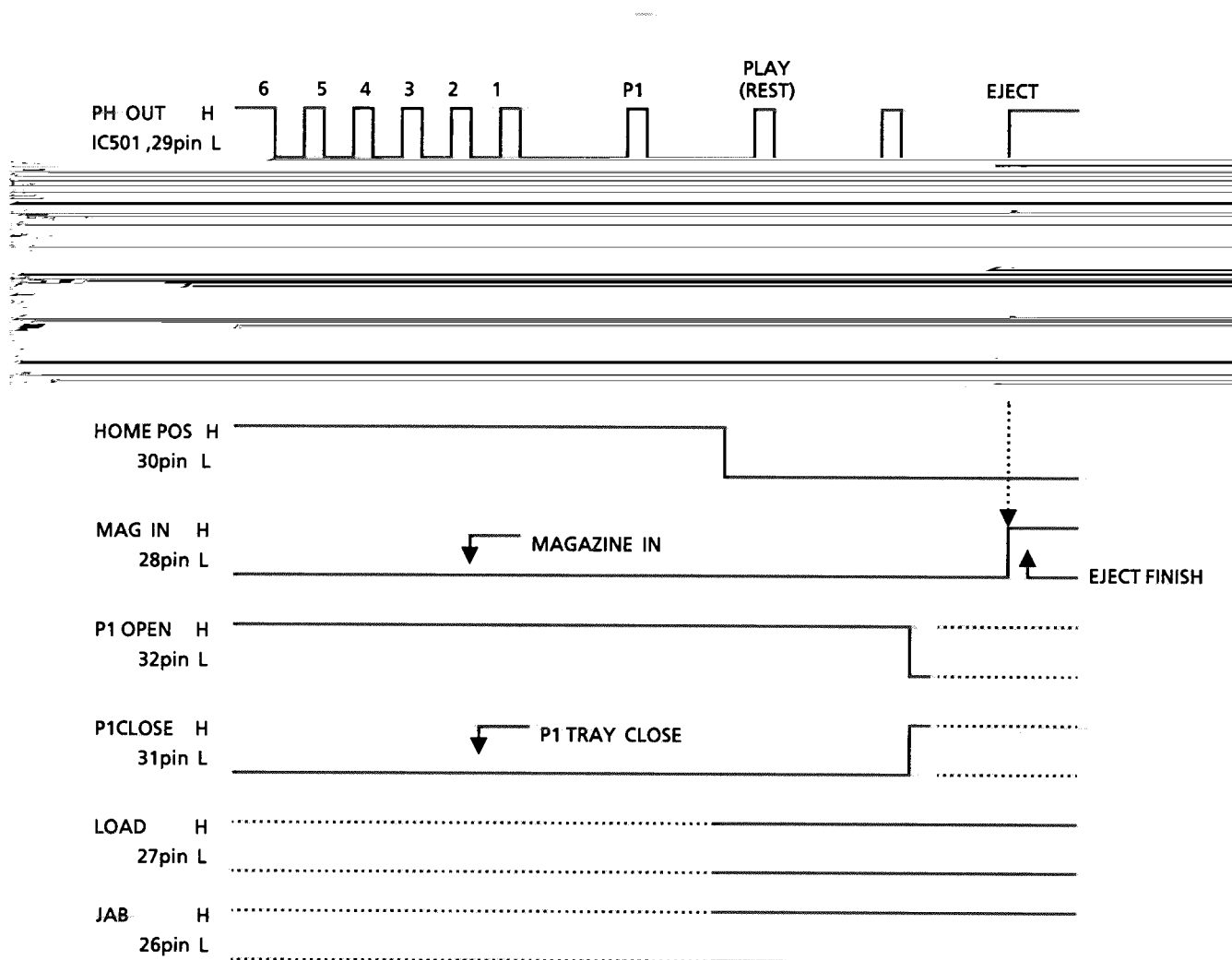
ELM-C600 has been simplified as keeping functions which current changer mech.s have so that every units can be easily assembled.

The followings show its operational specifications.

1. Basic operation

- ① Execute JAB(UNLOAD) after turning the power on.
- ② The elevator should be at PLAY(rest) position when P1 tray is opened or closed.
- ③ The elevator should be at PLAY(rest) position when magazine is ejected.
- ④ The tray should be returned to magazine when the tray is loaded from the magazine.
- ⑤ The Plus-1 tray is opned after returning a disc if the P1 OPEN button is processed while the tray is being loaded.
- ⑥ Photo interrupter only detects lift cam position (includes PLAY position).
- ⑦ For "HOME POS'SW", signal is read in case of retrying and mech. initializing.
- ⑧ Signal is read twice every 5 msec. to judge switch's on and off.
- ⑨ It takes 50 msec. after finishing one operation to start next one (switching motor rotation).

(1) Timing for each switches



..... : Range which H.Motor can rotate.
 (That is, the range which magazine can be loaded or unloaded or Plus-1 tray can be opned or closed.)

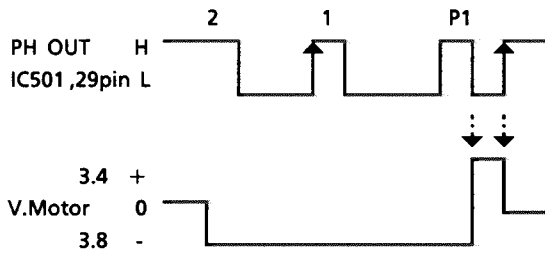
(2) Returning a disc in power failure

EEPROM memorizes step where the tray is pulled out it will be returned to its original step when power is supplied again.

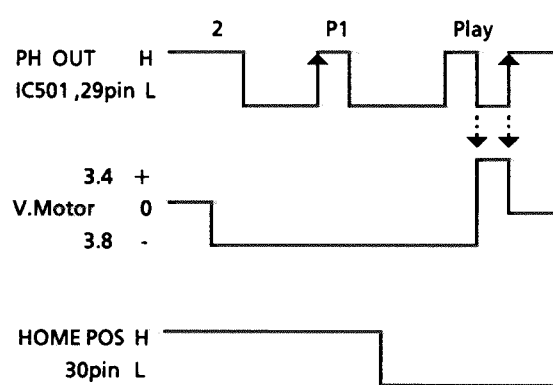
2. Moving lift cam

- 1) Signal of photo interrupter (PH OUT) is read twice every 5 msec..
- 2) Elevator is once lowered and start to rise to select a tray.
- 3) When the lift cam is moved, "PH OUT" is not detected during 50msec. which are set for masking.
 (The lift cam should stop within limited slit. The above masking prevent miscounting caused by the lift cam passing the limit.)
- 4) P1 tray is closed before changing elevator height when "HOME POS" switch is on.

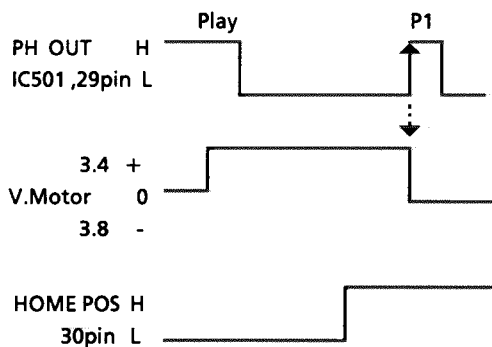
① Elevator Down(DISC 2→P1)



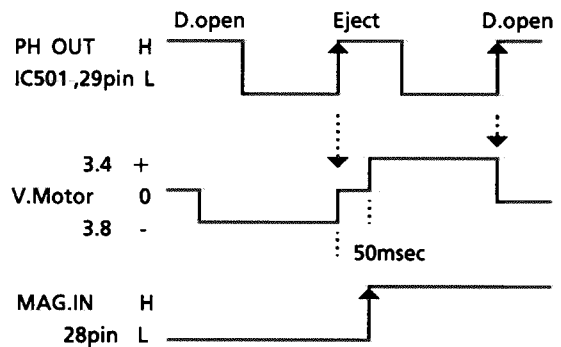
② Elevator Down(DISC 2→P1)



③ Elevator Up(PLAY→P1)



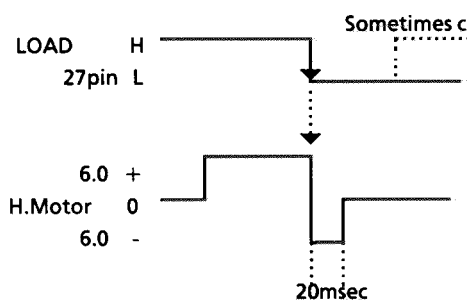
④ Eject



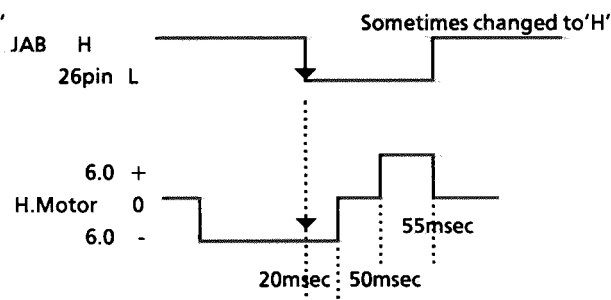
3. Tray LOAD/UNLOAD

- 1) The motor is rotated reversely for 20 msec. after LOAD switch is turned on.
- 2) The motor is rotated for 20 msec. in loading direction when "HOME SW" switch is off and "LOAD" switch is on after turning the power on.
- 3) JAB switch may sometimes be turned off after the operation.
- 4) LOAD switch may sometimes be turned off when the elevator is up to return a tray.

① Tray LOAD



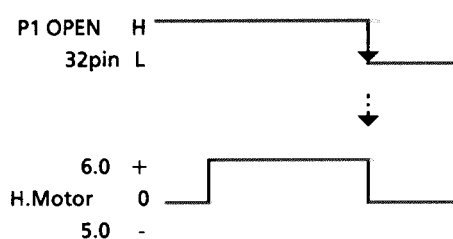
② Tray UNLOAD



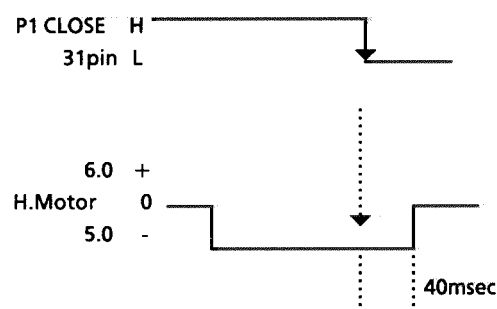
4. P-1 Tray OPEN/CLOSE

- 1) Closing the P-1 tray decrease voltage.
- 2) The tray starts the opening operation when 5 sec. timeout is finished after closing the tray.
- 3) The motor keeps its situation for 40 msec. after detecting P1 CLOSE switch on after closing the tray.

① P1 open



① P1 close



5. Magazine eject

Magazine is ejected slower than the cam's movement. 'MAG. IN' switch is turned off a certain period later after the cam is moved to "EJECT" position.

6. Mech. reset

The followings show modes for each switches while the mech. is reset (mech. initialization).

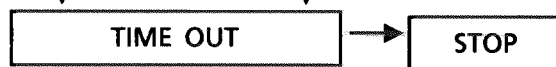
SW Name	Symble	SW Mode	IC501 Pin No	Out put (IC780)
P1 OPEN/CLOSE	S005	CLOSE side	31pin	L
LOAD/JAB	S003	NOT SELECTED	27/26pin	---
HOME POS	S002	ON	30pin	L
PHOTO SENSER	PH001	ON	29pin	L

7. Retrying operation at time out.

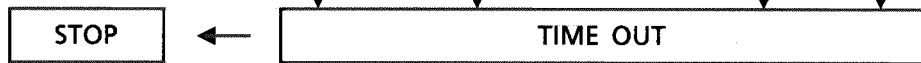
Retrying operation starts after timeout processing if operation time exceeds previously set time due to abnormality during its operation.

1) TRAY LOAD/UNLOAD

① LOADING → TIME OUT (10sec) → UN LOAD(JAB OPERATION) → RESET



② UNLOADING → TIME OUT (10sec) → LOAD → Elev.Down(Checking H.posSW) → Elev.UP → UNLOAD → RESET



2) ELEVATOR UP/DOWN

① UP OPERATION → TIME OUT (10sec) → Elev.Down(Checking H.posSW) → Elev.UP → RESET



3) P1 OPEN/CLOSE

① OPEN OPERATION → TIME OUT (10sec) → STOP(Standby for next operation)

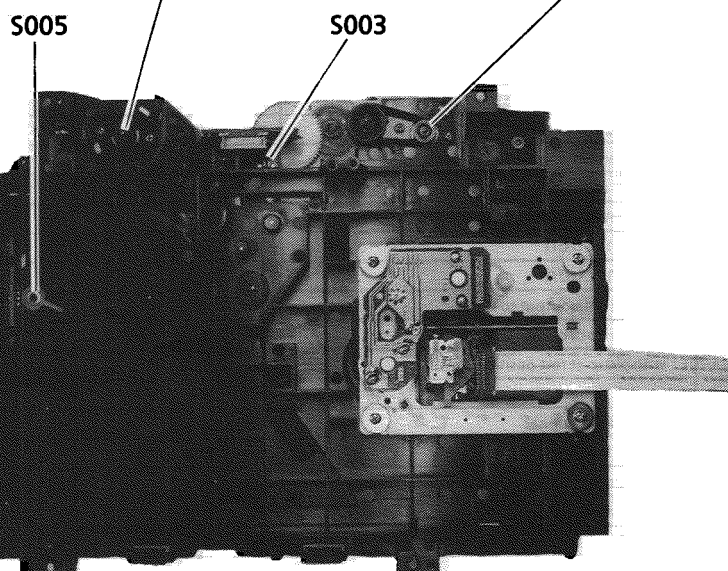
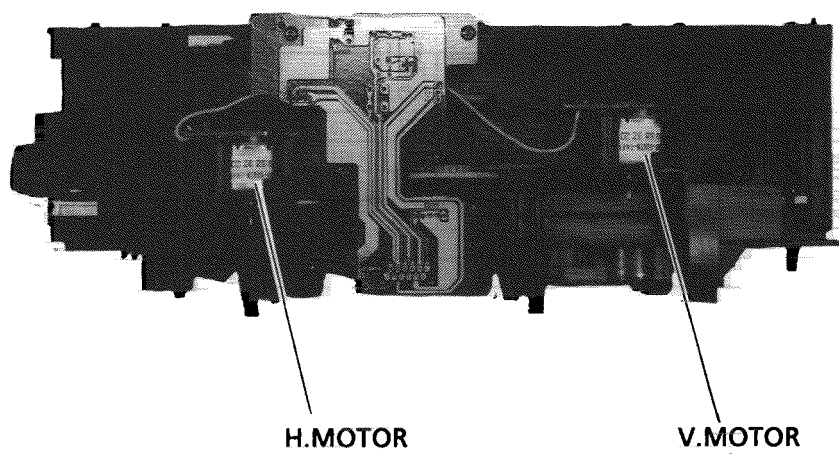
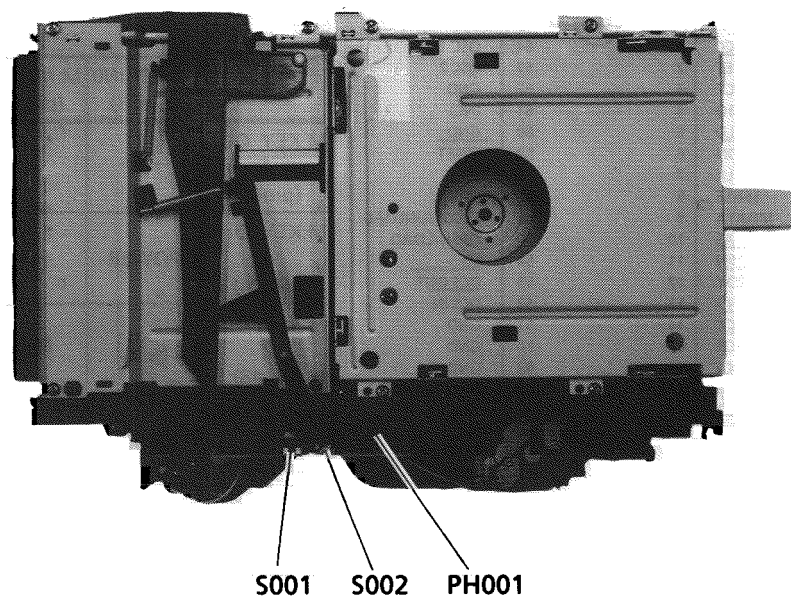
② CLOSE OPERATION → TIME OUT (5sec) → P1 OPEN → STOP(Standby for next operation)



4) EJECT

WITHOUT RETRAY

■ Position of switch and motor



Description of Major LSIs

■ MN171601J6B (IC501) : SYSTEM CONTROLLER

1. Terminal Layout

VCC	1	64	OSC 1
LSI RESET	2	63	OSC 2
SQCK	3	62	GND
SUBQ	4	61	(NC)
MLD	5	60	GND
POWER ON	6	59	RESET
MCLK	7	58	SDA
SENSE	8	57	SCL
MDATA	9	56	CLOSE/UNLOAD
STATAS	10	55	OPEN/LOAD
RMIN	11	54	SD
COMRDY	12	53	DCS OUT
GND	13	52	DCS IN
TLOCK	14	51	GND
FLOCK	15	50	GND
CS	16	49	GND
D.MUTE	17	48	(NC)
STANDBY IND	18	47	(NC)
UP	19	46	(NC)
DOWN	20	45	M.KO4
(NC)	21	44	M.KO3
(NC)	22	43	M.KO2
COMDATA	23	42	M.KO1
COMCLK	24	41	M.KO0
REST SW	25	40	GND
JAB SW	26	39	MEMORY
LOAD SW	27	38	J001
MAG.IN	28	37	J002
PHOTO	29	36	M.K13
H.P.SW	30	35	M.K12
CLOSE SW	31	34	M.K11
OPEN SW	32	33	M.K10

2. Key Matrix

	M.KEY IN0 (pin33)	M.KEY IN1 (pin34)	M.KEY IN2 (pin35)	M.KEY IN3 (pin36)
M.KEY OUT 4 (pin45)	3	4	6	5
M.KEY OUT 3 (pin44)	POWER	P	2	1
M.KEY OUT 2 (pin43)	▶▶	▶▶/		EJECT
M.KEY OUT 1 (pin42)	◀◀		OPEN /CLOSE	PLAY MODE
M.KEY OUT 0 (pin41)		DISPLAY /CALL	STOP CANSEL	REPEAT

3. Description

Pin No.	Symbol	I/O	Description	Pin No.	Symbol	I/O	Description
1	VCC	I	Power supply	33	M.K10	I	Magazin Key matrix input
2	LSI RESET	O	Lsi reset signal output	34	M.K11	I	Magazin Key matrix input
3	SQCK	O	Clock output for Q-resistor	35	M.K12	I	Magazin Key matrix input
4	SUBQ	I	Input Q-data of subcode	36	M.K13	I	Magazin Key matrix input
5	MLD	O	μ-com command load signal output	37	J002	I	Jog signal input (From IC201)
6	POWER ON	O	L: power ON H: power off	38	J001	I	Jog signal input (From IC201)
7	MCLK	O	D.Servo command data signal output	39	MEMORY	O	Memory KEY detect signal output (to IC201)
8	SENSE	I	Sense signal input	40	GND	--	GND
9	MDATA	O	μ-com command data signal output	41	M.KO0	O	Magazin Key matrix output
10	STATAS	I	Statas signal input	42	M.KO1	O	Magazin Key matrix output
11	RMIN	I	Remote contorole input	43	M.KO2	O	Magazin Key matrix output
12	COMRDY	I	Command ready signal input(from IC201)	44	M.KO3	O	Magazin Key matrix output
13	GND	--	GND	45	M.KO4	O	Magazin Key matrix output
14	TLOCK	I	Lock signal for Tracking	46	(NC)	--	Non conection
15	FLOCK	I	Lock signal for Focus	47	(NC)	--	Non conection
16	CS	I	Chip select input (L : MSSD/M516 H : other)	48	(NC)	--	Non conection
17	D.MUTE	O	Non conection	49	GND	--	GND
18	STANDBY IND	O	Standby indicator output	50	GND	--	GND
19	UP	O	Mecha UP control signal	51	GND	--	GND
20	DOWN	O	Mecha DOWN control signal	52	DCS IN	I	DCS signal input
21	(NC)	--	Non conection	53	DCS OUT	O	DCS signal output
22	(NC)	--	Non conection	54	SD	--	Non conection
23	COMDATA	O	Command data output to IC201	55	OPEN/LOAD	O	P1 open and tray load control signal
24	COMCLK	O	Command clock output to IC201	56	CLOSE/UNLOAD	O	P1 close and tray unload control signal
25	REST SW	I	L : with picup at rest position	57	SCL	O	Sift clock for IC502
26	JAB SW	I	Jab switch signal	58	SDA	I/O	Data I/O with IC502
27	LOAD SW	I	Disc load detect signal	59	RESET	I	Reset signal input
28	MAG.IN	I	Magazine In signal	60	GND	--	GND
29	PHOTO	I	Disc position count signal input	61	(NC)	--	Non conection
30	H.P.SW	I	Mecha home position signal	62	GND	--	GND
31	CLOSE SW	I	Tray close 'L'	63	OSC 2	O	Clock oscillaiton out put
32	OPEN SW	I	Tray open 'L'	64	OSC 1	I	Clock oscillaiton input

■ MN171202J6A (IC201) : JOG CONTROLL & FL DRIVER

1. Terminal Layout

VCC	1	64	OSC 1
17G	2	63	OSC 2
16G	3	62	GND
15G	4	61	(NC)
14G	5	60	GND
13G	6	59	E ² CLOCK
12G	7	58	E ² DATA
11G	8	57	NC
10G	9	56	MEMORY
9G	10	55	JOG01
8G	11	54	JOG 02
7G	12	53	KO1
6G	13	52	KO0
5G	14	51	KI3
4G	15	50	KI2
3G	16	49	KI1
2G	17	48	KI0
-VDISP	18	47	(JOG 11
S1	19	46	JOG 12
S2	20	45	E ² 4K/16K
S3	21	44	INH
S4	22	43	RESET
S5	23	42	COMRDY
S6	24	41	COMDATA
S7	25	40	COMCLK
S8	26	39	1G
S9	27	38	S20
S10	28	37	S19
S11	29	36	S18
S12	30	35	S17
S13	31	34	S16
S14	32	33	S15

2. Key Matrix

	KEY IN0 (pin48)	KEY IN1 (pin49)	KEY IN2 (pin50)	KEY IN3 (pin51)
KEY OUT 1 (pin53)	ENTER MEMORY	→	←	TITLE SEARCH
KEY OUT 0 (pin52)			TITLE INPUT	DISC SEARCH

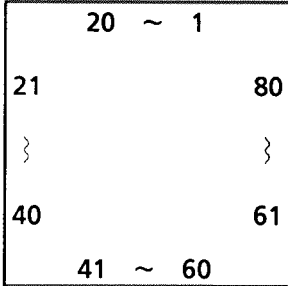
2. Description

Pin No.	Symbol	I/O	Description	Pin NO.	Symbol	I/O	Description
1	VCC	--	Power supply	33	S15	O	FL segment control output
2	17G	O	FL grid control output	34	S16	O	FL segment control output
3	16G	O	FL grid control output	35	S17	O	FL segment control output
4	15G	O	FL grid control output	36	S18	O	FL segment control output
5	14G	O	FL grid control output	37	S19	O	FL segment control output
6	13G	O	FL grid control output	38	S20	O	FL segment control output
7	12G	O	FL grid control output	39	1G	O	FL grid control output
8	11G	O	FL grid control output	40	COMCLK	I	Request input (from IC201)
9	10G	O	FL grid control output	41	COMDATA	I	Data input (from IC201)
10	9G	O	FL grid control output	42	COMRDY	O	Ready signal output to IC201
11	8G	O	FL grid control output	43	RESET	I	Reset signal input
12	7G	O	FL grid control output	44	INH	I	Connect to Bu +5V
13	6G	O	FL grid control output	45	E ² 4K/16K	I	Chip select (H:M5SD-M516 L: other)
14	5G	O	FL grid control output	46	JOG 12	I	JOG signal input
15	4G	O	FL grid control output	47	JOG 11	I	JOG signal input
16	3G	O	FL grid control output	48	KI0	I	Key matrix input
17	2G	O	FL grid control output	49	KI1	I	Key matrix input
18	-VDISP	--	Power supply	50	KI2	I	Key matrix input
19	S1	O	FL segment control output	51	KI3	I	Key matrix input
20	S2	O	FL segment control output	52	KO0	O	Key matrix out
21	S3	O	FL segment control output	53	KO1	O	Key matrix out
22	S4	O	FL segment control output	54	JOG 02	O	Gog signal output to IC 501
23	S5	O	FL segment control output	55	JOG01	O	Gog signal output to IC 501
24	S6	O	FL segment control output	56	MEMORY	I	MEMORY KEY detect signal input from IC501
25	S7	O	FL segment control output	57	NC	--	NON connect
26	S8	O	FL segment control output	58	E ² DATA	I/O	DATA I/O with IC202
27	S9	O	FL segment control output	59	E ² CLOCK	O	Sift clock to IC202
28	S10	O	FL segment control output	60	GND	--	Connect to GND
29	S11	O	FL segment control output	61	NC	--	Non connect
30	S12	O	FL segment control output	62	GND	--	Non connect
31	S13	O	FL segment control output	63	OSC 2	O	Clock osillation output
32	S14	O	FL segment control output	64	OSC 1	I	Clock osillation input

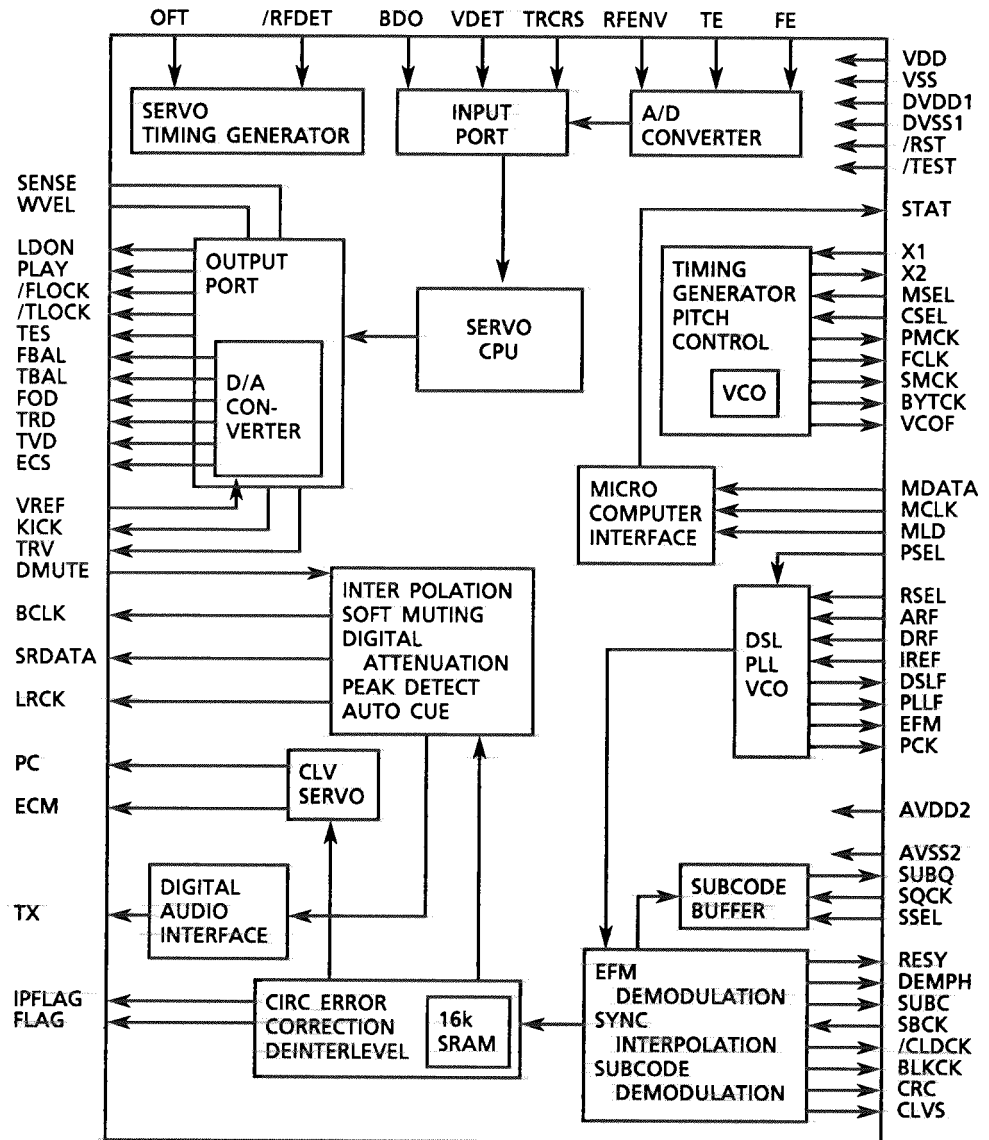
XL-M516BK
 XL-M416BK
 XL-M316BK

■ MN662720RB (IC650) : DIGITAL SERVO & DIGITAL SIGNAL PROCESSER

1. Terminal Layout



2. Block Diagram



3. Description

Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Bit clock output pin for SRDATA	41	TES	—	Not used
2	LRCK	O	L/R distinction signal	42	PLAY	—	"
3	SRDATA	O	Serial data output	43	WVEL	—	"
4	DVDD1	—	Power supply	44	ARF	I	RF signal input
5	DVSS1	—	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface signal	46	DRF	I	Bias adjustment pin for DSL
7	MCLK	I	μ-com command clock signal input	47	DSLFL	I/O	Loop filter pin for DSL
8	MDATA	I	μ-com command data input	48	PLLFL	I/O	Loop filter pin for PLL
9	MLD	I	μ-com command load signal input	49	VCOF	—	Not used
10	SENSE	O	Sense signal output	50	AVDD2	—	Power supply
11	FLOCK	O	Lock signal for Tracking	51	AVSS2	—	Connected to GND
12	TLOCK	O	Lock signal for Focus	52	EFM	—	Not used
13	BLKCK	—	Not used	53	PCK	—	"
14	SQCK	I	Clock for sub-code Q resister	54	PDO	—	"

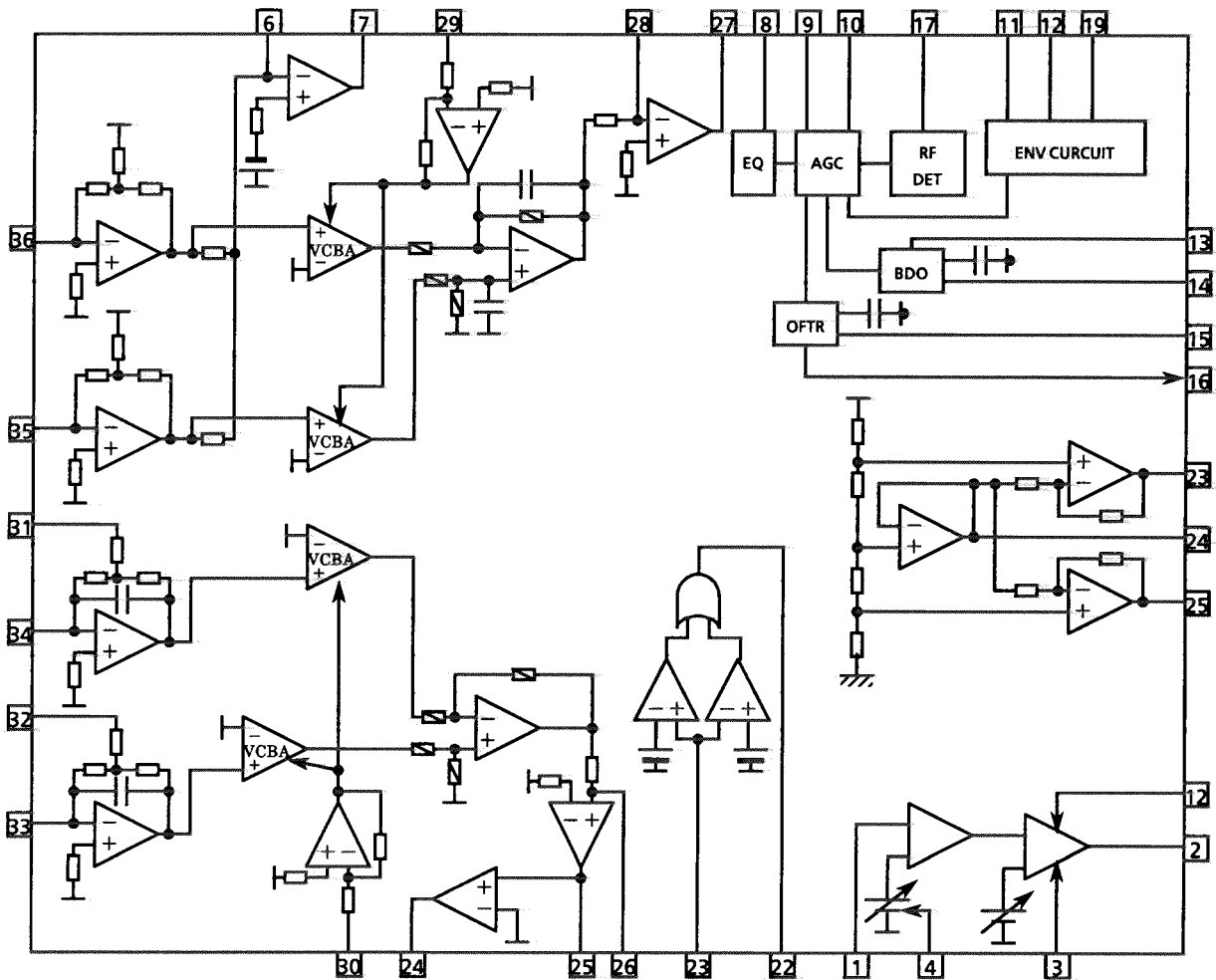
XL-M516BK
 XL-M416BK
 XL-M316BK

■ AN8806SB (IC600) : RF & SERVO AMP

1. Terminal Layout

PD	1	36 PDAC
LD	2	35 PDBD
LDON	3	34 PDE
LDP	4	33 PDF
VCC	5	32 PDER
RF-	6	31 PDFR
RF OUT	7	30 TBAL
RF IN	8	29 FBAL
C.AGC	9	28 FE-
ARF	10	27 FE OUT
C.ENV	11	26 TE-
C.EA	12	25 TE OUT
CS BDO	13	24 CROSS
BDO	14	23 TE BPF
CS BRT	15	22 VDET
OFTR	16	21 LD OFF
/NRFDET	17	20 VREF
GND	18	19 ENV

2. Block Diagram



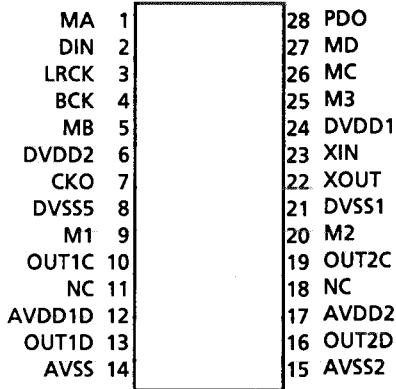
3. Description

Pin No.	Symbol	I/O	Description
1	PD	I	APC Amp input
2	LD	O	APC Amp output
3	LD ON	--	APC ON/OFF control signal input
4	LDP	--	Connected to GND
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RF amp output pin
8	RF IN	I	AGC input pin
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	AGC output pin
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of the RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of the RF signal
16	OFTR	O	Of-track status signal output pin
17	/NRFDET	O	RF detection signal output pin
18	GND	--	GND
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output pin
21	LD OFF	--	Connect to GND
22	VDET	O	Vibration detection signal output pin
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output pin
25	TE OUT	O	Tracking error signal output pin
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control pin
30	TBAL	I	Tracking balance control pin
31	PDFR	I/O	E and E I-V amp gain control pin
32	PDER	I/O	F and E I-V amp gain control pin
33	PDF	I	I-V amp input pin
34	PDE	I	I-V amp input pin
35	PD BD	I	I-V amp input pin
36	PD AC	I	I-V amp input pin

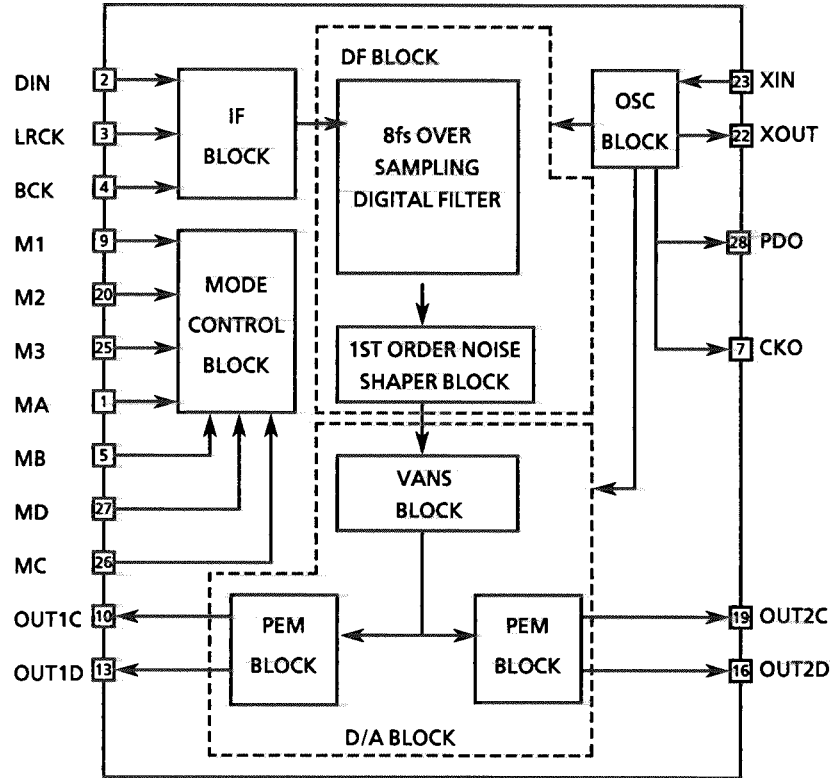
XL-M516BK
 XL-M416BK
 XL-M316BK

■ MN35503(IC750) : D / A CONVERTER

1. Terminal Layout



2. Block Diagram



3. Description

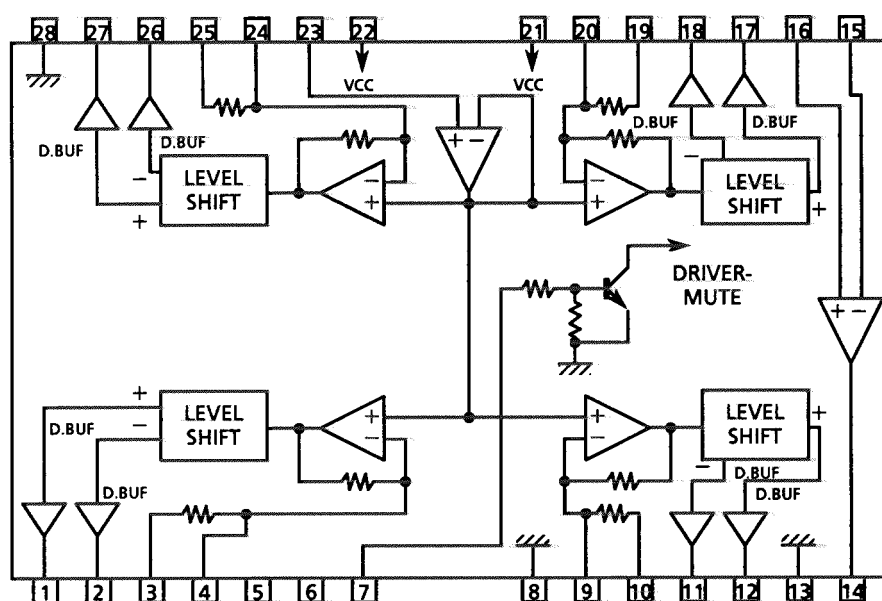
Pin No	Symbol	I/O	Description	Pin No	Symbol	I/O	Description
1	DIN	I	Operational node 4	15	AVSS2	--	Analog ground 2
2	DIN	I	DATA input	16	OUT2d	O	2D PEM output
3	LRCK	I	LR clock input	17	OUT2D	O	2D PEM output
4	BCK	I	Bit clock input	18	NC	--	Non conection
5	MB	I	Operational mode control 5	19	OUT2C	O	2C PEM output
6	DVDD2	--	Digital power supply 2	20	M2	O	Operational node 2
7	CKO	O	Clock output	21	DVSS1	--	Digital ground pin 1
8	DVSS2	--	Digital ground 2	22	XOUT	O	Crystal oscillator output
9	M1	--	Connected to ground	23	XIN	I	Crystal oscillator input
10	OUT1C	O	1C PEM output	24	DVDD1	--	Digital power supply 1
11	NC	O	Non conection	25	M3	I	Operational node 3
12	AVDD1	--	Analog power supply 1	26	MC	I	Reset signal / Digital Att. control signal input
13	OUT1D	O	1D PEM output	27	MD	I	Reset signal / Digital Att. control signal input
14	AVSS1	--	Analog ground 1	28	PDO	O	Phase comparator output pin

