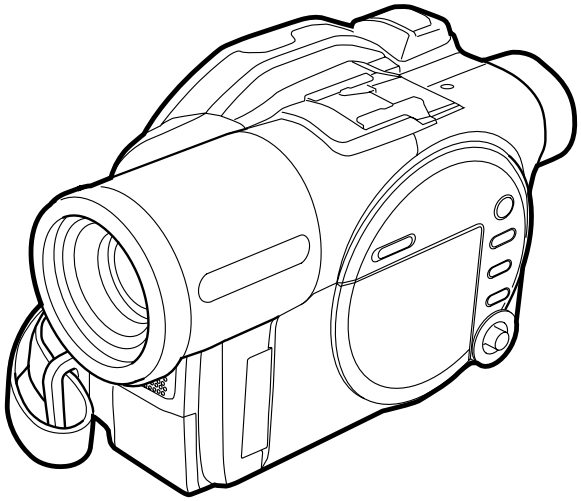
HITACHI

SERVICE MANUAL



SM0404

DZ-MV580E
DZ-MV580E(AU)
DZ-MV580E(SW)
DZ-MV580E(SWH)
DZ-MV580E(UK)
DZ-MV550E
DZ-MV550E(AU)
DZ-MV550E(SW)
DZ-MV550E(SWH)
DZ-MV550E(UK)
DZ-MV1000E(UK)

MultiMediaCard™ SD™ DVD VIDEO RAM

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

DVD VIDEO CAMERA/RECORDER

March 2004 Digital Media Division,Tokai

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Information on MAN-H/MAN, DRV-R, MOD and HDM Circuit Boards

If a fault is located on the MAN-H/MAN circuit board, the entire circuit board must be replaced for servicing.

If there is a fault in the DRV-R, MOD or HDM circuit board, the entire disc drive unit must be replaced, since these circuit boards are included in this unit.

Because of this servicing method, this service manual does not include any schematic circuit diagrams.

For circuit board diagrams, the manual includes the simple diagrams, which show only the information that is necessary for troubleshooting.

1 Safety Precaution for Repair

1-1 Cautions

CAUTION

Lithium battery; danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

When replacing the lithium battery it is important to use the same type and connect it correctly.

WARNING:

- Lithium batteries contain dangerous chemicals.
- Handle and dispose of with great care.
- Do not throw in a fire.
- Do not short circuit it.
- For disposal place in a plastic bag and put in waste bin.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for a higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual. Electrical components having such features are identified by marking with a ⚠ on the schematics and the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards. Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies for, HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.

CAUTION (COLOR LCD)

LCD display; the liquid crystal display (LCD) panel is mode by highly precise technology.

More than 99.99% of its picture elements (pixels) are effective, but some (less than 0.01%) may appear as colored bright dots. This mode not indicate a fault as the LCD panel stretches the limits of current technology.

CLASS 1
LASER PROCTECT

CAUTION

This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

CAUTION CLASS 2M LASER RADIATION WHEN OPEN
DO NOT STARE INTO THE BEAM OR VIEW
DIRECTLY WITH OPTICAL INSTRUMENTS.

CAUTION

There is a high-voltage section inside the DVD video camera/recorder: When repairing or inspecting it, take great care to prevent electric shock: Use an isolating transformer, wear gloves, etc.

1-2 Electrostatic Protection Measures

Semiconductor components can be damaged by static electricity charged on clothes, human body, etc. Take great care when handling components to avoid electrostatic damage, and perform servicing in an environment where grounding is complete.

(1) Grounding work bench (Fig. 1-2-1)

Lay out an antistatic mat on work bench, and then use the ground plate to ground the work bench.

(2) Grounding human body (Fig. 1-2-2)

Use an antistatic wrist strap to discharge any static electricity charged on the body. Also, use a tester for wrist strap to make sure that the wrist strap is working normally. Note, however, that static electricity charged on clothes will not be discharged by wrist strap: Therefore do not allow your clothes to touch the semiconductor components.

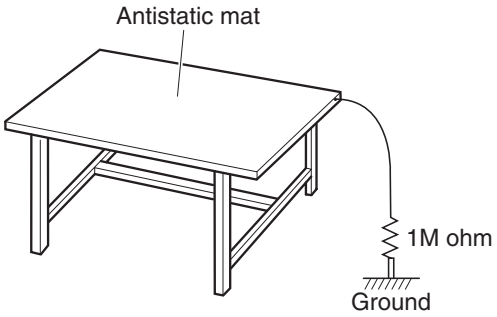


Fig. 1-2-1 Grounding Work Bench

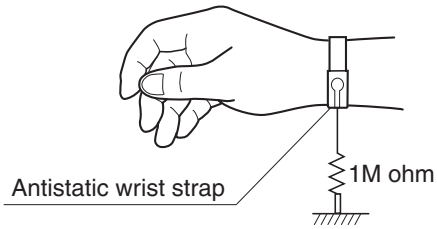
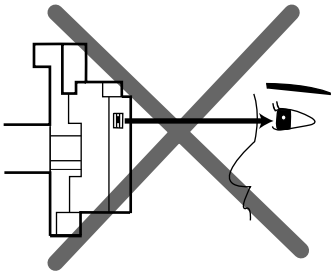


Fig. 1-2-2 Grounding Human Body

1-3 Cautions When Handling DVD Drive

The optical pickup in DVD drive has a high precision structure: Be sure to observe the following cautions.

1) Do not subject optical pickups to any severe vibrations or impact during movement, installation or disassembly.
2) When performing repair work, do not perform disassembly any further than that described in this manual.
3) Never turn the semi-variable resistors for adjustment in optical pickup or DVD drive.
4) NEVER look into the objective lens in optical pickup or directly view the laser light: You could lose your eyesight.



Do not directly look at laser light from pickup.

Fig. 1-3-1 Cautions on Optical Pickup

1-4 Lead-Free Solder

The printed circuit board that uses lead-free solder is adopted. To protect the global environment, use the recommended lead-free solder also during servicing.
Read and observe the following before soldering:

Caution
ALWAYS wear protective goggles during soldering so that no solder smoke or scattered solder enters the eye. Lead-free solder may scatter at high temperatures of 600°C.

(1) Identification of circuit boards that use lead-free solder

"F" is stamped or noted with pattern letter on circuit boards that use lead-free solder.

(2) Characteristics of lead-free solder

The components of lead-free solder used are as follows. The melting point of lead-free solder is 30-40°C higher than that of lead based solder:

Point to be soldered	Composition of alloy (wt%)
For reflow	Solder paste: Sn-3Ag-0.5Cu
For dip	Bar solder: Sn-0.6Cu

Melting temperature: Approx. 220°C

(3) Lead-free solder for servicing

Use the following lead-free solder for servicing:
Recommended lead-free solder and composition of alloy (wt%): Sn-3.0Ag-0.5Cu or equivalent

Information:
For composition of alloy, Sn is tin; Ag is silver; Cu is copper; Bi is bismuth; Pb is lead.

(4) Soldering iron for servicing

The temperature of soldering iron tip must be adjusted according to the points to be soldered: Use an antistatic soldering iron with thermal control function.
When removing components, take care not to damage any surrounding component or pattern. When attaching components, observe the heating time in the following table so that the components are not destroyed by heat.

Tip temperatures for different soldering points:

Point to be soldered	Tip temperature
Surface-mounted (chip) parts [other than those shown below]	320 ± 30°C [heating time: less than 5 seconds]
Surface-mounted (chip) parts [for DVD cameras, cellular phones only]	350 ± 10°C [heating time: less than 3 seconds]
Discrete parts	380 ± 30°C
Chassis, metal shield, etc.	420 ± 30°C

(5) Cautions when using lead based solder

It is recommended that you use lead-free solder when servicing, but it is also possible to service using lead based solder. However, if lead based solder is used for servicing, take care with the following:

1) Before using lead based solder, remove the lead-free solder completely from the point to be soldered.
2) For additional soldering for repair, set the soldering iron tip temperature for lead-free solder, mix lead based solder and lead-free solder sufficiently. Do not perform any repair using the bare soldering iron tip without adding solder, since it will cause secondary failure due to lack of strength.

1-5 Notes When Using Service Manual

(1) Value units used in parts list

Certain symbols are indicated as shown below for value units of resistors, capacitors and coils in parts list. When you read them, note the following regular indications:

Parts	Indication in list	Regular indication
Resistor	KOHM	kΩ
Capacitor	UF	μF
	PF	pF
Coil	UH	μH
	MH	mH

(2) Values in schematic diagrams

The values, dielectric strength (power capacitance) and tolerances of the resistors (excluding variable resistors) and capacitors are indicated in the schematic diagrams using abbreviations. Certain symbols are indicated for value units: When you read them note the regular indications in tables below:

[Resistors]

Item	Indication
Value	No indication ..... Ω K ..... kΩ M ..... MΩ
Tolerance	No indication ..... ±5% (All tolerances other than ±5% are indicated in schematic diagrams)
Power capacitance	No indication ..... 1/8W (1/16 W for leadless resistors with no indication) All capacitances other than the above are indicated in schematic diagrams.

[Capacitors]

Item	Indication
Value	No indication ..... μF P ..... pF
Dielectric strength	No indication ..... 50V (All dielectric strengths other than 50 V are indicated in schematic diagrams)

[Coils]

Item	Indication
Value	μ ..... μH m ..... mH

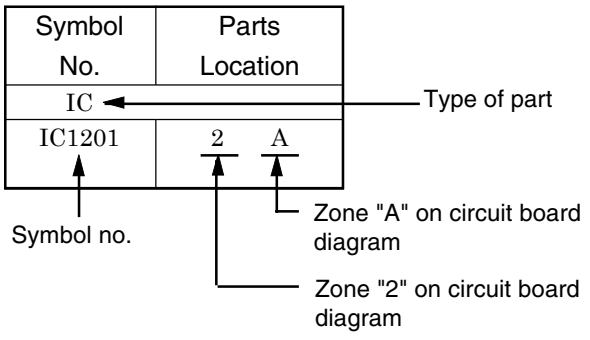
(3) Identifications of sides A/B in circuit board diagrams

1) Board with a pattern on one side and parts on both sides:
   Side A: Shows discrete parts, viewed from the pattern side.
   Side B: Shows leadless parts, viewed from the pattern side.
2) Board with patterns on both sides and parts on both sides:
   Side A: Shows parts and patterns which can be seen when the case is opened.
   Side B: Shows parts and the pattern on the back of side A.

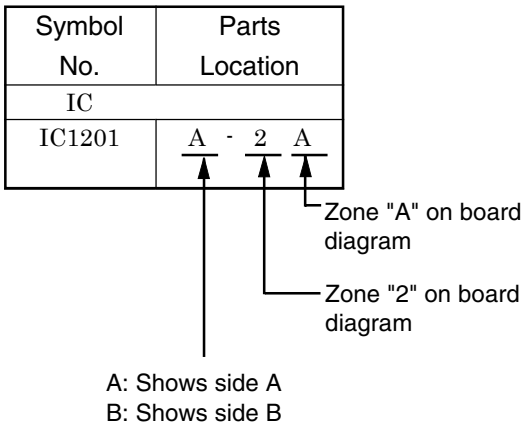
(4) Table for indexing locations of parts

This table shows locations of each part on circuit board diagrams. The locations are indicated using the guide scales on the external lines of diagrams.

1) One diagram indicated for each board



2) Two diagrams indicated for each board



2 General Description

2-1 Overview

The DZ-MV580E has been made more compact than the previous DZ-MV380E; the DZ-MV550E has been made compact than the DZ-MV350E.
The DZ-MV580E has a CCD image sensor with a total of 1,020,000 pixels and a high-performance optical 10-power zoom.
The DZ-MV550E has a CCD image sensor with a total of 800,000 pixels and an optical 18-power zoom.

2-1-1 Servicing method

Refer to the following table and perform the designated, appropriate servicing. Any changes that occur in the service method will be published using service bulletin, etc.
Do not perform any servicing other than that described in this manual.

Parts Name	Servicing method
Disc drive unit	Unit replacement. Which incorporates the DRV-R, MOD and HDM circuit boards.
Lens unit	Unit replacement.
AEL-H/AEL circuit board(*1)	Component replacement.
DRF-H/DRF circuit board(*1)(*2)	Component replacement.
FRT-H/FRT circuit board(*1)	Component replacement.
GYR-H/GYR circuit board(*1)	Component replacement.
LCD circuit board	Component replacement.
MAN-H/MAN circuit board(*1)	Circuit board assembly replacement.
MR circuit board(*3)	Component replacement.
SAF-H/SAF circuit board(*1)(*4)	Component replacement.
SEN-H circuit board (*1)(*5)	Component replacement.
SHE-H/SHE circuit board(*1)	Component replacement.
SWL2 circuit board	Component replacement.
SWL3 circuit board	Component replacement.
USB/USB-H circuit board(*1)	Component replacement.

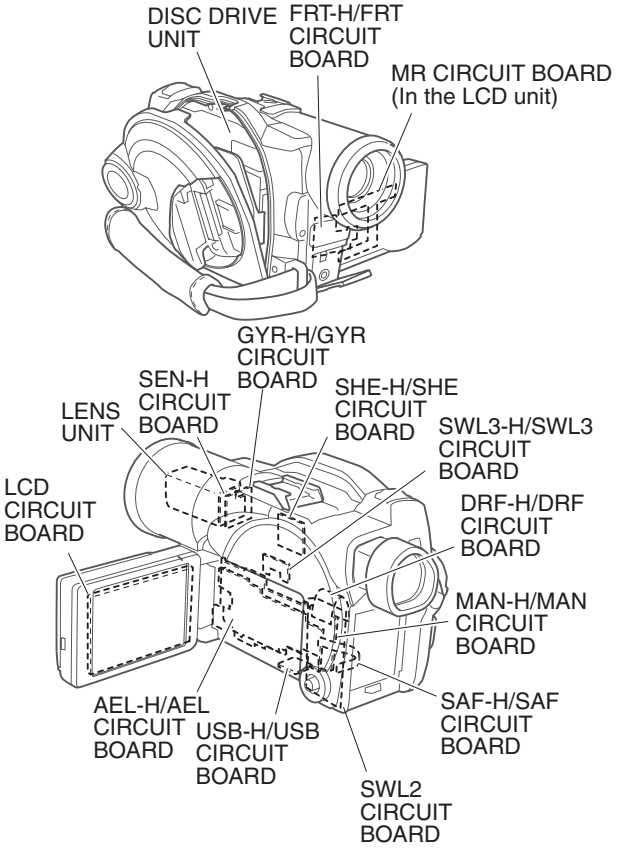


Fig. 2-1-1

*1: The board names suffixed with "-H" are for DZ-MV580E only.
*2: Film type board that connects MAN-H/MAN circuit board and disc drive unit.
*3: Film type board in LCD unit
*4: Film type board that connects AEL-H/AEL circuit board and SWL2 circuit board.
*5: Applicable only to DZ-MV580E. Although the SEN-H circuit board and lens unit in DZ-MV580E are assigned as different boards, the circuit board in DZ-MV550E that corresponds to SEN-H is assembled in the lens unit.

2-2 Features

QUICK MODE switch mounted

The new DVD video camera/recorder has a QUICK MODE switch that switches the on-screen display between Quick mode and Normal mode: The new timer of video camera/recorder can easily operate the screen display in Quick mode.

The Quick mode displays only the fundamental menu items; a brief explanation of the selected item is displayed across the bottom of screen.

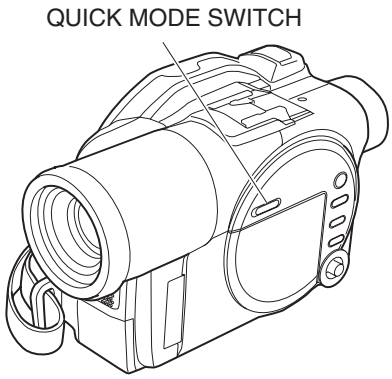


Fig. 2-2-1

2-3 Specifications

Item			Specifications
CCD Image Sensor		DZ-MV580E	1/3.8-inch interlaced
		DZ-MV550E	1/6-inch interlaced
	Total number of pixels	DZ-MV580E	Approx. 1,020,000
		DZ-MV550E	Approx. 800,000
	Number of effective pixels:	DZ-MV580E	Video: Approx. 570,000 Photo: Approx. 960,000
		DZ-MV550E	Video: Approx. 410,000 Photo: Approx. 410,000
Lens		DZ-MV580E	F1.8 - 2.4, f = 3.8 - 38 mm
		DZ-MV550E	F1.8 - 2.8, f = 2.1 - 37.8 mm
	Filter diameter / Thread pitch:		37 mm / 0.75mm
Focus			Auto/Manual
Zoom		DZ-MV580E	Optical 10×, 240× with digital zoom added (40× for photo)
		DZ-MV550E	Optical 18×, 500× with digital zoom added (40× for photo)
Required minimum illumination			0.3 lx (When Low Light mode is selected)
Viewfinder			0.33-inch color TFT (approx. 110,000 pixels)
LCD monitor			2.5-inch color TFT (approx. 120,000 pixels)
Image Stabilizer			Electronic Type
Shutter speed			1/50 - 1/4000 second (video)
Self-timer recording			Photo recording only
External microphone jack			Ø 3.5 mm stereo mini-jack (a plug-in power type microphone cannot be used)
Recording mode			Video with audio (DVD-RAM disc, DVD-R disc)
			Photo (DVD-RAM disc, SD memory card, MultiMediaCard)
Maximum time of recordable video	DVD-RAM disc (per side)		XTRA mode: Approx. 18 min. FINE mode: Approx. 30 min. STD mode: Approx. 60 min.
	DVD-R disc (per side)		FINE mode: Approx. 30 min. STD mode: Approx. 60 min.

Item			Specifications
Maximum number of recordable photos	DVD-RAM disc (per side)		999 However, if video and photo are mixed on one disc, the recordable number will decrease
	SD memory Card (When using 32MB card)	DZ-MV580E	Approx. 50 (in FINE mode) Varies depending on the recording quality and the type of card
		DZ-MV550E	Approx. 220 (in FINE mode) Varies depending on the recording quality and the type of card
Recording format	DVD-RAM disc		Video: Conforming to DVD video recording (DVD-VR) format Audio: MPEG Audio layer 2 Photo: Simultaneous recording, conforming to JPEG format (DZ-MV580E: 1280 × 960 pixels, DZ-MV550E: 640 × 480 pixels) and DVD video recording (DVD-VR) format (704 × 576 pixels). [JPEG of line input(*1): 640 × 480 pixels]
	DVD-R disc		Video: Conforming to DVD video format Audio: MPEG Audio layer 2
	Card		Photo: Conforming to JPEG (DZ-MV580E: 1280 × 960 pixels, DZ-MV550E: 640 × 480 pixels) format [Line input(*1): 640 × 480 pixels]
Audio playback format			MPEG Audio layer 2, Dolby AC3
Recording media			8 cm DVD-RAM disc (conforming to DVD-RAM Ver. 2.1) 8 cm DVD-R disc (conforming to DVD-R for General Ver. 2.0) SD memory card MultiMediaCard
Jacks			Video/audio input(*1)/output × 1 External microphone input × 1 PC connection terminal (connected to PC USB port) × 1
Battery system			Lithium-ion
Power consumption (when recording with LCD monitor off)		DZ-MV580E	Approx. 4.4 W (DVD-RAM disc used, FINE mode)
		DZ-MV550E	Approx. 4.1 W (DVD-RAM disc used, FINE mode)
Dimensions (W × H × D, excluding projections)			Approx. 64 × 89 × 146 mm
Operating temperature (humidity)			0 - 40°C (less than 80%) 0 - 30°C when connected to PC
Storage temperature			-20 - 60°C
Weight (without battery and disc)		DZ-MV580E	Approx. 500 g
		DZ-MV550E	Approx. 490 g
Total weight when recording (when using battery)		DZ-MV580E	Approx. 585 g
		DZ-MV550E	Approx. 575 g

Item	Specifications
Provided accessories	AC adapter/charger (model DZ-ACS1) Power cable DC power cord, Battery (model DZ-BP14S) AV/S input(*1)/output cable Infrared remote control (model DZ-RM3W) Lithium battery for remote control (model CR2025) Lens cap Lens cap string Shoulder strap Software CD-ROM PC connection cable Single-sided 8cm DVD-RAM disc (in round DVD holder)

*1: The line input function is provided in the following models:
DZ-MV580E(AU)/MV580E(SW)/MV580E(SWH)
DZ-MV550E(AU)/MV550E(SW)/MV550E(SWH)
The symbols in parentheses ( ) in the above model names show the destinations and are displayed only on packing box.
Refer to "2-5 Differences in Rating Labels and Difference in Function" when checking the body of DVD video camera/recorder, to judge whether or not it is equipped with the line input function (destination).

Specifications of DZ-ACS1 AC Adapter/Charger

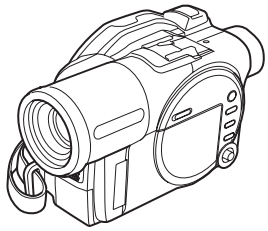
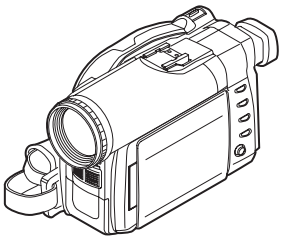
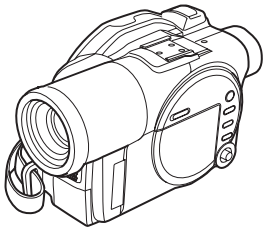
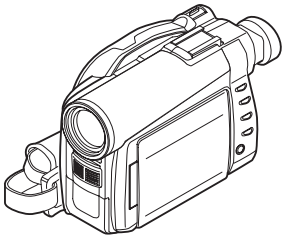
Item	Specifications
Power supply	100 - 240 V AC, 50/60 Hz
Input capacity	26VA (at 100V AC)
DC output (max.)	7.9 V, 1.4 A
Charge output	8.4 V, 0.65A
Weight	105 g
External dimensions (W x H x D)	61 × 32 × 91 mm
Ambient temperature for operation	5 - 35°C
Allowable relative humidity	40 - 80%

Specifications are subject to change without notice for the purpose of improvement.

