

JVC

SERVICE MANUAL

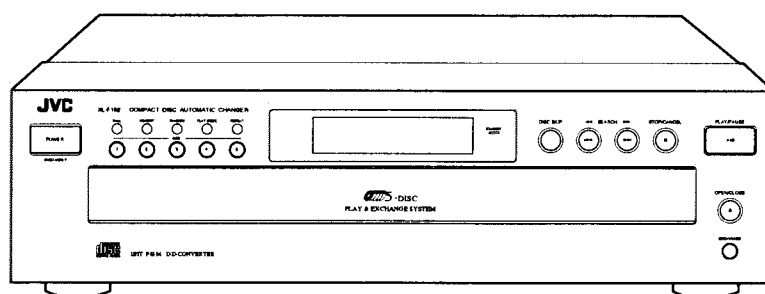
COMPACT DISC AUTOMATIC CHANGER

XL-F152BK XL-F252BK

Area Suffix

J the U.S.A
C Canada

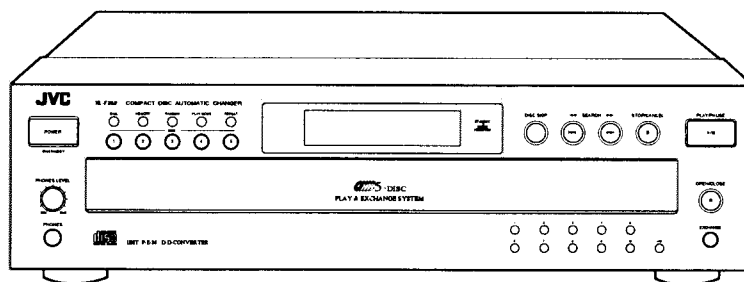
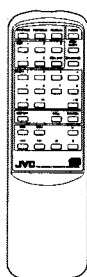
XL-F152BK



COMPACT
disc
DIGITAL AUDIO

COMPU LINK
Component

XL-F252BK



COMPACT
disc
DIGITAL AUDIO

COMPU LINK
Remote
Control Component

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Safety Precautions

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

Do not use a line isolation transformer during this check.

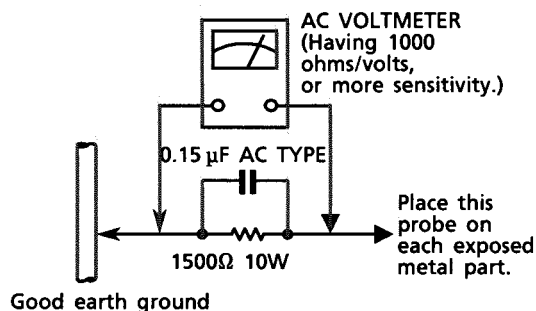
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA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

- Alternate check method

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

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

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

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

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.

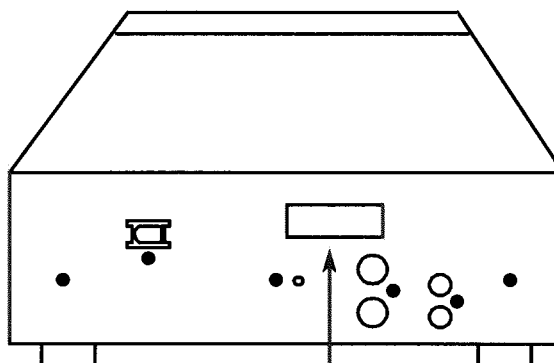
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

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

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

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS



CERTIFICATION
THIS PRODUCT COMPLIES WITH DHHS RULES
21 CFR SUBCHAPTER J APPLICABLE AT DATE
OF MANUFACTURE.

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 unit is not operative.	Power plug is disconnected from the AC outlet.	Connect the plug to the AC outlet.
	Discs are not loaded.	Load discs in the disc tray.
Playback is not possible.	Disc is inserted upside down.	Load the disc with its label-side up in the disc tray.
	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.
No sound from the headphones. (for XL-F252BK)	Headphones volume is set to the minimum level.	Adjust the volume with the PHONES LEVEL control.
The reproduced sound includes noise.	Disc is dirty.	Wipe off the disc surface with a soft cloth.
	Disc is warped.	Replace the disc with a new one.
The sound is intermittent.	Disc is scratched.	Replace the disc with a new one.
The remote control unit does not function. (for XL-F252BK)	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 shines on the remote sensor of the main unit.	Shade the unit from the direct sunlight.

Specifications

General

Format:	Compact disc digital audio
Signal detection system:	Non-contact optical detection
CD capacity:	5 discs
Sampling frequency:	44.1 kHz
Power requirements:	AC 120 V $\sim$, 60 Hz
Power consumption:	18 watts
Dimensions (W x H x D):	435 x 128 x 391 mm (XL-F252BK) (17-3/16 x 5-1/16 x 15-1/16 inches) 435 x 128 x 384 mm (XL-F152BK) (17-3/16 x 5-1/16 x 15-1/8 inches)
Weight:	5.2 kg (11.5 lbs)

Audio performance

Frequency response:	2 Hz to 20,000 Hz (± 1 dB)
Dynamic range:	More than 98.0 dB (at 1 kHz)
Signal to noise ratio:	More than 107.0 dB
Total harmonic distortion:	Less than 0.0022% (at 1 kHz)
Channel separation:	More than 94.0 dB (at 1 kHz)
Wow and flutter:	Below the measurable limit
Output level:	2.0 Vrms (at full scale)

Accessories

AC power cord	1
Audio cord	1
COMPU LINK cord	1
Remote control unit (RM-SX252U) (XL-F252BK only)	1
Battery (R6P(SUM-3)/AA(15F)) (XL-F252BK only)	2

Design and specifications subject to change without notice.

INTRODUCTION

Precautions

Load compact discs only
Never insert anything other than compact discs into any part of the player.

If a problem persists
If something goes wrong, turn off the power immediately. If the same problem reoccurs when the power is turned on once more, turn off the power again and consult your JVC dealer.

Handling the power cord
When unplugging from the wall socket, always pull the plug body, never the power cable.

Volume settings
A CD player has almost zero background noise. Because of this, the technique of listening to the background level and then setting the volume before the music starts, as used with analog turntables or tape decks, cannot be used. If you raise the volume level too high, speaker damage may result.

Condensation
The CD player uses optical components. If it is moved from a cold location to a warm one, or is used in a room subject to excessive humidity or where a fire has just been lit, condensation could form on the optical components.
This may prevent the laser beam from being properly transmitted and thus causes noise or even malfunction.
If condensation has formed and the CD player does not function correctly, we recommend that you leave it turned on for an hour or two. At the end of this time the CD player still does not function properly, please consult your JVC dealer.

Transporting the unit
When carrying this unit, it is best to avoid either tilting it or turning it upside-down. Where you cannot avoid doing so, please remove the discs first.

Using compact discs
Compact discs are made of plastic and can easily be damaged. If the disc is dirty, scratched, warped or otherwise damaged, the digital information may not be picked up correctly.

Applicable discs
This unit can only be used with compact discs bearing the mark below. Never use discs of other types.



About this manual

This manual covers the operating instructions for the compact disc automatic changers XL-F252BK and XL-F152BK.
There are several functions which require separate instructions for each model. Please check the model number stated on the carton box and follow the descriptions applicable to your unit.
Especially, please note that the remote control unit RM-SX252U is supplied only with XL-F252BK. For XL-F152BK, ignore all the descriptions on the remote control unit.

This manual is organized as follows:

The first part, "INTRODUCTION", gives you the precautions when using this unit, and shows you the names of buttons on the main unit and the remote control unit.

The second part, "BEFORE USING FOR THE FIRST TIME", tells you what kind of operations you should do before playing discs. This part describes where to place the unit for best results, how to install batteries in the remote control unit and how to connect this unit to the amplifier/receiver and other components.

The third part, "BASIC OPERATIONS", describes how to load discs, and convenient basic functions for playing discs.

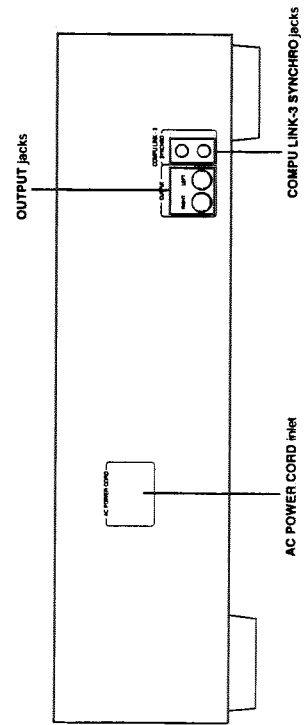
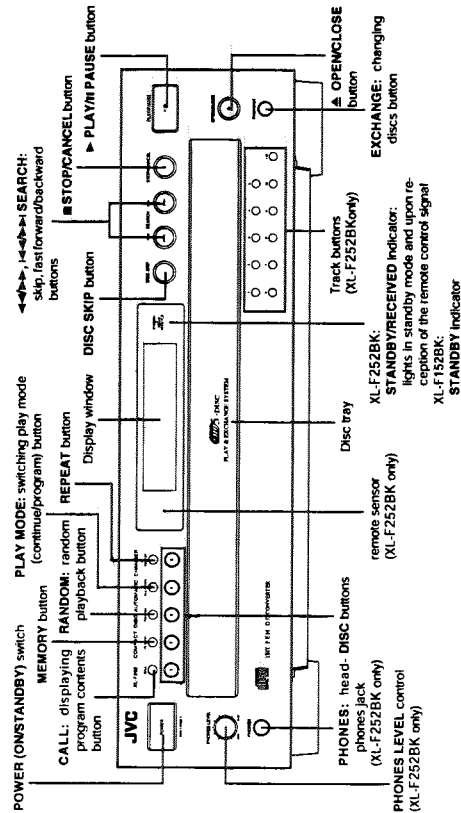
The fourth part, "VARIOUS PLAYBACK PATTERNS", describes various functions for playing discs, and convenient functions for recording.

The fifth part, "GENERAL INFORMATION", describes the COMPU LINK remote control system which facilitates various operations between JVC components, and explains how to take care of discs. This part also includes "Troubleshooting", which tells you how to check the unit when a malfunction occurs, and the technical informations regarding this unit.

INTRODUCTION

Names of buttons

Main unit



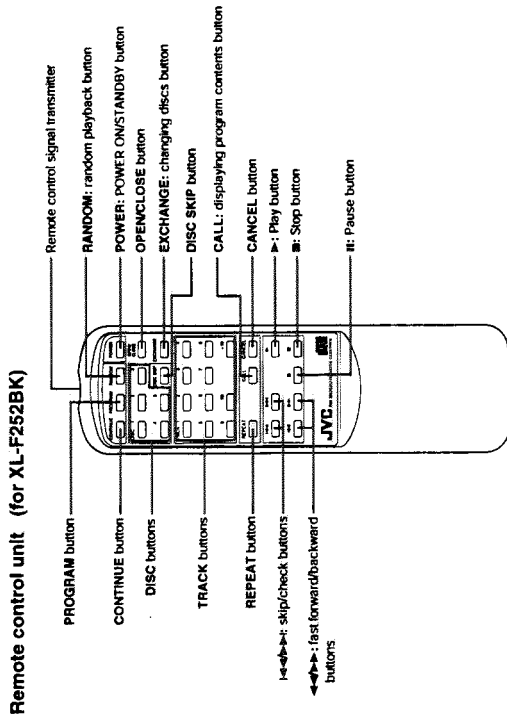
XL-F152BK
XL-F252BK

BEFORE USING FOR THE FIRST TIME

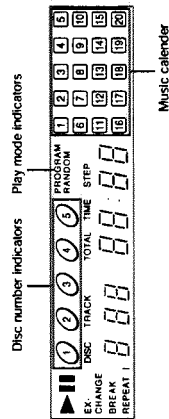
Installing the unit

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
If this unit is placed near a tuner or a radio receiver tuned to AM frequencies, interference may occur. If this happens, we recommend either that you move this unit as far away as possible from the tuner or receiver or briefly turn off the power to this unit.



Display window



Notes on the disc number indicators

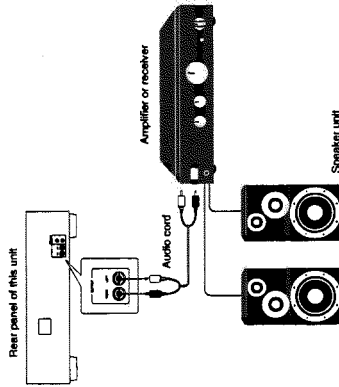
- When the power is turned on or the disc tray is closed with the **OPENCLOSE** button, the unit searches for loaded discs starting from the disc tray 1. When no disc is loaded, the disc number disappears from the display and unit goes on searching for the next tray.
- When no disc is loaded in the unit, "no disc" appears on the display.
- In continue play mode, when playback of one disc is finished, the circle around the corresponding disc number disappears.
- In program mode, circle appears around the disc number selected at that moment.
- When the **EXCHANGE** button is pressed, the indication of the disc numbers is reset to the original status and all the disc numbers (1-5) with their circle appear on the display.

Connecting to other equipments

Connecting to an amplifier or receiver allows you to listen to the sound from the speakers.
Connect the **OUTPUT** jacks of this unit to the line input jacks of an amplifier or receiver with the supplied audio cord.

Notes

- Never connect the **OUTPUT** jacks to the **PHONO** jacks of the amplifier or receiver. This may cause damage to the components.
- Make sure that 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 connections are complete.
- Connect the plugs firmly. Loose connections may cause noise or malfunction.

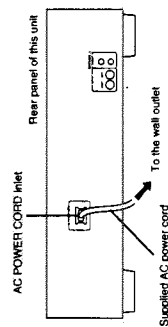


Supplying the power

To connect the AC power cord of the main unit

The AC power cord is supplied separately and must be connected to the unit. Plug the AC power cord into the AC POWER CORD inlet of this unit and connect to the wall outlet after all connections are complete.

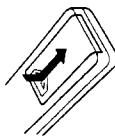
Note
When using the COMPU LINK Remote Control System, do not connect the power cord to the SWITCHED AC OUTLET of an amplifier or receiver.



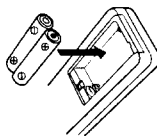
To install the batteries in the remote control unit (for XL-F252BK)

Before operating the remote control unit, install two batteries.

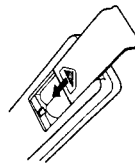
1. Remove the rear cover of the remote control unit by pressing down and simultaneously pulling it backwards.



2. Install batteries. Be sure that the batteries are installed with correct polarity, (+) and (-).



3. Attach the rear cover by sliding it back into position.



Notes

- Incorrect use of batteries can cause corrosion or damage. Note the following points to lengthen battery life.
- Install batteries observing the correct polarity, (+) and (-).
- Do not use new and old batteries simultaneously.
- Batteries with similar shapes may have different voltage ratings. Be sure to use the correct batteries.
- Remove batteries from the remote control unit if it will not be used for a long period of time.
- Do not expose batteries to heat or flame.

Battery replacement

Service life of batteries depends on the condition of use; standard life is about one year. When the batteries become weak, the operating distance of the remote control unit becomes short. If this happens, replace the batteries (R6P(SUM-3)/AA(1.5F)) with new ones.

Note

- The lower the temperature, the shorter the battery life.

COMPU LINK connection

JVC's COMPU LINK Remote Control System provides unified control over system components connected with COMPU LINK. Connecting JVC audio components with the COMPU LINK jacks automatically controls relative operations between components and facilitates various operations. With the COMPU LINK connection to an amplifier or receiver, you can operate XL-F252BK/XL-F152BK with the amplifier or receiver's remote control unit. Synchronized recording is also available with this feature.

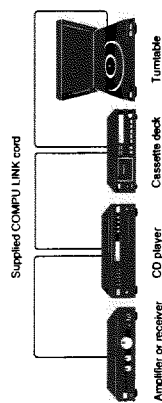
Connecting the COMPU LINK cord

The COMPU LINK-3 SYNC-HRO jacks are used to output and input the control signal 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, referring to the COMPU LINK version. XL-F252BK/XL-F152BK is equipped with COMPU LINK-3. You can connect XL-F252BK/XL-F152BK also to a component with lower COMPU LINK versions. But, in that case, only the lower versions' features will be available.

Plug the supplied COMPU LINK cord into the COMPU LINK-3 SYNC-HRO jack on the rear panel of XL-F252BK/XL-F152BK. Plug the other end into the COMPU LINK jack of the other component. If there are two COMPU LINK jacks, plug it into either of them.

Connecting the COMPU LINK system components with the COMPU LINK cords

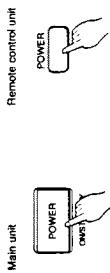


BASIC OPERATIONS

Basic functions for disc playback

Turning on the power of this unit

Press the POWER switch to turn on this unit. The STANDBY Indicator is turned off and the display is turned on.



Press again to turn off the power and activate the standby mode. The STANDBY indicator is lit.

The power is automatically turned on also by:

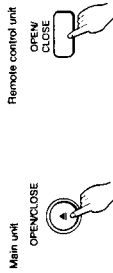
- Pressing the OPEN/CLOSE button.
- Pressing the PLAY/PAUSE button on the main unit or the button on the remote control unit.

Notes

- A small amount of power (4 watts) is consumed even in the standby mode.
- To turn off the power completely, disconnect the power cord from the wall outlet.

Loading discs in the disc tray

Use the OPEN/CLOSE button to open and close the disc tray.



- Open the disc tray by pressing the OPEN/CLOSE button.
- Place discs on the disc tray according to the groove with their label side up.
- Close the disc tray by pressing the OPEN/CLOSE button.

CAUTION

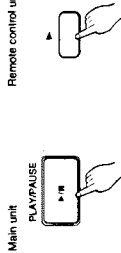
When loading discs in the disc tray, be sure to put the discs according to the groove. Otherwise, the discs will be damaged when the disc tray is closed, and cannot be removed from the unit.

Remote control operation (for XL-F252BK)

Point the remote control unit towards the remote sensor and operate it 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.

Playing a disc

Press the PLAY/PAUSE button on the main unit or the button on the remote control unit.



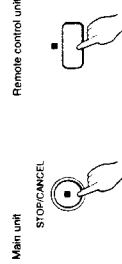
The indicator lights on the display and playback starts.

To stop playback temporarily, press the PLAY/PAUSE button on the main unit or the button on the remote control unit. The indicator lights on the display and playback stops temporarily. To resume playback, press the PLAY/PAUSE button on the main unit or the button on the remote control unit.

Adjusting the headphones level (XL-F252BK only)
Insert the headphones plug into the PHONES jack and turn the PHONES LEVEL control to adjust the volume level.

Stopping playback

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



Locating a point to start playback

Skipping to a desired disc

Use the DISC SKIP button.



Each time the DISC SKIP button is pressed, the selected disc number switches from 1 to 5, then back to 1.

Skipping to a desired track

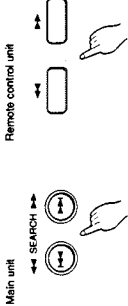
Use the SEARCH buttons.



To skip back to the beginning of the track being played, tap the button. When the beginning of the track is reached, tapping this button again skips to the next track. To skip to the next track, tap the button. When using the SEARCH buttons on the main unit, tap them until the desired track appears.

Searching for a desired section

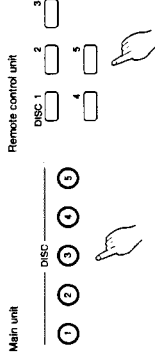
Keep the button pressed during playback.



Playback advances or reverses rapidly. While the button is kept pressed, playback rapidly reverses toward the beginning of the track. While the button is kept pressed, playback rapidly advances toward the end of the track. When the desired section is reached, release the button. The player resumes normal playback from that point.

Specifying a desired disc

Use the DISC buttons (1-5).



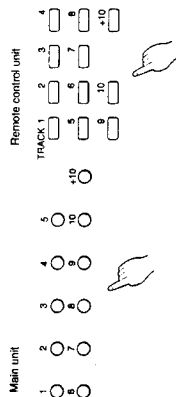
To select a disc, press the desired disc number (1-5). The unit searches for the selected disc and playback starts automatically.

Note

If no disc is loaded in the selected disc tray, the indicator of that disc is turned off within about 4 seconds and then playback starts from the next disc.

Specifying a desired track (for XL-F252BK)

To specify the desired track number, use the track buttons (1-10, +10).



The unit searches for the selected track and playback starts automatically. When selecting track number 10 or less, press the corresponding track button. When selecting track number 11 or above, use the [+10] button.

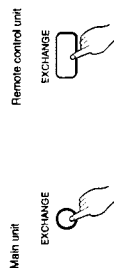
Example: To select track number 12, press [+10] and then [2]. To select track number 25, press [+10] twice and then [5]. To select track number 30, press [+10] twice and then [10].

Note
If the selected track number does not exist on the selected disc, playback starts from the first track on that disc.

Changing discs during playback

During playback of a disc, you can change other discs in the disc tray without stopping playback.

Press the EXCHANGE button. The disc tray opens and you can change the discs inside.



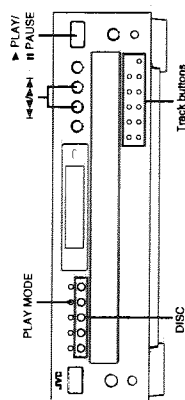
To change the discs loaded in the far end of the disc tray, press the DISC SKIP button to make the disc tray rotate. After changing the discs, press the EXCHANGE button again to close the disc tray.

It is also possible to change the discs during program playback or random playback, following the above procedure.

VARIOUS PLAYBACK PATTERNS

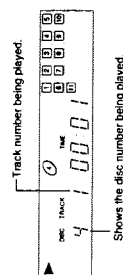
Playing tracks in a order of track/disc number

You can continuously play all the loaded discs, starting from any track on any disc.



1. Press the PLAY MODE button on the main unit or the CONTINUE button on the remote control unit so that both the PROGRAM and RANDOM indicators are turned off on the display. When you want to play from a desired disc or track, go to step 3.

2. Press the PLAY/PAUSE button on the main unit or the button on the remote control unit to start playback. Playback starts from the previously selected disc. If the disc tray is not closed, pressing the PLAY/PAUSE button closes the disc tray and then starts playback. The following display appears.

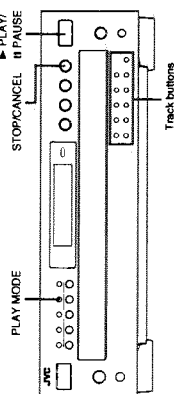


3. Use the DISC button to select the disc number which contains the first track to be played. When you want to play from the first track on the selected disc, it is not necessary to select the track number.

4. Select the track number with the PLAY/PAUSE buttons or, for XL-F252BK, the track buttons. The selected track number appears on the display and playback starts from the selected track automatically.

Playing tracks in a desired order

You can play only the favorite tracks in any desired order.



1. In stop mode, press the PLAY MODE button on the main unit or the PROGRAM button on the remote control unit so that the PROGRAM indicator lights on the display.

2. Select the disc which contains the track to be programmed with the DISC button. "AL" (all tracks) appears on the display.

To program the entire disc
Skip step 3 below. When the track number is not specified after selecting the disc number, all tracks on the selected disc are programmed.

3. For XL-F252BK, select the track number by pressing the track buttons. For XL-F152BK, select the track number by pressing the SEARCH button and then the MEMORY button. Refer to "Specifying a desired track" on page 9 for entering the track number. For XL-F152BK, press the MEMORY button with the desired track number shown on the display. When the selected track number is programmed, the following display appears.



If you want to cancel the displayed program step, press the STOP/CANCEL button on the main unit or the CANCEL button on the remote control unit and then enter the new disc number and/or track number.

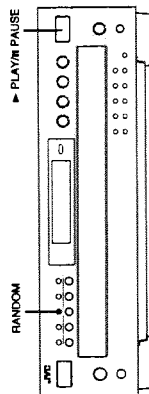
4. Repeat steps 2 and 3 for other tracks and/or discs to be programmed. You can program up to 32 steps.

5. Start playback by pressing the PLAY/PAUSE button on the main unit or the button on the remote control unit. The programmed tracks and/or discs are played in the programmed order.

You can skip to a desired program step with the PLAY/PAUSE button. When the DISC SKIP button is pressed during program play, the playback skips to the next programmed disc.

Playing tracks in a random order

You can select and play tracks in random order from all the discs loaded in the unit. Selections are made so that each track is played only once.



1. In stop mode, press the **RANDOM** button so that the **RANDOM** indicator lights on the display.

2. Press the **▶ PLAY/PAUSE** button on the main unit or the **▶** button on the remote control unit to start playback.

- To skip to the track to be played next, press the **▶▶** button.

To cancel random playback

In stop mode, press the **PLAY MODE** button on the main unit or the **CONTINUE** or **PROGRAM** button on the remote control unit. The **RANDOM** indicator goes out and the random playback is cancelled.

To check the program contents
Press the **CALL** button during stop mode. Each time the **CALL** button is pressed, the program contents are displayed in the programmed order.

- When the unit is in program play mode, press the **■** button to enter stop mode and then operate the **CALL** button.

To modify the program contents
Press the **CALL** button until the display shows the program step to be corrected. Enter the new disc number and/or track number referring to steps 2 and 3 above.
To delete a program step, press the **CALL** button until the display shows the program step to be deleted and then press the **■ STOP/ CANCEL** button on the main unit or the **CANCEL** button on the remote control unit. You can also delete a displayed program step during programming.

- When the unit is in program play mode, press the **■** button to enter stop mode and then delete the program step.

To add discs/tracks to the program during program playback

Specify the disc number by pressing the **DISC** button and, with **XL-F252BK**, the track number by pressing the track buttons.

The specified disc/track is added to the end of the program being played back.

- For **XL-F152BK**, only the disc number can be specified and the entire disc is added to the program. For this operation, it is not possible to utilize the **◀-4-▶** or **▶-4-▶** SEARCH buttons.

To exit program mode

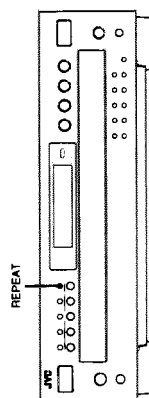
Press the **PLAY MODE** or **RANDOM** button on the main unit, or the **CONTINUE** or **RANDOM** button on the remote control unit, and the program mode is cancelled. However, the program contents are not erased and, whenever the program mode is selected, you can play the tracks in programmed order.

To clear the program

In stop mode, press the **■ STOP/CANCEL** button on the main unit repeatedly. The program contents will be cleared step by step.
To clear the entire program, press the **▲ OPEN/CLOSE** button on the main unit in stop mode. The program contents will be entirely cleared, however, the program mode is not cancelled.

Playing repeatedly

You can repeatedly play all discs or one track. It is also possible to utilize this function in combination with random/program playback function.



Repeating all discs

Press the **REPEAT** button so that the **REPEAT** indicator lights on the display.

All discs loaded in the unit are played repeatedly.
In program mode, the program contents are played repeatedly.

Repeating one track

Press the **REPEAT** button so that the **REPEAT 1** indicator lights on the display.

The displayed track is played repeatedly.

To cancel repeat mode

Press the **REPEAT** button so that both the **REPEAT** and **REPEAT 1** indicators go out.

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 the supplied COMPU LINK cord is utilized to connect this unit to others equipped with COMPU LINK jacks, switching-in of each system component can be performed with a single touch on the source selector button located on a JVC amplifier or receiver.
When selection is carried out in this manner, the corresponding unit will automatically start operation.
Upon pressing of the play button, the source selector of the amplifier or receiver changes automatically. When a new unit is switched in, 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, program the tracks in any order, as desired.
3. Press the ► PLAY/PAUSE 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 of this unit or the cassette deck.
 - To properly operate the synchronized recording, the buttons/controls other than POWER, ■ STOP and OPEN do not function.
 - If the recording pause mode is set on the cassette deck by pressing the ■ PAUSE button after pressing the ■ REC and ► PLAY buttons simultaneously, synchronized recording is not possible. For details, refer to the instructions for the cassette deck.

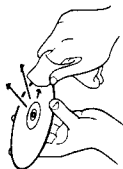
Automatic power on/off function
This function is to control the power on/off of the receiver/amplifier or this unit respectively as the following.

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

- Notes**
- Abnormal operation may result if the power supply of the component(s) is interrupted. If this happens, you must start over again.
 - Ensure that the COMPU LINK jacks of the each component are connected with the supplied COMPU LINK cord. Also, be sure to fully read the instructions for each component.
 - When the power of the amplifier or receiver is switched off, this unit is also turned off automatically.

Care and handling

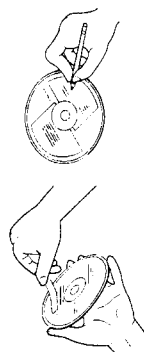
How to handle CDs
When handling compact discs, do not touch the surface of the disc (reflective silver side—the side without the label).
Since compact discs are made of plastic, they are easily damaged. If the disc gets dirty, dusty, scratched or warped, the sound will not be picked up correctly and,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



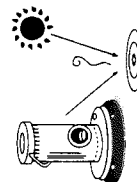
Maintenance of discs
When there are fingerprints or other dirt adhering to a disc, wipe the disc with a soft, dry cloth with a movement going from the center outwards.
If difficult to clean, wipe the disc with a cloth moistened with water. Never use record cleaners, petrol, alcohol or any anti-static agents.



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



Storage
Make sure that discs are kept 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 any location where they can be exposed to direct sunlight, or in any place where humidity or temperature is high. Avoid leaving discs in your car!



Description of ICs

■ MN171602JYK2(IC201) : SYSTEM CONTROLLER

1. Terminal Layout

VDD	1	64	OSC1
KEYI3	2	63	OSC2
KEYI2	3	62	VSS
KEYI1	4	61	X2
KEYI0	5	60	X1
10G/KEYO7	6	59	DE
9G/KEYO6	7	58	DN
8G/KEYO5	8	57	TC
7G/KEYO4	9	56	TCC
6G/KEYO3	10	55	UPSW
5G/KEYO2	11	54	DOWNSW
4G/KEYO1	12	53	N CLOSESW
3G/KEYO0	13	52	E CLOSESW
2G	14	51	OPENS
1G	15	50	RESTSW
RM IND	16	49	RM IN
	17	48	DCS OUT
VDISP	18	47	DCS IN
P12	19	46	FLOCK
P11	20	45	TLOCK
P10	21	44	STATUS
P9	22	43	RESET
P8	23	42	MLD
P7	24	41	SUBQ
P6	25	40	SQCK
P5	26	39	POWER OFF
P4	27	38	MDATA
P3	28	37	SENSE
P2	29	36	MCLK
P1	30	35	LSI RESET
10KEY	31	34	PHP
TEST	32	33	PHR

2. Key Matrix (★MARK: not use for XL-F115TN/XL-F116BK)

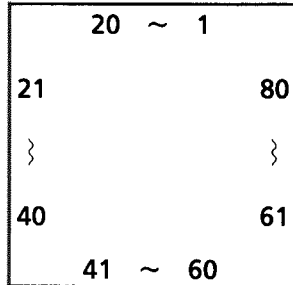
	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
KEY OUT 0	 (S701)	DISC SKIP (S702)	 (S703)	 (S704)
KEY OUT 1	--	 (S705)	--	 (S706)
KEY OUT 2	DISC5 (S728)	REPEAT (S730)	DISC4 (S729)	PLAY MODE (S731)
KEY OUT 3	DISC3 (S724)	RANDOM (S726)	DISC1 (S725)	CALL (S727)
KEY OUT 4	DISC2 (S721)	MEMORY (S722)	--	POWER (S723)
KEY OUT 5	EXCHANGE (S707)	 (S708) ★	 (S709) ★	 (S710) ★
KEY OUT 6	 (S711) ★	 (S712) ★	 (S713) ★	 (S714) ★
KEY OUT 7	 (S715) ★	 (S716) ★	 (S717) ★	 (S718) ★

3. Description

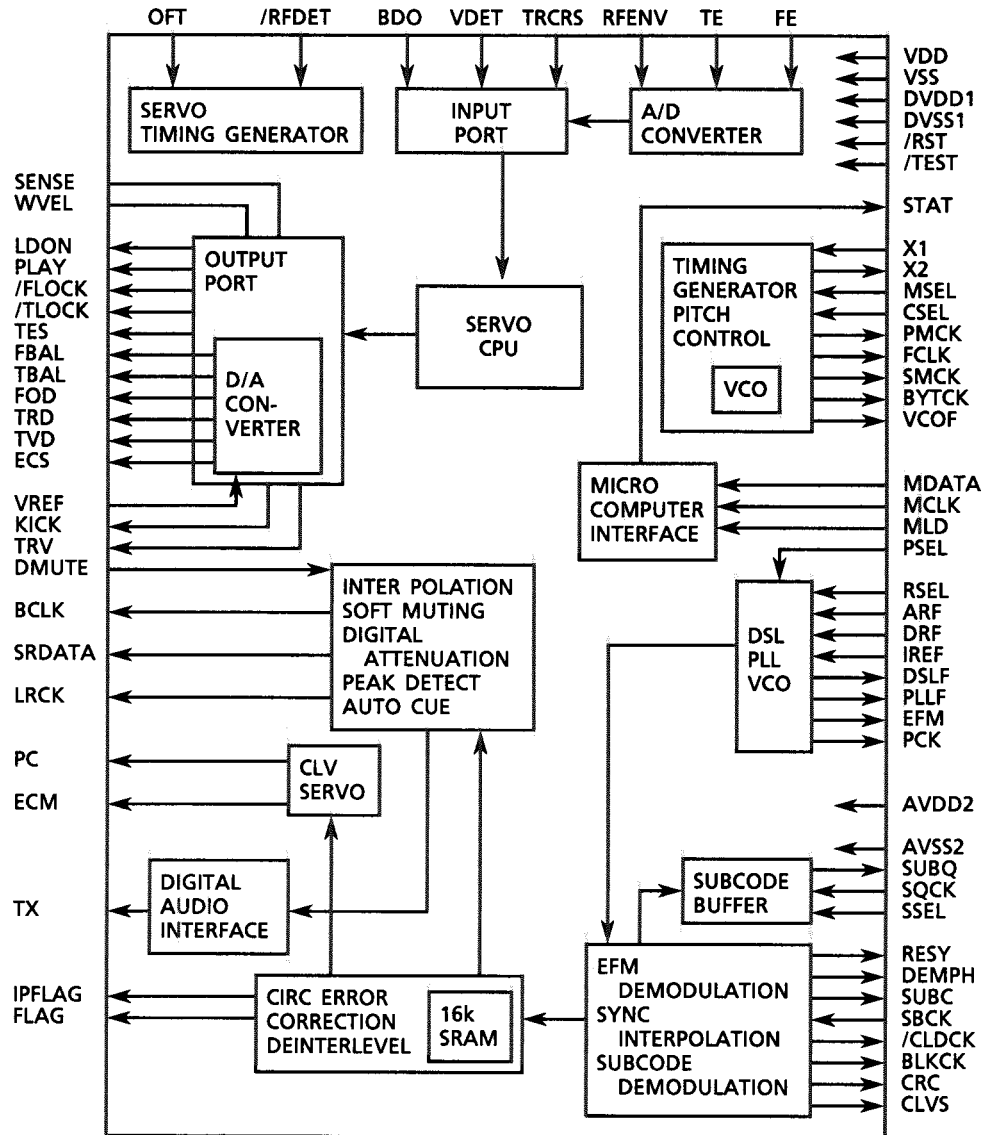
Pin No.	Symbol	I/O	Description	Pin No.	Symbol	I/O	Description
1	VDD	--	Power supply voltage(+5V)	33	PHL	I	Detecting disc
2	KEYI3	I	Key Mmatrix input	34	PHP	I	Detecting disc number
3	KEYI2	I	Key Mmatrix input	35	/LIS RESET	O	Reset signal output
4	KEYI1	I	Key Mmatrix input	36	MCLK	O	μ-com command clock signal output
5	KEYI0	I	Key Mmatrix input	37	SENSE	I	SENSE signal input
6	10G/KEYO7	O	FL grid control output/Key Mmatrix output	38	MDATA	O	μ-com command data output
7	9G/KEYO6	O	FL grid control output/Key Mmatrix output	39	POWER OFF	O	H : power off, L : power on.
8	8G/KEYO5	O	FL grid control output/Key Mmatrix output	40	SQCK	O	Sub Q clock output
9	7G/KEYO4	O	FL grid control output/Key Mmatrix output	41	SUBQ	I	Sub-code Q-code input
10	6G/KEYO3	O	FL grid control output/Key Mmatrix output	42	MLD	O	μ-com command load signal output
11	5G/KEYO2	O	FL grid control output/Key Mmatrix output	43	/RESET	I	Reset signal input
12	4G/KEYO1	O	FL grid control output/Key Mmatrix output	44	STATUS	I	Status signal input
13	3G/KEYO0	O	FL grid control output/Key Mmatrix output	45	TLOCK	I	Lock signal for Tracking
14	2G	O	FL grid control output	46	FLOCK	I	Lock signal for Focus
15	1G	O	FL grid control output	47	/DCS IN	I	Compulink signal input
16	RM IND	O	Remote control	48	/DCS OUT	O	Compulink signal output
17		--		49	RM IN	I	Remote control signal input
18	VDISP	--	Power supply for FL display	50	/RESTSW	I	"L" with pickup rest position
19	P12	O	FL anode control	51	/OPENS	I	"L" with disc table open
20	P11	O	FL anode control	52	/E CLOSESW	I	"L" with exchange close
21	P10	O	FL anode control	53	/N CLOSESW	I	"L" with normal close
22	P9	O	FL anode control	54	/DOWNSW	I	"L" with CD mechanism DOWN
23	P8	O	FL anode control	55	/UPSW	I	"L" with CD mechanism UP
24	P7	O	FL anode control	56	TCC	O	Disc table motor control
25	P6	O	FL anode control	57	TC	O	Disc table motor control
26	P5	O	FL anode control	58	DN	O	Disc tray motor control
27	P4	O	FL anode control	59	DE	O	Disc tray motor control
28	P3	O	FL anode control	60	X1	--	GND
29	P2	O	FL anode control	61	X2	--	
30	P1	O	FL anode control	62	VSS	--	GND
31	10KEY	I	Pull UP or Pull down (XL-F115TN/XL-F116BK Pull down)	63	OSC2	--	Clock oscillation
32	TEST	--	Pull UP(+5V)	64	OSC1	--	Clock oscillation

■ MN662720RB (IC401) : DIGITAL SERVO & DIGITAL SIGNAL PROCESSER

1. Terminal Layout



2. Block Diagram



3. Description

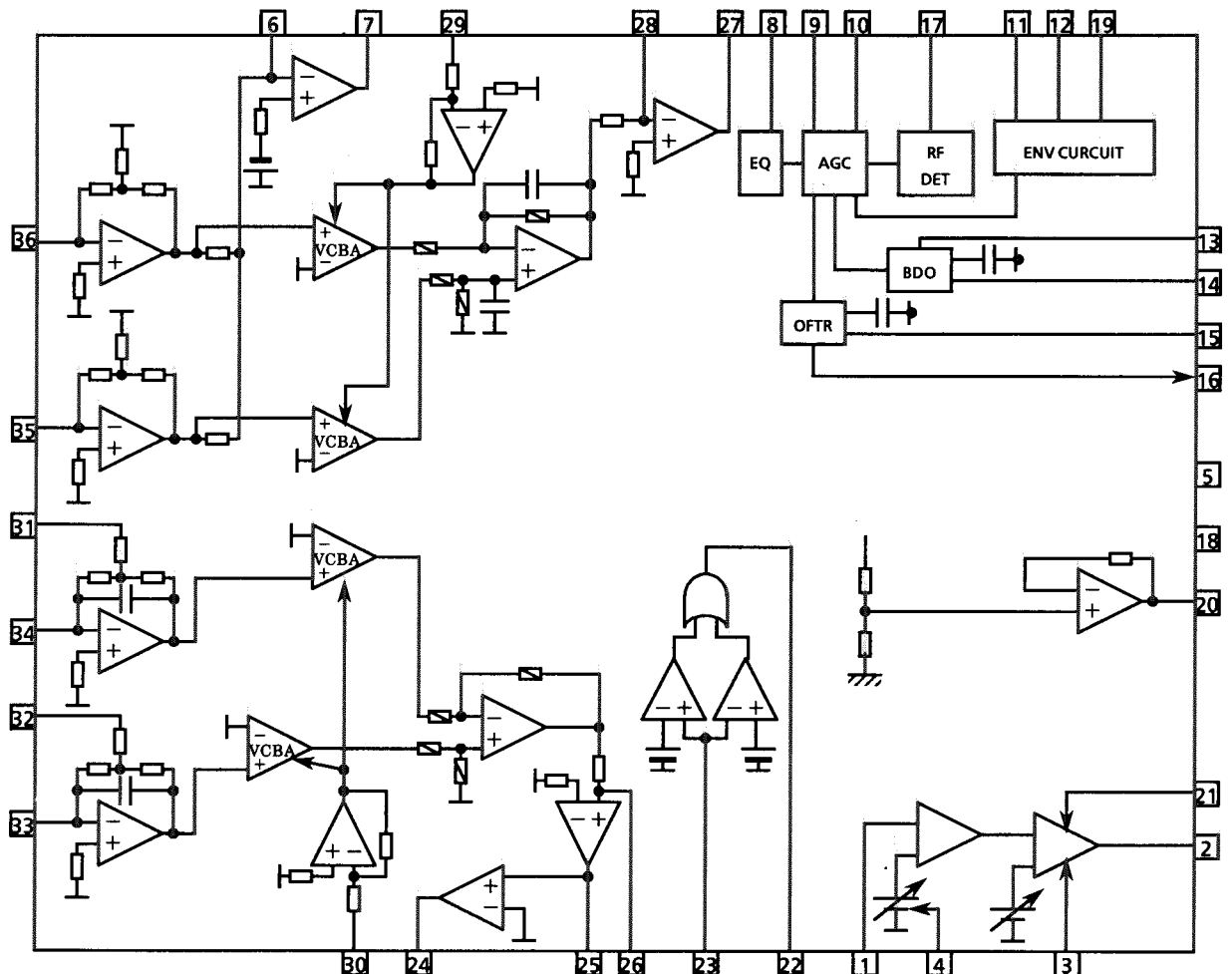
Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Bit clock output pin for SRDATA	41	TES	—	Not used
2	LRCK	O	L/R distinction signal output	42	PLAY	—	“
3	SRDATA	O	Serial data output	43	WVEL	—	“
4	DVDD1	—	Power supply(Digital)	44	ARF	I	RF signal input
5	DVSS1	—	Connected to GND(Digital)	45	IREF	I	Reference current input pin
6	TX	—	Not used	46	DRF	I	Bias pin for DSL
7	MCLK	I	μ-com command clock signal input (Data is latched at signal's rising point)	47	DSLIF	I/O	Loop filter pin for DSL
8	MDATA	I	μ-com command data input	48	PLLF	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 (OFT,FESL,NACEND,NAJEND,POSAD,SFG)	50	AVDD2	—	Power supply (Analog)
11	/FLOCK	O	Lock signal for Focus L : pull	51	AVSS2	—	Connected to GND(Analog)
12	/TLOCK	O	Lock signal for Tracking L : pull	52	EFM	—	Not used
13	BLKCK	O	Subcode · block · clock signal output	53	PCK	—	“
14	SQCK	I	Outside lock for sub-code Q resister input	54	PDO	—	“
15	SUBQ	O	Sub-code Q-code output	55	SUBC	O	Subcode serial output data output
16	DMUTE	I	Muting input (H : MUTE)	56	SBCK	—	Clock input for subcode serial output
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	—	Connected to GND(for X'tal cscillation circuit)
18	/RST	I	Reset signal input (L : Reset)	58	X1	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	—	Not used	59	X2	—	Not used
20	PMCK	—	Not used	60	VDD	—	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	—	Not used
22	TVD	O	Traverse drive output	62	/CLDCK	O	Subcode · Frame · Clock signal output
23	PC	—	Not used	63	FCLK	O	X'tal frame clock output
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	O	Interpolation flag output H : Interpolation
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	—	Flag output
26	KICK	O	Kick pulse output	66	CLVS	—	Not used
27	TRD	O	Tracking drive output	67	CRC	—	“
28	FOD	O	Focus drive output	68	DEMPH	O	De-emphasis ON signal (H : ON)
29	VREF	I	Reference voltage input pin for D/A output block(TVD,FOD,FBAL,TBAL)	69	RESY	—	Not used
30	FBAL	O	Focus Balance adjust signal output	70	NC1	—	“
31	TBAL	O	Tracking Balance adjust signal output	71	/TEST	—	Pull up (+5V)
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	—	Power supply (Digital)
33	TE	I	Tracking error signal input(Analog input)	73	NC2	—	Not used
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	—	Connected to GND
35	VDET	I	Vibration detect signal input(H : detect)	75	NC3	—	Not used
36	OFT	I	Off track signal input(H : off track)	76	RSEL	—	Pull up (+5V)
37	TRCRS	I	Track cross signal input	77	CSEL	—	Connected to GND
38	/RFDET	I	RF detect signal input (L : detect)	78	PSEL	—	Connected to GND
39	BDO	I	BDO input pin (H : drop out)	79	MSEL	—	Connected to GND
40	LDON	O	Laser ON signal output (H : on)	80	SSEL	—	Pull up (+5V)

■ AN8806SB (IC501) : RF & SERVO AMP

1. Terminal Layout

PD 1	36 PDAC
LD 2	35 PD8D
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

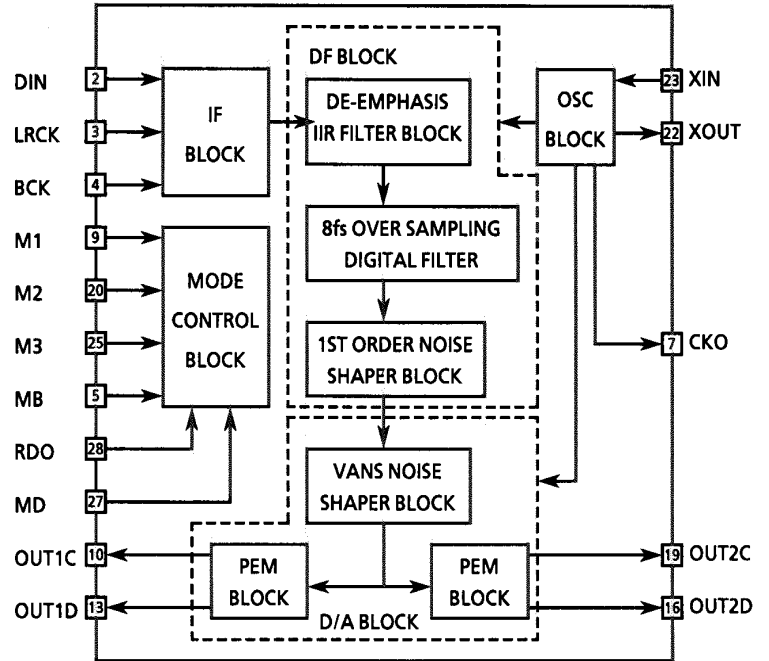
Pin No.	Symbol	I/O	Description
1	PD	I	APC amp input terminal
2	LD	O	APC amp output terminal
3	LD ON	I	APC ON/OFF control terminal
4	LDP	--	Connected to GND
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RF amp output pin
8	RF IN	I	RF input pin
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF 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	F I-V amp gain control pin
32	PDER	I/O	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

■ MN35503 (IC301) : D / A CONVERTER

1. Terminal Layout

MA	1	28	PDO
DIN	2	27	MD
LRCK	3	26	MC
BCK	4	25	M3
MB	5	24	DVDD1
DVDD2	6	23	XIN
CKO	7	22	XOUT
DVSS2	8	21	DVSS1
M1	9	20	M2
OUT1C	10	19	OUT2C
NC	11	18	NC
AVDD1	12	17	AVDD2
OUT1D	13	16	OUT2D
AVSS1	14	15	AVSS2

2. Block Diagram



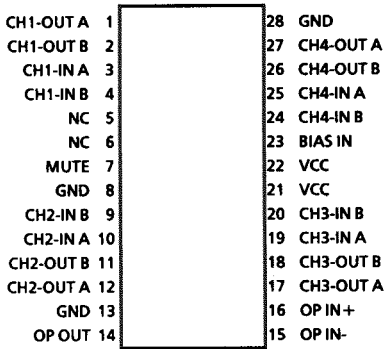
3. Description

Pin No	Symbol	I/O	Description	Pin No	Symbol	I/O	Description
1	MA	--	Connected to ground	15	AVSS2	--	Analog ground 2
2	DIN	I	Data input	16	OUT2D	O	2D PEM output
3	LRCK	I	LR clock input	17	AVDD2	--	Analog power supply 2
4	BCK	I	Bit clock input	18	NC	--	Non connection
5	MB	I	De-emphasis ON signal	19	OUT2C	O	2C PEM output
6	DVDD2	--	Digital power supply 2	20	M2	--	Connected to ground
7	CKO	I	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	--	Non connection	25	M3	--	Connected to ground
12	AVDD1	--	Analog power supply 1	26	MC	--	Connected to ground
13	OUT1D	O	1D PEM output	27	MD	I	Reset signal / Digital Att. control signal input
14	AVSS1	--	Analog ground 1	28	PDO	--	Not used

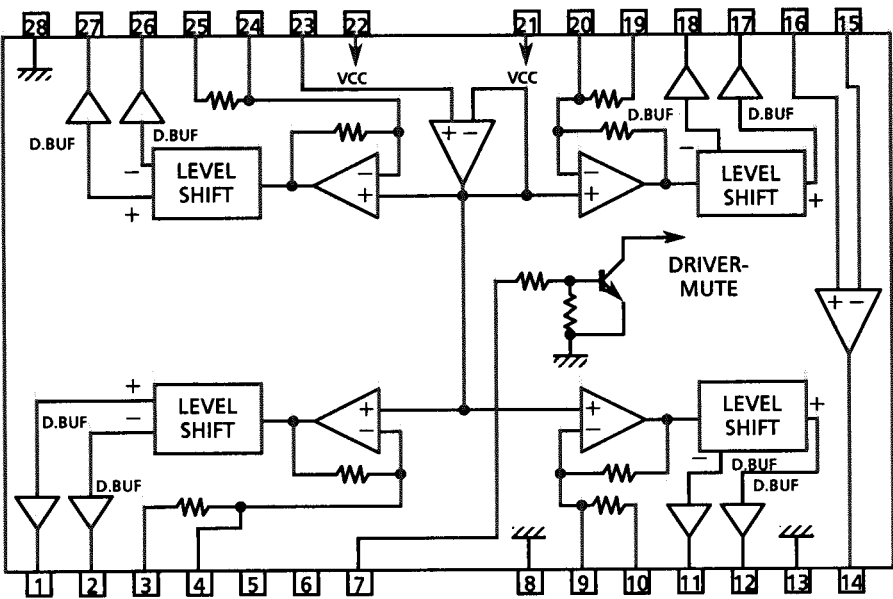
XL-F152BK
XL-F252BK

BA6897FP(IC801) : BTL DRIVER

1. Terminal Layout



2. Block Diagram



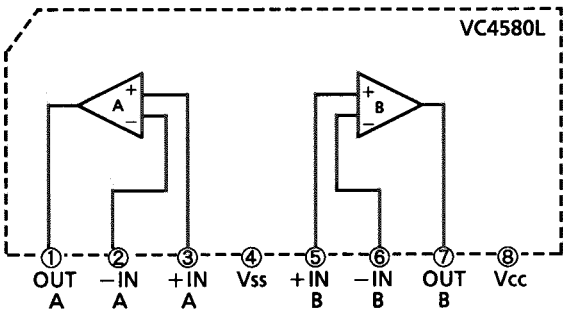
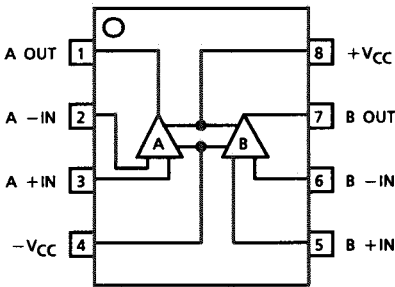
3. Description

Pin No.	Symbol	I/O	Description
1	CH1-OUT A	O	Focus drive output
2	CH1-OUT B	O	Focus drive output
3	CH1-IN A	I	Focus drive input
4	CH1-IN B		
5,6	NC	—	Non connection
10	CH2-IN A		
19	CH3-IN A		
24	CH4-IN B		
7	MUTE	I	Mute signal input pin
9	CH2-IN B	I	Spindle motor drive input
20	CH3-IN B	I	Feed motor drive input
25	CH4-IN A	I	Tracking drive input

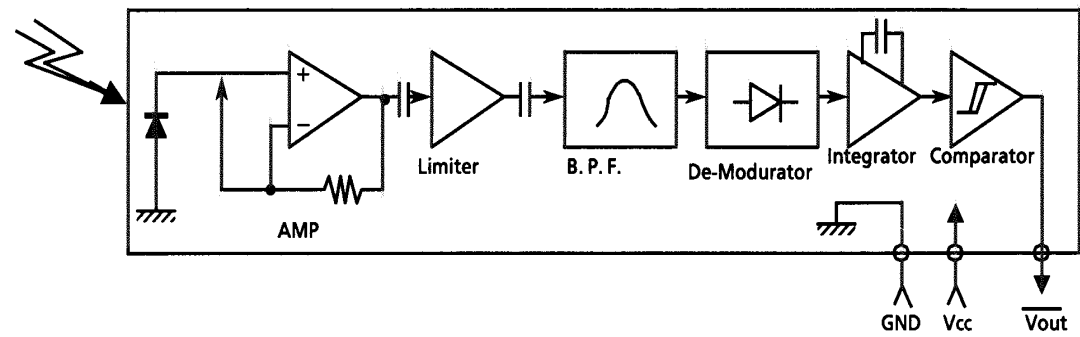
Pin No.	Symbol	I/O	Description
8,13,28	GND	—	GND
11	CH2-OUT B	O	Spindle motor drive output
12	CH2-OUT A	O	Spindle motor drive output
14	OP OUT	O	OP amp output
15,16	OP IN	I	OP amp input
17	CH3-OUT A	O	Feed motor drive output
18	CH3-OUT B	O	Feed motor drive output
21,22	Vcc	—	Power supply
23	BIAS IN	I	Input pin of Bias
26	CH4-OUT B	O	Tracking drive output
27	CH4-OUT A	O	Tracking drive output

VC4580D(IC251,IC304)
Dual OP Amp.

VC4580L (IC601) : Dual OP Amp.

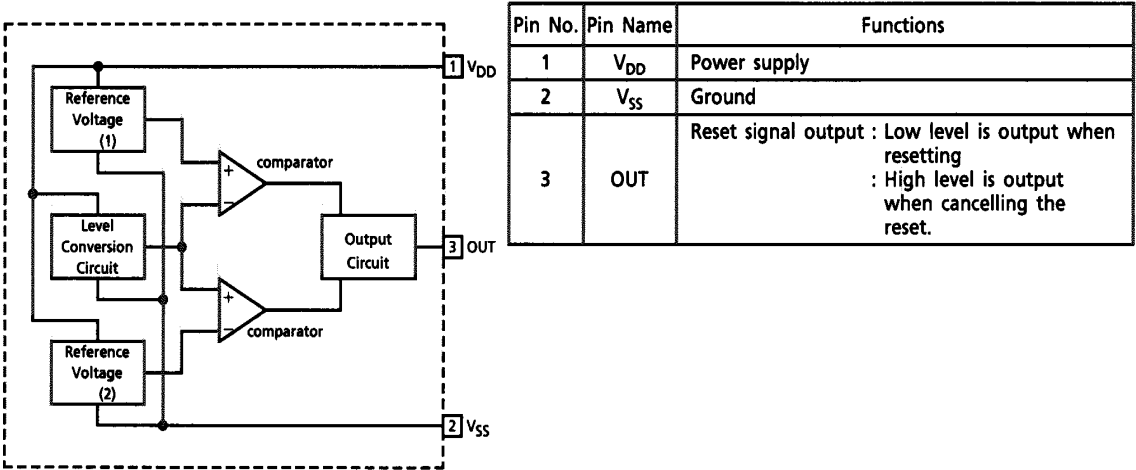


■SPS-420-1 (IC701) : Remocon Module IC (Not use for XL-F152BK)



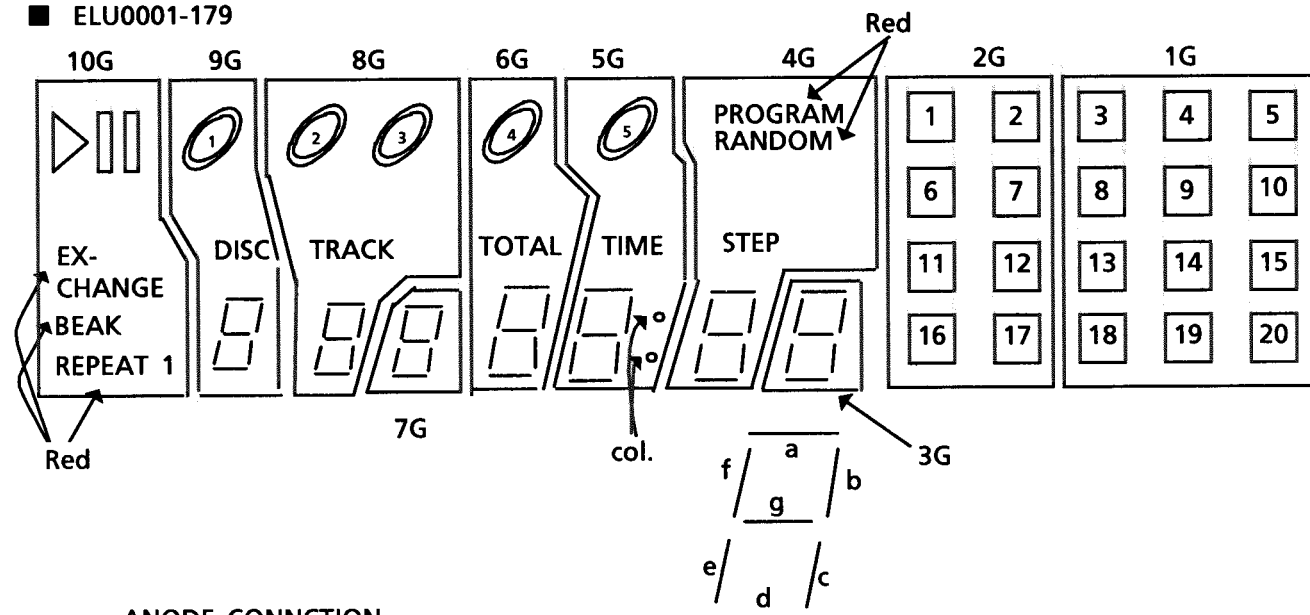
■ PST9140T : IC202 :Reset IC)

Block Diagram



Internal Connections for FL Display Tube

■ ELU0001-179



ANODE CONNECTION

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	▶	1	2	--	4	5	PROGRAM	--	1	3
P2		○(1)	○(2)	--	○(4)	○(5)	RANDOM	--	2	4
P3	--	--	3	--	--	--	--	--	--	5
P4	EX-CHANGE	DISC	○(3)	--	TOTAL	TIME	STEP	--	6	8
P5	--	--	TRACK	--	--	col.	--	--	7	9
P6	--	a	a	a	a	a	a	a	--	10
P7	BREAK	b	b	b	b	b	b	b	11	13
P8	--	f	f	f	f	f	f	f	12	14
P9	--	g	g	g	g	g	g	g	--	15
P10	--	c	c	c	c	c	c	c	16	18
P11	REPEAT	e	e	e	e	e	e	e	17	19
P12	1	d	d	d	d	d	d	d	--	20

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

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

Disassembly Procedures

■ Top cover removal

1. Remove 4 screws on both sides of the top cover and 2 screws on the rear side.
2. Lift the back of the top cover spreading both sides to remove.

■ Front panel assembly removal

1. Remove the top cover.
2. Disconnect the wires CN106 and P271(Fig 2).
3. Remove 7 screws (A,D,E and F)(Fig.1,2,3).
4. Remove the front panel assembly.

■ Bottom cover removal

1. Remove the top cover.
2. Remove 14 screws (A,B,C and F)(Fig. 1,2,3).
3. Remove the bottom cover.

■ Rear panel removal

1. Remove the top cover.
2. Remove 8 screws (C,G and H)(Fig. 1,4).
3. Remove the rear panel.

■ Disc tray removal

1. Remove the top cover.
2. Remove the front panel assembly.
3. Turn the power on press the open/close button to move the table out. Then turn the power off. If the machine doesn't work, move the table out at procedure 4.

- (4. Move a boss on the cam which is under ①hole clockwise by a screwdriver to remove the disc tray manually, and move the disc tray forward. (Fig. 1.) And CD mechanism assembly goes down.)

5. Remove the screw ①(Fig. 2).
6. Disconnect CN105(Fig. 2).
7. Slide the disc tray backward slightly. And, move the tray forward while lifting up ② to remove the disc tray from the stopper.(Fig. 2)

8. Remove the disc tray.

■ Disc table removal

1. Remove the top cover.
2. Remove the disc table.
3. Remove the screw ③(Fig. 6)
4. Remove the disc table.

■ Disc tray motor assembly removal

1. Remove the top cover.
2. Remove the disc tray.
3. Remove the bottom cover.
4. Remove the gear ④(Fig. 7).
5. Remove the loading belt ⑤(Fig. 7).
6. Remove the 2 screws, and remove the disc tray motor assembly(Fig. 8).

■ Audio out & compulink PCB removal

1. Remove the top cover.
2. Remove the disc table.
3. Remove the bottom cover.
4. Remove the rear panel.
5. Remove the hooks fixing the PCB(Fig. 8).

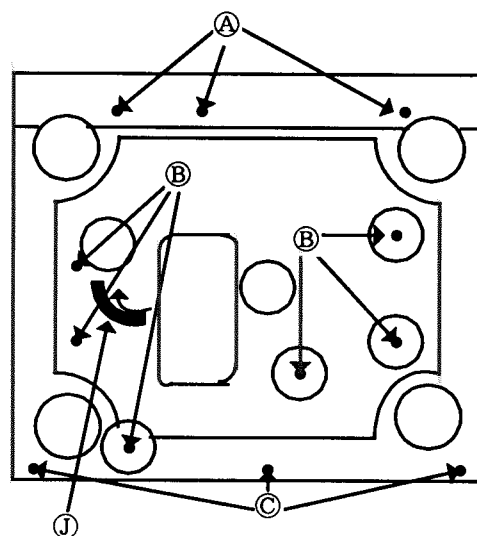


Fig 1 Bottom view

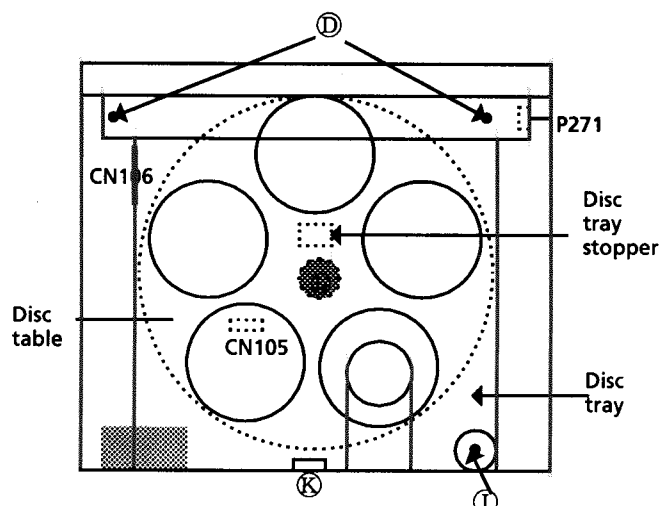


Fig 2 Top view(without the top cover)

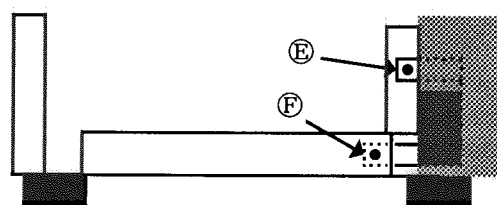


Fig 3 Side view(without the top cover)

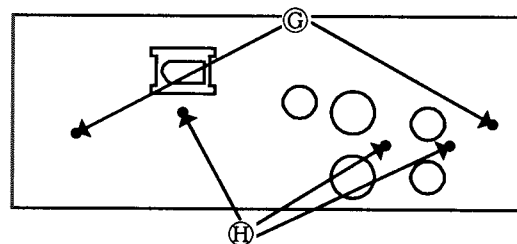


Fig 4 Rear view

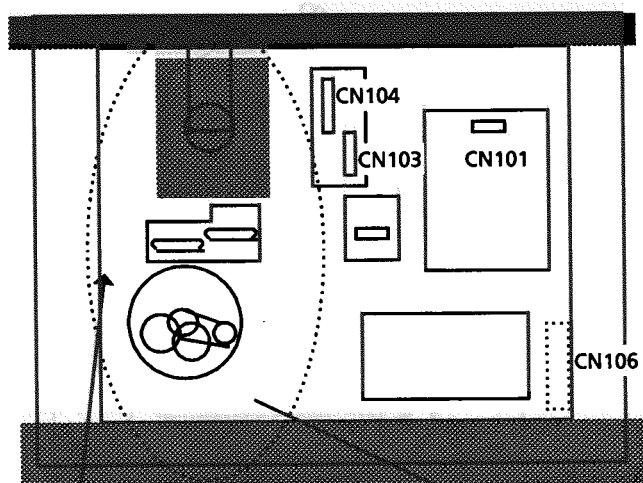


Table mechanism base

Fig 5 Top view
(Without top cover
and disc tray)

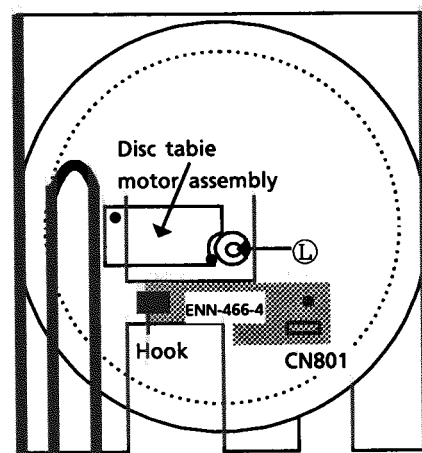


Fig 6 Disc tray bottom view

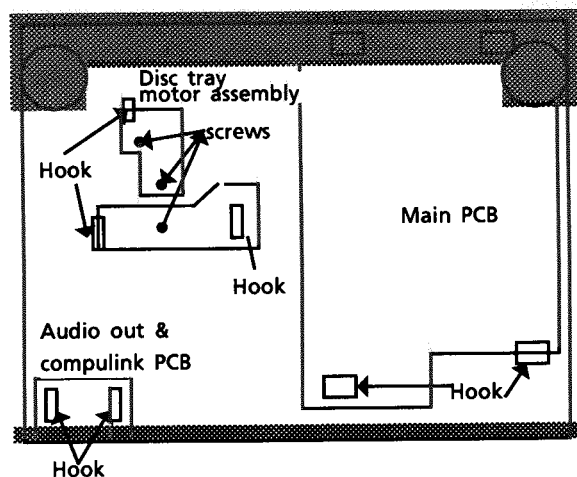


Fig 8 Bottom view
(Without the bottom cover)

■ Main PCB removal

1. Remove the top cover.
2. Remove the disc tray.
3. Remove the bottom cover.
4. Disconnect the connecting CN101, CN103, CN104 and P106 (Fig. 5).
5. Remove the hooks fixing the main PCB (Fig. 8).
6. Remove the main PCB.

■ CD mechanism assembly removal

1. Remove the top cover.
2. Remove the disc table.
3. Remove the bottom cover.
4. Disconnect the connecting CN103 and CN104 (Fig. 5).
5. Remove the hook P fixing the table mechanism base, and remove the wire holder (Fig. 7).
6. Remove the 2 screws M (Fig. 7).
7. Remove the 4 screws Q (Fig. 7).
8. Remove the CD mechanism assembly.

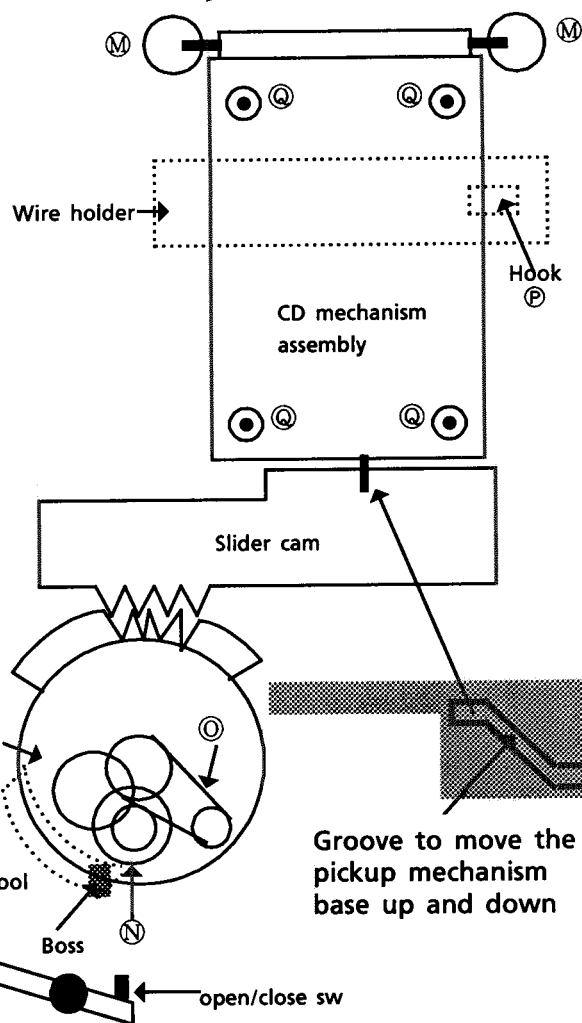


Fig 7 Loading mechanism

Disassemble of the CD mechanism assembly

■ Removing the Pickup

1. Remove the CD mech. assembly.
2. Release the shaft to remove the pickup.

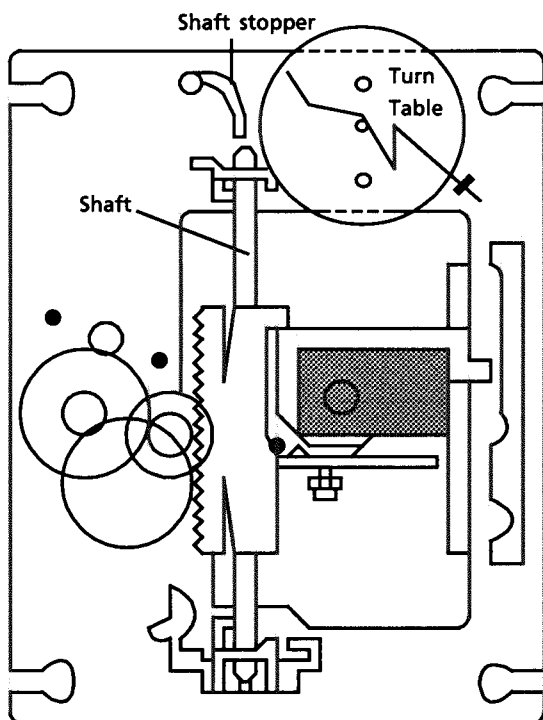


Fig 9

■ Removing the Spindle motor

1. Remove the CD mech. assembly.
2. Remove the turntable, and remove the 2 screws ⑤ retaining the spindle motor.
3. Remove the screw retaining the spindle and feed motor circuit board and unsolder it.

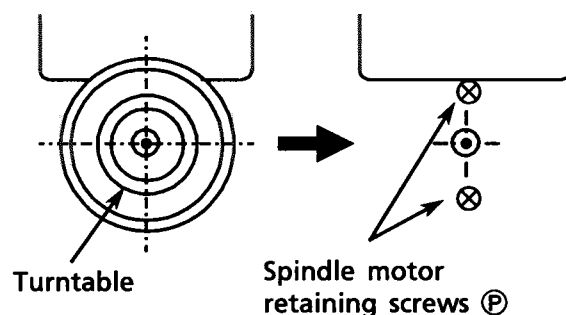


Fig 10

■ 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 surface of the mech. base to the turntable is exactly $19.4 \pm 0.1\text{mm}$.

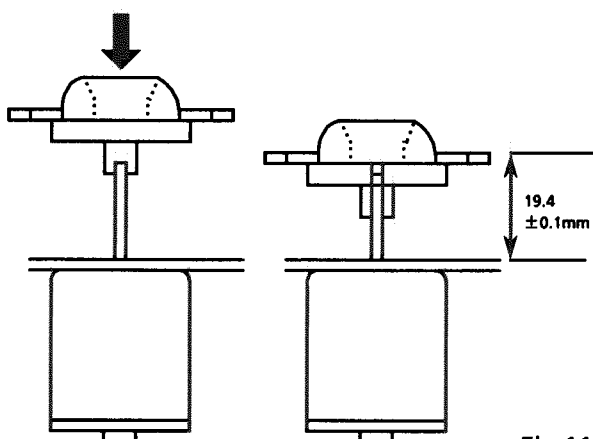


Fig 11

- After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 12 on the left below).

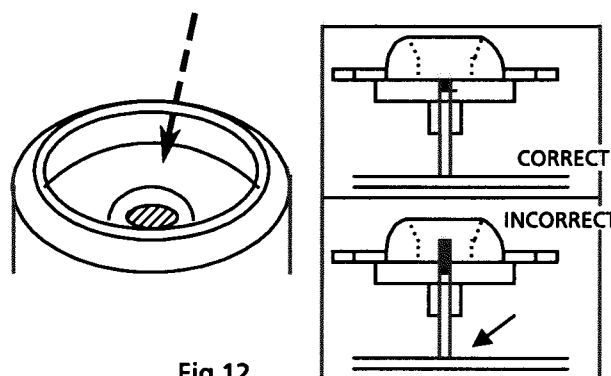
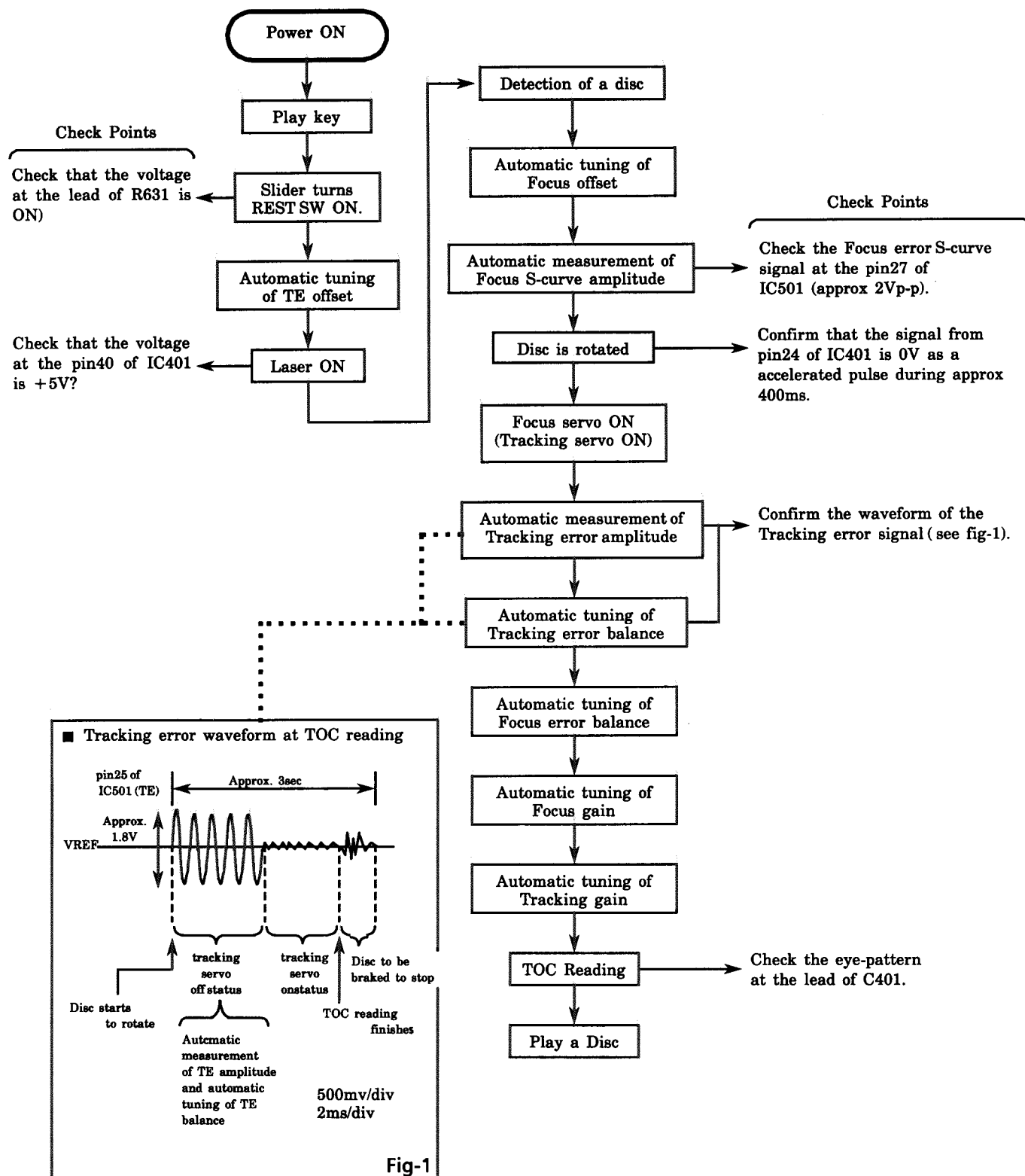


Fig 12

- 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 arrow in fig 12 on the right).

Flow of Functional Operation Until TOC is Read



Maintenance of Laser Pickup

(1) Cleaning the pick up lens

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

(2) Life of the laser diode (Fig.1)

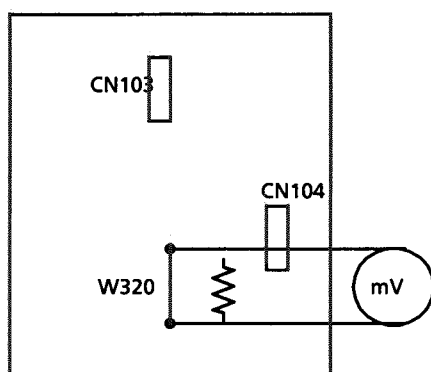
When the life of the laser diode has expired, the following symptoms will appear.

- (1) The level of RF output (EFM output: amplitude of eye pattern) will be low.
- (2) The drive current required by the laser diode will be increased. In such a case, check the life of the laser diode following the flowchart below.

(3) Measurement of laser diode drive current (Fig.2)

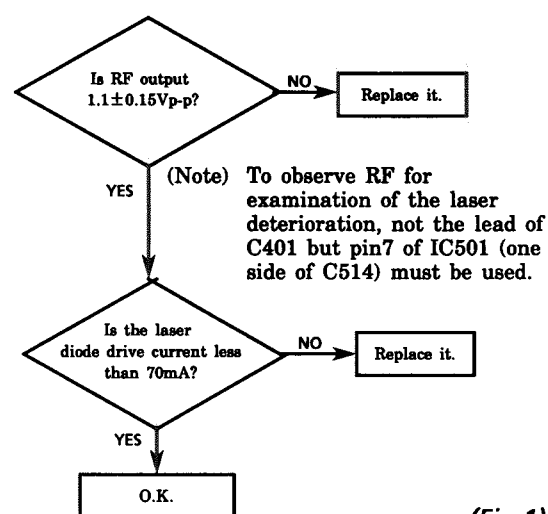
Cut the jump wire (W320) and add a 1Ω resistor. (See the following Fig.2)

Measure the voltage across the resistor (1Ω) with a milli-voltmeter. When the voltage is more than 70mV, it shows that the life of the laser diode has expired.



ENN-466

(Fig.2)



(Fig.1)

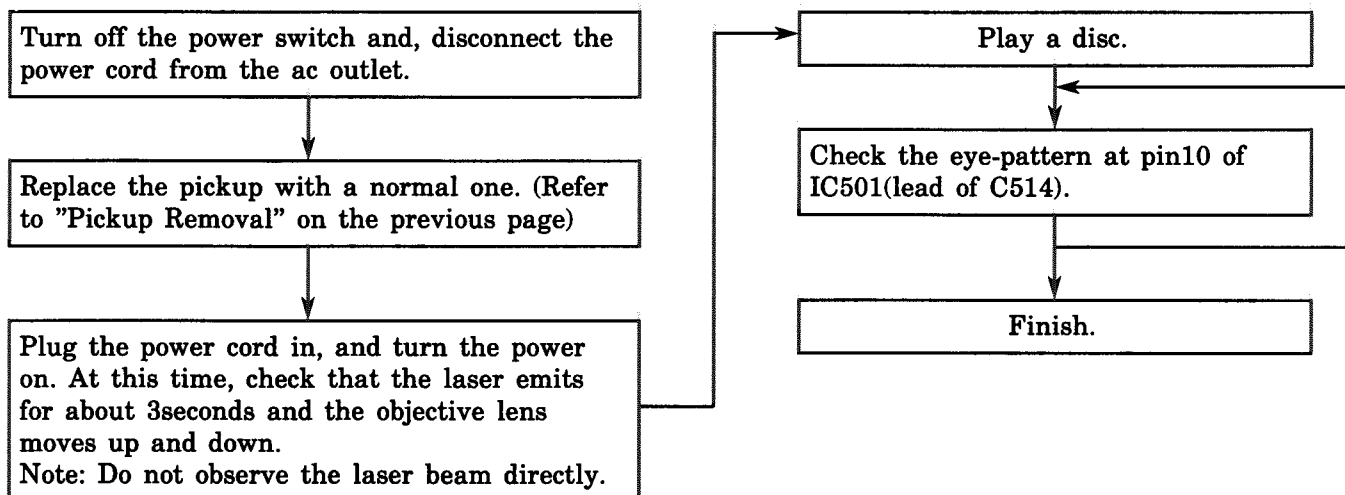
(4) Semi-fixed resistor on the APC PC board

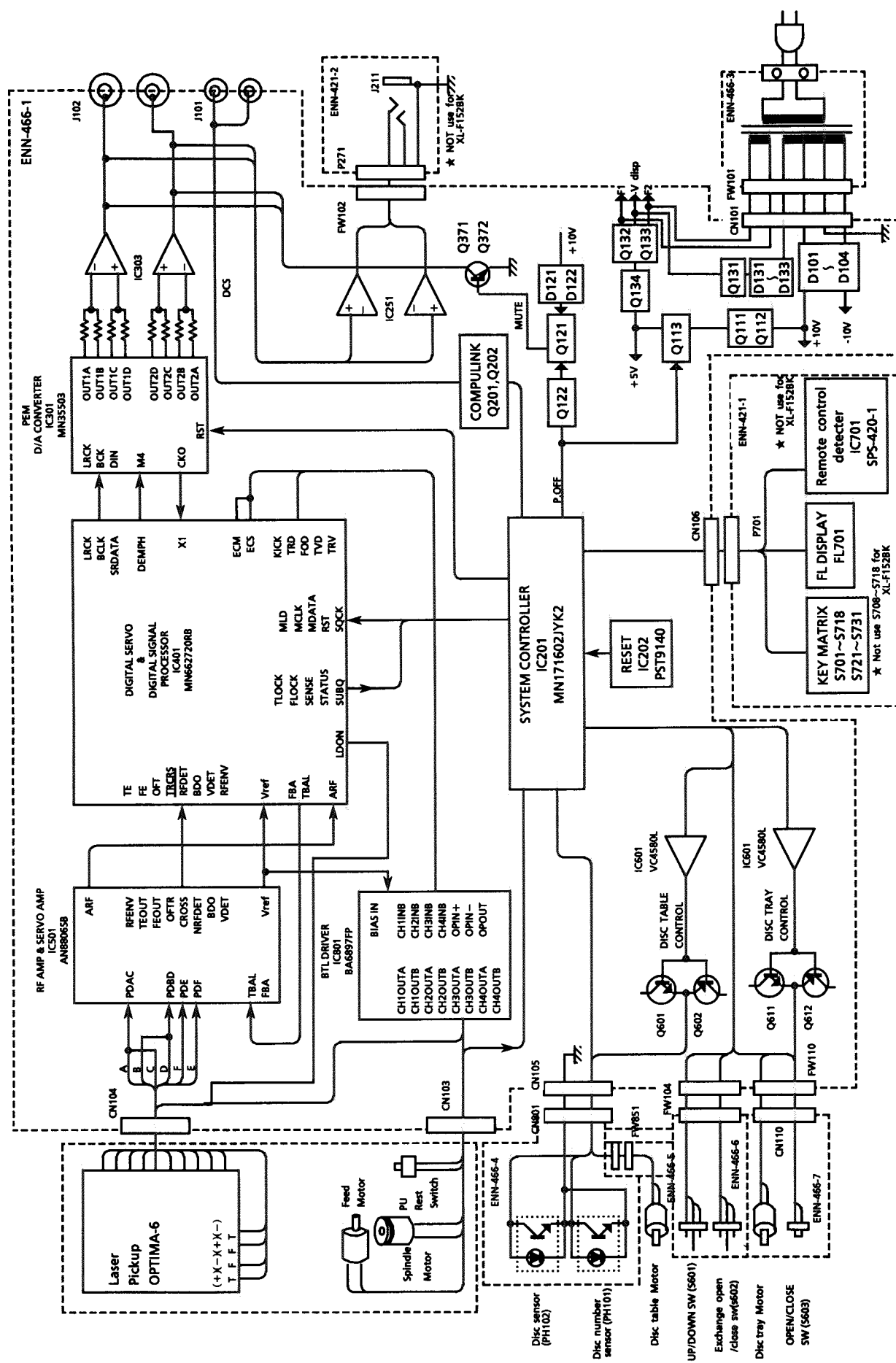
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

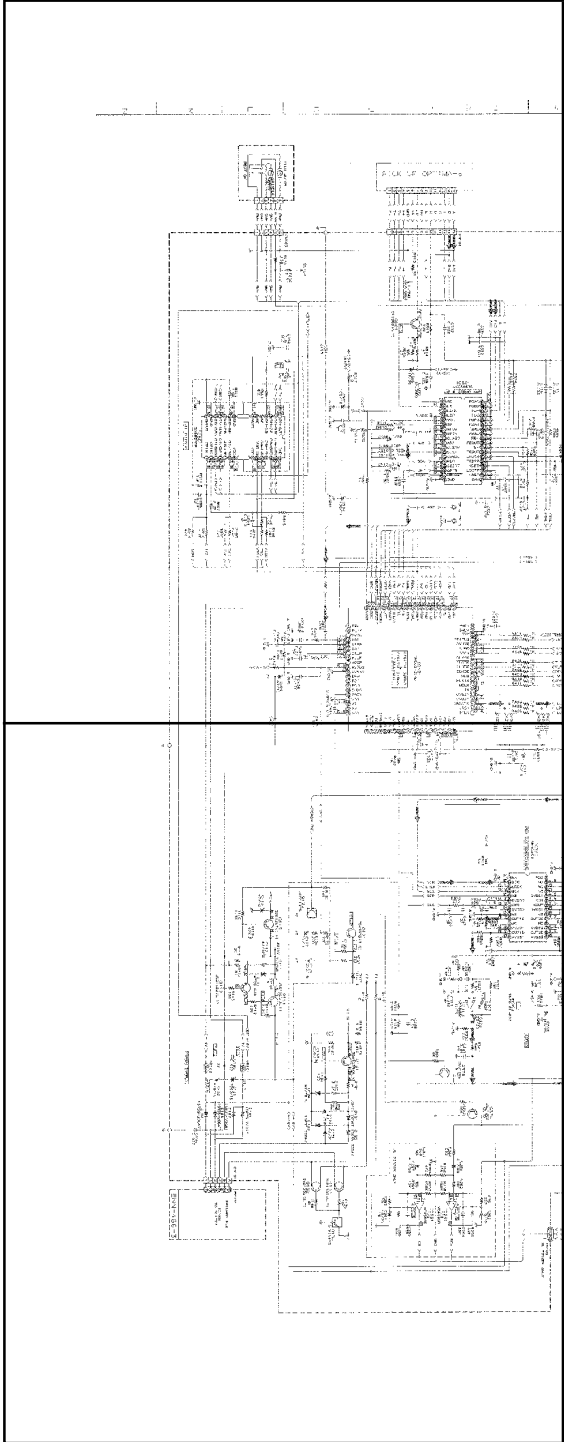
Replacement of Laser Pickup



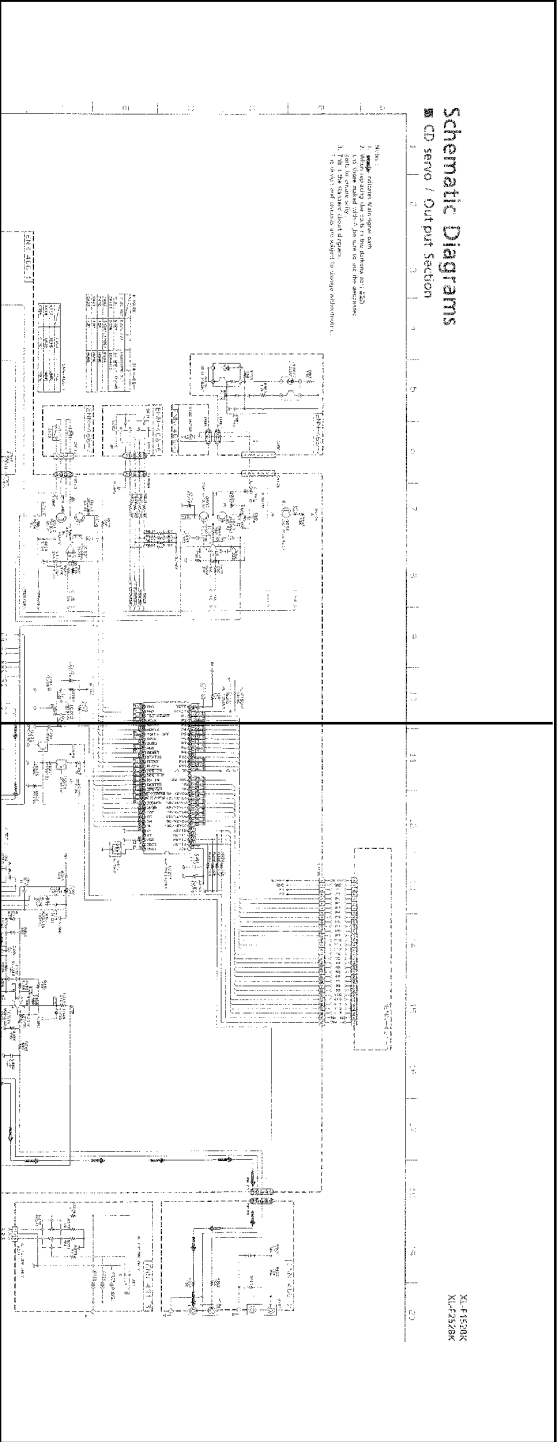


— MEMO —

P-S.D-a



P-S.D-b

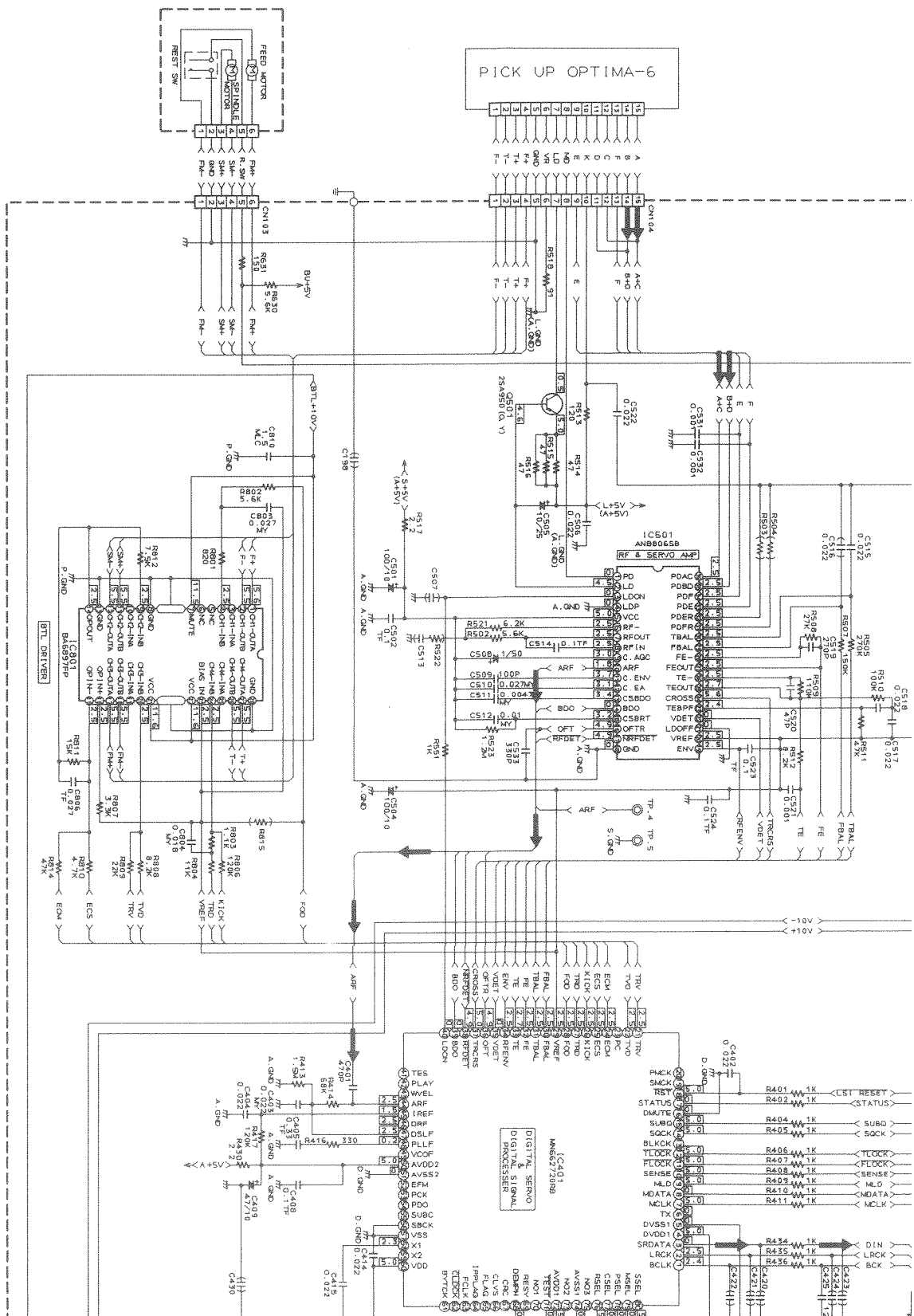


P-S.D-c



P-S.D-d





Schematic Diagrams

■ CD servo / Out put Section

1 2 3 4 5 6 7 8 9 10

Notes :

1.  indicates Main signal path.
2. When replacing the parts in the darkend aer () and those maked with Δ , be sure to use the designated parts to ensure safety.
3. This is the standard circuit diagram.

The design and contents are subject to change withoutnotice.

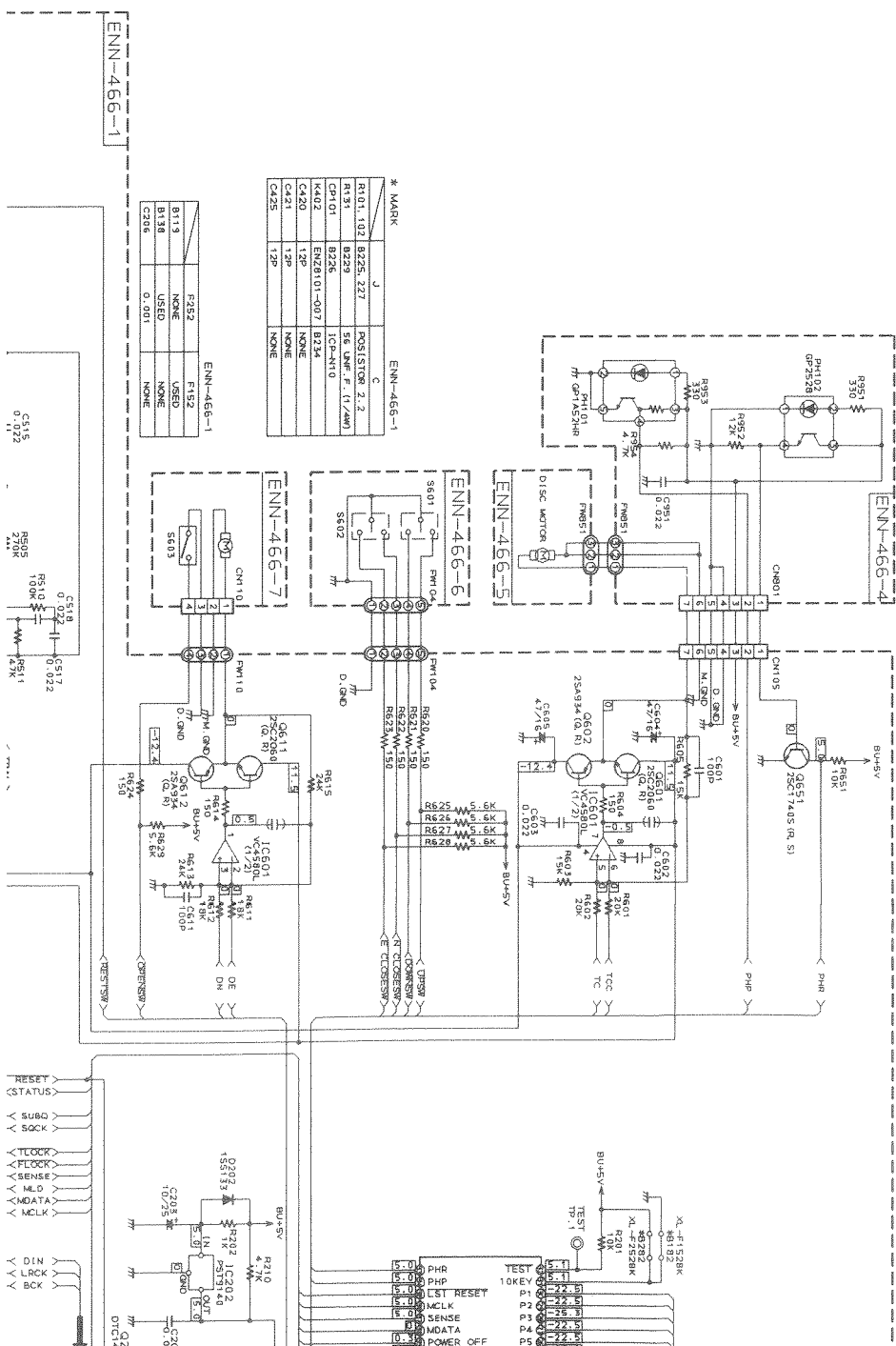


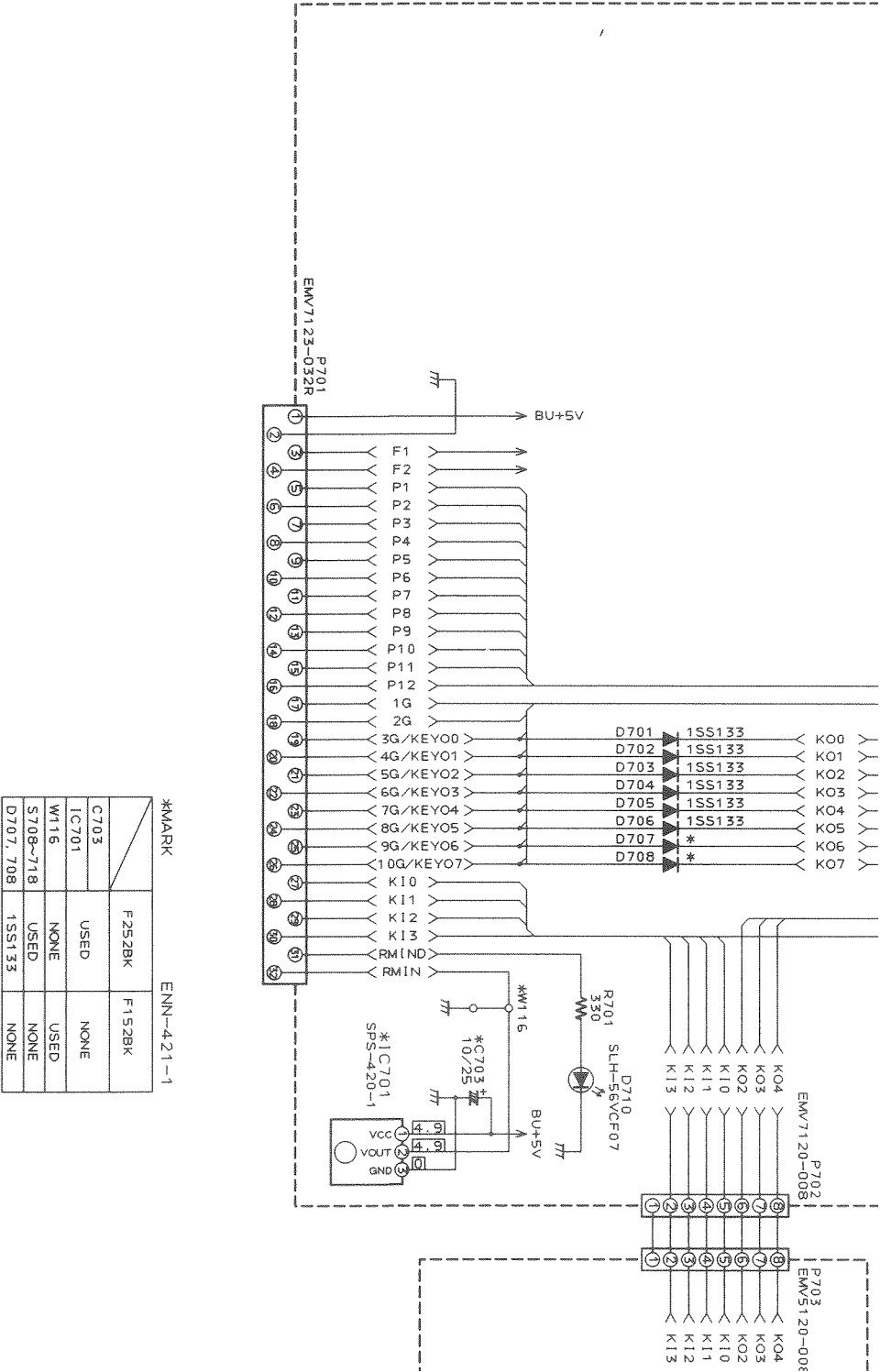




Figure 1 is a schematic diagram of the control system for the "Kryukovskiy" ship. It includes a table of component values and types, a detailed wiring diagram, and a smaller schematic at the bottom left.

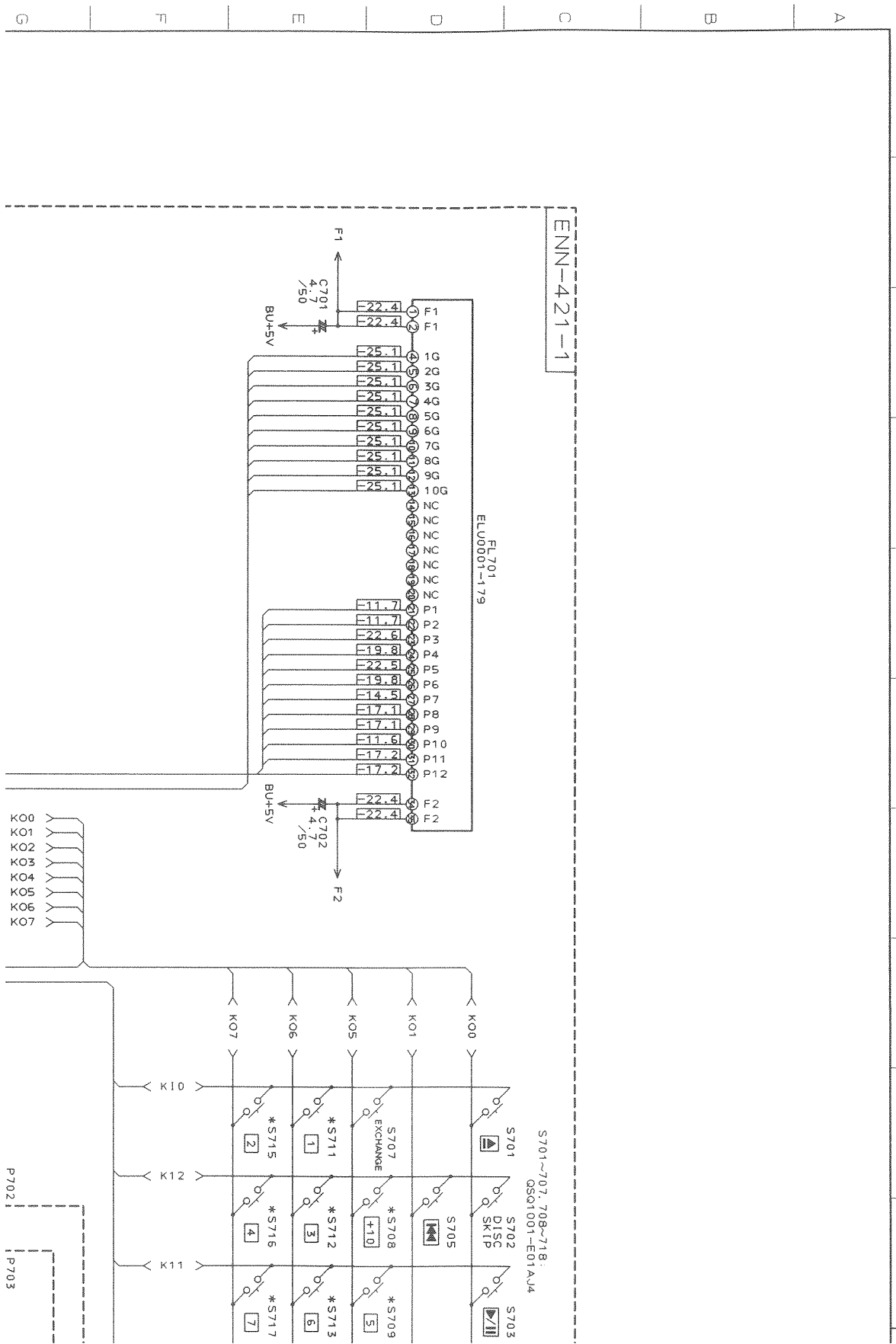
№	Наименование	Значение	Тип
1	Реле	100/100	Р
2	Реле	100/100	Р
3	Реле	100/100	Р
4	Реле	100/100	Р
5	Реле	100/100	Р
6	Реле	100/100	Р
7	Реле	100/100	Р
8	Реле	100/100	Р
9	Реле	100/100	Р
10	Реле	100/100	Р
11	Реле	100/100	Р
12	Реле	100/100	Р
13	Реле	100/100	Р
14	Реле	100/100	Р
15	Реле	100/100	Р
16	Реле	100/100	Р
17	Реле	100/100	Р
18	Реле	100/100	Р
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32	Реле	100/100	Р
33	Реле	100/100	Р
34	Реле	100/100	Р
35	Реле	100/100	Р
36	Реле	100/100	Р
37	Реле	100/100	Р
38	Реле	100/100	Р
39	Реле	100/100	Р
40	Реле	100/100	Р
41	Реле	100/100	Р
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83	Реле	100/100	Р
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85	Реле	100/100	Р
86	Реле	100/100	Р
87	Реле	100/100	Р
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89	Реле	100/100	Р
90	Реле	100/100	Р
91	Реле	100/100	Р

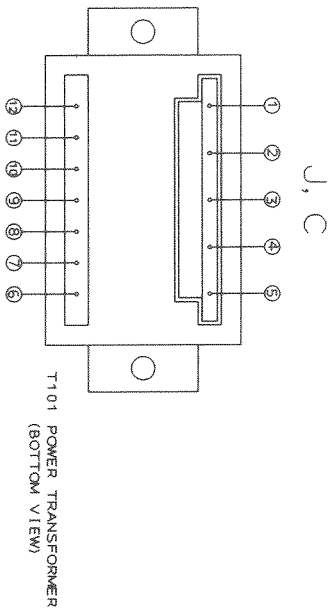
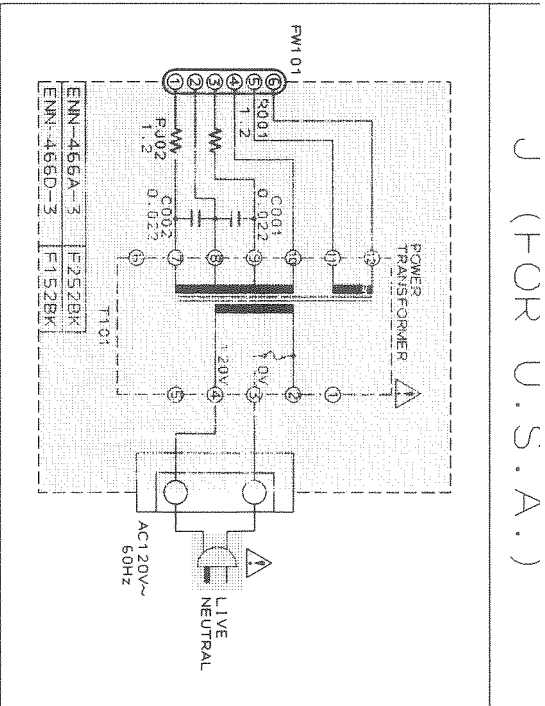
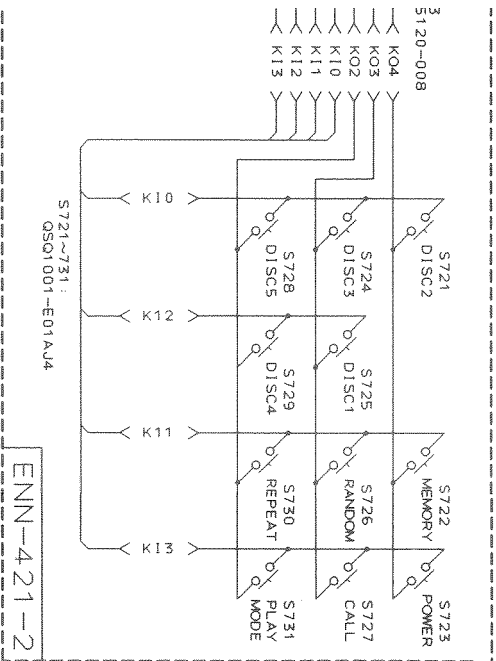
Z K L A C H I G

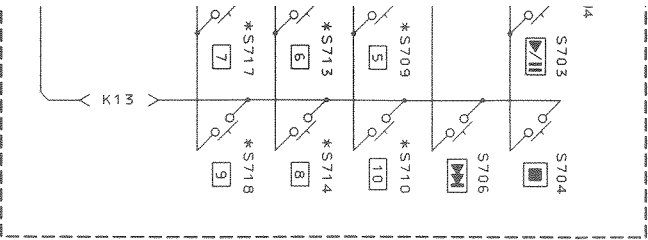


■ Front Section

1 2 3 4 5 6 7 8 9 10







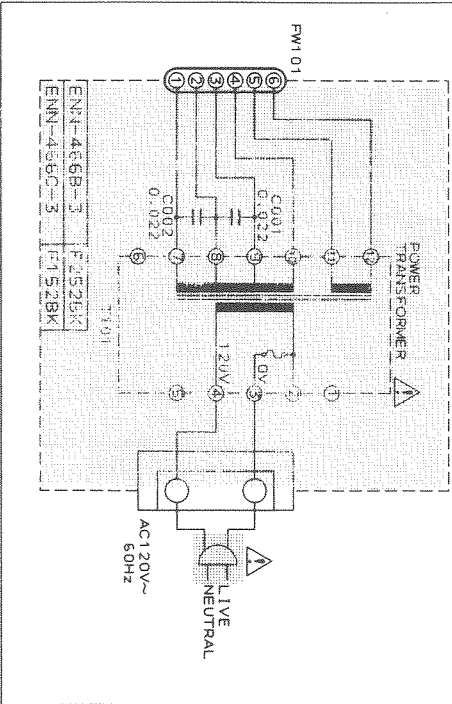
3

S721

S722

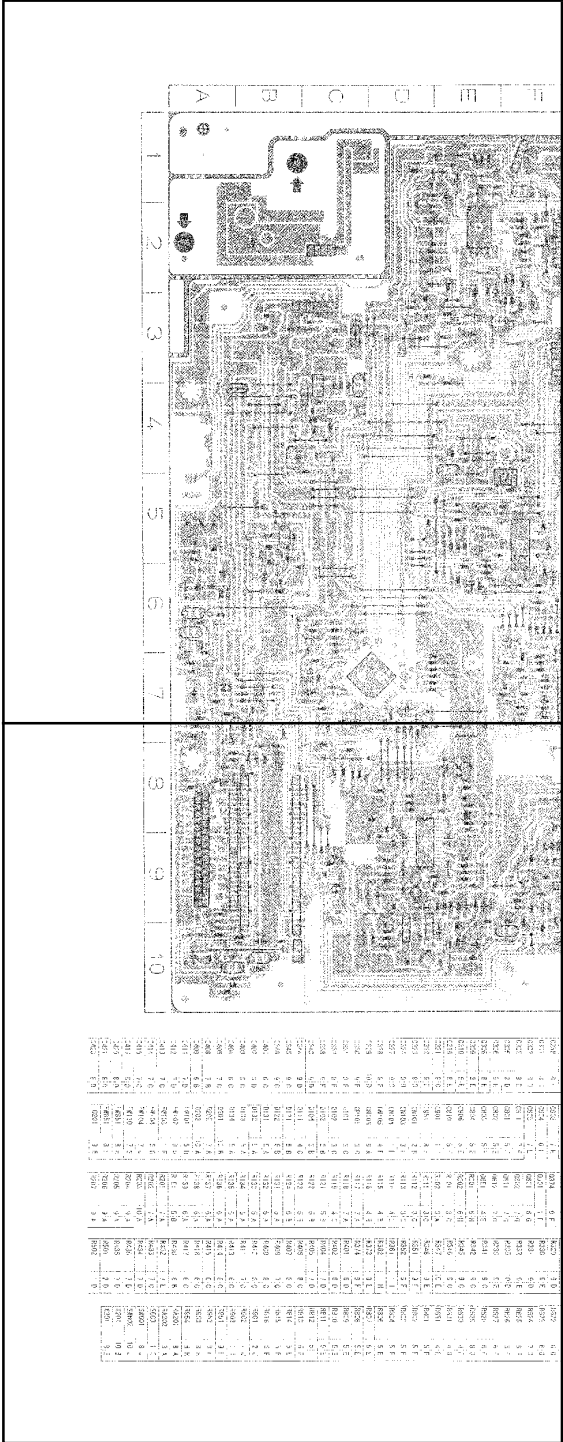
S723

C (FOR CANADA)



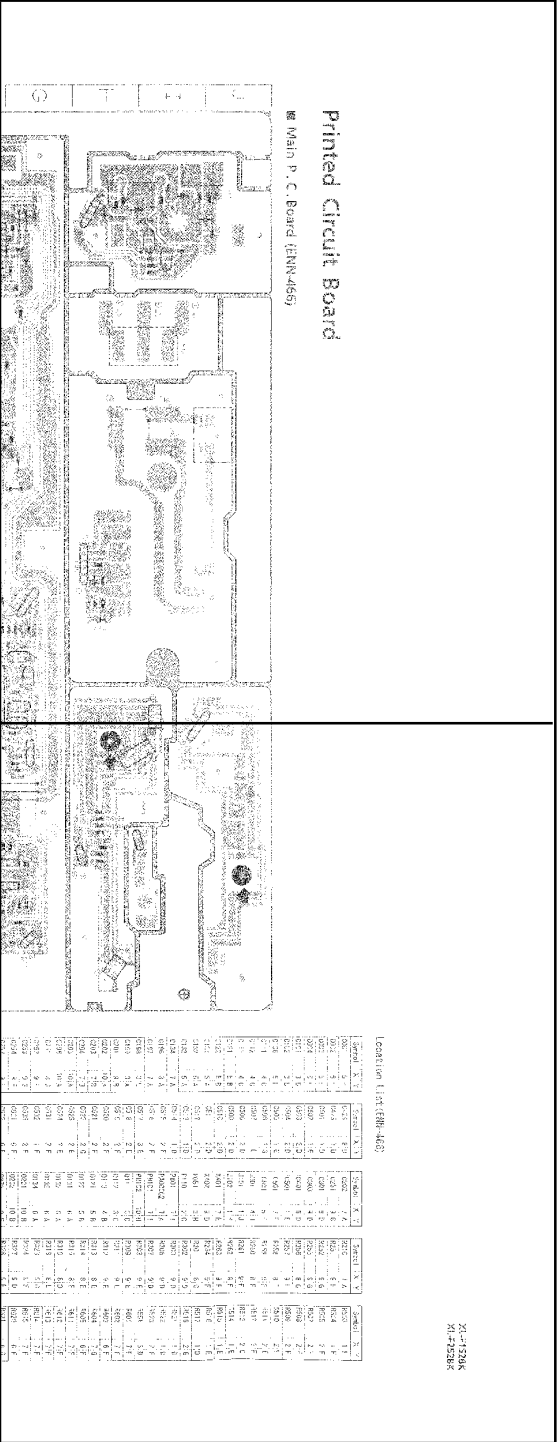
J (FOR U.S.A.)

P-P.C.B-a

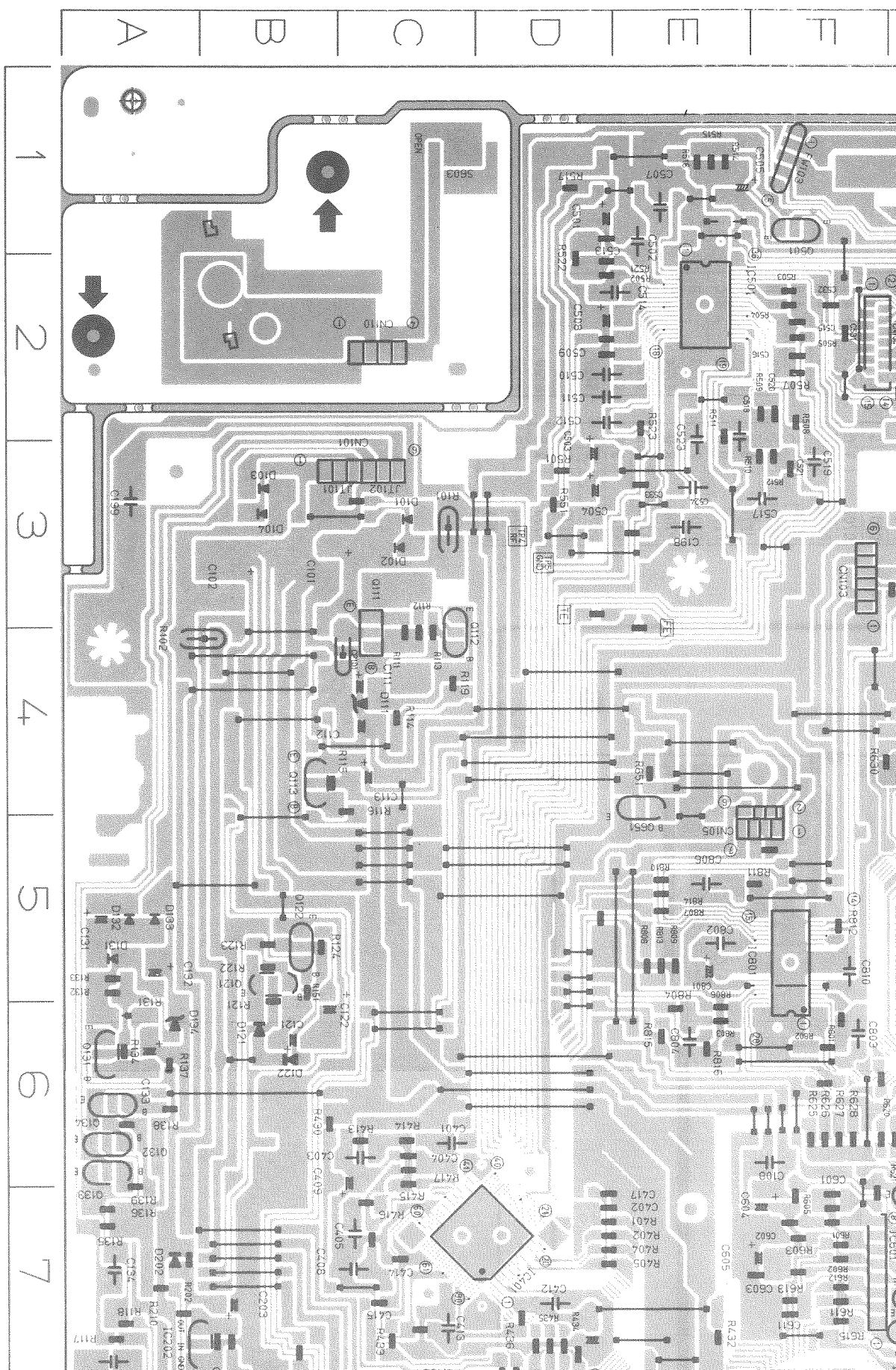


P-P.C.B-c

P-P.C.B-b

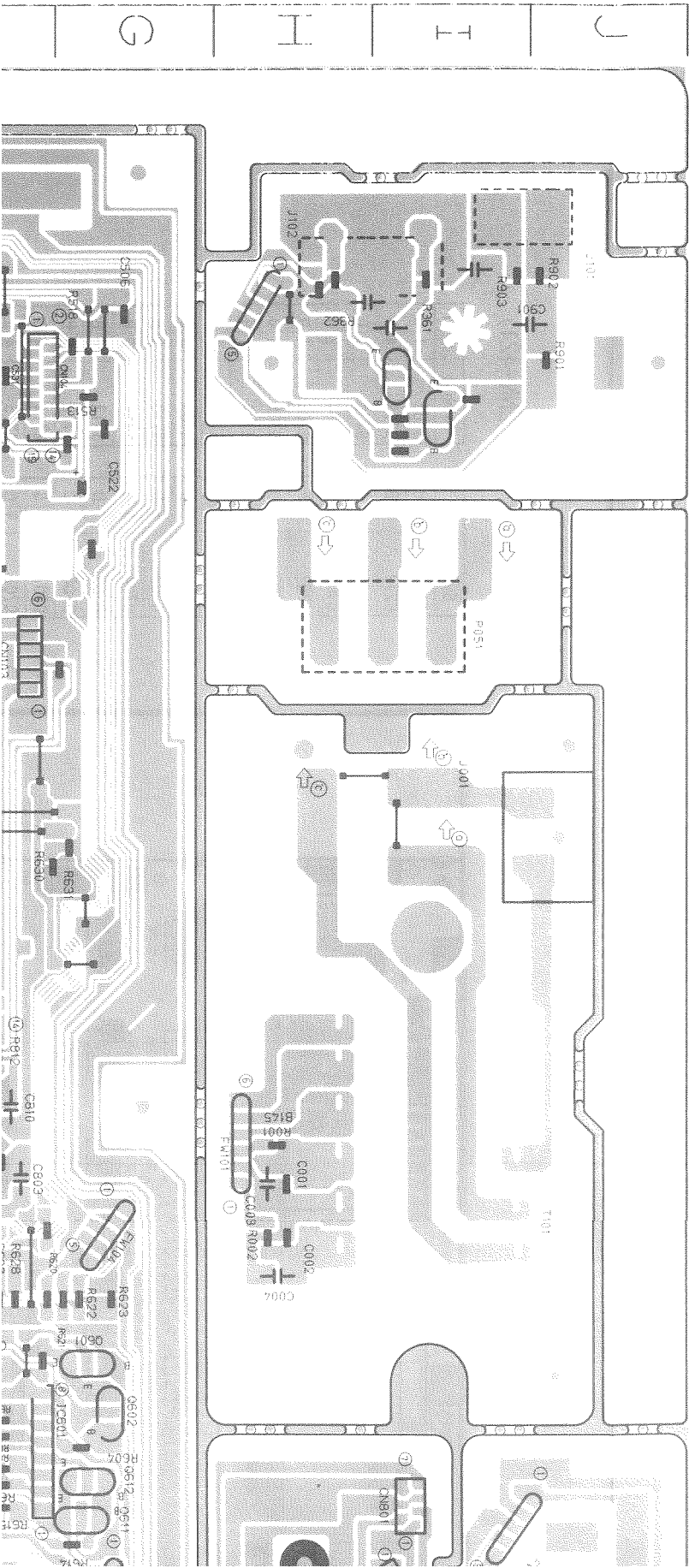


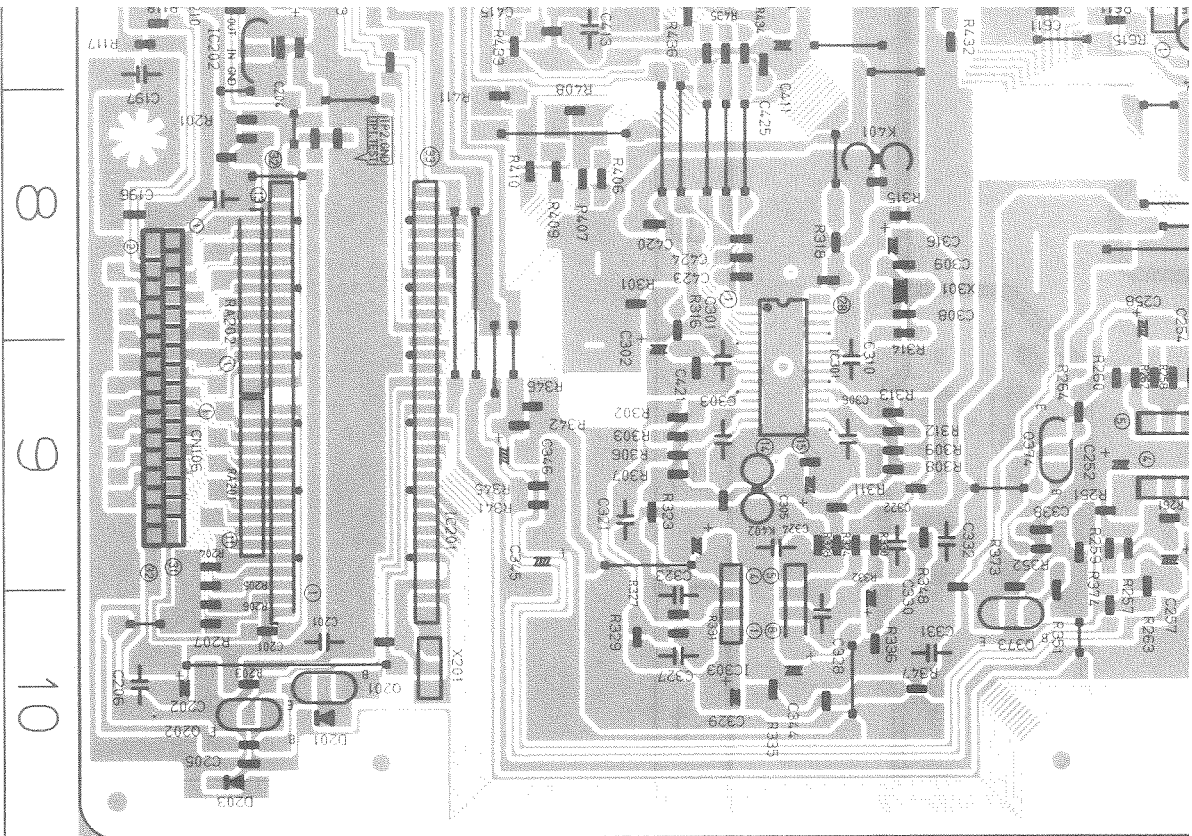
P-P.C.B-d



Printed Circuit Board

■ Main P. C. Board (ENN-466)





C257	9 F
C258	8 F
C301	8 D
C302	8 D
C303	9 D
C305	9 D
C306	9 E
C308	8 E
C309	8 E
C310	8 E
C316	8 E
C321	9 C
C322	9 E
C323	9 D
C324	9 D
C327	9 D
C328	9 E
C329	10 D
C330	9 E
C331	9 E
C332	9 E
C338	9 F
C343	9 D
C344	9 D
C345	9 C
C346	9 C
C401	6 C
C402	6 D
C403	6 C
C404	6 C
C405	7 C
C408	7 B
C409	6 B
C411	7 D
C412	7 D
C413	7 C
C414	7 C
C415	7 C
C417	6 D
C420	8 D
C421	8 D
C423	8 D

0602	6 F
0603	7 E
0604	6 F
0605	7 E
0611	7 F
0801	5 E
0802	5 E
0803	5 F
0804	5 E
0806	5 E
0810	5 F
0901	1 I
0951	8 H
0N101	2 B
0N103	3 F
0N104	1 F
0N105	4 E
0N106	9 A
0P101	3 C
D101	3 C
D102	3 C
D103	2 B
D104	3 B
D111	4 C
D121	5 B
D122	6 B
D131	5 A
D132	5 A
D133	5 A
D134	5 A
D201	10 B
D202	7 A
D203	10 A
FW101	5 H
FW102	9 G
FW103	1 F
FW104	6 G
FW104	7 J
FW110	7 G
FW851	8 H
FW851	8 H
1C201	9 B

0373	9 F
0374	9 F
0501	1 F
0601	6 G
0602	7 G
0611	7 G
0612	7 G
0651	4 E
R001	5 H
R002	6 H
R101	3 C
R102	3 A
R111	3 C
R112	3 C
R113	3 C
R114	4 C
R115	4 B
R116	4 B
R117	7 A
R118	7 A
R119	4 C
R121	5 B
R122	5 B
R123	5 B
R124	5 B
R131	5 A
R132	5 A
R133	5 A
R134	6 A
R135	6 A
R136	6 A
R137	6 A
R138	6 A
R139	6 A
R151	5 B
R201	7 A
R202	7 A
R203	10 A
R204	9 A
R205	9 A
R206	9 A
R207	9 A

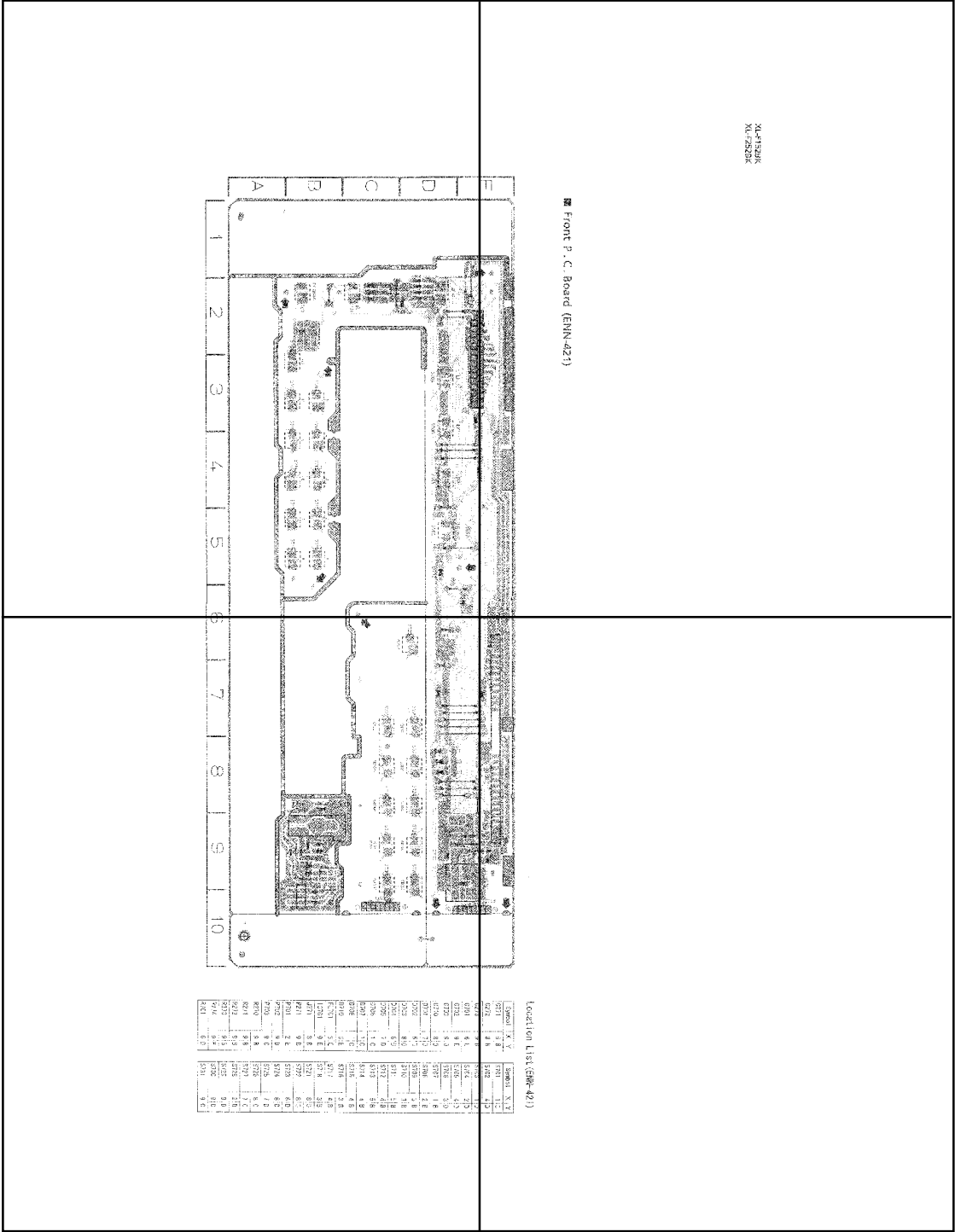
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R329	9 D
R330	9 E
R331	9 D
R332	9 E
R335	10 D
R336	9 E
R341	9 C
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R345	9 C
R346	8 C
R347	10 E
R348	9 E
R351	9 F
R352	9 F
R361	1 I
R362	1 H
R373	9 E
R374	9 F
R401	6 D
R402	6 D
R404	7 D
R405	7 D
R406	8 C
R407	8 C
R408	7 C
R409	8 C
R410	8 C
R411	7 C
R413	6 C
R414	6 C
R415	6 C
R416	6 C
R417	6 C
R430	6 B
R432	7 E
R433	7 C
R434	7 D
R435	7 D
R436	7 D
R501	2 D
R502	1 D

R621	6 G
R622	6 G
R623	6 G
R624	7 G
R625	6 F
R626	6 F
R627	6 F
R628	6 F
R629	8 G
R630	4 F
R631	4 G
R651	4 E
R801	5 F
R802	5 F
R803	5 E
R804	5 E
R806	5 E
R807	5 E
R808	5 E
R809	5 E
R810	5 E
R811	5 E
R812	5 F
R813	5 E
R814	5 E
R815	5 E
R816	6 E
P901	2 J
P902	1 J
P903	1 I
P951	9 H
P952	8 H
P953	8 H
P954	8 H
RA201	8 A
RA202	8 A
S603	1 C
SM601	8 J
SM602	10 J
X201	10 B
X301	8 E

Symbol		X	Y	Symbol		X	Y	Symbol		X	Y	Symbol		X	Y	Symbol		X	Y
C001	5 H	C424	8 D	I6202	7 A	R210	7 A	R503	1 F	C002	6 H	C425	7 D	I6251	9 G	R251	9 F	R504	1 F
C003	5 H	C501	1 D	I6301	8 D	R252	9 G	R505	2 F	C101	3 B	C502	1 E	I6303	9 D	R255	9 G	R507	2 F
C102	3 B	C503	2 D	I6401	6 D	R256	8 G	R508	2 F	C108	6 F	C504	2 D	I6501	1 E	R257	9 F	R509	2 F
C111	4 C	C505	1 E	I6601	7 F	R258	8 F	R510	2 F	C112	4 C	C507	1 E	I6801	5 F	R259	9 F	R511	2 E
C113	4 C	C508	2 D	J101	1 J	R260	8 F	R512	2 F	C121	5 B	C509	2 D	J102	1 H	R261	9 F	R513	2 G
C122	5 B	C510	2 D	K401	7 E	R262	8 F	R514	1 E	C131	5 A	C511	2 D	K402	9 D	R263	9 F	R515	1 E
C132	5 A	C512	2 D	P051	3 H	R264	9 F	R516	1 E	C133	5 A	C513	1 D	P110	2 C	R301	8 C	R517	1 D
C134	7 A	C514	1 D	P801	7 I	R302	9 D	R521	1 D	C198	3 E	C515	2 F	PAD0062	7 A	R303	9 D	R518	2 G
C196	8 A	C516	2 F	PH101	7 I	R306	9 D	R522	1 D	C199	3 A	C517	3 E	PH102	10 H	R307	9 D	R523	2 E
C201	9 B	C518	2 E	Q111	3 C	R308	9 E	R551	3 D	C202	10 A	C519	2 F	Q112	3 C	R309	9 E	R601	7 F
C203	7 B	C520	2 F	Q113	4 B	R311	9 E	R602	7 F	C204	7 B	C521	2 F	Q121	5 B	R312	9 E	R603	6 F
C205	10 A	C522	2 G	Q122	5 B	R313	8 E	R604	7 G	C251	8 G	C523	2 E	Q131	6 A	R314	8 E	R605	6 F
C206	10 A	C524	2 E	Q132	6 A	R315	8 E	R611	7 F	C252	9 F	C525	2 E	Q133	6 A	R316	8 D	R612	7 F
C253	9 G	C531	2 F	Q134	6 A	R318	8 E	R613	7 F	C254	8 F	C532	1 F	Q201	10 B	R323	9 D	R614	7 F
C257	9 F	C601	6 F	Q202	10 B	R324	9 E	R615	7 F	C258	8 F	C602	6 F	Q373	9 F	R327	9 D	R620	6 F
C258	8 F	C603	7 E	Q374	9 F	R328	9 E	R621	6 G	C603	7 E	C603	7 E	Q374	9 F	R329	9 D	R622	6 G

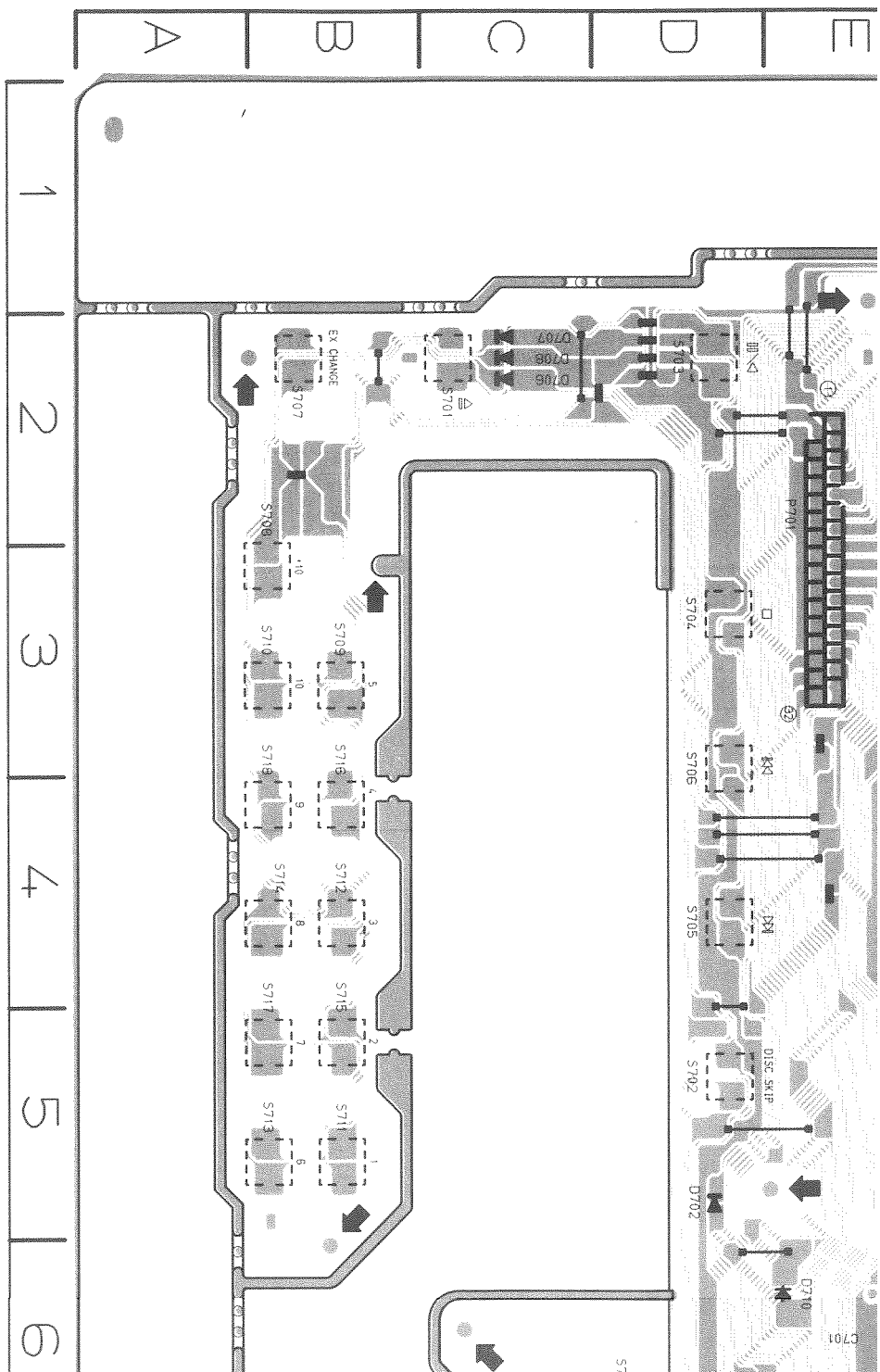
P-F.P.C.B-a

P-F.P.C.B-b

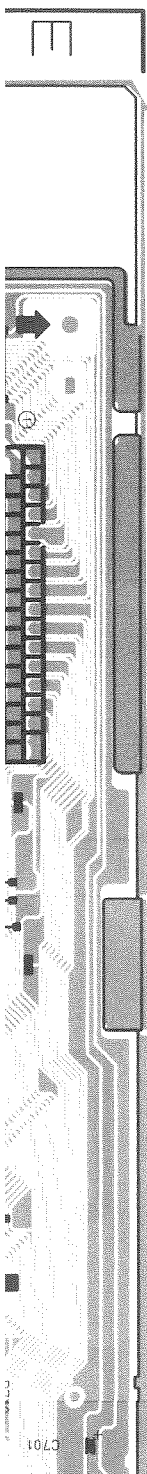


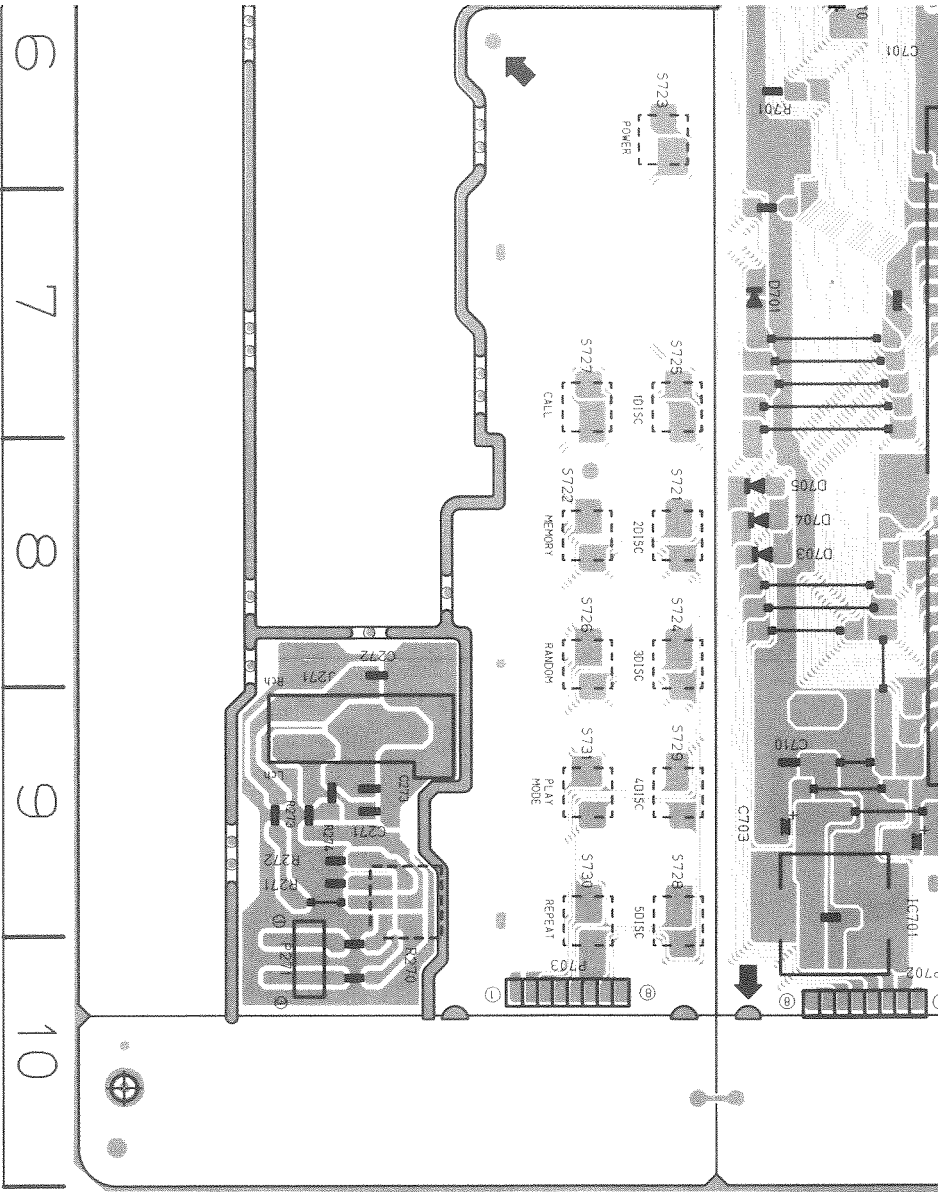
P-F.P.C.B-c

P-F.P.C.B-d



■ Front P. C. Board (ENN-421)

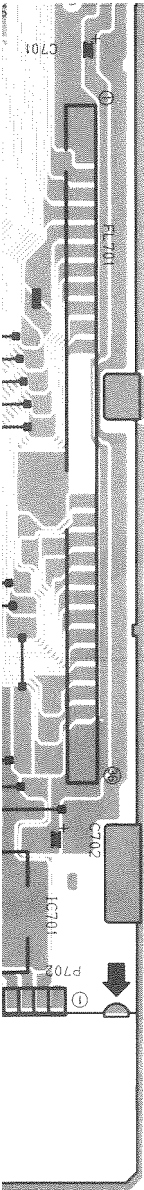




C272	8 B	S702	4 D
C273	9 B	S703	1 D
C701	6 E	S704	2 D
C702	9 E	S705	4 D
C703	9 D	S706	3 D
C710	8 D	S707	1 B
D701	7 D	S708	2 B
D702	5 D	S709	3 B
D703	8 D	S710	3 B
D704	8 D	S711	5 B
D705	7 D	S712	4 B
D706	1 C	S713	5 B
D707	1 C	S714	4 B
D708	1 C	S715	4 B
D710	6 E	S716	3 B
FL701	6 E	S717	4 B
IC701	9 E	S718	3 B
J271	8 B	S721	8 D
P271	9 B	S722	8 C
P701	2 E	S723	6 D
P702	9 D	S724	8 D
P703	9 C	S725	7 D
R270	9 B	S726	8 C
R271	9 B	S727	7 C
R272	9 B	S728	9 D
R273	9 B	S729	9 D
R274	9 B	S730	9 C
R701	6 D	S731	9 C

Location List (ENN-421)

Symbol	X	Y	Symbol	X	Y
C271	9	B	S701	1	C
C272	8	B	S702	4	D
C273	9	B	S703	1	D



P a r t s L i s t

* All printed circuit boards and its assemblies are not available as service parts.

The Markes for Designated Areas.

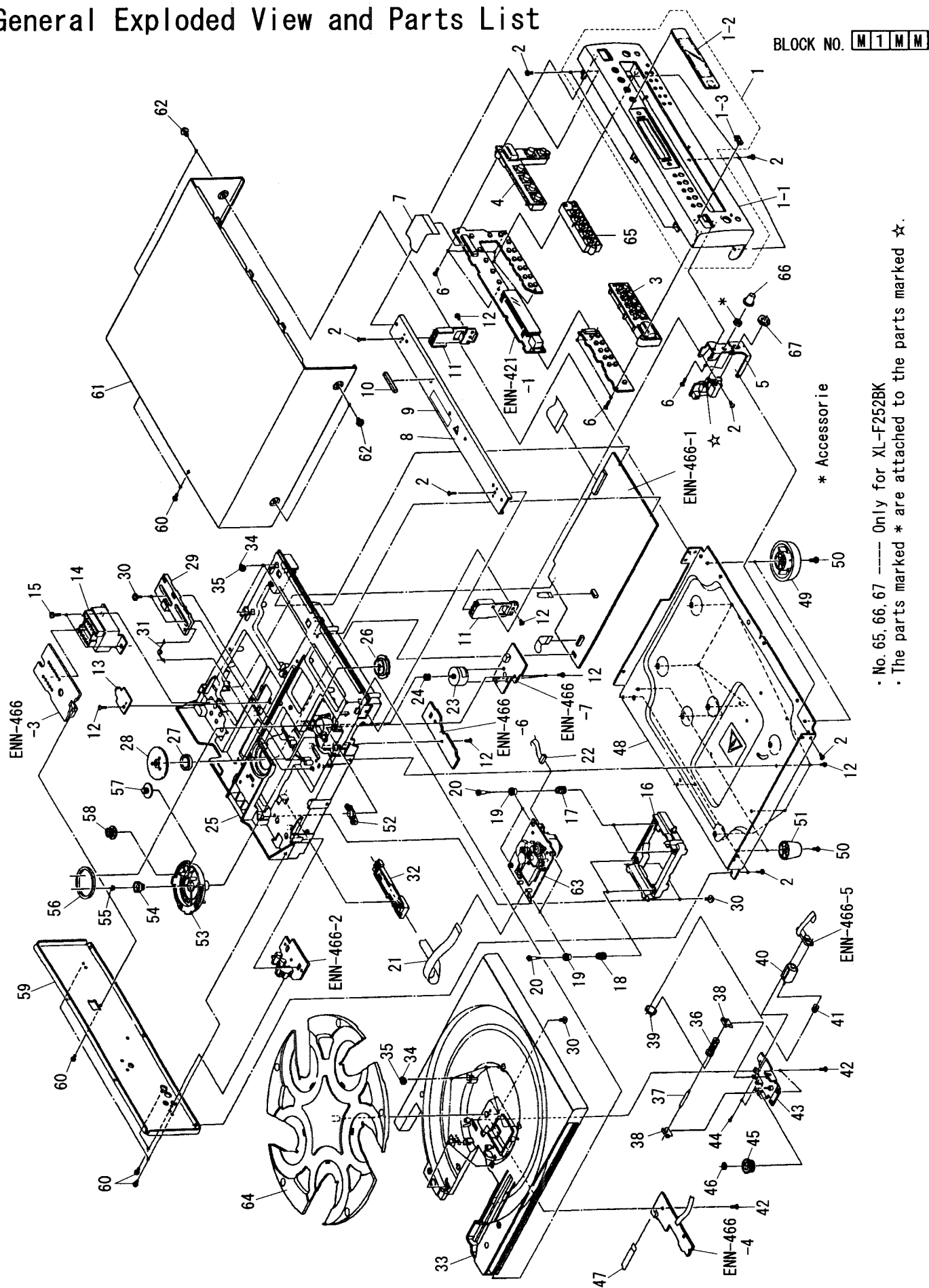
J . . . the U.S.A. U . . . Universal Type
No mark indicates all areas.

- Contens -

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Packing Materials and Part Numbers	2-11

XL-F152BK
XL-F252BK

General Exploded View and Parts List



■ Parts List (XL-F152BK)

Block No.

M	1	M	M
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△	No.	Parts Number	Parts Name	Q'ty	Description	Area
	1	FEP-XLF152BKJ(S	FRONT PANEL ASSY	1		
	1-1	E102893-009SS	FRONT PANEL	1		
	1-2	E308113-012SS	WINDOW SCREEN	1		
	1-3	VJD5429-001	JVC MARK	1		
	2	SDSG3006Z	TAPPING SCREW	12		
	3	E208219-004SS	POWER BUTTON	1		
	4	E208221-004SS	PUSH BUTTON	1	PLAY/PAUSE	
	5	E309048-001	H. P. BRACKET	1		
	6	SDSF2608Z	SCREW	9		
	7	VWF1232-25TTB	FLAT WIRE ASSY	1		
	8	E207495-001SS	MECHA FLAME	1		
	9	E406709-001	CAUTION LABEL	1		C
	10	E306805-138	SPACER	1		
	11	E308111-002SS	STAY BRACKET	2		
	12	SBSF3008Z	TAPPING SCREW	14		
	13	E408395-001	PROTECT COVER	1		
△	14	ETP1000-77JAJ	POWER TRANSFORMER	1		
	15	SBSF4008Z	TAPPING SCREW	2		
	16	E208210-002SS	ELEVATOR BASE	1		
	17	E407154-003	SPRING	2		
	18	E407154-002	SPRING	2		
	19	E407153-001	INSULATOR	4		
	20	E407146-001	SPECIAL SCREW	4		
	21	EWZ02-001	FFC CABLE	1	15PIN	
	22	EWS266-B409	SOCKET WIRE ASSY	1	6PIN	
	23	RF-500TB-12560	DC MOTOR	1		
	24	E75984-222SS	MOTOR PULLEY	1		
	25	E102883-001	C. D MECHA BASE	1		
	26	E306835-221	CD CLAMPER	1		
	27	E74897-002	MAGNET	1		
	28	E306836-223SS	YOKE PLATE	1		
	29	E208211-002SS	CAM PLATE	1		
	30	E65923-003	TAPPING SCREW	5		
	31	E408293-002	T. SPRING	1		
	32	E308181-221SS	FFC HOLDER	1		
	33	E102884-002	C. D TRAY	1		
	34	E407140-001SS	CD ROLLER	10		
	35	E407149-001SS	RUBBER TUBE	10		
	36	E408199-001	C. D PULLEY WORM	1		
	37	E408197-001	CD SHAFT	1		
	38	E408201-001	C. D SHAFT GUIDE	2		
	39	E75950-003	DRIVE BELT	1		
	40	FF-130SH-11340	DC MOTOR	1		
	41	E73060-001	MOTOR PULLEY	1		
	42	SDSF3008M	WOOD SCREW	3		
	43	E309030-001	BRACKET ASS'Y	1		
	44	SPSK2025Z	SCREW	2		
	45	E408200-001	C. D WORM WHEEL	1		
	46	WDL360850	WASHER	1		
	47	VWF1007-25PPA	FFC CABLE	1		
	48	E102595-003SSF	CD BOTTOM COVER	1		
	49	E406379-008SS	FOOT	2		
	50	SBST3008Z	TAPPING SCREW	4		

XL-F152BK
XL-F252BK

■ Parts List (XL-F152BK)

△	No.	Parts Number	Parts Name	Q'ty	Description	Area
	51	E47227-037	FOOT ASS'Y	2		
	52	E309020-001	SW LEVER	1		
	53	E309019-001	C. D. D. BASE	1		
	54	E75985-222SS	PULLEY GEAR	1		
	55	E72024-001	SPEED NUT	1		
	56	E75950-002	REEL BELT	1		
	57	E408203-001	C. D. GEAR	1		
	58	E408202-001	C. D. D. GEAR	1		
	59	E208223-020SS	REAR PANEL	1		J
	59	E208223-022SS	REAR PANEL	1		C
	60	E73273-006	SPECIAL SCREW	7		
	61	E207496-002SS	METAL COVER	1		
	62	E406308-001	SPECIAL SCREW	4		
	63	-----	CD MECHANISM ASSY	1	SEE PAGE 2-5	
	64	E102885-002	C. D. DISC TABLE	1		
	-	E307570-001	NUMBER LABEL	1		J
	-	E408632-002	CSA LABEL	1		C
	-	E61029-005	NUMBER LABEL	1		C

■ Parts List (XL-F252BK)

* This list describes only the difference between XL-F152BK and XL-F252BK.

Block No.

M	2	M	M
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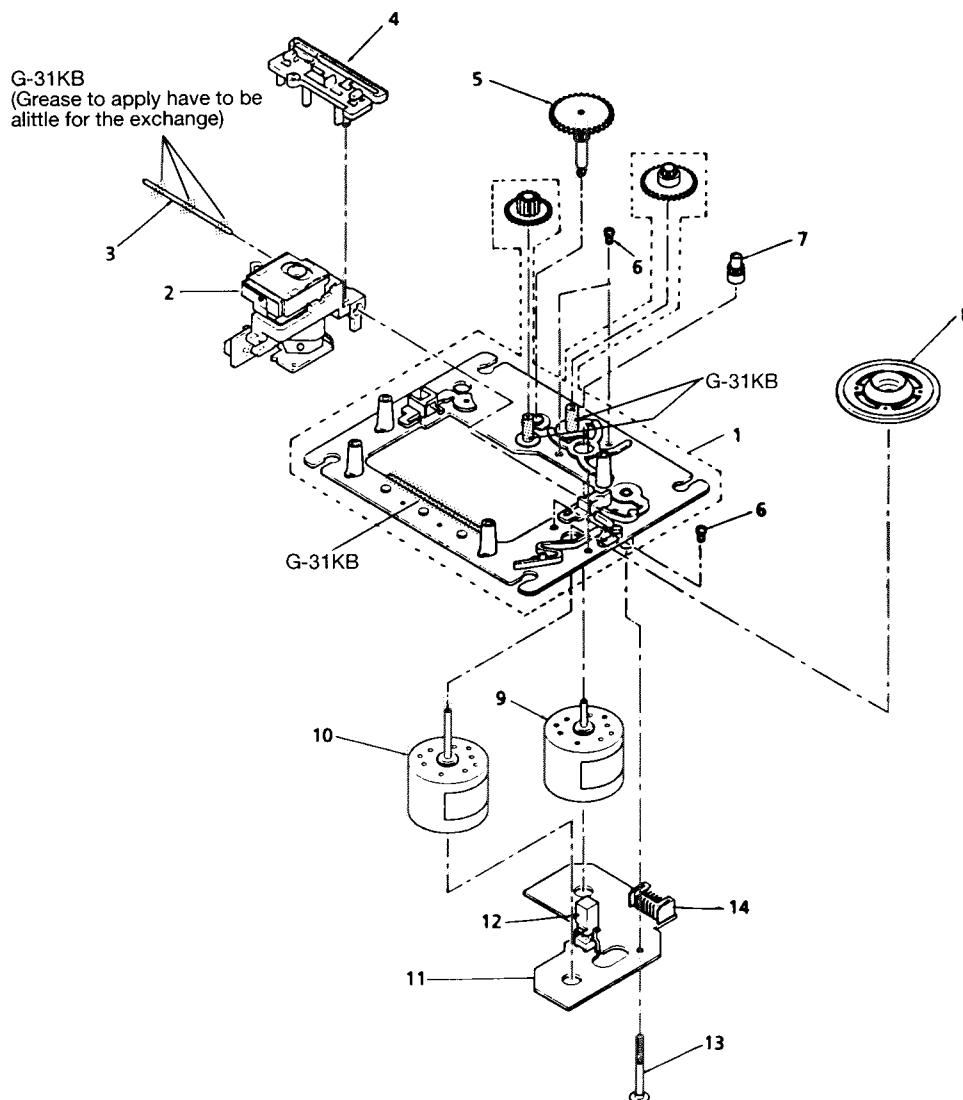
△	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-XLF252BKJ(S	FRONT PANEL ASSY	1		
	1-1	E102893-008SS	FRONT PANEL	1		
	1-2	E308113-015SS	WINDOW SCREEN	1		
	6	SDSF2608Z	SCREW	10		
	12	SBSF3008Z	TAPPING SCREW	16		
	59	E208223-019SS	REAR PANEL	1		J
		E208223-021SS	REAR PANEL	1		C
	65	E309047-003SS	PUSH BUTTON	1	10KEY	
	66	E309097-004	KNOB	1	H.P VOLUME	
	67	E408582-001	NUT	1		

CD Mechanism Ass'y and Parts List

■ Grease Point

Block No.

M	3	M	M
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■ Parts List (CD Mechanism Ass'y)

Block No.

M	3	M	M
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Item	Part Number	Part Name	Q'ty	Description	Area
1	E102501-221SS	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASSY	1		
3	E406777-001	SHAFT	1		
4	E307746-001	CD RACK	1		
5	E307745-221SS	GEAR (3)	1		
6	SDSP2003N	SCREW	4		
7	E406750-001	PINION GEAR	1		
8	E75807-302	TURN TABLE	1		
9	MDN-4RA3ETA-1	FEED MOTOR	1		
10	E406783-001	SPINDLE MOTOR	1		
11	EMW10190-001(S)	CIRCUIT BOARD	1		
12	ESB1100-005	LEAF SWITCH	1		
13	E75832-001	SCREW	1		
14	EMV5109-006B	PLUG ASSY	1	6PIN	

■ Electrical Parts List (ENN-466)

△	No.	Parts Number	Description	Area	△	No.	Parts Number	Description	Area
		I. C. S				C131	QETB1EM-476	47MF 25V AL E. CAP.	
	IC201	MN171602JYK2	I. C (MICRO-COMPUTER)			C132	QETB1HM-476	47MF 50V E. CAP.	
	IC202	PST9140T	I. C (MONO-ANALOG)			C133	QETB1HM-106	10MF 50V E. CAP.	
	IC301	MN35503	I. C (DIGI-MOS)			C197	QCF21HP-223A	0.022MF 50V CER. CAP.	
	IC303	NJM4580DD	I. C (MONO-ANALOG)			C199	QCF21HP-223A	0.022MF 50V CER. CAP.	J
	IC401	MN66272ORB	I. C (DIGI-MOS)			C201	QFV81HJ-224	0.22MF 50V THIN FILM CAP.	
	IC501	AN8806SB	I. C (MONO-ANALOG)			C202	QETB1AM-476	47MF 10V E. CAP.	
	IC601	NJM4580L	I. C (MONO-ANALOG)			C203	QETB1EM-106	10MF 25V AL E. CAP.	
	IC801	BA6897FPW	I. C (MONO-ANALOG)			C204	QCHB1EZ-223	0.022MF 25V CER. CAP.	
		DIODES				C205	QCB81HK-331Y	330PF 50V CER. CAP.	
	D101	1SR35-200A	SI. DIODE			C301	QC20202-155	1.5MF 25V CER. RES.	
	D102	1SR35-200A	SI. DIODE			C302	QETB0JM-227	220MF 6.3V E. CAP.	
	D103	1SR35-200A	SI. DIODE			C303	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	D104	1SR35-200A	SI. DIODE			C305	QETB0JM-477	470MF 6.3V AL E. CAP.	
	D111	MTZ5.6JA	ZENER DIODE			C306	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	D121	1SS133	SI. DIODE			C308	QCT30CH-180Y	18PF 50V CER. CAP.	
	D131	1SR35-200A	SI. DIODE			C309	QCT30CH-180Y	18PF 50V CER. CAP.	
	D132	1SR35-200A	SI. DIODE			C310	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	D133	1SR35-200A	SI. DIODE			C316	QETB1AM-476	47MF 10V E. CAP.	
	D134	MTZ30JC	ZENER DIODE			C321	QFN81HJ-392	3900PF 50V METAL. MYLAR	
	D201	1SS133	SI. DIODE			C322	QFN81HJ-392	3900PF 50V METAL. MYLAR	
	D202	1SS133	SI. DIODE			C323	QFN81HJ-333	0.033MF 50V MYLAR CAP.	
	D203	1SS133	SI. DIODE			C324	QFN81HJ-333	0.033MF 50V MYLAR CAP.	
		TRANSISTORS				C327	QFP81HJ-181	180PF 50V POLYPROP. FILM	
	Q111	2SB1565 (E, F)	SI. TRANSISTOR			C328	QFP81HJ-181	180PF 50V POLYPROP. FILM	
	Q112	2SD1302	SI. TRANSISTOR			C329	QETB1EM-226N	22MF 25V E. CAP.	
	Q113	2SB1357 (E, F)	SI. TRANSISTOR			C330	QETB1EM-226N	22MF 25V E. CAP.	
	Q121	2SA933S (RS)	SI. TRANSISTOR			C331	QFN81HJ-103	0.01MF 50V METAL. MYLAR	
	Q122	DTC114YS	DIGITAL TRANSISTOR			C332	QFN81HJ-103	0.01MF 50V METAL. MYLAR	
	Q131	2SA933S (RS)	SI. TRANSISTOR			C338	QCVB1CM-103Y	0.01MF 16V CER. CAP.	
	Q132	2SD1302	SI. TRANSISTOR			C343	QETB1EM-476	47MF 25V AL E. CAP.	
	Q133	2SD1302	SI. TRANSISTOR			C344	QETB1EM-476	47MF 25V AL E. CAP.	
	Q134	DTA114YS	DIGITAL TRANSISTOR			C401	QCS31HJ-471Z	470PF 50V CER. CAP.	
	Q201	DTA114YS	DIGITAL TRANSISTOR			C402	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	Q202	DTC144ES	DIGITAL TRANSISTOR			C403	QFN81HJ-223	0.022MF 50V METAL. MYLAR	
	Q373	2SD1302	SI. TRANSISTOR			C404	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	Q374	2SD1302	SI. TRANSISTOR			C405	QFV81HJ-334	0.33MF 50V TF. CAP.	
	Q501	2SA950 (Q, Y)	SI. TRANSISTOR			C408	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	Q601	2SC2060 (Q, R)	SI. TRANSISTOR			C409	QETB1AM-476	47MF 10V E. CAP.	
	Q602	2SA934 (Q, R)	SI. TRANSISTOR			C411	QETB1AM-476	47MF 10V E. CAP.	
	Q611	2SC2060 (Q, R)	SI. TRANSISTOR			C412	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	Q612	2SA934 (Q, R)	SI. TRANSISTOR			C413	QCF21HP-223A	0.022MF 50V CER. CAP.	
	Q651	2SC1740S (R, S)	SI. TRANSISTOR			C414	QCHB1EZ-223	0.022MF 25V CER. CAP.	
		CAPACITORS				C415	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C001	QCHB1EZ-223	0.022MF 25V CER. CAP.			C417	QCB81HK-221Y	220PF 50V CER. CAP.	
	C002	QCHB1EZ-223	0.022MF 25V CER. CAP.			C420	QCSB1HJ-120Y	12PF 50V CER. CAP.	J
	C101	QETB1CM-228	2200MF 16V AL E. CAP.			C421	QCSB1HJ-120Y	12PF 50V CER. CAP.	J
	C102	QETB1CM-477M	470MF 16V E. CAP.			C425	QCSB1HJ-120Y	12PF 50V CER. CAP.	J
	C108	QCF21HP-223A	0.022MF 50V CER. CAP.			C501	QETB1AM-107	100MF 10V AL E. CAP.	
	C111	QETB1HM-225	2.2MF 50V AL E. CAP.			C502	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C112	QETB1AM-476	47MF 10V E. CAP.			C504	QETB1AM-107	100MF 10V AL E. CAP.	
	C113	QETB1AM-476	47MF 10V E. CAP.			C505	QER51EM-106	10MF 25V E. CAP.	
	C121	QETB1CM-227	220MF 16V AL E. CAP.			C506	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C122	QETB1CM-226	22MF 16V E. CAP.			C508	QETB1HM-105	1MF 50V AL E. CAP.	

■ Electrical Parts List (ENN-466)

△	No.	Parts Number	Description	Area
	C509	QCBB1HK-101Y	100PF 50V CER. CAP.	
	C510	QFN81HJ-273	0.027MF 50V METAL. MYLAR	
	C511	QFN81HJ-472	4700PF 50V MYLAR CAP.	
	C512	QFN81HJ-103	0.01MF 50V METAL. MYLAR	
	C514	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C515	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C517	QCF21HP-223A	0.022MF 50V CER. CAP.	
	C518	QCF21HP-223A	0.022MF 50V CER. CAP.	
	C519	QCS21HJ-271A	270PF 50V CER. CAP.	
	C520	QCSB1HJ-470	47PF 50V CER. CAP.	
	C521	QCSB1HK-102	1000PF 50V CER. CAP.	
	C522	QCF21HP-223A	0.022MF 50V CER. CAP.	
	C523	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C524	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C531	QCSB1HK-102	1000PF 50V CER. CAP.	
	C532	QCSB1HK-102	1000PF 50V CER. CAP.	
	C533	QCBB1HK-331Y	330PF 50V CER. CAP.	
	C601	QCBB1HK-101Y	100PF 50V CER. CAP.	
	C602	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C603	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C604	QETB1CM-476	47MF 16V AL E. CAP.	
	C605	QETB1CM-476	47MF 16V AL E. CAP.	
	C611	QCBB1HK-101Y	100PF 50V CER. CAP.	
	C803	QFN81HJ-273	0.027MF 50V METAL. MYLAR	
	C804	QFN81HJ-183	0.018MF 50V METAL. MYLAR	
	C806	QFN81HJ-273	0.027MF 50V METAL. MYLAR	
	C810	QCZ0202-155	1.5MF 25V CER. RES.	
	C951	QCHB1EZ-223	0.022MF 25V CER. CAP.	
		RESISTORS		
	R001	QRD161J-1R2YT	1.2 1/6W CARBON RES.	J
	R002	QRD161J-1R2YT	1.2 1/6W CARBON RES.	J
△	R101	PTH61G30BD2R2	FUSIBLE RES.	C
△	R102	PTH61G30BD2R2	FUSIBLE RES.	C
	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-103	10K 1/6W CARBON RES.	
	R116	QRD161J-122	1.2K 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.	
	R121	QRD161J-331	330 1/6W CARBON RES.	
	R122	QRD161J-123	12K 1/6W CARBON RES.	
	R122	QRD161J-273	27K 1/6W CARBON RES.	
	R123	QRD161J-183	18K 1/6W CARBON RES.	
	R123	QRD161J-273	27K 1/6W CARBON RES.	
	R124	QRD161J-221	220 1/6W CARBON RES.	
△	R131	QRZ0077-560	56 1/4W FUSIBLE RES.	C
	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-911	910 1/6W CARBON RES.	
	R136	QRD161J-911	910 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.	
	R139	QRD167J-562	5.6K 1/6W CARBON RES.	
	R151	QRD167J-153	15K 1/6W CARBON RES.	
	R201	QRD161J-103	10K 1/6W CARBON RES.	
	R202	QRD161J-102	1K 1/6W CARBON RES.	
	R203	QRD161J-472	4.7K 1/6W CARBON RES.	
	R204	QRD161J-103	10K 1/6W CARBON RES.	
	R205	QRD161J-103	10K 1/6W CARBON RES.	
	R206	QRD161J-103	10K 1/6W CARBON RES.	
	R207	QRD161J-103	10K 1/6W CARBON RES.	
	R210	QRD161J-472	4.7K 1/6W CARBON RES.	
	R301	QRD167J-560	56 1/6W CARBON RES.	
	R302	QRD161J-163	16K 1/6W CARBON RES.	
	R303	QRD161J-243	24K 1/6W CARBON RES.	
	R306	QRD161J-163	16K 1/6W CARBON RES.	
	R307	QRD161J-243	24K 1/6W CARBON RES.	
	R308	QRD161J-243	24K 1/6W CARBON RES.	
	R309	QRD161J-163	16K 1/6W CARBON RES.	
	R311	QRD161J-101	100 1/6W CARBON RES.	
	R312	QRD161J-243	24K 1/6W CARBON RES.	
	R313	QRD161J-163	16K 1/6W CARBON RES.	
	R314	QRD161J-271	270 1/6W CARBON RES.	
	R315	QRD161J-101	100 1/6W CARBON RES.	
	R316	QRD161J-271	270 1/6W CARBON RES.	
	R318	QRD161J-102	1K 1/6W CARBON RES.	
	R323	QRD167J-682	6.8K 1/6W CARBON RES.	
	R324	QRD167J-682	6.8K 1/6W CARBON RES.	
	R327	QRD161J-362	3.6K 1/6W CARBON RES.	
	R328	QRD161J-362	3.6K 1/6W CARBON RES.	
	R329	QRD161J-183	18K 1/6W CARBON RES.	
	R330	QRD161J-183	18K 1/6W CARBON RES.	
	R331	QRD161J-162	1.6K 1/6W CARBON RES.	
	R332	QRD161J-162	1.6K 1/6W CARBON RES.	
	R335	QRD161J-273	27K 1/6W CARBON RES.	
	R336	QRD161J-273	27K 1/6W CARBON RES.	
	R341	QRD161J-271	270 1/6W CARBON RES.	
	R342	QRD161J-271	270 1/6W CARBON RES.	
	R347	QRD161J-561	560 1/6W CARBON RES.	
	R348	QRD161J-561	560 1/6W CARBON RES.	
	R351	QRD161J-103	10K 1/6W CARBON RES.	
	R352	QRD161J-103	10K 1/6W CARBON RES.	
	R361	QRD161J-101	100 1/6W CARBON RES.	
	R362	QRD161J-101	100 1/6W CARBON RES.	
	R373	QRD161J-474	470K 1/6W CARBON RES.	
	R374	QRD161J-274	270K 1/6W CARBON RES.	
	R401	QRD161J-102	1K 1/6W CARBON RES.	
	R402	QRD161J-102	1K 1/6W CARBON RES.	
	R404	QRD161J-102	1K 1/6W CARBON RES.	
	R405	QRD161J-102	1K 1/6W CARBON RES.	
	R406	QRD161J-102	1K 1/6W CARBON RES.	
	R407	QRD161J-102	1K 1/6W CARBON RES.	
	R408	QRD161J-102	1K 1/6W CARBON RES.	

■ Electrical Parts List (ENN-466)

△	No.	Parts Number	Description	Area
	R409	QRD161J-102	1K 1/6W CARBON RES.	
	R410	QRD161J-102	1K 1/6W CARBON RES.	
	R411	QRD161J-102	1K 1/6W CARBON RES.	
	R413	QRD167J-155	1.5M 1/6W CARBON RES.	
	R414	QRD161J-683	68K 1/6W CARBON RES.	
	R416	QRD161J-331	330 1/6W CARBON RES.	
	R417	QRD161J-124	120K 1/6W CARBON RES.	
	R430	QRD161J-2R2	2.2 1/6W CARBON RES.	
	R432	QRD161J-2R2	2.2 1/6W CARBON RES.	
	R433	QRD161J-102	1K 1/6W CARBON RES.	
	R434	QRD161J-102	1K 1/6W CARBON RES.	
	R435	QRD161J-102	1K 1/6W CARBON RES.	
	R436	QRD161J-102	1K 1/6W CARBON RES.	
	R502	QRD167J-562	5.6K 1/6W CARBON RES.	
	R505	QRD161J-274	270K 1/6W CARBON RES.	
	R507	QRD167J-154	150K 1/6W CARBON RES.	
	R508	QRD161J-273	27K 1/6W CARBON RES.	
	R509	QRD161J-114	110K 1/6W CARBON RES.	
	R510	QRD161J-104	100K 1/6W CARBON RES.	
	R511	QRD161J-473	47K 1/6W CARBON RES.	
	R512	QRD167J-822	8.2K 1/6W CARBON RES.	
	R513	QRD167J-121	120 1/6W CARBON RES.	
	R514	QRD161J-470	47 1/6W CARBON RES.	
	R515	QRD161J-470	47 1/6W CARBON RES.	
	R516	QRD161J-470	47 1/6W CARBON RES.	
	R517	QRD161J-2R2	2.2 1/6W CARBON RES.	
	R518	QRD161J-910Y	91 1/6W CARBON RES.	
	R521	QRD161J-622	6.2K 1/6W CARBON RES.	
	R523	QRD161J-125	1.2M 1/6W CARBON RES.	
	R551	QRD161J-102	1K 1/6W CARBON RES.	
	R601	QRD161J-203	20K 1/6W CARBON RES.	
	R602	QRD161J-203	20K 1/6W CARBON RES.	
	R603	QRD167J-153	15K 1/6W CARBON RES.	
	R604	QRD167J-151	150 1/6W CARBON RES.	
	R605	QRD167J-153	15K 1/6W CARBON RES.	
	R611	QRD161J-183	18K 1/6W CARBON RES.	
	R612	QRD161J-183	18K 1/6W CARBON RES.	
	R613	QRD161J-243	24K 1/6W CARBON RES.	
	R614	QRD167J-151	150 1/6W CARBON RES.	
	R615	QRD161J-243	24K 1/6W CARBON RES.	
	R620	QRD167J-151	150 1/6W CARBON RES.	
	R621	QRD167J-151	150 1/6W CARBON RES.	
	R622	QRD167J-151	150 1/6W CARBON RES.	
	R623	QRD167J-151	150 1/6W CARBON RES.	
	R624	QRD167J-151	150 1/6W CARBON RES.	
	R625	QRD167J-562	5.6K 1/6W CARBON RES.	
	R626	QRD167J-562	5.6K 1/6W CARBON RES.	
	R627	QRD167J-562	5.6K 1/6W CARBON RES.	
	R628	QRD167J-562	5.6K 1/6W CARBON RES.	
	R629	QRD167J-562	5.6K 1/6W CARBON RES.	
	R630	QRD167J-562	5.6K 1/6W CARBON RES.	
	R631	QRD167J-151	150 1/6W CARBON RES.	
	R651	QRD161J-103	10K 1/6W CARBON RES.	
	R801	QRD161J-821	820 1/6W CARBON RES.	

△	No.	Parts Number	Description	Area
	R802	QRD167J-562	5.6K 1/6W CARBON RES.	
	R803	QRD161J-112	1.1K 1/6W CARBON RES.	
	R804	QRD167J-113	11K 1/6W CARBON RES.	
	R806	QRD161J-124	120K 1/6W CARBON RES.	
	R807	QRD167J-332	3.3K 1/6W CARBON RES.	
	R808	QRD167J-822	8.2K 1/6W CARBON RES.	
	R809	QRD167J-223	22K 1/6W CARBON RES.	
	R810	QRD161J-472	4.7K 1/6W CARBON RES.	
	R811	QRD167J-153	15K 1/6W CARBON RES.	
	R812	QRD161J-752	7.5K 1/6W CARBON RES.	
	R814	QRD161J-473	47K 1/6W CARBON RES.	
	R814	QRD161J-683	68K 1/6W CARBON RES.	
	R901	QRD161J-221	220 1/6W CARBON RES.	
	R902	QRD161J-221	220 1/6W CARBON RES.	
	R951	QRD161J-331	330 1/6W CARBON RES.	
	R952	QRD161J-123	12K 1/6W CARBON RES.	
	R953	QRD161J-331	330 1/6W CARBON RES.	
	R954	QRD161J-472	4.7K 1/6W CARBON RES.	
		OTHERS		
		EMW10593-004	PRINTED BOARD	
		E3400-431	FELT SPACER	
		E70306-001	HEAT SINK	
		SBSE3008Z	SCREW	
		VYH7653-002	I. C. SOCKET	
	J001	QMCB001-E03H	AC INLET	
	J101	QMS3501-020	PIN JACK	
	J102	EMN00YV-210A	PIN JACK	
	K402	ENZ8101-007	INDUCTOR	J
	S601	ESS1200-002	LEVER SWITCH	
	S602	ESS1200-002	LEVER SWITCH	
	S603	ESS1200-002	LEVER SWITCH	
	X201	ECX0060-000EM	CERAMIC RESONATOR	
	X301	VCX5016-934V	CRYSTAL	
	CN103	EMV5109-006A	CONNECT TERMINAL	
	CN104	EMV7144-015	F. P. C. PLUG	
	CN105	EMV7144-007	CONNECT TERMINAL	
	CN106	VMC0261-R32	CONNECT TERMINAL	
	CN110	EMV7122-004Z	CONNECT TERMINAL	
	CN801	EMV7144-007R	CONNECT TERMINAL	
△	CP101	ICP-N10	I. C. PROTECTOR	C
	FW101	EWR36D-13LS	CORD	
	FW103	EWR35D-25SS	FLAT WIRE ASSY	
	FW104	EWR35D-13LS	FLAT WIRE ASSY	
	FW110	EWR34D-16LS	FLAT WIRE ASSY	
	FW851	EWR33D-10SS	CORD	
	JT101	EMV7122-103	CONNECT TERMINAL	
	JT102	EMV7122-103	CONNECT TERMINAL	
	PH101	GP1A52HR	PHOTO SENSOR	
	PH102	GP2S28	PHOTO SENSOR	

■ Electrical Parts List (ENN-421)

△	No.	Parts Number	Description	Area
		DIODES		
	D701	1SS133	SI. DIODE	
	D702	1SS133	SI. DIODE	
	D703	1SS133	SI. DIODE	
	D704	1SS133	SI. DIODE	
	D705	1SS133	SI. DIODE	
	D706	1SS133	SI. DIODE	
	D710	SLH-56VCF07	L. E. D.	
		CAPACITORS		
	C273	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C701	QER51HM-475	4.7MF 50V AL E. CAP.	
	C702	QER51HM-475	4.7MF 50V AL E. CAP.	
		RESISTORS		
	R270	QVAB79C-E53CJ5	5K VARIABLE RE	
	R271	QRD161J-390	39 1/6W CARBON RES.	
	R272	QRD161J-390	39 1/6W CARBON RES.	
	R273	QRD161J-270	27 1/6W CARBON RES.	
	R274	QRD161J-270	27 1/6W CARBON RES.	
	R701	QRD161J-331	330 1/6W CARBON RES.	
		OTHERS		
		EMW10453-003	PRINTED BOARD	
		E306805-134	SPACER	
		E306904-001SS	DISPLAY HOLDER	
	J271	QMS6A40-E20G	HEADPHONE JACK	
	P271	EMV7112-003R	CONNECT TERMINAL	
	P701	VMC0261-R32	CONNECT TERMINAL	
	P702	EMV5120-008	CONNECT TERMINAL	
	P703	EMV7120-008	CONNECT TERMINAL	
	S701	QSQ1001-E01AJ4	PUSH SWITCH	
	S702	QSQ1001-E01AJ4	PUSH SWITCH	
	S703	QSQ1001-E01AJ4	PUSH SWITCH	
	S704	QSQ1001-E01AJ4	PUSH SWITCH	
	S705	QSQ1001-E01AJ4	PUSH SWITCH	
	S706	QSQ1001-E01AJ4	PUSH SWITCH	
	S707	QSQ1001-E01AJ4	PUSH SWITCH	
	S721	QSQ1001-E01AJ4	PUSH SWITCH	
	S722	QSQ1001-E01AJ4	PUSH SWITCH	
	S723	QSQ1001-E01AJ4	PUSH SWITCH	
	S724	QSQ1001-E01AJ4	PUSH SWITCH	
	S725	QSQ1001-E01AJ4	PUSH SWITCH	
	S726	QSQ1001-E01AJ4	PUSH SWITCH	
	S727	QSQ1001-E01AJ4	PUSH SWITCH	
	S728	QSQ1001-E01AJ4	PUSH SWITCH	
	S729	QSQ1001-E01AJ4	PUSH SWITCH	
	S730	QSQ1001-E01AJ4	PUSH SWITCH	
	S731	QSQ1001-E01AJ4	PUSH SWITCH	
	FL701	ELU0001-179	FLUORESCENT DISPLAY TUBE	

XL-F152BK
XL-F252BK

Accessories List ■ (XL-F152BK)

ブロックNo.

M	4	M	M
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No.	Parts Number	Parts Name	Q'ty	Description	Area
1	E30580-2407A	INSTRUCTION BOOK	1		J
	E30580-2408A	INSTRUCTION BOOK	1		C
2	OMP1E00-183J5	POWER CORD	1		
3	ENP302-011	SIGNAL CORD	1		
4	ENP805-012	PLUG WIRE ASSY	1		C
5	ENP805-012	PLUG WIRE ASSY	1		J
6	E309758-003	POLY BAG	1		
7	BT-51006-1	REGISTER CARD	1		J
8	BT-20044G	SAFETY SHEET	1		J
9	BT-52002-1	WARRANTY CARD	1		C
10	BT-20071B	SERVICE NETWORK	1		C

■ (XL-F252BK)

* This list describes only the difference between XL-F152BK and XL-F252BK.

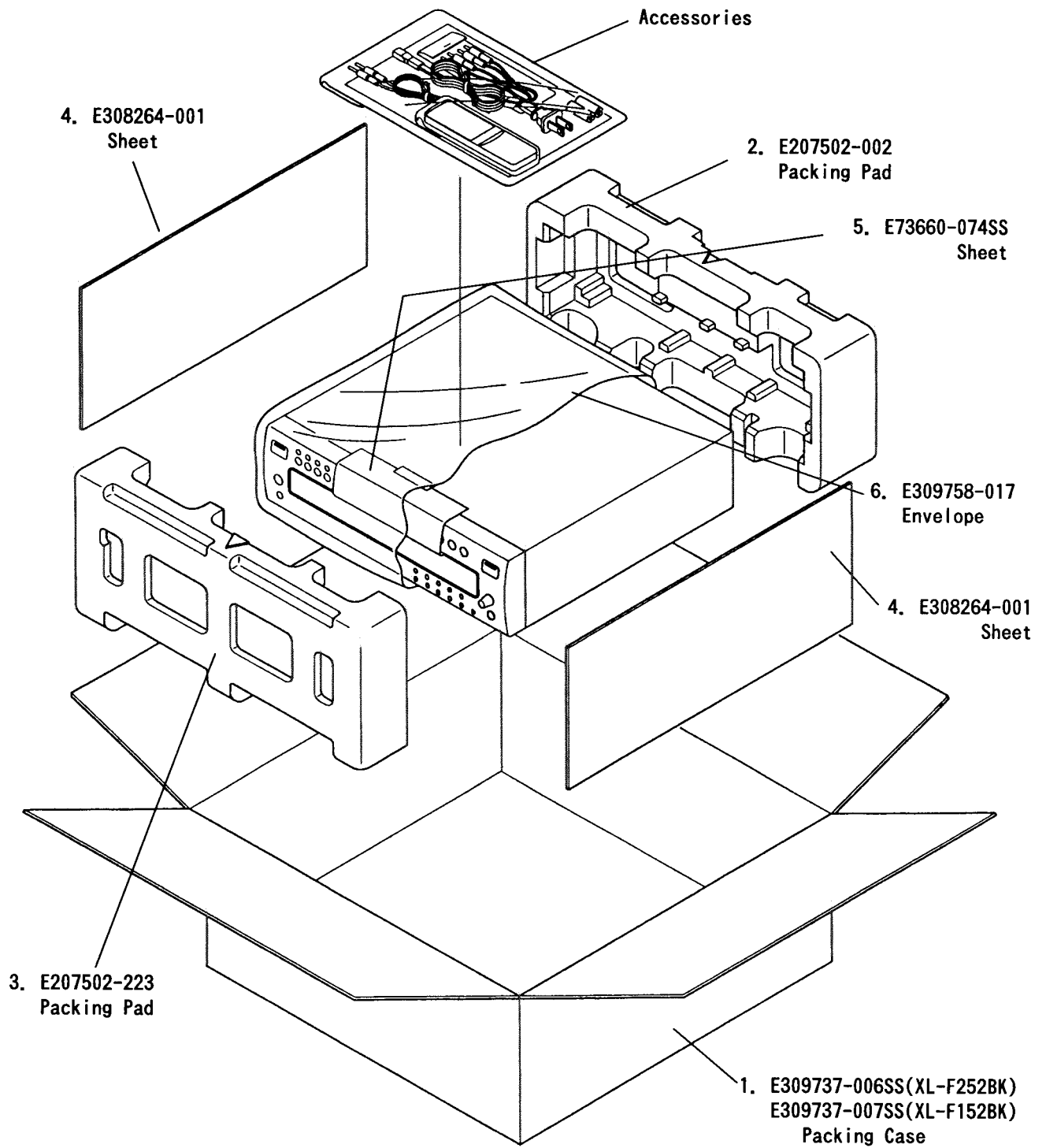
ブロックNo.

M	5	M	M
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Item	Part Number	Part Name	Q'ty	Description	Area
4	ENP805-001	PLUG WIRE ASSY	1		
11	RM-SX252U	REMOTE CONTROLLER	1		
12	UM-3(DJ)-2PSA	BATTERY	1		

Packing Materials and Part Numbers

Block No. **M6MM**



XL-F152BK
XL-F252BK

XL-F152BK
XL-F252BK

JVC

VICTOR COMPANY OF JAPAN, LIMITED

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