■ BA6398FP(IC700) : BTL DRIVER

1. Terminal Layout

CH1-OUT A	1	28	GND
CH1-OUT B	2	27	CH4-OUT A
CH1-IN A	3	26	CH4-OUT B
CH1-IN B	4	25	CH4-IN A
NC	5	24	CH4-IN B
NC	6	23	BIAS IN
MUTE	7	22	VCC
GND	8	21	VCC
CH2-IN B	9	20	CH3-IN B
CH2-IN A	10	19	CH3-IN A
CH2-OUT B	11	18	CH3-OUT B
CH2-OUT A	12	17	CH3-OUT A
GND	13	16	OP IN+
OP OUT	14	15	OP IN-

2. Block Diagram



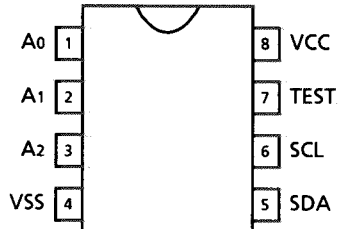
3. Description

Pin No.	Symbol	I/O	Description	Pin No.	Symbol	I/O	Description
1	CH1-OUT A	O	Focus drive output	8,13,28	GND	—	GND
2	CH1-OUT B	O		11	CH2-OUT B	O	Spindle motor drive output
4	CH1-IN B	I	Focus drive input	12	CH2-OUT A	O	
3	CH1-IN A	—	Non connection	14	OP OUT	O	OP amp output
5,6	NC						
10	CH2-IN A						
19	CH3-IN A						
25	CH4-IN A						
7	MUTE	I	Mute signal input pin	15,16	OP IN	I	OP amp input
9	CH2-IN B	I	Spindle motor drive input	17	CH3-OUT A	O	Feed motor drive output
20	CH3-IN B	I	Feed motor drive input	18	CH3-OUT B		
24	CH4-IN B	I	Tracking drive input	21,22	Vcc	—	Power supply
				23	BIAS IN	I	Input pin of Bias
				26	CH4-OUT B	O	Tracking drive output
				27	CH4-OUT A		

XL-M516BK
 XL-M416BK
 XL-M316BK

■ AT24C04-10PC(XL-M417TN/XL-M317TN)
 AT24C16-10PC(XL-M55D) (IC202) : Serial Eeprom
 AT24C01-10PC(IC502)

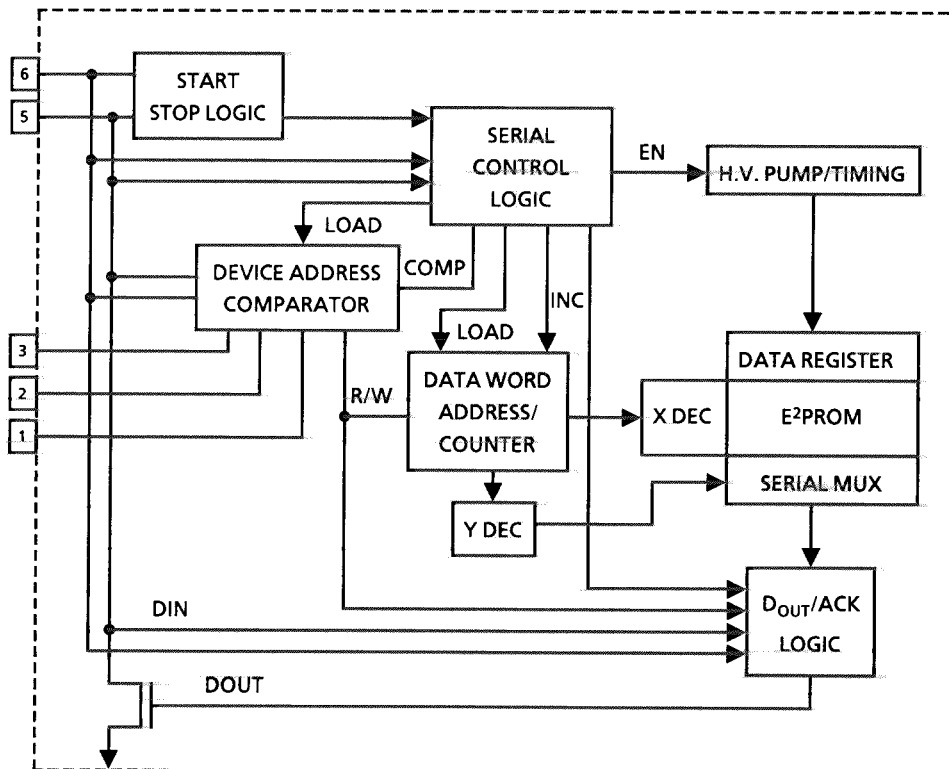
1. Terminal Layout



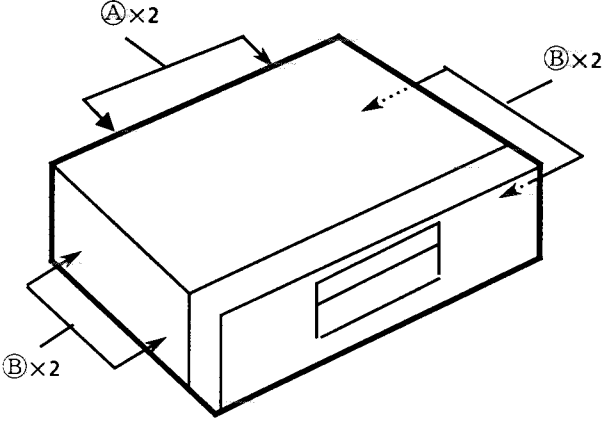
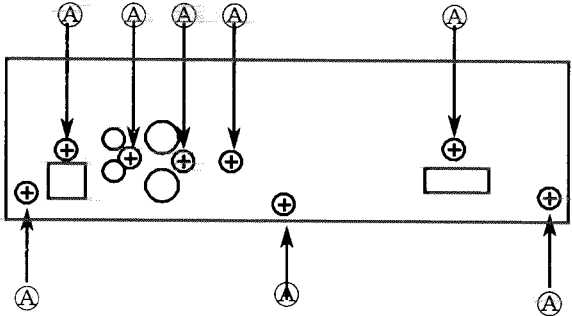
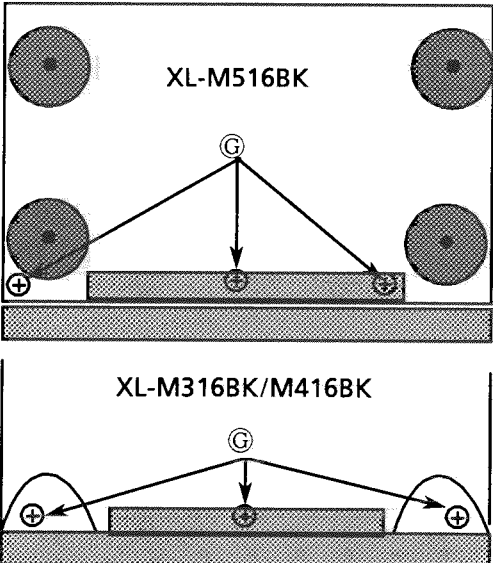
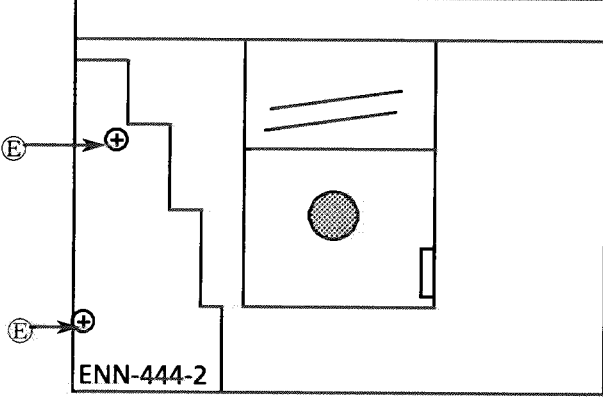
2. Terminal Functions

Pin No.	Symbol	Functions
1~3	A0~A2	ADDRESS INPUT (Connected to GND)
4	VSS	GND
5	SDA	SERIAL DATA
6	SCL	SERIAL CLOCK
7	TEST	TEST PIN (CONNECTED TO GND)
8	VCC	POWER SUPPLY

3. Block Diagram



Disassembly Procedures

<p>(1) Top cover removal</p> <ol style="list-style-type: none"> 1. Remove 2 screws (A) on the rear side and 4 screws (B) on both sides of the cover. 2. Remove the cover. 	<p>(2) Rear panel removal</p> <ol style="list-style-type: none"> 1. Remove the top cover. 2. Remove the 8 screws (A). 3. Remove the rear panel.
 <p>Fig1</p>	 <p>Fig2 Rear view</p>
<p>(3) Removing the front panel assembly</p> <ol style="list-style-type: none"> 1. Remove the top cover. 2. Remove the 3 screws (D) on the bottom of the front panel. 3. Remove the connector CN301, P107cn302, and CN303, CN101. 4. Remove the front panel assembly. 	<p>(4) Audio PCB ass'y(ENN-444-1) removal</p> <ol style="list-style-type: none"> 1. Remove the (1)(2). 2. Disconnect the CN301, CN302 and CN303, CN304. 3. Remove the 2 screws (E). 4. Remove the Audio PCB ass'y.
 <p>Fig3 Bttom view</p>	 <p>Fig4 Top view</p>
<p>(A) E73273-006 (B) E406308-001 (D) SDSG3006M (E) GBSG3008CC</p>	

- (5) Power PCB(ENN-444-1) removal**
1. Remove (1) and (2).
 2. Remove the 2screws (D) and 2screws (F).
 3. Remove the connectors CN101 and CN102.
 4. Remove the Power PCB(ENN-444-1).

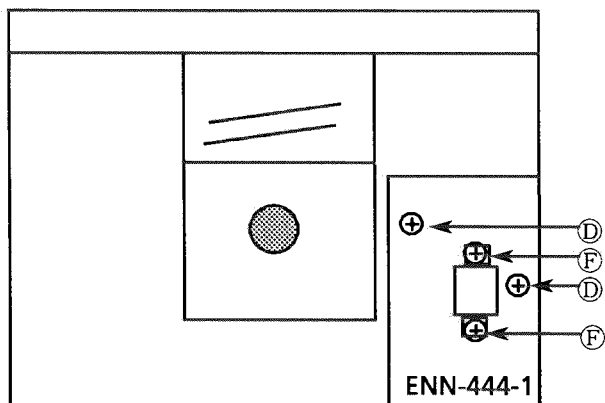


Fig 5 Top view

- (6) Front PCB(ENN-444-3~5) and H.phon PCB removal**
1. Remove the (1) and (3).
 2. Remove the JOG Knob.
 3. Remove the 11screws (G).
 4. Remove the Front PCB(ENN-444-3~5) and H.phon PCB.

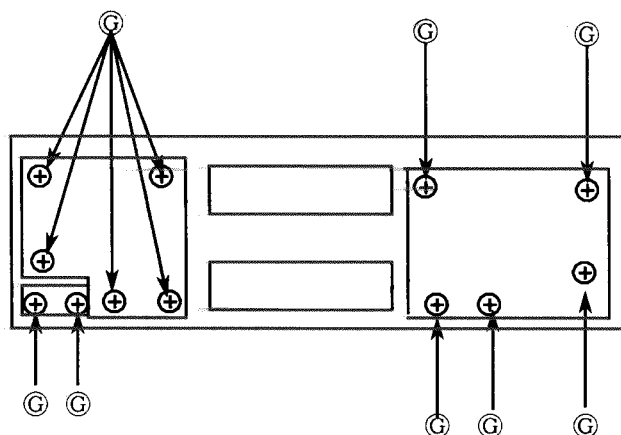


Fig 6 Front PCB view

- (7) CD changer mecha ass'y removal**
1. Remove the(1) (2) (4).
 2. Remove the 4screws (H).
 3. Remove CD changer mecha ass'y .

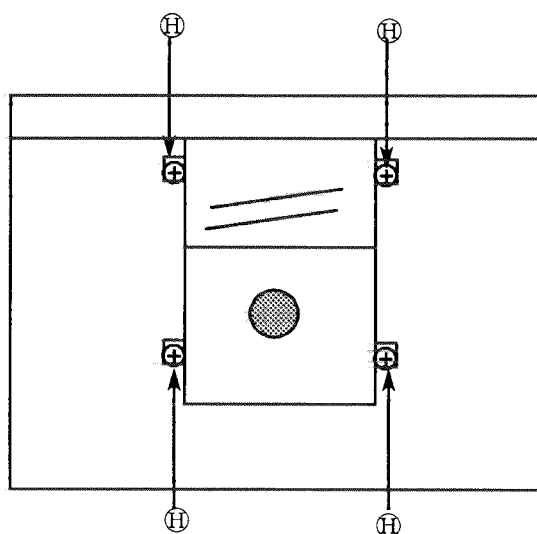


Fig 7 Top view

- (8) CD PCB(ENN-435) removal**
1. Remove the (1) (2) (4) (7).
 2. Remove the 2screws (I)(G)
 3. Disconnect the 6pin conector to the traverse mech..
 4. Remove the CD PCB(ENN-445).

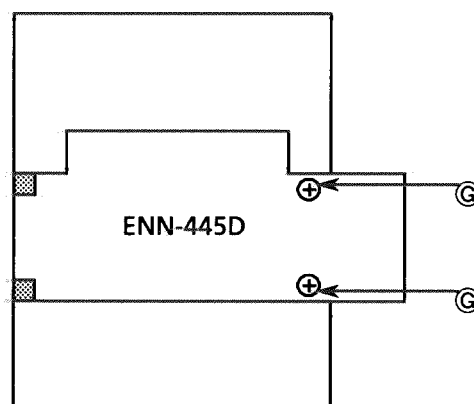


Fig 8 Top view

(D) .. SDSG3006M (F) ... E65389-004 (G) ... SDSF2608Z .. (H) ... SBSG3008Z

- (9) Traverse mecha removal
1. Remove the CD mech. ass'y.
 2. Remove the CD PCB.
 3. Remove the 4 screws ①.
 4. Remove the traverse mech. ass'y.

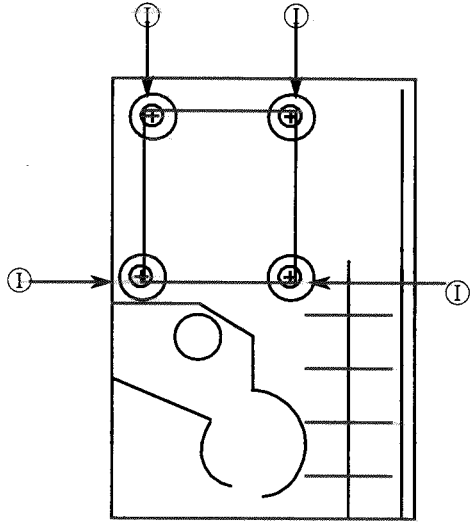


Fig 9 Mech.. Bottom side

- (10) Assembling traverse mech. ass'y
1. Put insulators' grooves certainly into cuttings on the traverse mech..
 2. Insert springs into the insulators.
 3. Secure screws to fix them.

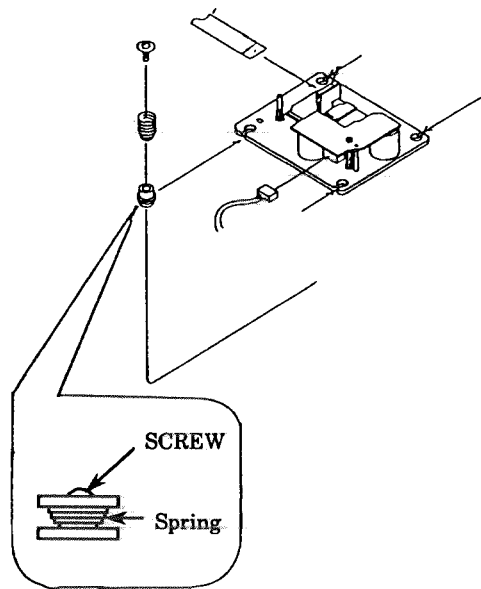
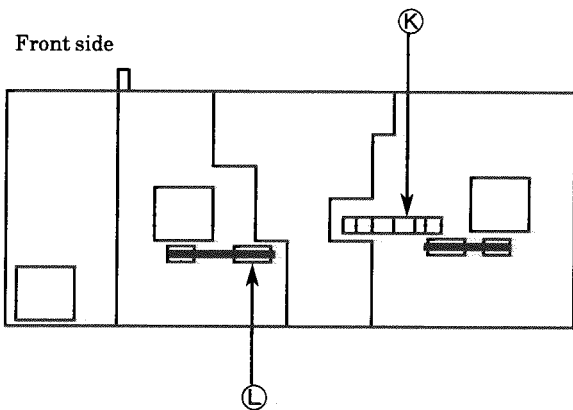


Fig 10 Traverse mecha

■ EJECTION OF DISC AND MAGAZINE IN POWER-OFF MODE

- (11) Disc
1. Rotate gear Ⓚ to move the elevator to the disc's position inside the unit.
 2. Turn the idler pulley ① to return the disc on the tray.
 3. Lower the elevator to the bottom and rotate pulley ① to eject the P1 tray.



- (12) Magazine
1. Return a disc into the magazine. (See the above (11).)
 2. Pull a magazine lock lever which is on the changer mech. toward the front side to release the magazine lock and eject the magazine. (See an arrow in the figure.)

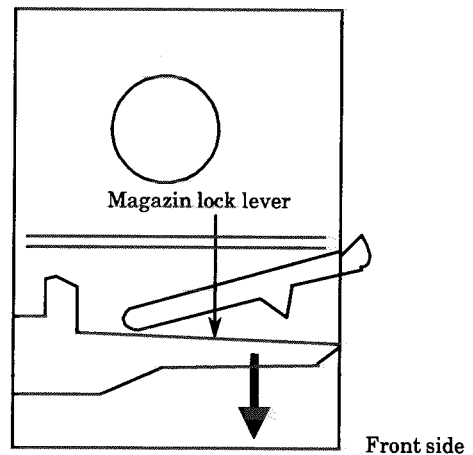


Fig 12 Mech.. Top side

(13) Elevator ass'y removal

1. Move the Elevator ass'y UP side.
2. Remove the 2 screwsⓂ and 2screwsⓐ.
3. Remove the Elevator ass'v.

(14) Magazin Guide(U) removal

1. Remove the 2 screws Ⓜ and 2screwsⓐ
2. Push the hook up and pull the Magazine lock lever toward front side to remove the Magazine

(17) Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 17).

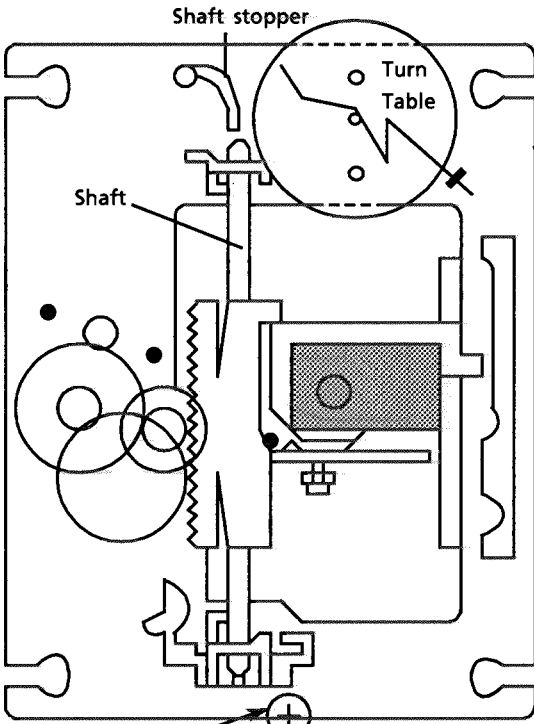


Fig 17 CD mechanism assembly

(18) Spindle motor removal

1. Remove the cd mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

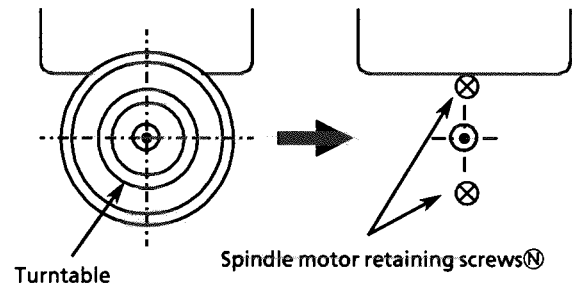


Fig 18

- (20)** After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 20 on the left below).

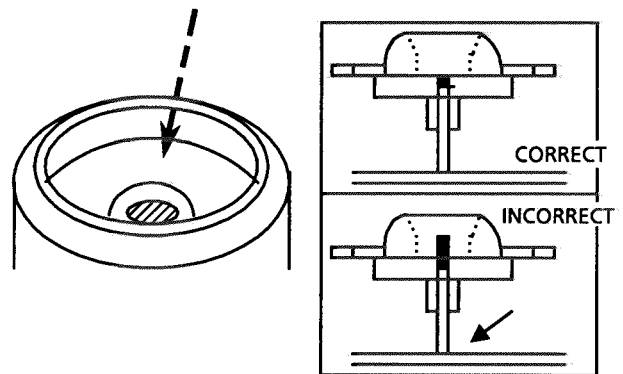


Fig 20

(19) Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the center of the turntable to the surface of the mechanism base to the turntable is exactly $19.4 \pm 0.1\text{mm}$.

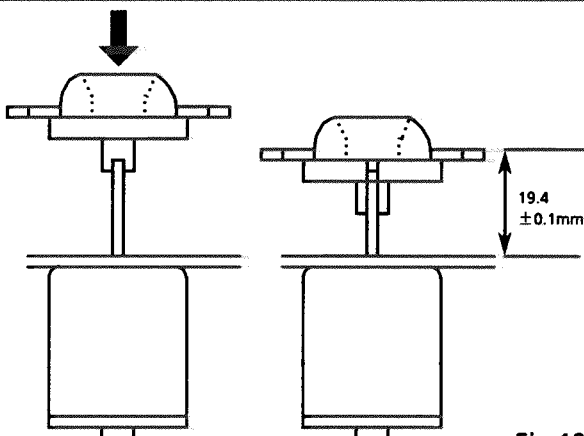
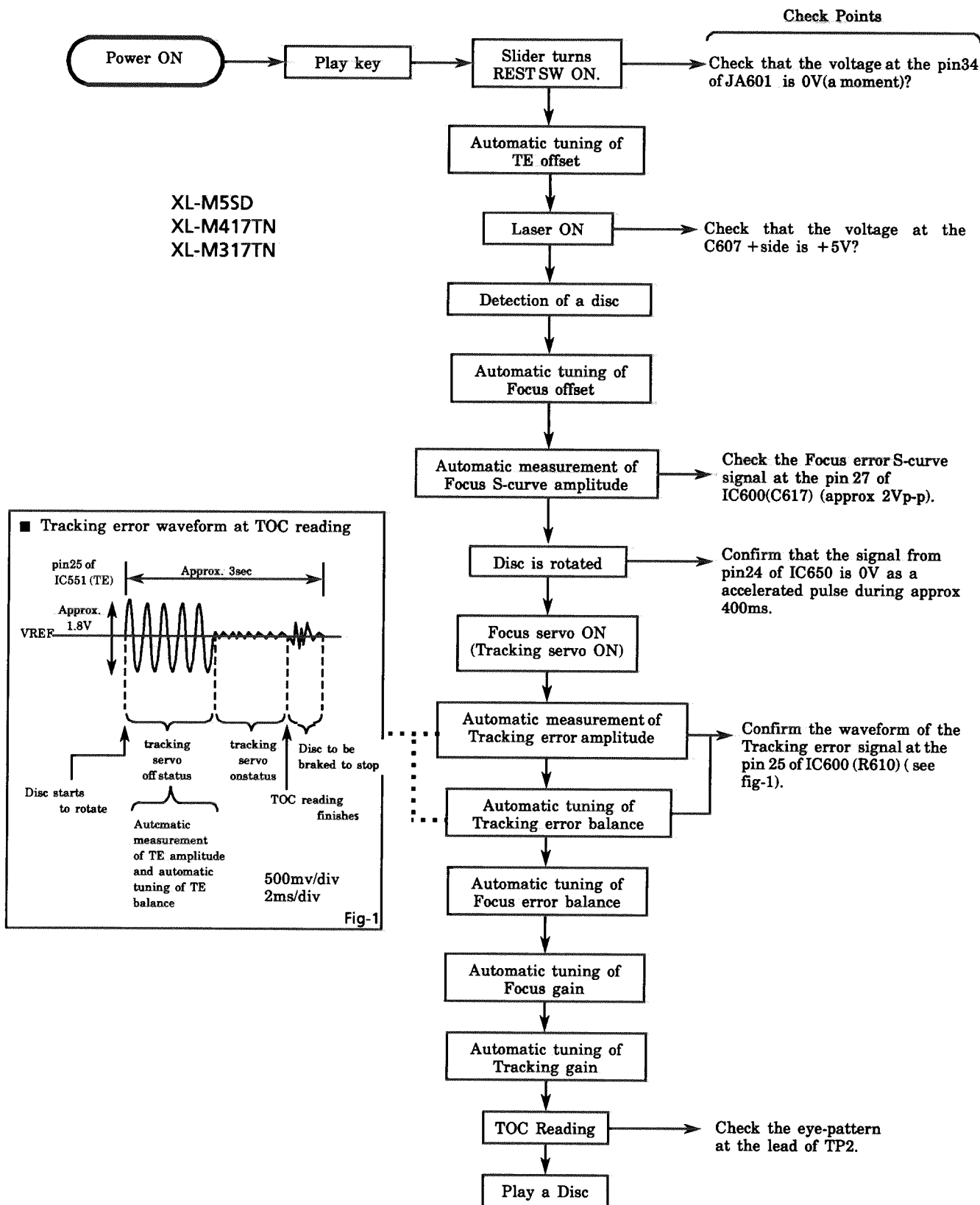


Fig 19

- (21)** Use "LOCKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearing (the section marked by an allow in fig 20 on the right).

Flow of Functional Operation Until TOC is Read



XL-M516BK
XL-M416BK
XL-M316BK

Maintenance of Laser Pickup

(1) Cleaning the pickup lens

Before you replace the pickup, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode

RF level (amplitude of eye pattern) is decreased when the life of laser diode is run out.

Check that the RF level is over 0.7Vp-p and under 1.2V.

The pickup should be exchanged with new one for run out of its life if the value is 0.7Vp-p below.

Replacement of Laser Pickup

Turn off the power switch and, disconnect the power cord from the ac outlet.

Replace the pickup with a normal one.
(Refer to "Pickup Removal" on the previous page)

Plug the power cord in, and turn the power on.
At this time, check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.

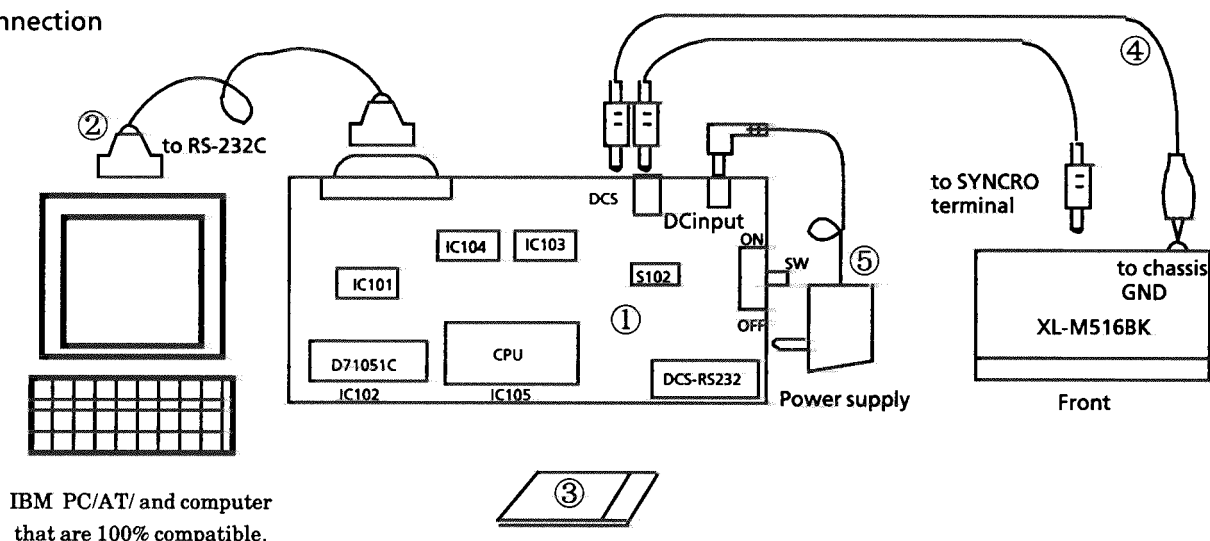
Self-diagnosis for pickup

From DCS output, this model reads automatically adjusted data for CD so that the pickup can be judged defective or not. Following shows its details.

1. Necessary items

- ① DCS → 232C Converting board(No.EBSJ1019)
- ② 232C cord (straight)
- ③ Floppy disc for self-diagnosis (No.EBSJ1021)
- ④ DCS cord
- ⑤ Power supply DC 6.3V (AA-SV11J--America/Canada) (AA-SV11Bs--the UK)
 (AA-SV11G--Germany) (AA-SV11EF--Continental Europe) (AA-SV11Bs--the UK)
- ⑥ CD (without scratches or damage)

2. Connection



For this diagnosis, a device driver for RS232C cord (straight type) is necessary.

(Ex.) C:\DOS MODE COM 1 : 9600, N 8 1

↙ ↘ ↙ ↘ ↙ ↘
 adapter number(1or2) band rate parity data bit stop bit

3. Procedure

- ① Turn the converting board's switch on after connecting between XL-M516BK/XL-M416BK/XL-M316BK and the above necessary items
 Set S102(switching DCS positive from/to negative logic) so that LED can emit red(positive logic).
- ② Set a disc of the Magazin disc 1 and Lording it to read TOC.
 Do not press the play button.
- ③ Input "AUTO 01" on personal computer's keyboard and the CD's automatic adjustment value and judgment for the pickup are displayed on the screen.

4. Judgment

To judge whether pickup is defective or not, firstly process of automatic adjustment is checked by automatic adjustment flag. And, the value(automatic adjustment value for focus gain) displayed on the screen is used for its final judgment.

It is supposed that the pickup is defective or the signal path is faulty if the Flag1 or Flag0 indicates not "F" but a figure.

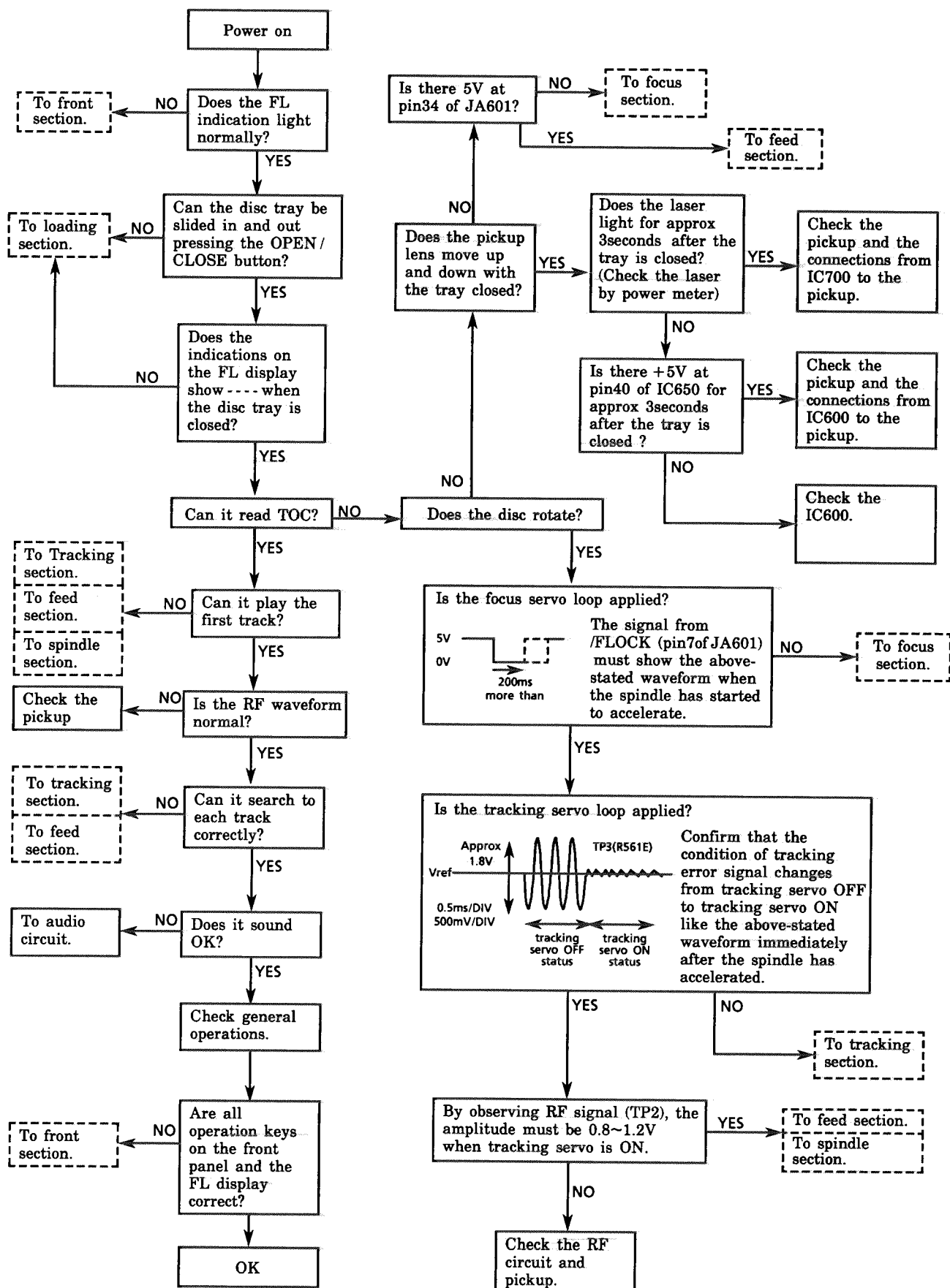
(See the following example.)

Flag1	Flag0	Details	Supposed cause
0	0	Automatic adjustment for tracking offset is failed.	The automatic adjustment is not completed. (Trouble in circuit.)
0	1	Automatic adjustment for focus offset is failed. (Disc does not rotate.)	The lens does not move. (Power supply is not turned on. Wire is cut.)
0	3	Automatic rough adjustment for focus gain is failed.	
0	7	Automatic rough adjustment for tracking gain is failed. (The focus and tracking gain are not locked though the disc rotates.)	Laser deterioration (low RF signal output). Offset beam.
0	F	Disc rotates, focus and tracking gain are locked and automatic rough adjustment for tracking gain is also completed though automatic adjustment for tracking balance is failed.	Laser deterioration (low RF signal output). Offset beam.
1	F	Automatic adjustment for focus balance is failed. (TOC is not read though the disc rotates.)	RF signal output is low. Tracking loop is not turned on. RF jitter is too much.
3	F	Automatic rough adjustment for focus gain is failed.	
7	F	Automatic rough adjustment for tracking gain is failed.	
F	F	All automatic adjustments are completed.	

The pickup is judged defective though the Flag0 and Flag1 indicate "F" and those adjustments are completed if the adjustment value exceeds 19dB.

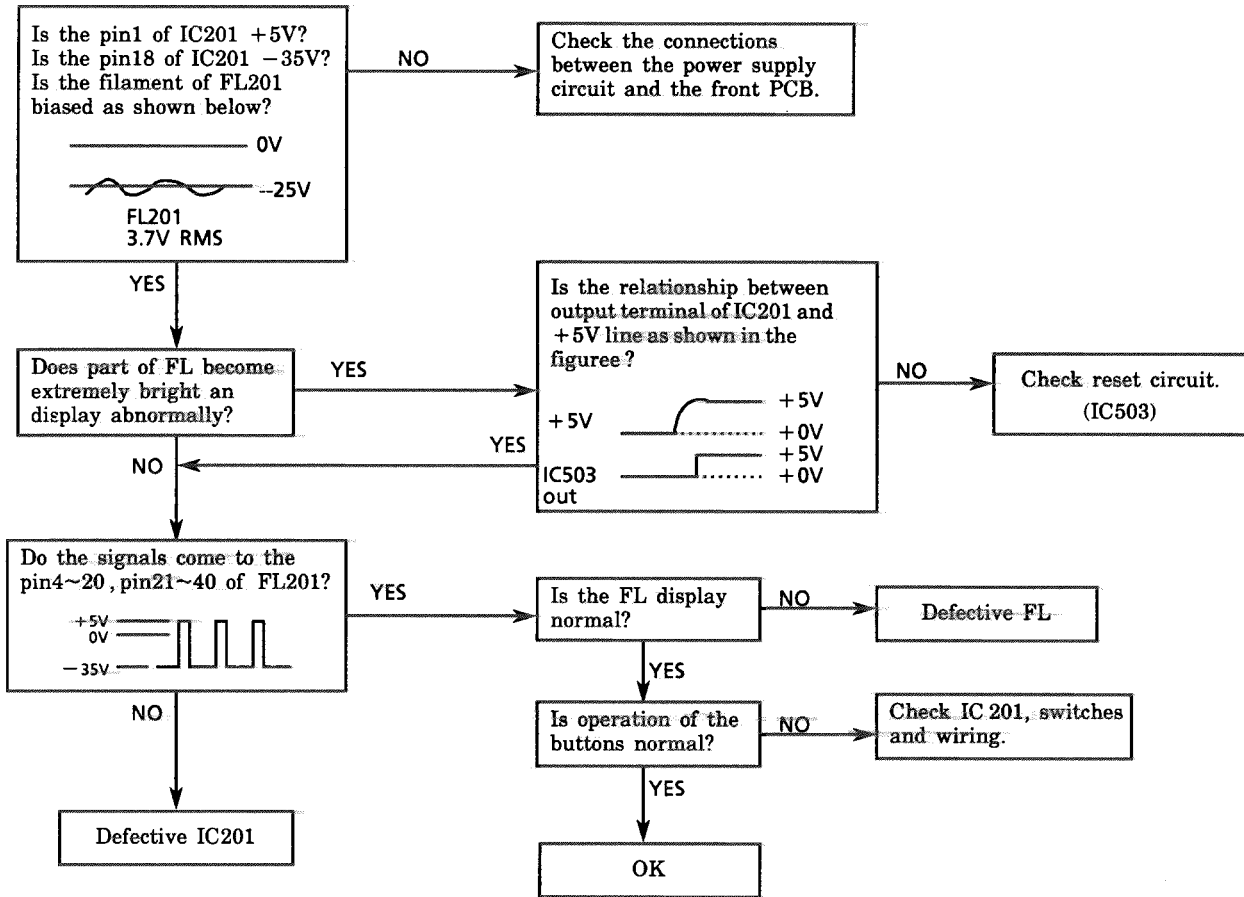
Troubleshooting

The following shows the status of the various circuits from turning on the power to the start of disc play.

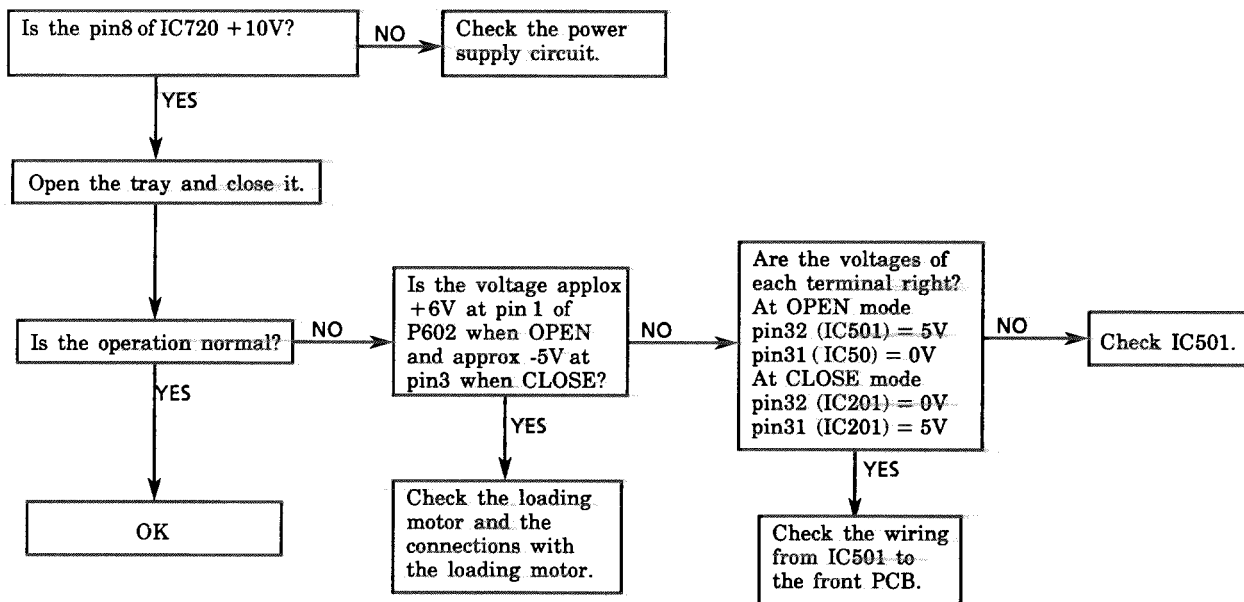


XL-M516BK
 XL-M416BK
 XL-M316BK

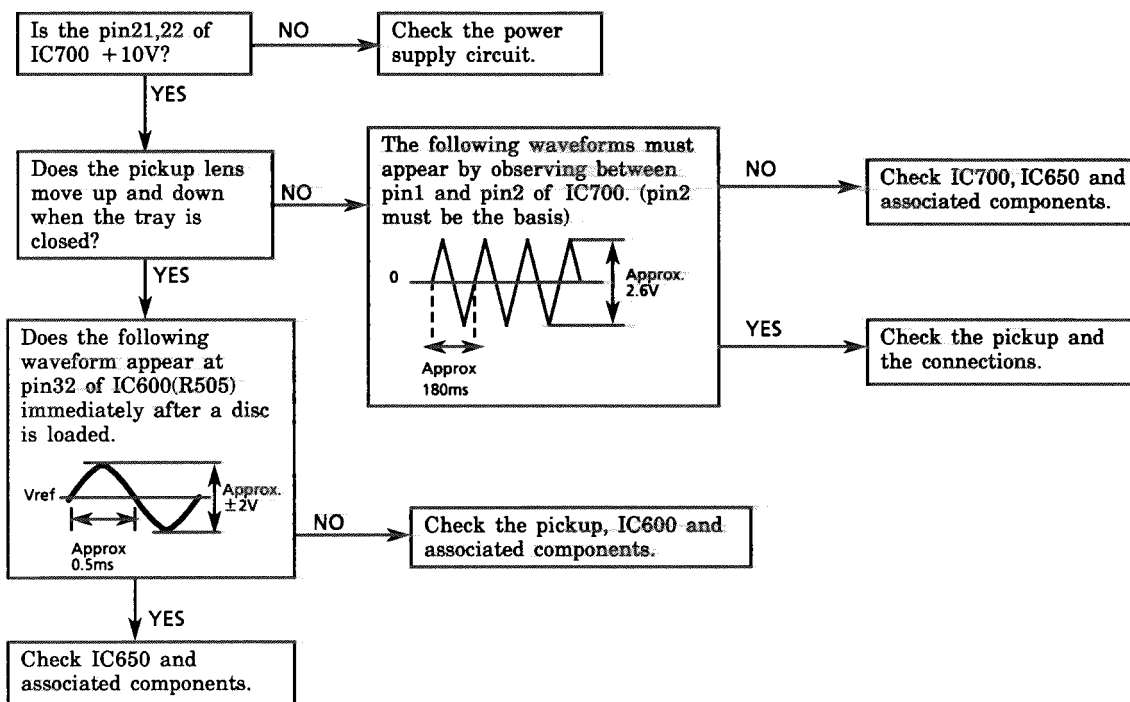
Front Section



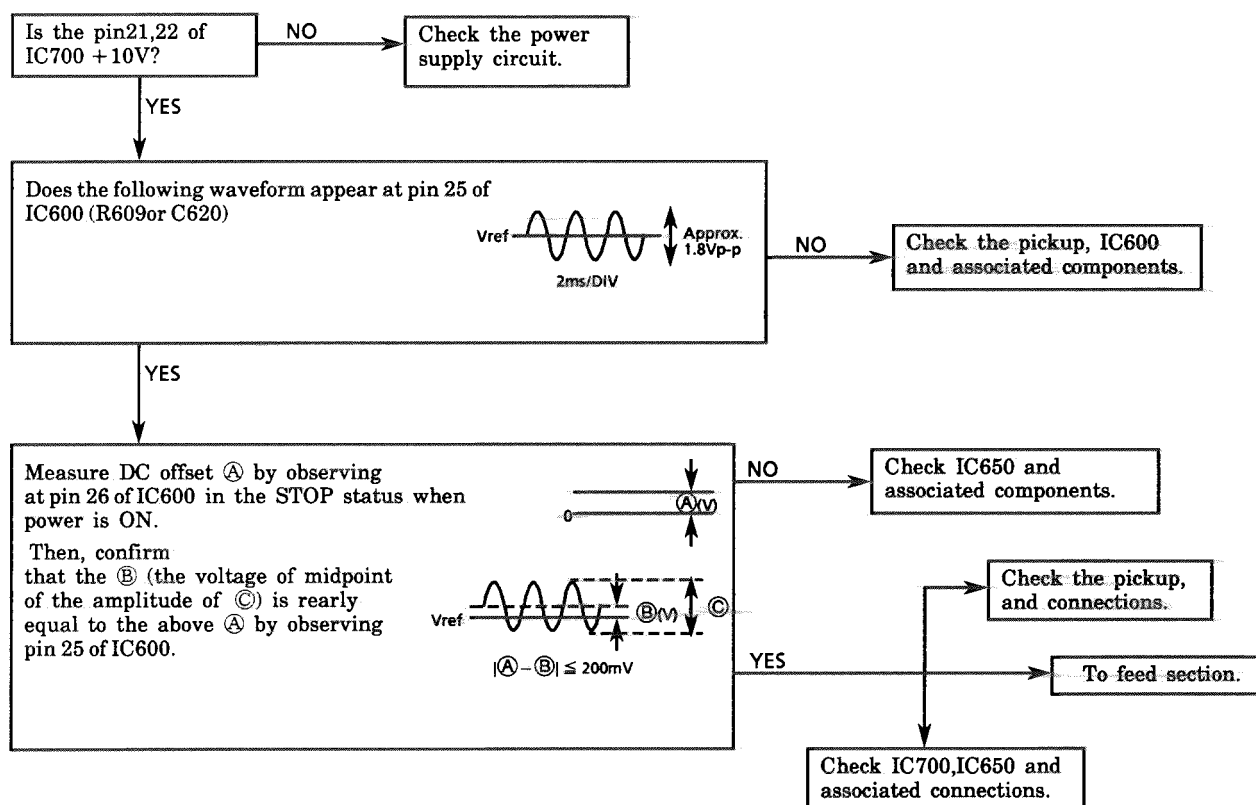
Loading section



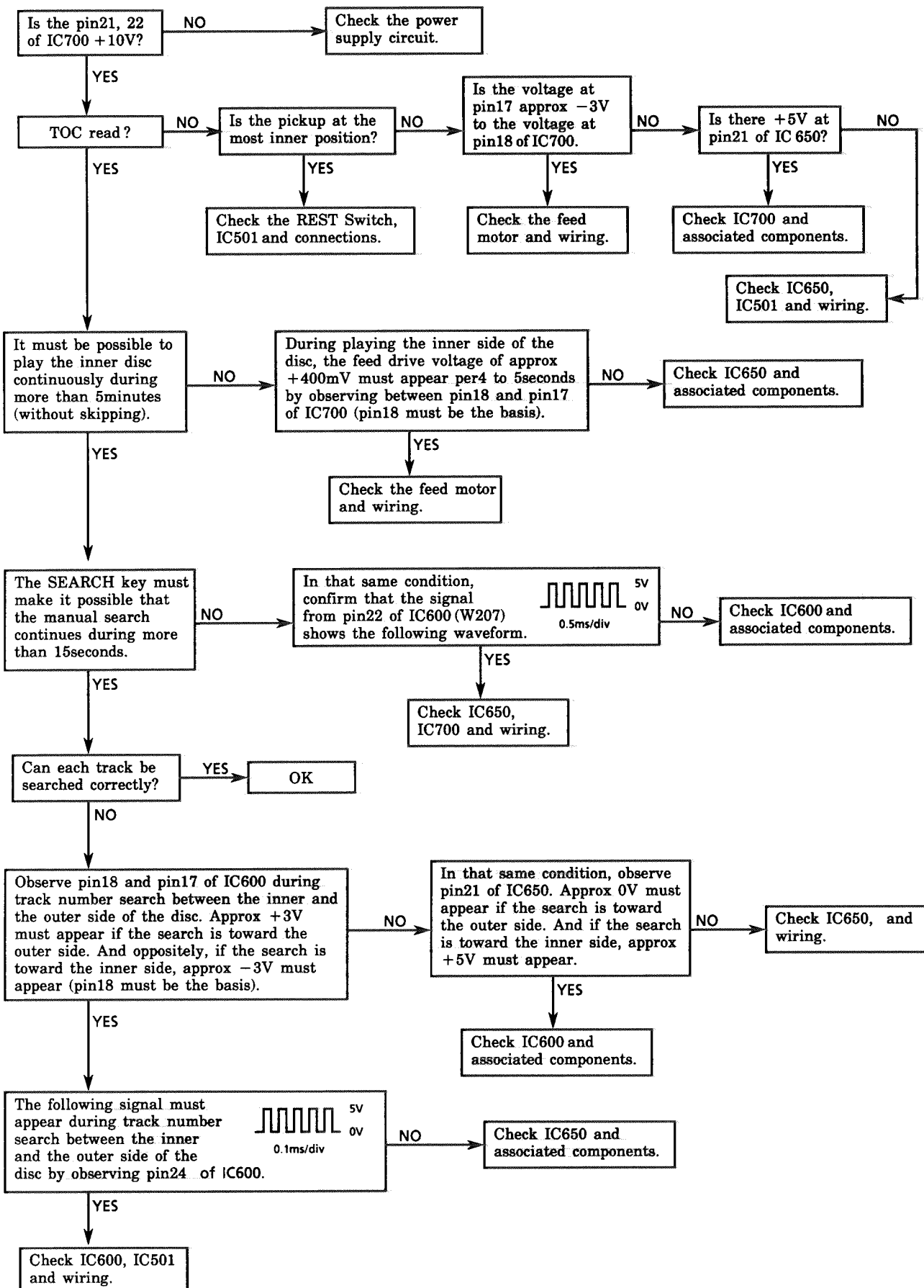
Focus section



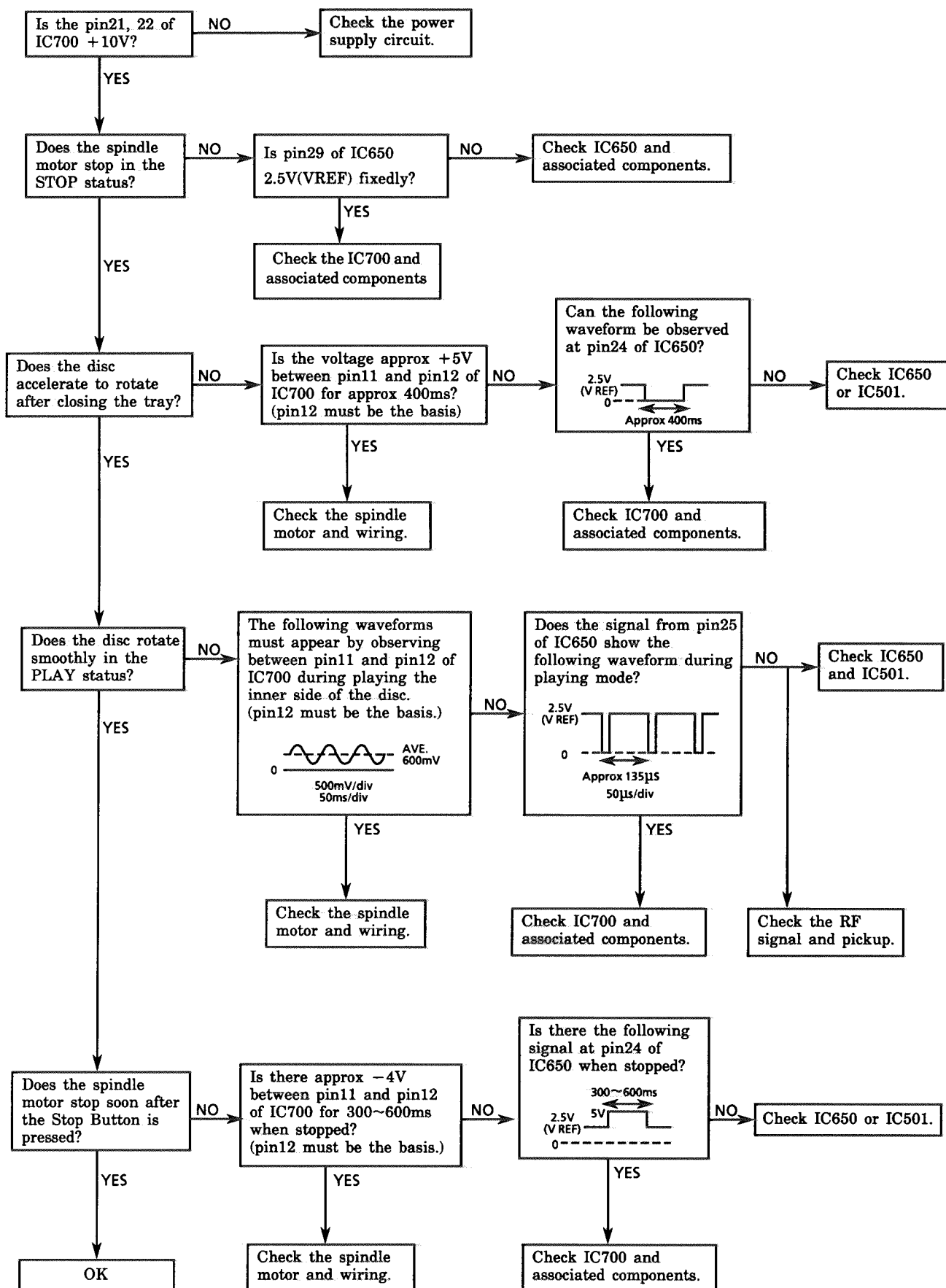
Tracking section



Feed section



Spindle section



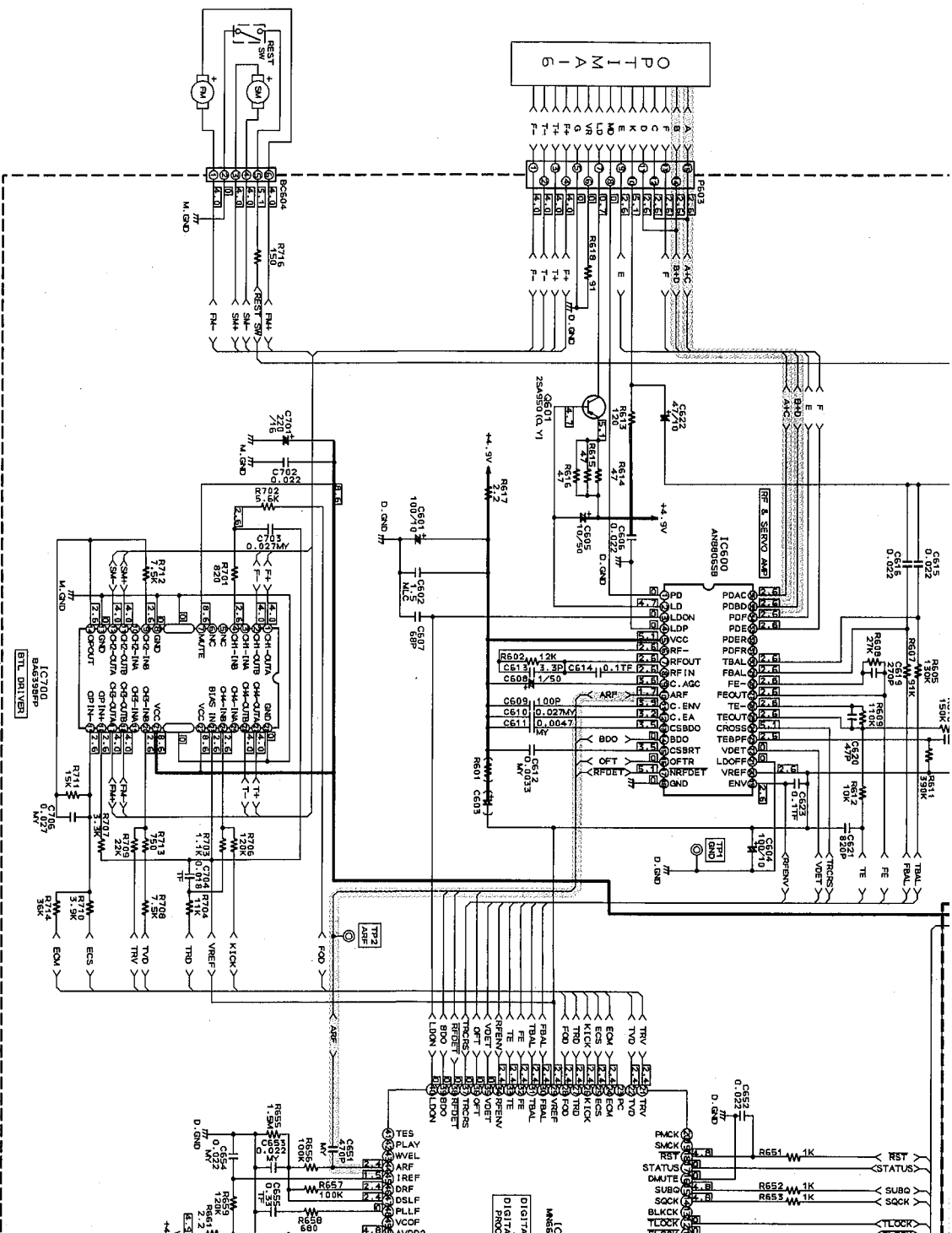
A

B

C

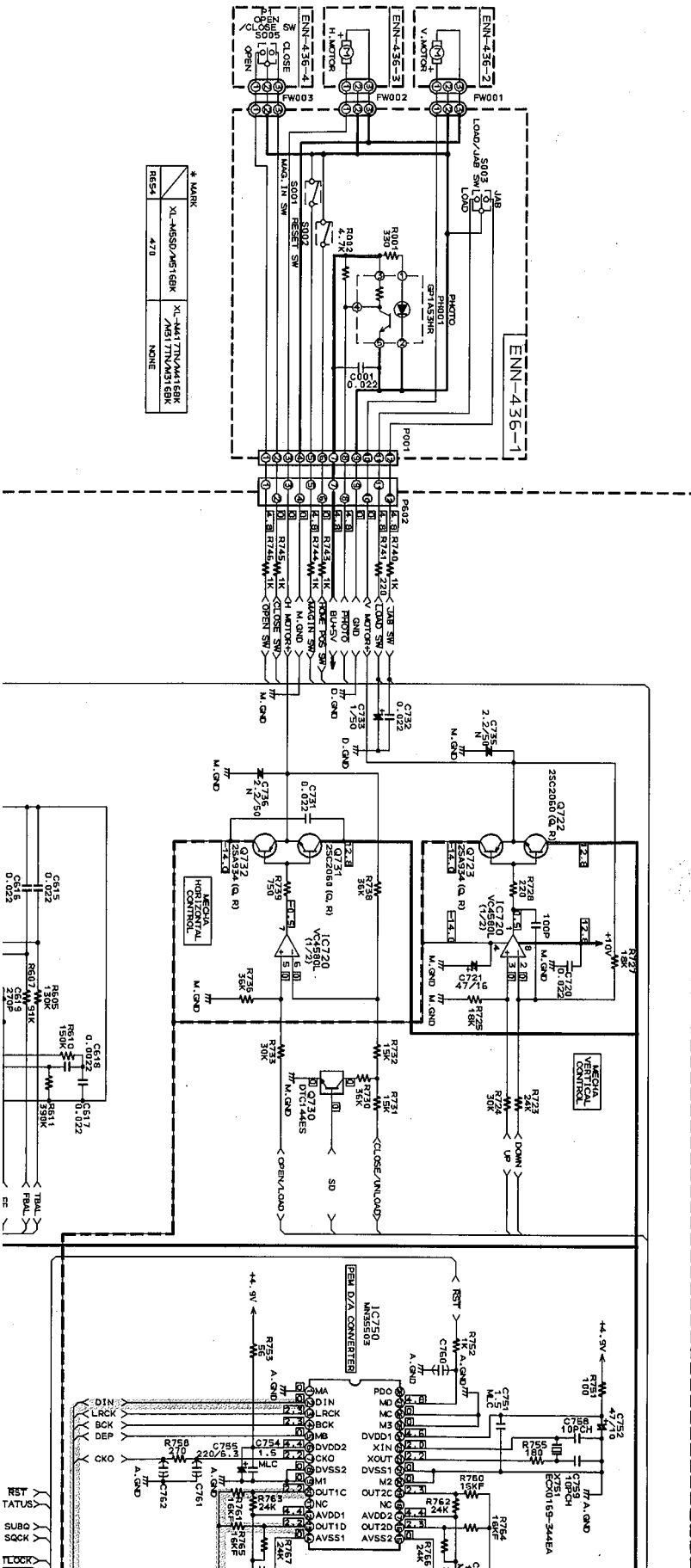
D

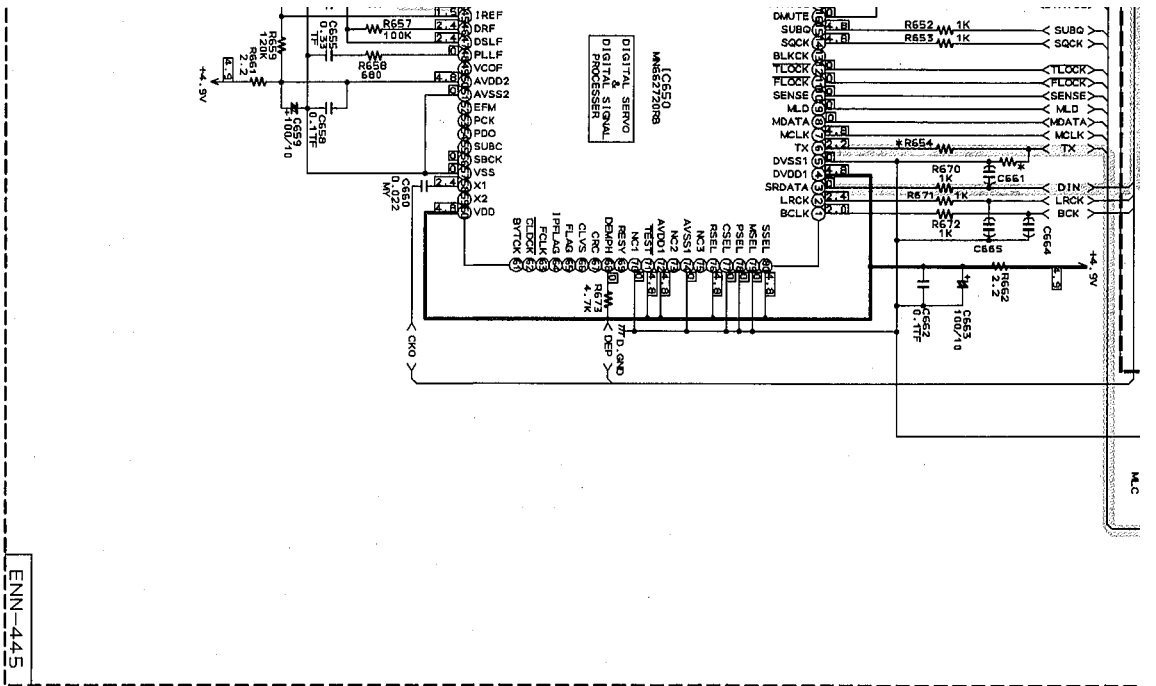
E



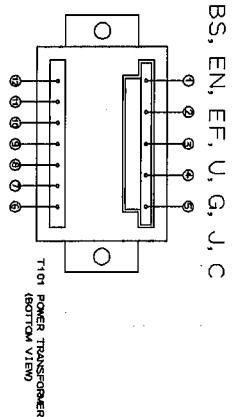
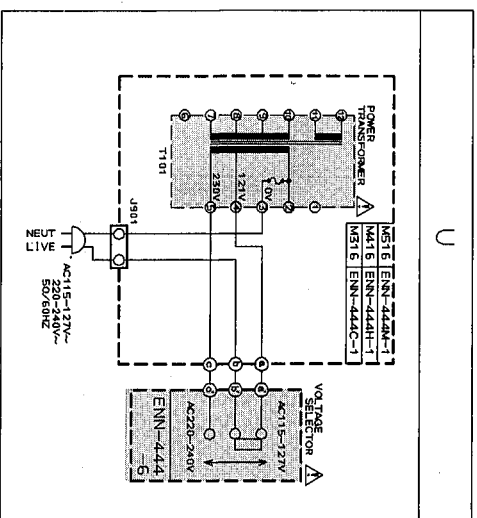
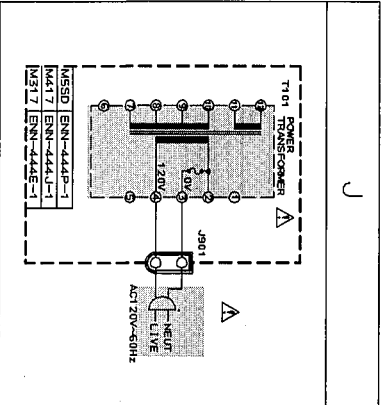
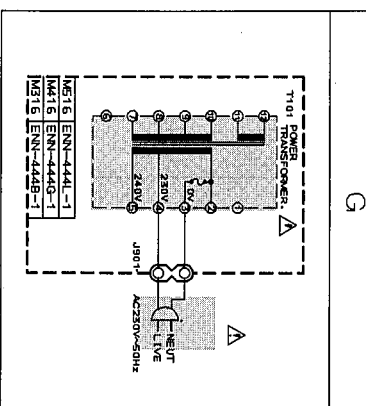
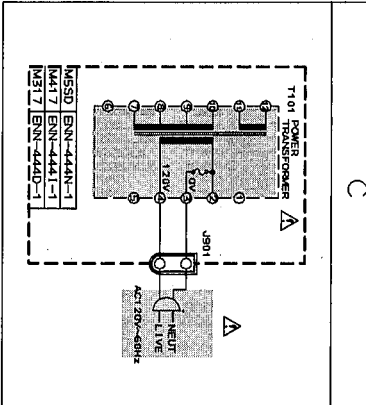
Schematic Diagram

■ Servo D/A, Power Suplay Section





ENN-445



ENN-445

F

G

H

I

J

1-45

1

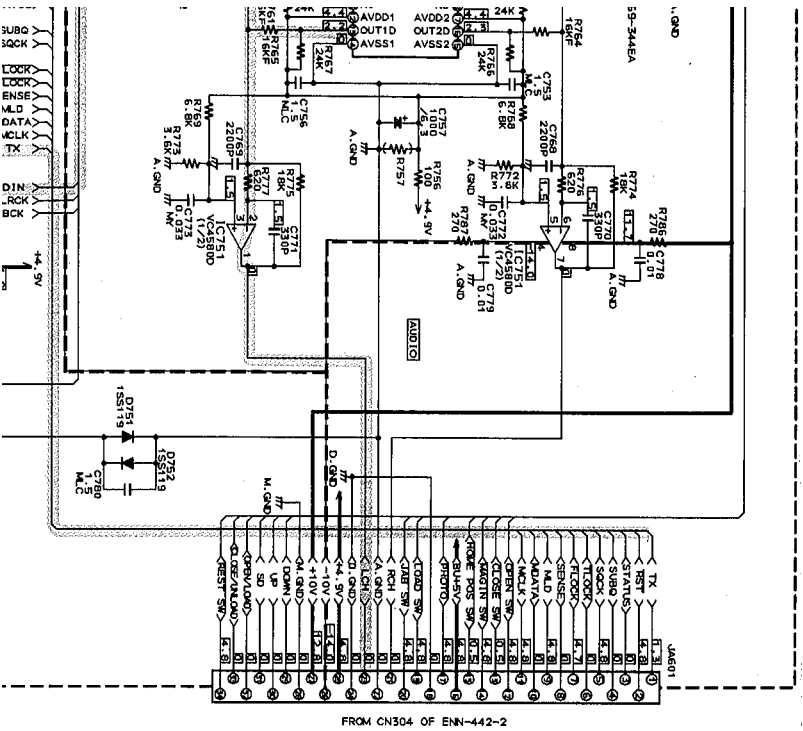
2

3

4

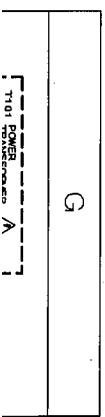
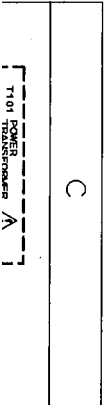
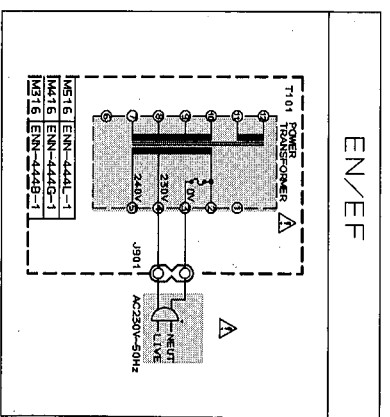
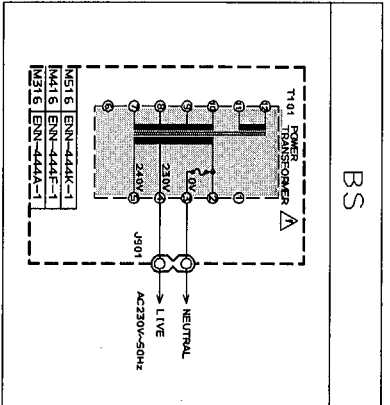
How to Use Schematic Diagrams

1. **——** indicates the +B line.
2. **-----** indicates the -B line.
3. **▬▬▬▬▬** indicates signal path.
4. Parts marked with **△** and those in the shaded area **■** are parts for safety.
5. This is the standard circuit diagram. The circuits and circuit constants are subject to change for improvement without notice.



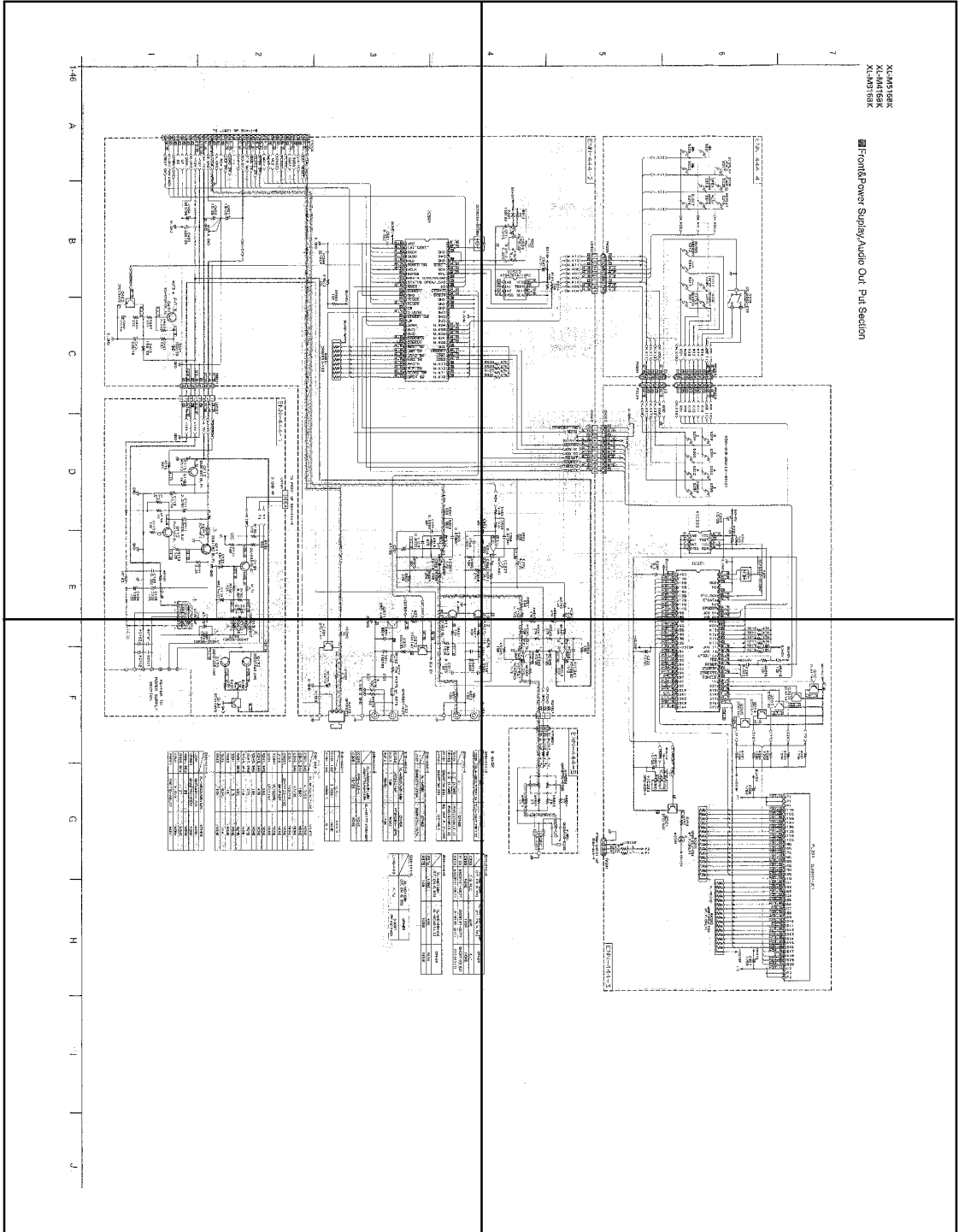
VERSION CODES

J : U.S.A.
 C : CANADA
 EN : NORDIC COUNTRIES
 BS : U.K.
 EF : CONTINENTAL EUROPE EXCEPT GERMANY AND ITALY
 G : UNIVERSAL EXCEPT ALL OF ABOVE



P1-46-a

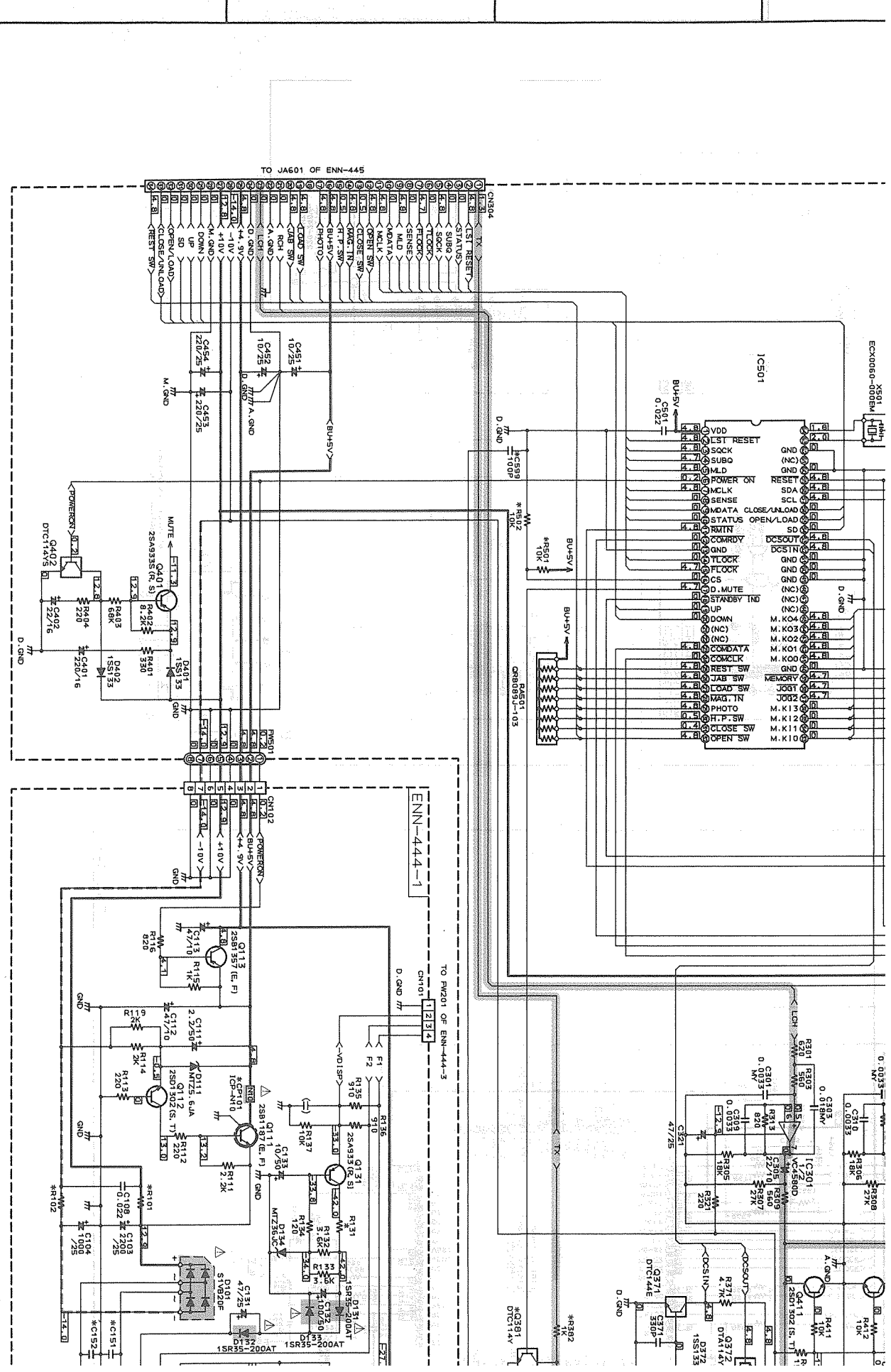
P1-46-b



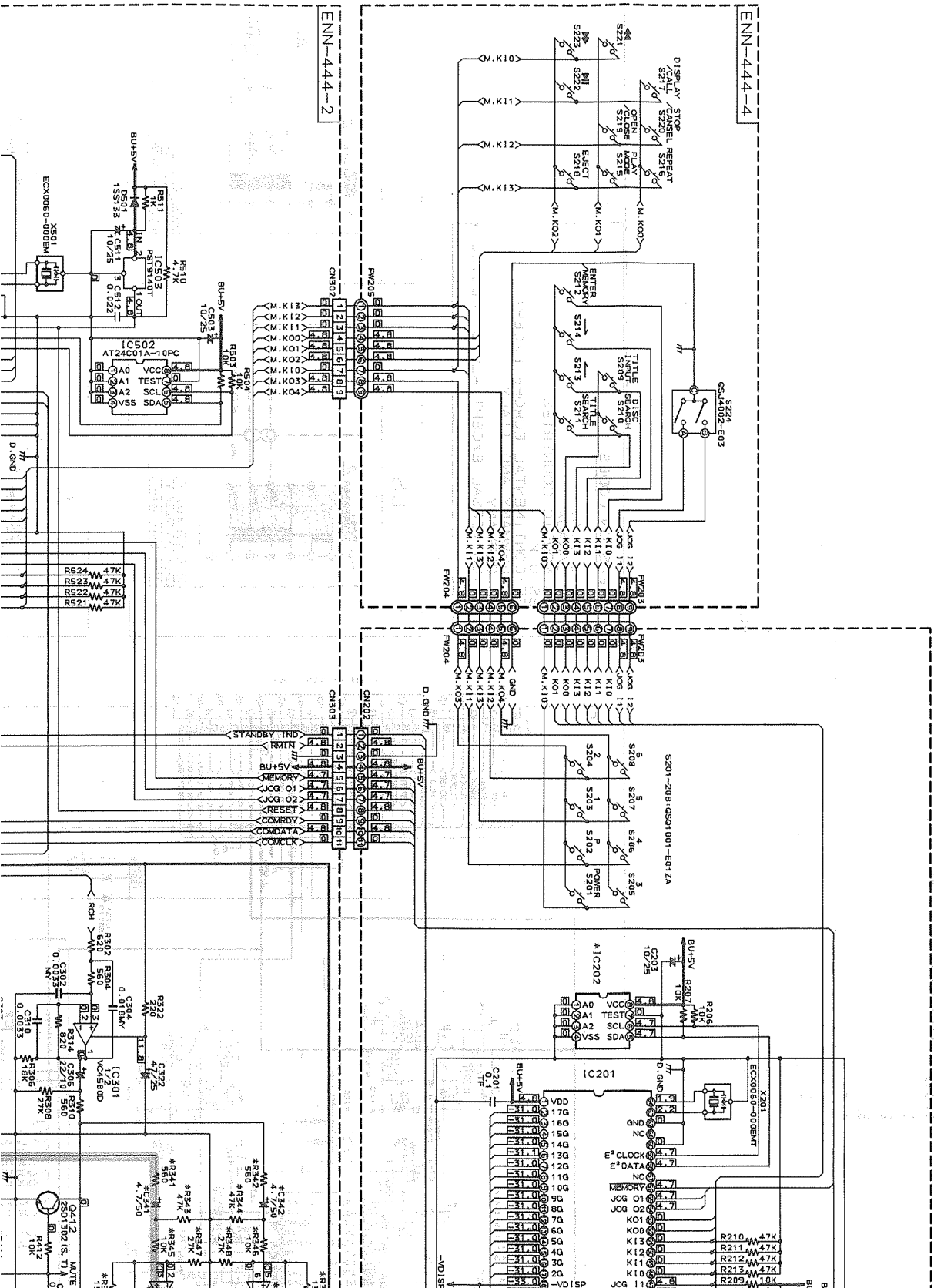
P1-46-c

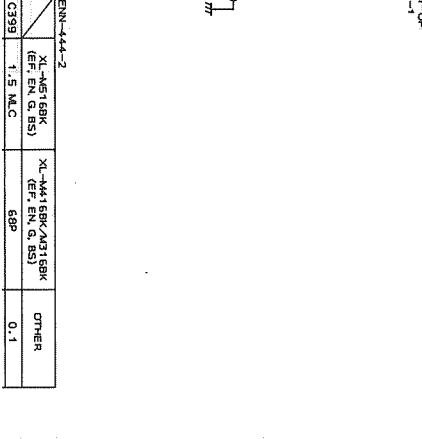
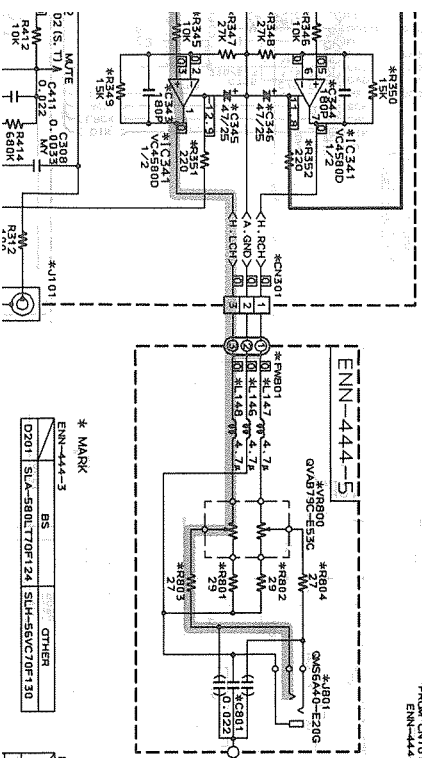
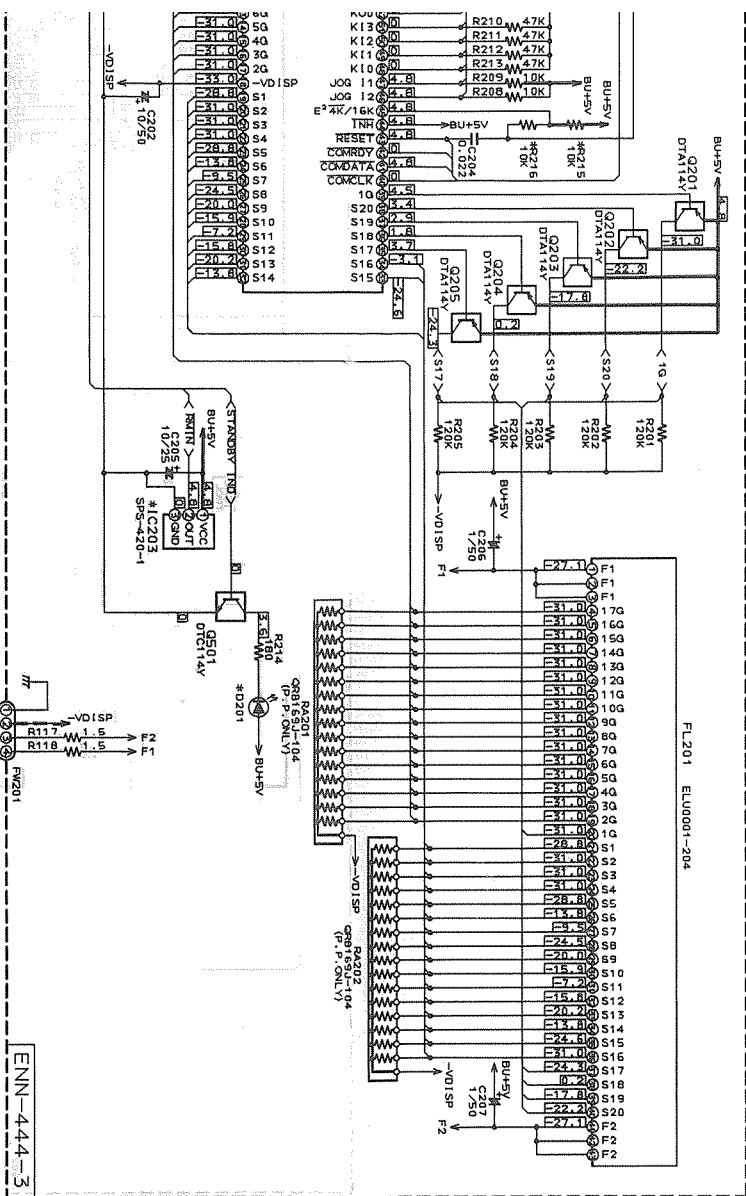
P1-46-d

1-46 A B C D E



■ Front&Power Supplay, Audio Out Put Section





FROM CHN1 OF ENN-444-1

ENN-444-2

C393	1.5 MLC	5BP	OTHER	0.1
------	---------	-----	-------	-----

ENN-444-3

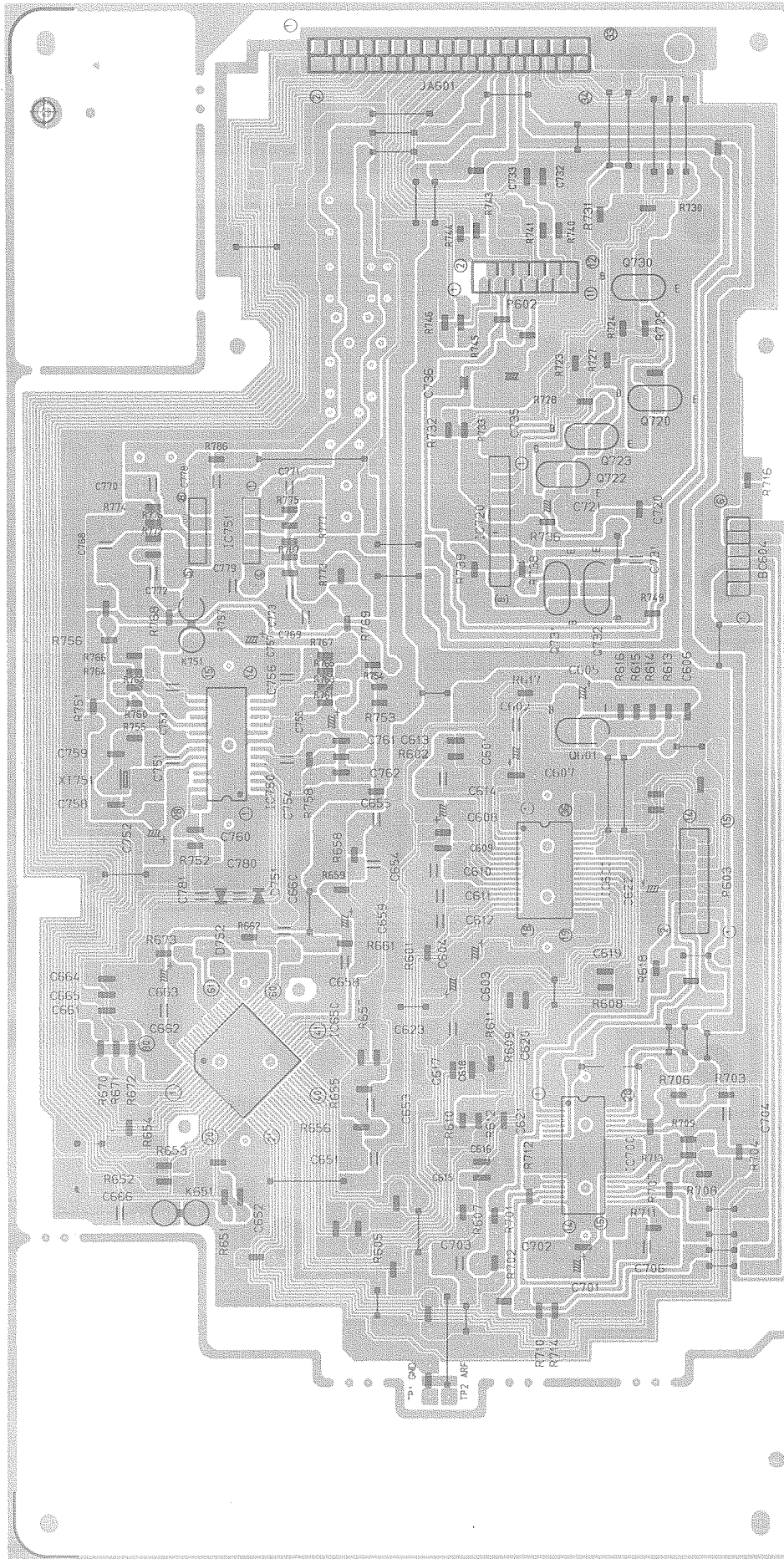
D201	SL-580LTT0F124	SLH-56VC70F130	OTHER	
------	----------------	----------------	-------	--

* MAIRK

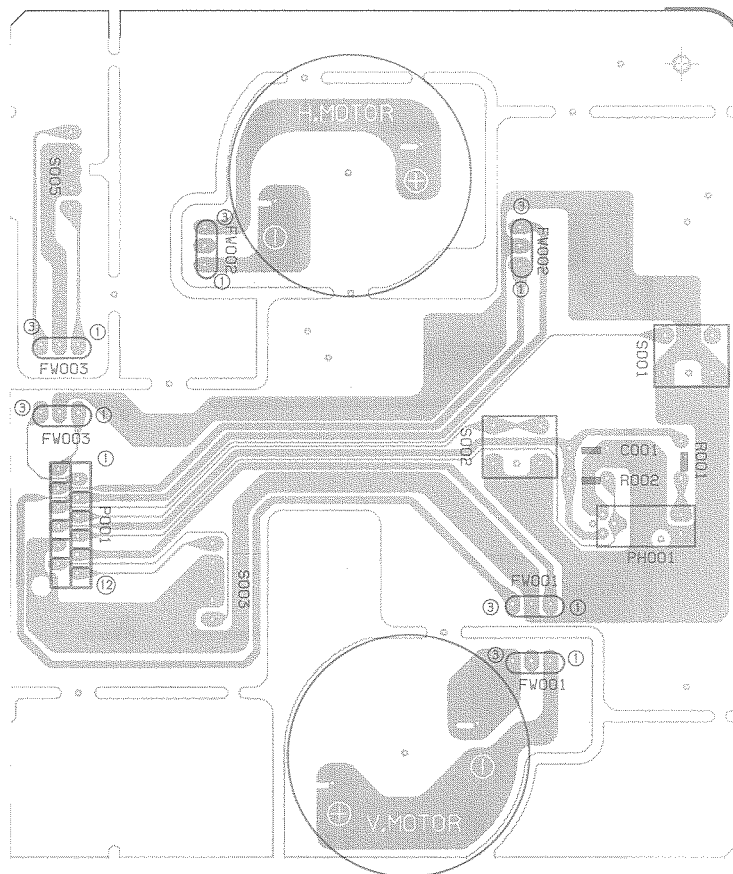
ENN-444-3	BS	OTHER	
-----------	----	-------	--

Printed Circuit Board

■ Front P.C.Board Assembly(ENN-455)

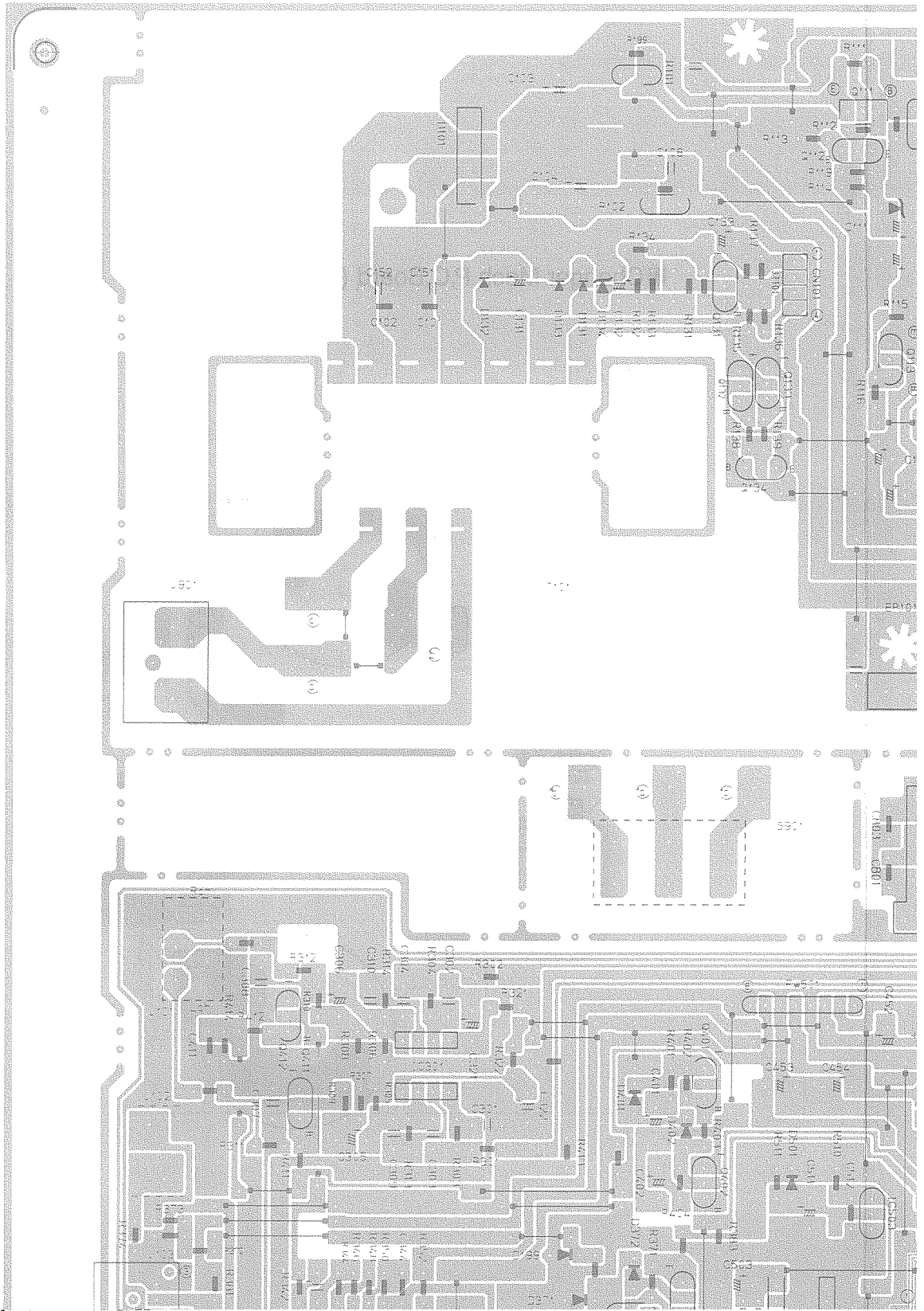


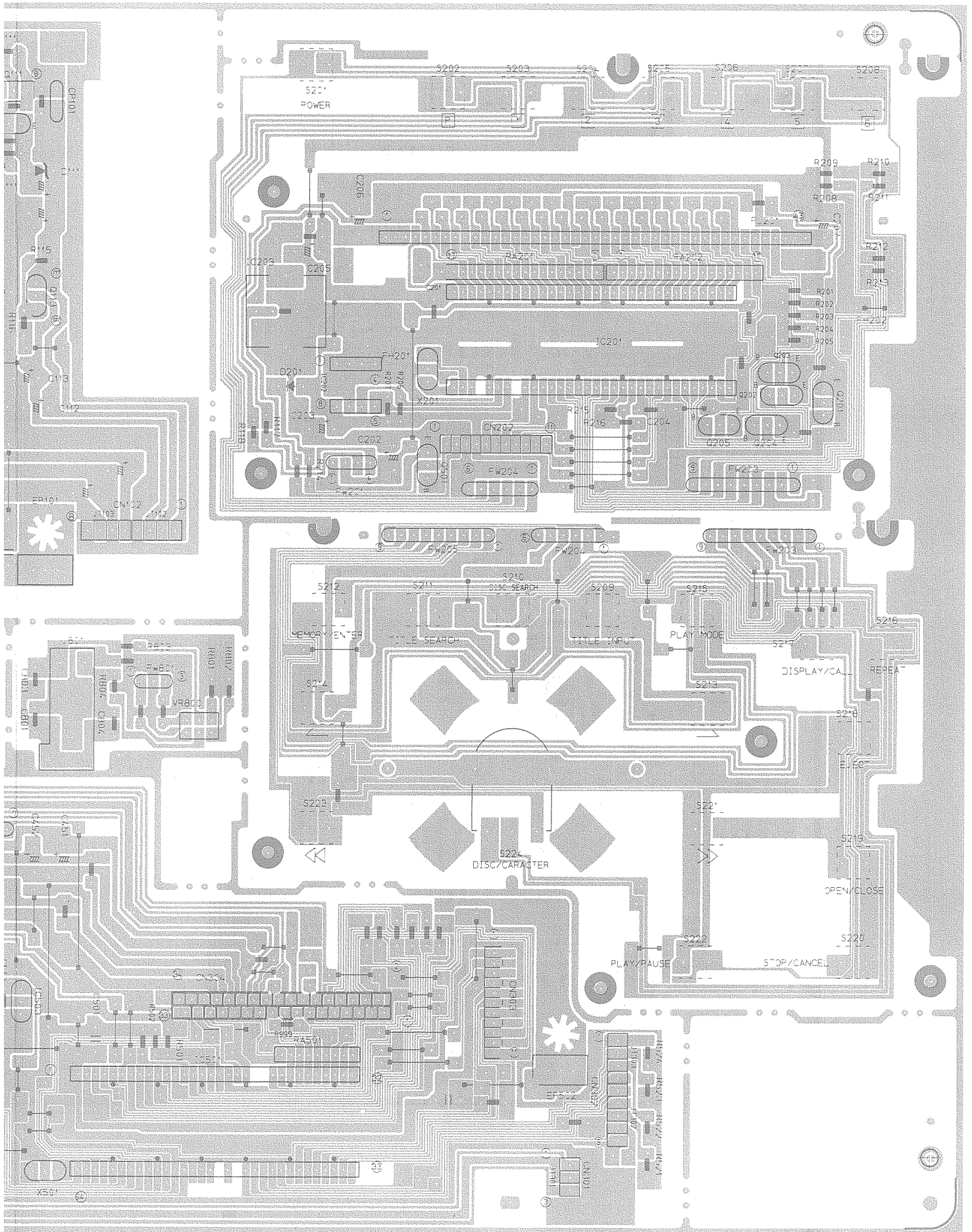
■ Changer Mech P,C,Board (ENN-436)



XL-M516BK
XL-M416BK
XL-M316BK

■ Main P,C,Board Assembly(ENN-444)





PARTS LIST

Note : All printed circuit boards assemblies are not available as service parts.

Contents

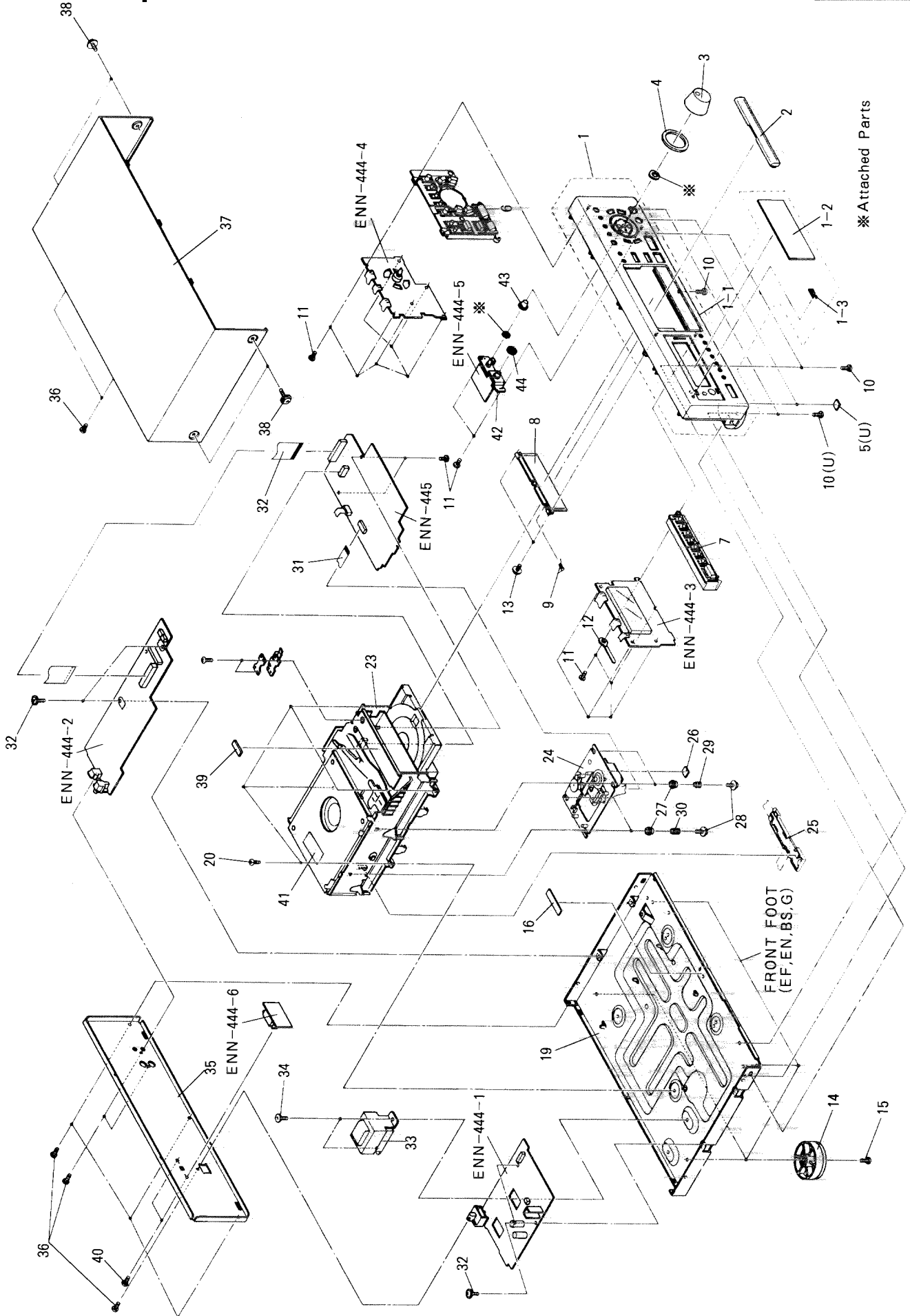
General Exploded View and Parts List	2-2
CD Changer Mechanism Ass'y and Parts List	2-4
CD Mechanism Ass'y and Parts List	2-6
Printed Circuit Board Ass'y and Parts List	2-7
■ ENN-444 □ Main PC Board Ass'y	2-7
■ ENN-445 □ Front PC Board Ass'y	2-10
■ ENN-436 □ CD Changer PC Board Ass'y	2-12
Accessories List	2-12
Packing Materials and Part Numbers	2-13

XL-M516BK

General Exploded View and Parts List

Symbol No.

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



*Attached Parts

■ PARTS LIST

Symbol No.

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

Item	Part Number	Part Name	Q'ty	Description	Area
1	EFP-XLM516BKE(S)	FRONT PANEL ASS'Y	1		BS,EF,EN,G
1-1	EFP-XLM516BKU(S)	FRONT PANEL ASS'Y	1		U
1-1	E103004-015SM	FRONT PANEL	1		BS,EF,EN,G
1-2	E103004-018SM	FRONT PANEL	1		U
1-2	E309341-007SM	WINDOW SCREEN	1		
1-3	VJD5429-001	JVC MARK	1		
2	E309345-004SM	CD FITTING	1		
3	E309339-002SM	KNOB	1		
4	E408778-002SM	SHEET ASS'Y	1		
5	E75896-001	SPACER	2	FRONT FOOT	U
6	E208468-002SM	PUSH BUTTON	1	PLAY/PAUSE	
7	E208466-002SM	PUSH BUTTON	1	POWER	
8	E309343-002SM	LID PLATE	1		
9	E73534-001	SPRING	1		
10	SDSG3006M	TAPPING SCREW	3		BS,EF,EN,G
11	SDSG3006M	TAPPING SCREW	6		U
12	SDSF2608Z	SCREW	15		
13	E407469-001SS	WIRE CLAMP	1		
14	E72405-001	SPECIAL SCREW	2		
14	FSYH4001-00F	FOOT	4		BS,EF,EN,G
15	VJF4039-00H	FOOT	2		U
15	SBST3008Z	TAPPING SCREW	4	FOR FOOT	BS,EF,EN,G
16	SBST3008Z	TAPPING SCREW	2	FOR FOOT	U
16	E306805-134	SPACER	1	CHASSIS BASE	
17	E408823-001SM	SUPPORT BRACKET	1		
18	E309520-001	LEAF SPRING	1		
19	E103006-001SM	CHASSIS BASE	1		
20	SBSG3008Z	TAPPING SCREW	4		
21	SBSF3008Z	TAPPING SCREW	2		
22	VWF1234-16TTB	FFC CABLE	1		
23	-----	CD-CH MECHA	1	SEE PAGE 2-4	
24	-----	CD-MECHA	1	SEE PAGE 2-6	
25	E308181-221SS	FFC HOLDER	1		
26	E306805-163	SPACER	1	CD MECH P.C.B	
27	E407153-001	INSULATOR	4		
28	E408361-001	SCREW	4		
29	E408373-001	SPRING(BLACK)	2		
30	E408373-002	SPRING	2		
31	VWF1015-16PPA	FFC CABLE	1		
32	GBSG3008CC	TAPPING SCREW	4		
33	ETP1000-86EAJ	POWER TRANSFORMER	1		EF,EN,G
33	ETP1000-86EAJBS	POWER TRANSFORMER	1		BS
33	ETP1000-86LAJ	POWER TRANSFORMER	1		U
34	E65389-004	SPECIAL SCREW	2	POWER TRANSFORMER	
35	E208470-011SM	REAR PANEL	1		BS,EF,EN,G
36	E208470-012SM	REAR PANEL	1		U
37	E73273-006	SPECIAL SCREW	9		
38	E206967-005	METAL COVER	1		
39	E406308-001	SPECIAL SCREW	4		
39	E306805-161	SPACER	1	CH MECHA TOP FRONT	
40	SBSF2608M	TAPPING SCREW	2	VOL.SEL.	U
41	E406507-001	CAUTION LABEL	1		
42	E408593-002SM	H.PHONE BKT	1		
43	E309097-008SS	VOLUME KNOB	1	H.PHONE	
44	VKZ4150-001	NUT	1		
-	E70891-001	CLASS 1 LABEL	1		
-	E408450-001	CE LABEL	1		BS,EF,EN,G
-	E70028-001	APPROVAL LABEL	1		EN
-	E70419-003F	MARK LABEL	1		G
-	E75139-003	Z LABEL	1		U
-	QZL1007-001	BEAB LABEL	1		BS
-	QZL1031-101	LABEL	1		EF

The Marks for Designated Areas

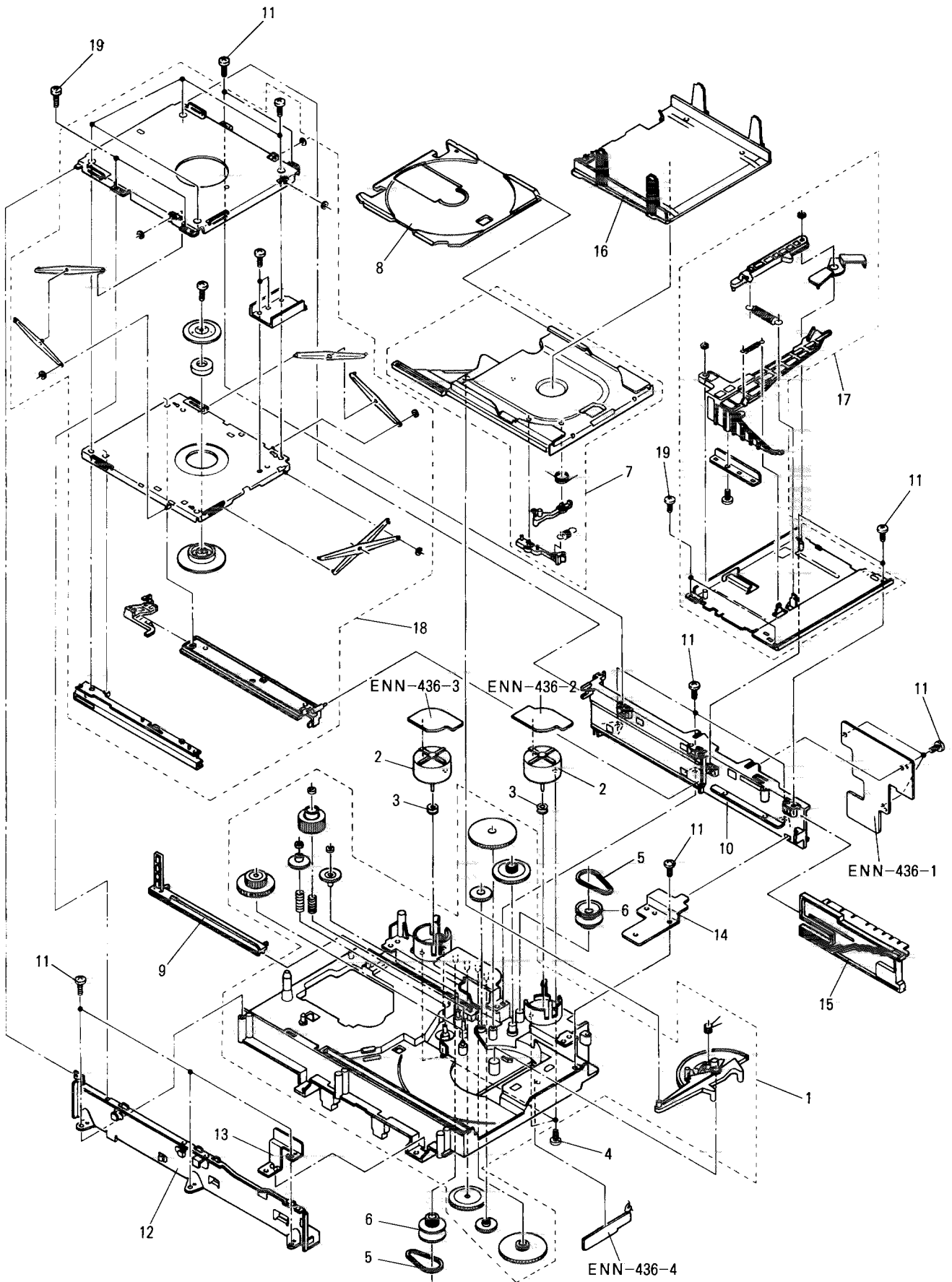
EF Continental Europe EN Scandinavia BS the U.K. G Germany
 U Universal Type
 No mark indicates all area.

XL-M516BK

CD Changer Mechanism Ass'y and Parts List

Symbol No.

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



■ PARTS LIST(Changer Mechanism)

Symbol No.

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

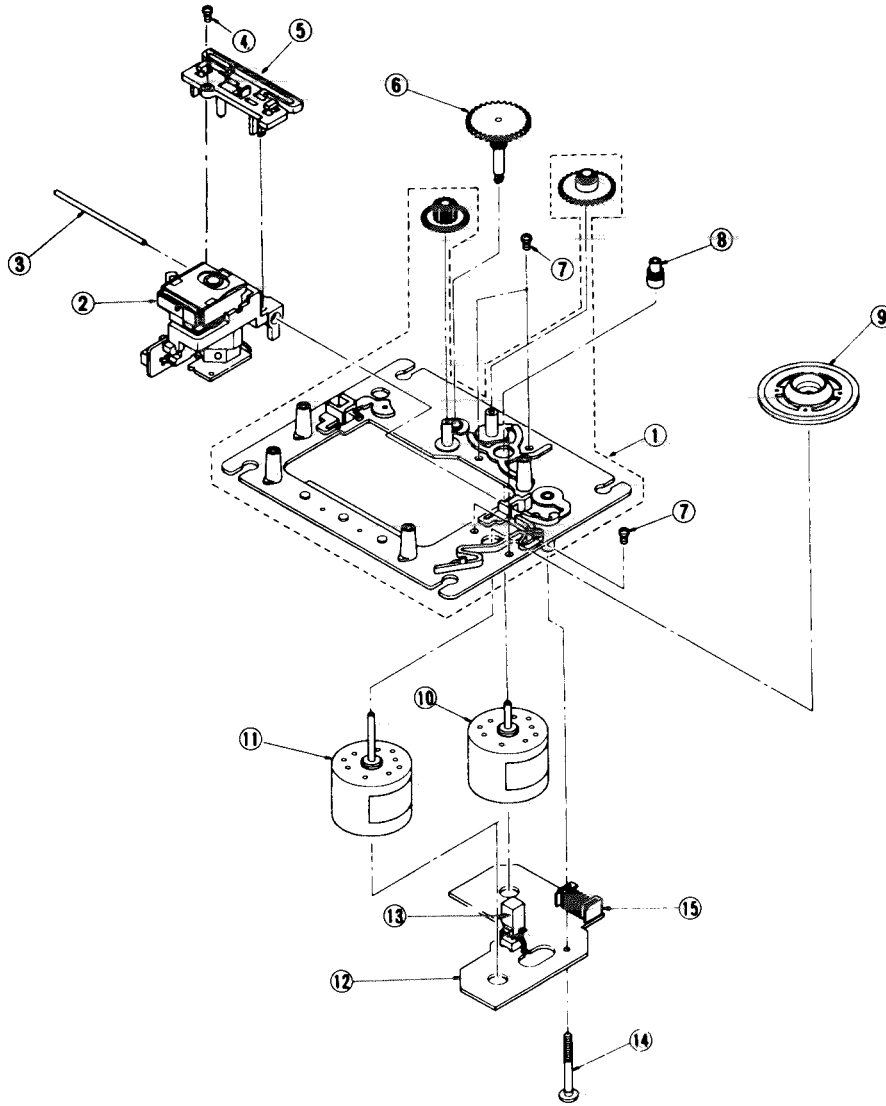
△	Item	Part Number	Part Name	Q'ty	Description	Area
	1	E208436-001SM	MECHA BASE ASSY	1		
	2	RF-500TB-14415	DC MOTOR	2		
	3	E75984-222SS	MOTOR PULLEY	2		
	4	SPSP2604Z	SCREW	4		
	5	E75950-002	REEL BELT	2		
	6	E75985-222SS	GEAR(1)	2		
	7	E208456-001SM	TRAY BASE ASSY	1		
	8	E26554-004	CD TRAY	1		
	9	E309148-002SM	HOOK GUIDE	1		
	10	E102925-001SM	SIDE BRACKET (R)	1		
	11	SBSF2608Z	TAPPING SCREW	14		
	12	E208305-001SM	SIDE BRACKET (L)	1		
	13	E408514-001SM	EARTH PLATE	1		
	14	E408517-001SM	M. PLATE	1		
	15	E208303-002SM	ELEVATOR CAM	1		
	16	E208302-002SM	MAGAZINE GUIDE (B)	1		
	17	E208458-002SM	SAFETY LEVER ASSY	1		
	18	E102922-001SM	ELEVATOR ASSY	1		
	19	SDST2606Z	SCREW	4		

XL-M516BK

CD Mechanism Ass'y and Parts List

Symbol No.

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



■ PARTS LIST(CD Mechanism)

Symbol No.

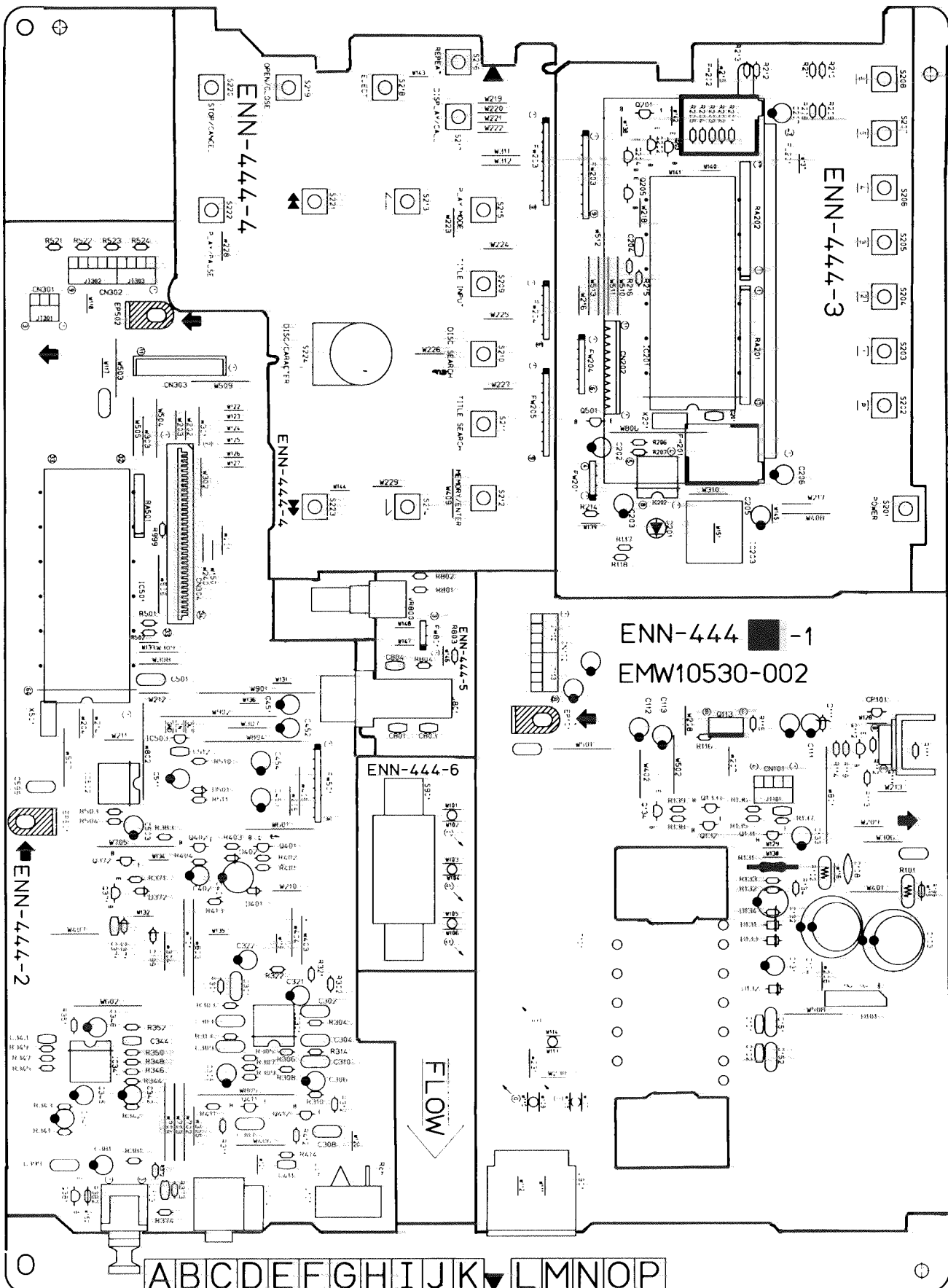
M	3	M	M
---	---	---	---

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHA BASE	1		
2	OPTIMA-6S	OPTICAL PICK-UP	1		
3	E407782-001	CD SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	E307745-221SS	CAM GEAR	1		
7	SDSP2003N	SCREW	4		
8	E406750-221SS	PINION GEAR	1		
9	EPB309173A	TURNTABLE	1		
10	MDN-4RA3ETA-1	FEED MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	PRINTED BOARD	1		
13	EBS1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	CONNECT TERMINAL	1		

Printed Circuit Board Ass'y and Parts List

■ ENN-444 □ Main PC Board Assy

Note : ENC-444 □ varies according to the areas employed. See note (1) when placing an order.



XL-M516BK

Note (1)

PC Board Ass'y	Version	Designated Areas
ENN-444 K	BS	the U.K.
ENN-444 L	EF	Continental Europe
	EN	Scandinavia
	G	Germany
ENN-444 M	U	Universal Type

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Q111	2SB1187(F,G)	SI. TRANSIST ROHM	
Q112	2SD1302	SI. TRANSIST MATSUSHITA	
Q113	2SB1357(E,F)	SI. TRANSIST ROHM	
Q131	2SA933S(RS)	SI. TRANSIST	
Q132	2SD2144S(VW)	SI. TRANSIST ROHM	
Q133	2SD2144S(VW)	SI. TRANSIST ROHM	
Q134	DTA114YS	DIGITAL TRA ROHM	
Q201	DTA114YS	DIGITAL TRA ROHM	
Q202	DTA114YS	DIGITAL TRA ROHM	
Q203	DTA114YS	DIGITAL TRA ROHM	
Q204	DTA114YS	DIGITAL TRA ROHM	
Q205	DTA114YS	DIGITAL TRA ROHM	
Q371	DTC144ES	DIGITAL TRA ROHM	
Q372	DTA114YS	DIGITAL TRA ROHM	
Q401	2SA933S(RS)	SI. TRANSIST	
Q402	DTC114YS	DIGITAL TRA ROHM	
Q411	2SD1302	SI. TRANSIST MATSUSHITA	
Q412	2SD1302	SI. TRANSIST MATSUSHITA	
Q501	DTC114YS	DIGITAL TRA ROHM	

I. C. S.

ITEM	PART NUMBER	DESCRIPTION	AREA
IC201	MN171202J6A	I.C.(MICRO-C MATSUSHITA	
IC202	AT24C16-10PC	I.C.(EP-ROM) MITSUBISHI	
IC203	SPS-420-1	INFRARED DE SANYO	
IC301	NJM4580DD	I.C.(MONO-AN DAINICHI	
IC341	NJM4580DD	I.C.(MONO-AN DAINICHI	
IC501	MN171601J6B	I.C.(MICRO-C MATSUSHITA	
IC502	AT24C01A-10PC	I.C.(EP-ROM) MITSUBISHI	
IC503	PST9140T	I.C.(MONO-AN MITSUMI	

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
Δ D101	S1VB20F	SI. DIODE SINDOENGEN	
D111	MTZ5.6JA	ZENER DIODE ROHM	
D131	1SR35-200A	SI. DIODE ROHM	
D132	1SR35-200A	SI. DIODE ROHM	
D133	1SR35-200A	SI. DIODE ROHM	
D134	MTZ36JC	ZENER DIODE ROHM	
D201	SLA-580LT70F124L	L.E.D. ROHM	BS
D201	SLH-56VC50F130	L.E.D.	EF
D201	SLH-56VC50F130	L.E.D.	EN
D201	SLH-56VC50F130	L.E.D.	G
D201	SLH-56VC50F130	L.E.D.	U
D371	1SS133	SI. DIODE ROHM	
D372	1SS133	SI. DIODE ROHM	
D401	1SS133	SI. DIODE ROHM	
D402	1SS133	SI. DIODE ROHM	
D501	1SS133	SI. DIODE ROHM	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C103	QETB1EM-228	2200MF 25V E.CAPACITO	
C104	QETB1EM-108	1000MF 25V AL E.CAPAC	
C108	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C111	QETB1HM-225	2.2MF 50V AL E.CAPAC	
C112	QETB1CM-476	47MF 16V AL E.CAPAC	
C113	QETB1AM-476	47MF 10V E.CAPACITO	
C131	QETB1EM-476	47MF 25V AL E.CAPAC	
C132	QETB1HM-107	100MF 50V E.CAPACITO	
C133	QETB1HM-106	10MF 50V E.CAPACITO	
C151	QFV81HJ-104	0.1MF 50V THIN FILM	
C152	QFV81HJ-104	0.1MF 50V THIN FILM	
C201	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C202	QER51HM-106	10MF 50V AL E.CAPAC	
C203	QER51EM-106	10MF 25V E.CAPACITO	
C204	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C205	QETB1EM-106	10MF 25V AL E.CAPAC	
C206	QETB1HM-105	1MF 50V AL E.CAPAC	
C207	QETB1HM-105	1MF 50V AL E.CAPAC	
C301	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C302	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C303	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C304	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C305	QETB1AM-226	22MF 10V ELECTRO	
C306	QETB1AM-226	22MF 10V ELECTRO	
C307	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C308	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C309	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C310	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C321	QETB1EM-476	47MF 25V AL E.CAPAC	
C322	QETB1EM-476	47MF 25V AL E.CAPAC	
C341	QETB1HM-475E	4.7MF 50V E.CAPACITO	
C342	QETB1HM-475E	4.7MF 50V E.CAPACITO	
C343	QCB81HK-181Y	180PF 50V CER.CAPACI	
C344	QCB81HK-181Y	180PF 50V CER.CAPACI	
C345	QETB1EM-476	47MF 25V AL E.CAPAC	
C346	QETB1EM-476	47MF 25V AL E.CAPAC	
C371	QCB81HK-331Y	330PF 50V CER.CAPACI	
C381	QETB1AM-107	100MF 10V AL E.CAPAC	
C399	QCZ0202-155	1.5MF 25V CER.RESIST	BS
C399	QCZ0202-155	1.5MF 25V CER.RESIST	EF
C399	QCZ0202-155	1.5MF 25V CER.RESIST	EN
C399	QCZ0202-155	1.5MF 25V CER.RESIST	G
C399	QCZ0202-155	1.5MF 25V CER.RESIST	U
C401	QFV81HJ-104	0.1MF 50V THIN FILM	
C402	QETB1CM-227	220MF 16V AL E.CAPAC	
C402	QETB1CM-226	22MF 16V E.CAPACITO	
C411	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C451	QETB1EM-106	10MF 25V AL E.CAPAC	
C452	QETB1EM-106	10MF 25V AL E.CAPAC	
C453	QETB1EM-227	220MF 25V AL E.CAPAC	
C454	QETB1EM-227	220MF 25V AL E.CAPAC	
C501	QCZ0202-155	1.5MF 25V CER.RESIST	
C503	QETB1EM-106	10MF 25V AL E.CAPAC	
C511	QETB1EM-106	10MF 25V AL E.CAPAC	
C512	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C801	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Δ R101	PTH61G30BD2R2N	FUSIBLE RE	
Δ R102	PTH61G30BD2R2N	FUSIBLE RE	
R111	QRD161J-222	2.2K 1/6W CARBON RES	
R112	QRD161J-221	220 1/6W CARBON RES	
R113	QRD161J-221	220 1/6W CARBON RES	
R114	QRD161J-202	2K 1/6W CARBON RES	
R115	QRD161J-102	1K 1/6W CARBON RES	
R116	QRD161J-821	820 1/6W CARBON RES	
R117	QRD167J-1R5	1.5 1/6W CARBON RES	
R118	QRD167J-1R5	1.5 1/6W CARBON RES	
R119	QRD161J-202	2K 1/6W CARBON RES	
Δ R131	QRZ0077-560	56 1/4W FUSIBLE RE	
R132	QRD161J-362	3.6K 1/6W CARBON RES	
R133	QRD161J-362	3.6K 1/6W CARBON RES	
R134	QRD167J-121	120 1/6W CARBON RES	
R135	QRD161J-222	2.2K 1/6W CARBON RES	
R136	QRD161J-222	2.2K 1/6W CARBON RES	
R137	QRD161J-103	10K 1/6W CARBON RES	
R138	QRD161J-103	10K 1/6W CARBON RES	
R139	QRD161J-103	10K 1/6W CARBON RES	
R201	QRD161J-124	120K 1/6W CARBON RES	
R202	QRD161J-124	120K 1/6W CARBON RES	
R203	QRD161J-124	120K 1/6W CARBON RES	
R204	QRD161J-124	120K 1/6W CARBON RES	
R205	QRD161J-124	120K 1/6W CARBON RES	
R206	QRD161J-103	10K 1/6W CARBON RES	
R207	QRD161J-103	10K 1/6W CARBON RES	
R208	QRD161J-103	10K 1/6W CARBON RES	
R209	QRD161J-103	10K 1/6W CARBON RES	
R210	QRD161J-473	47K 1/6W CARBON RES	
R211	QRD161J-473	47K 1/6W CARBON RES	
R212	QRD161J-473	47K 1/6W CARBON RES	
R213	QRD161J-473	47K 1/6W CARBON RES	
R214	QRD161J-181	180 1/6W CARBON RES	
R215	QRD161J-103	10K 1/6W CARBON RES	
R301	QRD161J-621	620 1/6W CARBON RES	
R302	QRD161J-621	620 1/6W CARBON RES	
R303	QRD161J-561	560 1/6W CARBON RES	
R304	QRD161J-561	560 1/6W CARBON RES	
R305	QRD161J-183	18K 1/6W CARBON RES	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R306	QRD161J-183	18K 1/6W CARBON RES	
R307	QRD161J-273	27K 1/6W CARBON RES	
R308	QRD161J-273	27K 1/6W CARBON RES	
R309	QRD161J-561	560 1/6W CARBON RES	
R310	QRD161J-561	560 1/6W CARBON RES	
R311	QRD161J-101	100 1/6W CARBON RES	
R312	QRD161J-101	100 1/6W CARBON RES	
R313	QRD161J-821	820 1/6W CARBON RES	
R314	QRD161J-821	820 1/6W CARBON RES	
R321	QRD161J-221	220 1/6W CARBON RES	
R322	QRD161J-221	220 1/6W CARBON RES	
R341	QRD161J-561	560 1/6W CARBON RES	
R342	QRD161J-561	560 1/6W CARBON RES	
R343	QRD161J-473	47K 1/6W CARBON RES	
R344	QRD161J-473	47K 1/6W CARBON RES	
R345	QRD161J-103	10K 1/6W CARBON RES	
R346	QRD161J-103	10K 1/6W CARBON RES	
R347	QRD161J-273	27K 1/6W CARBON RES	
R348	QRD161J-273	27K 1/6W CARBON RES	
R349	QRD167J-153	15K 1/6W CARBON RES	
R350	QRD167J-153	15K 1/6W CARBON RES	
R351	QRD161J-221	220 1/6W CARBON RES	
R352	QRD161J-221	220 1/6W CARBON RES	
R371	QRD161J-472	4.7K 1/6W CARBON RES	
R372	QRD161J-221	220 1/6W CARBON RES	
R373	QRD161J-221	220 1/6W CARBON RES	U
R374	QRD161J-101	100 1/6W CARBON RES	
R381	QRD161J-2R2	2.2 1/6W CARBON RES	
R401	QRD161J-331	330 1/6W CARBON RES	
R402	QRD167J-822	8.2K 1/6W CARBON RES	
R403	QRD161J-683	68K 1/6W CARBON RES	
R404	QRD161J-221	220 1/6W CARBON RES	
R411	QRD161J-103	10K 1/6W CARBON RES	
R412	QRD161J-103	10K 1/6W CARBON RES	
R413	QRD167J-154	150K 1/6W CARBON RES	
R414	QRD161J-684	680K 1/6W CARBON RES	
R502	QRD161J-103	10K 1/6W CARBON RES	
R503	QRD161J-103	10K 1/6W CARBON RES	
R504	QRD161J-103	10K 1/6W CARBON RES	
R510	QRD161J-472	4.7K 1/6W CARBON RES	
R511	QRD161J-102	1K 1/6W CARBON RES	
R521	QRD161J-473	47K 1/6W CARBON RES	
R522	QRD161J-473	47K 1/6W CARBON RES	
R523	QRD161J-473	47K 1/6W CARBON RES	
R524	QRD161J-473	47K 1/6W CARBON RES	
R801	QRD161J-390	39 1/6W CARBON RES	
R802	QRD161J-390	39 1/6W CARBON RES	
R803	QRD161J-270	27 1/6W CARBON RES	
R804	QRD161J-270	27 1/6W CARBON RES	
R999	QRD161J-102	1K 1/6W CARBON RES	
RA501	QRB089J-103	10K 1/10W NETWORK RE	
VR800	QVAB79C-E53CJ5	5K VARIABLE R	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
S202	QSQ1001-E01ZJ7	PUSH SWITCH	P
S203	QSQ1001-E01ZJ7	PUSH SWITCH	1
S204	QSQ1001-E01ZJ7	PUSH SWITCH	2
S205	QSQ1001-E01ZJ7	PUSH SWITCH	3
S206	QSQ1001-E01ZJ7	PUSH SWITCH	4
S207	QSQ1001-E01ZJ7	PUSH SWITCH	5
S208	QSQ1001-E01ZJ7	PUSH SWITCH	6
S209	QSQ1001-E01ZJ7	PUSH SWITCH	TITLE INPUT
S210	QSQ1001-E01ZJ7	PUSH SWITCH	DISC SEARCH
S211	QSQ1001-E01ZJ7	PUSH SWITCH	TITLE SEARCH
S212	QSQ1001-E01ZJ7	PUSH SWITCH	MEMORY/ENTER
S213	QSQ1001-E01ZJ7	PUSH SWITCH	<
S214	QSQ1001-E01ZJ7	PUSH SWITCH	>
S215	QSQ1001-E01ZJ7	PUSH SWITCH	PLAY MODE
S216	QSQ1001-E01ZJ7	PUSH SWITCH	REPAT
S217	QSQ1001-E01ZJ7	PUSH SWITCH	DISLAY/CALL
S218	QSQ1001-E01ZJ7	PUSH SWITCH	EJECT
S219	QSQ1001-E01ZJ7	PUSH SWITCH	OPEN/CLOSE
S220	QSQ1001-E01ZJ7	PUSH SWITCH	STOP/CANCEL
S221	QSQ1001-E01ZJ7	PUSH SWITCH	⏪
S222	QSQ1001-E01ZJ7	PUSH SWITCH	⏩
S223	QSQ1001-E01ZJ7	PUSH SWITCH	PLAY/PAUSE
S224	QSJ4002-E03J5	PUSH SWITCH	DISC/CARACTER
Δ S901	QSS1L22-E01	SLIDE SWITC	U
X201	ECX0060-000EM	CERAMIC RES	
X501	ECX0060-000EM	CERAMIC RES	
CN202	EWS26B-A450J	SOCKET WIRE	
CN303	EMV5109-011A	MALE CONNec	
CN304	EMV7123-034	CONNECT TER	
Δ CP101	ICP-N10	I.C.PROTECT	
EP501	EMZ4002-001Z	EARTH PLATE	
FH201	E75819-001	SUPPORT HOL	
FH202	E75820-001	SUPPORT HOL	
FL201	ELU0001-204	FLUORESCENT	
FS201	E3400-439	FELT SPACER	
FS202	E3400-439	FELT SPACER	
FS374	E3400-431	FELT SPACER	BS
FS374	E3400-431	FELT SPACER	EF
FS374	E3400-431	FELT SPACER	EN
FS374	E3400-431	FELT SPACER	G
FW201	EWR340-25LS	FLAT WIRE A	
FW203	EWR390-50SS	FLAT WIRE A	
FW204	EWR360-55SS	FLAT WIRE A	
FW205	EWR390-16LS	FLAT WIRE A	
FW501	EWR380-40LS	FLAT WIRE A	
FW801	EWR330-08LS	CORD	
JT101	EMV7145-004Z	SOCKET ASSY	
JT102	EMV7145-004Z	SOCKET ASSY	
JT103	EMV7145-004Z	SOCKET ASSY	
JT301	EMV7145-003Z	SOCKET ASSY	
JT302	EMV7122-005	MALE CONNec	
JT303	EMV7145-004Z	SOCKET ASSY	

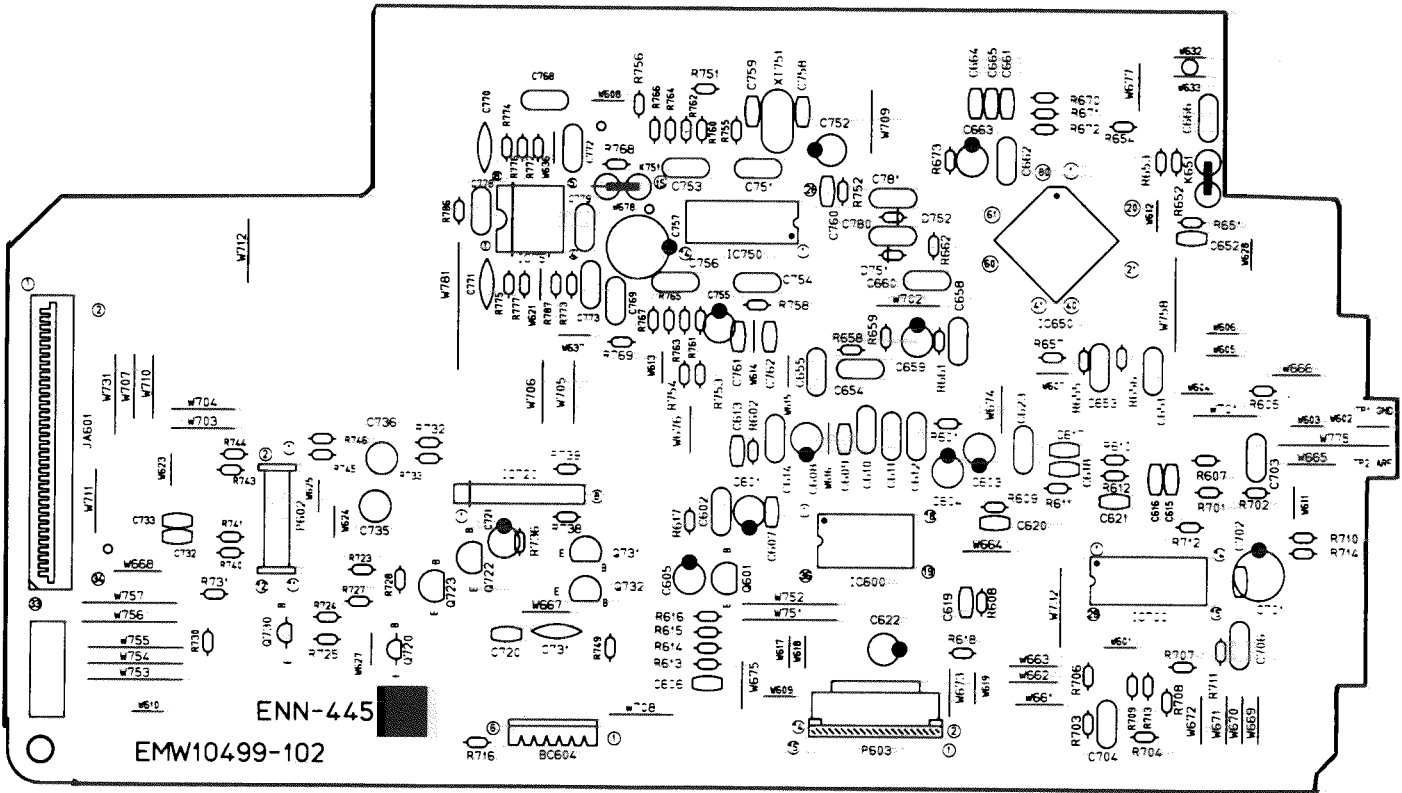
OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
	EMW10530-002	PRINTED BOA	EF
	EMW10530-002	PRINTED BOA	EN
	EMW10530-002	PRINTED BOA	G
	EMW10530-002	PRINTED BOA	U
	EMW10530-002BS	PRINTED BOA	BS
	E70306-001	HEAT SINK	
	QWE881-09RR	VINYL WIRE	U
	QWE886-09RR	VINYL WIRE	U
	QWE888-12RR	VINYL WIRE	U
	SBSE3008Z	SCREW	
J101	EMN00TV-217A	PIN JACK	
J102	QMS3501-020	PIN JACK	
J103	GP1F32T	OPTICAL JAC	
J801	QMS6A40-E20G	HEADPHONE J	
Δ J901	QMCB001-E02H	AC SOCKET	EF
Δ J901	QMCB001-E02H	AC SOCKET	EN
Δ J901	QMCB001-E02H	AC SOCKET	G
Δ J901	QMCB001-E02H	AC SOCKET	U
Δ J901	QMCB001-E02HBS	AC SOCKET	BS
K132	ENZ8101-007	INDUCTOR	BS
K132	ENZ8101-007	INDUCTOR	EF
K132	ENZ8101-007	INDUCTOR	EN
K132	ENZ8101-007	INDUCTOR	G
K373	ENZ8101-007	INDUCTOR	BS
K373	ENZ8101-007	INDUCTOR	EF
K373	ENZ8101-007	INDUCTOR	EN
K373	ENZ8101-007	INDUCTOR	G
L146	EQL4007-4R7T	INDUCTOR	BS
L146	EQL4007-4R7T	INDUCTOR	EF
L146	EQL4007-4R7T	INDUCTOR	EN
L146	EQL4007-4R7T	INDUCTOR	G
L147	EQL4007-4R7T	INDUCTOR	BS
L147	EQL4007-4R7T	INDUCTOR	EF
L147	EQL4007-4R7T	INDUCTOR	EN
L147	EQL4007-4R7T	INDUCTOR	G
L148	EQL4007-4R7T	INDUCTOR	BS
L148	EQL4007-4R7T	INDUCTOR	EF
L148	EQL4007-4R7T	INDUCTOR	EN
L148	EQL4007-4R7T	INDUCTOR	G
S201	QSQ1001-E01ZJ7	PUSH SWITCH POWER	

XL-M516BK

■ ENN-445 □ CD PC Board Ass'y

Note : ENN445 □ varies according to the areas employed. See note (2) when placing an order.



Note (2)

PC Board Ass'y	Version	Designated Areas
ENN-445 K	BS	the U.K.
ENN-445 L	EF	Continental Europe
	EN	Scandinavia
	G	Germany
ENN-445 M	U	Universal Type

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Q601	2SA950(Q,Y)	SI. TRANSIST TOSHIBA	
Q722	2SC2060(Q,R)	SI. TRANSIST ROHM	
Q723	2SA934(Q,R)	SI. TRANSIST ROHM	
Q730	DTC144ES	DIGITAL TRA ROHM	
Q731	2SC2060(Q,R)	SI. TRANSIST ROHM	
Q732	2SA934(Q,R)	SI. TRANSIST ROHM	

I. C. S.

ITEM	PART NUMBER	DESCRIPTION	AREA
IC600	AN8806SB	I.C.(M) MATSUSHITA	
IC650	MN66272ORB	I.C.(DIGI-MO MATSUSHITA	
IC700	BA6398FP	I.C.(MONO-AN ROHM	
IC720	VC4580L	I.C.(MONO-AN DAINICHI	
IC750	MN35503	I.C.(DIGI-MO MATSUSHITA	
IC751	NJM4580DD	I.C.(MONO-AN DAINICHI	

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
D751	1SS119	SI. DIODE	
D752	1SS119	SI. DIODE	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C601	QETB1AM-107	100MF 10V AL E. CAPAC	
C602	QCZ0202-155	1.5MF 25V CER. RESIST	
C604	QETB1AM-107	100MF 10V AL E. CAPAC	
C605	QER51VM-106	10MF 35V AL E. CAPAC	
C606	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C607	QCSB1HJ-680	68PF 50V CER. CAPACI	
C608	QETB1HM-105	1MF 50V AL E. CAPAC	
C609	QCB1HK-101Y	100PF 50V CER. CAPACI	
C610	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	
C611	QFLB1HJ-472	4700PF 50V MYLAR CAPA	
C612	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C613	QCT30CH-3R3Y	3.3PF 50V CER. CAPACI	
C614	QFV81HJ-104	0.1MF 50V THIN FILM	
C615	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C616	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C617	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C618	QCXB1CM-222Y	2200PF 16V CER. CAPACI	
C619	QCB1HK-271Y	270PF 50V CER. CAPACI	
C620	QCSB1HJ-470	47PF 50V CER. CAPACI	
C621	QCB1HK-821Y	820PF 50V CER. CAPACI	
C622	QETB1AM-476	47MF 10V E. CAPACITO	
C623	QFV81HJ-104	0.1MF 50V THIN FILM	
C651	QFLB1HJ-471	470PF 50V MYLAR CAPA	
C652	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C653	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C654	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C655	QFV81HJ-334	0.33MF 50V TF. CAPACIT	
C658	QFV81HJ-104	0.1MF 50V THIN FILM	
C659	QETB1AM-107	100MF 10V AL E. CAPAC	
C660	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C662	QFV81HJ-104	0.1MF 50V THIN FILM	
C663	QETB1AM-107	100MF 10V AL E. CAPAC	
C701	QETB1CM-227	220MF 16V AL E. CAPAC	
C702	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C703	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C704	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C706	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	
C720	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C721	QETB1CM-476	47MF 16V AL E.CAPAC	
C722	QCS21HJ-101A	100PF 50V CER.CAPACI	
C731	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C732	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C733	QETB1HM-105	1MF 50V AL E.CAPAC	
C735	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
C736	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
C751	QCZ0202-155	1.5MF 25V CER.RESIST	
C752	QET91AM-476	47MF 10V E.CAPACITO	
C753	QCZ0202-155	1.5MF 25V CER.RESIST	
C754	QCZ0202-155	1.5MF 25V CER.RESIST	
C755	QETB0JM-227	220MF 6.3V E.CAPACITO	
C756	QCZ0202-155	1.5MF 25V CER.RESIST	
C757	QETB0JM-108E	1000MF 6.3V E.CAPACITO	
C758	QCT30CH-180Y	18PF 50V CER.CAPACI	
C759	QCT30CH-180Y	18PF 50V CER.CAPACI	
C768	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
C769	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
C770	QCS31HJ-331Z	330PF 50V CER.CAPACI	
C771	QCS31HJ-331Z	330PF 50V CER.CAPACI	
C772	QFLB1HJ-333	0.033MF 50V MYLAR CAPA	
C773	QFLB1HJ-333	0.033MF 50V MYLAR CAPA	
C778	QFV81HJ-104	0.1MF 50V THIN FILM	
C779	QFV81HJ-104	0.1MF 50V THIN FILM	
C780	QCZ0202-155	1.5MF 25V CER.RESIST	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R744	QRD161J-102	1K 1/6W CARBON RES	
R745	QRD161J-102	1K 1/6W CARBON RES	
R746	QRD161J-102	1K 1/6W CARBON RES	
R749	QRD161J-2R2	2.2 1/6W CARBON RES	
R751	QRD161J-101	100 1/6W CARBON RES	
R752	QRD161J-102	1K 1/6W CARBON RES	
R753	QRD167J-560	56 1/6W CARBON RES	
R755	QRD161J-271	270 1/6W CARBON RES	
R756	QRD161J-101	100 1/6W CARBON RES	
R758	QRD161J-271	270 1/6W CARBON RES	
Δ R760	QRV144F-1602	16K 1/4W CONST.META	
Δ R761	QRV144F-1602	16K 1/4W CONST.META	
R762	QRD161J-243	24K 1/6W CARBON RES	
R763	QRD161J-243	24K 1/6W CARBON RES	
Δ R764	QRV144F-1602	16K 1/4W CONST.META	
Δ R765	QRV144F-1602	16K 1/4W CONST.META	
R766	QRD161J-243	24K 1/6W CARBON RES	
R767	QRD161J-243	24K 1/6W CARBON RES	
R768	QRD167J-682	6.8K 1/6W CARBON RES	
R769	QRD167J-682	6.8K 1/6W CARBON RES	
R772	QRD161J-362	3.6K 1/6W CARBON RES	
R773	QRD161J-362	3.6K 1/6W CARBON RES	
R774	QRD161J-183	18K 1/6W CARBON RES	
R775	QRD161J-183	18K 1/6W CARBON RES	
R776	QRD161J-621	620 1/6W CARBON RES	
R777	QRD161J-621	620 1/6W CARBON RES	
R786	QRD161J-271	270 1/6W CARBON RES	
R787	QRD161J-2R2	2.2 1/6W CARBON RES	

RESISTORS

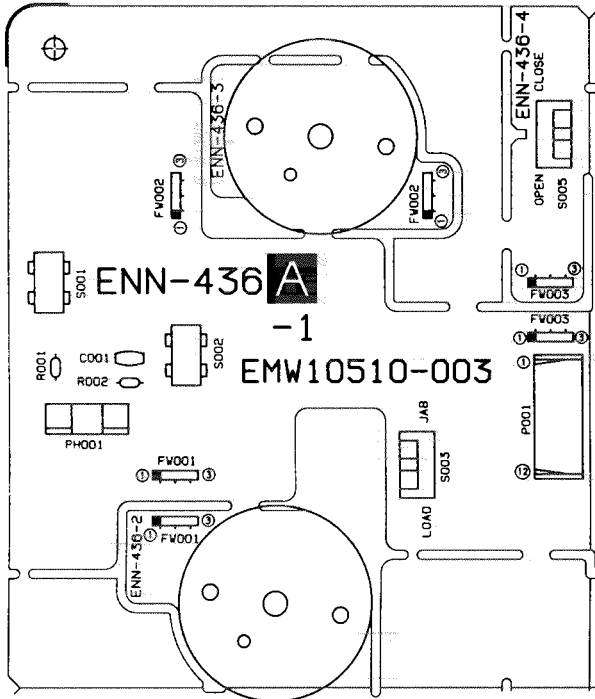
ITEM	PART NUMBER	DESCRIPTION	AREA
R602	QRD161J-123	12K 1/6W CARBON RES	
R605	QRD167J-134	130K 1/6W CARBON RES	
R607	QRD161J-913	91K 1/6W CARBON RES	
R608	QRD161J-273	27K 1/6W CARBON RES	
R609	QRD161J-114	110K 1/6W CARBON RES	
R610	QRD167J-154	150K 1/6W CARBON RES	
R611	QRD161J-394	390K 1/6W CARBON RES	
R612	QRD161J-103	10K 1/6W CARBON RES	
R613	QRD167J-121	120 1/6W CARBON RES	
R614	QRD161J-470	47 1/6W CARBON RES	
R615	QRD161J-470	47 1/6W CARBON RES	
R616	QRD161J-470	47 1/6W CARBON RES	
R617	QRD161J-2R2	2.2 1/6W CARBON RES	
R618	QRD161J-910Y	91 1/6W CARBON RES	
R651	QRD161J-102	1K 1/6W CARBON RES	
R652	QRD161J-102	1K 1/6W CARBON RES	
R653	QRD161J-102	1K 1/6W CARBON RES	
R654	QRD167J-151	150 1/6W CARBON RES	
R655	QRD167J-155	1.5M 1/6W CARBON RES	
R656	QRD161J-104	100K 1/6W CARBON RES	
R657	QRD161J-104	100K 1/6W CARBON RES	
R658	QRD161J-681	680 1/6W CARBON RES	
R659	QRD161J-124	120K 1/6W CARBON RES	
R661	QRD161J-2R2	2.2 1/6W CARBON RES	
R662	QRD161J-2R2	2.2 1/6W CARBON RES	
R670	QRD161J-102	1K 1/6W CARBON RES	
R671	QRD161J-102	1K 1/6W CARBON RES	
R672	QRD161J-102	1K 1/6W CARBON RES	
R673	QRD161J-472	4.7K 1/6W CARBON RES	
R674	QRD161J-102	1K 1/6W CARBON RES	
R701	QRD161J-821	820 1/6W CARBON RES	
R702	QRD167J-562	5.6K 1/6W CARBON RES	
R703	QRD161J-112	1.1K 1/6W CARBON RES	
R704	QRD167J-113	11K 1/6W CARBON RES	
R706	QRD161J-124	120K 1/6W CARBON RES	
R707	QRD167J-332	3.3K 1/6W CARBON RES	
R708	QRD161J-752	7.5K 1/6W CARBON RES	
R709	QRD167J-223	22K 1/6W CARBON RES	
R710	QRD161J-392	3.9K 1/6W CARBON RES	
R711	QRD167J-153	15K 1/6W CARBON RES	
R712	QRD161J-752	7.5K 1/6W CARBON RES	
R713	QRD167J-751	750 1/6W CARBON RES	
R714	QRD161J-363	36K 1/6W CARBON RES	
R716	QRD167J-151	150 1/6W CARBON RES	
R723	QRD167J-223	22K 1/6W CARBON RES	
R724	QRD161J-303Y	30K 1/6W CARBON RES	
R725	QRD161J-183	18K 1/6W CARBON RES	
R726	QRD167J-272	2.7K 1/6W CARBON RES	
R727	QRD161J-183	18K 1/6W CARBON RES	
R728	QRD161J-221	220 1/6W CARBON RES	
R730	QRD161J-363	36K 1/6W CARBON RES	
R731	QRD167J-153	15K 1/6W CARBON RES	
R732	QRD167J-153	15K 1/6W CARBON RES	
R733	QRD161J-303Y	30K 1/6W CARBON RES	
R736	QRD161J-363	36K 1/6W CARBON RES	
R738	QRD161J-363	36K 1/6W CARBON RES	
R739	QRD167J-751	750 1/6W CARBON RES	
R740	QRD161J-102	1K 1/6W CARBON RES	
R741	QRD161J-221	220 1/6W CARBON RES	
R743	QRD161J-102	1K 1/6W CARBON RES	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
	EMW10499-102	PRINTED BOA	
P602	VMC0314-S12	CONNECT TER	
P603	EMV7144-015R	CONNECT TER	
BC604	EWS266-A408J	FLAT WIRE A	
FS674	E3400-431	FELT SPACER	
FS720	E3400-431	FELT SPACER	
JA601	EMV7123-034	CONNECT TER	
XT751	ECX0169-344KL	CRYSTAL	

XL-M516BK

■ ENN-436 A CD Changer PC Board Ass'y



CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C001	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R001	QRD161J-331	330 1/6W CARBON RES	
R002	QRD161J-472	4.7K 1/6W CARBON RES	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
	EMW10510-0D3A	CIR.BOARD	
PO01	EMV5132-012R	CONNECT TER	
S001	QSEC001-E03	LEVER SWITC	
S002	QSEC001-E03	LEVER SWITC	
S003	ESS1200-002	LEVER SWITC	
S005	ESS1200-002	LEVER SWITC	
FW001	EWR33D-08SS	FLAT WIRE A	
FW002	EWR33D-08SS	FLAT WIRE A	
FW003	EWR33D-13SS	FLAT WIRE	
PH001	GP1A53HR	I.C(PHOTO-I	

Accessories List

Symbol No.

M	4	M	M
---	---	---	---

Item	Part Number	Part Name	Q'ty	Description	Area
1	E30580-2285A	INSTRUCTION BOOK	1		EF
	E30580-2285A	INSTRUCTION BOOK	1		G
	E30580-2285ABS	INSTRUCTION BOOK	1		BS
	E30580-2286A	INSTRUCTION BOOK	1		EN
	E30580-2287A	INSTRUCTION BOOK	1		U
2	RM-SXM5SDU	WIRE-LESS REMOTE CONTROL	1		
3	UM-3(DJ)-2PSA	DRY CELL	1		
4	EWP302-011	SIGNAL CORD	1		
5	EWP805-012	PLUG WIRE ASSY	1		
6	QMP39F0-183E	POWER CORD	1		EF
7	QMP39F0-183E	POWER CORD	1		EN
	QMP39F0-183E	POWER CORD	1		G
	QMP5520-1835BS	POWER CORD	1		BS
	QMP7530-183	POWER CORD	1		U
8	E26072-020	CD MAGAZINE	1		
9	E309445-002	MAGAZINE LABEL	1		
	E300196-010B	ENVELOPE	2		
	ENZ2203-001	ADAPTOR PLUG	1		U
	BT-20066A	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
-	BT20060	WARRANTY CARD	1		BS
-	E43486-340A	SAFETY SHEET	1		BS

The Marks for Designated Areas

EF Continental Europe

EN Scandinavia

BS the U.K.

G Germany

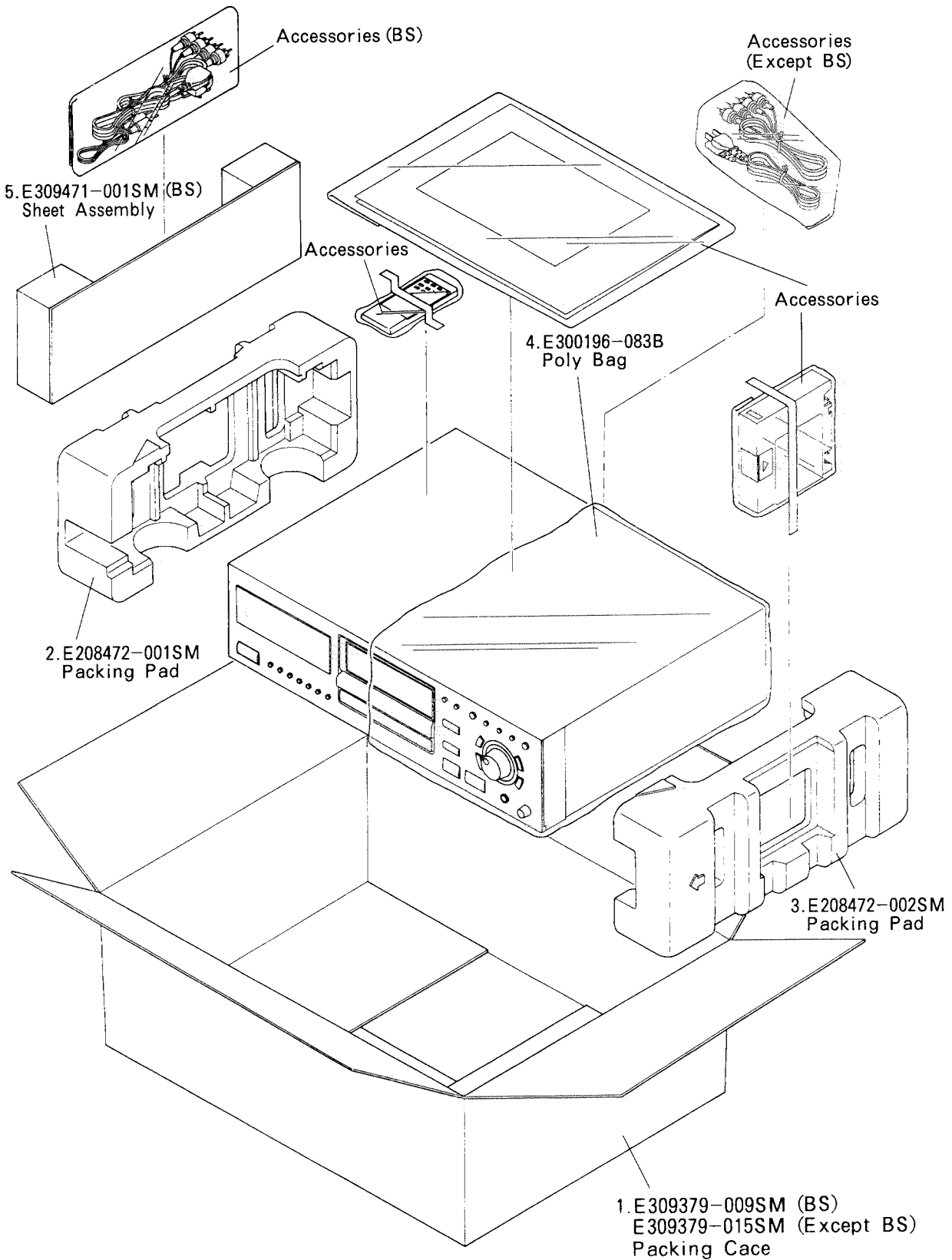
U Universal Type

No mark indicates all area.

Packing Materials and Part Numbers

Symbol No.

M	5	M	M
---	---	---	---



The Marks for Designated Areas			
EF	Continental Europe	EN	Scandinavia
BS	the U.K.	G	Germany
U	Universal Type		
No mark indicates all area.			

XL-M516BK

-MEMO-

PARTS LIST

Note : All printed circuit boards assemblies are not available as service parts.

Contents

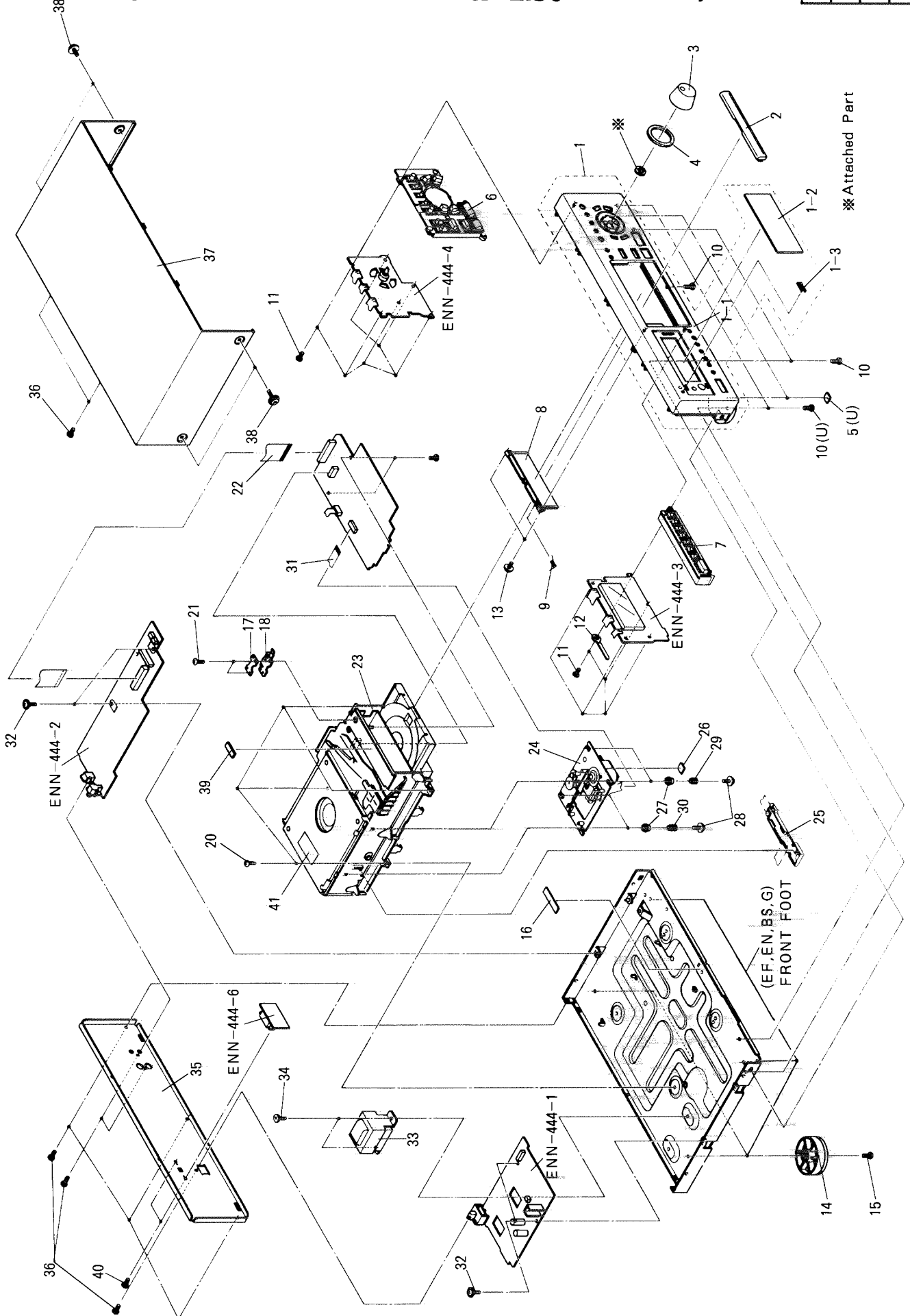
General Exploded View and Parts List	3-2
CD Changer Mechanism Ass'y and Parts List	3-4
CD Mechanism Ass'y and Parts List	3-6
Printed Circuit Board Ass'y and Parts List	3-7
■ ENN-444 □ Main PC Board Ass'y	3-7
■ ENN-445 □ Front PC Board Ass'y	3-10
■ ENN-436 □ CD Changer PC Board Ass'y	3-12
Accessories List	3-12
Packing Materials and Part Numbers	3-13

XL-M416BK

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-XLM416BKE(S)	FRONT PANEL ASS'Y	1		BS,EF,EN,G
		EFP-XLM416BKU(S)	FRONT PANEL ASS'Y	1		U
	1-1	E103004-011SM	FRONT PANEL	1		BS,EF,EN,G
	1-1	E103004-016SM	FRONT PANEL	1		U
	1-2	E309341-007SM	WINDOW SCREEN	1		
	1-3	VJD5429-001	JVC MARK	1		
	2	E309345-004SM	CD FITTING	1		
	3	E309339-002SM	KNOB	1		
	4	E408778-002SM	SHEET ASS'Y	1		
	5	E75896-001	SPACER	2	FRONT FOOT	U
	6	E208468-002SM	PUSH BUTTON	1	PLAY/PAUSE	
	7	E208466-002SM	PUSH BUTTON	1	POWER	
	8	E309343-002SM	LID PLATE	1		
	9	E73534-001	SPRING	1		
	10	SD5G3006M	TAPPING SCREW	3		BS,EF,EN,G
		SD5G3006M	TAPPING SCREW	5		U
	11	SDSF2608Z	SCREW	13		
	12	E407469-001SS	WIRE CLAMP	1		
	13	E72405-001	SPECIAL SCREW	2		
	14	FSYH4001-00F	FOOT	4		BS,EF,EN,G
		VJF4039-00H	FOOT	2		U
	15	SBST3008Z	TAPPING SCREW	4	FOR FOOT	BS,EF,EN,G
		SBST3008Z	TAPPING SCREW	2	FOR FOOT	U
	16	E306805-134	SPACER	1	CHASSIS BASE	
	17	E408823-001SM	SUPPORT BRACKET	1		
	18	E309520-001	LEAF SPRING	1		
	19	E103006-001SM	CHASSIS BASE	1		
	20	SBSG3008Z	TAPPING SCREW	4		
	21	SBSF3008Z	TAPPING SCREW	2		
	22	VWF1234-16TTB	FFC CABLE	1		
	23	-----	CD-CH MECHA	1	SEE PAGE 3-4	
	24	-----	CD-MECH	1	SEE PAGE 3-6	
	25	E308181-221SS	FFC HOLDER	1		
	26	E306805-163	SPACER	1	CD MECH P.C.B	
	27	E407153-001	INSULATOR	4		
	28	E408361-001	SCREW	4		
	29	E408373-002	SPRING(BLACK)	2		
	30	E408373-001	SPRING	2		
	31	VWF1015-16PPA	FFC CABLE	1		
	32	GBSG3008CC	TAPPING SCREW	4		
△	33	ETP1000-86EAJ	POWER TRANSFORMER	1		EF,EN,G
△		ETP1000-86EAJBS	POWER TRANSFORMER	1		BS
△		ETP1000-86LAJ	POWER TRANSFORMER	1		U
	34	E65389-004	SPECIAL SCREW	2	POWER TRANSFORMER	
	35	E208470-003SM	REAR PANEL	1		BS,EF,EN,G
		E208470-004SM	REAR PANEL	1		U
	36	E73273-006	SPECIAL SCREW	8		
	37	E206967-005	METAL COVER	1		
	38	E406308-001	SPECIAL SCREW	4		
	39	E306805-161	SPACER	1	CH MECHA TOP FRONT	
	40	SBSF2608M	TAPPING SCREW	2		U
	41	E406507-001	CAUTION LABEL	1		
	-	E70891-001	CLASS 1 LABEL	1		
	-	E408450-001	CE LABEL	1		BS,EF,EN,G
	-	E70028-001	APPROVAL LABEL	1		EN
	-	E70419-003F	FTZ MARK LABEL	1		G
	-	E75139-003	Z LABEL	1		U
	-	QZL1007-001	BEAB LABEL	1		BS
	-	QZL1031-101	LABEL	1		EF

The Marks for Designated Areas

EF Continental Europe EN Scandinavia BS the U.K. G Germany

U Universal Type

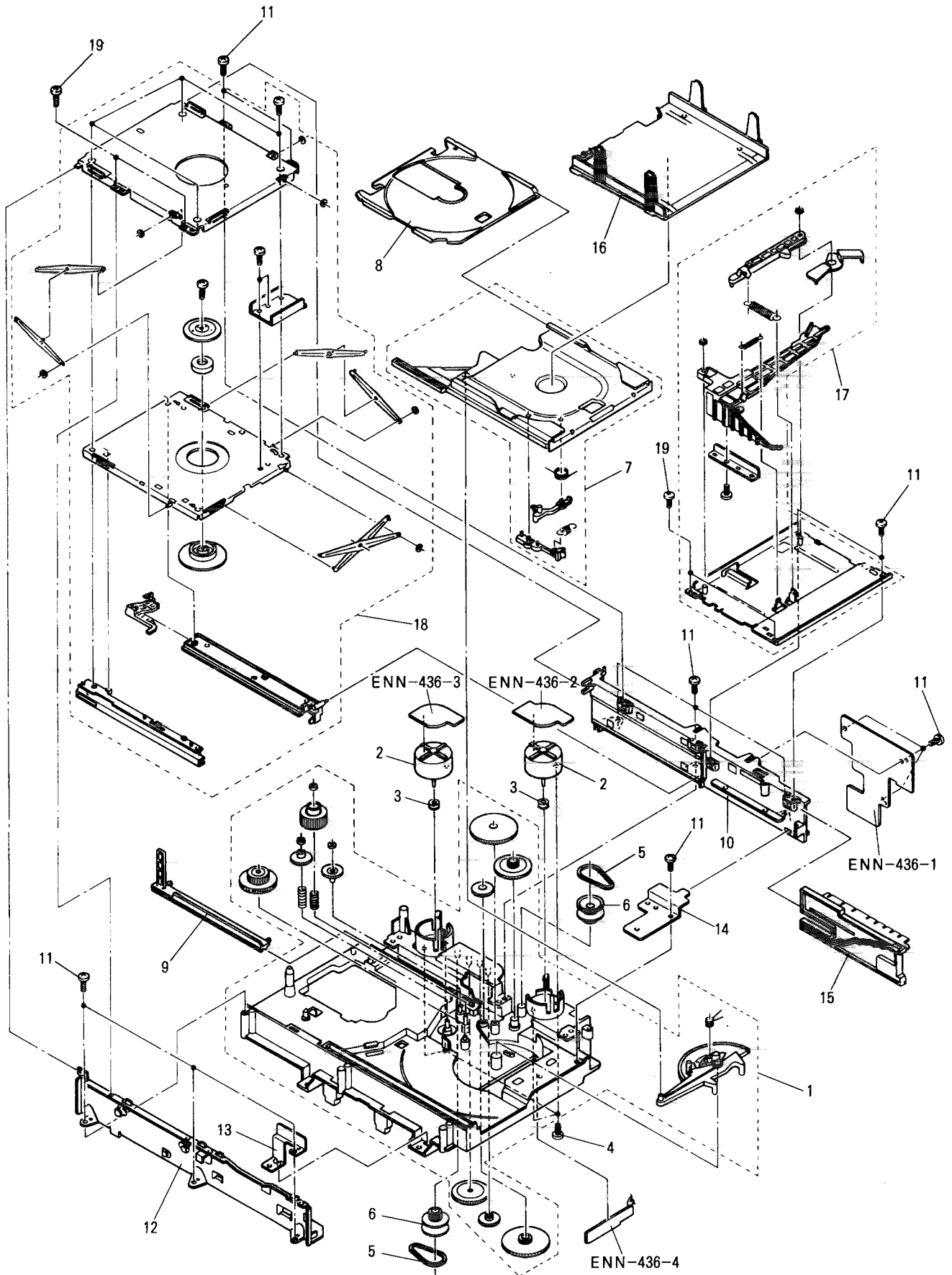
No mark indicates all area.

XL-M416BK

CD Changer Mechanism Ass'y and Parts List

Symbol No.

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



XL-M416BK

■ PARTS LIST(Changer Mechanism)

Symbol No.

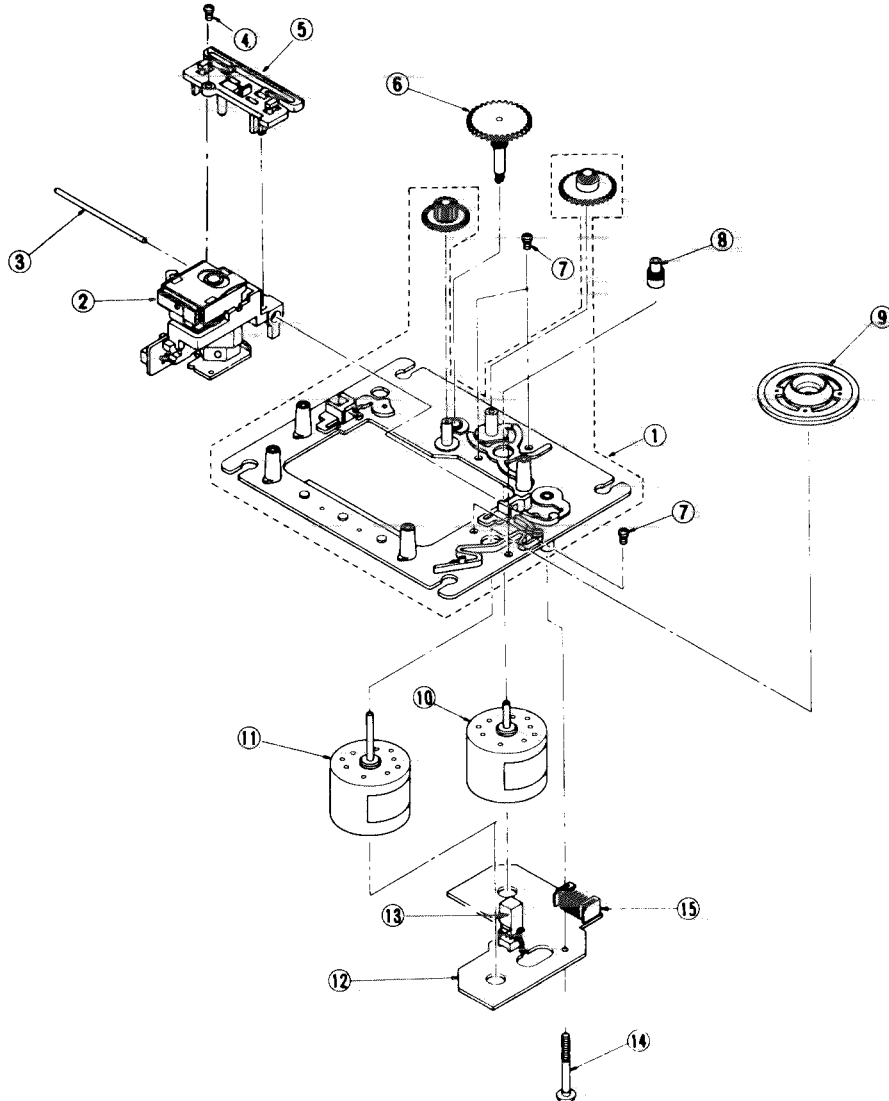
M	2	M	M
---	---	---	---

△	Item	Part Number	Part Name	Q'ty	Description	Area
	1	E208436-001SM	MECHA BASE ASSY	1		
	2	RF-500TB-14415	DC MOTOR	2		
	3	E75984-222SS	MOTOR PULLEY	2		
	4	SPSP2604Z	SCREW	4		
	5	E75950-002	REEL BELT	2		
	6	E75985-222SS	GEAR(1)	2		
	7	E208456-001SM	TRAY BASE ASSY	1		
	8	E26554-004	CD TRAY	1		
	9	E309148-002SM	HOOK GUIDE	1		
	10	E102925-001SM	SIDE BRACKET (R)	1		

CD Mechanism Ass'y and Parts List

Symbol No.

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



■ PARTS LIST(CD Mechanism)

Symbol No.

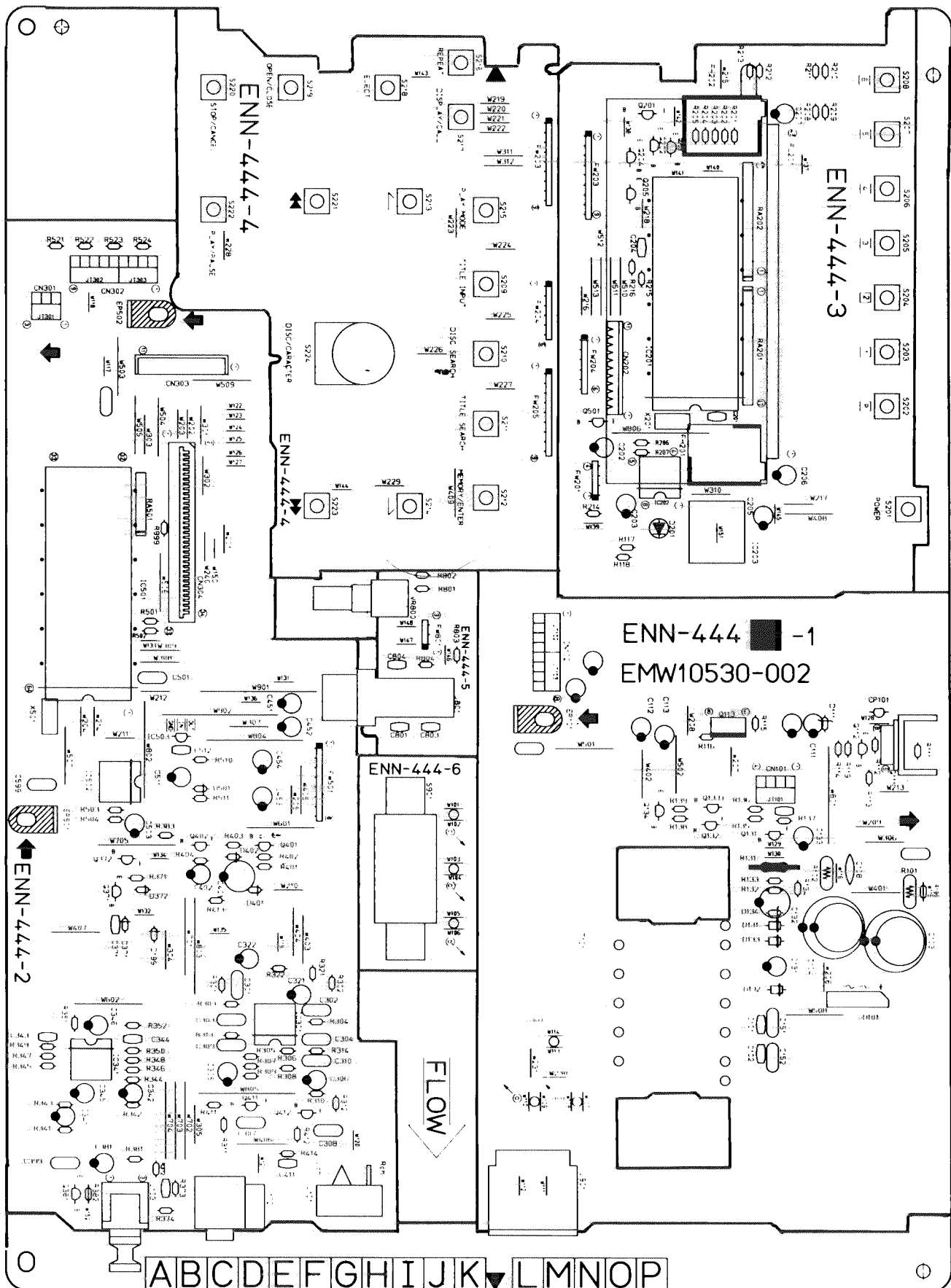
M	3	M	M
---	---	---	---

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHA BASE	1		
2	OPTIMA-6S	OPTICAL PICK-UP	1		
3	E407782-001	CD SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	E307745-221SS	CAM GEAR	1		
7	SDSP2003N	SCREW	4		
8	E406750-221SS	PINION GEAR	1		
9	EPB309173A	TURNTABLE	1		
10	MDN-4RA3ETA-1	FEED MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	PRINTED BOARD	1		
13	EBS1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	CONNECT TERMINAL	1		

Printed Circuit Board Ass'y and Parts List

■ ENN-444 □ Main PC Board Assy

Note : ENC-444 □ varies according to the areas employed. See note (1) when placing an order.



XL-M416BK

Note (1)

PC Board Ass'y	Version	Designated Areas
ENN-444 F	BS	the U.K.
ENN-444 G	EF	Continental Europe
	EN	Scandinavia
	G	Germany
ENN-444 H	U	Universal Type

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Q111	2SB1187(F,G)	SI. TRANSIST ROHM	
Q112	2SD1302	SI. TRANSIST MATSUSHITA	
Q113	2SB1357(E,F)	SI. TRANSIST ROHM	
Q131	2SA933S(RS)	SI. TRANSIST	
Q232	2SD2144S(VW)	SI. TRANSIST ROHM	
Q133	2SD2144S(VW)	SI. TRANSIST ROHM	
Q134	DTA114YS	DIGITAL TRA ROHM	
Q201	DTA114YS	DIGITAL TRA ROHM	
Q202	DTA114YS	DIGITAL TRA ROHM	
Q203	DTA114YS	DIGITAL TRA ROHM	
Q204	DTA114YS	DIGITAL TRA ROHM	
Q205	DTA114YS	DIGITAL TRA ROHM	
Q371	DTC144ES	DIGITAL TRA ROHM	
Q372	DTA114YS	DIGITAL TRA ROHM	
Q401	2SA933S(RS)	SI. TRANSIST	
Q402	DTC114YS	DIGITAL TRA ROHM	
Q411	2SD1302	SI. TRANSIST MATSUSHITA	
Q412	2SD1302	SI. TRANSIST MATSUSHITA	
Q501	DTC114YS	DIGITAL TRA ROHM	

I. C. S.

ITEM	PART NUMBER	DESCRIPTION	AREA
IC201	MN171202J6A	I.C.(MICRO-C MATSUSHITA	
IC202	AT24C04-10PC	I.C.(EP-ROM) MITSUBISHI	
IC203	SPS-420-1	INFRARED DE SANYO	
IC501	NJM4580DD	I.C.(MONO-AN DAINICHI	
IC501	MN171601J6B	I.C.(MICRO-C MATSUSHITA	
IC502	AT24C01A-10PC	I.C.(EP-ROM) MITSUBISHI	
IC503	PS79140T	I.C.(MONO-AN MITSUMI	

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
D101	S1VB20F	SI. DIODE SINDENGEN	
D111	MTZ5.6JA	ZENER DIODE ROHM	
D131	1SR35-200A	SI. DIODE ROHM	
D132	1SR35-200A	SI. DIODE ROHM	
D133	1SR35-200A	SI. DIODE ROHM	
D134	MTZ36JC	ZENER DIODE ROHM	
D201	SLA-580LT70F124	L.E.D. ROHM	BS
D201	SLH-56VC50F130	L.E.D.	EF
D201	SLH-56VC50F130	L.E.D.	EN
D201	SLH-56VC50F130	L.E.D.	G
D201	SLH-56VC50F130	L.E.D.	U
D371	1SS133	SI. DIODE ROHM	
D372	1SS133	SI. DIODE ROHM	
D401	1SS133	SI. DIODE ROHM	
D402	1SS133	SI. DIODE ROHM	
D501	1SS133	SI. DIODE ROHM	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C103	GETB1CM-228	2200MF 16V AL E.CAPAC	
C103	GETB1EM-228	2200MF 25V E.CAPACITO	
C104	GETB1EM-108	1000MF 25V AL E.CAPAC	
C108	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C111	GETB1HM-225	2.2MF 50V AL E.CAPAC	
C112	GETB1CM-476	47MF 16V AL E.CAPAC	
C113	GETB1AM-476	47MF 10V E.CAPACITO	
C131	GETB1EM-476	47MF 25V AL E.CAPAC	
C132	GETB1HM-107	100MF 50V E.CAPACITO	
C133	GETB1HM-106	10MF 50V E.CAPACITO	
C151	QFV81HJ-104	0.1MF 50V THIN FILM	
C152	QFV81HJ-104	0.1MF 50V THIN FILM	
C201	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C202	QER51HM-106	10MF 50V AL E.CAPAC	
C203	QER51EM-106	10MF 25V E.CAPACITO	
C204	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C205	GETB1EM-106	10MF 25V AL E.CAPAC	
C206	GETB1HM-105	1MF 50V AL E.CAPAC	
C207	GETB1HM-105	1MF 50V AL E.CAPAC	
C301	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C302	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C303	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C304	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C305	GETB1AM-226	22MF 10V ELECTRO	
C306	GETB1AM-226	22MF 10V ELECTRO	
C307	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C308	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C309	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C310	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C321	GETB1EM-476	47MF 25V AL E.CAPAC	
C322	GETB1EM-476	47MF 25V AL E.CAPAC	
C371	QCSB1HK-331Y	330PF 50V CER.CAPACI	
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	BS
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	EF
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	EN
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	G
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	U
C401	QFV81HJ-104	0.1MF 50V THIN FILM	
C402	GETB1CM-227	220MF 16V AL E.CAPAC	
C402	GETB1CM-226	22MF 16V E.CAPACITO	
C411	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C451	GETB1EM-106	10MF 25V AL E.CAPAC	
C452	GETB1EM-106	10MF 25V AL E.CAPAC	
C453	GETB1EM-227	220MF 25V AL E.CAPAC	
C454	GETB1EM-227	220MF 25V AL E.CAPAC	
C501	QCZ0202-155	1.5MF 25V CER.RESIST	
C503	GETB1EM-106	10MF 25V AL E.CAPAC	
C511	GETB1EM-106	10MF 25V AL E.CAPAC	
C512	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	BS
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	EF
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	EN
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	G

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R101	PTH61G30BD2R2N	FUSIBLE RE	
R102	PTH61G30BD2R2N	FUSIBLE RE	
R111	QRD161J-222	2.2K 1/6W CARBON RES	
R112	QRD161J-221	220 1/6W CARBON RES	
R113	QRD161J-221	220 1/6W CARBON RES	
R114	QRD161J-202	2K 1/6W CARBON RES	
R115	QRD161J-102	1K 1/6W CARBON RES	
R116	QRD161J-821	820 1/6W CARBON RES	
R117	QRD167J-1R5	1.5 1/6W CARBON RES	
R118	QRD167J-1R5	1.5 1/6W CARBON RES	
R119	QRD161J-202	2K 1/6W CARBON RES	
R131	GRZ0077-560	56 1/4W FUSIBLE RE	
R132	QRD161J-362	3.6K 1/6W CARBON RES	
R133	QRD161J-362	3.6K 1/6W CARBON RES	
R134	QRD167J-121	120 1/6W CARBON RES	
R135	QRD161J-222	2.2K 1/6W CARBON RES	
R136	QRD161J-222	2.2K 1/6W CARBON RES	
R137	QRD161J-103	10K 1/6W CARBON RES	
R138	QRD161J-103	10K 1/6W CARBON RES	
R139	QRD161J-103	10K 1/6W CARBON RES	
R201	QRD161J-124	120K 1/6W CARBON RES	
R202	QRD161J-124	120K 1/6W CARBON RES	
R203	QRD161J-124	120K 1/6W CARBON RES	
R204	QRD161J-124	120K 1/6W CARBON RES	
R205	QRD161J-124	120K 1/6W CARBON RES	
R206	QRD161J-103	10K 1/6W CARBON RES	
R207	QRD161J-103	10K 1/6W CARBON RES	
R208	QRD161J-103	10K 1/6W CARBON RES	
R209	QRD161J-103	10K 1/6W CARBON RES	
R210	QRD161J-473	47K 1/6W CARBON RES	
R211	QRD161J-473	47K 1/6W CARBON RES	
R212	QRD161J-473	47K 1/6W CARBON RES	
R213	QRD161J-473	47K 1/6W CARBON RES	
R214	QRD161J-181	180 1/6W CARBON RES	
R216	QRD161J-103	10K 1/6W CARBON RES	
R301	QRD161J-621	620 1/6W CARBON RES	
R302	QRD161J-621	620 1/6W CARBON RES	
R303	QRD161J-561	560 1/6W CARBON RES	
R304	QRD161J-561	560 1/6W CARBON RES	
R305	QRD161J-183	18K 1/6W CARBON RES	

RESISTORS

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
R306	QRD161J-183	18K 1/6W CARBON RES	
R307	QRD161J-273	27K 1/6W CARBON RES	
R308	QRD161J-273	27K 1/6W CARBON RES	
R309	QRD161J-561	560 1/6W CARBON RES	
R310	QRD161J-561	560 1/6W CARBON RES	
R311	QRD161J-101	100 1/6W CARBON RES	
R312	QRD161J-101	100 1/6W CARBON RES	
R313	QRD161J-821	820 1/6W CARBON RES	
R314	QRD161J-821	820 1/6W CARBON RES	
R321	QRD161J-221	220 1/6W CARBON RES	
R322	QRD161J-221	220 1/6W CARBON RES	
R371	QRD161J-472	4.7K 1/6W CARBON RES	
R372	QRD161J-221	220 1/6W CARBON RES	
R373	QRD161J-221	220 1/6W CARBON RES	U
R401	QRD161J-331	330 1/6W CARBON RES	
R402	QRD167J-822	8.2K 1/6W CARBON RES	
R403	QRD161J-683	68K 1/6W CARBON RES	
R404	QRD161J-221	220 1/6W CARBON RES	
R411	QRD161J-103	10K 1/6W CARBON RES	
R412	QRD161J-103	10K 1/6W CARBON RES	
R413	QRD167J-154	150K 1/6W CARBON RES	
R414	QRD161J-684	680K 1/6W CARBON RES	
R501	QRD161J-103	10K 1/6W CARBON RES	
R503	QRD161J-103	10K 1/6W CARBON RES	
R504	QRD161J-103	10K 1/6W CARBON RES	
R510	QRD161J-472	4.7K 1/6W CARBON RES	
R511	QRD161J-102	1K 1/6W CARBON RES	
R521	QRD161J-473	47K 1/6W CARBON RES	
R522	QRD161J-473	47K 1/6W CARBON RES	
R523	QRD161J-473	47K 1/6W CARBON RES	
R524	QRD161J-473	47K 1/6W CARBON RES	
R999	QRD161J-102	1K 1/6W CARBON RES	
RA501	GRB089J-103	10K 1/10W NETWORK RE	

OTHERS

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
Δ CP101	ICP-N10	I.C.PROTECT	
EP501	EMZ4002-001Z	EARTH PLATE	
FH201	E75819-001	SUPPORT HOL	
FH202	E75820-001	SUPPORT HOL	
FL201	ELU0001-204	FLUORESCENT	
FS201	E3400-439	FELT SPACER	
FS202	E3400-439	FELT SPACER	
FW201	EWR34D-25LS	FLAT WIRE A	
FW203	EWR39D-50SS	FLAT WIRE A	
FW204	EWR36D-55SS	FLAT WIRE A	
FW205	EWR39D-16LS	FLAT WIRE A	
FW501	EWR38D-40LS	FLAT WIRE A	
JT101	EMV7145-004Z	SOCKET ASSY	
JT102	EMV7145-004Z	SOCKET ASSY	
JT103	EMV7145-004Z	SOCKET ASSY	
JT301	EMV7122-103	CONNECT TER	
JT302	EMV7122-005	MALE CONNec	
JT303	EMV7145-004Z	SOCKET ASSY	

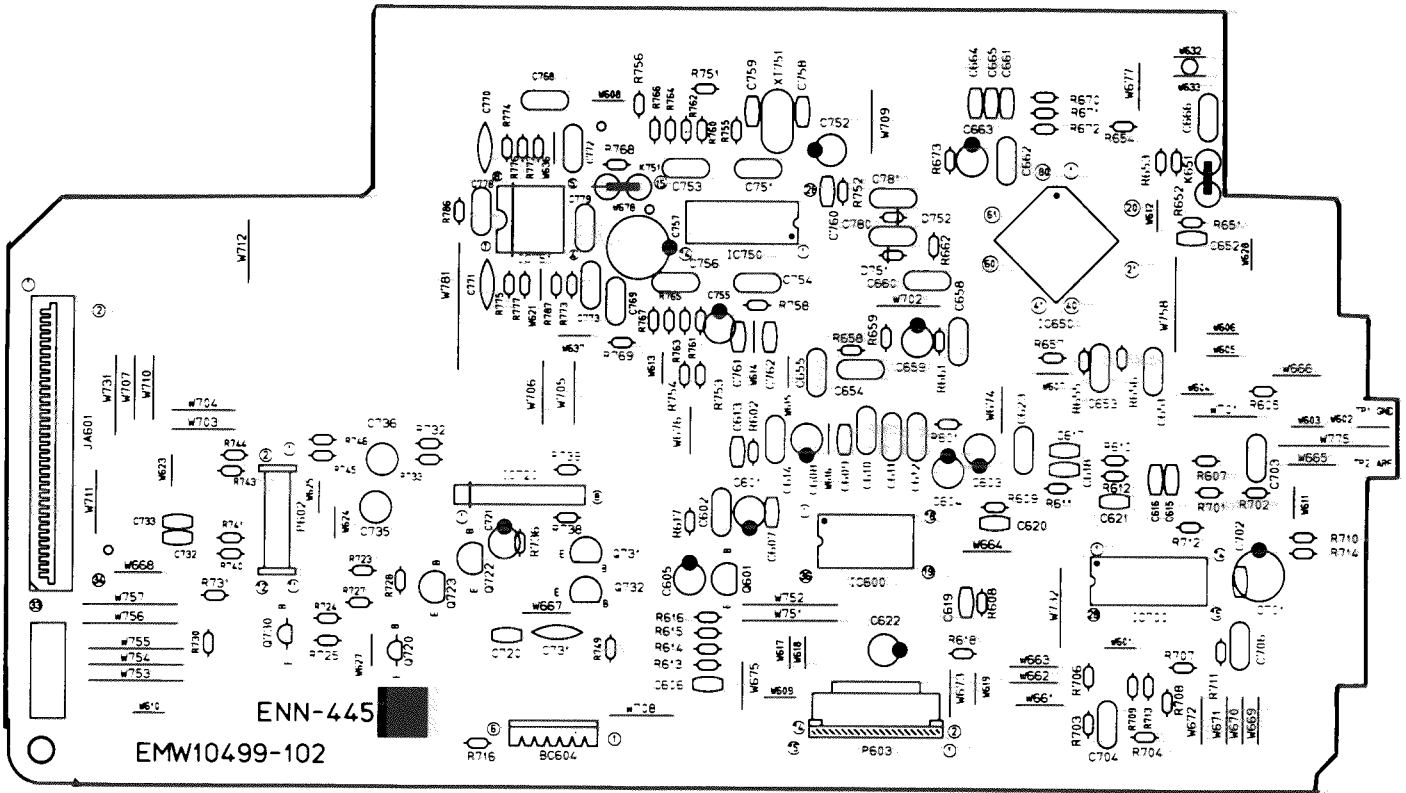
OTHERS

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
	EMW10530-002	PRINTED BOA	EF
	EMW10530-002	PRINTED BOA	EN
	EMW10530-002	PRINTED BOA	G
	EMW10530-002	PRINTED BOA	U
	EMW10530-002BS	PRINTED BOA	BS
	E70506-001	HEAT SINK	
	QWE881-09RR	VINYL WIRE	U
	QWE886-09RR	VINYL WIRE	U
	QWE888-12RR	VINYL WIRE	U
	S3SE3008Z	SCREW	
J101	EMN00TV-217A	PIN JACK	
J102	QMS3501-020	PIN JACK	
Δ J901	QMC8001-E02H	AC SOCKET	EF
Δ J901	QMC8001-E02H	AC SOCKET	EN
Δ J901	QMC8001-E02H	AC SOCKET	G
Δ J901	QMC8001-E02H	AC SOCKET	U
Δ J901	QMC8001-E02HBS	AC SOCKET	BS
K132	ENZ8101-007	INDUCTOR	BS
K132	ENZ8101-007	INDUCTOR	EF
K132	ENZ8101-007	INDUCTOR	EN
<K132	ENZ8101-007	INDUCTOR	G
<K373	ENZ8101-007	INDUCTOR	BS
<K373	ENZ8101-007	INDUCTOR	EF
<K373	ENZ8101-007	INDUCTOR	EN
<K373	ENZ8101-007	INDUCTOR	G
S201	QSQ1001-E01ZJ7	PUSH SWITCH POWER	
S202	QSQ1001-E01ZJ7	PUSH SWITCH P	
S203	QSQ1001-E01ZJ7	PUSH SWITCH 1	
S204	QSQ1001-E01ZJ7	PUSH SWITCH 2	
S205	QSQ1001-E01ZJ7	PUSH SWITCH 3	
S206	QSQ1001-E01ZJ7	PUSH SWITCH 4	
S207	QSQ1001-E01ZJ7	PUSH SWITCH 5	
S208	QSQ1001-E01ZJ7	PUSH SWITCH 6	
S209	QSQ1001-E01ZJ7	PUSH SWITCH TITLE INPUT	
S210	QSQ1001-E01ZJ7	PUSH SWITCH DISC SEARCH	
S211	QSQ1001-E01ZJ7	PUSH SWITCH TITLE SEARCH	
S212	QSQ1001-E01ZJ7	PUSH SWITCH MEMORY/ENTER	
S213	QSQ1001-E01ZJ7	PUSH SWITCH <	
S214	QSQ1001-E01ZJ7	PUSH SWITCH >	
S215	QSQ1001-E01ZJ7	PUSH SWITCH PLAY MODE	
S216	QSQ1001-E01ZJ7	PUSH SWITCH REPAT	
S217	QSQ1001-E01ZJ7	PUSH SWITCH DISLAY/CALL	
S218	QSQ1001-E01ZJ7	PUSH SWITCH EJECT	
S219	QSQ1001-E01ZJ7	PUSH SWITCH OPEN/CLOSE	
S220	QSQ1001-E01ZJ7	PUSH SWITCH STOP/CANCEL	
S221	QSQ1001-E01ZJ7	PUSH SWITCH ◀	
S222	QSQ1001-E01ZJ7	PUSH SWITCH ▶	
S223	QSQ1001-E01ZJ7	PUSH SWITCH PLAY/PAUSE	
S224	QSJ4002-E03J5	PUSH SWITCH DISC/CARACTER	
Δ S901	QSS1L22-E01	SLIDE SWITC VOL.SEL.	U
X201	ECX0060-000EM	CERAMIC RES	
X501	ECX0060-000EM	CERAMIC RES	
CN202	EWS26B-A450J	SOCKET WIRE	
CN303	EMV5109-011A	MALE CONNec	
CN304	EMV7123-034	CONNECT TER	

XL-M416BK

■ ENN-445 □ CD PC Board Ass'y

Note : ENN445 □ varies according to the areas employed. See note (2) when placing an order.



Note (2)

PC Board Ass'y	Version	Designated Areas
ENN-445 F	BS	the U.K.
ENN-445 G	EF	Continental Europe
	EN	Scandinavia
	G	Germany
ENN-445 H	U	Universal Type

TRANSISTORS

ITEM PART NUMBER	DESCRIPTION	AREA
Q601	2SA950(Q,Y) SI.TRANSIST TOSHIBA	
Q722	2SC2060(Q,R) SI.TRANSIST ROHM	
Q723	2SA934(Q,R) SI.TRANSIST ROHM	
Q730	DTC144ES DIGITAL TRA ROHM	
Q731	2SC2060(Q,R) SI.TRANSIST ROHM	
Q732	2SA934(Q,R) SI.TRANSIST ROHM	

I. C. S.

ITEM PART NUMBER	DESCRIPTION	AREA
IC600	AN8906SB I.C(M) MATSUSHITA	
IC650	MN662720RB I.C(DIGI-MO MATSUSHITA	
IC700	BA6398FP I.C(MONO-AN ROHM	
IC720	VC4580L I.C(MONO-AN DAINICHI	
IC750	MN35503 I.C(DIGI-MO MATSUSHITA	
IC751	NJM4580DD I.C(MONO-AN DAINICHI	

DIODES

ITEM PART NUMBER	DESCRIPTION	AREA
D751	1SS119 SI.DIODE	
D752	1SS119 SI.DIODE	

CAPACITORS

ITEM PART NUMBER	DESCRIPTION	AREA
C601	GETB1AM-107 100MF 10V AL E.CAPAC	
C602	QC20202-155 1.5MF 25V CER.RESIST	
C604	GETB1AM-107 100MF 10V AL E.CAPAC	
C605	QER51VM-106 10MF 35V AL E.CAPAC	
C606	QCHB1EZ-223 0.022MF 25V CER.CAPACI	
C607	QCSB1HJ-680 68PF 50V CER.CAPACI	
C608	GETB1HM-105 1MF 50V AL E.CAPAC	
C609	QCSB1HK-101Y 100PF 50V CER.CAPACI	
C610	QFLB1HJ-273 0.027MF 50V MYLAR CAPA	
C611	QFLB1HJ-472 4700PF 50V MYLAR CAPA	
C612	QFLB1HJ-332 3300PF 50V MYLAR CAPA	
C613	QCT30CH-3R3Y 3.3PF 50V CER.CAPACI	
C614	QFV81HJ-104 0.1MF 50V THIN FILM	
C615	QCHB1EZ-223 0.022MF 25V CER.CAPACI	
C616	QCHB1EZ-223 0.022MF 25V CER.CAPACI	
C617	QCHB1EZ-223 0.022MF 25V CER.CAPACI	
C618	QCNB1CM-222Y 2200PF 16V CER.CAPACI	
C619	QCSB1HK-271Y 270PF 50V CER.CAPACI	
C620	QCSB1HJ-470 47PF 50V CER.CAPACI	
C621	QCSB1HK-821Y 820PF 50V CER.CAPACI	
C622	GETB1AM-476 47MF 10V E.CAPACITO	
C623	QFV81HJ-104 0.1MF 50V THIN FILM	
C651	QFLB1HJ-471 470PF 50V MYLAR CAPA	
C652	QCHB1EZ-223 0.022MF 25V CER.CAPACI	
C653	QFLB1HJ-223 0.022MF 50V MYLAR CAPA	
C654	QFLB1HJ-223 0.022MF 50V MYLAR CAPA	
C655	QFV81HJ-354 0.33MF 50V TF.CAPACIT	
C658	QFV81HJ-104 0.1MF 50V THIN FILM	
C659	GETB1AM-107 100MF 10V AL E.CAPAC	
C660	QFLB1HJ-223 0.022MF 50V MYLAR CAPA	
C662	QFV81HJ-104 0.1MF 50V THIN FILM	
C663	GETB1AM-107 100MF 10V AL E.CAPAC	
C701	GETB1CM-227 220MF 16V AL E.CAPAC	
C702	QCHB1EZ-223 0.022MF 25V CER.CAPACI	
C703	QFLB1HJ-273 0.027MF 50V MYLAR CAPA	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C704	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C706	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	
C720	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C721	QETB1CM-476	47MF 16V AL E.CAPAC	
C722	QCS21HJ-101A	100PF 50V CER.CAPACI	
C731	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C732	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C733	QETB1HM-105	1MF 50V AL E.CAPAC	
C735	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
C736	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
C751	QCZ0202-155	1.5MF 25V CER.RESIST	
C752	QETB1AM-476	47MF 10V E.CAPACITO	
C753	QCZ0202-155	1.5MF 25V CER.RESIST	
C754	QCZ0202-155	1.5MF 25V CER.RESIST	
C755	QETBOJM-227	220MF 6.3V E.CAPACITO	
C756	QCZ0202-155	1.5MF 25V CER.RESIST	
C757	QETBOJM-108E	1000MF 6.3V E.CAPACITO	
C758	QCT30CH-180Y	18PF 50V CER.CAPACI	
C759	QCT30CH-180Y	18PF 50V CER.CAPACI	
C768	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
C769	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
C770	QCS31HJ-331Z	330PF 50V CER.CAPACI	
C771	QCS31HJ-331Z	330PF 50V CER.CAPACI	
C772	QFLB1HJ-333	0.033MF 50V MYLAR CAPA	
C773	QFLB1HJ-333	0.033MF 50V MYLAR CAPA	
C778	QFV81HJ-104	0.1MF 50V THIN FILM	
C779	QFV81HJ-104	0.1MF 50V THIN FILM	
C780	QCZ0202-155	1.5MF 25V CER.RESIST	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R745	QRD161J-102	1K 1/6W CARBON RES	
R746	QRD161J-102	1K 1/6W CARBON RES	
R749	QRD161J-2R2	2.2 1/6W CARBON RES	
R751	QRD161J-101	100 1/6W CARBON RES	
R752	QRD161J-102	1K 1/6W CARBON RES	
R753	QRD167J-560	56 1/6W CARBON RES	
R755	QRD161J-271	270 1/6W CARBON RES	
R756	QRD161J-101	100 1/6W CARBON RES	
R758	QRD161J-271	270 1/6W CARBON RES	
R760	QRV144F-1602	16K 1/4W CONST.META	
R761	QRV144F-1602	16K 1/4W CONST.META	
R762	QRD161J-243	24K 1/6W CARBON RES	
R763	QRD161J-243	24K 1/6W CARBON RES	
R764	QRV144F-1602	16K 1/4W CONST.META	
R765	QRV144F-1602	16K 1/4W CONST.META	
R766	QRD161J-243	24K 1/6W CARBON RES	
R767	QRD161J-243	24K 1/6W CARBON RES	
R768	QRD167J-682	6.8K 1/6W CARBON RES	
R769	QRD167J-682	6.8K 1/6W CARBON RES	
R772	QRD161J-362	3.6K 1/6W CARBON RES	
R773	QRD161J-362	3.6K 1/6W CARBON RES	
R774	QRD161J-183	18K 1/6W CARBON RES	
R775	QRD161J-183	18K 1/6W CARBON RES	
R776	QRD161J-621	620 1/6W CARBON RES	
R777	QRD161J-621	620 1/6W CARBON RES	
R786	QRD161J-271	270 1/6W CARBON RES	
R787	QRD161J-2R2	2.2 1/6W CARBON RES	

RESISTORS

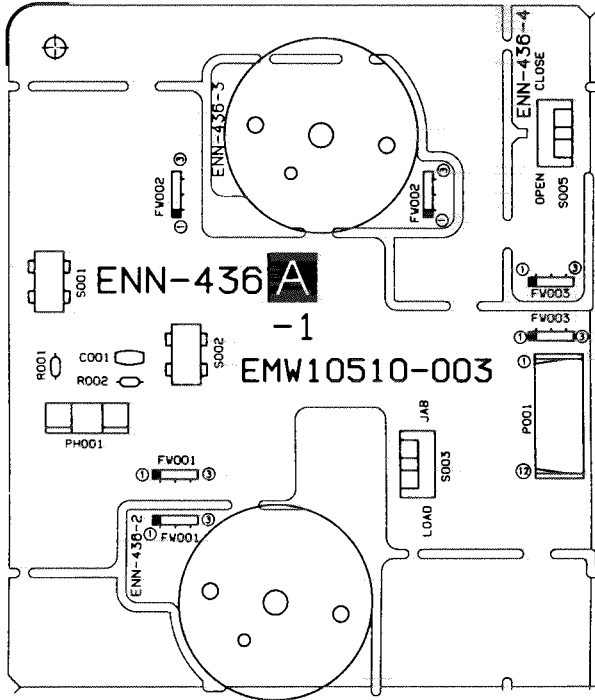
ITEM	PART NUMBER	DESCRIPTION	AREA
R602	QRD161J-123	12K 1/6W CARBON RES	
R605	QRD167J-134	130K 1/6W CARBON RES	
R607	QRD161J-913	91K 1/6W CARBON RES	
R608	QRD161J-273	27K 1/6W CARBON RES	
R609	QRD161J-114	110K 1/6W CARBON RES	
R610	QRD167J-154	150K 1/6W CARBON RES	
R611	QRD161J-394	390K 1/6W CARBON RES	
R612	QRD161J-103	10K 1/6W CARBON RES	
R613	QRD167J-121	120 1/6W CARBON RES	
R614	QRD161J-470	47 1/6W CARBON RES	
R615	QRD161J-470	47 1/6W CARBON RES	
R616	QRD161J-470	47 1/6W CARBON RES	
R617	QRD161J-2R2	2.2 1/6W CARBON RES	
R618	QRD161J-910Y	91 1/6W CARBON RES	
R651	QRD161J-102	1K 1/6W CARBON RES	
R652	QRD161J-102	1K 1/6W CARBON RES	
R653	QRD161J-102	1K 1/6W CARBON RES	
R654	QRD161J-471	470 1/6W CARBON RES	
R655	QRD167J-155	1.5M 1/6W CARBON RES	
R656	QRD161J-104	100K 1/6W CARBON RES	
R657	QRD161J-104	100K 1/6W CARBON RES	
R658	QRD161J-681	680 1/6W CARBON RES	
R659	QRD161J-124	120K 1/6W CARBON RES	
R661	QRD161J-2R2	2.2 1/6W CARBON RES	
R662	QRD161J-2R2	2.2 1/6W CARBON RES	
R670	QRD161J-102	1K 1/6W CARBON RES	
R671	QRD161J-102	1K 1/6W CARBON RES	
R672	QRD161J-102	1K 1/6W CARBON RES	
R673	QRD161J-472	4.7K 1/6W CARBON RES	
R701	QRD161J-821	820 1/6W CARBON RES	
R702	QRD167J-562	5.6K 1/6W CARBON RES	
R703	QRD161J-112	1.1K 1/6W CARBON RES	
R704	QRD167J-113	11K 1/6W CARBON RES	
R706	QRD161J-124	120K 1/6W CARBON RES	
R707	QRD167J-332	3.3K 1/6W CARBON RES	
R708	QRD161J-752	7.5K 1/6W CARBON RES	
R709	QRD167J-223	22K 1/6W CARBON RES	
R710	QRD161J-392	3.9K 1/6W CARBON RES	
R711	QRD167J-153	15K 1/6W CARBON RES	
R712	QRD161J-752	7.5K 1/6W CARBON RES	
R713	QRD167J-751	750 1/6W CARBON RES	
R714	QRD161J-363	36K 1/6W CARBON RES	
R716	QRD167J-151	150 1/6W CARBON RES	
R723	QRD167J-223	22K 1/6W CARBON RES	
R724	QRD161J-303Y	30K 1/6W CARBON RES	
R725	QRD161J-183	18K 1/6W CARBON RES	
R726	QRD167J-272	2.7K 1/6W CARBON RES	
R727	QRD161J-183	18K 1/6W CARBON RES	
R728	QRD161J-221	220 1/6W CARBON RES	
R730	QRD161J-363	36K 1/6W CARBON RES	
R731	QRD167J-153	15K 1/6W CARBON RES	
R732	QRD167J-153	15K 1/6W CARBON RES	
R733	QRD161J-303Y	30K 1/6W CARBON RES	
R736	QRD161J-363	36K 1/6W CARBON RES	
R738	QRD161J-363	36K 1/6W CARBON RES	
R739	QRD167J-751	750 1/6W CARBON RES	
R740	QRD161J-102	1K 1/6W CARBON RES	
R741	QRD161J-221	220 1/6W CARBON RES	
R743	QRD161J-102	1K 1/6W CARBON RES	
R744	QRD161J-102	1K 1/6W CARBON RES	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
P602	EMW10499-102	PRINTED BOA	
P603	VMC0314-S12	CONNECT TER	
BC604	EMV7144-015R	CONNECT TER	
FS720	EWS266-A408J	FLAT WIRE A	
JA601	E3400-431	FELT SPACER	
XT751	EMV7123-034	CONNECT TER	
	ECK0169-344KL	CRYSTAL	

XL-M416BK

■ ENN-436 A CD Changer PC Board Ass'y



CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C001	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R001	QRD161J-331	330 1/6W CARBON RES	
R002	QRD161J-472	4.7K 1/6W CARBON RES	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
	EMW10510-003A	CIR.BOARD	
P001	EMW5132-012R	CONNECT TER	
S001	QSEC001-E03	LEVER SWITC	
S002	QSEC001-E03	LEVER SWITC	
S003	ESS1200-002	LEVER SWITC	
S005	ESS1200-002	LEVER SWITC	
FW001	EWR33D-08SS	FLAT WIRE A	
FW002	EWR33D-08SS	FLAT WIRE A	
FW003	EWR33D-13SS	FLAT WIRE	
PH001	GP1A53HR	I.C(PHOTO-I	

Accessories List

Symbol No. **M 4 M M**

Item	Part Number	Part Name	Q'ty	Description	Area
1	E30580-2291A	INSTRUCTION BOOK	1		EF
	E30580-2291A	INSTRUCTION BOOK	1		G
	E30580-2291ABS	INSTRUCTION BOOK	1		BS
	E30580-2292A	INSTRUCTION BOOK	1		EN
	E30580-2293A	INSTRUCTION BOOK	1		U
2	RM-SX417U	WIRE-LESS REMOTE CONTROL	1		
3	UM-3(DJ)-2PSA	DRY CELL	1		
4	EWP302-011	SIGNAL CORD	1		
5	EWP805-012	PLUG WIRE ASSY	1		
6	QMP39F0-183E	POWER CORD	1		EF
7	QMP39F0-183E	POWER CORD	1		EN
	QMP39F0-183E	POWER CORD	1		G
	QMP5520-1835BS	POWER CORD	1		BS
	QMP7530-183	POWER CORD	1		U
8	E26072-020	CD MAGAZINE	1		
9	E309445-002	MAGAZINE LABEL	1		
	E300196-010B	ENVELOPE	2		
	ENZ2203-001	ADAPTOR PLUG	1		U
	BT-20066A	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
-	BT20060	WARRANTY CARD	1		BS
-	E43486-340A	SAFETY SHEET	1		BS

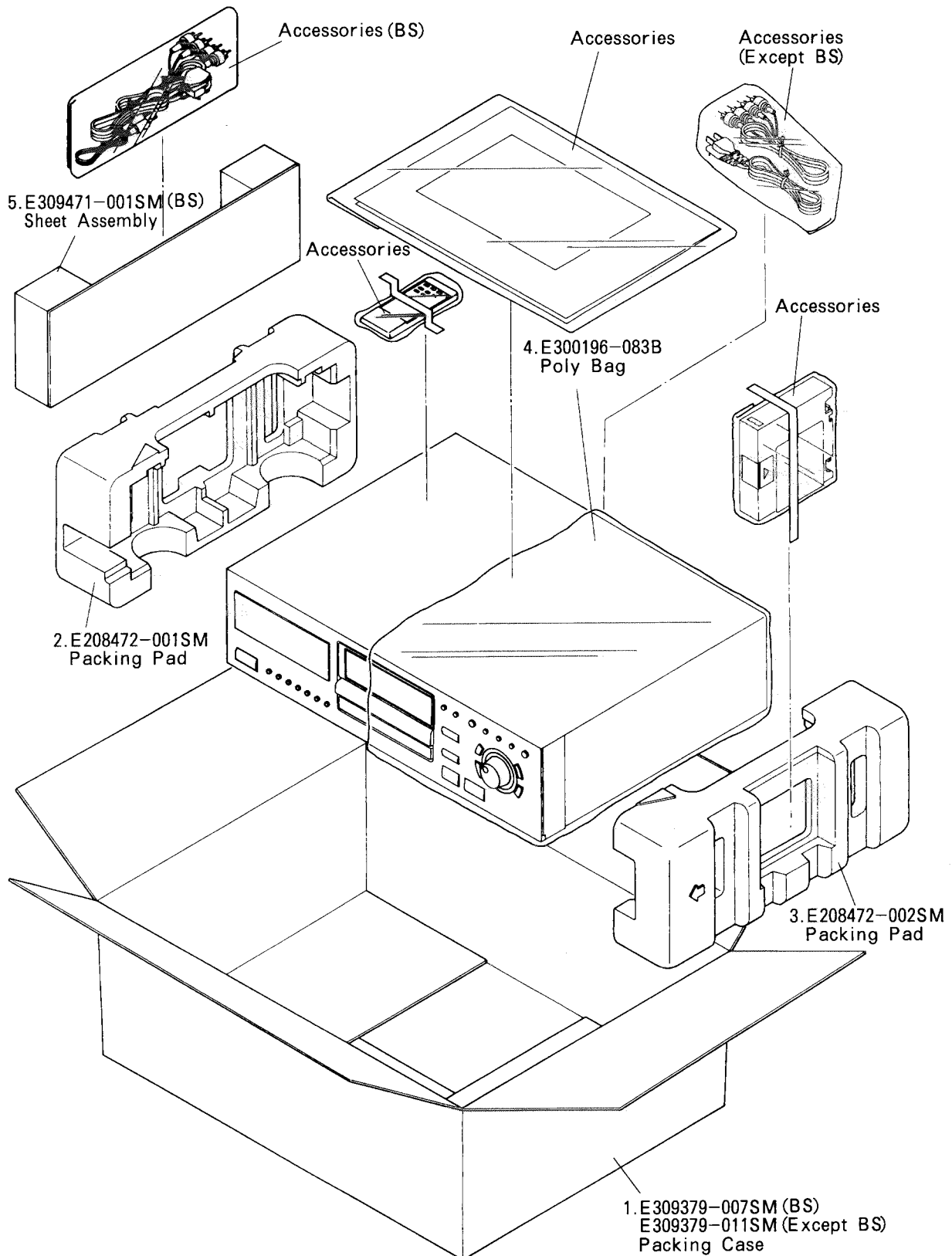
The Marks for Designated Areas

EF Continental Europe EN Scandinavia BS the U.K. G Germany
 U Universal Type
 No mark indicates all area.

Packing Materials and Part Numbers

Symbol No.

M	5	M	M
---	---	---	---



The Marks for Designated Areas

EF Continental Europe	EN Scandinavia	BS the U.K.	G Germany
U Universal Type			
No mark indicates all area.			

XL-M416BK

-MEMO-

PARTS LIST

Note : All printed circuit boards assemblies are not available as service parts.

Contents

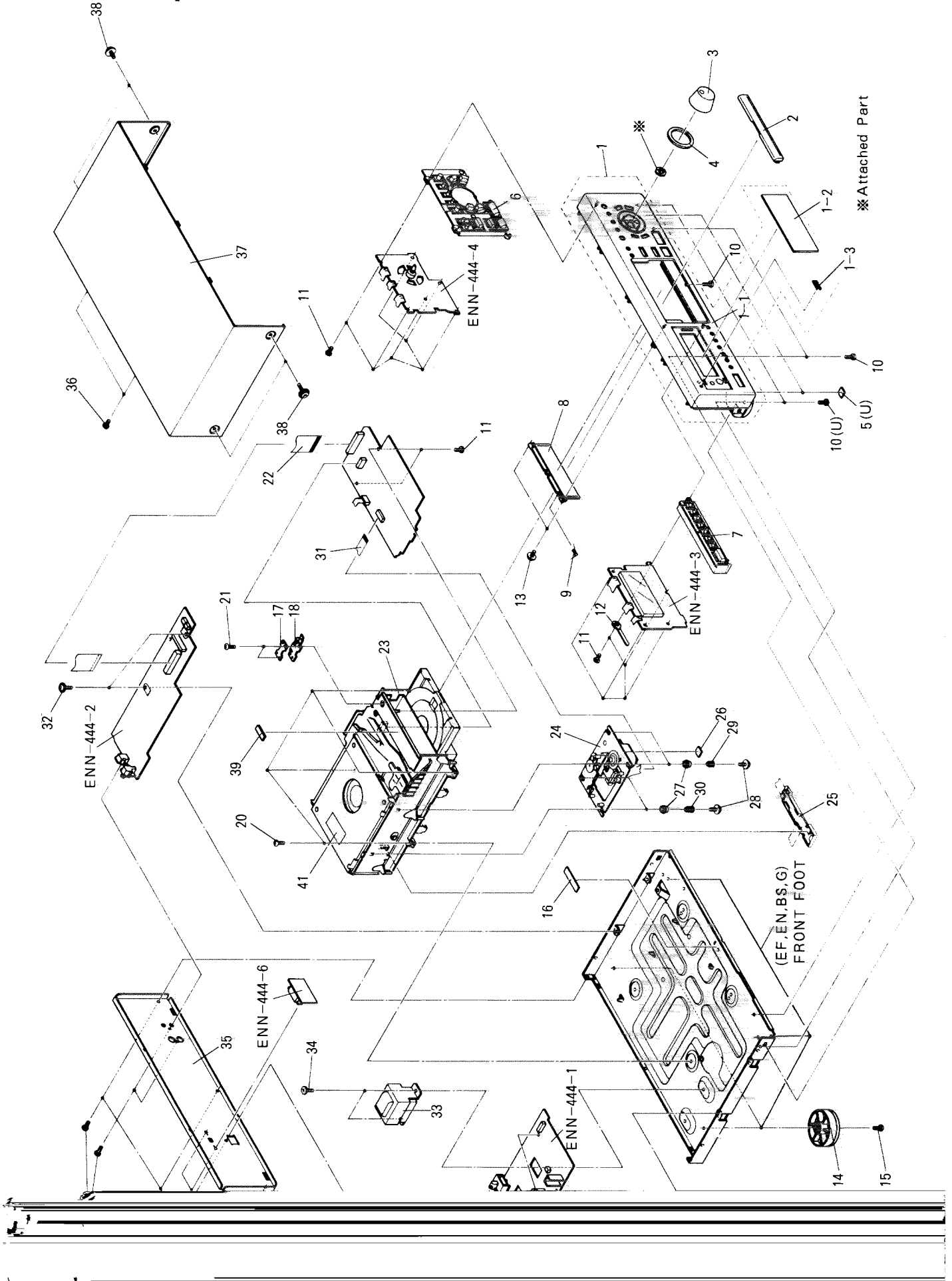
General Exploded View and Parts List	4-2
CD Changer Mechanism Ass'y and Parts List	4-4
CD Mechanism Ass'y and Parts List	4-6
Printed Circuit Board Ass'y and Parts List	4-7
■ ENN-444 □ Main PC Board Ass'y	4-7
■ ENN-445 □ Front PC Board Ass'y	4-10
■ ENN-436 □ CD Changer PC Board Ass'y	4-12
Accessories List	4-12
Packing Materials and Part Numbers	4-13

XL-M316BK

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-XLM316BKE(S)	FRONT PANEL ASS'Y	1		BS,EF,EN,G
	EFP-XLM316BKU(S)	FRONT PANEL ASS'Y	1		U
1-1	E103004-013SM	FRONT PANEL	1		BS,EF,EN,G
1-1	E103004-017SM	FRONT PANEL	1		U
1-2	E309341-009SM	WINDOW SCREEN	1		
1-3	VJD5429-001	JVC MARK	1		
2	E309345-004SM	CD FITTING	1		
3	E309339-002SM	KNOB	1		
4	E408778-002SM	SHEET ASS'Y	1		
5	E75896-001	SPACER	2	FRONT FOOT	U
6	E208468-002SM	PUSH BUTTON	1	PLAY/PAUSE	
7	E208466-002SM	PUSH BUTTON	1	POWER	
8	E309343-002SM	LID PLATE	1		
9	E73534-001	SPRING	1		
10	SDSG3006M	TAPPING SCREW	3		BS,EF,EN,G
	SDSG3006M	TAPPING SCREW	5		U
11	SDSF2608Z	SCREW	13		
12	E407469-001SS	WIRE CLAMP	1		
13	E72405-001	SPECIAL SCREW	2		
14	FSYH4001-00F	FOOT	4		BS,EF,EN,G
15	VJF4039-00H	FOOT	2		U
	SBST3008Z	TAPPING SCREW	4	FOR FOOT	BS,EF,EN,G
	SBST3008Z	TAPPING SCREW	2	FOR FOOT	U
16	E306805-134	SPACER	1	CHASSIS BASE	
17	E408823-001SM	SUPPORT BRACKET	1		
18	E309520-001	LEAF SPRING	1		
19	E103006-001SM	CHASSIS BASE	1		
20	SBSG3008Z	TAPPING SCREW	4		
21	SBSF3008Z	TAPPING SCREW	2		
22	VWF1234-16TTB	FFC CABLE	1		
23	-----	CD-CH MECHA	1	SEE PAGE 4-4	
24	-----	CD MECHA	1	SEE PAGE 4-6	
25	E308181-221SS	FFC HOLDER	1		
26	E306805-163	SPACER	1	CD MECH P.C.B	
27	E407153-001	INSULATOR	4		
28	E408361-001	SCREW	4		
29	E408373-001	SPRING(BLACK)	2		
30	E408373-002	SPRING	2		
31	VWF1015-16PPA	FFC CABLE	1		
32	GBSG3008CC	TAPPING SCREW	4		
⚠	ETP1000-86EAJ	POWER TRANSFORMER	1		EF,EN,G
⚠	ETP1000-86EAJBS	POWER TRANSFORMER	1		BS
⚠	ETP1000-86LAJ	POWER TRANSFORMER	1		U
34	E65389-004	SPECIAL SCREW	2	POWER TRANSFORMER	
35	E208470-007SM	REAR PANEL	1		BS,EF,EN,G
35	E208470-008SM	REAR PANEL	1		U
36	E73273-006	SPECIAL SCREW	8		
37	E206967-005	METAL COVER	1		
38	E406308-001	SPECIAL SCREW	4		
39	E306805-161	SPACER	1	CH MECHA TOP FRONT	
40	SBSF2608M	TAPPING SCREW	2	VOL.SEL.	U
41	E406507-001	CAUTION LABEL	1		
-	E70891-001	CLASS 1 LABEL	1		
-	E408450-001	CE LABEL	1		BS,EF,EN,G
-	E70028-001	APPROVAL LABEL	1		EN
-	E70419-003F	FTZ MARK LABEL	1		G
-	E75139-003	Z LABEL	1		U
-	QZL1007-001	BEAB LABEL	1		BS
-	QZL1031-101	LABEL	1		EF

The Marks for Designated Areas

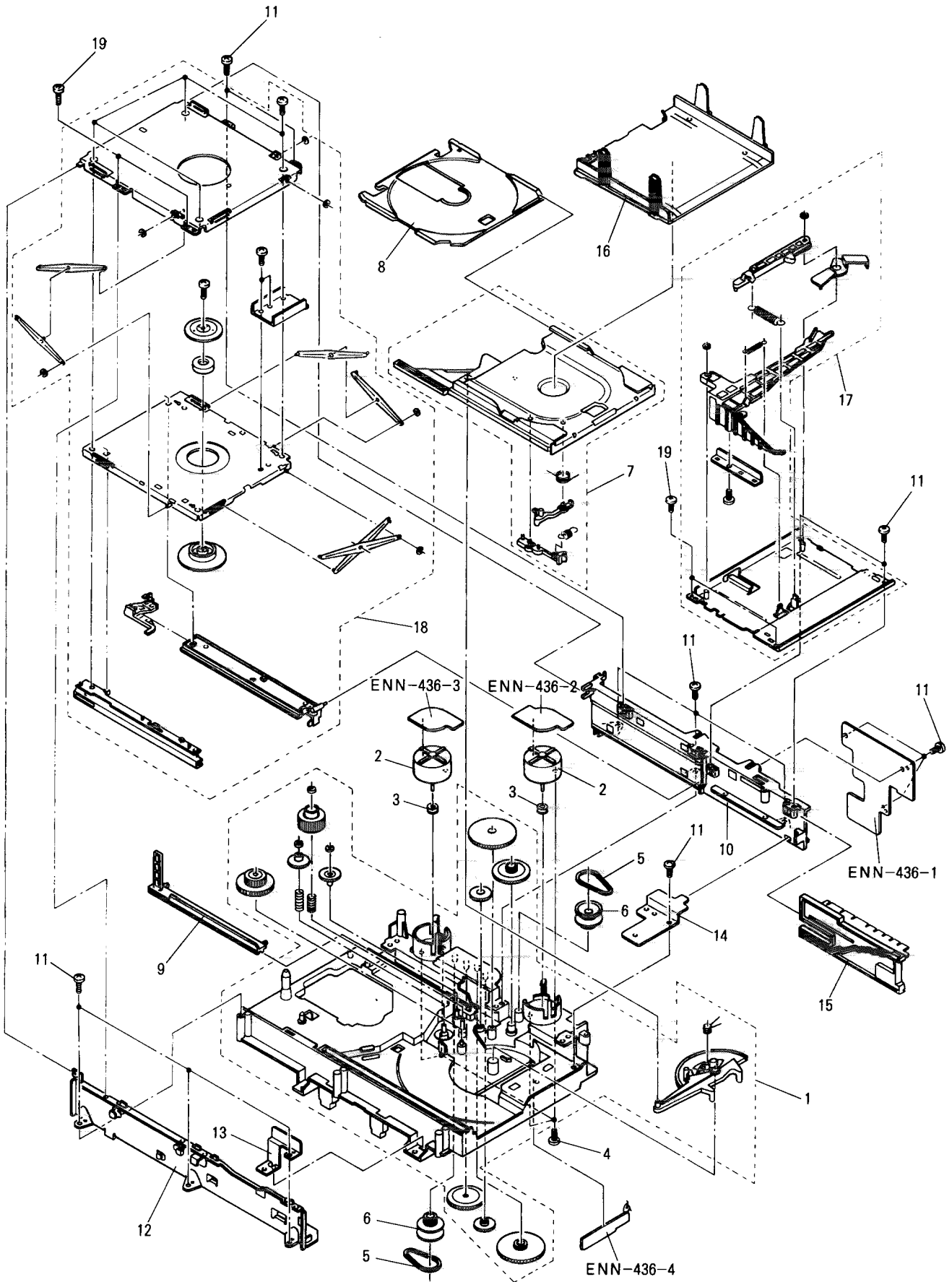
EF Continental Europe EN Scandinavia BS the U.K. G Germany
 U Universal Type
 No mark indicates all area.

XL-M316BK

CD Changer Mechanism Ass'y and Parts List

Symbol No.

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



■ PARTS LIST(Changer Mechanism)

Symbol No.

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

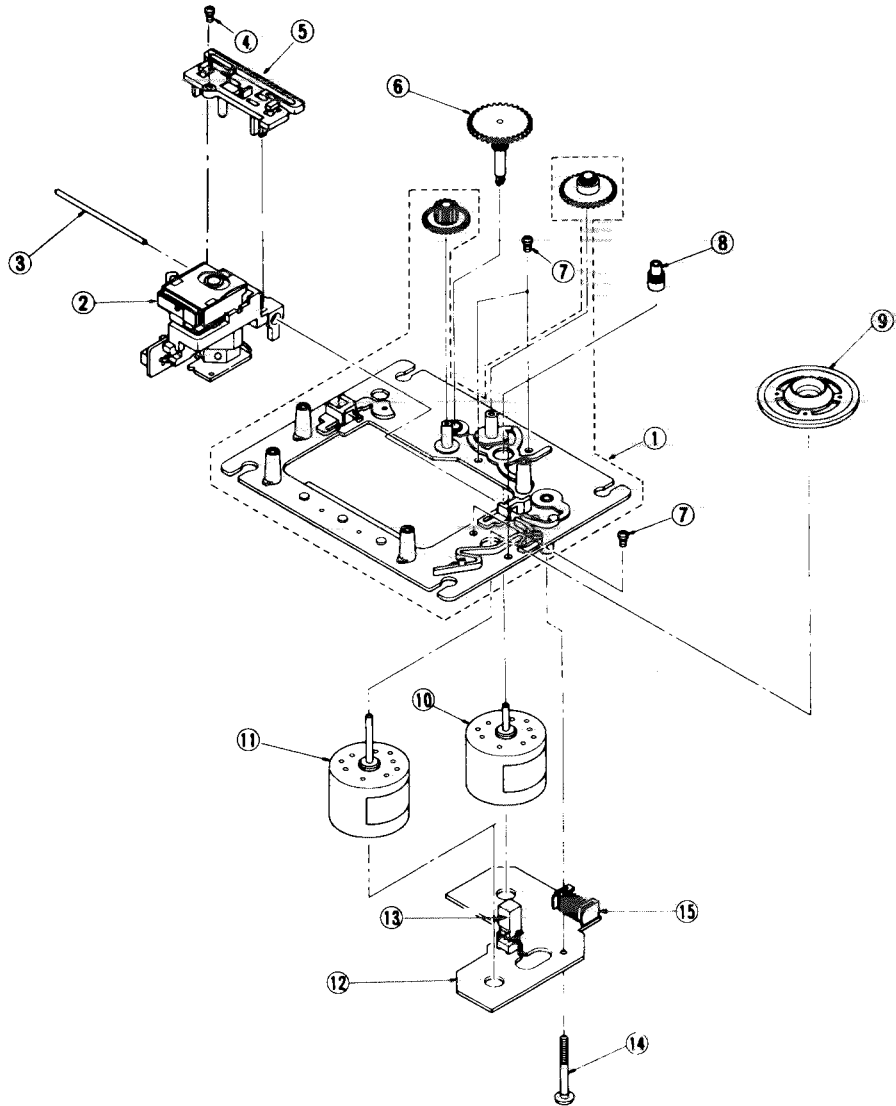
⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	E208436-001SM	MECHA BASE ASSY	1		
	2	RF-500TB-14415	DC MOTOR	2		
	3	E75984-222SS	MOTOR PULLEY	2		
	4	SPSP2604Z	SCREW	4		
	5	E75950-002	REEL BELT	2		
	6	E75985-222SS	GEAR(1)	2		
	7	E208456-001SM	TRAY BASE ASSY	1		
	8	E26554-004	CD TRAY	1		
	9	E309148-002SM	HOOK GUIDE	1		
	10	E102925-001SM	SIDE BRACKET (R)	1		
	11	SBSF2608Z	TAPPING SCREW	14		
	12	E208305-001SM	SIDE BRACKET (L)	1		
	13	E408514-001SM	EARTH PLATE	1		
	14	E408517-001SM	M. PLATE	1		
	15	E208303-002SM	ELEVATOR CAM	1		
	16	E208302-002SM	MAGAZINE GUIDE (B)	1		
	17	E208458-002SM	SAFETY LEVER ASSY	1		
	18	E102922-001SM	ELEVATOR ASSY	1		
	19	SDST2606Z	SCREW	4		

XL-M316BK

CD Mechanism Ass'y and Parts List

Symbol No.

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



■ PARTS LIST(CD Mechanism)

Symbol No.

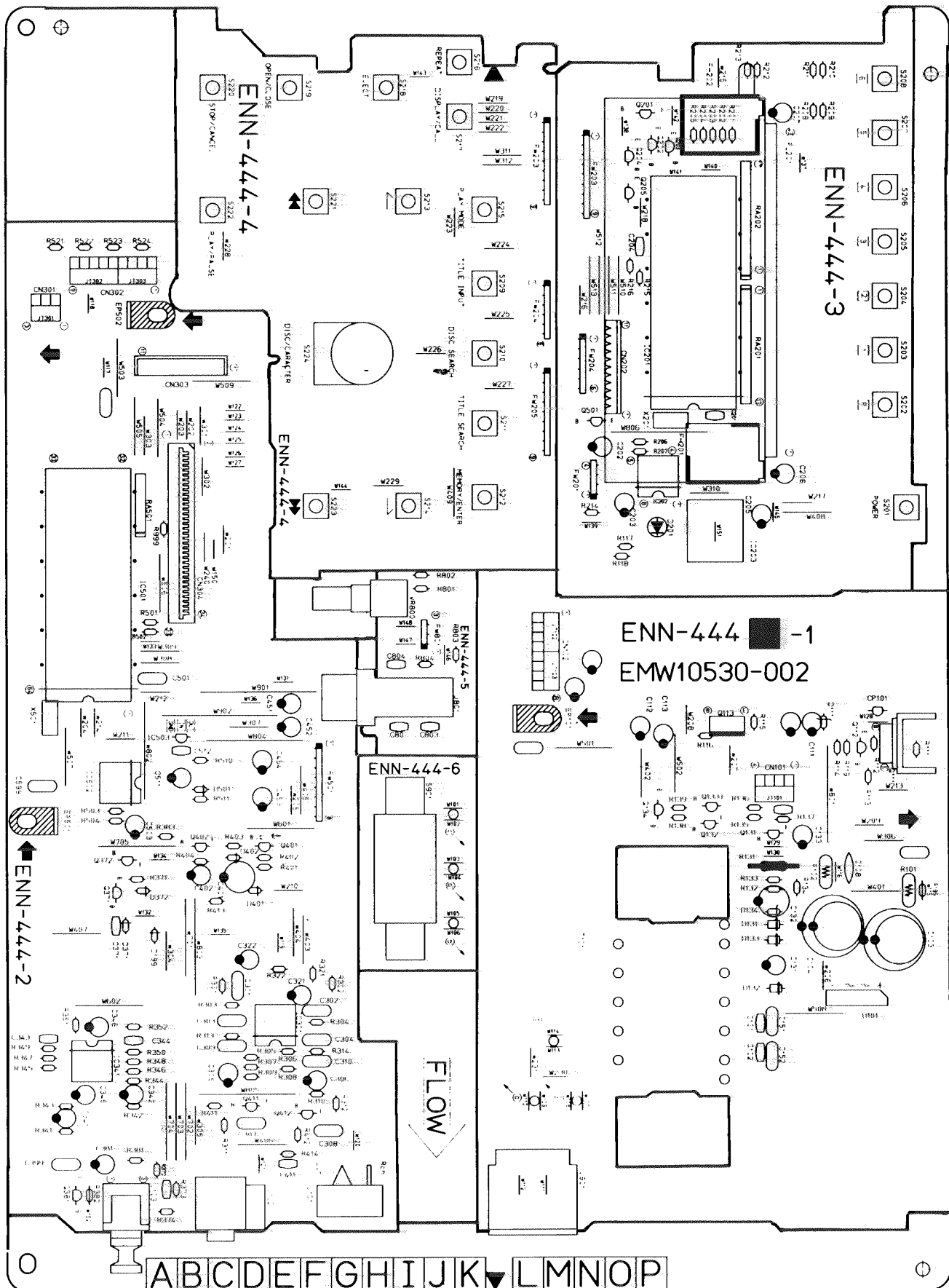
M	3	M	M
---	---	---	---

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHA BASE	1		
2	OPTIMA-6S	OPTICAL PICK-UP	1		
3	E407782-001	CD SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	E307745-221SS	CAM GEAR	1		
7	SDSP2003N	SCREW	4		
8	E406750-221SS	PINION GEAR	1		
9	EPB309173A	TURNTABLE	1		
10	MDN-4RA3ETA-1	FEED MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	PRINTED BOARD	1		
13	EBS1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	CONNECT TERMINAL	1		

Printed Circuit Board Ass'y and Parts List

■ ENN-444 □ Main PC Board Assy

Note : ENC-444 □ varies according to the areas employed. See note (1) when placing an order.



XL-M316BK

Note (1)

PC Board Ass'y	Version	Designated Areas
ENN-444 A	BS	the U.K.
ENN-444 B	EF EN G	Continental Europe Scandinavia Germany
ENN-444 C	U	Universal Type

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Q111	2SB1187(F,G)	SI. TRANSIST ROHM	
Q112	2SD1302	SI. TRANSIST MATSUSHITA	
Q113	2SB1357(E,F)	SI. TRANSIST ROHM	
Q131	2SA933S(RS)	SI. TRANSIST	
Q132	2SD2144S(VW)	SI. TRANSIST ROHM	
Q133	2SD2144S(VW)	SI. TRANSIST ROHM	
Q134	DTA114YS	DIGITAL TRA ROHM	
Q201	DTA114YS	DIGITAL TRA ROHM	
Q202	DTA114YS	DIGITAL TRA ROHM	
Q203	DTA114YS	DIGITAL TRA ROHM	
Q204	DTA114YS	DIGITAL TRA ROHM	
Q205	DTA114YS	DIGITAL TRA ROHM	
Q371	DTC144ES	DIGITAL TRA ROHM	
Q372	DTA114YS	DIGITAL TRA ROHM	
Q401	2SA933S(RS)	SI. TRANSIST	
Q402	DTC144YS	DIGITAL TRA ROHM	
Q411	2SD1302	SI. TRANSIST MATSUSHITA	
Q412	2SD1302	SI. TRANSIST MATSUSHITA	
Q501	DTC144YS	DIGITAL TRA ROHM	

I. C. S.

ITEM	PART NUMBER	DESCRIPTION	AREA
IC201	MN171202J6A	I.C.(MICRO-C MATSUSHITA	
IC202	AT24C04-10PC	I.C.(EP-ROM) MITSUBISHI	
IC203	SPS-420-1	INFRARED DE SANYO	
IC301	NJM4580DD	I.C.(MONO-AN DAINICHI	
IC501	MN171601J6B	I.C.(MICRO-C MATSUSHITA	
IC502	AT24C01A-10PC	I.C.(EP-ROM) MITSUBISHI	
IC503	PST9140T	I.C.(MONO-AN MITSUMI	

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
D101	S1VB20F	SI. DIODE SINDENGEN	
D111	MTZ5.6JA	ZENER DIODE ROHM	
D131	1SR35-200A	SI. DIODE ROHM	
D132	1SR35-200A	SI. DIODE ROHM	
D133	1SR35-200A	SI. DIODE ROHM	
D134	MTZ36JC	ZENER DIODE ROHM	
D201	SLA-580LT70F124L	L.E.D. ROHM	BS
D201	SLH-56VC50F130	L.E.D.	EF
D201	SLH-56VC50F130	L.E.D.	EN
D201	SLH-56VC50F130	L.E.D.	G
D201	SLH-56VC50F130	L.E.D.	U
D371	1SS133	SI. DIODE ROHM	
D372	1SS133	SI. DIODE ROHM	
D401	1SS133	SI. DIODE ROHM	
D402	1SS133	SI. DIODE ROHM	
D501	1SS133	SI. DIODE ROHM	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C103	QETB1EM-228	2200MF 25V E.CAPACITO	
C104	QETB1EM-108	1000MF 25V AL E.CAPAC	
C108	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C111	QETB1HM-225	2.2MF 50V AL E.CAPAC	
C112	QETB1CM-476	47MF 16V AL E.CAPAC	
C113	QETB1AM-476	47MF 10V E.CAPACITO	
C131	QETB1EM-476	47MF 25V AL E.CAPAC	
C132	QETB1HM-107	100MF 50V E.CAPACITO	
C133	QETB1HM-106	10MF 50V E.CAPACITO	
C151	QFV81HJ-104	0.1MF 50V THIN FILM	
C152	QFV81HJ-104	0.1MF 50V THIN FILM	
C201	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C202	QER51HM-106	10MF 50V AL E.CAPAC	
C203	QER51EM-106	10MF 50V E.CAPACITO	
C204	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C205	QETB1EM-106	10MF 25V AL E.CAPAC	
C206	QETB1HM-105	1MF 50V AL E.CAPAC	
C207	QETB1HM-105	1MF 50V AL E.CAPAC	
C301	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C302	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C303	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C304	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C305	QETB1AM-226	22MF 10V ELECTRO	
C306	QETB1AM-226	22MF 10V ELECTRO	
C307	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C308	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C309	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C310	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C321	QETB1EM-476	47MF 25V AL E.CAPAC	
C322	QETB1EM-476	47MF 25V AL E.CAPAC	
C371	QCB11K-331Y	330PF 50V CER.CAPACI	
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	BS
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	EF
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	EN
C399	QCS21HJ-680A	68PF 50V CER.CAPACI	G
C399	QFV81HJ-104	0.1MF 50V THIN FILM	U
C401	QETB1CM-227	220MF 16V AL E.CAPAC	
C402	QETB1CM-226	22MF 16V E.CAPACITO	
C411	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C451	QETB1EM-106	10MF 25V AL E.CAPAC	
C452	QETB1EM-106	10MF 25V AL E.CAPAC	
C453	QETB1EM-227	220MF 25V AL E.CAPAC	
C454	QETB1EM-227	220MF 25V AL E.CAPAC	
C501	QCZ0202-155	1.5MF 25V CER.RESIST	
C503	QETB1EM-106	10MF 25V AL E.CAPAC	
C511	QETB1EM-106	10MF 25V AL E.CAPAC	
C512	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	BS
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	EF
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	EN
C599	QCS21HJ-101A	100PF 50V CER.CAPACI	G

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R101	PTH61G30BD2R2N	FUSIBLE RE	
R102	PTH61G30BD2R2N	FUSIBLE RE	
R111	QRD161J-222	2.2K 1/6W CARBON RES	
R112	QRD161J-221	220 1/6W CARBON RES	
R113	QRD161J-221	220 1/6W CARBON RES	
R114	QRD161J-202	2K 1/6W CARBON RES	
R115	QRD161J-102	1K 1/6W CARBON RES	
R116	QRD161J-821	820 1/6W CARBON RES	
R117	QRD167J-1R5	1.5 1/6W CARBON RES	
R118	QRD167J-1R5	1.5 1/6W CARBON RES	
R119	QRD161J-202	2K 1/6W CARBON RES	
R131	QRZ0077-560	56 1/4W FUSIBLE RE	
R132	QRD161J-362	3.6K 1/6W CARBON RES	
R133	QRD161J-362	3.6K 1/6W CARBON RES	
R134	QRD167J-121	120 1/6W CARBON RES	
R135	QRD161J-222	2.2K 1/6W CARBON RES	
R136	QRD161J-222	2.2K 1/6W CARBON RES	
R137	QRD161J-103	10K 1/6W CARBON RES	
R138	QRD161J-103	10K 1/6W CARBON RES	
R139	QRD161J-103	10K 1/6W CARBON RES	
R201	QRD161J-124	120K 1/6W CARBON RES	
R202	QRD161J-124	120K 1/6W CARBON RES	
R203	QRD161J-124	120K 1/6W CARBON RES	
R204	QRD161J-124	120K 1/6W CARBON RES	
R205	QRD161J-124	120K 1/6W CARBON RES	
R206	QRD161J-103	10K 1/6W CARBON RES	
R207	QRD161J-103	10K 1/6W CARBON RES	
R208	QRD161J-103	10K 1/6W CARBON RES	
R209	QRD161J-103	10K 1/6W CARBON RES	
R210	QRD161J-473	47K 1/6W CARBON RES	
R211	QRD161J-473	47K 1/6W CARBON RES	
R212	QRD161J-473	47K 1/6W CARBON RES	
R213	QRD161J-473	47K 1/6W CARBON RES	
R214	QRD161J-181	180 1/6W CARBON RES	
R216	QRD161J-103	10K 1/6W CARBON RES	
R301	QRD161J-621	620 1/6W CARBON RES	
R302	QRD161J-621	620 1/6W CARBON RES	
R303	QRD161J-561	560 1/6W CARBON RES	
R304	QRD161J-561	560 1/6W CARBON RES	
R305	QRD161J-183	18K 1/6W CARBON RES	

RESISTORS

Δ	ITEM	PART NUMBER	DESCRIPTION			AREA
	R306	QRD161J-183	18K	1/6W	CARBON RES	
	R307	QRD161J-273	27K	1/6W	CARBON RES	
	R308	QRD161J-273	27K	1/6W	CARBON RES	
	R309	QRD161J-561	560	1/6W	CARBON RES	
	R310	QRD161J-561	560	1/6W	CARBON RES	
	R311	QRD161J-101	100	1/6W	CARBON RES	
	R312	QRD161J-101	100	1/6W	CARBON RES	
	R313	QRD161J-821	820	1/6W	CARBON RES	
	R314	QRD161J-821	820	1/6W	CARBON RES	
	R321	QRD161J-221	220	1/6W	CARBON RES	
	R322	QRD161J-221	220	1/6W	CARBON RES	
	R371	QRD161J-472	4.7K	1/6W	CARBON RES	
	R372	QRD161J-221	220	1/6W	CARBON RES	
	R373	QRD161J-221	220	1/6W	CARBON RES	U
	R401	QRD161J-331	33Ω	1/6W	CARBON RES	
	R402	QRD167J-822	8.2K	1/6W	CARBON RES	
	R403	QRD161J-683	68K	1/6W	CARBON RES	
	R404	QRD161J-221	220	1/6W	CARBON RES	
	R411	QRD161J-103	10K	1/6W	CARBON RES	
	R412	QRD161J-103	10K	1/6W	CARBON RES	
	R413	QRD167J-154	150K	1/6W	CARBON RES	
	R414	QRD161J-684	680K	1/6W	CARBON RES	
	R501	QRD161J-103	10K	1/6W	CARBON RES	
	R503	QRD161J-103	10K	1/6W	CARBON RES	
	R504	QRD161J-103	10K	1/6W	CARBON RES	
	R510	QRD161J-472	4.7K	1/6W	CARBON RES	
	R511	QRD161J-102	1K	1/6W	CARBON RES	
	R521	QRD161J-473	47K	1/6W	CARBON RES	
	R522	QRD161J-473	47K	1/6W	CARBON RES	
	R523	QRD161J-473	47K	1/6W	CARBON RES	
	R524	QRD161J-473	47K	1/6W	CARBON RES	
	R999	QRD161J-102	1K	1/6W	CARBON RES	
	RA501	QRB089J-103	10K	1/10W	NETWORK RE	

OTHERS

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	CP101	ICP-N10	I.C. PROTECT		
	EP501	EMZ4002-001Z	EARTH PLATE		
	FH201	E75819-001	SUPPORT HOL		
	FH202	E75820-001	SUPPORT HOL		
	FL201	ELU0001-204	FLUORESCENT		
	FS201	E3400-439	FELT SPACER		
	FS202	E3400-439	FELT SPACER		
	FW201	EWR34D-25LS	FLAT WIRE A		
	FW203	EWR39D-50SS	FLAT WIRE A		
	FW204	EWR36D-55SS	FLAT WIRE A		
	FW205	EWR39D-16LS	FLAT WIRE A		
	FW501	EWR38D-40LS	FLAT WIRE A		
	JT101	EMV7145-004Z	SOCKET ASSY		
	JT102	EMV7145-004Z	SOCKET ASSY		
	JT103	EMV7145-004Z	SOCKET ASSY		
	JT301	EMV7122-103	CONNECT TER		
	JT302	EMV7122-005	MALE CONNec		
	JT303	EMV7145-004Z	SOCKET ASSY		

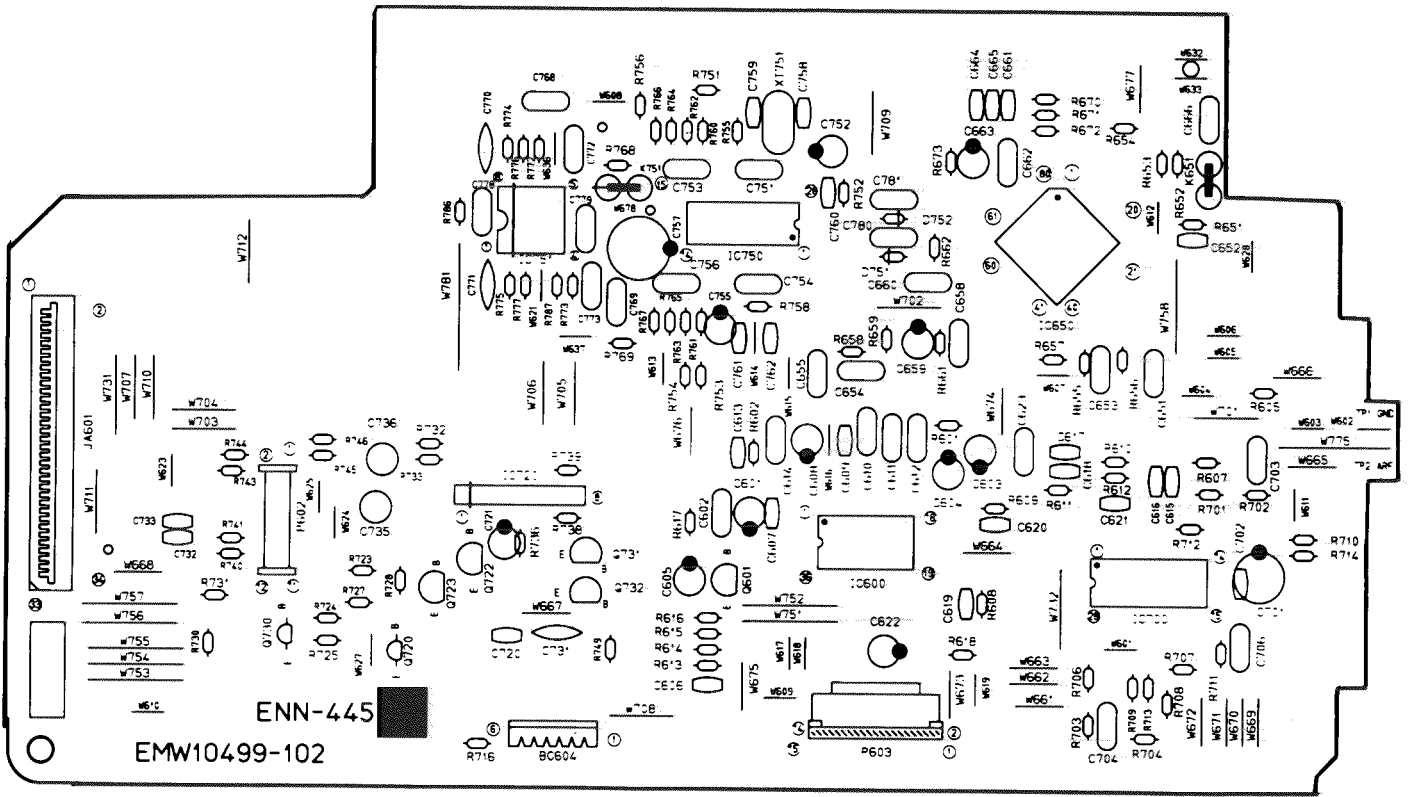
OTHERS

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
		EMW10530-002	PRINTED BOA		EF
		EMW10530-002	PRINTED BOA		EN
		EMW10530-002	PRINTED BOA		G
		EMW10530-002	PRINTED BOA		U
		EMW10530-002BS	PRINTED BOA		BS
		E70306-001	HEAT SINK		
		QWE881-09RR	VINYL WIRE		U
		QWE886-09RR	VINYL WIRE		U
		QWE888-12RR	VINYL WIRE		U
		S3SE3008Z	SCREW		
	J101	EMN00TV-217A	PIN JACK		
	J102	QMS3501-020	PIN JACK		
Δ	J901	QMCB001-E02H	AC SOCKET		EF
Δ	J901	QMCB001-E02H	AC SOCKET		EN
Δ	J901	QMCB001-E02H	AC SOCKET		G
Δ	J901	QMCB001-E02H	AC SOCKET		U
Δ	J901	QMC9001-E02HBS	AC SOCKET		BS
	K132	ENZ8101-007	INDUCTOR		BS
	K132	ENZ8101-007	INDUCTOR		EF
	K132	ENZ8101-007	INDUCTOR		EN
	K132	ENZ8101-007	INDUCTOR		G
	K373	ENZ8101-007	INDUCTOR		BS
	K373	ENZ8101-007	INDUCTOR		EF
	K373	ENZ8101-007	INDUCTOR		EN
	K373	ENZ8101-007	INDUCTOR		G
	S201	QSQ1001-E01ZJ7	PUSH SWITCH POWER		
	S202	QSQ1001-E01ZJ7	PUSH SWITCH P		
	S203	QSQ1001-E01ZJ7	PUSH SWITCH 1		
	S204	QSQ1001-E01ZJ7	PUSH SWITCH 2		
	S205	QSQ1001-E01ZJ7	PUSH SWITCH 3		
	S206	QSQ1001-E01ZJ7	PUSH SWITCH 4		
	S207	QSQ1001-E01ZJ7	PUSH SWITCH 5		
	S208	QSQ1001-E01ZJ7	PUSH SWITCH 6		
	S209	QSQ1001-E01ZJ7	PUSH SWITCH TITLE INPUT		
	S210	QSQ1001-E01ZJ7	PUSH SWITCH DISC SEARCH		
	S211	QSQ1001-E01ZJ7	PUSH SWITCH TITLE SEARCH		
	S212	QSQ1001-E01ZJ7	PUSH SWITCH MEMORY/ENTER		
	S213	QSQ1001-E01ZJ7	PUSH SWITCH <		
	S214	QSQ1001-E01ZJ7	PUSH SWITCH >		
	S215	QSQ1001-E01ZJ7	PUSH SWITCH PLAY MODE		
	S216	QSQ1001-E01ZJ7	PUSH SWITCH REPAT		
	S217	QSQ1001-E01ZJ7	PUSH SWITCH DISLAY/CALL		
	S218	QSQ1001-E01ZJ7	PUSH SWITCH EJECT		
	S219	QSQ1001-E01ZJ7	PUSH SWITCH OPEN/CLOSE		
	S220	QSQ1001-E01ZJ7	PUSH SWITCH STOP/CANCEL		
	S221	QSQ1001-E01ZJ7	PUSH SWITCH ⏪		
	S222	QSQ1001-E01ZJ7	PUSH SWITCH ⏩		
	S223	QSQ1001-E01ZJ7	PUSH SWITCH PLAY/PAUSE		
	S224	QSJ4002-E03J5	PUSH SWITCH DISC/CARACTER		
Δ	S901	QSS1L22-E01	SLIDE SWITC VOLSEL		U
	X201	ECX0060-000EM	CERAMIC RES		
	X501	ECX0060-000EM	CERAMIC RES		
	CN202	EWS268-A450J	SOCKET WIRE		
	CN303	EMV5109-011A	MALE CONNec		
	CN304	EMV7123-034	CONNECT TER		

XL-M316BK

■ ENN-445 □ CD PC Board Ass'y

Note : ENN445 □ varies according to the areas employed. See note (2) when placing an order.



Note (2)

PC Board Ass'y	Version	Designated Areas
ENN-445 A	BS	the U.K.
ENN-445 B	EF EN G	Continental Europe Scandinavia Germany
ENN-445 C	U	Universal Type

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Q601	2SA950(O,Y)	SI. TRANSIST TOSHIBA	
Q722	2SC2060(Q,R)	SI. TRANSIST ROHM	
Q723	2SA934(Q,R)	SI. TRANSIST ROHM	
Q730	DTC144ES	DIGITAL TRA ROHM	
Q731	2SC2060(Q,R)	SI. TRANSIST ROHM	
Q752	2SA934(Q,R)	SI. TRANSIST ROHM	

I. C. S.

ITEM	PART NUMBER	DESCRIPTION	AREA
IC600	AN8806SB	I.C.(M) MATSUSHITA	
IC650	MN662720RB	I.C.(DIGI-MO MATSUSHITA	
IC700	3A6398FP	I.C.(MONO-AN ROHM	
IC720	VC4580L	I.C.(MONO-AN DAINICHI	
IC750	MN35503	I.C.(DIGI-MO MATSUSHITA	
IC751	NJM45800D	I.C.(MONO-AN DAINICHI	

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
D751	1SS119	SI. DIODE	
D752	1SS119	SI. DIODE	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C601	QETB1AM-107	100MF 10V AL E. CAPAC	
C602	QCZ0202-155	1.5MF 25V CER. RESIST	
C604	QETB1AM-107	100MF 10V AL E. CAPAC	
C605	QER51VM-106	10MF 35V AL E. CAPAC	
C606	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C607	QCSB1HJ-680	68PF 50V CER. CAPACI	
C608	QETB1HM-105	1MF 50V AL E. CAPAC	
C609	QCBS1HK-101Y	100PF 50V CER. CAPACI	
C610	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	
C611	QFLB1HJ-472	4700PF 50V MYLAR CAPA	
C612	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
C613	QCT30CH-3R3Y	3.3PF 50V CER. CAPACI	
C614	QFV81HJ-104	0.1MF 50V THIN FILM	
C615	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C616	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C617	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C618	QCXB1CM-222Y	2200PF 16V CER. CAPACI	
C619	QCBS1HK-271Y	270PF 50V CER. CAPACI	
C620	QCSB1HJ-470	47PF 50V CER. CAPACI	
C621	QCBS1HK-821Y	820PF 50V CER. CAPACI	
C622	QETB1AM-476	47MF 10V E. CAPACITO	
C623	QFV81HJ-104	0.1MF 50V THIN FILM	
C651	QFLB1HJ-471	470PF 50V MYLAR CAPA	
C652	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C653	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C654	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C655	QFV81HJ-334	0.33MF 50V TF. CAPACIT	
C658	QFV81HJ-104	0.1MF 50V THIN FILM	
C659	QETB1AM-407	100MF 10V AL E. CAPAC	
C660	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C662	QFV81HJ-104	0.1MF 50V THIN FILM	
C663	QETB1AM-107	100MF 10V AL E. CAPAC	
C701	QETB1CM-227	220MF 16V AL E. CAPAC	
C702	QCHB1EZ-223	0.022MF 25V CER. CAPACI	
C703	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C704	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C706	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	
C720	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C721	QETB1CM-476	47MF 16V AL E.CAPAC	
C722	QCS21HJ-101A	100PF 50V CER.CAPACI	
C731	QCF21HF-223A	0.022MF 50V CER.CAPACI	
C732	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C733	QETB1HM-105	1MF 50V AL E.CAPAC	
C735	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
C736	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
C751	QCZ0202-155	1.5MF 25V CER.RESIST	
C752	QETB1AM-476	47MF 10V E.CAPACITO	
C753	QCZ0202-155	1.5MF 25V CER.RESIST	
C754	QCZ0202-155	1.5MF 25V CER.RESIST	
C755	QETB0JM-227	220MF 6.3V E.CAPACITO	
C756	QCZ0202-155	1.5MF 25V CER.RESIST	
C757	QETB0JM-108E	1000MF 6.3V E.CAPACITO	
C758	QCT30CH-180Y	18PF 50V CER.CAPACI	
C759	QCT30CH-180Y	18PF 50V CER.CAPACI	
C768	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
C769	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
C770	QCS31HJ-3312	330PF 50V CER.CAPACI	
C771	QCS31HJ-3312	330PF 50V CER.CAPACI	
C772	QFLB1HJ-333	0.033MF 50V MYLAR CAPA	
C773	QFLB1HJ-333	0.033MF 50V MYLAR CAPA	
C778	QFV81HJ-104	0.1MF 50V THIN FILM	
C779	QFV81HJ-104	0.1MF 50V THIN FILM	
C780	QCZ0202-155	1.5MF 25V CER.RESIST	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R745	QRD161J-102	1K 1/6W CARBON RES	
R746	QRD161J-102	1K 1/6W CARBON RES	
R749	QRD161J-2R2	2.2 1/6W CARBON RES	
R751	QRD161J-101	100 1/6W CARBON RES	
R752	QRD161J-102	1K 1/6W CARBON RES	
R753	QRD167J-560	56 1/6W CARBON RES	
R755	QRD161J-271	270 1/6W CARBON RES	
R756	QRD161J-101	100 1/6W CARBON RES	
R758	QRD161J-271	270 1/6W CARBON RES	
R760	QRV144F-1602	16K 1/4W CONST.META	
R761	QRV144F-1602	16K 1/4W CONST.META	
R762	QRD161J-243	24K 1/6W CARBON RES	
R763	QRD161J-243	24K 1/6W CARBON RES	
R764	QRV144F-1602	16K 1/4W CONST.META	
R765	QRV144F-1602	16K 1/4W CONST.META	
R766	QRD161J-243	24K 1/6W CARBON RES	
R767	QRD161J-243	24K 1/6W CARBON RES	
R768	QRD167J-682	6.8K 1/6W CARBON RES	
R769	QRD167J-682	6.8K 1/6W CARBON RES	
R772	QRD161J-362	3.6K 1/6W CARBON RES	
R773	QRD161J-362	3.6K 1/6W CARBON RES	
R774	QRD161J-183	18K 1/6W CARBON RES	
R775	QRD161J-183	18K 1/6W CARBON RES	
R776	QRD161J-621	620 1/6W CARBON RES	
R777	QRD161J-621	620 1/6W CARBON RES	
R786	QRD161J-271	270 1/6W CARBON RES	
R787	QRD161J-2R2	2.2 1/6W CARBON RES	

RESISTORS

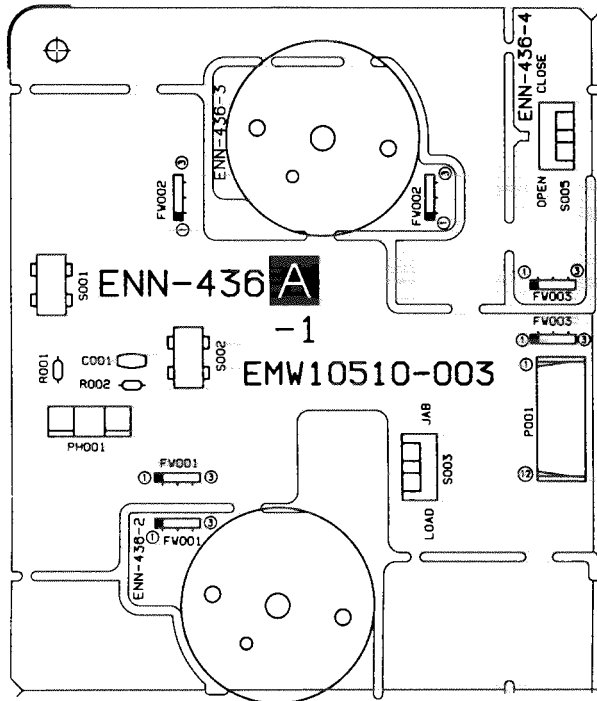
ITEM	PART NUMBER	DESCRIPTION	AREA
R602	QRD161J-123	12K 1/6W CARBON RES	
R605	QRD167J-134	130K 1/6W CARBON RES	
R607	QRD161J-913	91K 1/6W CARBON RES	
R608	QRD161J-273	27K 1/6W CARBON RES	
R609	QRD161J-114	110K 1/6W CARBON RES	
R610	QRD167J-154	150K 1/6W CARBON RES	
R611	QRD161J-394	390K 1/6W CARBON RES	
R612	QRD161J-103	10K 1/6W CARBON RES	
R613	QRD167J-121	120 1/6W CARBON RES	
R614	QRD161J-470	47 1/6W CARBON RES	
R615	QRD161J-470	47 1/6W CARBON RES	
R616	QRD161J-470	47 1/6W CARBON RES	
R617	QRD161J-2R2	2.2 1/6W CARBON RES	
R618	QRD161J-910Y	91 1/6W CARBON RES	
R651	QRD161J-102	1K 1/6W CARBON RES	
R652	QRD161J-102	1K 1/6W CARBON RES	
R653	QRD161J-102	1K 1/6W CARBON RES	
R654	QRD161J-471	470 1/6W CARBON RES	
R655	QRD167J-155	1.5M 1/6W CARBON RES	
R656	QRD161J-104	100K 1/6W CARBON RES	
R657	QRD161J-104	100K 1/6W CARBON RES	
R658	QRD161J-681	680 1/6W CARBON RES	
R659	QRD161J-124	120K 1/6W CARBON RES	
R661	QRD161J-2R2	2.2 1/6W CARBON RES	
R662	QRD161J-2R2	2.2 1/6W CARBON RES	
R670	QRD161J-102	1K 1/6W CARBON RES	
R671	QRD161J-102	1K 1/6W CARBON RES	
R672	QRD161J-102	1K 1/6W CARBON RES	
R673	QRD161J-472	4.7K 1/6W CARBON RES	
R701	QRD161J-821	820 1/6W CARBON RES	
R702	QRD167J-562	5.6K 1/6W CARBON RES	
R703	QRD161J-112	1.1K 1/6W CARBON RES	
R704	QRD167J-113	11K 1/6W CARBON RES	
R706	QRD161J-124	120K 1/6W CARBON RES	
R707	QRD167J-332	3.3K 1/6W CARBON RES	
R708	QRD161J-752	7.5K 1/6W CARBON RES	
R709	QRD167J-223	22K 1/6W CARBON RES	
R710	QRD161J-392	3.9K 1/6W CARBON RES	
R711	QRD167J-153	15K 1/6W CARBON RES	
R712	QRD161J-752	7.5K 1/6W CARBON RES	
R713	QRD167J-751	750 1/6W CARBON RES	
R714	QRD161J-363	36K 1/6W CARBON RES	
R716	QRD167J-151	150 1/6W CARBON RES	
R723	QRD167J-223	22K 1/6W CARBON RES	
R724	QRD161J-303Y	30K 1/6W CARBON RES	
R725	QRD161J-183	18K 1/6W CARBON RES	
R726	QRD167J-272	2.7K 1/6W CARBON RES	
R727	QRD161J-183	18K 1/6W CARBON RES	
R728	QRD161J-221	220 1/6W CARBON RES	
R730	QRD161J-363	36K 1/6W CARBON RES	
R731	QRD167J-153	15K 1/6W CARBON RES	
R732	QRD167J-153	15K 1/6W CARBON RES	
R733	QRD161J-303Y	30K 1/6W CARBON RES	
R736	QRD161J-363	36K 1/6W CARBON RES	
R738	QRD161J-363	36K 1/6W CARBON RES	
R739	QRD167J-751	750 1/6W CARBON RES	
R740	QRD161J-102	1K 1/6W CARBON RES	
R741	QRD161J-221	220 1/6W CARBON RES	
R743	QRD161J-102	1K 1/6W CARBON RES	
R744	QRD161J-102	1K 1/6W CARBON RES	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
P602	EMW10499-102	PRINTED BOA	
P603	VMC0314-S12	CONNECT TER	
BC604	EMV7144-013R	CONNECT TER	
FS720	EWS266-A408J	FLAT WIRE A	
JA601	E3400-431	FELT SPACER	
XT751	EMV7123-034	CONNECT TER	
	E0X0169-344KL	CRYSTAL	

XL-M316BK

■ ENN-436 A CD Changer PC Board Ass'y



CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C001	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

RESISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
R001	QRD161J-331	330 1/6W CARBON RES	
R002	QRD161J-472	4.7K 1/6W CARBON RES	

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
	EMW10510-003A	CIR.BOARD	
P001	EMV5132-012R	CONNECT TER	
S001	QSEC001-E03	LEVER SWITC	
S002	QSEC001-E03	LEVER SWITC	
S003	ESS1200-002	LEVER SWITC	
S005	ESS1200-002	LEVER SWITC	
FW001	EW333D-08SS	FLAT WIRE A	
FW002	EW333D-08SS	FLAT WIRE A	
FW003	EW333D-13SS	FLAT WIRE	
PH001	GP1A53HR	I.C.(PHOTO-I	

Accessories List

Symbol No.

M	4	M	M
---	---	---	---

Item	Part Number	Part Name	Q'ty	Description	Area
1	E30580-2291A	INSTRUCTION BOOK	1		EF
	E30580-2291A	INSTRUCTION BOOK	1		G
	E30580-2291ABS	INSTRUCTION BOOK	1		BS
	E30580-2292A	INSTRUCTION BOOK	1		EN
	E30580-2293A	INSTRUCTION BOOK	1		U
2	QMP39F0-183E	POWER CORD	1		EF
	QMP39F0-183E	POWER CORD	1		EN
	QMP39F0-183E	POWER CORD	1		G
	QMP5520-1835BS	POWER CORD	1		BS
	QMP7530-183	POWER CORD	1		U
3	EWP302-011	SIGNAL CORD	1		
4	EWP805-012	PLUG WIRE ASSY	1		
5	E26072-020	CD MAGAZINE	1		
6	E309445-002	MAGAZINE LABEL	1		
7	E300196-010B	ENVELOPE	2		
8	ENZ2203-001	ADAPTOR PLUG	1		U
	BT-20066A	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT20060	WARRANTY CARD	1		BS
	E43486-340A	SAFETY SHEET	1		BS

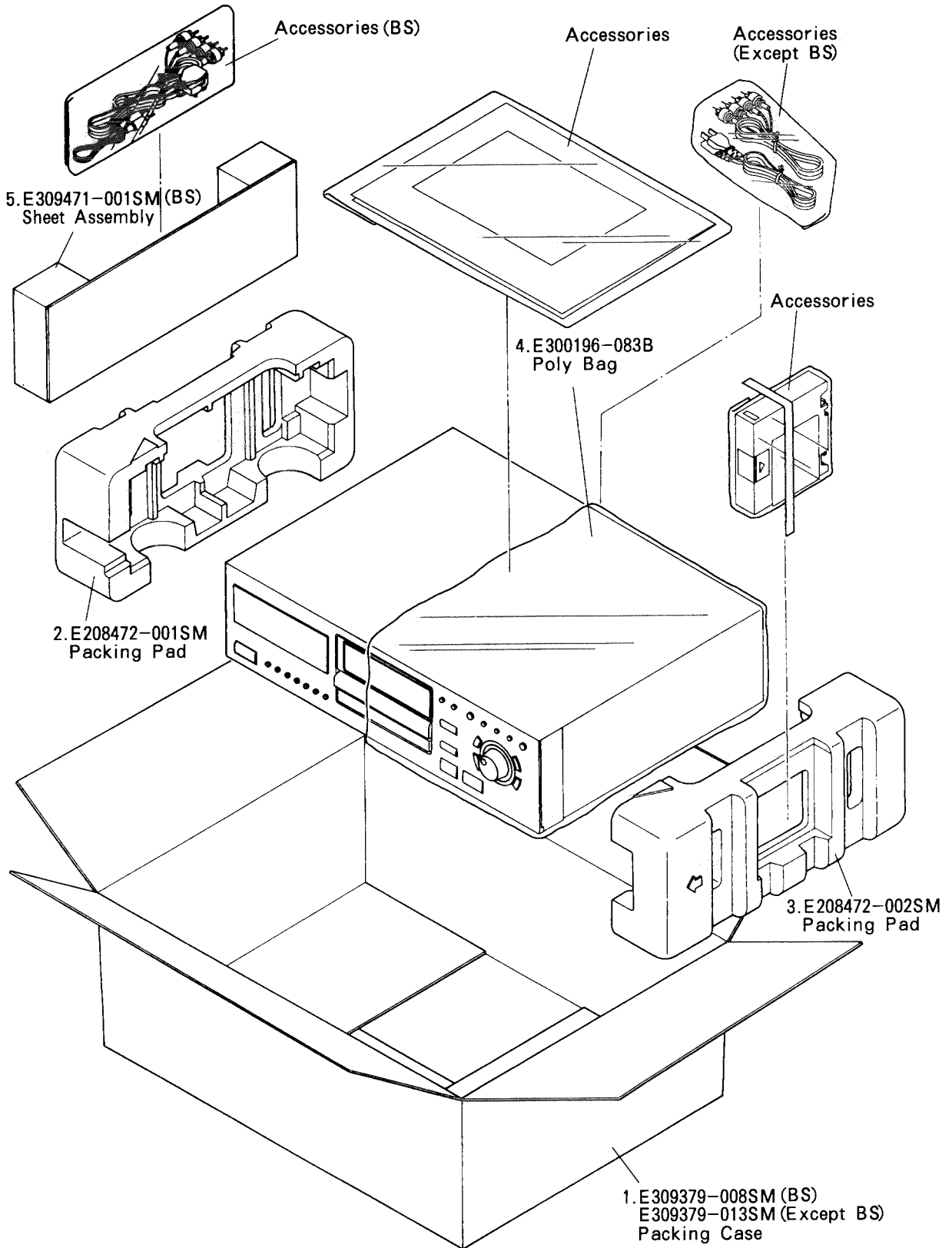
The Marks for Designated Areas

EF Continental Europe EN Scandinavia BS the U.K. G Germany
 U Universal Type
 No mark indicates all area.

Packing Materials and Part Numbers

Symbol No.

M	5	M	M
---	---	---	---



The Marks for Designated Areas			
EF	Continental Europe	EN	Scandinavia
U	Universal Type	BS	the U.K.
		G	Germany
No mark indicates all area.			


XL-M516BK
XL-M416BK
XL-M316BK

JVC

VICTOR COMPANY OF JAPAN, LIMITED

AUDIO DIVISION, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No.20529)

 Printed in Japan
9503 (V)