2-4 Major Differences from Previous Models

←— : Same as on left

Item		DZ-MV580E/MV550E	DZ-MV380E/MV350E
CCD		DZ-MV580E: 1/3.8-inch interlaced	DZ-MV380E: ←—
		DZ-MV550E: 1/6-inch interlaced	DZ-MV350E: 1/4-inch interlaced
	Total number of pixels	DZ-MV580E: Approx. 1,020,000 pixels	DZ-MV380E: ←—
		DZ-MV550E: Approx. 800,000 pixels	DZ-MV350E: ←—
	Number of effective pixels	DZ-MV580E: Video: Approx. 570,000 pixels Photo: Approx. 960,000 pixels	DZ-MV380E: ←—
		DZ-MV550E: Video: Approx. 410,000 Photo: Approx. 410,000	DZ-MV350E: ←—
Lens		DZ-MV580E: F1.8 - 2.4 / f = 3.8 - 38 mm	DZ-MV380E: ←—
		DZ-MV550E: F1.8 - 2.8 / f = 2.1 - 37.8 mm	DZ-MV350E: F1.8 - 2.5 / f = 3.15 - 31.5 mm
Zoom		DZ-MV580E: Optical 10×, 240× with digital zoom added (40× for photo)	DZ-MV380E: ←—
		DZ-MV550E: Optical 18×, 500× with digital zoom added (40× for photo)	DZ-MV350E: Optical 10×, 240× with digital zoom added (40× for photo)
Filter diameter		37 mm	DZ-MV380E: 37 mm DZ-MV350E: 30.5 mm
Required minimum illumination		0.3 lx (When Low Light mode is selected)	←—
Viewfinder		0.33-inch color TFT (approx. 110,000 pixels)	0.44-inch color TFT (approx. 110,000 pixels)
LCD monitor		2.5-inch color TFT (approx. 120,000 pixels)	←—
Power consumption		DZ-MV580E: Approx. 4.4 W	DZ-MV380E: Approx. 5.0 W
		DZ-MV550E: Approx. 4.1 W	DZ-MV350E: Approx. 4.7 W
Weight		DZ-MV580E: Approx. 500 g	DZ-MV380E: Approx. 505 g
		DZ-MV550E: Approx. 490 g	DZ-MV350E: Approx. 480 g
Accessory Shoe		DZ-MV580E: Power/Control terminal provided	DZ-MV380E: ←—
		DZ-MV550E: Power/Control terminal not provided	DZ-MV350E: ←—
PC connection terminal [USB standard]		Type mini-B [USB 2.0]	←—

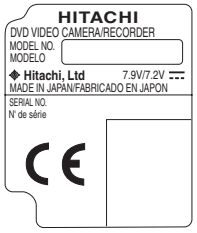
Item	DZ-MV580E/MV550E	DZ-MV380E/MV350E
Dimensions (W × H × D) and shape	DZ-MV580E: Approx. 64 × 89 × 146 mm 	DZ-MV380E: Approx. 60 × 93 × 148 mm 
	DZ-MV550E: Approx. 64 × 89 × 146 mm 	DZ-MV350E: Approx. 57 × 89 × 134 mm 
AC adapter/charger	DZ-ACS1	←
Battery pack	Provided: DZ-BP14S (7.2V/1360mA) Optional: DZ-BP14SW (7.2V/1360mA)	←
Infrared remote control	DZ-RM3W	←
AV input(*1)/output jack	Pin 8 type	Pin 10 type
Shape of DVD holder	 Round DVD holder	←
PC editing kit	Provided	←
Disc protect	Software disc-protect	←
EIS function	DZ-MV580E: Video mode only	DZ-MV380E: ←
	DZ-MV550E: Video and photo mode	DZ-MV350E: Video mode only
QUICK MODE switch	Provided	Not provided
Line input function	Varies depending on the model (destination)(*1)	Not provided
Number of pixels for video (MPEG2)	XTRA/FINE: 704 × 576 pixels STD/LPCM: 352 × 576 pixels	←
Number of pixels for JPEG photo during camera recording	DZ-MV580E: 1280 × 960 pixels	DZ-MV380E: ←
	DZ-MV550E: 680 × 480 pixels	DZ-MV350E: ←
Number of pixels for MPEG photo during camera recording (When using disc)	704 × 576 pixels	←

Item	DZ-MV580E/MV550E	DZ-MV380E/MV350E
Number of pixels for photo during line input recording(*1)	JPEG: 640 × 480 pixels MPEG: 704 × 576 pixels	Line input function is not provided.
File size of photo	DZ-MV580E: FINE: Approx. 512KB NORM: Approx. 384KB ECO: Approx. 256KB	DZ-MV380E: ←
	DZ-MV550E: FINE: Approx. 128KB NORM: Approx. 64KB ECO: Approx. 32KB	DZ-MV350E: ←

*1: The line input function is provided in the following models:
DZ-MV580E(AU)/MV580E(SW)/MV580E(SWH)
DZ-MV550E(AU)/MV550E(SW)/MV550E(SWH)
The symbols in parentheses ( ) in the above model names show the destinations and are displayed only on packing box.
Refer to "2-5 Differences in Rating Labels and Difference in Function" when checking the body of DVD video camera/recorder, to judge whether or not it is equipped with the line input function (destination).

2-5 Differences in Rating Labels and Difference in Function

Check the mark in rating label to identify the destination, and determine any difference in function by checking the body of DVD video camera/recorder.
There are five models each of DZ-MV580E and DZ-MV550E, headed for different destinations noted in parentheses ( ) as shown in the table below: The key difference is whether the line input function is provided or not.
The destinations in parentheses ( ) are shown only on packing boxes: They are shown in rating labels on the DVD video camera/recorder bodies.

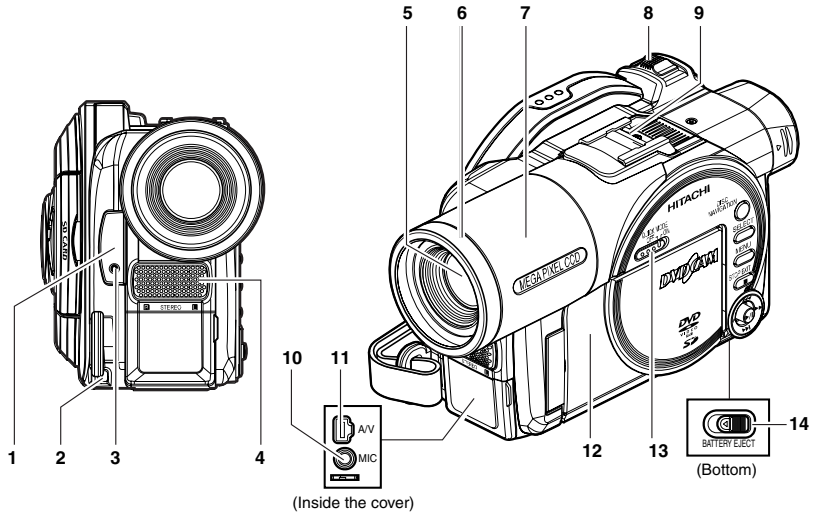
Model	DZ-MV580E	DZ-MV580E(UK)	DZ-MV580E(AU) DZ-MV580E(SW) DZ-MV580E(SWH)
	DZ-MV550E	DZ-MV550E(UK)	DZ-MV550E(AU) DZ-MV550E(SW) DZ-MV550E(SWH)
Label			
Line input function	Not provided	Not provided	Provided

2-6 Compatibility of Recorded Discs

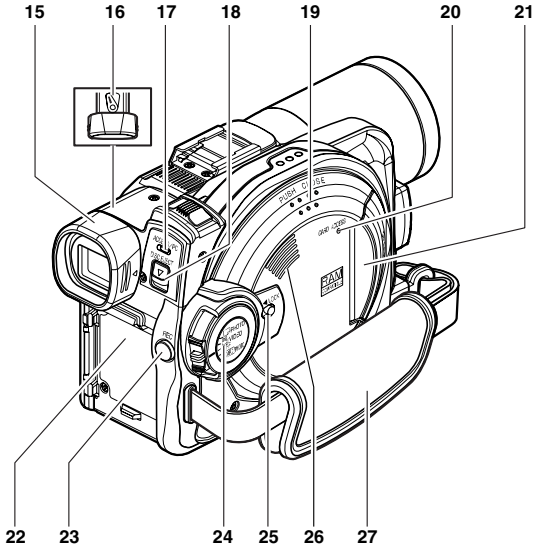
Discs recorded or edited on DZ-MV580E/MV550E can also be recorded, edited and played back on other DVD video camera/recorders, except for those for which disc-protect(*1) has been set.
Discs recorded or edited on other DVD video camera/recorders can also be recorded, edited and played back on DZ-MV580E/MV550E: However, the DZ-MV100E cannot handle DVD-R disc, and a scene memo recorded on the DZ-MV100E Disc Navigation function cannot be played back or edited on another DVD video camera/recorder.

*1: The DZ-MV380E/MV350E can release the disc-protect that has been set on DZ-MV580E/MV550E. Therefore, if the disc-protect set on DZ-MV580/MV550 is released, the discs can be recorded, edited and played back on DZ-MV380E/MV350E.

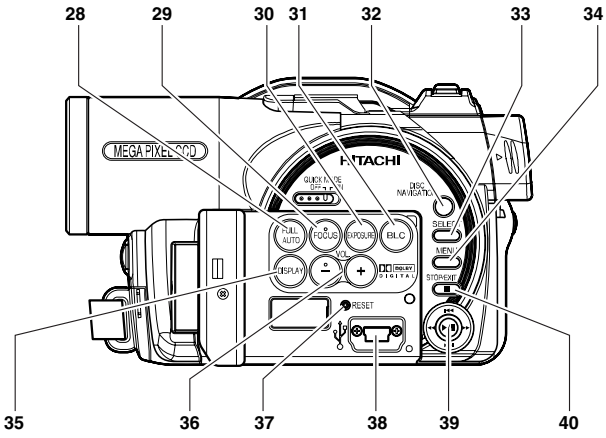
2-7 Names of Parts

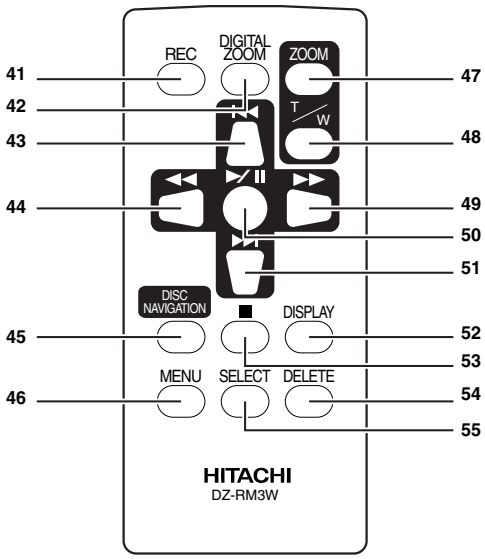


Although the external appearances of DZ-MV550E and DZ-MV580E are different, the method of operating both models is identical. DZ-MV580E illustrations are used in this manual.



1 Infrared receiver
When the remote control is used to operate the DVD video camera/recorder, this receiver will receive the infrared signal.
2 Lens cap string attachment hole
3 Recording indicator
The red indicator will light during recording.
4 Stereo microphone
5 Optical 18 x zoom lens (DZ-MV550E)
Optical 10x zoom lens (DZ-MV580E)
6 Lens hood
Always remove this lens hood when using generally available tele-conversion or wide-conversion lens.
7 Lens cover
You can replace the lens cover with either of the two covers provided.
8 Zoom lever
Push the lever to the T side for telephoto, or to the W side for wide-angle.
9 Accessory shoe
Only for DZ-MV580E:
The optional video flash, etc. can be attached here. (See the instruction manual of device to be attached for details.)
10 External microphone jack
11 AV output jack (P. 80)
12 2.5" type liquid crystal display (inside)
13 QUICK MODE switch
To switch the menu display on screen between Normal mode and Quick mode.
14 BATTERY EJECT switch
The BATTERY EJECT switch is located on the bottom of this DVD video camera/recorder: Slide it when removing the battery.
15 Viewfinder
16 Diopter control
To adjust the focus of image appearing in the viewfinder. (Pull out the viewfinder.)
17 ACCESS/PC indicator
Will blink or light when the disc in DVD video camera/recorder is accessed (write or read is executed) or the DVD video camera/recorder is connected to PC.
18 DISC EJECT button
Press down and release this button to open the disc guide.
19 Disc insertion block
20 CARD ACCESS indicator
21 Card insertion block
22 Battery attachment platform
23 Record button (REC)
24 Power switch
25 LOCK switch
It is recommended that you set the LOCK switch to (to the left) to prevent the power switch in the " VIDEO" position from accidentally moving to" PHOTO".
26 Speaker
27 Hand strap





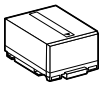
28 FULL AUTO button
To switch the DVD video camera/recorder to full automatic.
29 FOCUS button
To switch between manual focus and autofocus.
30 EXPOSURE button
Press this button to adjust the exposure.
31 BLC (backlight compensation) button
Press this button when subject is being lighted from rear.
32 DISC NAVIGATION button
33 SELECT button
34 MENU button
Press this button to display the menu for setting camera functions and Disc Navigation.
35 DISPLAY (Screen display) button
Press this button to display the details of image being played back or camera setting status, or switch the display off.
36 Volume control buttons (VOL)/ ⊖⊕buttons
To adjust the volume of sound from speaker,etc.
37 RESET button
To reset all settings to defaults (status when the DVD video camera/recorder was shipped from the factory)
38 PC connection terminal (TO PC)
39 Joystick

Move the joystick to select a scene or menu item, and then press the center (▶/II) to play back the scene, pause it, or designate an option of the menu.
40 Stop/cancel button
To end playback or cancel setting of menu.
41 REC button
42 DIGITAL ZOOM button
43 Reverse skip button
44 Reverse search button
45 DISC NAVIGATION button
46 MENU button
47 ZOOM T button
48 ZOOM W button
49 Forward search button
50 Play/pause button
51 Forward skip button
52 DISPLAY button
53 Stop button
54 DELETE button
55 SELECT button

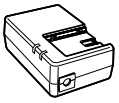
* The buttons on remote control will function the same as those on DVD video camera/recorder.

Accessories

Battery (model: DZ-BP14S)



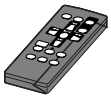
AC adapter/ chargre (model: DZ-ACS1)



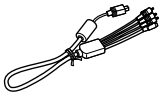
DC power cord

AC power cable

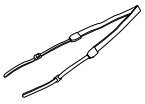
Infrared remote control (model: DZ-RM3W)



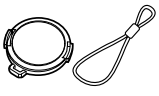
AV/S output cable



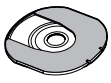
Shoulder strap



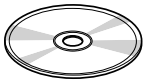
Lens cap and lens cap string



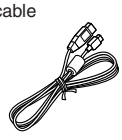
Single-side 8 cm DVD-RAM disc (in Round DVD Holder)



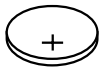
Software CD-ROM



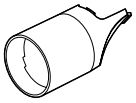
PC connection cable



Lithium battery (model: CR2025)



2 lens covers for replacement



2-8 List of Abbreviations and Terms for DVD Video Camera/Recorders

Index	Abbreviation/Term	Explanation
A	AC3	See Dolby AC3.
C	CPRM	Content Protection for Recordable Media: Copyright protection function that is suitable for online distribution of music.
D	DCF	Design rule for Camera File system standard: This camera file system standard, established by JEIDA (now merged to JEITA).
	Dolby AC3	Audio coding format developed by Dolby Laboratories in U.S, also simply referred as AC3 format: Supports 5-channel full-range sound and one channel for sub-woofer sound playback.
	DPOF	Digital Print Order Format: DPOF allows user to record print information along with photos on storage media to facilitate printing of photos.
	DVD	Digital Versatile Disc. A huge amount of digital data for video (movie) and audio can be recorded on this disc, whose size is the same as CD.
	DVD Forum	International organization that formulates the technical standards of DVD
	DVD-Audio	One type of DVD standard disc, on which high-quality audio can be recorded
	DVD-R	One type of DVD standard disc, to which writing once is possible (recordable type)
	DVD-RAM	One type of DVD standard disc, to which writing up to 100,000 times is possible
	DVD-ROM	One type of DVD standard disc, to which data for computer can be recorded
	DVD-RW	One type of DVD standard disc, to which writing up to 1000 times is possible
	DVD-Video	One type of DVD standard disc, on which high-quality video and audio can be recorded
	DVD Video Format	Video recording/playback standard that applies to DVD-Video, DVD-R and DVD-RW
	DVD Video Recording Format	Video recording/playback standard that applies to DVD-RAM and DVD-RW: This allows versatile editing functions, differing from the DVD Video Format.
E	Exif	Exchangeable image file format. File format used for recording photos on digital cameras, established by JEIDA (now merged to JEITA).
F	FireWire	See IEEE1394.
I	IEEE1394	Also referred to as FireWire or i-LINK: Standard for serial interface that connects PC and peripheral devices
	Interlaced CCD	This CCD scans one image twice (scans roughly once and interpolates between first scanning lines the second time) and interlaces the images obtained by scanning twice to create a one-image signal.
	i-LINK	See IEEE1394.
J	JEIDA	JEIDA stands for Japan Electronic Industry Development Association.
	JEITA	JEITA stands for Japan Electronics and Information Technology Industries Association, which came into existence when JEIDA merged with EIAJ (Electronic Industries Association of Japan). JEITA has established Exif and DCF standard.
	JPEG	Joint Photographic Expert Group: International standard format for compressing still images
L	LCD	Liquid Crystal Display. LCD formats include STN and TFT.
	LPCM	Linear Pulse Code Modulation. Also referred to as linear PCM. LPCM is a format that digitizes analog audio data during recording and converts it to analog data during playback.
M	MMC	See MultiMediaCard.
	MMCA	See MultiMediaCard Association.

Index	Abbreviation/Term	Explanation
M	MPEG	Motion Picture Experts Group: Standard related to compression of digital video and audio. MPEG2 is a higher standard of MPEG and is applied to video (movie) requiring higher quality.
	MPEG Audio Layer 2	One of three audio compression standards (layers 1-3) defined by MPEG
	MultiMediaCard	Also referred to as MMC. Compact memory card, 32 mm long × 24 mm wide × 1.4 mm thick
	MultiMediaCard Association	Also referred to as MMCA. This association promotes the widespread use of multimedia cards.
O	OSTA	Optical Storage Technology Association, which is an international industry organization that promotes recordable optical storage used to store computer data and images.
S	SCSI	Small Computer System Interface: A standard for connecting computer and peripheral devices. Frequently notated by prefixing or suffixing the number that indicates the data transfer rate, and First, Ultra, Wide, etc., to SCSI.
	SDA	See SD Card Association.
	SD Card Association	Also referred to as SDA. This organization promotes the popularization of SD memory card.
	SDMI	Secure Digital Music Initiative: This conference was established by hardware makers, the Recording Industry Association of America (RIAA) and music industry companies, to protect copyrights of musical compositions.
	SD Memory Card	Formally named Secure Digital Memory Card. This compact memory card, 32 mm long × 24 mm wide × 2.1 mm thick, is equipped with an advanced copyright protection function.
	SecureMMC	See Secure MultiMediaCard.
	Secure MultiMediaCard	Also referred to as SecureMMC. This compact memory card has multimedia card specifications, to which an advanced copyright protection function is added. Unusable on the DVD video camera/recorder.
	Software disc-Protect	This function writes the protect information to DVD-RAM disc to prevent accidental erasure. Software Disc-Protect is included in DVD-RAM disc specifications defined by DVD Forum.
	STN LCD	Super-Twisted Nematic Liquid Crystal Display: This type of color LCD is inferior to TFT LCD in coloring, view angle, etc.
T	TFT LCD	Thin Film Transistor Liquid Crystal Display: This type of color LCD features clear display, high contrast, wide view angle, etc.
U	UDF	Universal Disc Format, which is a file format of recordable disc defined by OSTA. The version 2.01 UDF is used on DVD video camera/recorder.
	USB	Universal Serial Bus: Standard of serial interface that connects PC and peripheral devices. Two versions - USB1.1 and USB2.0, with different data transfer rates - exist at present.
V	VBR	Stands for Variable Bit Rate: This format of coding audio and video varies the amount of data depending on the subject image.

2a General Description

2-1a Overview

The DZ-MV1000E(UK) is a DVD video camera/recorder that is the result of changes in some structural components of DZ-MV550E(UK) and accessories: Specifications and functions are identical to those of DZ-MV550E(UK).

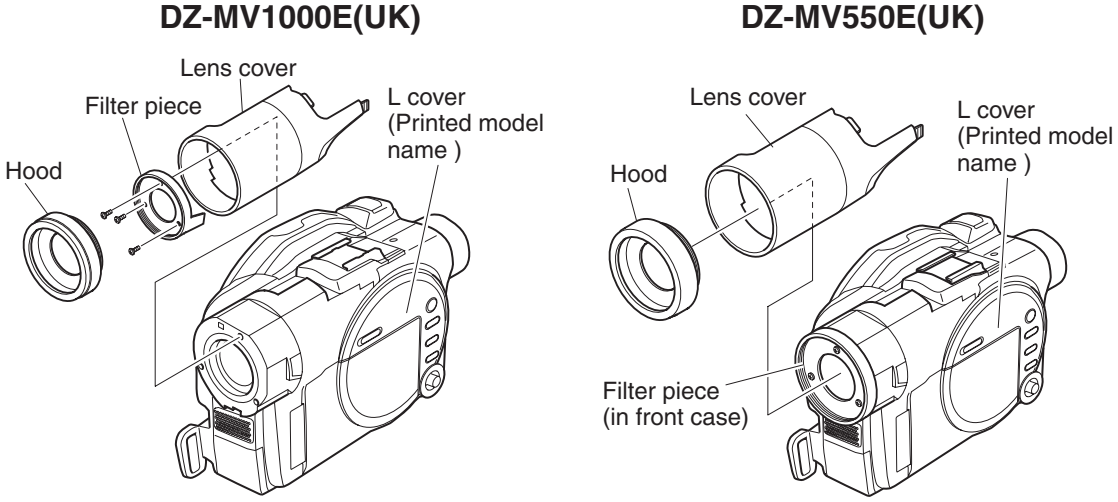
2-1-1a Servicing method

The service method for the DZ-MV1000E(UK) is the same as that for DZ-MV550E(UK).

2-2a Differences from DZ-MV550E(UK)

Table 2-2-1 Differences from DZ-MV550E(UK)

Item	DZ-MV1000E(UK)	DZ-MV550E(UK)
Structural components		
L Cover	Printed moodel name: DZ-MV1000E	Printed moodel name: DZ-MV550E
Filter Piece	User replaceable lens cover is not available	User replaceable lens cover is available
Accessories		
Replaccement lens cover	Not provided	Provided (two colors)
Single sided 8cm DVD-RAM (in round DVD holder)	Not provided	Provided
Infrared remote control	Not provided	Provided (DZ-RM3W)
Lithum battery for infrared remote control	Not provided	Provided (CR2025)



Information:

Since user cannot replace the DZ-MV1000E(UK) lens cover, the lens cover cannot be removed unless the filter piece(*1) is also removed.

*1: On DZ-MV550E it is not necessary to remove the filter piece when removing the lens cover.

Fig. 2-2-1 Differences in Structural Components

3 Description of Operation

3-1 Description of Structure

(1) Configuration and locations of circuit boards

The configuration of circuit boards in DZ-MV580E/MV550E and their locations are very similar to those in the base models DZ-MV380E/MV350E, except for whether the FAF circuit board is provided or not.

The DZ-MV380E/MV350E had the FAF circuit board between the FRT and AEL circuit boards: The DZ-MV580E/MV550E does not have this, since the FRT-H/FRT circuit board is directly connected to AEL-H/AEL circuit board.

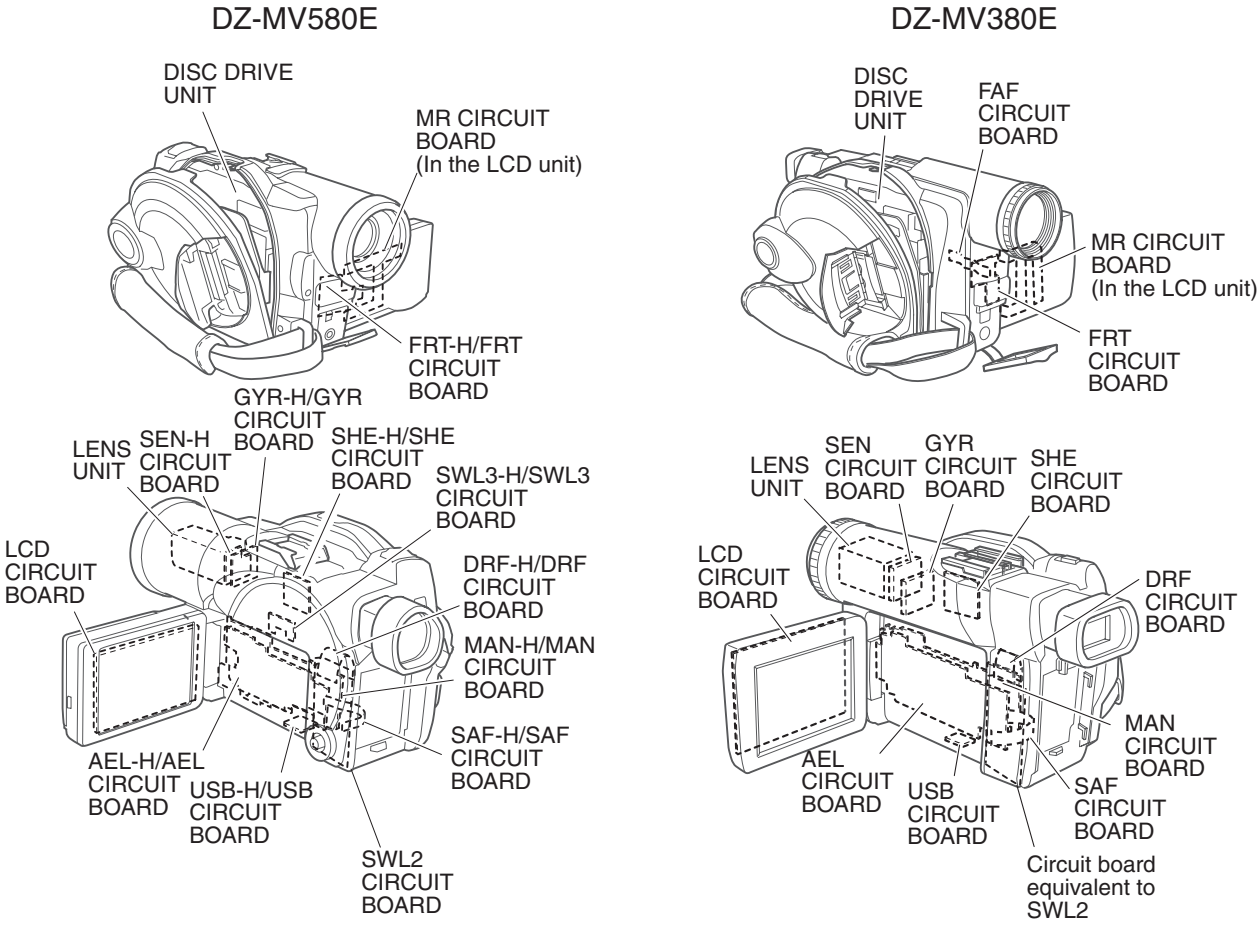


Fig. 3-1-1

(2) Differences in structure between DZ-MV580E and DZ-MV550E

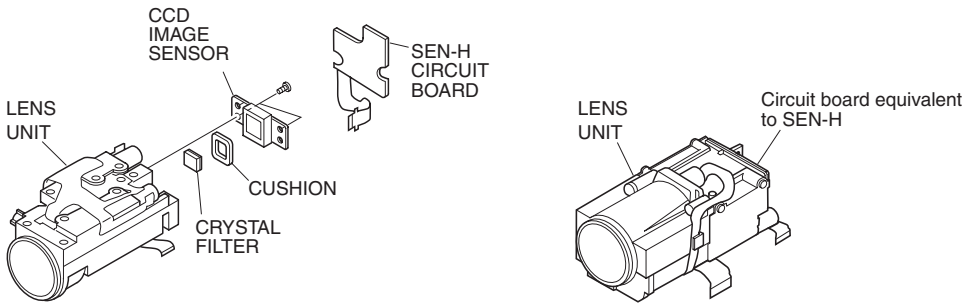
There are two major differences in structure between DZ-MV580E and DZ-MV550E:

1) Accessory shoe

The accessory shoe on DZ-MV580E has a power/control terminal, but the accessory shoe on DZ-MV550E doesn't.

2) Lens unit

The lens unit in DZ-MV550E includes the cushion, crystal filter, CCD image sensor and SEN-H circuit board, which are discrete from the lens unit in DZ-MV580E.



DZ-MV580A LENS UNIT DZ-MV550A LENS UNIT

Fig. 3-1-2

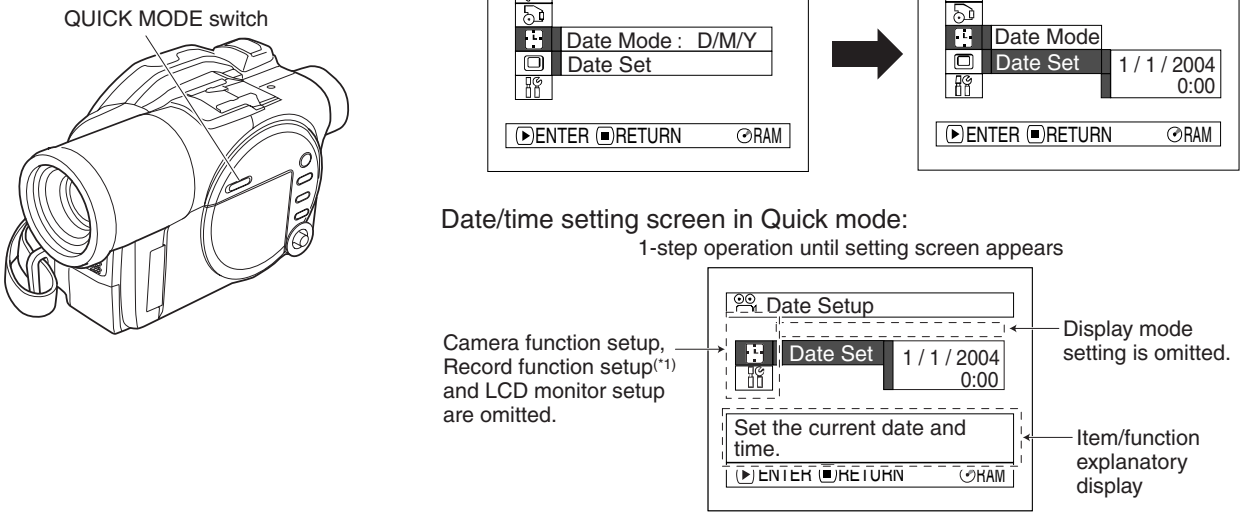
3-2 Description of Newly Adapted Technology

(1) QUICK MODE switch

The QUICK MODE switch changes over the screen for various settings and for Disc Navigation between Quick mode and Normal mode.

The Quick mode displays only the fundamental menu items and the brief explanation on the selected item/function is displayed across the bottom of screen.

Fig. 3-2-1 shows the position of QUICK MODE switch and an example of display screens.



*1: The Record Functions Setup icon will appear on the following models, showing that they have the line input function:

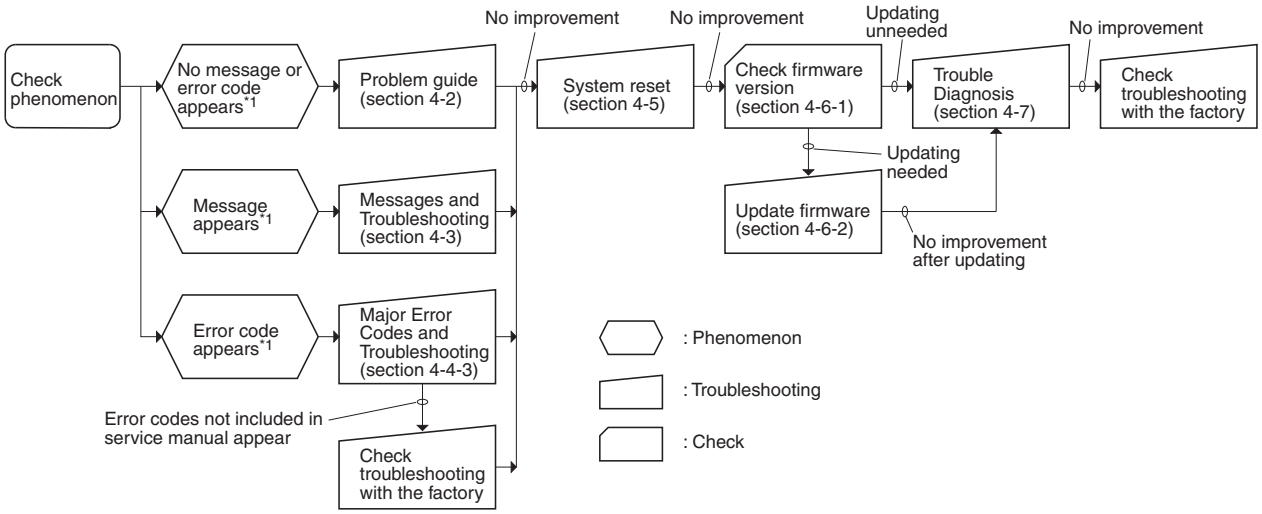
DZ-MV580E(AU)/MV580E(SW)/MV580E(SWH)
DZ-MV550E(AU)/MV550E(SW)/MV550E(SWH)

Fig. 3-2-1

4 Troubleshooting

4-1 Procedure for Troubleshooting

Perform troubleshooting in the order shown in Fig. 4-1-1.



*1: Messages and error codes will appear on LCD monitor or in viewfinder.

Fig. 4-1-1

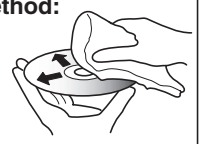
Note:

1) Before troubleshooting or servicing, be sure to obtain customer approval for the following:
   4-5-1 List of items to be reset
   a) The image data stored on disc may be lost depending on the details and situation of fault (defect).
   b) The date/time and various settings, including video recording mode, designated by customer after purchase may in some cases be reset to the defaults before purchase (factory settings).
2) Take note of settings on received product, referring to "4-5 System Resetting/Resetting Camera Functions": The notes will be necessary not only for resetting, but for checking defects that occur under the particular setting conditions.

4-2 Problem Guide

Check the following before judging that this DVD video camera/recorder is faulty.

Symptom	Cause and Correction
	Power supplies
Battery cannot be charged.	Is the DC power cord connected to AC adapter/charger? Unplug it. If the DC power cord is connected, the AC adapter/charger will not enter the charge status.
	Is the battery abnormally hot? Remove the battery from AC adapter/charger, leave it as is until it cools down, and then charge it again.
	Has the battery been unused for a long time? Remove the battery from AC adapter/charger, and then reattach it. If the battery is still not charged, it may be dead: Purchase a new one. * If the battery does not charge after you try the above four procedures, it may be dead: Purchase a new battery.
Battery weakens fast.	Is the ambient temperature is too low or high? Always charge the battery at 10 - 30°C.
	Are you using the DVD video camera/recorder where the temperature is low? A fully charged battery may be discharged sooner than usual at low temperatures. Keep extra batteries on hand.
	Battery may be dead: Replace with a new one. The performance of battery will deteriorate if it is used for an extended period of time or frequently.
The CHARGE indicator on AC adapter/charger is blinking.	Is the ambient temperature is too low or high? Always charge the battery at 10 - 30°C.
	The battery may be over-discharged. Continue charging: The CHARGE indicator will change to a steady light, and the battery will be charged normally.
Power turns off immediately after being turned on.	Is battery charged? Charge it.
Power goes off unexpectedly.	Is Power Save specified "On"? The specifications state that the powered DVD video camera/recorder automatically turns off if it is left for as long as 5 minutes without performing recording or playback, with "Power Save: On" specified. Set the power switch to "POWER OFF", and then turn this DVD video camera/recorder on again. To stop automatic power off, specify "Power Save: Off".
Power cannot be turned off.	Execute system reset (disconnect the battery or AC adapter/charger, and then use a fine tipped pen, etc. to hold down the RESET button for several seconds). Then connect a battery or AC adapter/charger and make sure the DVD video camera/recorder accepts operation. System reset will return the date/time and all items set using menu (except for LCD settings) to the defaults at the factory. After recovery, reset the date/time and each setting item as required.

Symptom	Cause and Correction
During recording	
Pressing the REC button will not start recording.	Is input image copy-guarded? The specifications state that the DVD video camera/recorder cannot record a copy-guarded image. [Applies only to models that have the line input function(*1)]
Recording starts but stops immediately.	Does dirt or fingerprint adhere to disc, or is disc scratched? Clean the disc. If there is still no improvement, replace the disc. **Disc cleaning method:** Use soft cloth to clean from inner to outer circumference in axial direction. **[Never use solvent.]** 
	Is some other AV device directly connected to the AV input/output jack of the DVD video camera/recorder? If the AV device is connected via several other devices, such as AV selector, the video signal may not be transmitted correctly. In such a case, reduce the number of devices through which the video signal is transmitted, or connect AV device directly. [Applies only to models that have the line input function(*1)]
	Are you attempting to record image from video game or PC? Depending on video game or PC, image cannot be recorded on the DVD video camera/recorder. [Applies only to models that have the line input function(*1)]
Power switch does not change to PHOTO (disc).	Is the LOCK switch beside the power switch set to the left? Switch it to the right to release the lock.
LCD screen is hard to see.	Has brightness of LCD screen been adjusted? Stop recording and adjust the brightness.
	Is the DVD video camera/recorder being used outdoors? Use the viewfinder. When using LCD monitor, adjust angle so that LCD screen is not exposed to direct sunlight.
Black dots or red, blue or green dots always lit appear on LCD screen or in Viewfinder.	The panels used for LCD monitor and viewfinder of the DVD video camera/recorder are produced using highly precise technology. However, 0.01% or less of total pixels may not light (black dots) or may remain lit (red, blue, green dots). (The effective amount of pixels on LCD panel is 99.99% or more.) This shows the limitations of the current technology, and does not indicate a fault that will interfere with the operation of LCD panel or operation of the DVD video camera/recorder.
Focus is not correct.	Is it difficult to use auto-focus with the subject? Focus manually.
	Does "MF" appear? The DVD video camera/recorder is set to manual focus. Focus the subject manually, or release manual focus.
	Is the diopter control of viewfinder correctly adjusted? Adjust the diopter control.
	In cases other than the above, set the power switch to "POWER OFF", and then reset it to a position other then “POWER OFF”.

*1: The line input function is provided in the following models:

DZ-MV580E(AU)/MV580E(SW)/MV580E(SWH)

DZ-MV550E(AU)/MV550E(SW)/MV550E(SWH)

The symbols in parentheses ( ) in the above model names show the destinations and are displayed only on packing box.

Refer to “2-5 Differences in Rating Labels and Difference in Function” when checking the body of DVD video camera/recorder, to judge whether or not it is equipped with the line input function (destination).

Symptom	Cause and Correction
During playback	
Recognition of disc is not complete.	Does dirt or fingerprint adhere to disc, or is disc scratched? Clean the disc.
Pressing the playback button will not start playback.	Was the image recorded on a device other than this DVD video camera/recorder? Playback of image recorded on devices other than this DVD video camera/ recorder may be impossible.
	Has scene been edited on a device other than this DVD video camera/recorder? If a scene that was recorded on this DVD video camera/recorder is edited on a device other than this DVD video camera/recorder, playback may not be possible on this DVD video camera/recorder.
No playback image appears on TV screen.	Is TV input selector set correctly? If the TV has multiple video input jacks, check to see whether the correct input jack was selected. If the DVD video camera/recorder is connected to VCR, set the input selector of VCR to "external input (LINE)".
	Is the DVD video camera/recorder connected to TV correctly? Check the connections.
Playback picture is momentarily interrupted.	Does dirt or fingerprint adhere to disc, or is disc scratched? Clean the disc.
Poor playback picture.	Was the image input from analog VCR (VHS, 8 mm) and recorded? The problem may be improved if a VCR equipped with TBC (time base corrector) circuit is used for playback.
Playback picture is greatly distorted.	Was recording of external input made with "Frame" specified? Specify "Field" for "PHOTO Input" in record mode settings. [Applies only to models that have the line input function (refer to *1 on page 4-3)]
No sound.	Is the TV volume control set correctly? Adjust volume control on TV.
Disc Navigation thumbnails do not appear.	Did the image recorded from AV input/output jack have noise or disturbance? Re-record image with no noise or disturbance. [Applies only to models that have the line input function (refer to *1 on page 4-3)]
Photos on card cannot be played back.	Is a photo recorded on devices other than this DVD video camera/recorder being played back? The specifications of this DVD video camera/recorder allow it to play back photos that are recorded conforming to DCF standard and have 80-4000 horizontal pixels x 60-3000 vertical pixels. Make sure that the photo to be played back satisfies these specifications. Note that even photos that satisfy the specifications may not be playable, depending on the recording status. The thumbnail of any photo that cannot be played back will appear in single blue.
It will take some time to play back photos on card.	Is a photo with a large number of pixels being played back? It will take some time to play back a photo with a large number of pixels.

Symptom	Cause and Correction
When connected to PC (when using provided software)	
No drive icon appears on PC.	Is the DVD video camera/recorder turned on? Connect the AC adapter/charger and set the power switch to a position other than "POWER OFF".
	Is PC connection cable properly plugged in? Plug the PC connection cable connector completely into the DVD video camera/recorder.
	Turn PC off and unplug the PC connection cable: Then restart PC and use the PC connection cable to connect the DVD video camera/recorder and PC.
	The USB device driver installed in PC is not properly recognized. Restart PC. If the drive icon still does not appear, use "Refresh driver" in Device Manager to reinstall the USB device driver. If a yellow "!" mark is attached to some device in Windows Device Manager, uninstall the USB device driver, and then reinstall it.
A fatal exception 0A error occurs while installing USB driver in Windows 2000 Professional	It is recommended that you install Windows 2000 Service Pack 3 or later.
Application is not normally run on PC.	Turn the PC and the DVD video camera/recorder off, and try again.
DISC EJECT button does not work when the DVD video camera/recorder is connected to PC.	The DISC EJECT button is invalid while the DVD video camera/recorder is connected to PC. Start Windows Explorer, right-click the drive icon corresponding to the DVD video camera/recorder, and then click "Eject".
Disc cannot be ejected even by operating Windows Explorer or applications.	Was DVD-MovieAlbbumSE (software provided with DVD video camera/recorder) started? Terminate DVD-MovieAlbbumSE.
When the time stamp of file on DVD-RAM disc is viewed on PC, it is different from the actual recording date/time.	Since the file system of this DVD video camera/recorder is operated on Greenwich Mean Time (GMT), the time stamp will be GMT. However, since the time lag information is recorded on disc, the date/time display on playback screen of this DVD video camera/recorder will be the actual recording date/time.
Error occurs in playback of the DVD video camera/recorder on PC	If error occurs with USB connection, the transfer rate is not sufficient. It is recommended that you use a USB terminal conforming to USB2.0 when connecting the DVD video camera/recorder.
Error occurs during writing to DVD-R disc.	The temperature of the DVD video camera/recorder is too high due to continuous operation. Disconnect the DVD video camera/recorder from PC, remove the disc from the DVD video camera/recorder, set the power switch to "POWER OFF", and then leave it as is until the temperature decreases. After checking that the temperature has gone down, use a brand-new disc and restart operation.
Transfer of images stops.	The USB terminal of PC may be faulty. Connect the DVD video camera/recorder to another USB terminal of PC. If your PC is desktop type, it is recommended that you use USB terminal on the back of PC. If you are using USB2.0 extended card, it is also recommended that you install the newest version driver provided each USB2.0 card maker.

Symptom	Cause and Correction
DVD-RAM/R/RW drive built into PC cannot be used after the provided software has been installed.	This problem may be solved if the software related to DVD-RAM/R/RW built into PC is upgraded, or if the UDF driver is uninstalled. However, if the OS of PC is Windows 98 Second Edition/Me/2000 Professional, uninstalling the UDF driver will make it impossible for the photos recorded on DVD-RAM disc in the DVD video camera/recorder to be read by the PC.
Video is not recognized by software in PC.	Is the power switch of the DVD video camera/recorder set to "VIDEO" or “PHOTO (disc)”? Set it to "VIDEO" or “PHOTO (disc).
DVD-R disc cannot be played back on DVD-MovieAlbumSE	DVD-MovieAlbumSE is exclusively for DVD-RAM disc. When playing back DVD-R disc on PC, use generally available DVD-R disc playback software.
Error appears when starting DVD-MovieAlbumSE	Make sure that your PC display adapter (video card) conforms to DirectX8.1
Video written to hard disk of PC using DVD-MovieAlbumSE copy tool cannot be edited.	The specifications state that DVD-MovieAlbumSE complies only with images recorded on DVD-RAM disc: It cannot edit video (DVD-VR) data stored on hard disk of PC. To edit image data stored on hard disk, copy the data to DVD-RAM disc and then edit it.
When DVD -MovieAlbumSE software provided with the DVD video camera/recorder is started, "Disc in Drive X: cannot be used on MovieAlbum" appears (a letter showing the drive where disc is loaded appears in X).	Is a disc other than DVD-RAM loaded? Load a DVD-RAM disc. DVD-MovieAlbumSE is exclusively for DVD-RAM disc.
	Use the following procedure to select the drive where DVD-RAM disc is loaded. 1) Click the "Preference" button in the dialog box. 2) Click "Preference". 3) Click "Device Setting". 4) Choose the drive where DVD-RAM disc is loaded in the "Drive Select" column, and then click "OK".
An image that should have been recorded does not appear when DVD-MovieAlbumSE is started.	Use the following procedure to select the drive where DVD-RAM disc is loaded. 1) Click the "Preference" button at the top right of DVD-MovieAlbumSE screen. 2) Click "Preference". 3) Click "Device Setting". 4) Choose the drive where DVD-RAM disc is loaded in the "Drive Select" column, and then click "OK".
Executing “Export” on DVD-MovieAlbumSE will interrupt reading midway	Do not choose “Simple Export”: If you do, reading will stop midway.
When executing “Export” on DVD-MovieAlbumSE, it will take time to read	a) If photo is included in the range of “export”, it may take more time because data must be re-encoded and read. b) If “Divide by Maker” is not chosen, it may take some time because data will be read while being re-encoded.
"Hardware Removal" results in error	Making sure the ACCESS/PC indicator on the DVD video camera/recorder goes out, turn the PC off, and then unplug the PC connection cable from the DVD video camera/recorder. If your PC uses Windows 2000 Professional, the problem may be solved it you install Windows 2000 Service Pack 3 or later.
“USBNTMAP.SYS not found” appears while installing USB driver	You have designated a folder which is different from that for Windows when installing USB driver: Designate the correct folder.
No USB HS (high speed) connection even when USB2.0 card is used	Make sure that you have already installed the driver provided with the USB2.0 card. You will need to install the driver provided by USB2.0 card maker in order to operate the USB2.0 card at HS (high speed).

Symptom	Cause and Correction
“DISC ERROR” appears when releasing write-protect	A disc that was write-protected using the write-protect setting tool (WPTOOL) equipped with the UDF driver on the CD-ROM provided with this DVD video camera/recorder cannot be released on this DVD video camera/recorder as is. Use the write-protect setting tool on PC to release the write-protect.
The “capture” function of MyDVD is unavailable.	The “capture” function of MyDVD is only for DVD camera with i.Link connection: It is not available on this DVD video camera/recorder. Use DVD-MovieAlbumSE to import the images recorded on DVD-RAM disc into the PC.
Miscellaneous	
Power does not come on, or no operation occurs by pressing button.	Execute system reset (disconnect the battery or AC adapter/charger, and then use a fine tipped pen, etc. to hold down the RESET button for several seconds). Then connect a battery or AC adapter/charger and make sure the DVD video camera/recorder accepts operation. System reset will return the date/time and all items set using menu (except for LCD settings) to the defaults at the factory. After recovery, reset the date/time and each setting item as required.
	Has the DVD video camera/recorder been subjected to impact? The DVD video camera/recorder could be damaged.
The date and time are incorrect.	Has the DVD video camera/recorder been left unused for a long period of time? The internal backup battery may be discharged: Charge it. (Charge procedure: Connect the AC adapter/charger to the DVD video camera/recorder and AC outlet, set the power switch on the DVD video camera/recorder to "POWER OFF", and then leave them for at least 24 hours.)
No scene can be deleted.	Is the cursor placed on scene to be deleted? Even if desired scenes are selected using yellow cursor, if there are the selected scenes (in red frame), those scenes in red frame will be deleted. Check the color of cursor and bar graph on the thumbnail display screen.
Disc cannot be removed.	Is battery or AC adapter/charger (power supply) connected? With the DVD video camera/recorder, a disc cannot be removed unless a power supply is connected.
	Has disc rotation stopped? Making sure the disc stops, and then restart operation. Disc cannot be removed until rotation has stopped.
	Did you disconnect the battery or AC adapter/charger (power supply) while the disc was being accessed? Reconnect power supply, set the power switch to "VIDEO", and then remove the disc after the sound showing the disc lock has been released is heard. If the disc still cannot be removed, the DVD video camera/recorder is faulty: Refer to "4-8 Procedure for Removing Disc from Faulty the DVD video camera/recorder".

Symptom	Cause and Correction
The DVD video camera/ recorder cannot be operated from remote control.	Is the remote control pointed at the infrared receiver on the DVD video camera/ recorder? Point it at the infrared receiver on the DVD video camera/recorder.
	Is the infrared receiver on the DVD video camera/recorder exposed to direct sunlight or strong fluorescent light? The remote control cannot operate the DVD video camera/recorder when strong light strikes the infrared receiver. Adjust the position or angle of the DVD video camera/recorder.
	Is there a battery in the remote control? Also check the polarities of battery. Replace the battery if necessary.
	Is the DVD video camera/recorder powered? Turn it on.
Disc cover cannot be closed.	Is disc correctly loaded? Remove the disc and then reload it.
	Is round DVD holder being used? A bare disc that is not in round DVD holder, or is in a square cartridge or caddy, cannot be used. Put disc in the round DVD holder.
	Is round DVD holder inserted in the proper orientation? Remove the round DVD holder, make sure of the orientation, and then reinsert it.
	Is the DVD video camera/recorder turned on? Connect the AC adapter/charger or full charged battery and set the power switch to a position other than “POWER OFF”.
Operating sound is heard cyclically.	This sound is heard because the disc is cyclically operated; it does not indicate a fault.
the DVD video camera/ recorder vibrates.	This does not indicate a fault. These vibrations or sound are generated when the disc drive unit is operating.
Slight sound is heard from the DVD video camera/ recorder.	

4-3 Messages and Troubleshooting

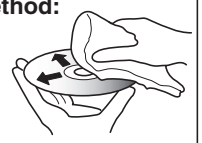
Some messages may appear on the LCD screen or in the viewfinder during operation.
If a message appears, refer to the following table and perform troubleshooting according to the message.
Messages divided by broken lines will automatically appear in sequence from the upper row each time the center of joystick is pressed.

Message	Cause/condition for message to appear	Troubleshooting
Battery is almost empty. Replace it.	Appears if the battery is discharged.	Replace with a charged battery, or use the AC adapter/charger.
Cannot combine scene.	Appears if an attempt is made to combine unconnected scenes: The specifications state that combining of only multiple scenes is possible.	Stop trying to combine scenes, or create a play list containing the scenes to be combined, and combine them on the play list.
Cannot combine. Deselect PHOTO scenes.	Appears if an attempt is made to combine scenes when a photo was selected: The specification state that combining of only video scenes is possible.	Select only video scenes, or stop trying to combine scenes.
Cannot combine. Select multiple scenes.	Appears when combining one scene was attempted.	Select multiple scenes and then combine them.
Cannot delete scenes.	Appears when user performed deletion at the upper limit of 999 scenes registered.(*1)	Combine divided scenes, and then delete if necessary.(*2)
Cannot execute. Unselect multiple scenes.	Appears if an attempt is made to select multiple scenes for division: The specifications state that dividing multiple scenes is impossible.	Divide scenes one by one.
Cannot execute. Change display category to All.	Appears when combining or moving scenes was instructed with “Category: VIDEO or PHOTO” specified.	Specify “Category: All”, and then operate the DVD video camera/ recorder again.
CANNOT RECORD PHOTOS.	Appears if an attempt is made to record photos on DVD-R disc: The specifications state that no photo is recordable on DVD-R disc.	Use a DVD-RAM disc or card when recording photos.

*1: the DVD video recording format defines the maximum number of entry points as 999: Since one entry point is allocated to one scene, the maximum number of scenes recordable on disc with the DVD video camera/recorder is 999.

*2: If recording is continued without editing, one scene will comprise one cell for each entry point.
When scenes are combined, only the number of entry points will decrease (only the entry point is deleted); the number of cells will not decrease. Assume, for example, that the number of cells before scenes are combined is 999, which is the upper limit defined by the DVD video recording format. If a scene comprising one cell is divided at two points and the scene between the divided scenes needs to be deleted, the cell must be further divided in order to delete. However, since the number of cells has reached the upper limit in this case, the cell cannot be divided and the scene cannot be deleted.

Message	Cause/condition for message to appear	Troubleshooting
Cannot replace thumbnail on PHOTO scenes.	Appears when a photo thumbnail was selected for change in scene editing menu: The specifications stipulate that the thumbnail of photo cannot be changed.	Select a video to change the thumbnail.
Cannot select any more scenes	Appears when the number of scenes selected on card has exceeded the upper limit of 999 scenes.	Release the selection of unnecessary scenes.
CARD ALMOST FULL	Appears when the remaining recordable number of photos is less than 10 during recording.	Prepare another card, or delete unnecessary photos.
Card error has occurred. Format the card now?	Appears when a card initialized on PC, etc., or a card whose initialization was interrupted before, is loaded.	Choose “YES” and designate it to initialize the card (deleting all recorded data).
Card error has occurred. Formatting is not complete.	Appears when a damaged card is initialized.	Replace the card.
Card error has occurred. Keep card inside & restart.	Appears when no photo could be recorded on card normally.	Set the power switch to “POWER OFF”, and after several seconds, set it to “[CARD]PHOTO”.
		Initialize the card (deleting all recorded data).
Card error.	Appears when the card cannot be recognized because its terminals are dirty.	Use a dry cloth to clean the card terminals.
	Also appears when data other than photos is recorded on card.	Replace the card.
Card full.	Appears when the recording capacity of card has reached the limit during recording.	Replace the card, or delete unnecessary photos .
	Appears when a card whose remaining recording capacity is small, and on which no photo can be recorded, is loaded.	Replace the card, or delete unnecessary photos.
Card full. Cannot execute.	Appears when the remaining capacity of card has reached the recordable limit.	Replace the card, or delete unnecessary photos.
Card is not formatted. Format the card now. YES NO	Appears when an unformatted card or a card formatted on PC was loaded.	Choose “YES” and designate it when formatting card (deleting all recorded data).

Message	Cause/condition for message to appear	Troubleshooting
Control Information Error.	Appears if mismatch has occurred between the recorded video and the scene information because editing was performed near the limit of disc storage capacity on a device other than the DVD video camera/recorder; it also appears if the control information file was operated.	Update the control information. (Start Disc Navigation, press the MENU button, and then execute "Update Control Info." in the "Disc" menu.
	Also appears when reading or writing from/to recorded file cannot be performed because the disc is dirty.	Clean the disc, or replace it. **Disc cleaning method:** Use soft cloth to clean from inner to outer circumference in axial direction. **[Never use solvent.]** 
COPY PROTECT	Appears if an attempt is made to record copy-guarded image. The specifications state that copy-guarded image cannot be recorded on the DVD video camera/ recorder.	Stop trying to record.
Data error in a part of image file. Repair disc now? YES NO	Appears if writing to file cannot be completed normally because power was turned off by mistake during video recording or editing, and an abnormality in part of the file is recognized.	Choose "YES" and designate partial repair (automatic repair) of video file. Choosing "NO" will display a message for verifying initialization.(*3)
	Also appears when condensation occurs on lens or drive of the DVD video camera/recorder. Condensation will occur when the DVD video camera/recorder is moved from a cold place to a warm place.	Do not execute repair, but set the power switch to "POWER OFF" with the disc loaded, and then leave the DVD video camera/recorder in a dry place until condensation disappears (usually 1-2 hours).

*3: Take care with the following when repairing video file:

a) If the disc is removed while it is being recognized, the repair function of video file will be invalid.
b) If the timing when power is turned off is inappropriate, normal repair may be impossible.
c) If the disc has data that was recorded on a device other than this DVD video camera/recorder, normal repair may be impossible.
d) The repaired data may be different from the original recorded content because of partial deletion of a defective portion.
e) The repaired data (only corrected portion in case of partial repair) will lose the original date/time information because the information for date/time when repair was executed will be added.
f) If "all repair" is executed, repair will be made in the order of all videos and all photos, and the time-sequential relationship of recorded contents may be lost.

Message	Cause/condition for message to appear	Troubleshooting
Data error in all image file. Repair all data now? YES NO	Appears if writing to file cannot be completed normally because power was turned off by mistake during video recording or editing, and it is recognized that the video file must be totally repaired.	Choose "YES" and designate total repair (automatic repair) of video file. Choosing "NO" will display a message for verifying initialization. [Refer to *3 page 4-11]
	Also appears when condensation occurs on lens or drive of the DVD video camera/recorder. Condensation will occur when the DVD video camera/recorder is moved form a cold place to a warm place.	Do not execute repair, but set the power switch to "POWER OFF" with the disc loaded, and then leave the DVD video camera/recorder in a dry place until condensation disappears (usually 1-2 hours).
DISC ×××× (4-digit alpha-numerals showing the code of trouble will appear in ××××.)	Appears if the self-diagnosis function in the DVD video camera/recorder detects a serious problem.	Take note of the 4-digit alpha-numerals in ××××, and refer to "4-4 Self-Diagnosis Function and Troubelshooting".
DISC ACCESS	This message appears during normal operation process, when the DVD video camera/recorder checks whether a proper disc has been loaded or not. It is displayed for a longer time period when the date has changed.	Operate the DVD video camera/ recorder after the message disappears.
	This message appears during normal operation process, when the recorded images are being stored on disc.	Operate the DVD video camera/ recorder after the message disappears.
DISC ALMOST FULL	Appears if the remaining video recordable time on disc is less than 10 minutes, or the remaining number of recordable photos is less than 10.	Delete unnecessary scenes, or replace the disc.
Disc error	Appears when the disc has been edited on a device other than the DVD video camera/recorder, and mismatch has occurred in recorded data.	Format the disc (deleting all recorded data), or replace the disc.
	Also appears when reading or writing from/to recorded file cannot be performed because the disc is dirty.	Clean the disc, or replace it. [Refer to page 4-11]
Disc error has occurred. Finalizing is not complete.	Appears when the disc could not be finalized because it was dirty.	Clean the disc, or replace it. [Refer to page 4-11]
	Appears if accident, such as power off, has occurred during finalizing.	Set the power switch to "POWER OFF" and reconnect the AC adapter/ charger; then set the power switch to "VIDEO" and start finalizing again. Or press the DISC EJECT button, reload the disc, and then execute finalizing.
	If the message still appears even when the disc has been cleaned and finalized again and again, the disc may be defective.	Replace the disc.

Message	Cause/condition for message to appear	Troubleshooting
Disc error has occurred. Format the disc now? YES NO	Appears when a DVD-RAM disc initialized on PC, etc., or a card whose initialization was suspended before, is loaded.	Choose “YES” and designate it to initialize the DVD-RAM disc (deleting all recorded data).
Disc error has occurred. Formatting is not complete.	Appears when the disc could not be normally formatted because it was dirty.	Clean the disc, or replace it. [Refer to page 4-11]
	Also appears when a warped or distorted disc was loaded, or a logically damaged disc whose formatting was suspended is loaded.	Replace the disc.
Disc error has occurred. Keep disc inside & restart.	Appears if a problem has occurred during editing of video file.	Exit the Disc Navigation function and set the power switch to “POWER OFF” with the disc loaded; then reconnect the AC adapter/charger and set the power switch to “VIDEO” or “PHOTO (disc)”. (The DVD video camera/recorder will automatically repair the video file.)
Disc full. Cannot execute.	Appears if the recording capacity of disc has reached the limit during editing of video file.	Delete unnecessary scenes, or replace the disc.
Disc has no data.	Appears when the MANU button or playback button was pressed with no scene recorded.	Operate the DVD video camera/ recorder after the message disappears.
Disc has no PlayList.	Appears if switching of play list is selected with no play list registered.	Operate the DVD video camera/ recorder after the message disappears.
Disc includes protected scenes. Delete scenes? YES NO	Appears if the loaded disc has a program (scene) that is write-protected by the software write-protect function, which is effective in program units. Although the DVD video camera/recorder is equipped with a software disc-protect function that is effective for disc units, it does not comply with software write-protect for program units. (The DVD Forum defines two types of software protect for DVD-RAM disc: disc units and program units.)	Release the write-protect using the device that has the software write-protect function for program units, or choose “YES” and designate it to delete the scenes.
Disc is full. Cannot add control info.	Appears if the number of scenes on play list exceeds the upper limit (999) while control information is being added. [Refer to *1 page 4-9]	Delete any unnecessary scenes, or combine several scenes, and then operate the DVD video camera/ recorder.

Message	Cause/condition for message to appear	Troubleshooting
Disc is not formatted. Format the disc now? YES NO	Appears when an unformatted DVD-RAM disc or one initialized (other UDF2.0) on PC is loaded.	When initializing it (deleting all recorded data), choose "YES" and designate it.
	Also appears if user rejects partial repair or total repair of video file.	Choose "NO" and designate partial repair or total repair. When initializing it (deleting all recorded data), choose "YES" and designate it.
Disc is not formatted. If it formats, it becomes possible to use for camera. However, when you record from PC connection terminal, please do not format. Format the disc now? YES NO	Appears when a brand-new DVD-R disc was loaded.	When recording on the DVD video camera/recorder, choose "YES" and designate it. When recording video edited on PC connected via the PC connection terminal, choose "NO" and designate it.(*4)
Disc overheat. Please retry later.	Appears when the temperature inside the DVD video camera/recorder, or the temperature of disc, is too high, and normal operation cannot be executed.	Set the power switch to "POWER OFF" with the disc loaded, and then leave the DVD video camera/recorder in a well-ventilated place until the inside temperature decreases.
DPOF is not set to scene	Appears if "Slide Show: DPOF" is specified when a card for which DPOF has not been set is loaded.	Specify "Slide Show: All", or do not try slide show.
DPOF scenes over limit. Cannot set DPOF scenes.	Appears when the number of settable scenes for DPOF has exceeded 999.	Release unnecessary DOPF setting on photos when newly setting DPOF.
DVD-R Disc, Video mode cannot be changed.	Appears if an attempt is made to change the Video recording mode of a recorded DVD-R disc. Once even one scene is recorded on a DVD-R disc which has been initialized, the originally designated Video recording mode is specified to be maintained until the final recording on the disc.	Stop trying to change the Video recording mode, or replace the disc.
	Also appears after the DVD-R disc has been initialized.	Operate the DVD video camera/recorder after the message disappears.
END OF DISC	Appears if the disc recordable capacity has reached the limit during recording.	Replace the disc.
End scene cannot be divided.	Appears when the last image of scene was selected to divide the scene: The specifications state that dividing a scene at its end is not possible.	Stop trying to divide a scene.

*4: The purpose of formatting DVD-R disc on the DVD video camera/recorder is to write to disc a program exclusively for camera recording that is necessary to record images shot by camera in real time (increasing the response from disc). When recording images that were edited using PC on DVD-R disc via the PC connection terminal, do not format the disc: The program used exclusively for camera recording will disable normal recording.

Message	Cause/condition for message to appear	Troubleshooting
Error has occurred. Error code No. ×××× Please read the manual. (4-digit alpha-numerals showing the code of trouble will appear in ××××.)	Appears if the self-diagnosis function of the DVD video camera/recorder has detected a serious problem when power was turned on, or the same trouble occurred three consecutive times in modes other than recording.	Take note of the 4-digit alpha-numerals in ××××, and refer to "4-4 Self-Diagnosis Function and Remedy".
Error has occurred. Please reinsert a disc.	Appears if, when power was turned on, the self-diagnosis function of the DVD video camera/recorder detected a slight trouble that can be fixed: See "4-4 Self-Diagnosis Function and Troubleshooting" for details.	Set the power switch to "POWER OFF", press the DISC EJECT button, and then reinsert the disc. After that, set the power switch to "VIDEO" or "PHOTO (disc)".
Error has occurred. Please restart.	Appears if, when power was turned on, the self-diagnosis function of the DVD video camera/recorder detected a slight trouble that can be fixed by turning power on again: See "4-4 Self-Diagnosis Function and Troubleshooting" for details.	Set the power switch to "POWER OFF", reconnect the AC adapter/ charger or battery, and then set the power switch to "VIDEO" or "PHOTO (disc)".
Error occurred. Please replace disc or format disc	Appears if repair has failed with DVD-RAM disc after message "Data error in all image file. Repair all data now?" or "Found error in image file. Repair data now?" appeared.	Initialize the disc (deleting all recorded data), or replace the disc.
Error occurred. Please replace disc.	Appears if repair has failed with DVD-R disc after message "Data error in all image file. Repair all data now?" or "Found error in image file. Repair data now?" appeared.	Replace the disc.
ERROR ×××× (4-digit alpha-numerals showing the code of trouble will appear in ××××.)	Appears if the self-diagnosis function in the DVD video camera/recorder detects a serious problem during recording, or when the same trouble occurs three times consecutively during recording.	Take note of the 4-digit alpha-numerals in ××××, and refer to "4-4 Self-Diagnosis Function and Troubelshooting".
Finalize may not be complete. Finalize again now? YES NO	Appears if accident, such as power off, occurred during finalizing, and then power was turned on again or disc was reloaded.	Choose "YES" and designate it to finalize the disc.
Found error in image file. Repair disc now? YES NO	Appears if repair has failed after message "Data error in a part of image file. Repair disc now?" appeared.	Choose "YES" and designate total repair (automatic repair) of video file. Choosing "NO" will display a message for verifying initialization. [Refer to *3 on page 4-11]
It is unrecordable on this card.	Appears when a card other than SD memory card or MultiMediaCard was loaded.	Insert an SD memory card or MultiMediaCard.

Message	Cause/condition for message to appear	Troubleshooting
JPEG file related to scenes are not found.	Appears when an attempt is made to copy photos on disc to card, when photo (JPEG) file to be copied is not stored on disc. When the DVD video camera/ recorder records a photo on disc, two photo files will be stored on disc - a photo (conforming to DVD video recording format) file to be displayed on the DVD video camera/recorder, and a photo (JPEG) file for storage that is linked to the photo for display. This message will appear when only the photo file for storage has been deleted on PC, etc.	Copy photos to card via PC. The photo (JPEG) file for storage is stored in DCIM\100HPNX1 folder.
No card	Appears when no card is loaded.	Insert a card.
No card. Please insert card.	Appears when recording photos on card was attempted with no card loaded.	Insert a card.
NO DISC	Appears if no disc is loaded.	Load a disc
	If the message appears even when a disc is loaded, condensation might have occurred on lens or drive of the DVD video camera/recorder.	Set the power switch to “POWER OFF” with the disc loaded, and then leave the DVD video camera/recorder in a dry place until condensation disappears (usually 1-2 hours).
No more scenes. Play List was deleted.	Appears during user operation; all recorded scenes have been deleted and cleared. The specifications stipulate that a play list with no scene on it cannot be held: If all registered scenes have been deleted, the play list will also be deleted.	Operate the DVD video camera/ recorder after the message disappears.
Play Lists over limit.	Appears if an attempt is made to create a new play list or edit play list after the number of registered play lists has reached the upper limit (99) that is defined by the DVD video recording format.	Delete unnecessary scenes before creating a new play list or editing play list.
Same scenes on PlayList will be deleted. Delete scenes? YES NO	This message appears during user operation, if even one play list has been created during scene deletion. This message does not appear when a scene is deleted from play list.	Choose “YES” and designate it to delete selected scenes.
Scenes over limit. Cannot add scenes.	Appears if an attempt is made to register a new scene in play list, with the specified 999 upper limit scenes registered. [Refer to *1 page 4-9]	Delete unnecessary scenes from play list before adding a new scene to it.
Scenes over limit. Cannot divide scenes.	Appears if an attempt is made to divide a scene with the specified 999 upper limit scenes registered, or the number of scenes will exceed 999 with division. [Refer to *1 page 4-9]	Delete unnecessary scenes before dividing a scene.

Message	Cause/condition for message to appear	Troubleshooting
Scenes over limit. Cannot move scenes.	Appears if an attempt is made to move a scene at the upper limit of 999 scenes registered, or the number of scenes will exceed 999 by moving a scene. [Refer to *1 page 4-9]	Delete unnecessary scenes before moving scenes.
Stop processing.	This message appears during operation process. It will appear when user interrupted any process by pressing the stop/cancel button when processing multiple scenes, etc.	Operate the DVD video camera/ recorder after the message disappears.
There was no scene which can be deleted.	Appears when only multiple locked scenes were selected using the Disc Navigation function, and deleting them was attempted.	Use the Disc Navigation function to unlock the scenes, and then restart operation.
This card cannot be used. Please replace card.	Appears when a card other than SD memory card or MultiMediaCard was loaded.	Insert an SD memory card or MultiMediaCard.
This disc cannot be used. Please replace disc.	Appears when a type of disc that cannot be used on the DVD video camera/ recorder was loaded.	Check the type of disc and insert a disc usable on the DVD video camera/ recorder.
This disc is recorded by the NTSC system. Please replace disc.	Appears when a disc recorded in the NTSC system was loaded: This DVD video camera/recorder is exclusively for the PAL system and does not comply with the NTSC system.	Use a disc recorded in the PAL system.
Top scenes cannot be divided.	Appears when the first image of scene was selected to divide the scene: The specifications state that dividing a scene at its top is not possible.	Stop trying to divide a scene.
UNFORMAT DISC	Appears when an unformatted or logically damaged disc was loaded.	Format the disc (deleting all recorded data), or replace the disc.
	Also appears when a dirty disc was loaded.	Clean the disc, or replace it. [Refer to page 4-11]
	If the message appears when a normal, formatted disc has been loaded, condensation might have occurred on the lens or drive of the DVD video camera/ recorder. Condensation will occur when the DVD video camera/recorder is moved from a cold place to a warm place.	Set the power switch to “POWER OFF” with the disc loaded, and then leave the DVD video camera/recorder in a dry place until condensation disappears (usually 1-2 hours).
Use AC adapter/charger.	Appears if a battery is used when finalizing a DVD-R disc. The specifications state that DVD-R disc can be finalized only when the AC adapter/ charger powers the DVD video camera/ recorder.	Terminate the Disc Navigation function, set the power switch to “POWER OFF” with the disc loaded, remove the battery, and then connect the AC adapter/charger: Finalize the disc again.

Message	Cause/condition for message to appear	Troubleshooting
Use AC adapter/charger. Turn off power.	Appears if a battery is used when repairing video files. The specifications state that video files can be repaired only when the AC adapter/charger powers the DVD video camera/recorder.	Set the power switch to "POWER OFF" with the disc loaded, remove the battery, and then connect the AC adapter/charger. [Refer to *3 page 4-11]
VIDEO scene cannot be copied to card.	Appears if an attempt is made to copy video to card. The specifications state that no video is unrecordable on card.	Stop trying to copy a video, or select photos and execute copy.
Write protected. Check disc.	Appears if a DVD-RAM disc that was write-protected for disc units by software disc-protect function is loaded, or if an attempt is made to record on write-protected disc.	Release the software disc-protect.
Write-protected. Check card.	Appears when an SD memory card whose erasure prevention switch was locked is loaded.	Unlock the erasure prevention switch of SD memory card.

Note:
The listed messages are subject to change without notice for improvement of performance.

4-4 Self-Diagnosis Function and Troubleshooting

Restriction:
The information included in this section is exclusively for service personnel. Do not disclose it to persons other than service engineers.

This DVD video camera/recorder is equipped with a self-diagnosis function: If it detects a problem when power is turned on or during operation, it will display a message, replace the content of problem with an error code (4-digit alphanumeric characters), and then store it in flash memory.

4-4-1 Message displayed by self-diagnosis function

There are two types of message displayed when the self-diagnosis function detects problems: messages for minor problems, and messages for serious problems.

Information:
The messages of self-diagnosis function will be displayed until the power switch is set to "POWER OFF" or the disc is removed, regardless of whether there is a minor or serious problem.

(1) Messages for minor problems

These messages appear when troubleshooting is likely possible for the problem detected when power was turned on, following the procedure below.

- ◆ Procedure when message shown in Fig. 4-4-1 appears:
  Set the power switch to "POWER OFF", reconnect the AC adapter/charger or battery, and then set the power switch to "VIDEO" or "PHOTO (disc)".
- ◆ Procedure when message shown in Fig. 4-4-2 appears:
  Set the power switch to "POWER OFF", press the DISC EJECT button, and then reinsert the disc. After that, set the power switch to "VIDEO" or "PHOTO (disc)".

If the problem is handled by the procedure shown above, servicing is not necessary in almost all cases. However, if the DVD video camera/recorder cannot be restored from the problem or the same problem recurs, appropriate servicing will be required.

The information on minor problems will be stored in flash memory as error codes (4-digit alphanumeric characters), whether or not the DVD video camera/recorder is restored from the problems. See "4-4-2 Error codes stored in flash memory" for how to display the stored error codes.

Fig. 4-4-1 Message (1/2)

Fig. 4-4-2 Message (2/2)

(2) Messages for serious problems

These messages appear when solving the problem detected when power is turned on or during operation is not likely by turning power on again or reloading the disc: Error codes (4-digit alphanumeric characters) will directly appear, and similar messages will appear if a problem from the same cause occurs three times consecutively during operation.
If messages for serious problems appear, perform troubleshooting according to "4-4-3 Major error codes and troubleshooting".
The error codes appearing with messages will be stored in flash memory. See "4-4-2 Error codes stored in flash memory" for how to display the stored error codes.

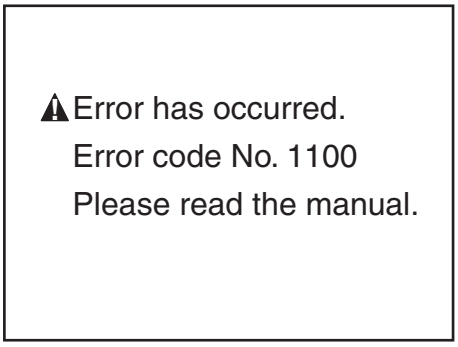


Fig. 4-4-3 Example of Message (displayed in modes other than during power on or recording)

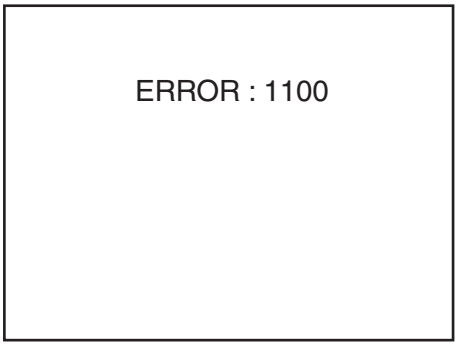


Fig. 4-4-4 Example of Message (displayed during recording)

4-4-2 Error codes stored in flash memory

(1) Displaying error codes and clearing them

◆ Display method

1) Connect the battery or AC adapter/charger, and then set the power switch to “VIDEO”.
2) Display the error using the following button operation: Press the SELECT button and release it; then, within 0.5 second, simultaneously hold down the SELECT and FOCUS buttons for at least 3 seconds.

◆ Display clearing method

1) Press the DISPLAY button.
   After displaying and checking error code, be sure to clear the error code display: If you neglect this, the error code will always be displayed.

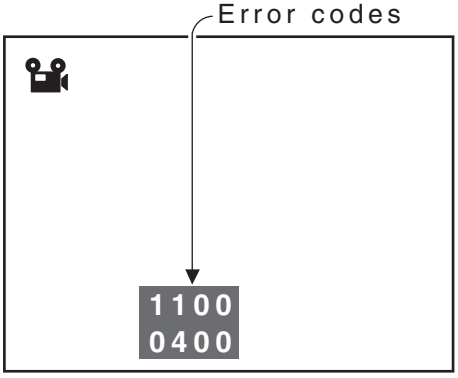


Fig. 4-4-5 Example of Error Code Display

(2) Details of error code display

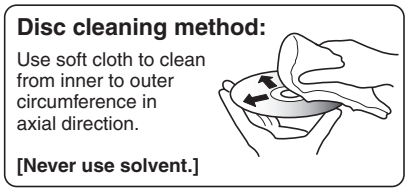
1) Error codes of 2 problems are displayed one above the other.
   The error code of the latest problem appears in the upper row, and the error code of the problem that occurred before appears in the lower row. However, when the same problem occurs continuously, it will be judged as one problem, and the same error code will not appear continuously.
2) If only one error code is stored in flash memory, the error code will appear in the upper row, and “0000” will appear in the lower row.
3) If no error code is stored in flash memory, “0000” will appear in both rows.

4-4-3 Major error codes and troubleshooting

Table 4-4-1 shows the error codes that are likely to frequently appear, and troubleshooting when they appear.

If error codes other than those listed in Table 4-4-1 appear, check with the factory for troubleshooting.

Table 4-4-1 Major Error Codes and Troubleshooting

Error code	Contents of problem	Troubleshooting
0400	Recognition of disc failed.	1) Set the power switch to "POWER OFF", reattach the battery or AC adapter/charger, and then set the power switch to "VIDEO" or "PHOTO" (disc). Take care not to subject the DVD video camera/ recorder to impact or vibrations at this time. 2) Set the power switch to "POWER OFF", remove the disc and check whether or not it is dirty, scratched or distorted. If it is dirty, clean it referring to the next page, and then reload it. If it is scratched or distorted, use another disc. Then set the power switch to "VIDEO" or "PHOTO" (disc). 3) Replace the disc without regard as to whether it is dirty, scratched or distorted.
1100	Reading of data from disc failed.	
10AE 10AF	Disc physically damaged, i.e., scratched or distorted.	Replace the disc.
0280	The optical pickup in disc drive unit failed to move.	1) Check the ambient temperature. 2) Set the power switch to "POWER OFF", remove the disc and check whether or not it is dirty, scratched or distorted. If it is dirty, clean it, and then reload it. If it is scratched or distorted, replace the disc. Then set the power switch to "VIDEO" or "PHOTO" (disc).  3) Check to see whether or not condensation has occurred. If condensation has occurred, set the power switch to "POWER OFF" with the disc loaded, and then leave the DVD video camera/recorder in a dry place for 1-2 hours. 4) Replace the disc.
2881	Recognition of disc failed. [This message is likely to appear frequently when the ambient temperature is too low (0°C or less)].	

Error code	Contents of problem	Troubleshooting
3122	Recording on DVD-RAM disc failed.	1) Set the power switch to “POWER OFF”, reattach the battery or AC adapter/charger, and then set the power switch to “VIDEO” or “PHOTO” (disc). Take care not to subject the DVD video camera/ recorder to impact or vibrations at this time. 2) Set the power switch to “POWER OFF”, remove the disc and check whether or not it is dirty, scratched or distorted. If it is dirty, clean it referring to the next page, and then reload it. If it is scratched or distorted, use another disc. Then set the power switch to “VIDEO” or “PHOTO” (disc). 3) Replace the disc without regard as to whether it is dirty, scratched or distorted.
3126	Writing data file to disc failed.	
3133		
7601	It takes much more time than necessary to process start or end of recording (timeout error).	
7890	Recording on DVD-R disc failed.	
7791	Formatting DVD-RAM disc failed.	Format it again, or replace the disc.
3105	When recording photo, writing data to disc failed.	1) Set the power switch to “POWER OFF”, reattach the battery or AC adapter/charger, and then set the power switch to “VIDEO” or “PHOTO” (disc). Take care not to subject the DVD video camera/ recorder to impact or vibrations at this time. 2) Set the power switch to “POWER OFF”, remove the disc and check whether or not it is dirty, scratched or distorted. If it is dirty, clean it, and then reload it. If it is scratched or distorted, replace the disc. Then set the power switch to “VIDEO” or “PHOTO” (disc). 3) When using DVD-R disc: Replace the disc without regard as to whether it is dirty, scratched or distorted. When using DVD-RAM disc: Initialize the disc (deleting all data recorded on disc), or replace the disc.
E000	Writing data to disc failed.	
EC87	Abnormal stop during reading or writing of data from/to disc.	
F100	Buffer has overflowed during recording.	
F526	When starting recording, reading of data file on disc failed.	
F571	When recording photo, writing data to disc failed.	
F572	When recording video, writing data to disc failed.	
F573		
F600	Backup error	
F700	No response from disc drive even when 3 minutes has elapsed (drive timeout error).	
F924	Recording failed	
FB24	Initialization at start of recording failed.	
FB34	While recording mode was being transferred to recording pause, writing data to disc failed.	
FB44	During processing of buffer overflow error, writing data to disc failed.	

4-5 System Resetting/Resetting Camera Functions

This DVD video camera/recorder has two types of reset function: “System reset” and “Resetting camera functions”.
The reset operation will return the various settings to the defaults when the DVD video camera/recorder was shipped from factory.

Information:
If a defect occurs in product, take note of settings, and then execute system reset: The defect may disappear.

4-5-1 List of items to be reset

Table 4-5-1 shows the items that will be reset to defaults at the factory by the two types of reset operation: “system reset” and “resetting camera functions”.
Use the memo column provided in the table to enter the settings of any received device.

(1) Procedure for checking settings

1) Connect the battery or the AC adapter/charger.
2) Set the QUICK MODE switch to “OFF”.
3) Insert a DVD-RAM disc, and then set the power switch to “VIDEO”. For subsequent steps, operate the DVD video camera/recorder while viewing the LCD monitor or viewfinder.
4) Press the MENU button to display the camera function setup menu screen: Make sure of the settings.
5) Operate the joystick to display the menu screens for record function setup, date function setup, LCD monitor setup and initial setup in sequence, making sure of the settings.
   At this time, the items on photo quality, external photo input and self-timer will not appear, since they are related to photo recording: Check them in steps 6) and 7).
6) Set the power switch to “[CARD]PHOTO”. It is not necessary to insert a card at this time.
7) Press the MENU button to display the camera function setup menu screen, and then operate the joystick to display the record function setup menu screen in order to check the settings on photo quality, external photo input and self-timer.
8) After checking is complete, press the MENU button to restore the ordinary screen.

Yes: Will be reset
No: Will not be reset

Table 4-5-1 List of items to be reset

Item	System reset	Camera function reset	Default at factory	Setting range	Remarks	Memo
Camera Functions Setup						
Program AE	Yes	Yes	Auto	Auto, Sports, Portrait, Spotlight, Sand & Snow, Low Light	Low Light will not appear when "VIDEO mode: STD" is specified.	
White Bal.	Yes	Yes	Auto	Auto, Set, Outdoor, Indoor		
EIS	Yes	Yes	On	On, Off	Displayed on DZ-MV580E only in the Video mode	
Dig. Zoom	Yes	Yes	40×	DZ-MV580E: 240×, 40×, Off DZ-MV550E: 500×, 40×, Off		
MIC Filter	Yes	Yes	Off	On, Off		
16:9	Yes	Yes	Off	On, Off	Displayed only in the Video mode	
Record Functions Setup						
VIDEO Mode	Yes	Yes	FINE	With DVD-RAM disc: XTRA, FINE, STD With DVD-R disc: FINE, STD	Displayed only in the Video mode	
Quality	Yes	Yes	FINE	FINE, NORM, ECO	Displayed only in the card photo mode	
Input Source	Yes	Yes	CAMERA	CAMERA, LINE	Displayed only on models that have the line input function(*1)	
PHOTO Input	Yes	Yes	Field	Frame, Field		
Self Timer	Yes	Yes	Off	On, Off		
OSD Output	Yes	Yes	On	On, Off	Displayed only when "Input Source: CAMERA" is specified	
Date Setup						
Date Mode	Yes	Yes	D/M/Y	17:00 D/M/Y, 5:00PM M/D/Y, PM5:00 Y/M/D		
Date Set	Yes	No	1/1/2004 0:00	----------		

*1: The line input function is provided in the following models:
DZ-MV580E(AU)/MV580E(SW)/MV580E(SWH)
DZ-MV550E(AU)/MV550E(SW)/MV550E(SWH)
The symbols in parentheses ( ) in the above model names show the destinations and are displayed only on packing box.
Refer to "2-5 Differences in Rating Labels and Difference in Function" when checking the body of DVD video camera/recorder, to judge whether or not it is equipped with the line input function (destination).

Item	System reset	Camera function reset	Default at factory	Setting range	Remarks	Memo
LCD Setup						
Brightness	Yes	Yes	Center	− +		
Color Level	Yes	Yes	Center	− +		
Initial Setup						
Beep	Yes	Yes	On	On, Off		
Power Save	Yes	Yes	Off	On, Off		
Record LED	Yes	Yes	On	On, Off		
Language	Yes	Yes	English	English, French, Spanish, German, Italian		
Demo Mode	Yes	Yes	Auto	Auto, Off, Start		

4-5-2 System reset procedure

1) Set the power switch to “POWER OFF”, and then disconnect the battery or AC adapter/ charger.
2) Use a fine tipped pen, etc. to hold down the RESET button for approx. 2 seconds.

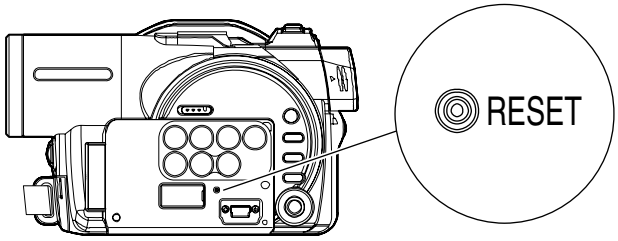


Fig. 4-5-1

4-5-3 Procedure for resetting camera functions

1) Connect the battery or AC adapter/charger.
2) Set the power switch to “VIDEO” and place the DVD video camera/recorder in the recording pause status; loading disc is not necessary at this time. For the following steps, operate the DVD video camera/recorder while viewing the LCD monitor or viewfinder.
3) Set the quick mode switch to “OFF”.
4) Press the MENU button to display the camera setting menu screen.
5) Use the joystick to choose “Initial Setup”, and then press the center of joystick.
6) Use the joystick to choose “Reset”, and then press the center of joystick: The screen for verifying reset will appear.
7) Use the joystick to choose “YES”, and then press the center of joystick: Reset will be executed.
8) After reset, press the MENU button to close the camera setting menu.

4-6 Checking Versions of Firmware and Updating

This DVD video camera/recorder stores the 4 types of firmware shown in Table 4-6-1 in flash memory.
These firmware programs will be updated whenever necessary to improve the performance of this DVD video camera/recorder.
Check to see whether any defects in this DVD video camera/recorder can be eliminated by updating any firmware programs: If improvement is likely, update them.

Information:
If any corrections in firmware are made at the factory, the information on how to obtain the firmware data and create a disc or card containing upgraded firmware will be reported on service bulletin, etc.

Table 4-6-1 List of Firmware Programs

Type of firmware	Description	Remarks
System firmware	Software that drives SH CPU: Controls the operation of entire system, including recording, playback, Disc Navigation, connections with external device	
Camera microprocessor firmware	Controls the operation of camera block (including optical system), clock, battery, input/output	Does not require updating
Drive main firmware	These programs control the DVD disc drive system (mechanism block)	
Drive core firmware		

4-6-1 Checking firmware versions

(1) Purpose

When checking whether updating firmware is needed or not, use the following procedure to view the version display screen (see Fig. 4-6-1) and check the version number.
Only the titles at top left of screens will be different when no disc is loaded or disc is loaded; the other display contents will be the same.

(2) Version display/clear method

◆ Display method

1) Connect the battery or AC adapter/charger.
2) Set the power switch to “VIDEO”. Operate the DVD video camera/recorder while viewing the LCD screen or viewfinder from this point.
3) When a disc is loaded, press the DISC NAVIGATION button to display the thumbnail display screen: This step is not necessary if no disc is loaded.
4) Operate the following buttons to view the version display screen:
   Tilt the joystick up and hold it, then simultaneously press the SELECT button and REC buttons.

◆ Display clearing method

1) Press the stop/cancel button to restore the thumbnail display screen. To return to the normal screen, press the DISC NAVIGATION button.

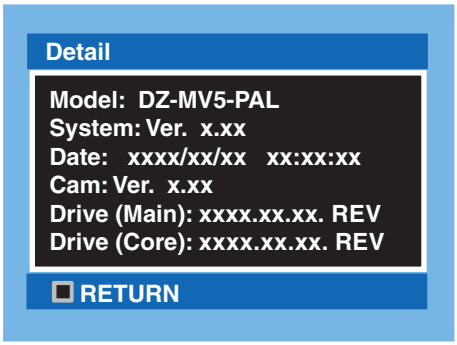
(3) Details of version display screens

Table 4-6-2

Item	Display contents
Model	Model name
System Ver.	Version number of system firmware
Date	Date/time when system firmware was created
Cam Ver.	Version number of Camera microprocessor firmware
Drive (Main)	Version number of drive main firmware
Drive (Core)	Version number of drive core firmware

Information:
Display ×××× on subsequent screen shows the numbers or alphabets.

When no disc is loaded



When disc is loaded

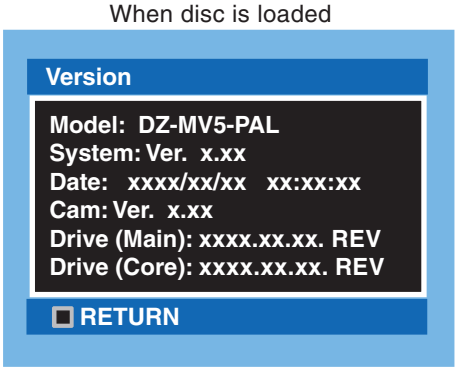


Fig. 4-6-1

4-6-2 Updating firmware

(1) Purpose

If you receive information from the factory that updating firmware is needed, you should do it to improve the performance, functions and operability of the DVD video camera/recorder.

(2) Procedure for updating

1) Acquire the data for updating of firmware and create a disc or card for updating. Information on how to obtain the firmware data and create a disc/card containing upgraded firmware will be reported on service bulletin, etc.
2) Set the power switch to "POWER OFF", and then use the AC adapter/charger to power the DVD video camera/recorder. A battery cannot be used because it may interrupt power of the DVD video camera/recorder during work.
3) Insert the disc/card for updating firmware.
4) Set the power switch to "POWER OFF" when using a disc for updating, or to "[CARD]PHOTO" when using a card for updating.
5) After approx. 20 seconds, the updating start screen (Fig. 4-6-2) will appear, and the firmware programs will be automatically updated thereafter. During updating, the screens showing that designated firmware program is being updated will appear, followed by the screen showing that updating is complete.
   However, not all firmware programs need updating every time: The same version screen will appear for firmware programs that do not require updating.
6) When all required updating is complete, the screen for verifying the version of updated firmware will appear, and the updated firmware will be displayed in red.
7) To complete updating, set the power switch to "POWER OFF", and then remove the disc/card for updating.

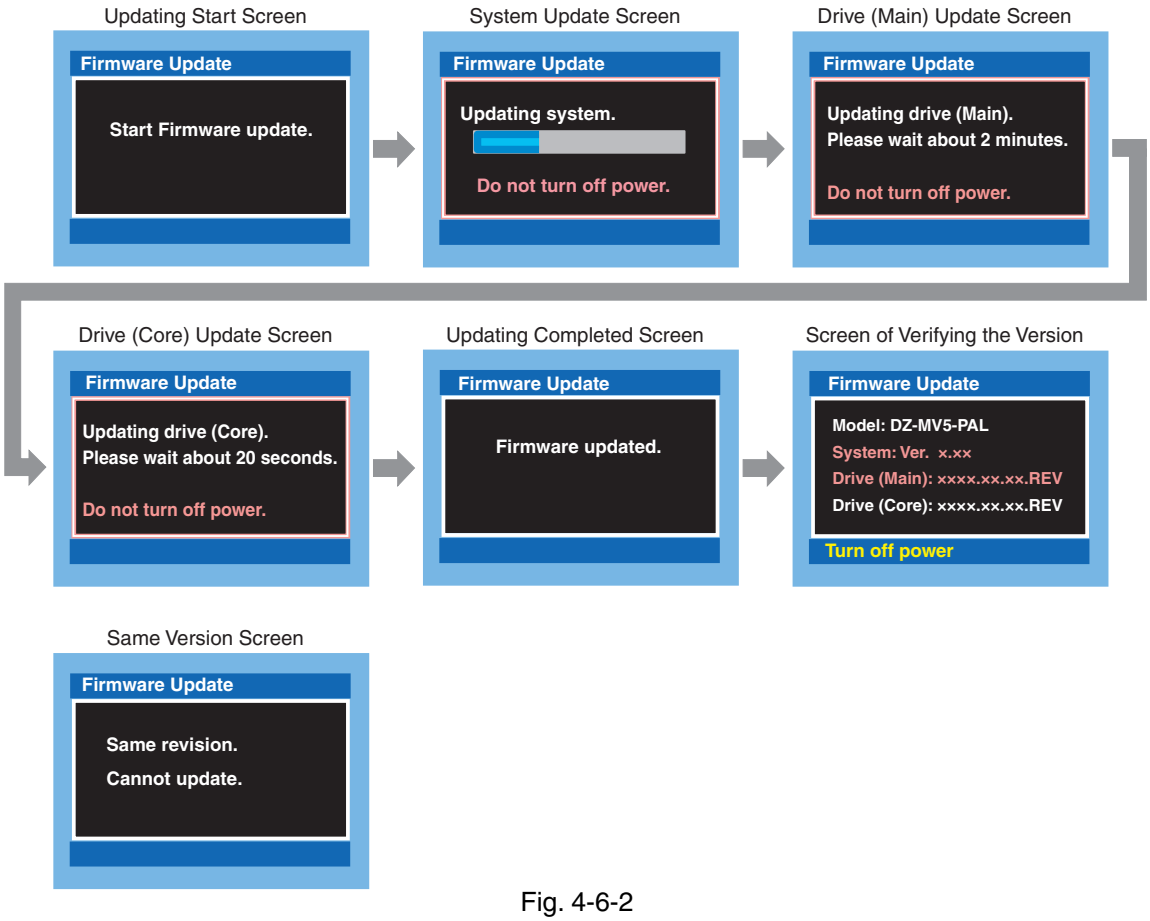


Fig. 4-6-2

4-7 Trouble Diagnosis

Information:
1) Use the DZ-ACS1 adapter/charger to power the DVD video camera/recorder for trouble diagnosis.
2) The trouble diagnosis table was prepared presupposing that the circuit boards have been normally attached and connected. Therefore, make sure beforehand that the circuit boards are correctly connected, that connectors and cables are not damaged, and that the status of their connections is correct.

Prohibition:
During trouble diagnosis, never look directly into the objective lens of optical pickup block in disc drive unit, and take great care that the reflected laser beam does not enter your eye.

4-7-1 Trouble diagnosis table

Interpreting the trouble diagnosis table:
1) Search for the defective symptom. If there are multiple check points or multiple details of check for one symptom, check the items from the top down.
2) Set this DVD video camera/recorder to a service position that matches the symptom. There are four service positions (A)-(D) for this DVD video camera/recorder. Set to the appropriate service position, referring to “Disassembly/reassembly to enable service position”.
   If only dashes — are entered in the service position column, trouble diagnosis is possible without disassembling this DVD video camera/recorder.
3) Connect the measurement terminals to the check points, and collate the results with the details of check.
   Letters in brackets [ ] that follow the check points show the name and side of circuit board.
   Example: [MAN-A] shows that the check point exists on side A of MAN-H/MAN circuit board.

Information:
The MAN-H/MAN or AEL-H/AEL circuit board has some check points to which no terminals of test equipment can be directly connected even when this DVD video camera/recorder is set to a service position.
Solder a lead wire of approx. 10 cm to such check points, referring to “Disassembly/reassembly to enable service position” and “circuit board diagrams”. When trouble diagnosis is complete, be sure to remove the lead wire.

4) Perform troubleshooting according to the check results, referring to the troubleshooting columns.

Table 4-7-1 Trouble Diagnosis Table

Symptom	Service position	Check points	Detail of check	Troubleshooting due to check results
No power	(A)	F0501 [MAN-B]	Is fuse blown?	Yes: Replace MAN-H/ MAN circuit board.
		F0502 [MAN-B]		
		F0503 [MAN-B]		
		F0504 [MAN-B]		
		TL0504 [MAN-B]	Is the voltage approx. 3.2 V DC (REG ON) when the power switch is set to "VIDEO" or "PHOTO" from "POWER OFF"?	No: Replace MAN-H/ MAN circuit board.
		IC1503- 53 to 56 [MAN-B] (Do not solder lead wire)	Can approx. 3 V DC (SYS3V) be confirmed?	
		TL0510 [MAN-A]	Can approx. 1.5 V DC (C1.6V) be confirmed?	
		TL0511 [MAN-B]	Can approx. 3.2 V DC (CAM3V) be confirmed?	
		TL0512 [MAN-A]	Can approx. 4.8 V DC (CAM5V) be confirmed?	
		TL0513 [MAN-A]	Can approx. 3 V DC (D3V) be confirmed?	
		TL0515 [MAN-A]	Can approx. 5 V DC (D5V) be confirmed?	
		TL0517 [MAN-A]	Can approx. 2.5 V DC (D2.5V) be confirmed?	
		TL0518 [MAN-B]	Can approx. 15 V DC (C15V) be confirmed?	
Date/time is incorrect	(B)	TL7041 [AEL-B]	Can approx. 3 V DC (B/U3V) be confirmed?	Yes: Replace MAN-H/ MAN circuit board.
				No: Replace BA1801.
Auto-focus does not operate.	-----	-----	Even if manual focus is set and +/- buttons are operated, focus is not correct, and when power is turned on again, abnormal sound is heard from the lens and it takes more than 20 seconds before an image appears.	Yes: Replace lens unit.
				No: Replace MAN-H/ MAN circuit board.
No zoom works even if zoom lever is operated.	-----	-----	No zoom is operated by the remote control, and when power is turned on again, abnormal sound is heard from the lens and it takes more than 20 seconds before an image appears.	Yes: Replace lens unit.
	(A)	TL1543 [MAN-B]	Can change in voltage be confirmed when lever is operated (T/W)?	Yes: Replace MAN-H/ MAN circuit board. No: Replace rear cover.

Symptom	Service position	Check points	Detail of check	Troubleshooting due to check results
DISC EJECT button does not operate	(A)	TL1547 [MAN-B]	Can change in voltage be confirmed when button is operated (EJECT SW)?	Yes: Replace MAN-H/ MAN circuit board. No: Replace rear cover.
REC button does not operate	(B)	TL0522 [MAN-A]	Can change in voltage be confirmed when button (REC) is pressed?	
Left button/ joystick does not operate	(C)	TL7030 [AEL-B]	Can change in voltage be confirmed when button/ joystick (KEY1) is moved?}	Yes: Replace MAN-H/ MAN circuit board. No: Side case-L or parts on the SWL2 circuit board faulty.
QUICK MODE switch does not operate	(C)	TL7028 [AEL-B]	Can change in voltage be confirmed when switch (KEY2) is moved?	Yes: Replace MAN-H/ MAN circuit board. No: Replace SW8017 on SWL3 circuit board.
No image on LCD monitor	-----	-----	Does backlight turn on?	Yes: Replace LCD unit.
	(D)	TL3418 [LCD]	Can approx. 5 V DC (INV5V) be confirmed?	Yes: Q3451 or Q3452 and its peripheral circuits are faulty. No: Replace MAN-H/ MAN circuit board.
No image in viewfinder (EVF)	(C) Close LCD monitor	TL3715 [AEL-B]	Can video signal (EVF-G) be confirmed?	Yes: Replace EVF unit. No: Replace IC3701.
Block noise appears during video recording	-----	-----	----------	Replace MAN-H/MAN circuit board.
Camera recorded image is abnormal	(B)	TL2084 [MAN-A]	Can sensor drive pulses (V1-4, H1, H2, RG) be confirmed?	No: Replace MAN-H/ MAN circuit board.
		TL2085 [MAN-A]		
		TL2086 [MAN-A]		
		TL2089 [MAN-A]		
		TL2090 [MAN-A]		
		TL2091 [MAN-A]		
		TL2095 [MAN-A]		
	(B)	TL2082 [MAN-A]	Can video signal (CCD-OUT) be confirmed?	Yes: Replace MAN-H/ MAN circuit board. No: With DZ-MV580E, replace IC1001. With DZ-MV550E, replace lens unit.
No image from AV input/output terminal	-----	-----	Does image appear on LCD monitor or in EVF?	No: Replace MAN-H/ MAN circuit board.
	(B)	TL6010 [MAN-B]	Can video signal (VIDEO) be confirmed?	Yes: Replace MAN-H/ MAN circuit board. No: IC6103 and its peripheral circuits are faulty.

Symptom	Service position	Check points	Detail of check	Troubleshooting due to check results
No sound from speaker	(C)	TL1534 [MAN-B] TL1535 [MAN-B]	Can audio signal (SP_OUT+, SP_OUT-) be confirmed?	Yes: Replace disc cover. No: IC6103 and its peripheral circuits are faulty.
No audio from AV input/output terminal	(B)	TL6006 [MAN-B] TL6009 [MAN-B]	Can audio signal (AUD-L, AUD-R) be confirmed?	Yes: Replace MAN-H/MAN circuit board. No: IC6103 and its peripheral circuits are faulty.
Audio from built-in microphone cannot be recorded	(B)	IC6101-1, 7, 8, 14 [AEL-A] (Do not solder lead wire)	Can audio signal (MIC_INL, MIC_INR) be confirmed?	No: Built-in microphone, or IC6101 and its peripheral circuits are faulty.
	(B)	TL6101 [AEL-B] TL6102 [AEL-B]	Can audio signal (MIC_INL, MIC_INR) be confirmed?	Yes: IC6201 or its peripheral circuits are faulty. No: Q6101-6104, Q6108, Q6109, Q6207, Q6208 or their peripheral circuits are faulty.
Audio from external microphone cannot be recorded	(B)	IC6201-3, 4 [AEL-A] (Do not solder lead wire)	Can audio signal (EXTMIC_LCH, EXTMIC_RCH) be confirmed?	Yes: IC6201 or its peripheral circuits are faulty. No: Replace MAN-H/MAN circuit board.
When a darkish scene is recorded, a bright point will appear on the screen for external output (CRT-type color monitor screen).	-----	-----	This bright point will not disappear even when "6-4-9 Spot Noise" is performed.	With DZ-MV580E, replace IC1001. With DZ-MV550E, replace lens unit.
EIS does not work.	(B)	PG0154-1 [SHE]	Can approx. 3.1 V DC (C3V) be confirmed?	No: Replace MAN-H/MAN circuit board.
		PG0154-3 [SHE]	Can approx. 0 V DC (GYRO_RST) be confirmed?	No: Replace MAN-H/MAN circuit board.
		PG0154-2, 4 [SHE]	Can approx. 1.3 V DC be confirmed when the camera is fixed, and can variation in voltage be confirmed when the camera is shaken?	Yes: Replace MAN-H/MAN circuit board. No: Replace IC1401, IC1402 or IC1403.

Symptom	Service position	Check points	Detail of check	Troubleshooting due to check results
Even if a normal disc is inserted, message "DISC ACCESS" continues to appear, and the disc is not recognized.	-----	-----	----------	Replace disc drive unit.
Message "NO DISC" appears approx. 1 second after a normal disc is inserted.	-----	-----	----------	If the DRF-H/DRF circuit board is not damaged or its connection status is normal, replace disc drive unit.
Message "NO DISC" appears within 10 seconds after a normal disc is inserted.	-----	-----	----------	Replace disc drive unit.
Even when a disc not protected is inserted, message "Write protected. Check disc" appears.	-----	-----	----------	Replace disc drive unit.
Even when a formatted disc is inserted, message "Disc is not formatted" appears.	-----	-----	----------	

4-7-2 Disassembly/reassembly to enable service position

Prohibition

Be sure to disconnect the AC adapter/charger or battery from the DVD video camera/recorder. The DVD video camera/recorder has a built-in laser emitter block. Never look into it: If Laser beam strikes your eye, it could cause serious vision damage.

Information:

Numbers in diagrams are step numbers for setting procedure. Letters in [ ] show the types of screw. Letters in brackets ( ) show the name of parts.

(1) Setting to service position (A)

Service position (A) is mainly used for trouble diagnosis of the power supply system and the system of disc cover/operation buttons on side case-R. Perform trouble diagnosis using the check points on MAN-H/MAN circuit board.

Remove the MAN-H/MAN circuit board in advance, referring to "5. Disassembly and Reassembly".

1) Solder a lead wire of approx. 10 cm to the check points (except for IC pins) on side A of MAN-H/MAN circuit board, referring to "4-7-1 Trouble diagnosis table" and "C-1 MAN-H/MAN" circuit board diagram. (See Fig. 4-7-2)

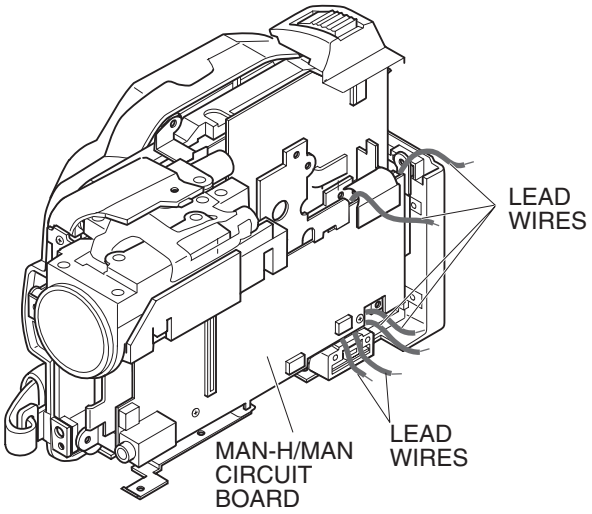


Fig. 4-7-1 Service Position (A)

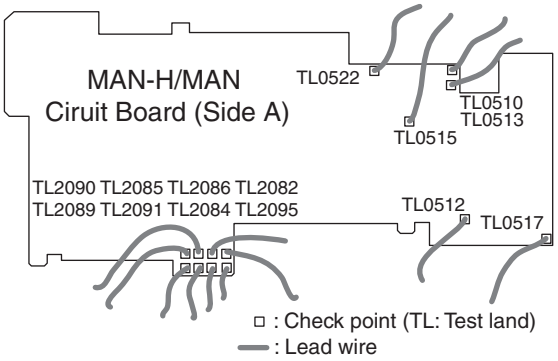
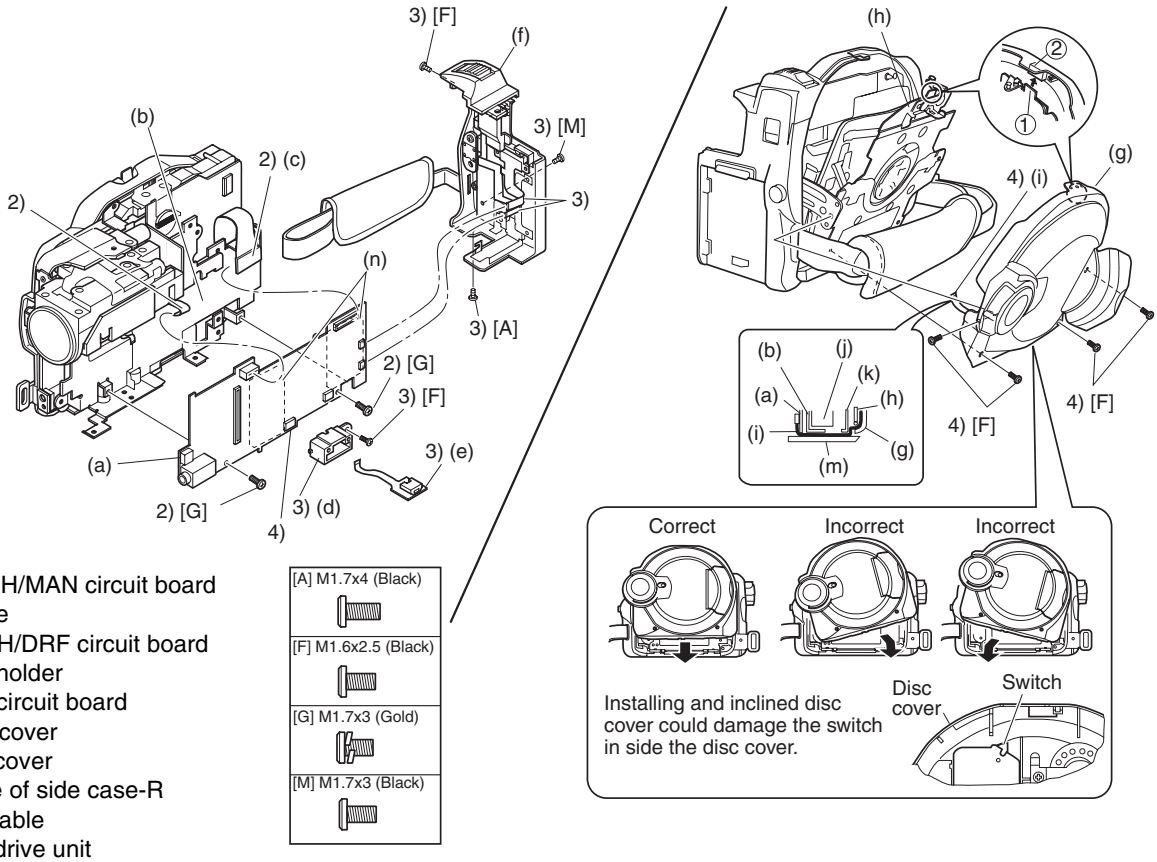


Fig. 4-7-2 Lead wire soldering

2) Attach the MAN-H/MAN circuit board independently to the frame, and connect the DRF-H/DRF circuit board to it.
3) Assemble the USB holder, USB-H/USB circuit board and rear cover.
4) Assemble the disc cover so that hinge ① of side case-R fits into point ② at the top of inside of disc cover. Do not incline the disc cover at this time: Inclining the cover when assembling it could break the switch inside the cover.

Note:
Attach the MAN-H/MAN circuit board independently of the frame only when setting to service position (A).
When setting to service position (B) or during normal assembly, be sure to connect the AEL-H/AEL circuit board to MAN-H/MAN circuit board first, and then attach them to the frame.
If the AEL-H/AEL circuit board is connected to MAN-H/MAN circuit board that is already attached to the frame, connection error may occur, or the circuit boards or frame could be damaged.



(a) MAN-H/MAN circuit board
(b) Frame
(c) DRF-H/DRF circuit board
(d) USB holder
(e) USB circuit board
(f) Rear cover
(g) Disc cover
(h) Hinge of side case-R
(i) Flat cable
(j) Disc drive unit
(k) Loader
(m) Side case-R
(n) Heat sink rubber

Fig. 4-7-3 Setting to service position (A)

(2) Setting to service position (B)

Service position (B) is mainly used for trouble diagnosis of the video and audio signal systems.
Perform trouble diagnosis using the check points on MAN-H/MAN and AEL-H/AEL circuit

Remove the MAN-H/MAN and AEL-H/AEL circuit boards in advance, referring to "5 Disassembly and Reassembly".

1) Solder a lead wire of approx. 10 cm to the check points (except for IC pins) on side A/B of MAN-H/MAN circuit board and side B of AEL-H/AEL circuit board, referring to "4-7-1 Trouble diagnosis table" and "C-1 MAN-H/MAN" and "C-2 AEL-H/AEL" circuit board diagrams. (See Figs. 4-7-5, 4-7-6)

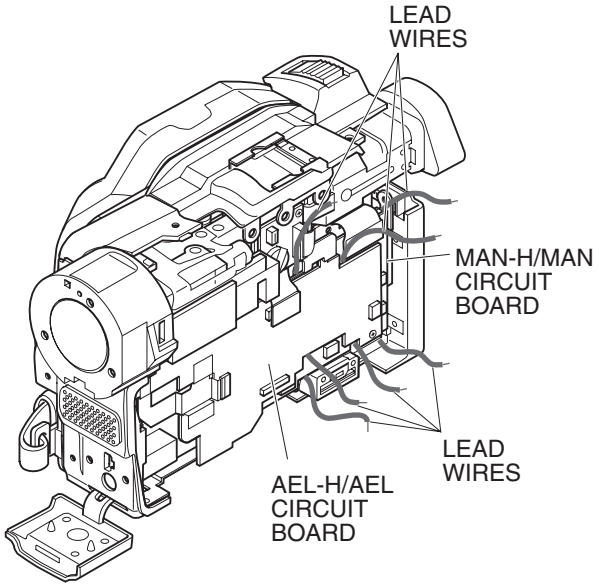


Fig. 4-7-4 Service Position (B)

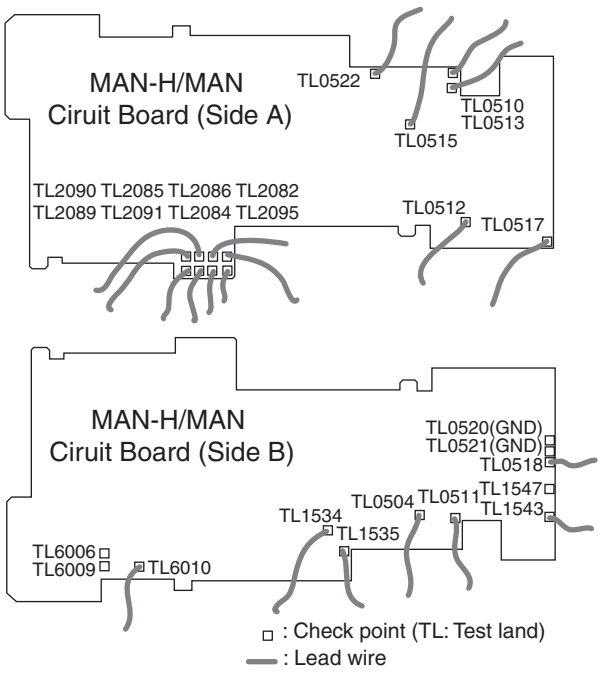


Fig. 4-7-5 Lead wire soldering of MAN-H/MAN circuit board

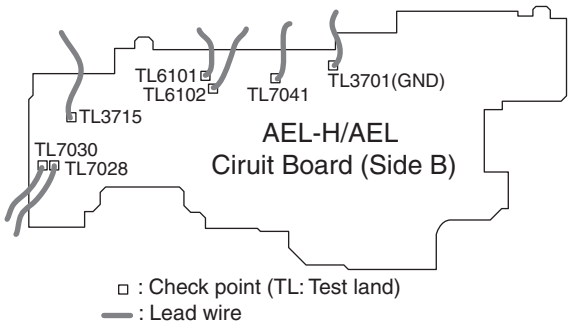


Fig. 4-7-6 Lead wire soldering of AEL-H/AEL circuit board

2) Assemble the MAN-H/MAN and AEL-H/AEL circuit boards on the frame.
3) Assemble the SHE-H/SHE circuit board and accessory shoe. (See Fig. 4-7-7)
4) Assemble the USB holder, USB-H/USB circuit board, rear cover and EVF unit.(See Fig. 4-7-8)
5) Assemble the disc cover so that hinge ① of side case-R fits into point ② at the top of inside of disc cover. Do not incline the disc cover at this time: Inclining the cover when assembling it could break the switch inside the cover.
6) Assemble the front block.

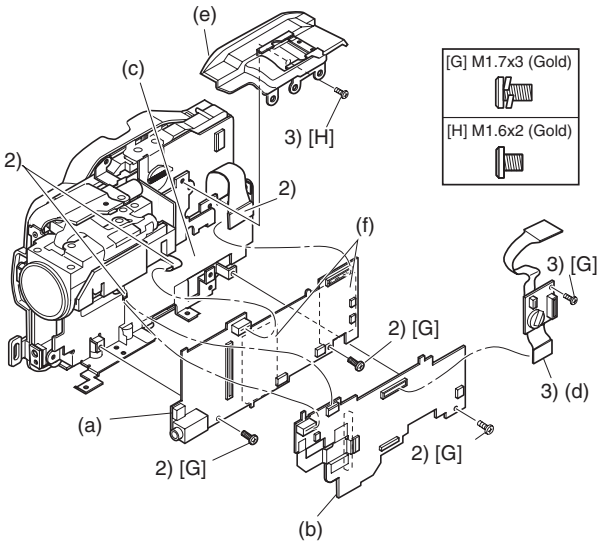


Fig. 4-7-7 Setting to service position (B) -1/2-

(a) MAN-H/MAN circuit board
(b) AEL-H/AEL circuit board
(c) Frame
(d) SHE-H/SHE circuit board
(e) Accessory shoe
(f) Heat sink rubber
(g) USB holder
(h) USB circuit board
(i) Rear cover
(j) EVF unit
(k) Disc cover
(m) Hinge of side case-R
(n) Side case-R
(p) Flat cable
(q) Disc drive unit
(r) Loader

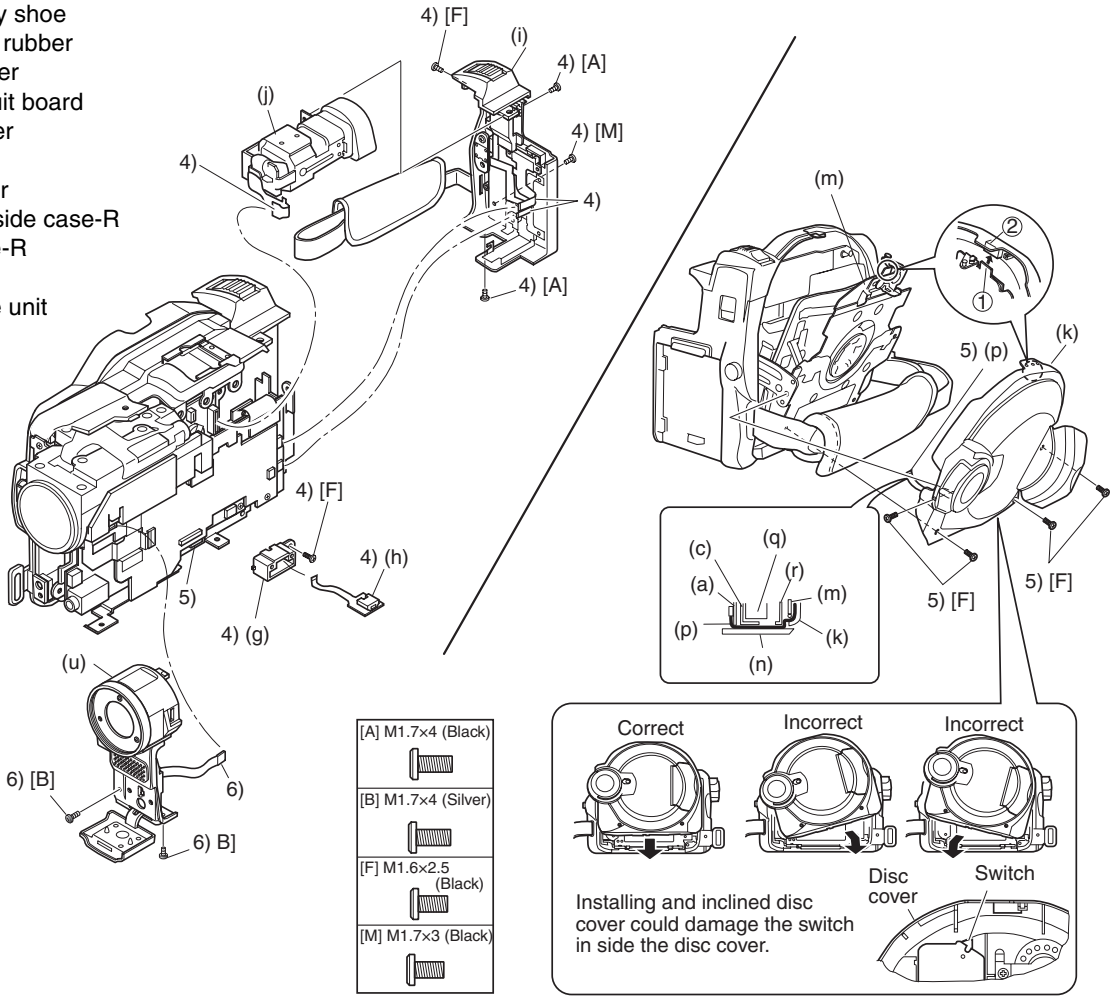


Fig. 4-7-8 Setting to service position (B) -2/2-

(3) Setting to service position (C)

Service position (C) is mainly used for trouble diagnosis of the system of operation buttons on side case-L.
Perform trouble diagnosis using the check points on MAN-H/MAN and AEL-H/AEL circuit boards.

Set to service position (B) in advance.

1) Connect the L block to AEL-H/AEL circuit board. (See Fig. 4-7-10)

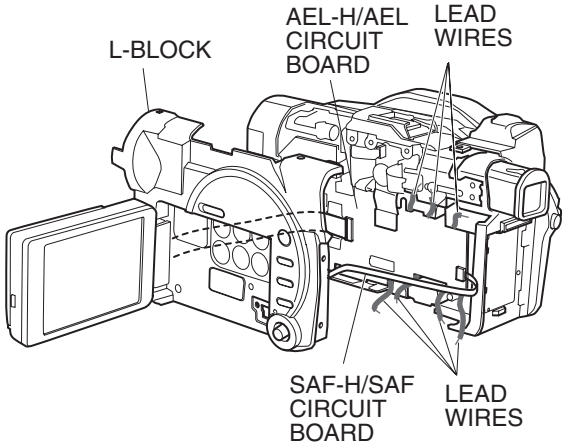


Fig. 4-7-9 Service Position (C)

(a) L block
(b) AEL-H/AEL circuit board

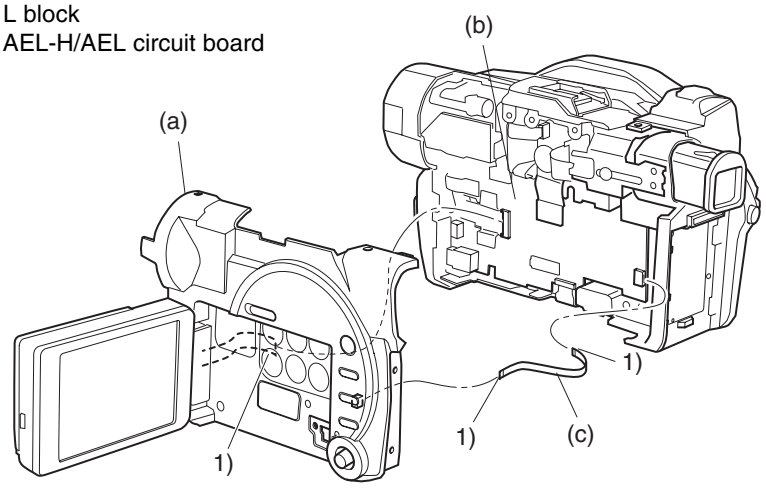


Fig. 4-7-10 Setting to service position (C)

(4) Setting to service position (D)

Service position (D) is used for trouble diagnosis of the LCD monitor.

Remove the LCD case-U, MR circuit board and fulcrum block in advance, referring to "5. Disassembly and Reassembly".

1) Connect the flat cable of fulcrum block to LCD and AEL-H/AEL circuit boards.
2) Connect the MR circuit board to LCD circuit board.

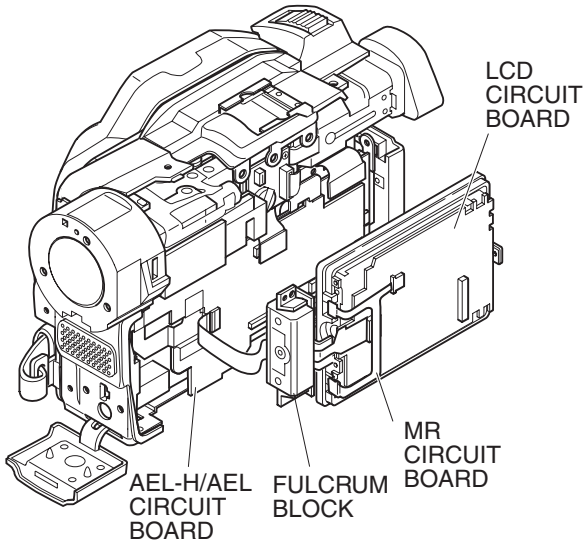


Fig. 4-7-11 Service Position (D)

(a) Fulcrum block
(b) LCD circuit board
(c) AEL-H/AEL circuit board
(d) MR circuit board
(e) MAN-H/MAN circuit board

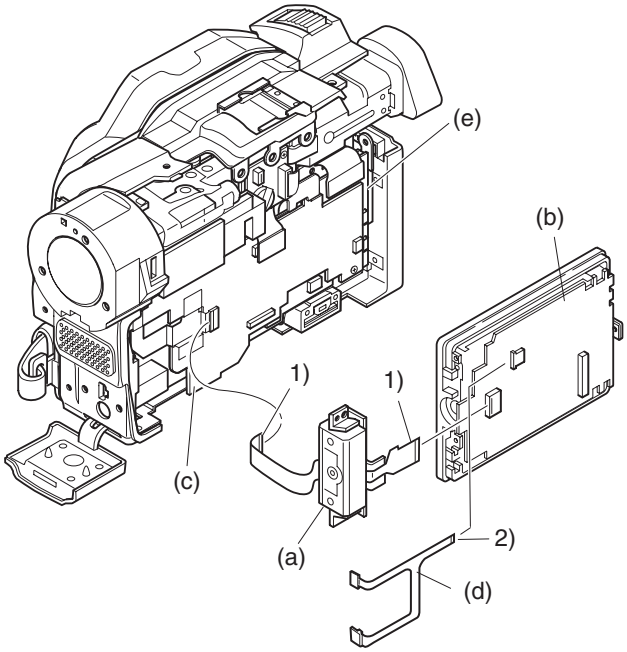


Fig. 4-7-12 Setting to service position (D)

4-8 Procedure for Removing Disc from Faulty the DVD Video Camera/Recorder

4-8-1 Item to be checked

Connect the AC adapter/charger or charged battery pack (power supply), making sure the ACCESS indicator turns off, and then press the DISC EJECT button again.
Note: Even with normal product, the disc cannot be removed while the ACCESS indicator is lit or blinking.

Information:
Connect the AC adapter/charger or charged battery pack (power supply) before pressing the DISC EJECT button.
The DISC EJECT button will work even if a power supply is not connected.

Prohibition
After the above check, be sure to disconnect the AC adapter/charger or battery from the DVD video camera/recorder.
The DVD video camera/recorder has a built-in laser emitter block. Never look into it: If laser beam strikes your eye, it could cause serious vision damage.

4-8-2 How to remove disc - DZ-MV550E, DZ-MV580E)

If the disc cannot be ejected after performing "4-8-1 Item to be checked", remove it using the procedure in this section.

Information:
Numbers in diagrams are step numbers of setting procedure, and letters in brackets [ ] show the types of screw.

1) Turn the hood in the direction of the arrow to remove it.
2) Remove the lens cover in the direction of the arrow.
3) Remove the space sheet that covers the opening for operating lock arm.
4) Use a fine-tipped flat-bladed screwdriver, etc. to move the lock arm in the direction of the arrow, and then open the disc cover.
5) Reset the DVD video camera/recorder in the procedure of "4-2-2 System reset procedure". However, the various settings return to default

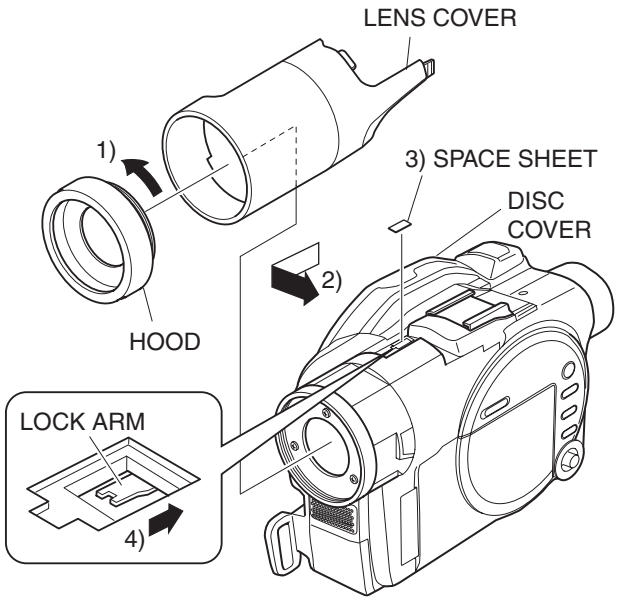


Fig.4-8-1

Information:
When reinstalling removed components, use the reverse procedure to removal.

4-8-2a How to remove disc - DZ-MV1000E(UK)

If the disc cannot be ejected after performing "4-8-1 Items to be checked", remove it using the procedure in this section.

Information:

Numbers in diagrams are step numbers of setting procedure, and letters in brackets [ ] show the types of screw.

1) Turn the hood in the direction of the arrow to remove it.
2) Remove three screws [A], and then remove the filter piece, being careful not to scratch the lens surface with screwdriver at this time.
3) Remove the lens cover in the direction of the arrow.
4) Use a fine-tipped flat-bladed screwdriver, etc. to move the lock arm in the direction of the arrow, and then open the disc cover.

Information:
When reinstalling removed components, use the reverse procedure to removal.

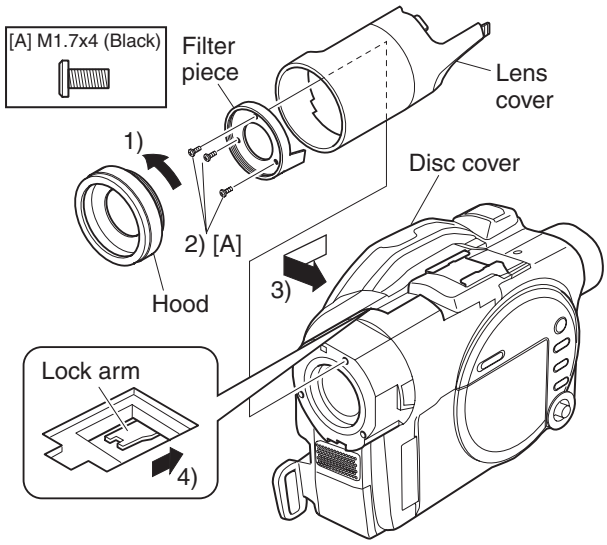


Fig.3-1-1 How to remove disc

4-9 Special Functions

Restriction:
The information included in this section is exclusively for service personnel: Do not disclose it to persons other than service engineers.

4-9-1 Forced formatting of DVD-RAM disc

(1) Application/Symptom

Perform this procedure when the Disc Navigation screen does not start normally due to a defect in data on disc and formatting is not possible by the procedure explained in instruction manual.

(2) Operational procedure

Caution:
1) Initialization will delete all data on disc: Copy the necessary files to PC, etc.
2) Do not turn power off or remove the disc during initialization: Such an interruption will make the disc unusable.

1) Connect the AC adapter/charger, and set the power switch to "VIDEO" or "PHOTO".
   Be sure to use the AC adapter/charger for formatting disc: If power is interrupted during work, the disc could become unusable.
2) Make sure that the DVD-RAM disc to be formatted is free from dirt or scratch. If the disc is dirty, clean it; if the disc is scratched, replace it. Any dirt or scratch on disc could disable normal formatting. (Fig. 4-9-1)
3) Insert the DVD-RAM disc to be formatted.
4) After the disc is recognized, operate the following buttons to display the disc formatting screen (Fig. 4-9-2):
   Hold down the SELECT, REC and + (plus) buttons simultaneously for at least 3 seconds
5) Use the joystick to choose "YES" and press the center of joystick:
   The initialization will start and message "Formatting ..." will appear.
6) When formatting is complete, message "Finished" will appear for several seconds, and then the normal screen will automatically be restored.

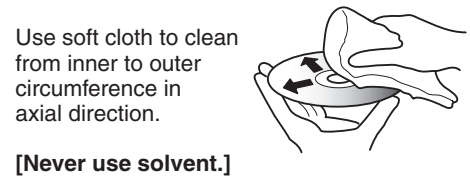


Fig. 4-9-1 Disc cleaning method

Fig. 4-9-2 Screen for Disc Formatting

4-9-2 EEPROM data backup and write

(1) Application

Perform this work whenever you replace the MAN-H/MAN circuit board on which the EEPROM is mounted.

Create a backup file of the data in EEPROM to be replaced in a PC, and write the backup file to new EEPROM: Some adjustment items that are performed after replacement can be omitted.

Refer to "6-3-2 List of Adjustments Needed After Replacing Major Components" for adjustment items that can be omitted.

(2) Preparations

1) Connect the DVD video camera/recorder, jig/tool and power supply as shown in Fig. 4-9-3.
   Refer to "6-1-1 List of Jigs and Tools used when Creating Reference Data" and "6-1-2 Power Supply and Materials for Creating Reference Data" for details on jig/tool and power supply in the figure.
2) Copy the adjustment program to HDD of PC.
   Refer to "6-1-5 Copying or Deleting Adjustment Program" for copying.
3) Start the adjustment program in order to display the adjustment menu screen on PC display.

Prohibition:

Completely assemble the DVD video camera/recorder; create backup file of EEPROM data and write it with only the adjustment cover removed (see Fig. 4-9-3).

Do not attempt to perform work with the DVD video camera/recorder disassembled: Doing so is very dangerous because the DVD video camera/recorder incorporates high-voltage circuits and a laser emitter block.

Note:

1) Always connect the Skylark connection jig before connecting the DC power cord to the DVD video camera/recorder: Connecting the Skylark connection jig after powering the DVD video camera/recorder could cause a fault.
2) Connect the Skylark connection jig so that the lead wires from jig face up.

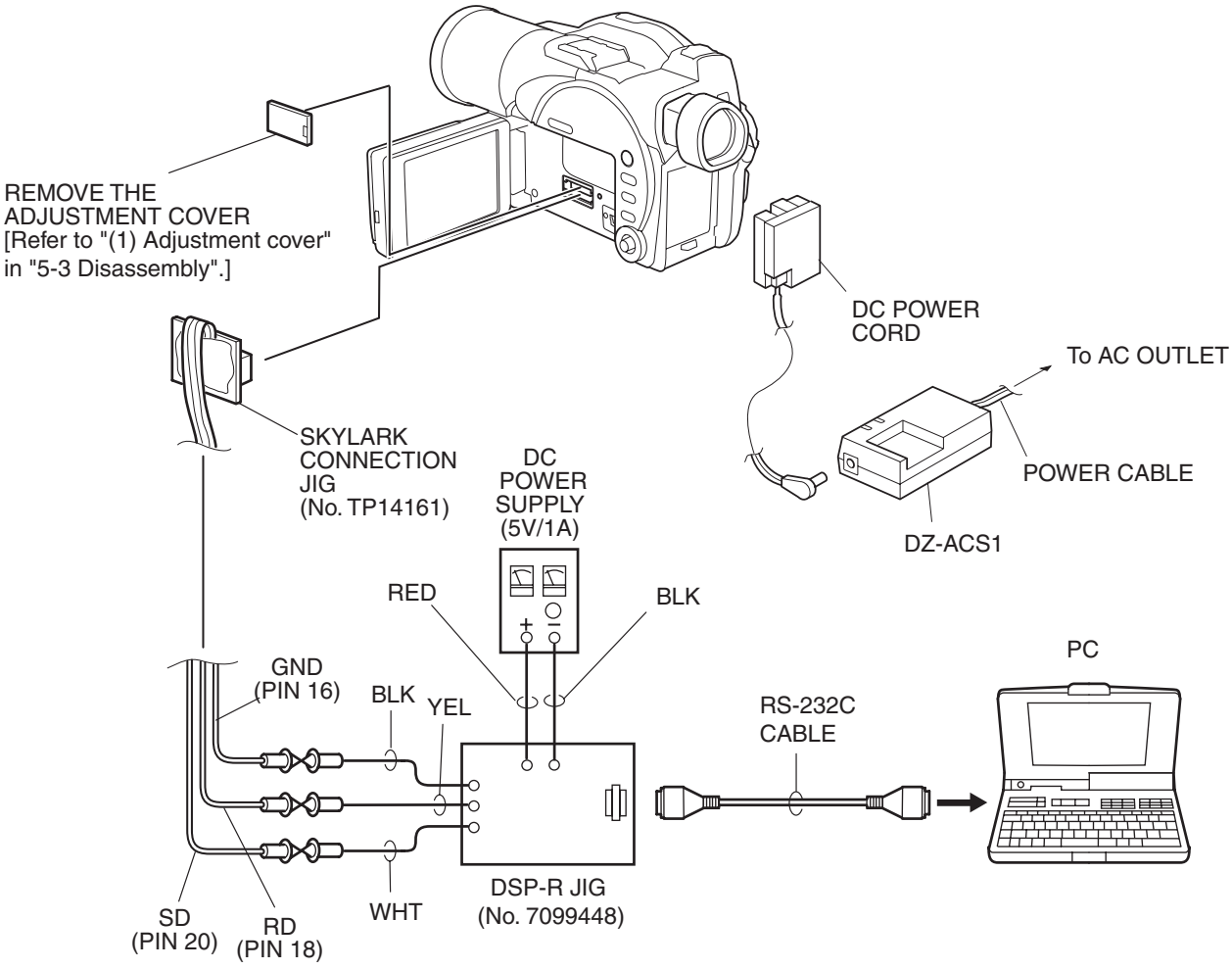


Fig. 4-9-3 Connections when creating backup file of EEPROM data and writing

(3) Backup method

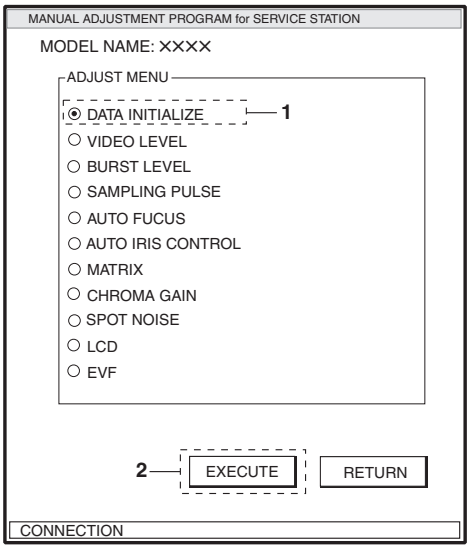
Information:
If it is not possible to back up the data in EEPROM to be replaced because the DVD video camera/recorder is not turned on, etc., replace the MAN-H/MAN circuit board, and then refer to “6-4-1 Initial Data Write”.

1) Choose DATA INITIALIZE on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to proceed with the DATA INITIALIZE MENU screen.
3) Choose Original Data Backup on the DATA INITIALIZE MENU screen.

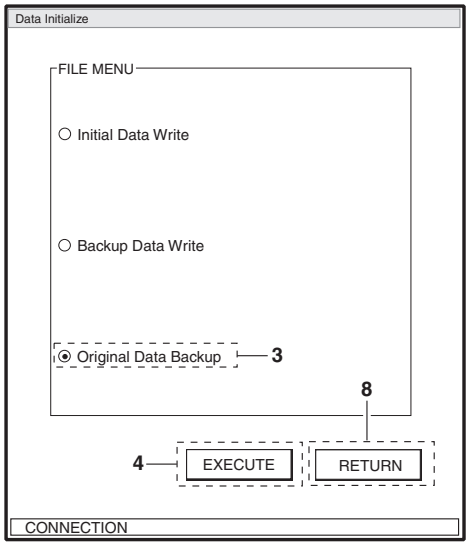
Note:
Do not choose “Initial Data Write” on the DATA INITIALIZE MENU.
Refer to “6-4-1 Initial Data Write” after backup for “Initial Data Write”.

4) Click the EXECUTE button on DATA INITIALIZE MENU screen to proceed with the BACKUP FILE SELECT screen.
5) From the BACKUP FILE SELECT screen, select or set the names of folder and file in which the data is stored. This section refers to the folder and file as “EEP” and “backup.eep” for explanation: Freely select and set easy-to-understand names.
6) Click the SAVE button on BACKUP FILE SELECT screen to start backup.
   The progress status can be confirmed using the PROGRESS STATUS dialog.
7) When backup is complete, the BACKUP FINISHED dialog will appear: Click the OK button in dialog to restore the DATA INITIALIZE MENU screen.
8) Then click the RETURN buttons on each menu screen to restore the MODEL SELECT screen, and click the EXIT button on MODEL SELECT screen to exit the adjustment program.
9) Disconnect the DVD video camera/recorder, jig/tool and power supply, and then replace the MAN-H/MAN circuit board.

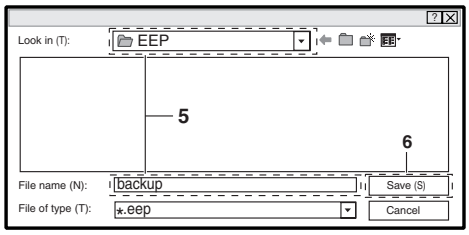
ADJUST MENU screen



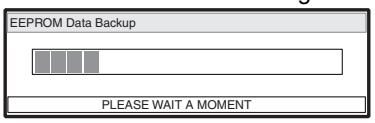
DATA INITIALIZE MENU screen



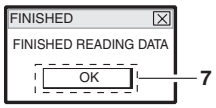
BACKUP FILE SELECT screen



PROGRESS STATUS dialog



BACKUP FINISHED dialog

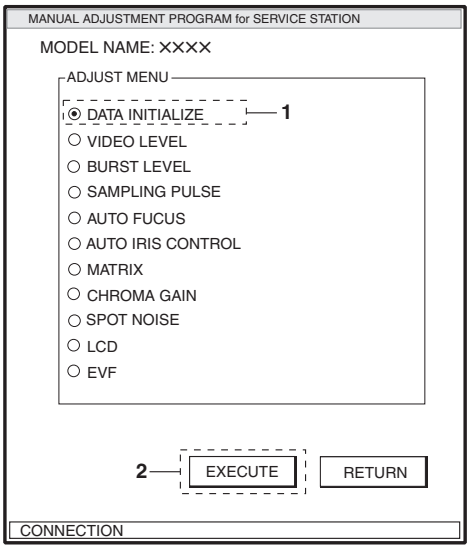


(4) Write method

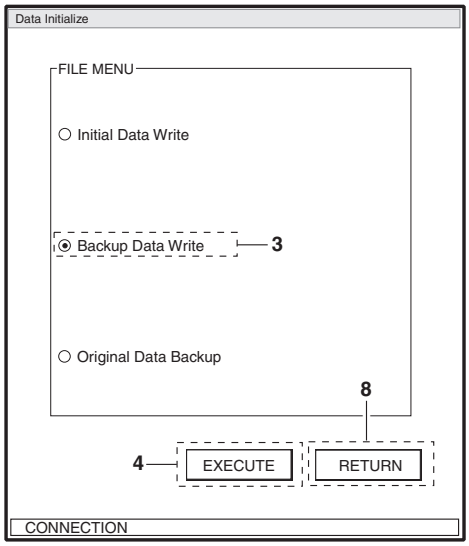
Restrictions:
Never write data of any other product.
The EEPROM data includes adjustment values, etc. that are peculiar to that product: It is different for each product even if the model is the same.
If you write the data of another product by mistake, rewrite the correct data.

1) Choose DATA INITIALIZE on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to proceed with the DATA INITIALIZE MENU screen.
3) Choose Backup Data Write on the DATA INITIALIZE MENU screen.
4) Click the EXECUTE button on DATA INITIALIZE MENU screen to proceed with the WRITE FILE SELECT screen.
5) From WRITE FILE SELECT screen, select the folder and file in which the data has previously been backed up.
   This section refers to the folder and file as “EEP” and “backup.eep” for explanation.
6) Click the OPEN button on WRITE FILE SELECT screen to start writing.
   The progress status can be confirmed using the PROGRESS STATUS dialog.
7) When writing is complete, the INITIALIZATION FINISHED dialog will appear: Click the OK button in dialog to restore the DATA INITIALIZE MENU screen.
8) Click the RETURN button on DATA INITIALIZE MENU screen to restore the ADJUST MENU screen, and then perform adjustment according to “6-3-2 List of Adjustments Needed After Replacing Major Components”.

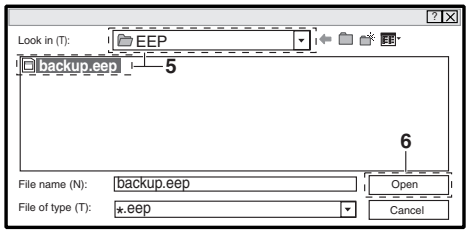
ADJUST MENU screen



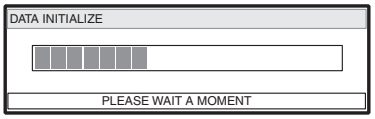
DATA INITIALIZE MENU screen



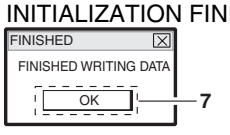
WRITE FILE SELECT screen



PROGRESS STATUS dialog



INITIALIZATION FINISHED dialog



5 Disassembly and Reassembly

5-1 Items to Be Checked

(1) Checking Disc

Connect the AC adapter/charger or charged battery, and then press the DISC EJECT button to make sure that no disc is inserted. After check, close the disc insertion block.
If the disc insertion block does not open normally, refer to "4-8 Procedure for Removing Disc from Faulty the DVD Video Camera/Recorder".

Prohibition

After the above check, be sure to disconnect the AC adapter/charger or battery from the DVD video camera/recorder.
The DVD video camera/recorder has a built-in laser emitter block. Never look into it: If Laser beam strikes your eye, it could cause serious vision damage.

(2) Checking Card

Make sure that no card is loaded in the card slot. After check, close the card slot cover.

5-2 Order of Disassembly

Refer to "Disassembly Flowchart" in Fig. 5-2-1 for the order of removing components.
When reassembling components, use the reverse order to removal unless otherwise specified.

Note:
When replacing components, be sure to use only those shown in "Replacement Parts List".

Information:
1) Board names suffixed with "-H" are for DZ-MV580E.
2) The procedures for disassembling and reassembling the DZ-MV580E and DZ-MV550E are the same, except for the following components:
   a) SHE-H circuit board
   b) SHE circuit board
   c) Accessory shoe
   d) Lens unit (SEN-H circuit board, CCD image sensor, crystal filter, cushion)
3) The lens unit in DZ-MV550E includes components equivalent to cushion, crystal filter, CCD image sensor and SEN-H circuit board, which are discrete from the lens unit in DZ-MV580E.

Reading Disassembly Flowchart:

After locating the target component in the flowchart, remove all components of the target in sequence, following the arrows (routes) from the top of flowchart. If multiple routes exist to the target component from the top of flowchart, remove all the components on all the routes.

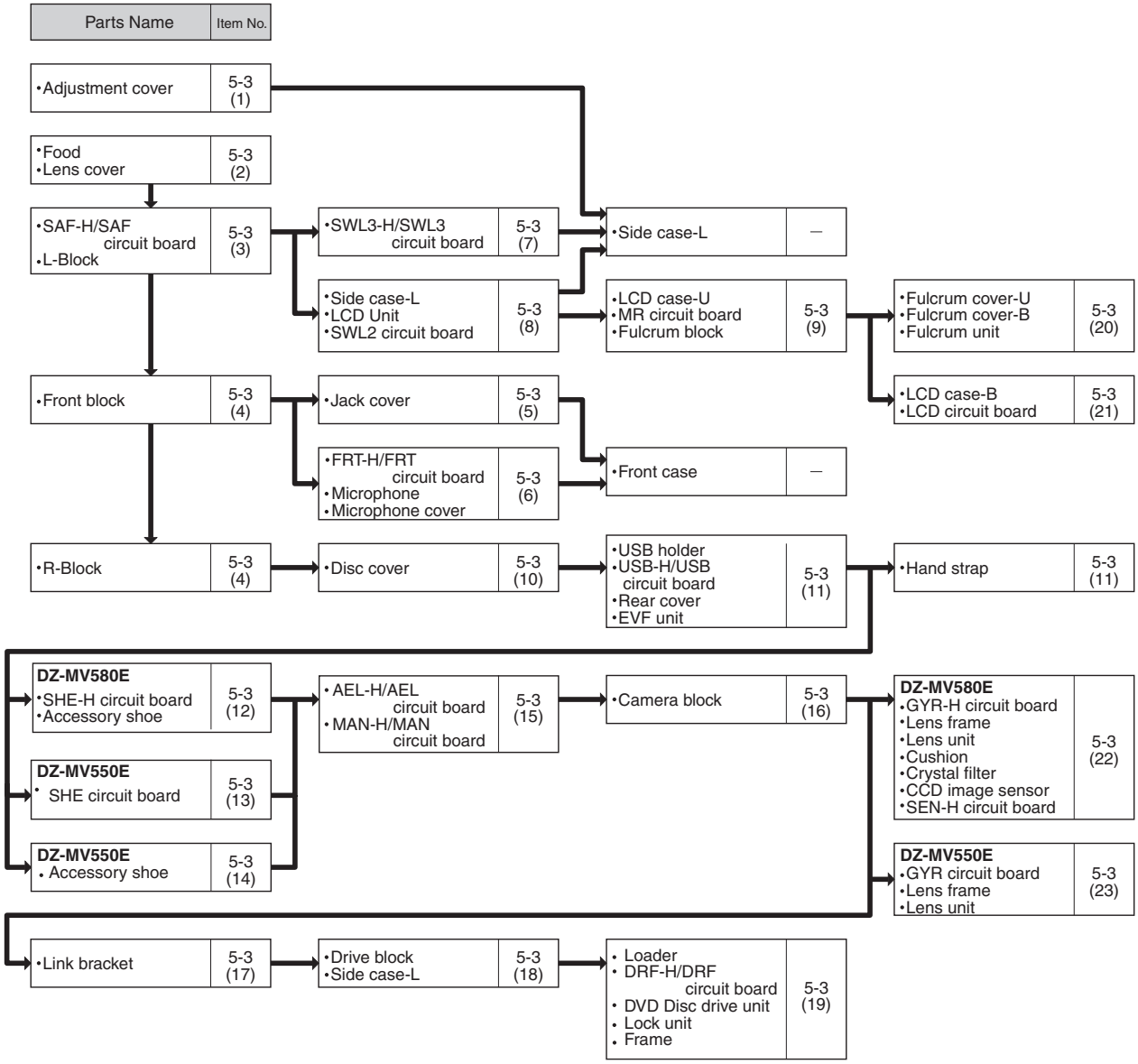


Fig. 5-2-1

5-3 Disassembly

Information:
Numbers in disassembly procedure diagrams are step numbers for disassembling order, and letters in brackets [ ] show the types of screw. Letters in brackets ( ) show the name of parts.

(1) Adjustment Cover

1) Open the LCD monitor (b).
2) Insert a fine-tipped flat-bladed screwdriver (d) into the groove of adjustment cover (a), and remove the adjustment cover in the direction of the arrow, being very careful not to scratch the adjustment cover or side case-L (c) with screwdriver.

(a) Adjustment cover
(b) LCD monitor
(c) Side case-L
(d) Flat-bladed screwdriver

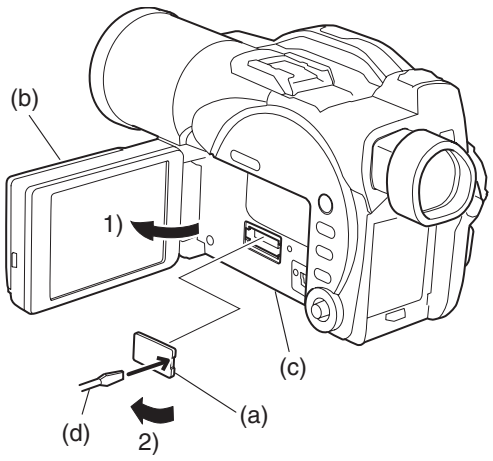


Fig. 5-3-1

(2) Hood and Lens Cover (DZ-MV550E, DZ-MV580E)

1) Turn the hood (a) in the direction of the arrow to remove it.
2) Remove the lens cover (b) in the direction of the arrow.

(a) Hood
(b) Lens cover

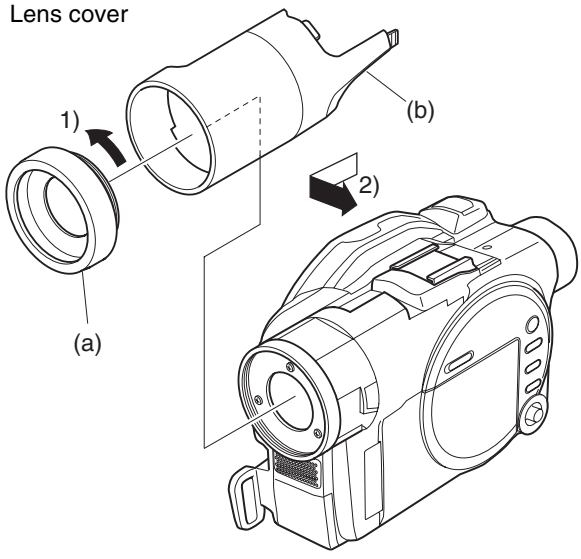


Fig. 5-3-2

Information:
Since user cannot replace the DZ-MV1000E(UK) lens cover, the lens cover cannot be removed unless the filter piece(*1) is also removed.
*1: On DZ-MV550E it is not necessary to remove the filter piece when removing the lens cover.

(2a) Hood, Filter Piece and Lens Cover (DZ-MV1000E)

1) Turn the hood (a) in the direction of the arrow to remove it.
2) Remove three screws [A], and then remove the filter piece (b), being careful not to scratch the lens surface with screwdriver at this time.
3) Remove the lens cover (c) in the direction of the arrow.

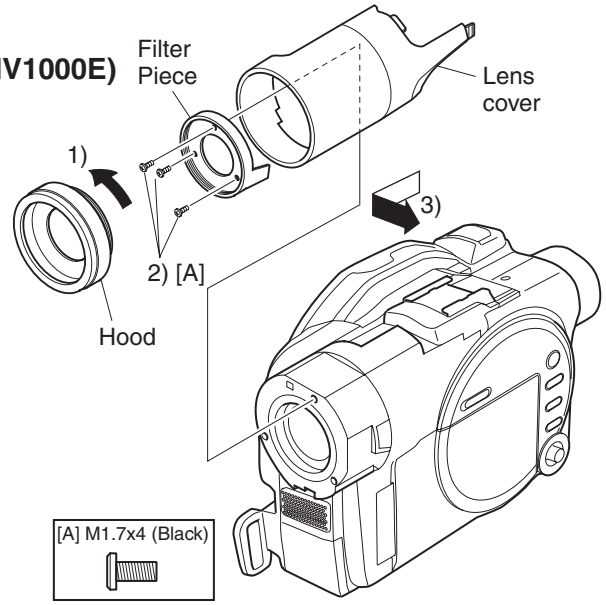


Fig. 5-3-2a Hood, Filter Piece and Lens Cover

(3) SAF-H/SAF Circuit Board and L Block

1) Open the LCD monitor (c).
2) Remove three screws [A], two screws [N] and three screws [C].
3) Close the LCD monitor and open the L block (b) from the rear in the direction of the arrow: Be careful not to damage the SAF-H/SAF circuit board (a) or flat cable between L block and R block (d).
4) Remove the SAF-H/SAF circuit board. The SAF-H/SAF circuit board is a film-like board: Do not bend or fold it.
5) Disconnect the flat cable between L and R blocks. Disconnect the flat cable between L and R blocks: Do not forcibly pull out the flat cable from connectors at this time.
6) Remove the L block from R block (d) in the direction of the arrow.

(a) SAF-H/SAF circuit board
(b) L block
(c) LCD monitor
(d) R block

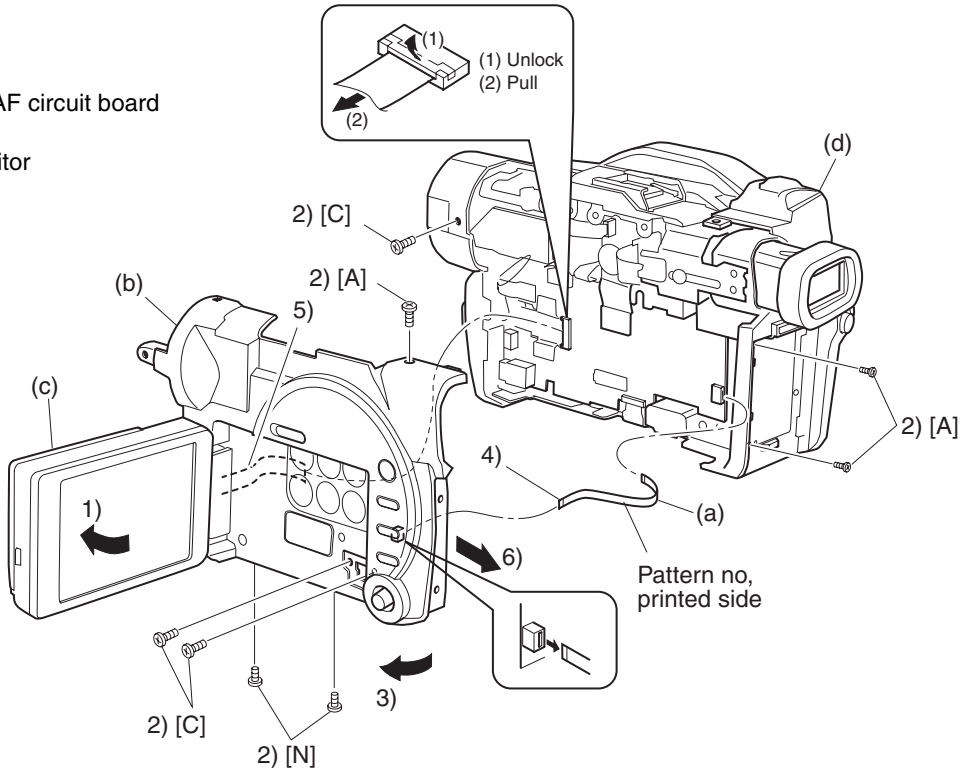


Fig. 5-3-3 Right side

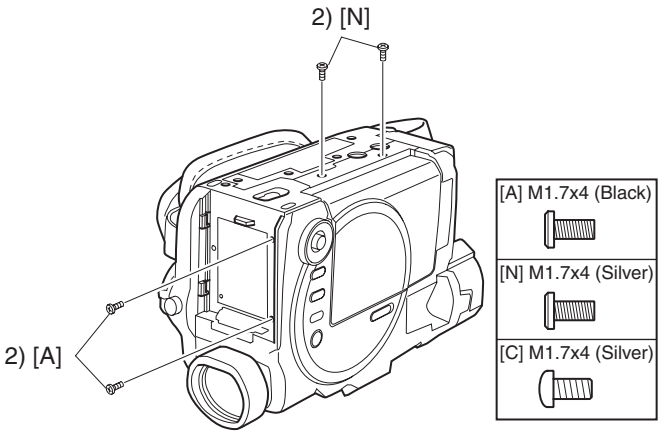


Fig. 5-3-4 Bottom Side

(4) Front Block and R Block

1) Open the jack cover (c), and then remove one screw [N].
2) Remove one screw [A] and one screw [N].
3) Remove the FRT-H/FRT circuit board (d) from AEL-H/AEL circuit board (e) in the direction of the arrow.
4) Remove the front block (a) from R block (b) in the direction of the arrow.

(a) Front block
(b) R block
(c) Jack cover
(d) FRT-H/FRT circuit board
(e) AEL-H/AEL circuit board

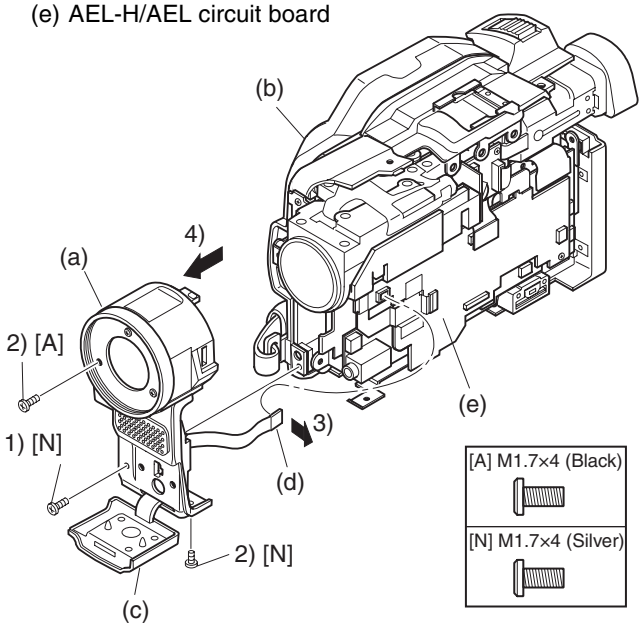


Fig. 5-3-5

(5) Jack Cover

1) Release the two tabs, and then remove the jack cover (a).

(a) Jack cover
(b) Front block

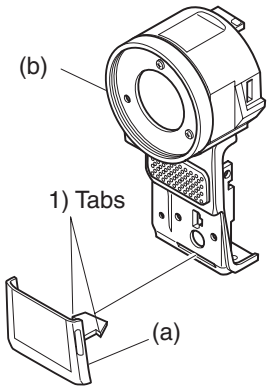


Fig. 5-3-6

(6) FRT-H/FRT Circuit Board, Microphone, and Microphone Cover

◆ FRT-H/FRT circuit board (a)

1) Disconnect the flat cable from microphone.
2) Remove one screw [D], and then remove the FRT-H/FRT circuit board.

◆ Microphone (b) and Microphone Cover (c)

3) Remove one screw [D], and then remove the microphone and microphone cover from the front case (d).

(a) FRT-H/FRT circuit board
(b) Microphone
(c) Microphone cover
(d) Front Case

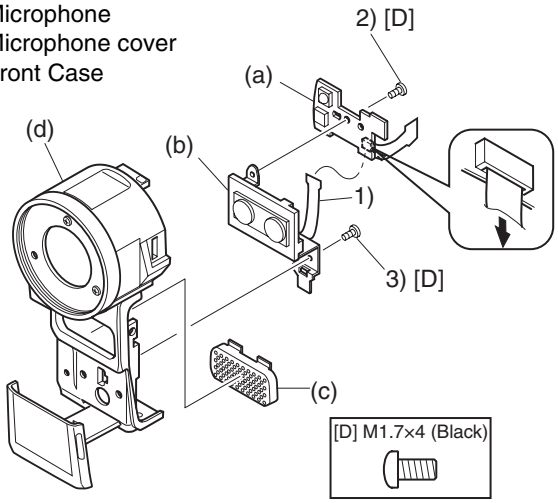


Fig. 5-3-7

(7) SWL3-H/SWL3 Circuit Board

1) Unplug the connector. Be sure to hold the connector using tweezers, etc. when unplugging it. Pulling the cable when unplugging the connector could cause wire disconnection.
2) Remove one screw [D].

■ Procedure and caution for reassembly

1) Insert the switch knob (b) on SWL3-H/SWL3 circuit board between the knobs (c) of L cover.
2) Pass the cable to be connected to the SWL3-H/SWL3 circuit board through cable holder (e) under ground plate (d) and wire retaining slit (f) as shown in the figure, so that the cable is laid out along the side case L and L cover as far as possible.

(a) SWL3-H/SWL3 circuit board
(b) Switch knob
(c) Knobs of L cover
(d) Ground plate
(e) Cable Holder
(f) Wire retaining slit

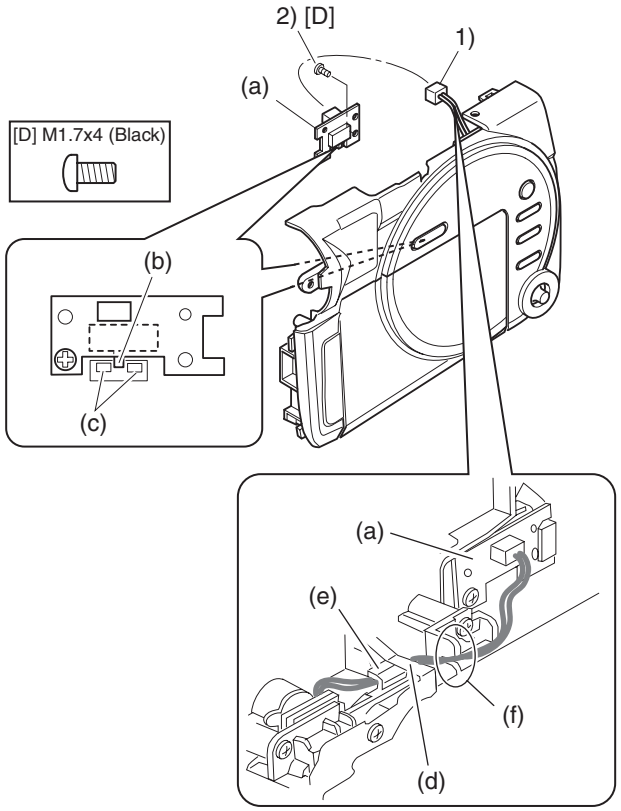


Fig. 5-3-8

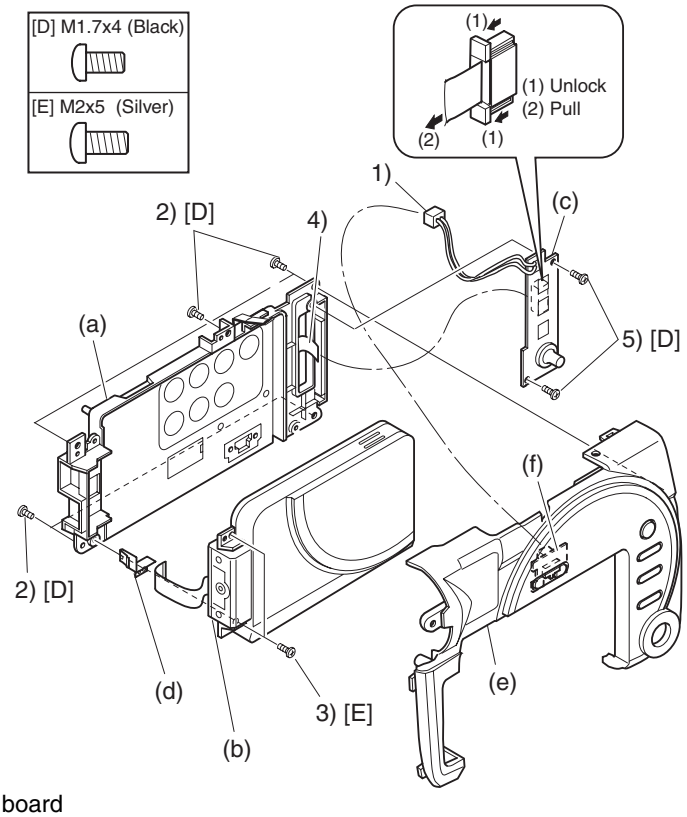
(8) Side Case-L, LCD Unit, and SWL2 Circuit Board

1) Unplug the connector. Be sure to hold the connector using tweezers, etc. when unplugging it. Pulling the cable when unplugging the connector could cause wire disconnection.
2) Remove five screws [D].
3) Remove two screws [E], and then remove the LCD unit (b) and ground plate (d) from side case-L (a).
4) Disconnect the one flat cable.
5) Remove two screws [D], and then remove the SWL2 circuit board (c).

■ Procedure and caution for reassembly

Pass the cable to be connected to the SWL3-H/SWL3 circuit board through the cable holder under ground plate and the wire retaining slit as shown in Fig.5-3-8, making sure that the cable is laid out along the side case L and L cover as far as possible.

Note:
Take great care when handling the LCD unit The LCD unit has an LCD panel that is a precision component. Subjecting it to impact could result in a fault.



(a) Side case-L
(b) LCD unit
(c) SWL2 circuit board
(d) Ground plate
(e) L cover
(f) SWL3-H/SWL3 circuit board

Fig. 5-3-9

(9) LCD Case-U, MR Circuit Board, and Fulcrum Block

◆ LCD Case-U (a)

1) Insert an awl (e), etc. into the screw hole, and turn the screw-hole bracket of fulcrum block 90° in the direction of the arrow.
   At this time, make no mistake with the turning direction: Turning in the wrong direction will deform fulcrum cover-U.
2) Turn the fulcrum block 90° in the direction of the arrow.
3) Remove three screws [B].
4) Release the six tabs, and then remove the LCD case-U in the direction of the arrow. The MR sheet (f) will detach at this time: Take care not to lose it.

◆ MR Circuit Board (b)

5) Disconnect the MR circuit board from the LCD circuit board (g).
6) Remove the MR circuit board in the direction of the arrow. The MR circuit board is a film-like board: Do not bend or fold it.

◆ Fulcrum Block (c)

7) Disconnect the one flat cable.
8) Remove the fulcrum block in the direction of the arrow.

(a) LCD case-U
(b) MR circuit board
(c) fulcrum block
(d) LCD circuit board
(e) Awl
(f) MR sheet

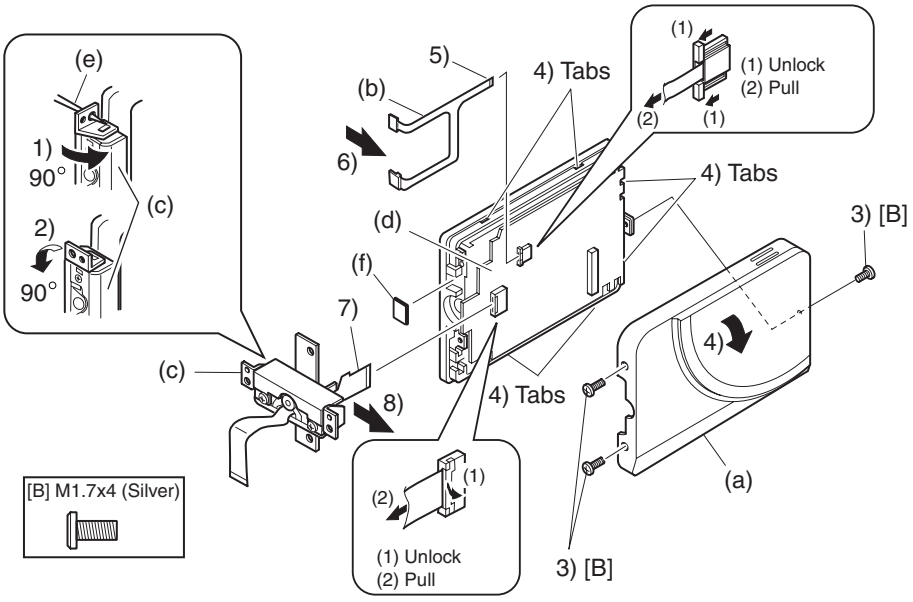


Fig. 5-3-10

(10) Disc Cover

1) Remove the space sheet (b) that covers the opening for operating lock arm.
2) Use a fine-tipped flat-bladed screwdriver to move the lock arm (d) in the direction of the arrow to open the disc cover (a).
3) Disconnect the one flat cable.
4) Open the card slot cover (g).
5) Remove four screws [F].
6) Remove the disc cover in the direction of the arrow: Be careful not to damage the flat cable (h) that extends from the disc cover.

■ Procedure and caution for reassembly

1) Reinstall the disc cover so that the hinge ① of side case-R fits into portion ② at the inside top of disc cover, and that the cover is not inclined. Installing and inclined disc cover could damage the switch (SW8062) inside the disc cover.
2) Pass the flat cable extending from the disc cover through the gap between the frame and side case-R, and then connect it to the MAN-H/MAN circuit board (f).

(a) Disc cover
(b) Space sheet
(c) Opening for operating lock arm
(d) