

# JVC

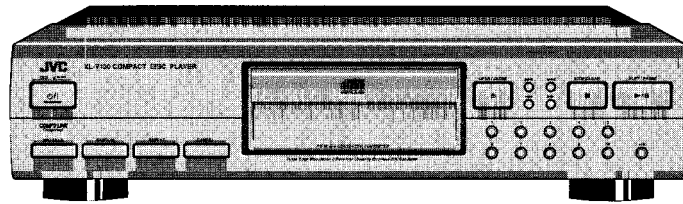
## SERVICE MANUAL

### COMPACT DISC PLAYER

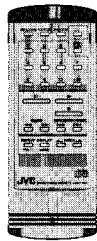
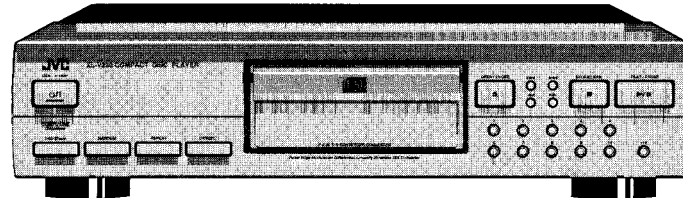
# XL-V130BK XL-V230BK

PICK UP	OPTIMA-150S
DIGITAL SERVO LSI	MN662720RB

XL-V130BK



XL-V230BK



#### Area Suffix

BS	....	the U.K
EF	....	Continental Europe Except Germany
EN	....	Nordic Countries
G	...	Germany
U	...	Universal Except All of Adove

## Contents

Safety Precautions .....	1-2	Flow of Functional Operation	
Important for Laser Products .....	1-3	Until TOC is Read.....	2-11
Instruction Book .....	1-4	Block Diagram .....	2-12
Description of Major ICs .....	2-1	Schematic Diagram .....	2-13
Internal Connection of Display .....	2-8	Printed Circuit Board.....	2-14
Disassemble Procedure .....	2-9	Parts List.....	3-1

### ***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 authorised in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by ( $\triangle$ ) on the Parts List and by shading on the schematics ,and must never be replaced by parts other than those listed in the manual. Please note however that many electrical and mechanical parts in the product have special safety related characteristics . These characteristics are often not evident from visual inspection . Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the service manual and 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.

### ***Warning***

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. 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 alltiina 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 sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

### REPRODUCTION AND POSITION OF LABELS

#### WARNING LABEL

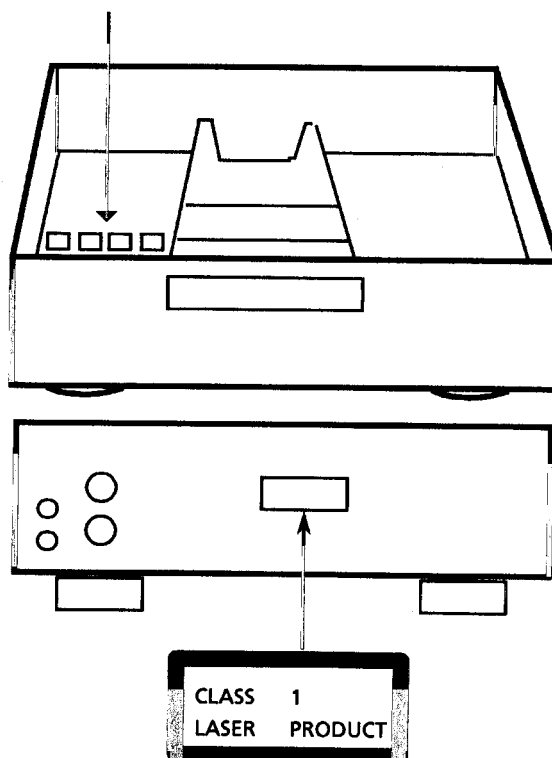
(Except for the U. S. A.)

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

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

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

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



**CLASSIFICATION LABEL**  
(Except for the U. S. A. and Canada)

# Instruction Book

ENGLISH

## INTRODUCTION

### Table of contents

INTRODUCTION	1
Precautions	1
About this manual	1
Names of buttons	2
<b>BEFORE USING FOR THE FIRST TIME</b>	<b>4</b>
Installing the unit	4
Connecting to other equipments	4
Supplying the power	5
To connect the AC power cord of the main unit	5
To install the batteries in the remote control unit	6
COMPU LINK connection	6
<b>BASIC OPERATIONS</b>	<b>7</b>
Basic functions for disc playback	7
Turning on the power of this unit	7
Loading a disc in the disc tray	7
Remote control operation	7
Playing a disc	8
Stopping playback	8
Locating a point to start playback	8
Skipping to a desired track	8
Skipping to a desired index	8
Searching for a desired section	9
Specifying a desired track	9
Displaying the time	9
Switching the time display on XL-V230BK	9
Displaying the time on XL-V130BK	9
<b>VARIOUS PLAYBACK PATTERNS</b>	<b>10</b>
Playing tracks in a desired order	10
Playing tracks in a random order	10
Playing repeatedly	11
Repeating whole disc	11
Repeating one track	11
<b>GENERAL INFORMATIONS</b>	<b>12</b>
COMPU LINK remote control system	12
Care and handling	13
Troubleshooting	14
Specifications	15

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

ENGLISH

## About this manual

This manual covers the operating instructions for the compact disc player XL-V130BK and XL-V230BK. 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.

### 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 a disc. 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 a disc, and convenient basic functions for playing disc.

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

The fifth part, "GENERAL INFORMATIONS", 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.

## Precautions

**Load compact disc only**  
Never insert anything other than a compact disc into any part of the player.

**If a problem persists**  
If something goes wrong, turn off the power immediately. If the same problem recurs 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.

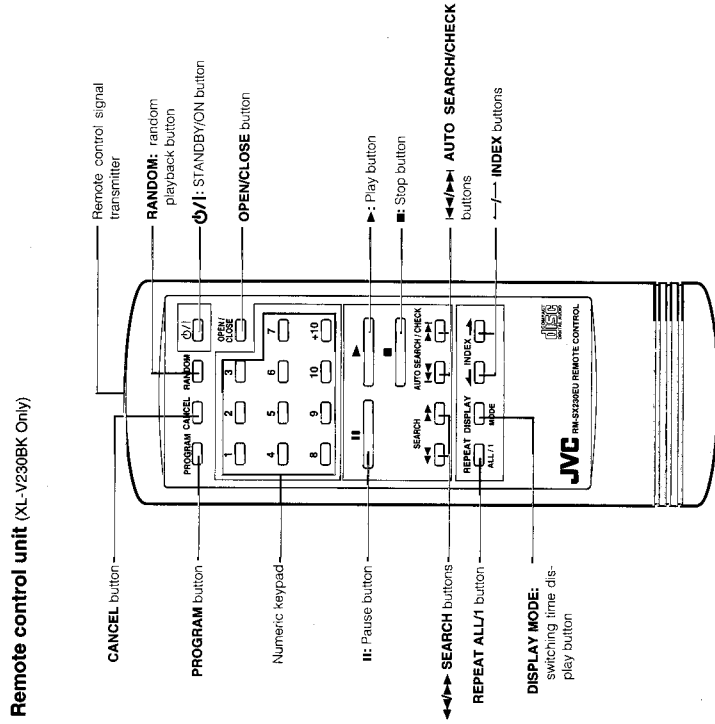
This may prevent the laser beam from being properly transmitted and thus causes noise or even a malfunction.  
If condensation has formed and the CD player does not function correctly, we recommend that you leave it turned on for an hour or two. If at the end of this time the CD player still does not 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 disc first.

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

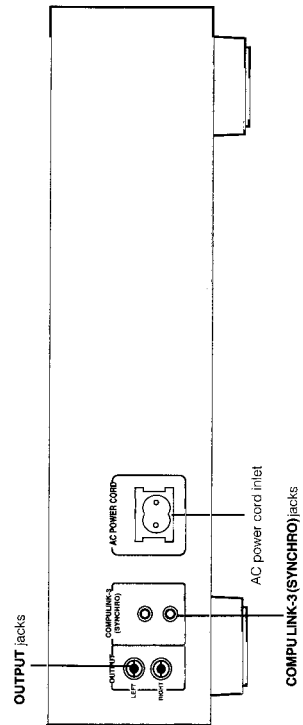
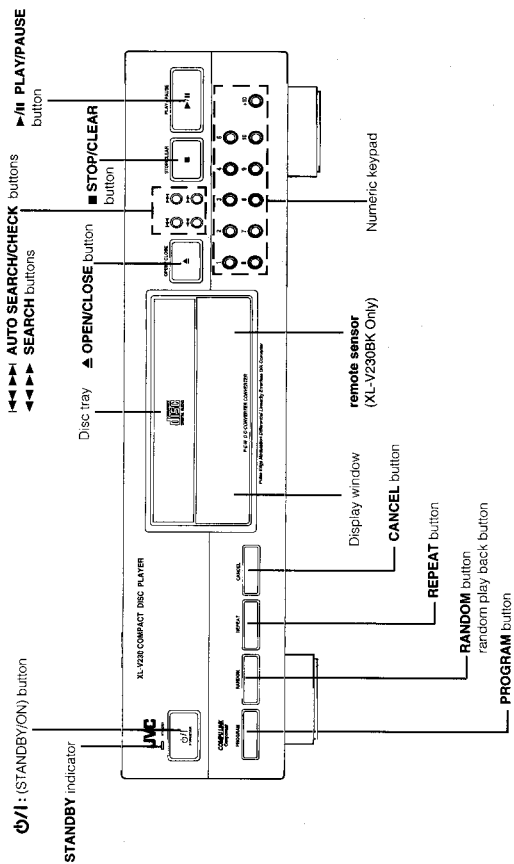
**Applicable discs**  
This unit can only be used with compact discs bearing the mark below. Never use discs of other types.





# Names of buttons

## Main unit



## 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

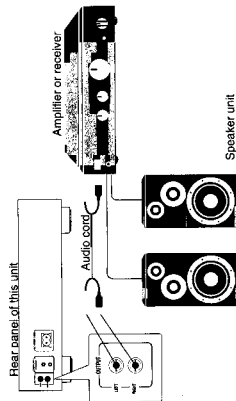
If this equipment is placed near a tuner or a radio receiver tuned to AM frequencies, interference may occur. If this happens, we recommend either that you move this unit as far away as possible from the tuner or receiver or briefly turn off the power to this unit.

## 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.



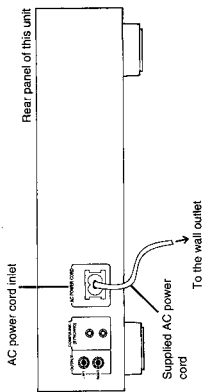
## Supplying the power

### 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.



## BEFORE USING FOR THE FIRST TIME

## BASIC OPERATIONS

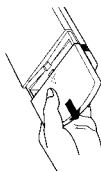
## Installing the batteries

(XL-V230BK Only)

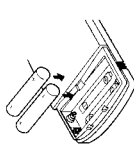
To install the batteries in the remote control unit

Before operating the remote control unit, install two batteries.

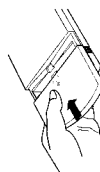
1. Remove the rear cover of the remote control unit by pressing down and simultaneously pulling it backwards.



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.
- 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 R03(LUM-4)/AAA(24F) with new ones.

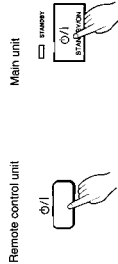
## Note

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

## Basic functions for disc playback

Turning on the power of this unit

Press the  $\odot/1$  (STANDBY/ON) button to turn on this unit. The STANDBY indicator is turned off and the display is turned on.



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

The power is automatically turned on also by:

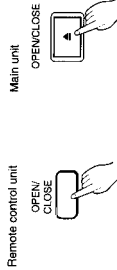
- Pressing the  $\blacktriangle$  (OPEN/CLOSE) button.
- Pressing the  $\blacktriangleright/11$  button on the remote control unit, or the  $\blacktriangleright/11$  PLAY/PAUSE button on the main unit.

## Notes

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

Loading a disc in the disc tray

Use the  $\blacktriangle$  (OPEN/CLOSE) button to open and close the disc tray.



1. Open the disc tray by pressing the  $\blacktriangle$  (OPEN/CLOSE) button.

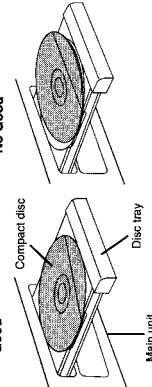
2. Place a disc on the disc tray according to the groove with its label side up.

3. Close the disc tray by pressing the  $\blacktriangle$  (OPEN/CLOSE) button.

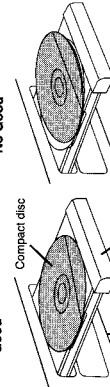
## Note

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

## Good



## No Good



## Remote control operation (XL-V230BK Only)

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 17 meters (23 feet) from the remote sensor, and at angles of up to about 30 degrees.

## COMPU LINK connection

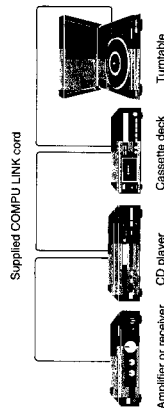
JVC's COMPU LINK Remote Control System provides unified control over system components connected with COMPU LINK. Connecting JVC audio components with the COMPU LINK jacks automatically controls relative operations between components and facilitates various operations. With the COMPU LINK connection to an amplifier or receiver, you can operate XL-V130BK/XL-V230BK 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 SYNCHRO 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-V130BK/XL-V230BK is equipped with COMPU LINK-3. You can connect XL-V130BK/XL-V230BK also to a component with a lower COMPU LINK version. But, in that case, only the lower version's features will be available.

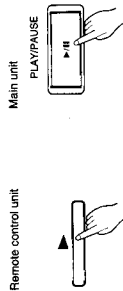
Plug the supplied COMPU LINK cord into the COMPU LINK-3 SYNCHRO jack on the rear panel of XL-V130BK/XL-V230BK. Plug the other end into the COMPU LINK jack of the other component. If there are two COMPU LINK jacks, plug it into either of them.

Connecting the COMPU LINK system components with the COMPU LINK cords



### Playing a disc

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



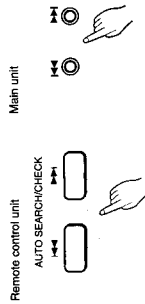
The **▶** indicator lights on the display and playback starts. When no disc is loaded in the unit, the disc tray opens.

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

## Locating a point to start playback

### Skipping to a desired track

Use the **1-4/▶** buttons.

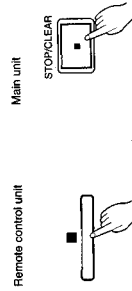


To skip back to the beginning of the track being played, tap the **1-4** button. When the beginning of the track is reached, tapping this button again skips to the previous track.

To skip to the next track, tap the **▶▶** button. When using the **1-4/▶▶** buttons on the main unit, tap them until the desired track appears.

### Stopping playback

Press the **■** button.



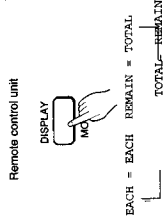
To skip back to the beginning of the index being played, tap the **INDEX** button. When the beginning of the index is reached, tapping this button again skips to the previous index.

To skip to the next index, tap the **INDEX** button.

## Displaying the time

### Switching the time display on XL-V230BK

Each time the **DISPLAY MODE** button is pressed, the time display changes as the following.



The corresponding indicator lights in each time mode.  
**EACH:** Shows the elapsed time of the track being played.  
**EACH REMAIN:** Shows the remaining playback time of the track being played.  
**TOTAL:** Shows the total playing time of the disc being played.  
**TOTAL REMAIN:** Shows the remaining playback time of the disc being played.

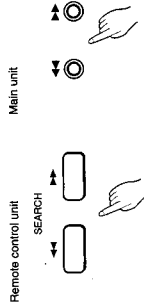
### Displaying the time on XL-V130BK

The **XL-V130BK** has the following time displays.

**EACH:** Shows the elapsed time of the track being played.  
**EACH REMAIN:** Shows the remaining playback time of the track being played.  
**TOTAL:** Shows the total playing time of the disc being played.

### Searching for a desired section

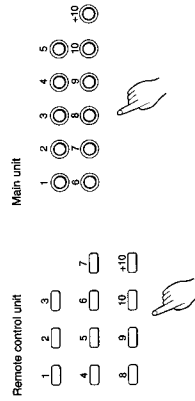
Keep the **◀/▶** SEARCH buttons on the remote control unit or the **◀/▶** SEARCH buttons on the main unit pressed during playback.



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 track

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



The unit searches for the selected track and playback starts automatically. When selecting track number 10 or less, press the corresponding numeric 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**  
The track number which does not exist on the selected disc, can not select.

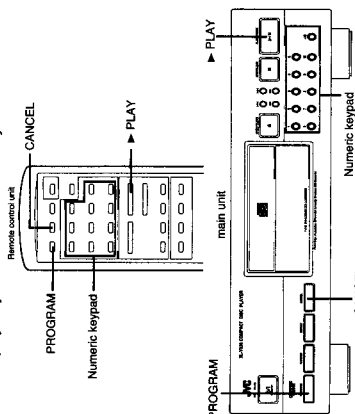


## VARIOUS PLAYBACK PATTERNS

## VARIOUS PLAYBACK PATTERNS

### Playing tracks in a desired order

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



**1. In stop mode, press the PROGRAM button so that "PRGM" lights on the display.**

**2. Select the track number with the numeric keypad.**  
Refer to "Specifying a desired track" on page 9 for entering the track number.  
The selected track number is programmed and the following display appears.



• If you want to cancel the displayed program step, press the CANCEL button and then enter the new track number.

**3. Repeat step 2 for other tracks to be programmed.**  
You can program up to 32 tracks.

**4. Start playback by pressing the ► button.**  
The programmed tracks are played in the programmed order.

• You can skip to a desired program step with the ◀◀ or ▶▶ button.  
• You can add tracks in the program during the playback.

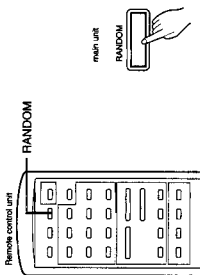
**To check the program contents**  
Press the ◀◀ or ▶▶ button during stop mode. Each time the ◀◀ or ▶▶ button is pressed, the program contents are displayed in the programmed order or the reverse order.

**To clear the entire program**  
In stop mode, press the ■ STOP/CLEAR button on the main unit. The program contents will be cleared, however, the program mode is not cancelled.

**To exit program mode**  
Press the PROGRAM button again, and the program mode is cancelled.

### Playing tracks in a random order

You can select and play tracks in random order. Selections are made so that each track in the disc is played only once.



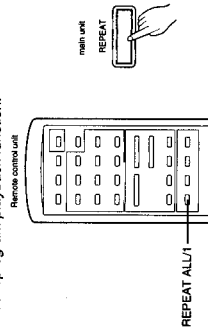
**1. Press the RANDOM button so that the RANDOM indicator lights on the display.**

• To skip to the track to be played next, press the ►► button.

**To exit random playback**  
Press the stop button, and the random mode is cancelled.

### Playing repeatedly

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



#### Repeating whole disc

Press the REPEAT (ALL/1) button so that the REPEAT indicator lights on the display.

All tracks are played repeatedly.

#### Repeating one track

Press the REPEAT (ALL/1) button so that the REPEAT 1 indicator lights on the display.

The displayed track is played repeatedly.

#### To cancel repeat mode

Press the REPEAT (ALL/1) button so that 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**

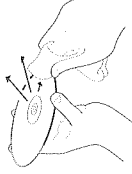
- Abnormal operation may result if the power supply of the component(s) is interrupted. If this happens, you must start over again.
- Ensure that the COMPU LINK jacks of each component are connected with the supplied COMPU LINK cord. Also, be sure to fully read the instructions for each component.
-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

## Care and handling

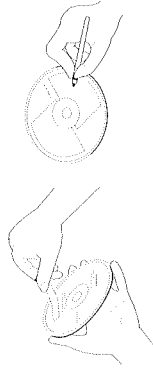
**How to handle CDs**  
When handling compact discs, do not touch the surface of the disc (reflective silver side - the side without the label).  
Since compact discs are made of plastic, they are easily damaged. If the disc gets dirty, dusty, scratched or warped, the sound will not be picked up correctly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



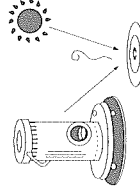
**Maintenance of discs**  
When there are fingerprints or other dirt adhering to a disc, wipe the disc with a soft, dry cloth with a movement going from the inside outwards.  
If difficult to clean, wipe the disc with a cloth moistened with water.  
Never use record cleaners, petrol, alcohol or any anti-static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



**Even on label side**  
Do not damage the label side, stick paper to or use any adhesive on this 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!



## 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 an AC outlet.
	The AC power cord plug is disconnected from the AC power cord inlet of this unit.	Connect the plug to an AC power cord inlet.
	Disc is not loaded.	Load a disc in the disc tray.
	Batteries are exhausted.	Replace both batteries.
The remote control unit does not function (XL-V230BK only)	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.
	Disc is inserted upside down.	Load a disc with its label-side up in the disc tray.
Playback is not possible.	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.
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

## Specifications

### General

System: Compact disc player  
 Signal detection system: Non-contact optical system  
 Sampling frequency: 44.1 kHz  
 Power requirements: AC 230 V~, 50 Hz  
 Power consumption: 10 watts (POWER ON)  
 4 watts (STANDBY)  
 Dimensions (W x H x D): 435 x 101 x 281 mm  
 17-3/16 x 4 x 11-1/8 inches  
 Mass: 3.3 kg (10.8 lbs)

### Audio performance

Frequency response: 2 Hz to 20,000 Hz (±1 dB)  
 Dynamic range: More than 98 dB (at 1 kHz)  
 Signal to noise ratio: More than 106 dB  
 Total harmonic distortion: Less than 0.0025% (at 1 kHz)  
 Channel separation: More than 94 dB (at 1 kHz)  
 Wow and flutter: Less than measurable limit  
 Output level: 2.0Vrms (at 10 Adrms)

### Accessories

Remote control unit (RM-SX230U)(XL-V230BK only) ..... 1  
 Battery R03(UM-4)/AAA(24F) (XL-V230BK only) ..... 2  
 Audio cord ..... 1  
 COMFPU LINK cord ..... 1  
 AC Power Cord ..... 1

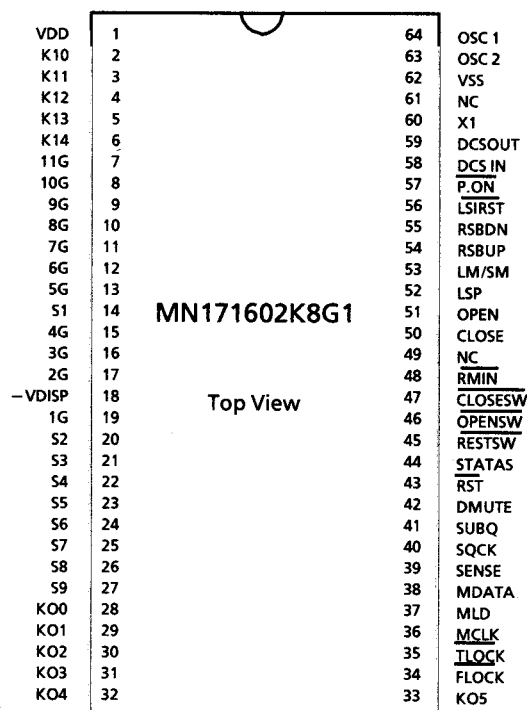
*Design and specifications subject to change without notice.*

XL-V130BK  
XL-V230BK

**-MEMO-**

■ MN171602K8G1(IC201) : System controller

1.Terminal Layout



2.Key Matrix

	KEY I 0 (PIN 2)	KEY I 1 (PIN 3)	KEY I 2 (PIN 4)	KEY I 3 (PIN 5)	KEY I 4 (PIN 6)
KEY O0 (PIN 28)	1 (S201)	6 (S207)	◀◀ (S213)	--	RANDOM (S285)
KEY O1 (PIN 29)	2 (S202)	7 (S208)	▶▶ (S214)	--	CANCEL (S284)
KEY O2 (PIN 30)	3 (S203)	8 (S209)	◀◀◀ (S215)	--	PROGRAM (S283)
KEY O3 (PIN 31)	4 (S204)	9 (S210)	▶▶▶ (S216)	POWER (S281)	REPEAT (S282)
KEY O4 (PIN 32)	5 (S205)	10 (S211)	▶/■ (S291)	--	--
KEY O5 (PIN 33)	▲ (S206)	+ 10 (S292)	■ (S212)	--	--

3.Pin Description

Pin No.	Symbol	I/O	Description	Pin No.	Symbol	I/O	Description
1	VDD	--	Power supply(+5V)	46	/OPENSW	I	"L" with disc table open
2~6	KEYI0 ~KEYI4	I	Key signal input	47	/CLOSESW	I	"L" with disc table close
7~17	2G~11G	O	FL grid control output	48	RMIN	I	Remort control signal input
18	-VDISP	--	FL power supply	49	NC	--	Non nonnection
19	1G	O	FL grid control output	50	CLOSE	O	"H" with disc table close
20~27	S2~S9	O	FL segment control output	51	OPEN	O	"H" with disc table open
28~33	K00~ K05	O	FL grid control output	52	LSP	--	Non nonnection
34	/FLOCK	I	Lock signal for Focus	53	LM/SM	O	H:loding motor L:spindle motor
35	/TLOCK	I	Lock signal for Tracking	54	RSBUP	O	D/Aconverter attenuator control
36	MCLK	O	μ-com command clock signal output	55	RSBDN	O	D/Aconverter attenuator control
37	MLD	O	μ-com command load signal output	56	/LSIRST	I	LSI reset signal input
38	MDATA	O	μ-com command data output	57	/P.,ON	O	H;power off, L;power on
39	SENSE	I	Sense signal input	58	DCS IN	I	Conpulink control signal input
40	SQCK	O	Sub Q clock output	59	DCS OUT	O	Conpulink control signal output
41	SUBQ	O	Sub Q-code output	60	X1	--	GND
42	DMUTE	O	Direct mute output	61	NC	--	Non nonnection
43	/RST	I	Reset signal input	62	VSS	--	
44	STATUS	I	Status signal input	63	OSC2	--	Oscillation terminal
45	/RESTSW	I	"L"with pickup rest position	64	OSC1	--	Oscillation terminal

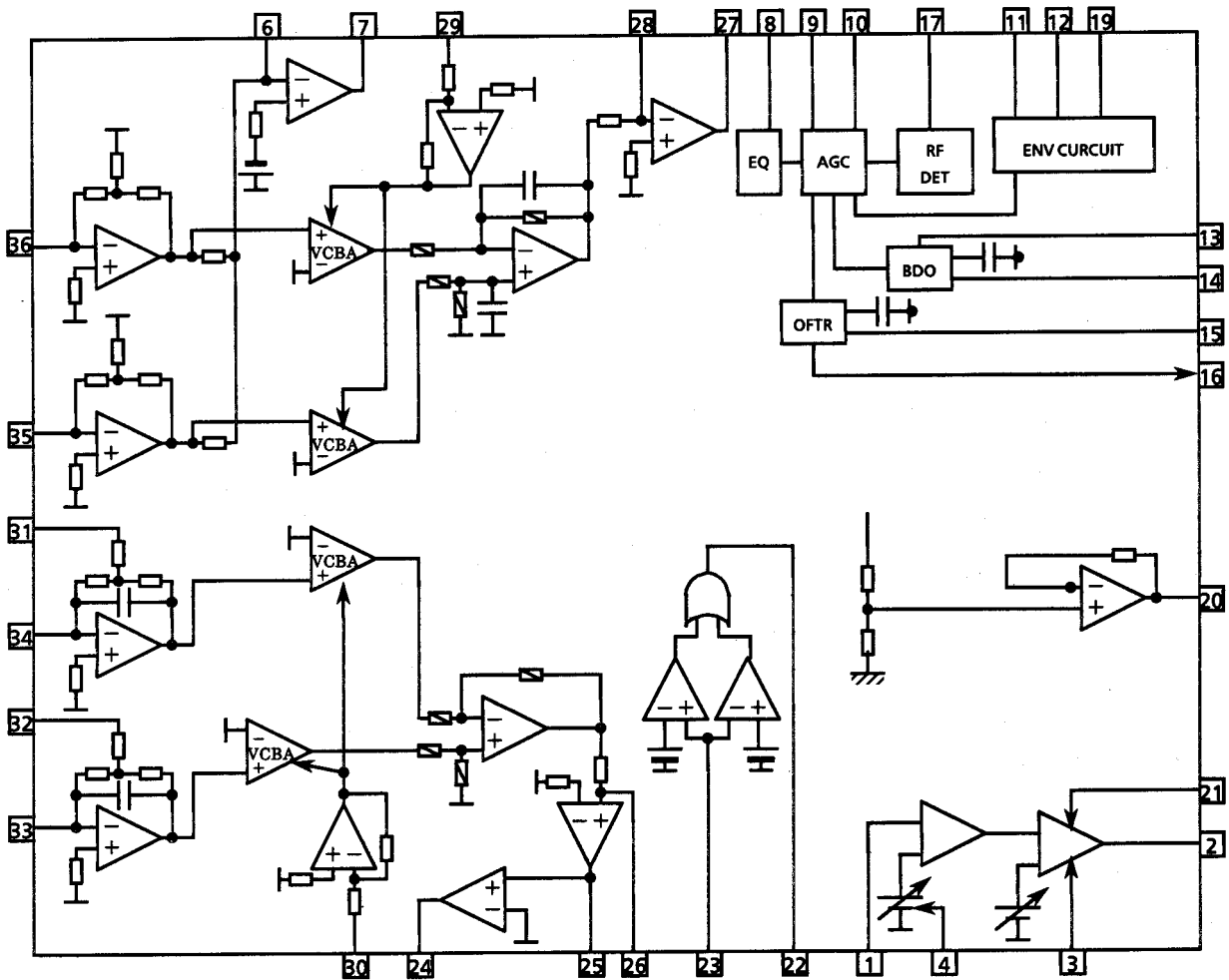
XL-V130BK  
 XL-V230BK

■ AN8806SB (IC501) : 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



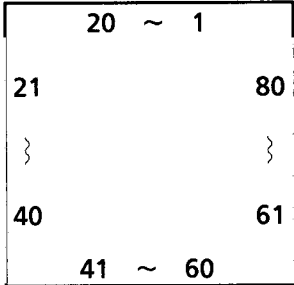
### 3. Functions

Pin No.	Symbol	I/O	Functions and operations
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 ground
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RF amp output
8	RF IN	I	RF input
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF output
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
17	/NRFDET	O	RF detection signal output
18	GND	--	Ground
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output
21	LD OFF	--	Connect to ground
22	VDET	O	Vibration detection signal output
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output
25	TE OUT	O	Tracking error signal output
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
30	TBAL	I	Tracking balance control
31	PDFR	I/O	F I-V amp gain control
32	PDER	I/O	E I-V amp gain control
33	PDF	I	I-V amp input
34	PDE	I	I-V amp input
35	PD BD	I	I-V amp input
36	PD AC	I	I-V amp input

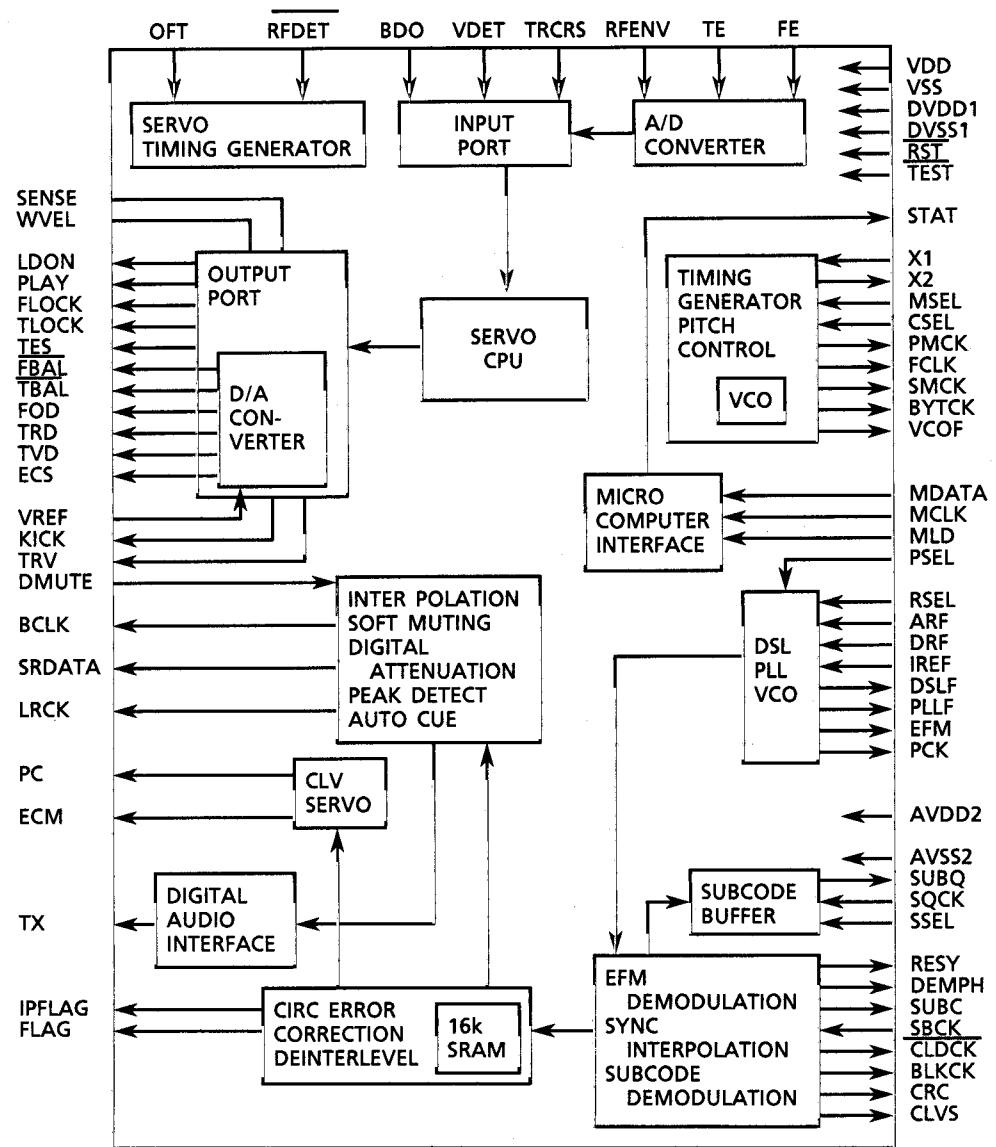
XL-V130BK  
XL-V230BK

■ 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 use	46	DRF	--	Not use
7	MCLK	I	μ-com command clock signal input (Data is latched at signal's rising point)	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	—	GND
10	SENSE	O	Sense signal output (OFT,FESL,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	--	Not use	53	PCK	—	"
14	SQCK	I	Outside Clock for sub-code Q resister input	54	PDO	—	"
15	SUBQ	O	Sub Q-code output	55	SUBC	—	Not use
16	DMUTE	I	Muting input (H : MUTE)	56	SBCK	—	Not use
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	—	Not use
23	PC	—	Not used	63	FCLK	—	Not use
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	—	Not use
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	—	Not use
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	I	Pull up (+5V)
37	TRCRS	I	Track cross signal input	77	CSEL	I	GND
38	RFDET	I	RF detect signal input (L : detect)	78	PSEL	I	GND
39	BDO	I	BDO input pin (H : drop out)	79	MSEL	I	GND
40	LDON	O	Laser ON signal output (H : on)	80	SSEL	—	Pull up (+5V)

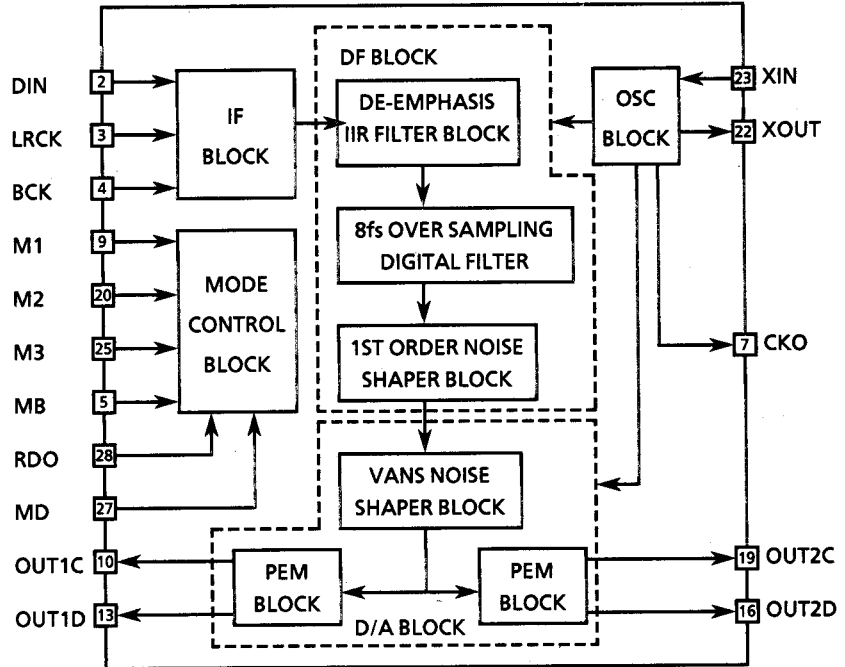
XL-V130BK  
XL-V230BK

■ MN35503 (IC301) : D / A CONVERTER

1. Terminal Layout

MA	1	28	RDO
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

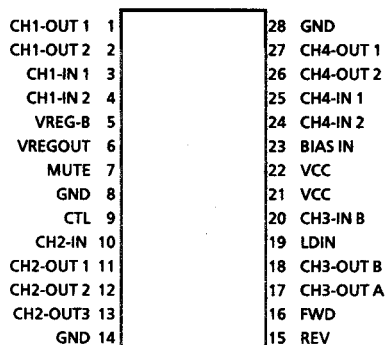


3. Description

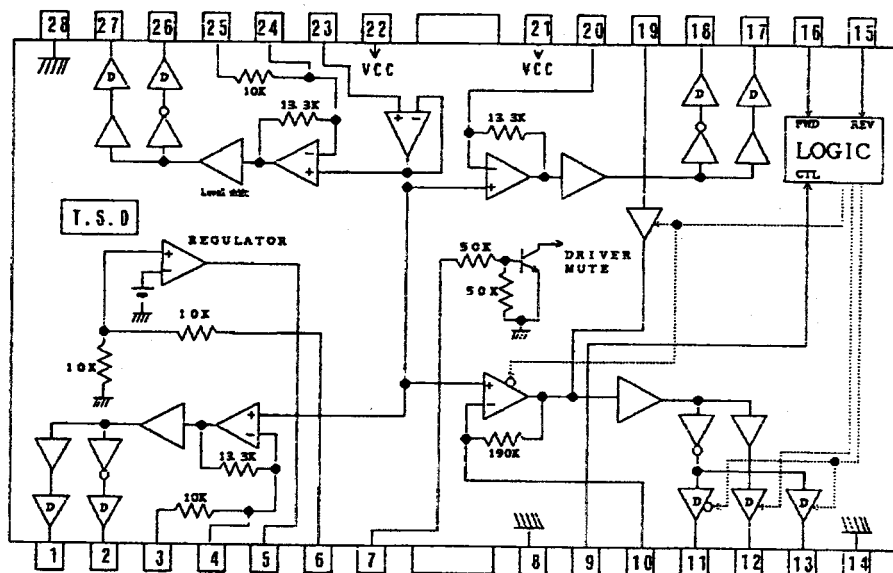
Pin No	Symbol	I/O	Description	Pin No	Symbol	I/O	Description
1	MA	--	Connected to ground	15	AVSS2	--	Analog ground 2
2	DIN	I	Data input	16	OUT2D	O	2D PEM output
3	LRCK	I	LR clock input	17	AVDD2	--	Analog power supply 2
4	BCK	I	Bit clock input	18	NC	--	Non connection
5	MB	I	De-emphasis ON signal	19	OUT2C	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	RDO	--	Not used

■ BA6795FP(IC801) : BTL DRIVER

1. Terminal Layout



2. Block Diagram

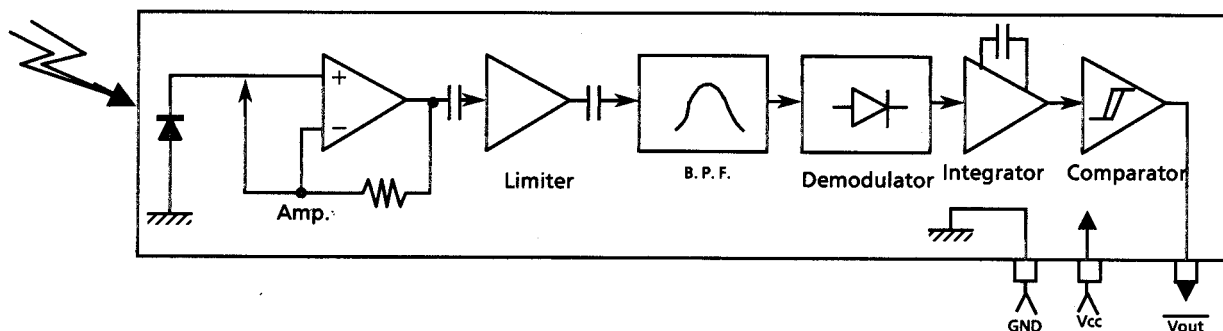


3. Description

Pin No.	Symbol	I/O	Description
1	CH1-OUT 1	O	Focus drive output
2	CH1-OUT 2	O	
3	CH1-IN 1	--	Non connection
4	CH1-IN 2	I	Focus drive signal input
5	VREG-B	I/O	Connected base of transistor
6	VREQOUT	O	+5V out
7	MUTE	I	Mute signal input pin
8,14,28	GND	--	GND
9	CTL	I	Loding /Spindle control H:loding L: spindle
10	CH2-IN	I	Spindle motor drive input
11	CH2-OUT1	O	Spindle motor drive output
12	CH2-OUT2	O	Spindle and loding motor drive output

Pin No.	Symbol	I/O	Description
13	CH2-OUT3	O	Loding motor drive output
15	REV	I	Tray open signal input
16	FWD	I	Tray close signal input
17	CH3-OUT A	O	Feed motor drive output
18	CH3-OUT B		
19	LDIN	I	Loding motor drive input
20	CH3-INB	I	Feed motor drive input
21,22	VCC	I	Power suply
23	BIAS IN	I	Input pin of Bias
24	CH4-IN 2	I	Tracking drive input
25	CH4-IN 1		
26	CH4-OUT 2	O	Tracking drive output
27	CH4-OUT 1		

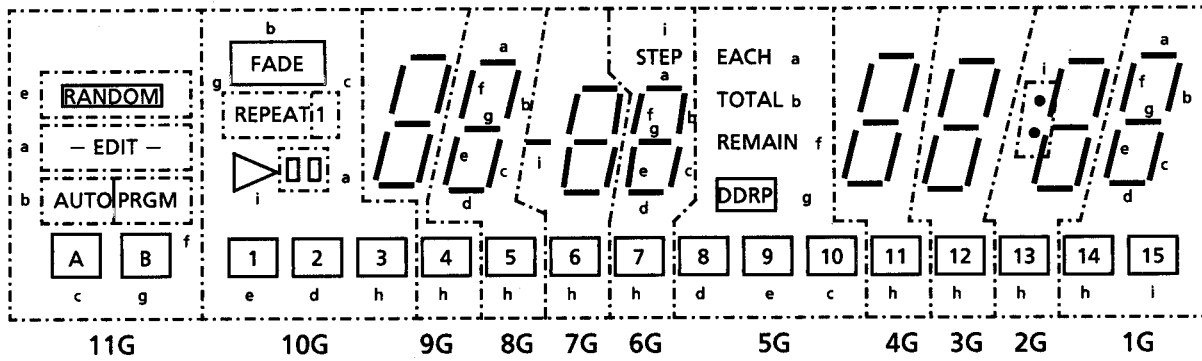
■ SPS-420-1 (IC202) : Receiver for remote controller ( Use for XL-V230BK only )



## Internal Connections of FL Display Tube

■ELU0001-114 (DI251)

### 1. Grid Layout



### 2. Pin Connection

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Electrode	F1	F1	NP	NC	11G	10G	9G	8G	7G	6G	5G	S1 (i)	4G	3G	2G	1G	S2 (a)	S3 (b)	S4 (f)

Pin No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Electrode	S5 (g)	S6 (c)	S7 (e)	S8 (d)	S9 (h)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NP	F2	F2

Note..... F: Filament, G: Grid, a~i: Element, NP: No pin, NC: No connection

## Disassembly Procedures

### 1. Removing the metal cover

- 1) Remove the 4 screws holding the both sides of the metal cover, and the 2 screws holding the rear side of it.
- 2) Gently spread both sides of the metal cover to the outside, lift up the rear section, and remove the metal cover.

### 2. Removing the tray assembly

- 1) Remove the metal cover.
- 2) Turn on the power. Press the OPEN / CLOSE switch to move the tray out and the power off.
- 3) Remove the screw (A) on the tray.
- 4) Pull the tray toward the front to move it.

Note: If the power can not be turned on due to a malfunction, etc., insert a Phillips screwdriver through the hole on the bottom and turn it counterclockwise to move the tray out.

### 3. Removing the mechanism assembly

- 1) Remove the metal cover.
- 2) Remove the tray assembly.
- 3) Remove the 2 screws (B) holding the clamp assembly, then remove the clamp assembly.
- 4) Remove the 3 screws (C) holding the mechanism assembly.

### 4. Removing the rear panel

- 1) Remove the 6 screws (D) holding the rear panel.  
(Remove the 2 screws (D'). Only used Universal type.)
- 2) Remove the rear panel.

### 5. Removing the main P.C. Board

- 1) Remove the metal cover.
- 2) Remove the rear panel.
- 3) Remove the 4 screws (E) holding the P.C. board and 2 screws (G) holding the transformer.
- 4) Remove the connectors connecting with the main P.C. board.

### 6. Removing the front panel assembly

- 1) Remove the metal cover.
- 2) Remove the tray assembly.
- 3) Remove the 3 screws (H) on the bottom of the front panel.
- 4) Remove the connector.
- 5) Release the hooks (I) holding the front panel and remove the front panel assembly.

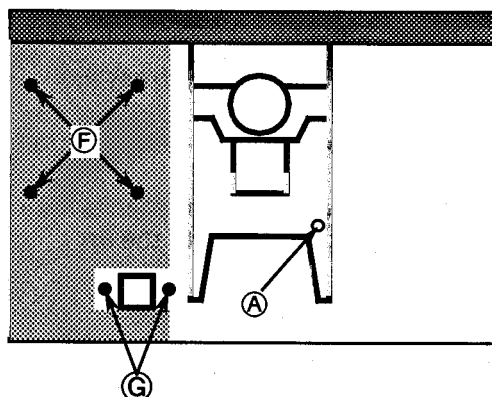


Figure 1

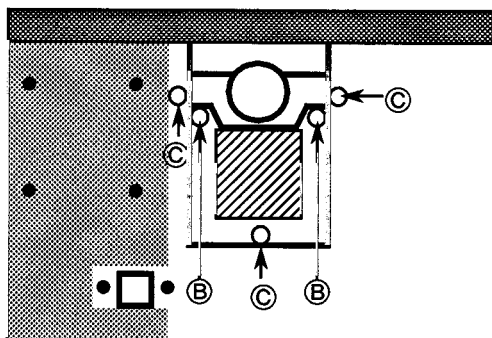


Figure 2

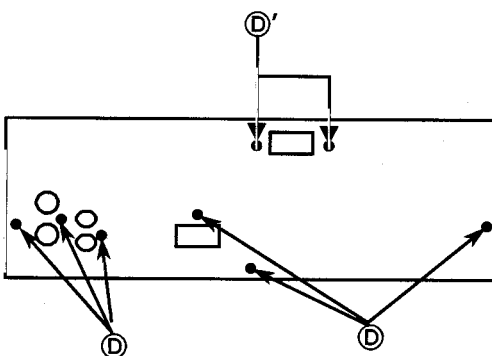


Figure 3

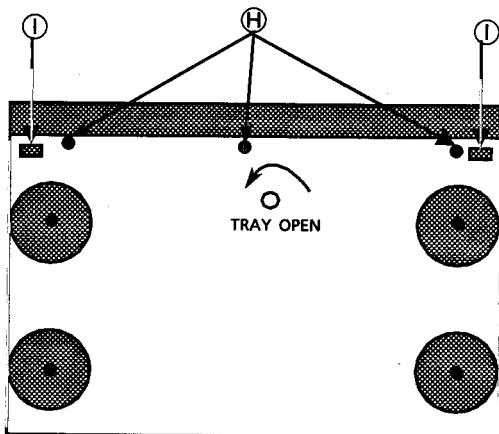


Figure 4

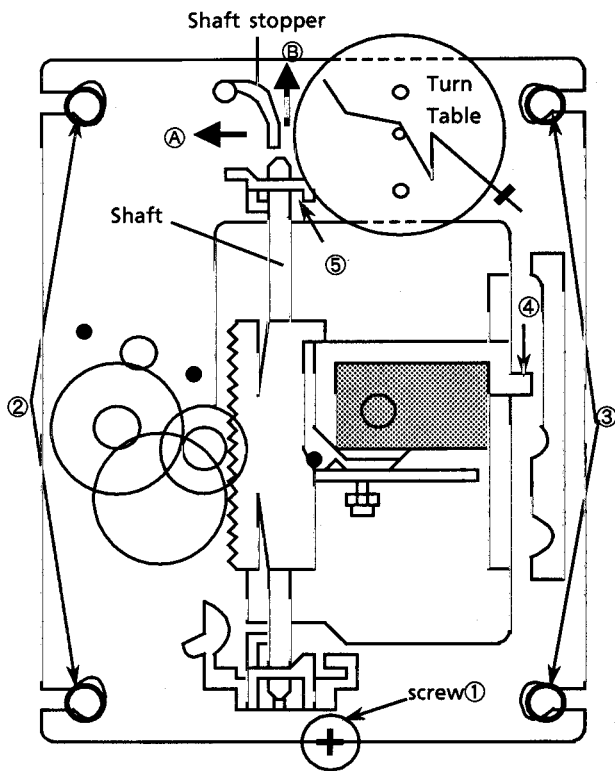
XL-V130BK  
XL-V230BK

**7. Removing the Laser Pickup**

- 1) Remove the metal cover, tray assembly and the clamp.
- 2) Remove the screw ① from the Mecha Base assembly.
- 3) Remove the Mecha Base assembly from the rubber cushion ②③.
- 4) Move the Shaft stopper from the rest position to the left side ④.
- 5) Remove the Pickup Shaft from the Mecha Base assembly. (Slide the Pickup shaft to the up side ⑤)
- 6) Remove the CD Pick Unit with the shaft.

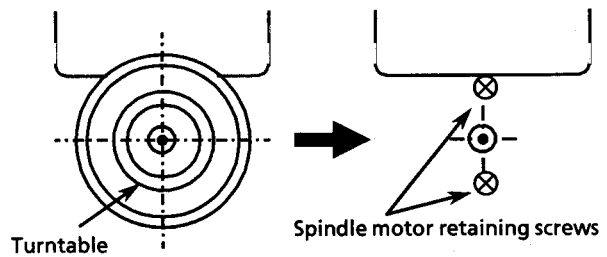
**8. Installing the Laser Pickup**

- 1) Connect the Flat wire with the connectors of APC (Automatic Power Control) P.C. Board.
- 2) While installing the ④ in the CD Support, set the shaft on the base hook ⑤.
- 3) Install the Mecha Base assembly to the rubber cushion ②③.



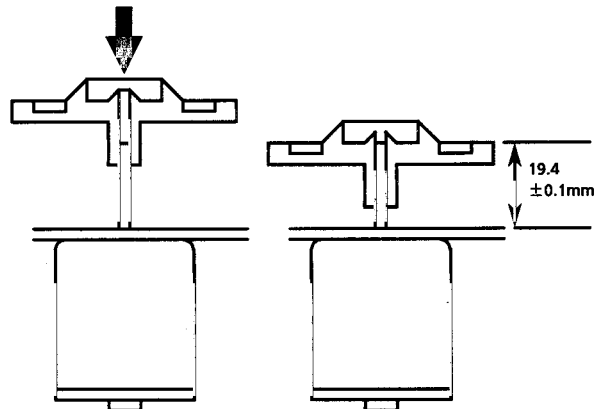
**9. Removing the spindle motor**

- 1) Remove the Mechanism assembly.
- 2) Remove the turntable, and remove the two screws retaining the spindle motor.
- 3) Remove the screw retaining the spindle and the Feed Motor P.C. Board and unsolder it.

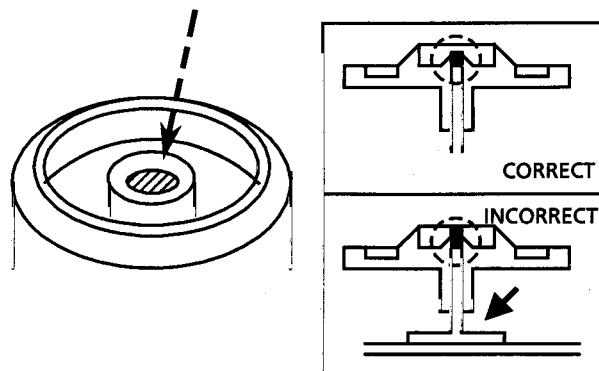


**10. Installing the spindle motor**

- 1) Tighten the 2 screws to the same torque.
- 2) Fasten the Spindle and the 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 mechanism base to the top of the turntable is exactly  $19.4 \pm 0.1\text{mm}$ .

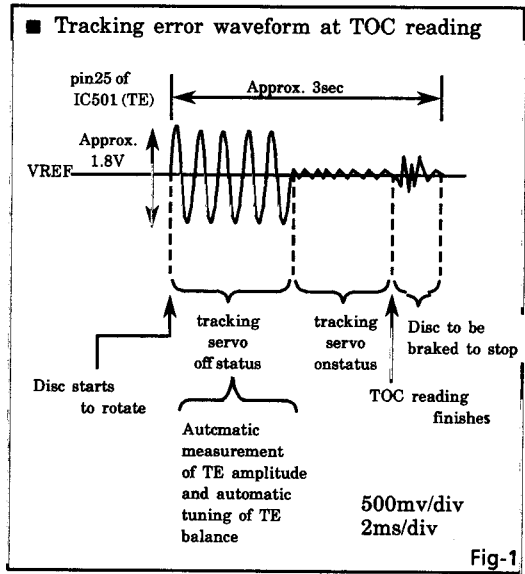
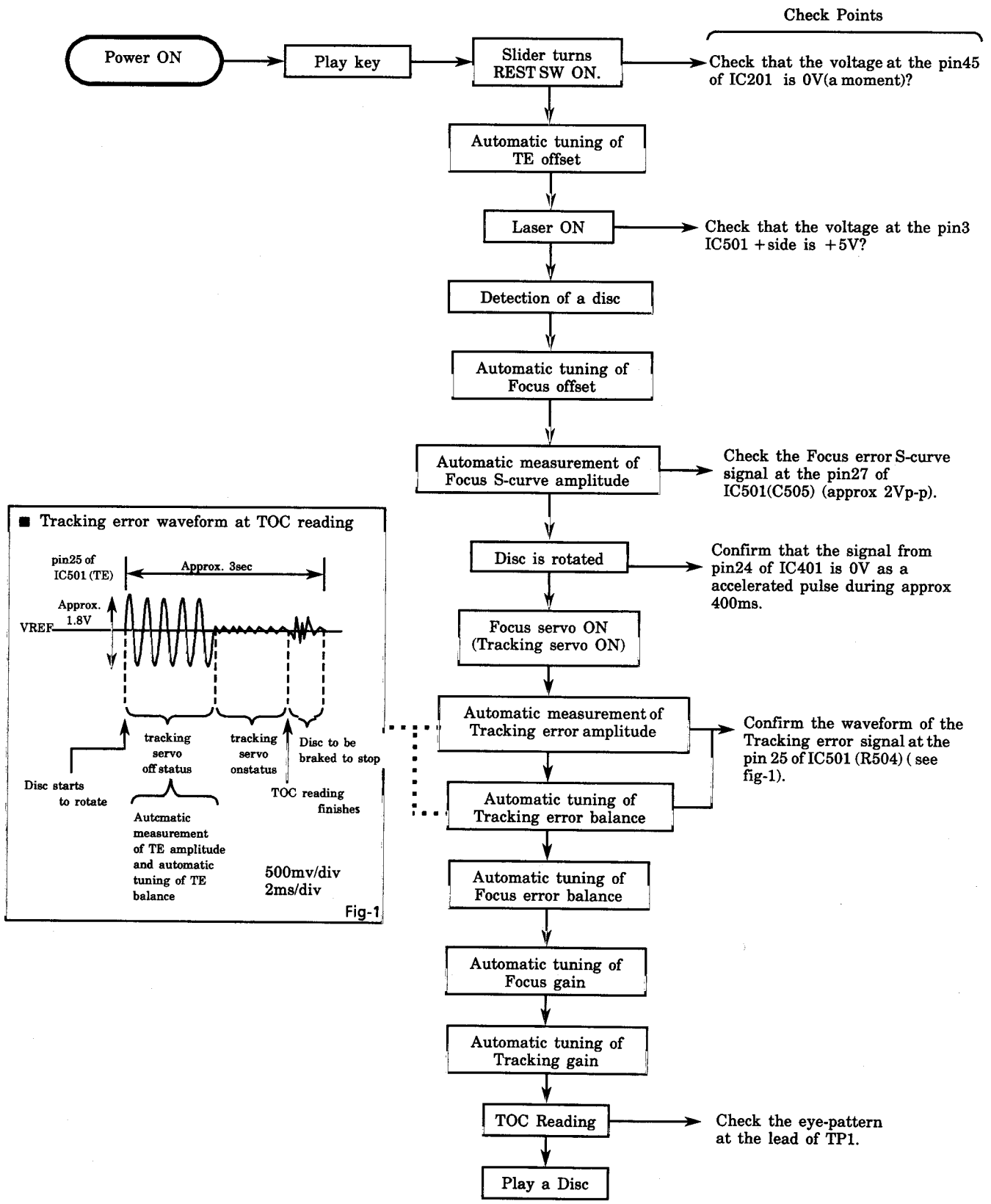


- 4) After insertion is complete, bond the motor shaft and turntable together (at the section marked by an arrow in the figure on the left below).



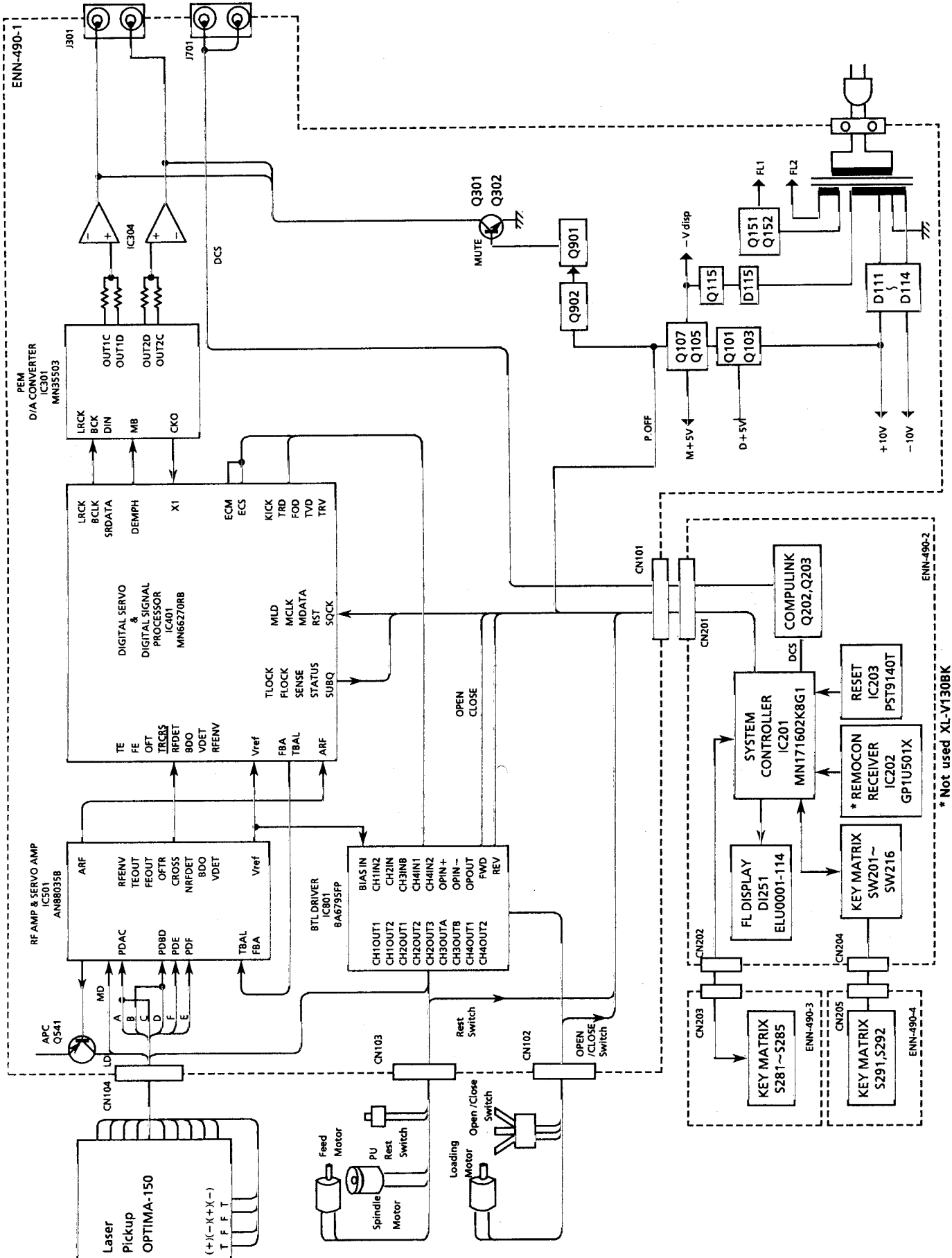
- 5) Use "LOKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in the figure on the right).

# Flow of Functional Operation Until TOC is Read



XL-V130BK  
XL-V230BK

**BLOCK DIAGRAM**

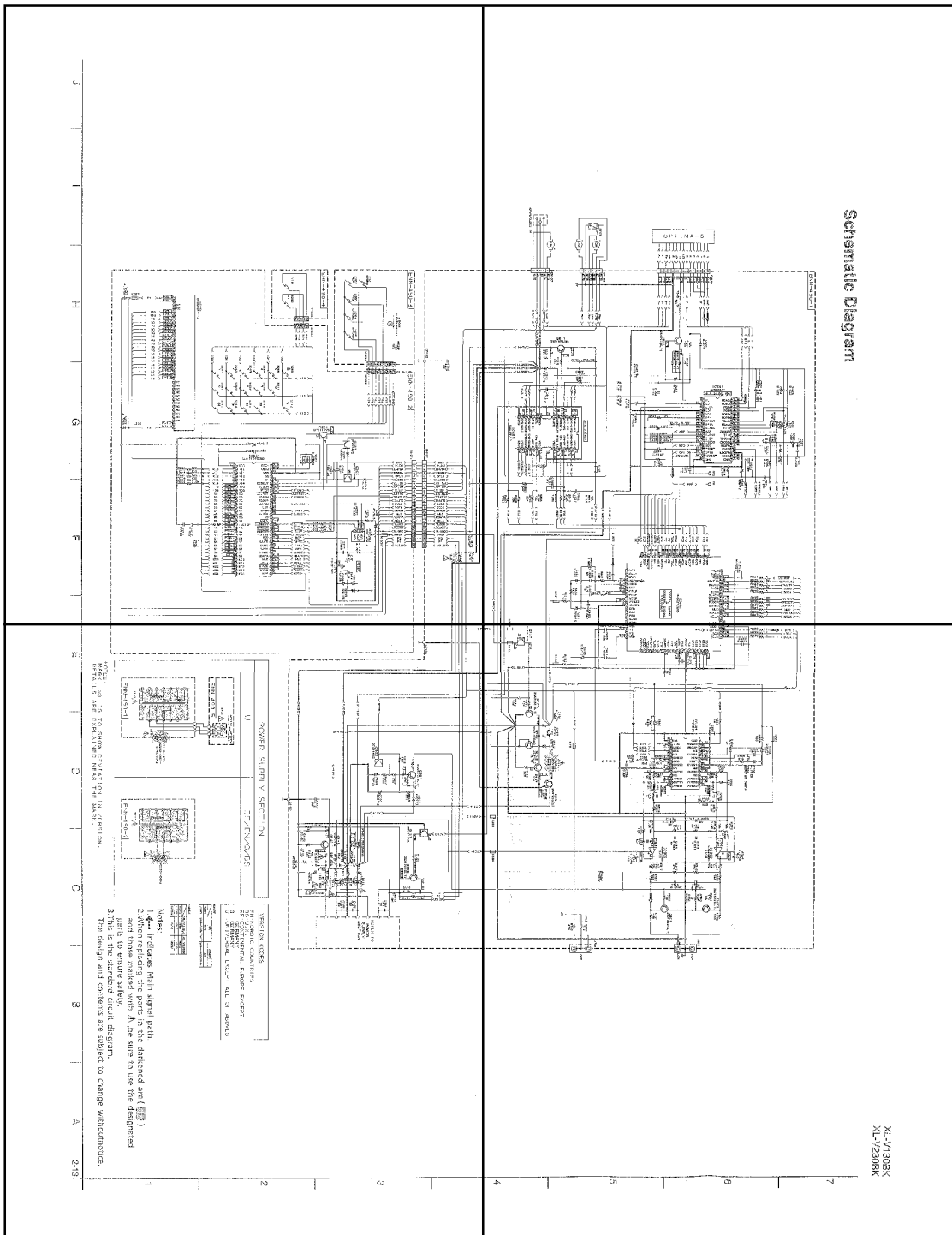


\* Not used XL-V130BK



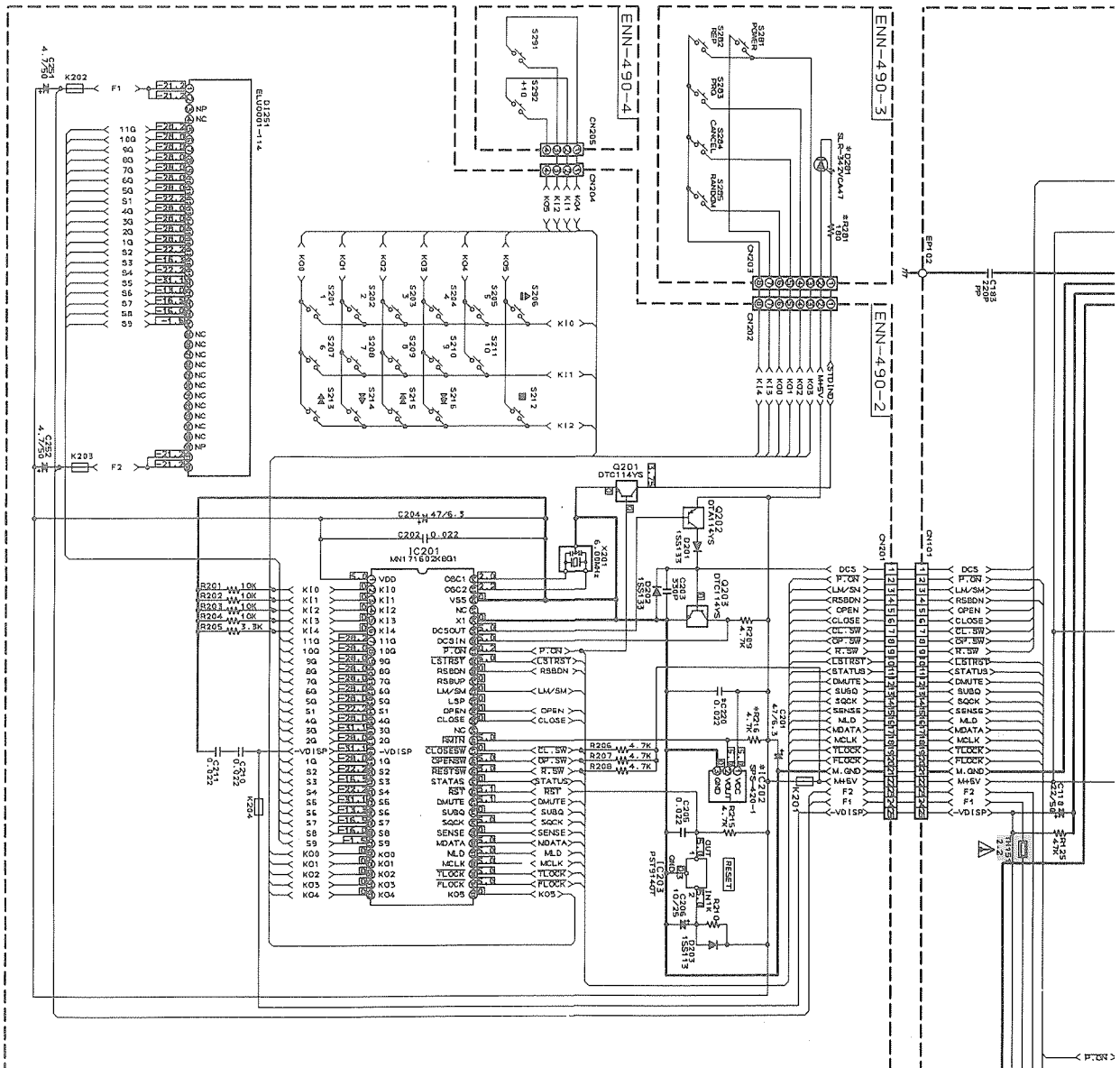
2-13-a

2-13-b

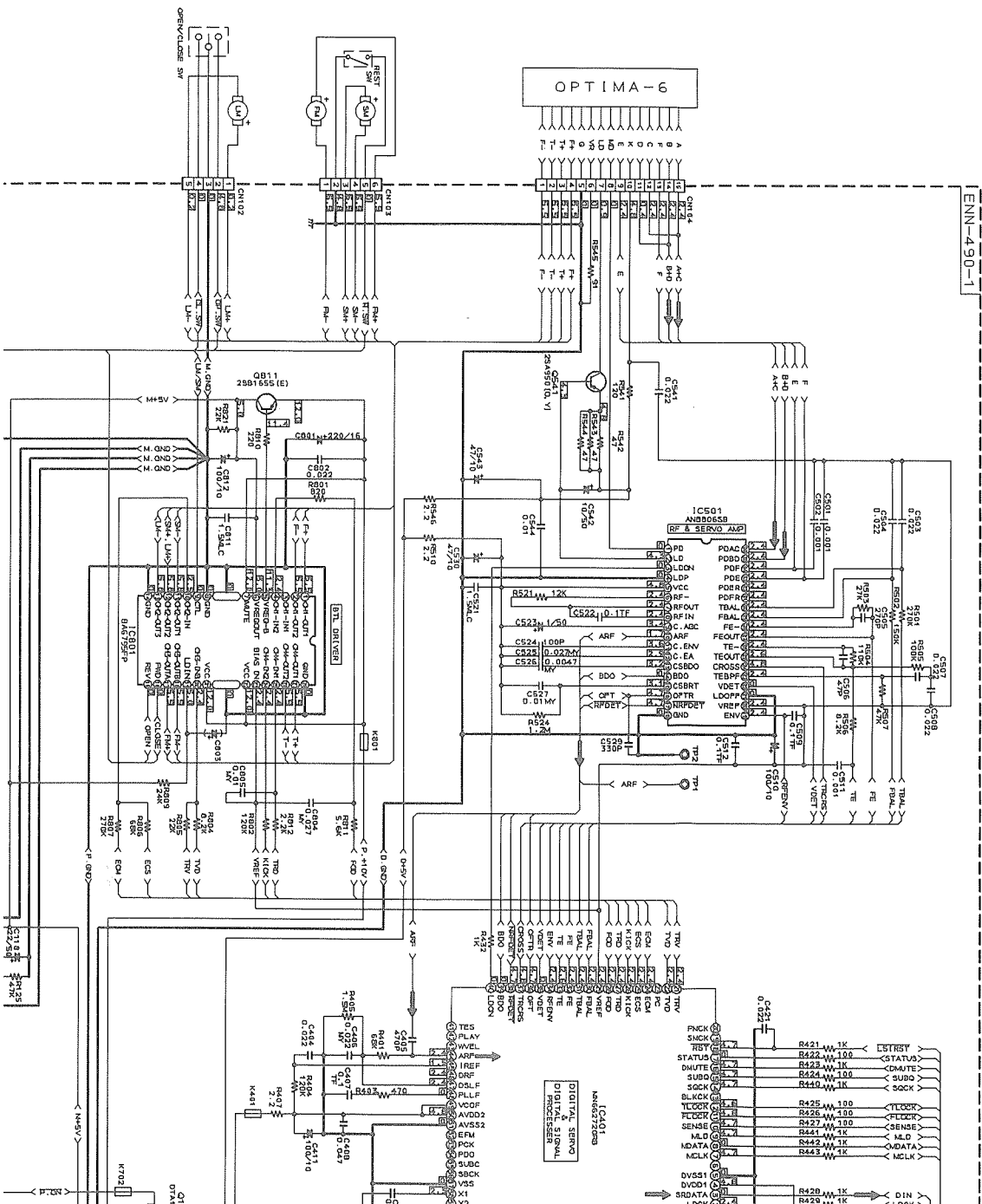


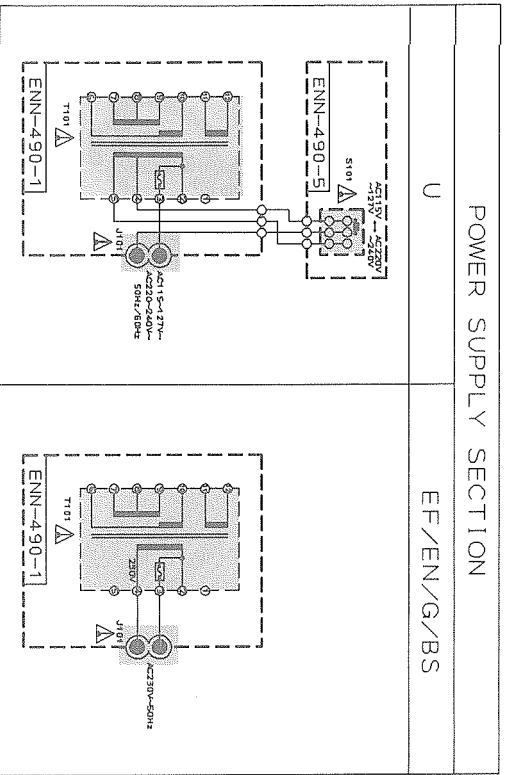
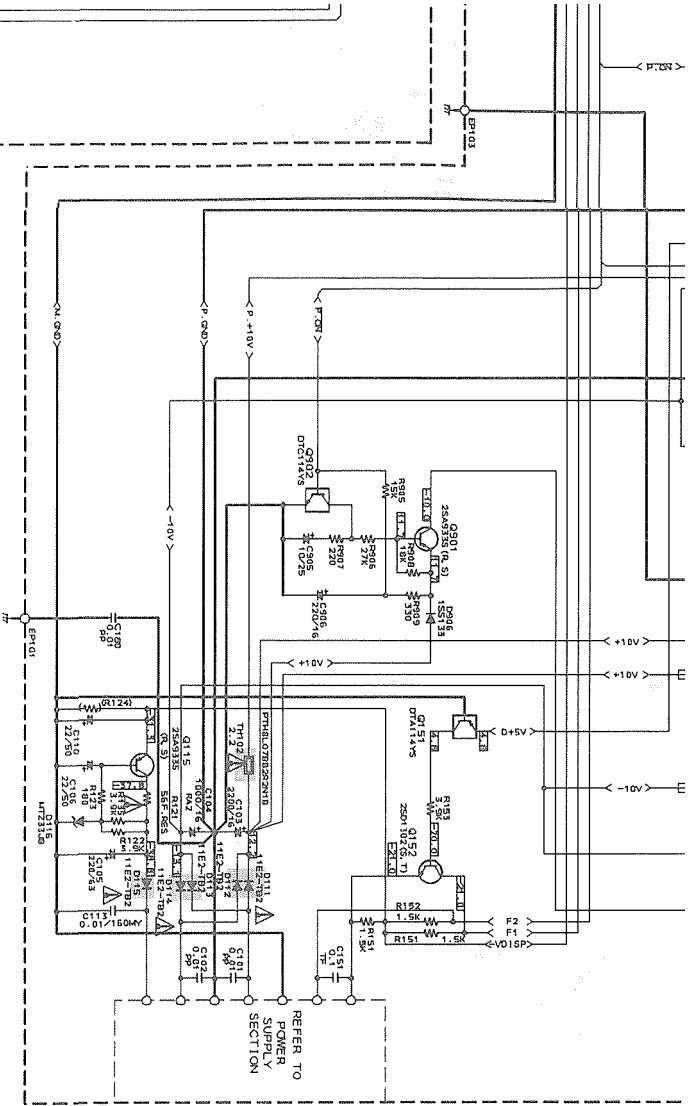
2-13-c

2-13-d



# Schematic Diagram





POWER SUPPLY SECTION

U EF/EN/G/BS

VERSION CODES

EN: NORDIC COUNTRIES  
 BS: U.K.  
 EF: CONTINENTAL EUROPE EXCEPT GERMANY  
 G: GERMANY  
 U: UNIVERSAL EXCEPT ALL OF ABOVE

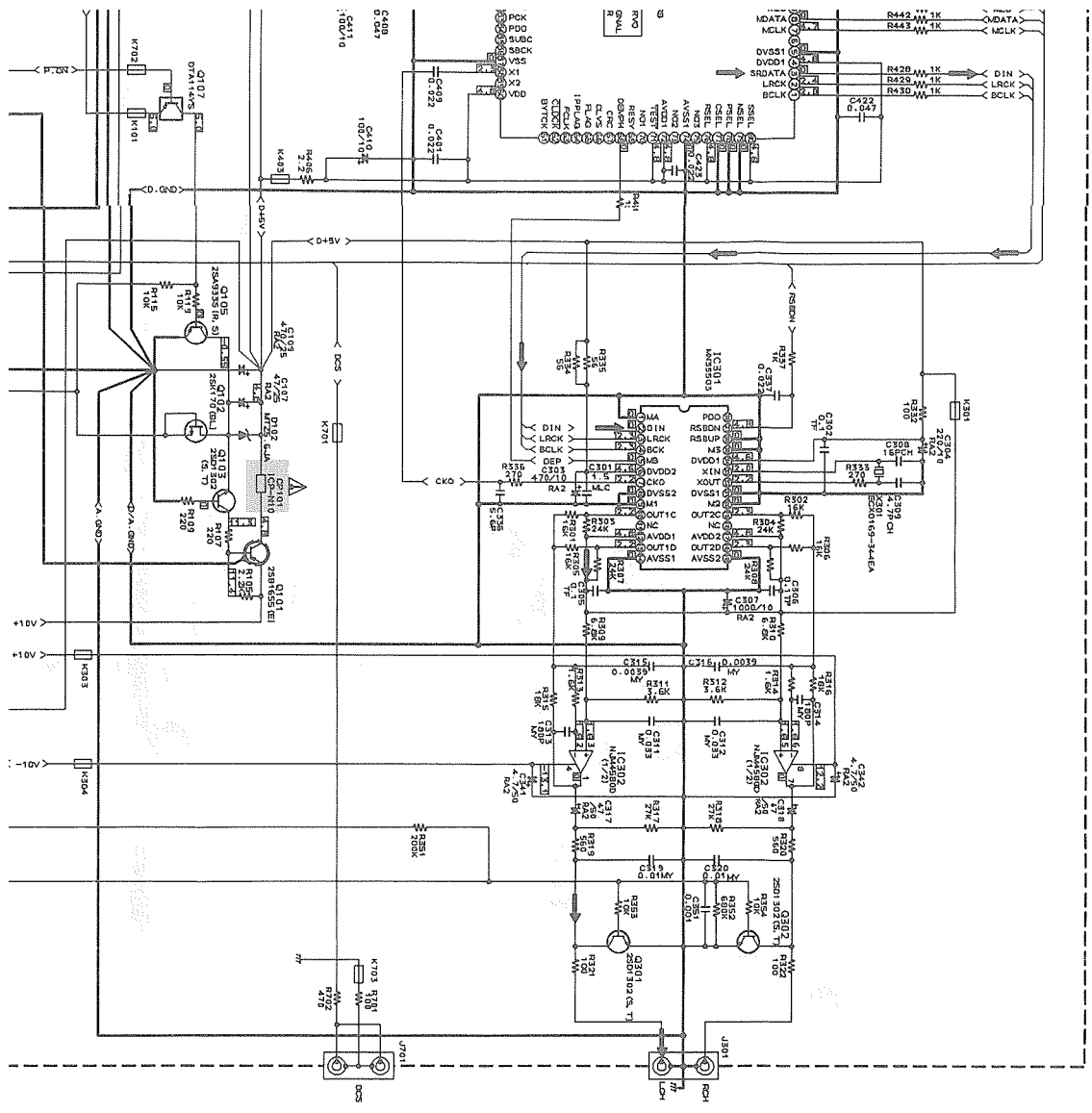
MARK	BS	OTHER
EN	EN	
EF	EF	
G	G	
U	U	

MARK	BS	OTHER
EN	EN	
EF	EF	
G	G	
U	U	

Notes:

1. indicates Main signal path.
  2. When replacing the parts in the darkened area ( ) and those marked with  $\Delta$ , 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 without notice.

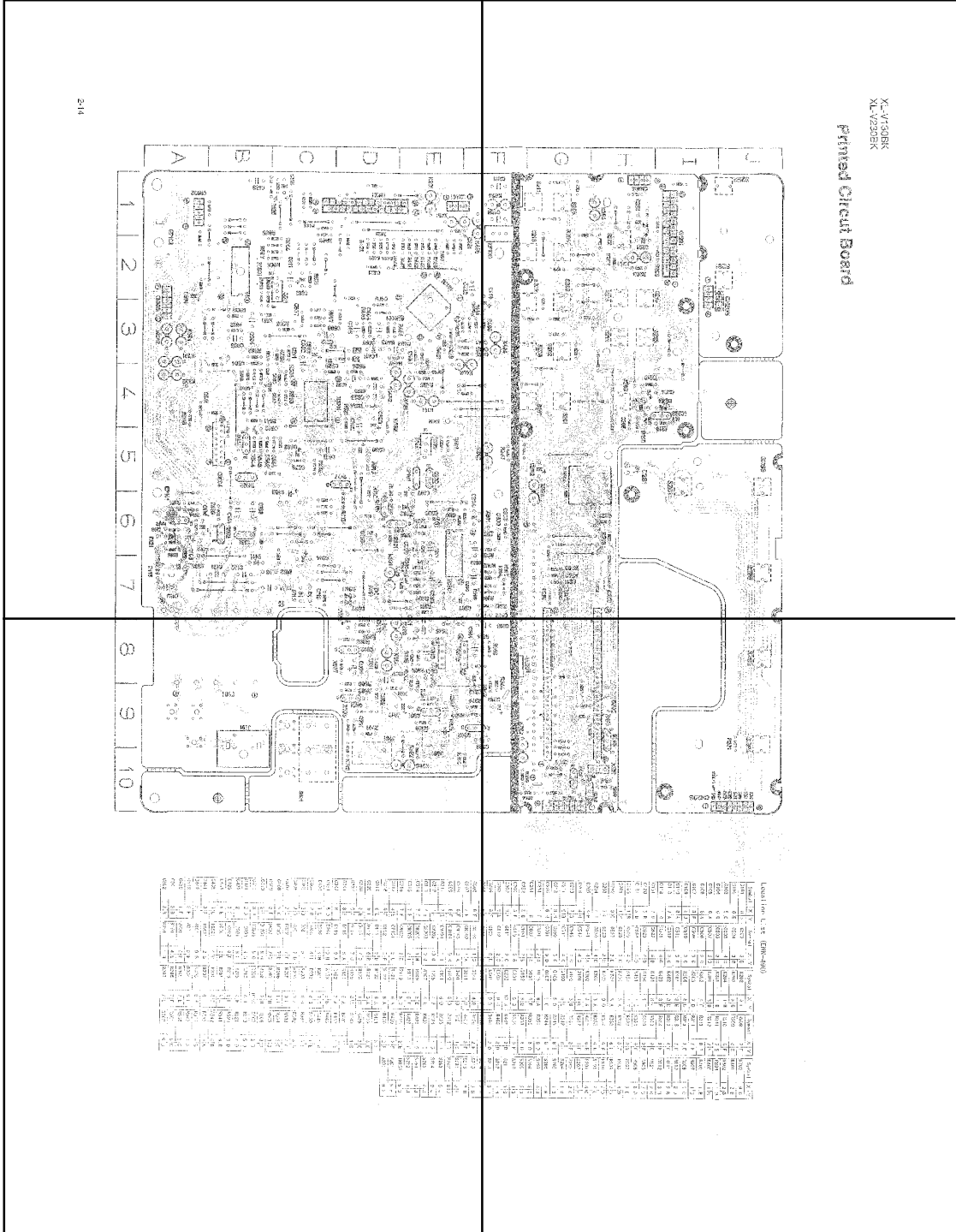
NOTES:  
 MARK (\*) IS TO SHOW DEVIATION IN VERSION.  
 DETAILS ARE EXPLAINED NEAR THE MARK.





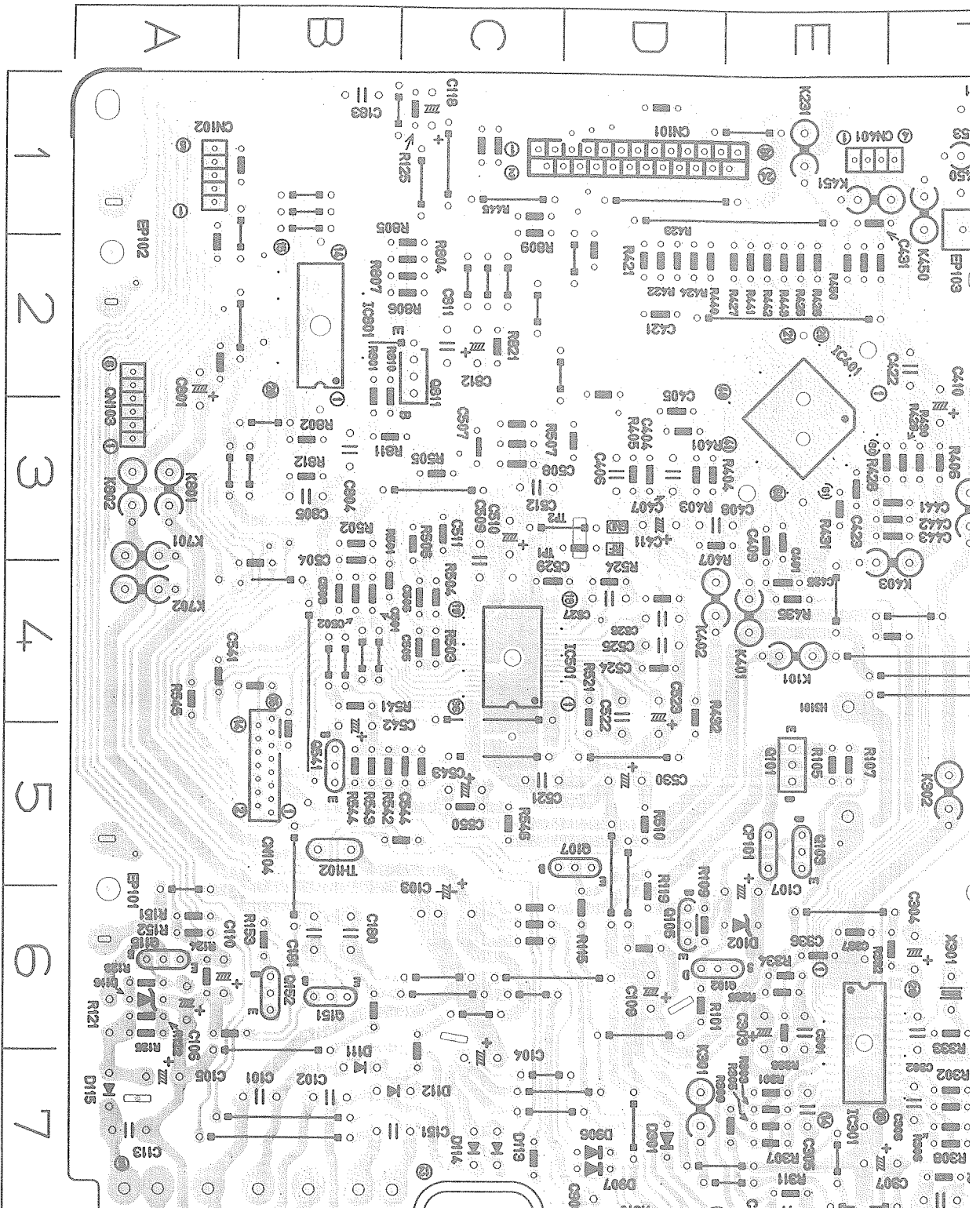
2-14-a

2-14-b



2-14-c

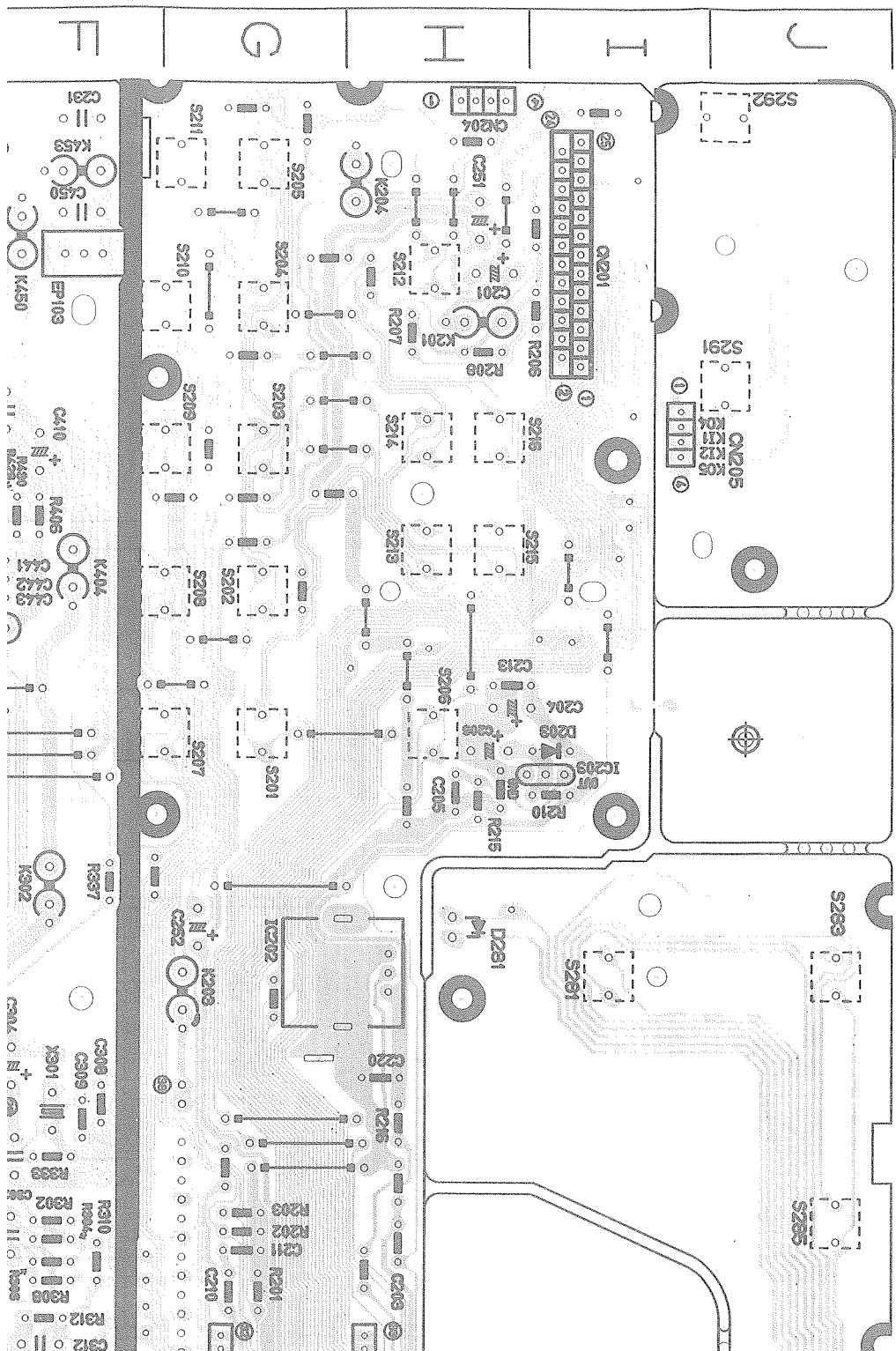
2-14-d

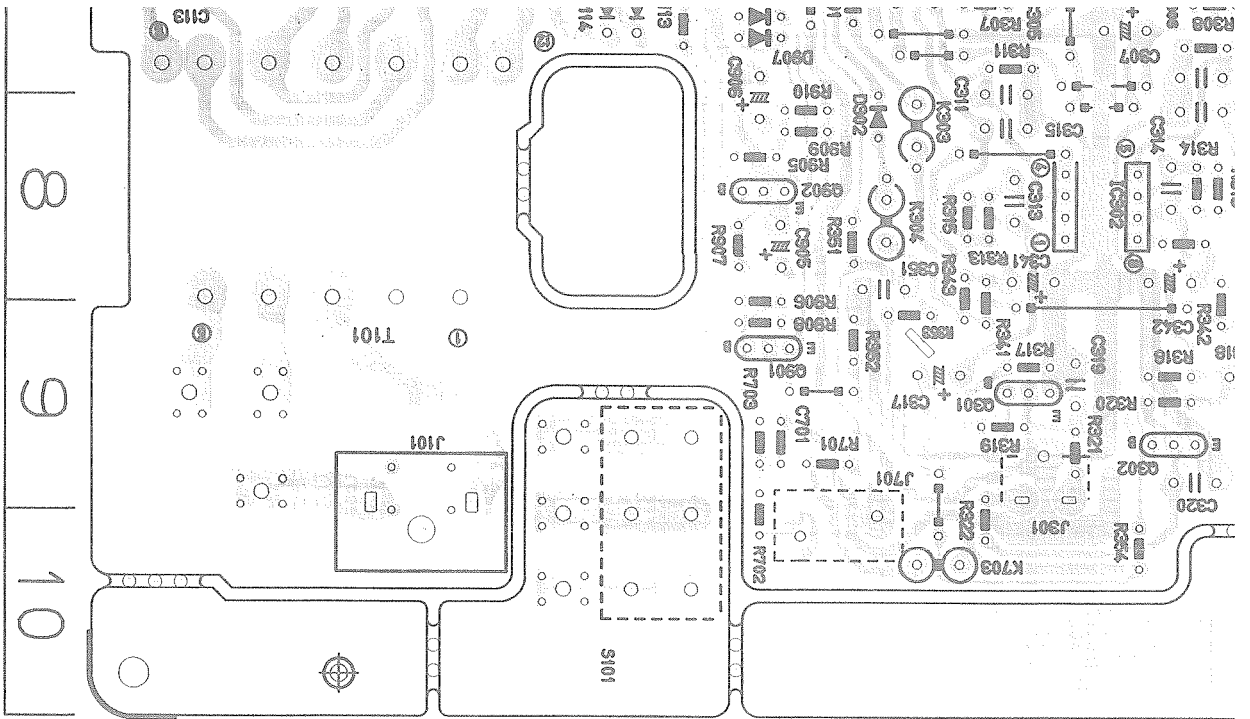




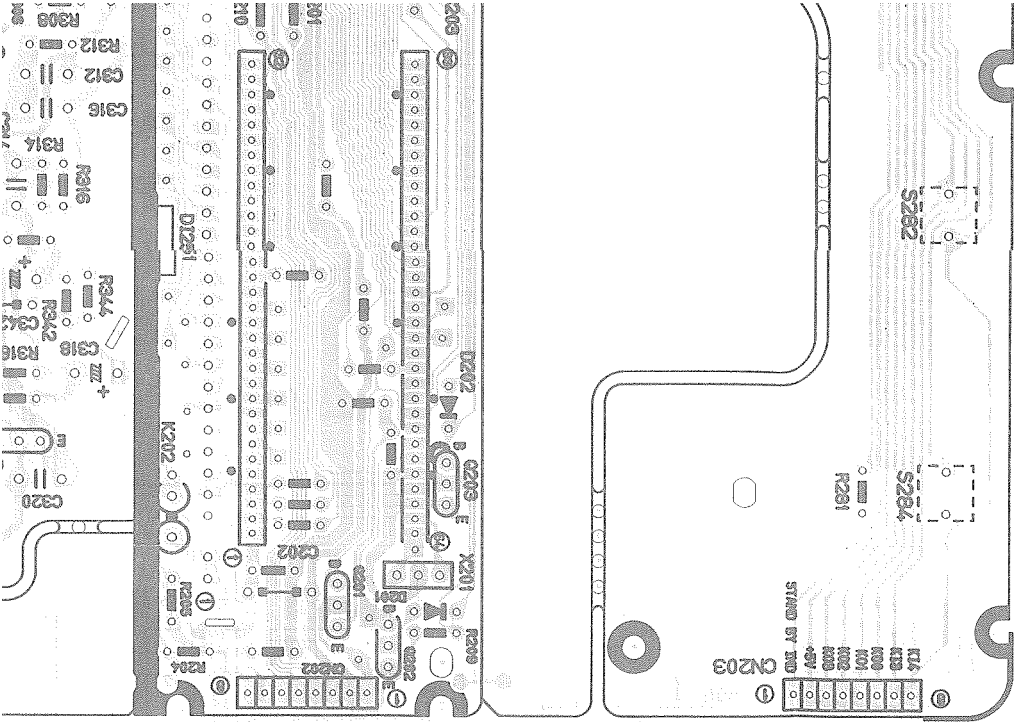
XL-V130BK  
XL-V230BK

# Printed Circuit Board





C304	6 F	G905	8 D	G301	9 E	R404	2 D	S213	3 H
C305	6 E	G906	7 D	G302	9 F	R405	2 D	S214	3 H
C306	6 F	GN101	1 C	0541	4 B	R406	2 F	S215	3 H
C307	7 F	GN102	1 A	0811	2 C	R407	3 D	S216	2 H
C308	6 F	GN103	2 A	0901	8 D	R421	1 D	S281	5 I
C309	6 F	GN104	5 B	0902	8 D	R422	1 D	S282	8 J
C311	7 E	GN201	1 I	R101	6 D	R423	1 D	S283	5 J
C312	7 E	GN202	10 G	R105	4 E	R424	1 D	S284	6 J
C313	7 E	GN203	10 J	R107	4 E	R425	1 E	S285	6 J
C314	7 F	GN204	1 H	R109	5 D	R426	1 E	S291	2 J
C315	7 E	GN205	2 I	R115	5 D	R427	1 E	S292	1 J
C316	7 F	GN401	1 E	R119	5 D	R428	2 E	TH102	5 B
C317	8 E	GP101	5 E	R121	6 A	R429	2 F	X201	9 H
C318	8 F	D102	5 E	R122	6 A	R430	2 F	X301	6 F
C319	8 E	D111	6 B	R123	6 A	R431	3 E		
C320	9 F	D112	6 B	R124	6 A	R432	4 D		
C336	5 E	D113	7 C	R125	1 C	R435	3 E		
C337	5 E	D114	7 C	R135	6 A	R440	1 D		
C341	8 E	D115	6 A	R151	5 A	R441	1 E		
C342	8 F	D116	6 A	R152	5 A	R442	1 E		
C351	8 D	D201	10 H	R153	5 B	R443	1 E		
C401	3 E	D202	8 H	R201	7 G	R445	1 C		
C404	2 D	D203	4 I	P202	6 G	R450	1 E		
C405	2 D	D281	5 H	R293	6 G	R501	3 B		
C406	2 D	D301	7 D	R204	10 F	R502	3 B		
C407	2 D	D302	7 D	R205	10 F	R503	4 C		
C408	3 D	D906	7 D	R206	1 I	R504	3 C		
C409	3 E	D907	7 D	R207	2 H	R505	3 C		
C410	2 F	D1251	9 G	R208	2 H	R506	3 C		
C411	3 D	IG202	5 G	R209	10 H	R507	2 C		
C421	2 D	IG203	4 H	R210	4 I	R510	5 D		
C422	2 F	IG301	6 E	R215	4 H	R521	4 D		
C423	3 E	IG302	8 E	R216	6 H	R524	3 D		
C431	1 E	IG401	2 E	R281	9 J	R541	4 B		
C435	3 E	IG501	4 C	R301	6 E	R542	4 B		
C441	3 E	IG801	2 B	R302	6 F	R543	4 B		
C442	3 E	J101	9 B	R303	6 E	R544	4 B		
C443	3 E	J301	9 E	R304	6 F	R545	4 A		
C450	1 F	J701	9 D	R305	7 E	R546	5 C		
C501	3 B	K101	4 E	R306	7 F	R701	9 D		
C502	3 B	K201	1 H	R307	7 E	R702	9 D		



Location List (ENN-490)

Symbol	X	Y	Symbol	X	Y	Symbol	X	Y	Symbol	X	Y	Symbol	X	Y	Symbol	X	Y
C101	6 B	0503	3 B	K202	9 F	R308	7 F	R703	9 D								
C102	6 B	C504	3 B	K203	5 G	R309	6 E	R801	2 B								
C103	5 C	C505	4 C	K204	1 H	R310	6 F	R802	2 B								
C104	6 C	C506	3 C	K231	1 E	R311	7 E	R804	1 B								
C105	6 A	C507	2 C	K301	6 D	R312	7 F	R805	1 B								
C106	6 A	C508	2 C	K302	4 F	R313	8 E	R806	1 B								
C107	5 E	C509	3 C	K303	7 D	R314	7 F	R807	1 B								
C109	6 D	C510	3 C	K304	8 D	R315	8 E	R809	1 C								
C110	6 A	C511	3 C	K401	3 E	R316	7 F	R810	2 B								
C113	7 A	C512	3 C	K402	3 D	R317	8 E	R811	2 B								
C118	1 C	C521	4 C	K403	3 E	R318	8 F	R812	3 B								
C151	7 B	C522	4 D	K404	3 F	R319	9 E	R821	2 C								
C180	5 B	C523	4 D	K450	1 F	R320	9 F	R905	7 D								
C181	5 B	C524	4 D	K451	1 E	R321	9 E	R906	8 D								
C183	1 B	C525	4 D	K453	1 F	R322	9 E	R907	8 D								
C201	1 H	C526	3 D	K701	3 A	R332	5 F	R908	8 D								
C202	9 G	C527	3 D	K702	3 A	R333	6 F	R909	7 D								
C203	7 H	C529	3 C	K703	9 D	R334	6 E	R910	7 D								
C204	4 I	C530	4 D	K801	3 A	R335	6 E	S101	9 C								
C205	4 H	C541	4 A	K802	3 A	R336	6 E	S201	4 G								
C206	4 H	C542	4 B	0101	4 E	R337	4 F	S202	3 G								
C210	7 G	C543	4 C	0102	5 D	R341	8 E	S203	2 G								
C211	6 G	C544	4 C	0103	5 E	R342	8 F	S204	1 G								
C213	3 H	C550	5 C	0105	5 D	R343	8 E	S205	1 G								
C220	6 H	C701	9 D	0107	5 C	R344	8 F	S206	4 H								
C231	1 F	C801	2 A	0115	6 A	R351	8 D	S207	4 G								
C251	1 H	C802	2 A	0151	6 B	R352	8 D	S208	3 G								
C252	5 G	C804	2 B	0152	6 B	R353	8 D	S209	2 G								
C301	6 E	C805	3 B	0201	9 G	R354	9 F	S210	1 G								
C302	6 F	C811	2 C	0202	10 G	R401	2 D	S211	1 G								
C303	6 E	C812	2 C	0203	9 H	R403	2 D	S212	1 H								
C304	6 F	C905	8 D	0301	9 E	R404	2 D	S213	3 H								
C305	6 E	C906	7 D	0302	9 F	R405	2 D	S214	2 H								
C306	6 F	CN101	1 C	0541	4 B	R406	2 F	S215	3 H								



# PARTS LIST

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

The Marks for Designated Areas  
BS ---- the U.K.  
EF ---- Continental Europe Except  
          Germany  
EN ---- Nordic Countries  
G ---- Germany  
U ---- Universal Except All of Above  
No marks indicates all areas.

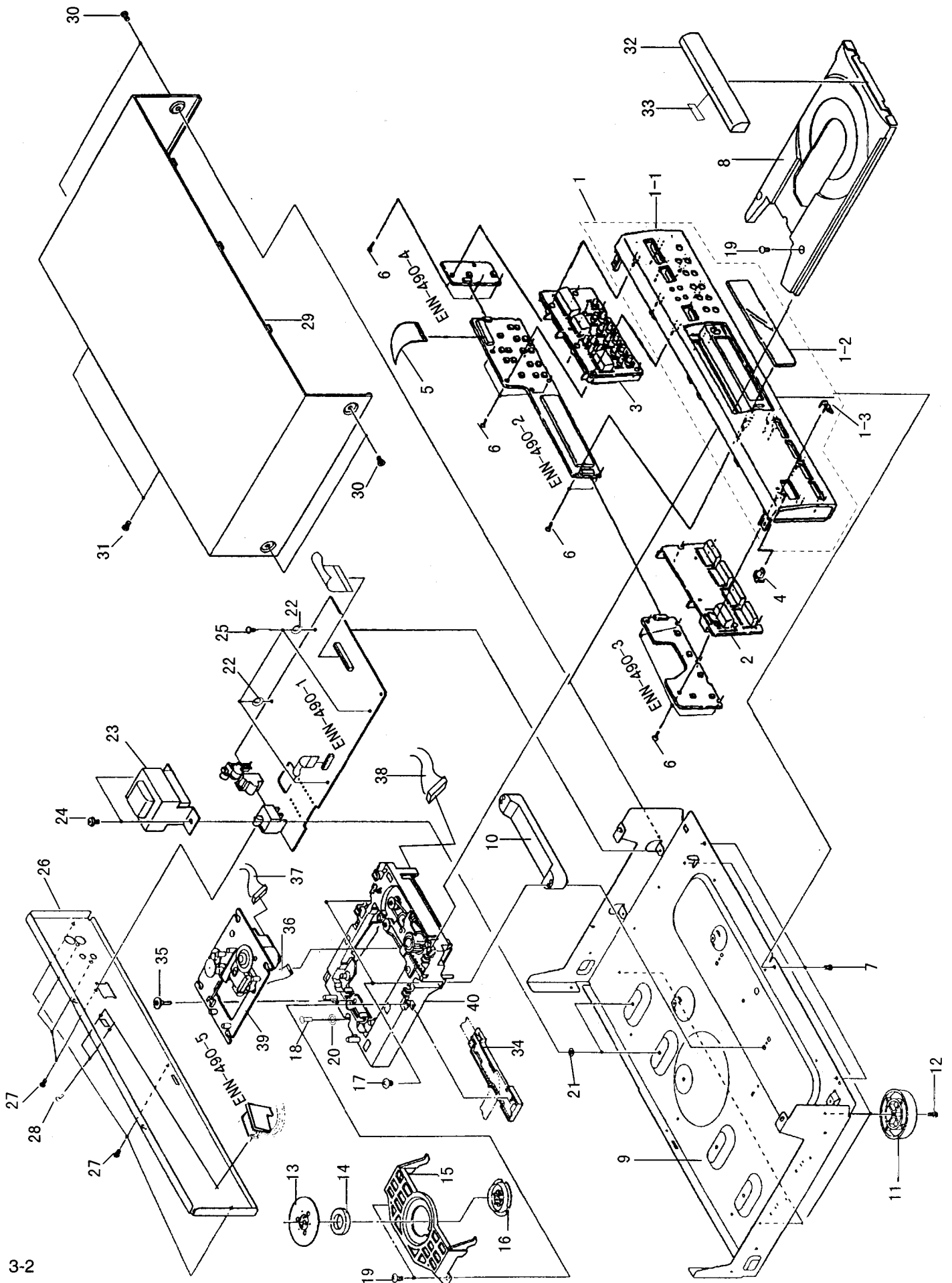
- Contents -

General Exploded View and Parts List -----	3-2
Loading Mechanism Ass'y and Parts List -----	3-4
■ Grease Point -----	3-4
CD Mechanism Ass'y and Parts List -----	3-5
■ Grease Point -----	3-5
Electrical Parts List -----	3-6
(ENN-490) -----	3-6
Accessories List -----	3-9
Packing Materials and Part Numbers -----	3-10

XL-V130BK  
XL-V230BK

General Exploded View and Parts List

Block No. **M T M M**



Parts List

Block No. **M1M1**

△	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	EFP-XLV230BKE(S	FRONT PANEL ASS'Y	1		
	1-1	LE10057-002A	FRONT PANEL	1		
	1-2	LE30323-002A	WINDOW SCREEN	1		
	1-3	VJD5429-001	JVC MARK	1		
	2	LE20073-001A	POWER BUTTON	1		Except U
	2	LE20073-002A	POWER BUTTON	1		U
	3	LE20076-001A	PUSH BUTTON	1		
	4	LE40117-001A	INDICATOR LENS	1		
	5	VWF1225-10TTB	FLAT WIRE	1		
	6	SDSF2608Z	SCREW	14		
	7	SDSF3008M	WOOD SCREW	3		
	8	E102358-222	CD TRAY	1		
	9	E102355-003SS	CHASSIS BASE	1		
	10	E307158-003SS	MECHA STAND	1		
	11	FSYH4001-00F	FOOT	4		
	12	SBST3008M	TAPPING SCREW	4		
	13	E306836-223SS	YOKE PLATE	1		
	14	E74897-002	CD MAGNET	1		
	15	E26756-222SS	CLAMPER BASE	1		
	16	E306835-221SS	CD CLAMPER	1		
	17	SBST3025Z	TAPPING SCREW	2		
	18	SBST3008Z	TAPPING SCREW	1		
	19	SBSF3008M	TAPPING SCREW	3		
	20	E408314-002	SPACER	1		
	21	E73967-018	SPACER	2		
	22	E73967-002	SPACER	2		
△	23	QQT0160-001	POWER TRANSFORMER	1		Except U
△	23	QQT0160-002	POWER TRANSFORMER	1		U
	24	E65389-002	SPECIAL SCREW	2		
	25	GBSG3008CC	TAPPING SCREW	4		
	26	LE20080-003A	REAR PANEL	1		Except U
	26	LE20080-004A	REAR PANEL	1		U
	27	E73273-006	SPECIAL SCREW	6		
	28	SBSF2608M	TAPPING SCREW	2		U
	29	LE20082-001A	METAL COVER	1		
	30	E406308-003	SPECIAL SCREW	4		
	31	SBSG3008M	TAPPING SCREW	2		
	32	LE20078-001A	CD FITTING	1		
	33	E306805-110	SPACER	1		
	34	E308181-221SS	FFC HOLDER	1		
	35	E406293-001	SPECIAL SCREW	1		
	36	EWZ02-001	FFC CABLE	1		
	37	EWS266-B410	SOCKET WIRE ASSY	1		
	38	EWS265-B408	SOCKET WIRE ASSY	1		
	39	-----	MECHA UNIT	1	See page 3-5	
	40	-----	CD LOADING UNIT	1	See page 3-4	
	-	E406709-001	CAUTION LABEL	1		
	-	E70891-001	CLASS 1 LABEL	1		

■ Parts list

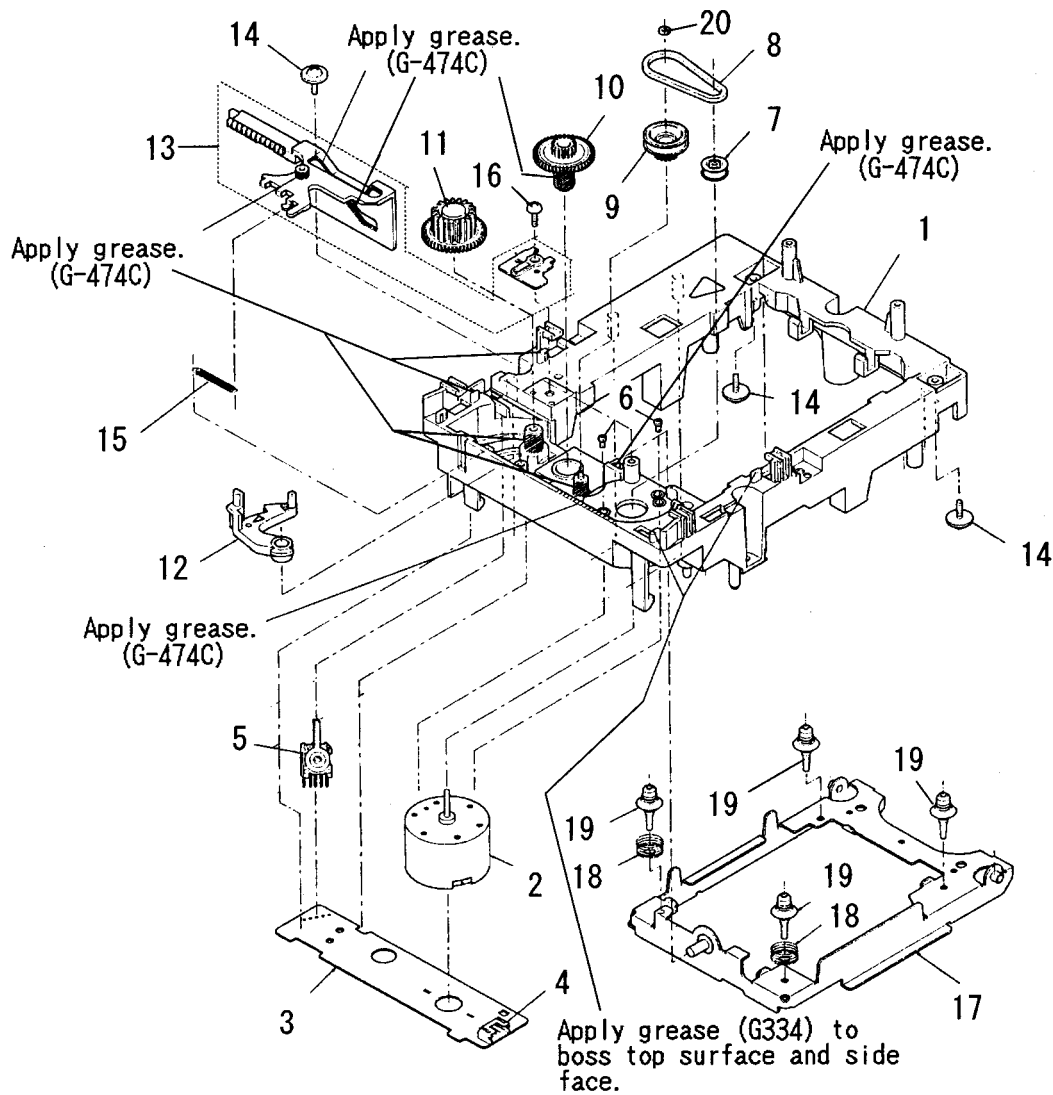
This list describes only difference between XL-V230BK and XL-V130BK.

Please see the parts list for XL-V130BK for parts which are not described.

△	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	EFP-XLV130BKE(S	FRONT PANEL ASS'Y	1		
	1-1	LE10057-001A	FRONT PANEL	1		
	1-2	LE30323-001A	WINDOW SCREEN	1		
	26	LE20080-001A	REAR PANEL	1		Except U
	26	LE20080-002A	REAR PANEL	1		U

# Loading Mechanism Ass'y and Parts List

Block No. **M2MM**



## ■ Parts List (Loading Mechanism Ass'y)

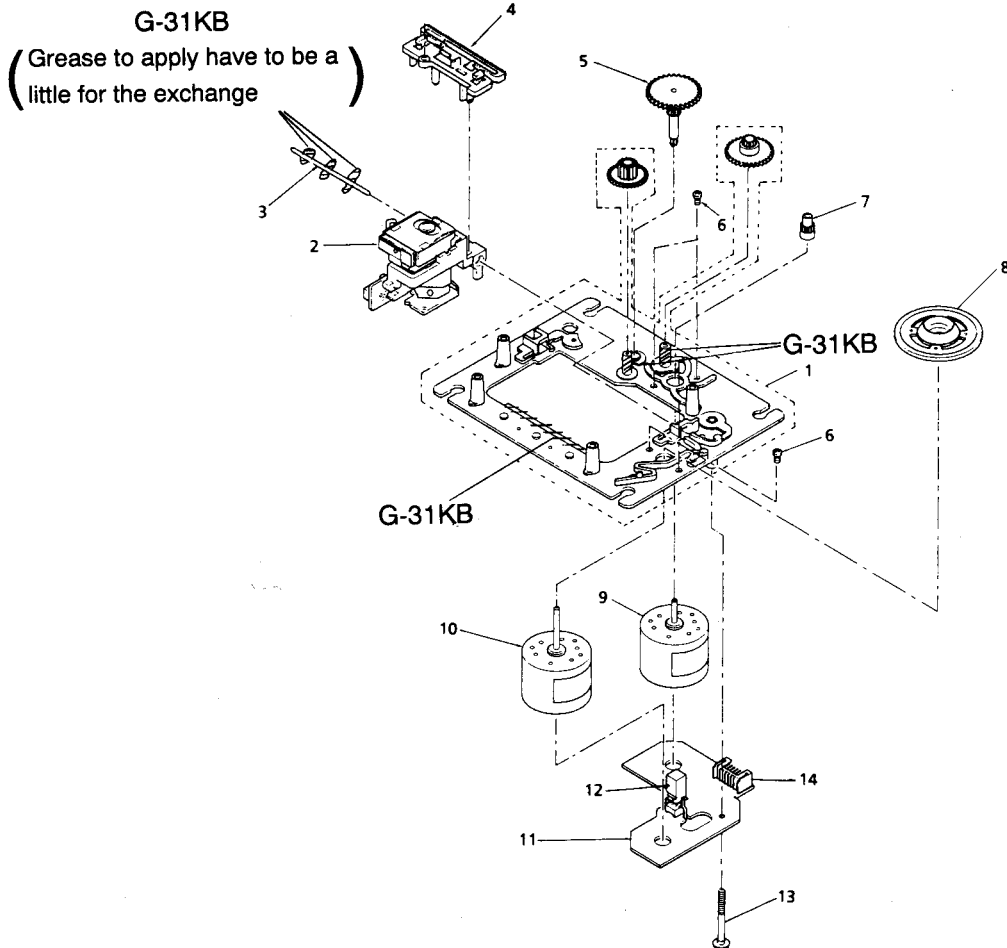
△	No.	Parts Number	Parts Name	Q'ty	Description	Area
	1	E102357-221	LOADING BASE	1		
	2	MMN-6F1LB8K	DC MOTOR	1		
	3	EMW10264-002	PRINTED BOARD	1		
	4	EMV5109-005B	5P PLUG WIRE	1		
	5	ESS1200-002	LEVER SWITCH	1		
	6	SPSK2640Z	SCREW	2		
	7	E75984-221	MOTOR PULLEY	1		
	8	E75950-002	REEL BELT	1		
	9	E75985-221	GEAR (1)	1		
	10	E75986-221SS	CD GEAR	1		
	11	E75987-221SS	GEAR	1		
	12	E307162-331	ACTION LEVER	1		
	13	E307252-331	CAM PLATE	1		
	14	E65923-003	TAPPING SCREW	3		
	15	E75989-001	SPRING	1		
	16	SBSF3008Z	TAPPING SCREW	1		
	17	E307179-332	ELEVATOR BASE	1		
	18	E406871-001	SPRING	2		
	19	E406294-002	INSULATOR	4		
	20	E60912-005SS	SPEED NUT	1		



# CD Mechanism Ass'y and Parts List

Block No. M 3 M M

## ■ Grease Point



## ■ Parts List ( CD Mechanism Ass'y )

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	

**XL-V130BK**  
**XL-V230BK**

Electrical Parts List (ENN-490)

△	Item	Parts Number	Description	Area
		I. C. S		
	IC201	MN171602K8G1	I. C (MICRO-COMPUTER)	
	IC202	SPS-420-1	INFRARED DETECT UNIT	ONLY XL-V230BK
	IC203	PST9140T	I. C (MONO-ANALOG)	
	IC301	MN35503	I. C (DIGI-MOS)	
	IC302	VC4580D	I. C (MONO-ANALOG)	
	IC401	MN66272ORB	I. C (DIGI-MOS)	
	IC501	AN8806SB	I. C (MONO-ANALOG)	
	IC801	BA6795FP-X	I. C (MONO-ANALOG)	
		DIODES		
	D102	MTZ5.6JA	ZENER DIODE	
△	D111	11E2	SI. DIODE	
△	D112	11E2	SI. DIODE	
△	D113	11E2	SI. DIODE	
△	D114	11E2	SI. DIODE	
△	D115	11E2	SI. DIODE	
	D116	MTZ33JBT-77	ZENER DIODE	
	D201	1SS133	SI. DIODE	
	D202	1SS133	SI. DIODE	
	D203	1SS133	SI. DIODE	
	D281	SLA-380LT	L. E. D.	BS
	D281	SLR-342VC3F	L. E. D.	EF
	D281	SLR-342VC3F	L. E. D.	EN
	D281	SLR-342VC3F	L. E. D.	G
	D281	SLR-342VC3F	L. E. D.	U
	D906	1SS133	SI. DIODE	
		TRANSISTORS		
	Q101	2SB1655/E/	SI. TRANSISTOR	
	Q102	2SK170 (BL)	F. E. T.	
	Q103	2SD1302	SI. TRANSISTOR	
	Q105	2SA933S (RS)	SI. TRANSISTOR	
	Q107	DTA114YS	DIGITAL TRANSISTOR	
	Q115	2SA933S (RS)	SI. TRANSISTOR	
	Q151	DTA114YS	DIGITAL TRANSISTOR	
	Q152	2SD1302	SI. TRANSISTOR	
	Q201	DTC114YS	DIGITAL TRANSISTOR	
	Q202	DTA114YS	DIGITAL TRANSISTOR	
	Q203	DTC114YS	DIGITAL TRANSISTOR	
	Q301	2SD1302	SI. TRANSISTOR	
	Q302	2SD1302	SI. TRANSISTOR	
	Q541	2SA950 (O. Y)	SI. TRANSISTOR	
	Q811	2SB1655/E/	SI. TRANSISTOR	
	Q901	2SA933S (RS)	SI. TRANSISTOR	
	Q902	DTC114YS	DIGITAL TRANSISTOR	
		CAPACITORS		
	C101	QFP81HJ-103	0.01MF 50V POLYPROP. FILM	
	C102	QFP81HJ-103	0.01MF 50V POLYPROP. FILM	
	C103	QETB1CM-228M	2200MF 16V E. CAP.	
	C104	EETB1CM-108E	1000MF 16V E. CAP.	
	C105	QETB1JM-227	220MF 63V AL E. CAP.	
	C106	QETB1HM-226E	22MF 50V E. CAP.	
	C107	EETB1EM-476E	47MF 25V E. CAP.	
	C109	EETB1EM-477E	470MF 25V E. CAP.	
	C110	QETB1HM-226E	22MF 50V E. CAP.	
	C113	QFN820K-103N	0.01MF 160V MYLAR CAP.	
	C118	QETB1HM-226E	22MF 50V E. CAP.	
	C151	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C180	QFP81HJ-103	0.01MF 50V POLYPROP. FILM	
	C183	QFP81HJ-221	220PF 50V POLYPROP. FILM	
	C201	QER50JM-476	47MF 6.3V AL E. CAP.	
	C202	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C203	QCB1HK-331Y	330PF 50V CER. CAP.	
	C204	QER50JM-476	47MF 6.3V AL E. CAP.	
	C205	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C206	QER61EM-106	10MF 25V AL E. CAP.	
	C210	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C211	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C220	QCHB1EZ-223	0.022MF 25V CER. CAP.	ONLY XL-V230BK
	C251	QER51HM-475	4.7MF 50V AL E. CAP.	
	C252	QER51HM-475	4.7MF 50V AL E. CAP.	

△	Item	Parts Number	Description	Area
	C301	QCZ0205-155	1.5MF 25V C. CAP.	
	C302	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C303	EETB1AM-477E	470MF 10V E. CAP.	
	C304	EETB1AM-227E	220MF 10V E. CAP.	
	C305	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C306	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C307	QETC1AM-108ZN	1000MF 10V AL E. CAP.	
	C308	QCT30CH-160Y	16PF 50V CER. CAP.	
	C309	QCT30CH-4R7Y	4.7PF 50V CER. CAP.	
	C311	QFN31HJ-333Z	0.033MF 50V MYLAR CAP.	
	C312	QFN31HJ-333Z	0.033MF 50V MYLAR CAP.	
	C313	QFN31HJ-181ZN	180PF 50V MYLAR CAP.	
	C314	QFN31HJ-181ZN	180PF 50V MYLAR CAP.	
	C315	QFN31HJ-392Z	3900PF 50V MYLAR CAP.	
	C316	QFN31HJ-392Z	3900PF 50V MYLAR CAP.	
	C317	EETB1HM-476E	47MF 50V E. CAP.	
	C318	EETB1HM-476E	47MF 50V E. CAP.	
	C319	QFN31HJ-103Z	0.01MF 50V MYLAR CAP.	
	C320	QFN31HJ-103Z	0.01MF 50V MYLAR CAP.	
	C336	QCT30CH-5R6Y	5.6PF 50V CER. CAP.	
	C337	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C341	EETB1HM-475E	4.7MF 50V E. CAP.	
	C342	EETB1HM-475E	4.7MF 50V E. CAP.	
	C351	QCB1HK-102	1000PF 50V CER. CAP.	
	C401	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C404	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C405	QCB1HK-471Y	470PF 50V CER. CAP.	
	C406	QFN31HJ-223ZN	0.022MF 50V MYLAR CAP.	
	C407	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C408	QCF21HP-473A	0.047MF 50V CER. CAP.	
	C409	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C410	QETC1AM-107ZN	100MF 10V E. CAP.	
	C411	QETC1AM-107ZN	100MF 10V E. CAP.	
	C421	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C422	QCF21HP-473A	0.047MF 50V CER. CAP.	
	C423	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C501	QCB1HK-102	1000PF 50V CER. CAP.	
	C502	QCB1HK-102	1000PF 50V CER. CAP.	
	C503	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C504	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C505	QCB1HK-271Y	270PF 50V CER. CAP.	
	C506	QCSB1HJ-470	47PF 50V CER. CAP.	
	C507	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C508	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C509	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C510	QETC1AM-107ZN	100MF 10V E. CAP.	
	C511	QCB1HK-102	1000PF 50V CER. CAP.	
	C512	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C521	QCZ0205-155	1.5MF 25V C. CAP.	
	C522	QFV81HJ-104	0.1MF 50V THIN FILM CAP.	
	C523	QETB1HM-105	1MF 50V AL E. CAP.	
	C524	QCB1HK-101Y	100PF 50V CER. CAP.	
	C525	QFN31HJ-273Z	0.027MF 50V MYLAR CAP.	
	C526	QFN31HJ-472ZN	4700PF 50V MYLAR CAP.	
	C527	QFN31HJ-103Z	0.01MF 50V MYLAR CAP.	
	C529	QCB1HK-331Y	330PF 50V CER. CAP.	
	C530	QETC1AM-476ZM	47MF 10V E. CAP.	
	C541	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C542	QETB1HM-106	10MF 50V E. CAP.	
	C543	QETC1AM-476ZM	47MF 10V E. CAP.	
	C544	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C801	QETC1CM-227Z	220MF 16V AL E. CAP.	
	C802	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C804	QFN31HJ-273Z	0.027MF 50V MYLAR CAP.	
	C805	QFN31HJ-103Z	0.01MF 50V MYLAR CAP.	
	C811	QCZ0205-155	1.5MF 25V C. CAP.	
	C812	QETC1AM-107ZN	100MF 10V E. CAP.	
	C905	QETB1EM-106	10MF 25V AL E. CAP.	
	C906	QETC1CM-227Z	220MF 16V AL E. CAP.	
		RESISTORS		

Electrical Parts List (ENN-490)

△	Item	Parts Number	Description	Area
△	R102	PTH8L07BB2R2N1B	POSITIVE THE	
	R105	QRD161J-222	2. 2K 1/6W CARBON RES.	
	R107	QRD161J-221	220 1/6W CARBON RES.	
	R109	QRD161J-221	220 1/6W CARBON RES.	
	R115	QRD161J-103	10K 1/6W CARBON RES.	
	R119	QRD161J-103	10K 1/6W CARBON RES.	
△	R121	QRZ0077-560	56 1/4W FUSIBLE RES.	
	R122	QRD161J-392	3. 9K 1/6W CARBON RES.	
	R123	QRD161J-181	180 1/6W CARBON RES.	
	R125	QRD161J-473	47K 1/6W CARBON RES.	
	R135	QRD161J-392	3. 9K 1/6W CARBON RES.	
	R151	QRD167J-152	1. 5K 1/6W CARBON RES.	
	R152	QRD167J-152	1. 5K 1/6W CARBON RES.	
	R153	QRD161J-392	3. 9K 1/6W CARBON RES.	
	R201	QRD161J-103	10K 1/6W CARBON RES.	
	R202	QRD161J-103	10K 1/6W CARBON RES.	
	R203	QRD161J-103	10K 1/6W CARBON RES.	
	R204	QRD161J-103	10K 1/6W CARBON RES.	
	R205	QRD167J-332	3. 3K 1/6W CARBON RES.	
	R206	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R207	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R208	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R209	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R210	QRD161J-102	1K 1/6W CARBON RES.	
	R215	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R216	QRD161J-472	4. 7K 1/6W CARBON RES.	ONLY XL-V130BK
	R281	QRD161J-181	180 1/6W CARBON RES.	EF
	R281	QRD161J-181	180 1/6W CARBON RES.	EN
	R281	QRD161J-181	180 1/6W CARBON RES.	G
	R281	QRD161J-181	180 1/6W CARBON RES.	U
	R281	QRD161J-301	300 1/6W CARBON RES.	BS
	R301	QRD161J-163	16K 1/6W CARBON RES.	
	R302	QRD161J-163	16K 1/6W CARBON RES.	
	R303	QRD161J-243	24K 1/6W CARBON RES.	
	R304	QRD161J-243	24K 1/6W CARBON RES.	
	R305	QRD161J-163	16K 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	QRD167J-682	6. 8K 1/6W CARBON RES.	
	R310	QRD167J-682	6. 8K 1/6W CARBON RES.	
	R311	QRD161J-362	3. 6K 1/6W CARBON RES.	
	R312	QRD161J-362	3. 6K 1/6W CARBON RES.	
	R313	QRD161J-162	1. 6K 1/6W CARBON RES.	
	R314	QRD161J-162	1. 6K 1/6W CARBON RES.	
	R315	QRD161J-183	18K 1/6W CARBON RES.	
	R316	QRD161J-183	18K 1/6W CARBON RES.	
	R317	QRD161J-273	27K 1/6W CARBON RES.	
	R318	QRD161J-273	27K 1/6W CARBON RES.	
	R319	QRD161J-561	560 1/6W CARBON RES.	
	R320	QRD161J-561	560 1/6W CARBON RES.	
	R321	QRD161J-101	100 1/6W CARBON RES.	
	R322	QRD161J-101	100 1/6W CARBON RES.	
	R332	QRD161J-101	100 1/6W CARBON RES.	
	R333	QRD161J-271	270 1/6W CARBON RES.	
	R334	QRD167J-560	56 1/6W CARBON RES.	
	R335	QRD167J-560	56 1/6W CARBON RES.	
	R336	QRD161J-271	270 1/6W CARBON RES.	
	R337	QRD161J-102	1K 1/6W CARBON RES.	
	R351	QRD161J-204	200K 1/6W CARBON RES.	
	R352	QRD161J-684	680K 1/6W CARBON RES.	
	R353	QRD161J-103	10K 1/6W CARBON RES.	
	R354	QRD161J-103	10K 1/6W CARBON RES.	
	R401	QRD161J-683	68K 1/6W CARBON RES.	
	R403	QRD161J-471	470 1/6W CARBON RES.	
	R404	QRD161J-124	120K 1/6W CARBON RES.	
	R405	QRD167J-155	1. 5M 1/6W CARBON RES.	
	R406	QRD161J-2R2	2. 2 1/6W CARBON RES.	
	R407	QRD161J-2R2	2. 2 1/6W CARBON RES.	
	R421	QRD161J-102	1K 1/6W CARBON RES.	

△	Item	Parts Number	Description	Area
	R422	QRD161J-101	100 1/6W CARBON RES.	
	R423	QRD161J-102	1K 1/6W CARBON RES.	
	R424	QRD161J-101	100 1/6W CARBON RES.	
	R425	QRD161J-101	100 1/6W CARBON RES.	
	R426	QRD161J-101	100 1/6W CARBON RES.	
	R427	QRD161J-101	100 1/6W CARBON RES.	
	R428	QRD161J-102	1K 1/6W CARBON RES.	
	R429	QRD161J-102	1K 1/6W CARBON RES.	
	R430	QRD161J-102	1K 1/6W CARBON RES.	
	R431	QRD161J-102	1K 1/6W CARBON RES.	
	R432	QRD161J-102	1K 1/6W CARBON RES.	
	R440	QRD161J-102	1K 1/6W CARBON RES.	
	R441	QRD161J-102	1K 1/6W CARBON RES.	
	R442	QRD161J-102	1K 1/6W CARBON RES.	
	R443	QRD161J-102	1K 1/6W CARBON RES.	
	R501	QRD161J-274	270K 1/6W CARBON RES.	
	R502	QRD167J-154	150K 1/6W CARBON RES.	
	R503	QRD161J-273	27K 1/6W CARBON RES.	
	R504	QRD161J-114	110K 1/6W CARBON RES.	
	R505	QRD161J-104	100K 1/6W CARBON RES.	
	R506	QRD167J-822	8. 2K 1/6W CARBON RES.	
	R507	QRD161J-473	47K 1/6W CARBON RES.	
	R510	QRD161J-2R2	2. 2 1/6W CARBON RES.	
	R521	QRD161J-123	12K 1/6W CARBON RES.	
	R524	QRD161J-125	1. 2M 1/6W CARBON RES.	
	R541	QRD167J-121	120 1/6W CARBON RES.	
	R542	QRD161J-470	47 1/6W CARBON RES.	
	R543	QRD161J-470	47 1/6W CARBON RES.	
	R544	QRD161J-470	47 1/6W CARBON RES.	
	R545	QRD161J-910Y	91 1/6W CARBON RES.	
	R546	QRD161J-2R2	2. 2 1/6W CARBON RES.	
	R701	QRD161J-101	100 1/6W CARBON RES.	
	R702	QRD161J-471	470 1/6W CARBON RES.	
	R801	QRD161J-821	820 1/6W CARBON RES.	
	R802	QRD161J-124	120K 1/6W CARBON RES.	
	R804	QRD167J-822	8. 2K 1/6W CARBON RES.	
	R805	QRD167J-223	22K 1/6W CARBON RES.	
	R806	QRD161J-683	68K 1/6W CARBON RES.	
	R807	QRD161J-274	270K 1/6W CARBON RES.	
	R809	QRD161J-243	24K 1/6W CARBON RES.	
	R810	QRD161J-221	220 1/6W CARBON RES.	
	R811	QRD167J-562	5. 6K 1/6W CARBON RES.	
	R812	QRD161J-222	2. 2K 1/6W CARBON RES.	
	R821	QRD167J-223	22K 1/6W CARBON RES.	
	R905	QRD167J-153	15K 1/6W CARBON RES.	
	R906	QRD161J-273	27K 1/6W CARBON RES.	
	R907	QRD161J-221	220 1/6W CARBON RES.	
	R908	QRD161J-183	18K 1/6W CARBON RES.	
	R909	QRD161J-331	330 1/6W CARBON RES.	
		OTHERS		
		EMW10710-002	PRINTED BOARD	EF
		EMW10710-002	PRINTED BOARD	EN
		EMW10710-002	PRINTED BOARD	G
		EMW10710-002	PRINTED BOARD	U
		EMW10710-002	PRINTED BOARD	BS
		GBSG3008CC	TAPPING SCREW	
		QWE881-10RR	VINYL WIRE	U
		QWE883-10RR	VINYL WIRE	U
		QWE884-10RR	VINYL WIRE	U
△	J101	QMCB001-E02H	AC SOCKET	
	J301	EMN00TV-217A	PIN JACK	
	J701	QMS3501-020	PIN JACK	
	K101	ENZ8101-007	INDUCTOR	
	K201	ENZ8101-007	INDUCTOR	
	K202	ENZ8101-007	INDUCTOR	
	K203	ENZ8101-007	INDUCTOR	
	K204	ENZ8101-007	INDUCTOR	
	K301	ENZ8101-007	INDUCTOR	
	K303	ENZ8101-007	INDUCTOR	
	K304	ENZ8101-007	INDUCTOR	

XL-V130BK  
XL-V230BK

Electrical Parts List (ENN-490)

△	Item	Parts Number	Description	Area
	K401	ENZ8101-007	INDUCTOR	
	K403	ENZ8101-007	INDUCTOR	
	K701	ENZ8101-007	INDUCTOR	
	K702	ENZ8101-007	INDUCTOR	
	K703	ENZ8101-007	INDUCTOR	
	K801	ENZ8101-007	INDUCTOR	
△	S101	QSS1L22-E01	SLIDE SWITCH	U
	S201	QS04H11-V10Z	TACT SWITCH	
	S202	QS04H11-V10Z	TACT SWITCH	
	S203	QS04H11-V10Z	TACT SWITCH	
	S204	QS04H11-V10Z	TACT SWITCH	
	S205	QS04H11-V10Z	TACT SWITCH	
	S206	QS04H11-V10Z	TACT SWITCH	
	S207	QS04H11-V10Z	TACT SWITCH	
	S208	QS04H11-V10Z	TACT SWITCH	
	S209	QS04H11-V10Z	TACT SWITCH	
	S210	QS04H11-V10Z	TACT SWITCH	
	S211	QS04H11-V10Z	TACT SWITCH	
	S212	QS04H11-V10Z	TACT SWITCH	
	S213	QS04H11-V10Z	TACT SWITCH	
	S214	QS04H11-V10Z	TACT SWITCH	
	S215	QS04H11-V10Z	TACT SWITCH	
	S216	QS04H11-V10Z	TACT SWITCH	
	S281	QS04H11-V10Z	TACT SWITCH	
	S282	QS04H11-V10Z	TACT SWITCH	
	S283	QS04H11-V10Z	TACT SWITCH	
	S284	QS04H11-V10Z	TACT SWITCH	
	S285	QS04H11-V10Z	TACT SWITCH	
	S291	QS04H11-V10Z	TACT SWITCH	
	S292	QS04H11-V10Z	TACT SWITCH	
	X201	ECX0060-000EM	CERAMIC RESONATOR	
	X301	ECX0169-344EA	CRYSTAL	
	BK251	E306951-222SS	FL. HOLDER	
	CN101	VMC0163-025	CONNECT TERMINAL	
	CN102	EMV5109-005A	MALE CONNECTOR	
	CN103	EMV5109-006A	CONNECT TERMINAL	
	CN104	EMV7171-115	CONNECT TERMINAL	
	CN201	VMC0163-R25	CONNECT TERMINAL	
	CN202	QGB2003M1-08	CONNECT TERMINAL	
	CN203	QGB2003L1-08	CONNECT TERMINAL	
	CN204	QGB2003L1-04	CONNECT TERMINAL	
	CN205	QGB2003M1-04	CONNECT TERMINAL	
△	CP101	ICP-N10	I. C. PROTECTOR	
	DI251	ELU0001-114	FLUORESCENT DISPLAY TUBE	
	EP101	E65396-003	EARTH PLATE	
	EP102	E65396-003	EARTH PLATE	
	EP103	EMZ4002-002Z	EARTH PLATE	
	FS251	E306805-010	SPACER	
	HS101	E70306-001	HEAT SINK	
△	TH151	PTH8L07BB2R2N1B	POSITIVE THERMISTOR	

■ Accessories list (XL-V230BK)

\* The above tow items (NO. 3/NO. 4) are not included in XL-V130BK.

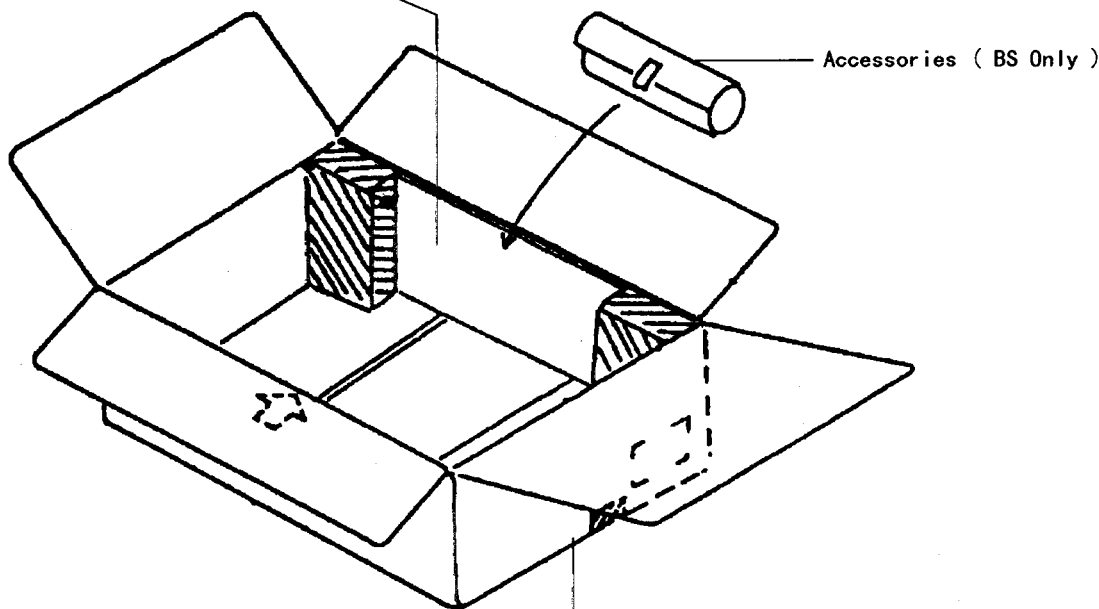
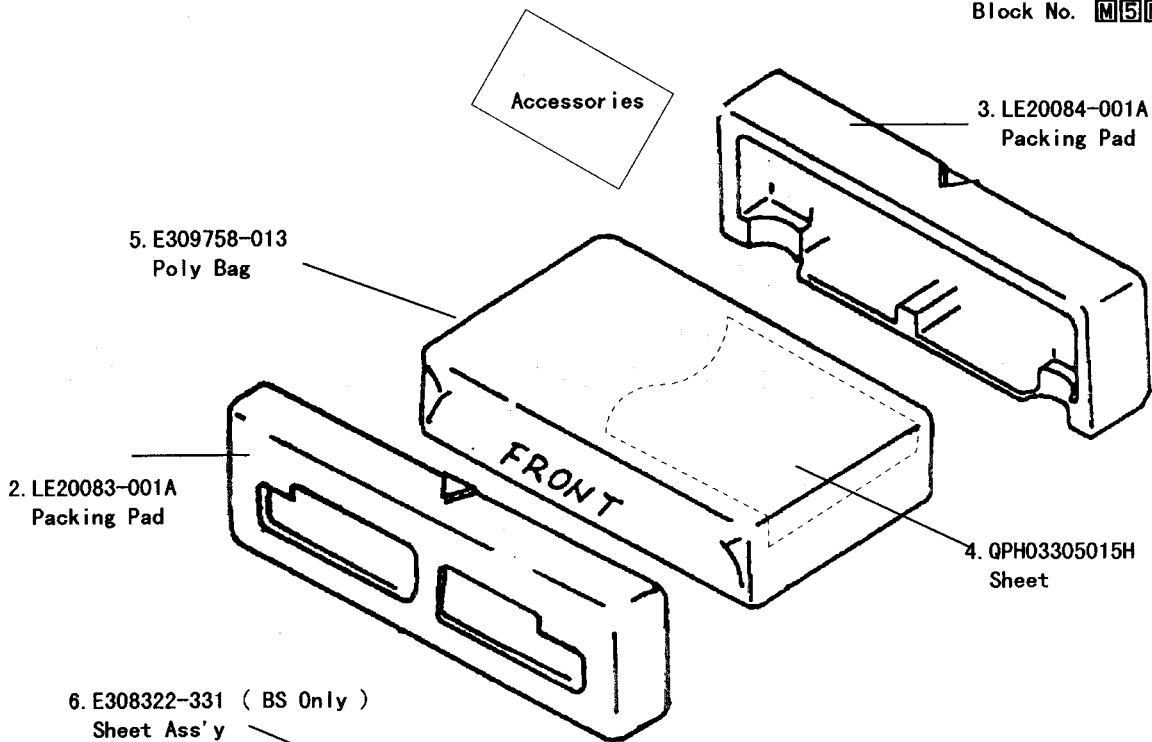
Block No. **M4MM**

△	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	LET0029-001A	INSTRUCTION BOOK	1		BS
	1	LET0029-002A	INSTRUCTION BOOK	1		EF, G
	1	LET0029-003A	INSTRUCTION BOOK	1		EN
	1	LET0029-004A	INSTRUCTION BOOK	1		U
△	2	QMP39F0-183E	POWER CORD	1		EF, EN, G
△	2	QMP5520-1835BS	POWER CORD	1		BS
△	2	QMP7530-183	POWER CORD	1		U
	3	RM-SX230EU	WIRE-LESS REMOTE CONTROL	1		Except U
	3	RM-SX230U	WIRE-LESS REMOTE CONTROL	1		U
	4	R03BPA-2STSA	DRY CELL	1		
	5	EWP302-011	SIGNAL CORD	1		
	6	EWP805-012	PLUG WIRE ASSY	1		
△	7	ENZ2203-001	ADAPTOR PLUG	1		U
	8	E309758-003	POLY BAG	1		
	9	E309758-003	POLY BAG	1		BS
	-	BT-20066A	DISTRIBUTOR LIST	1		BS
	-	BT-20134	WARRANTY CARD	1		G
	-	BT-54003-1	WARRANTY CARD	1		BS

**XL-V130BK**  
**XL-V230BK**

Packing Materials and Parts Numbers

Block No. **M5M**



1. Packing Case

XL-V130BK	LE30002-005A ( Except BS )
	LE30002-002A ( Only BS )
XL-V230BK	LE30002-006A ( Except BS )
	LE30002-004A ( Only BS )

**JVC**

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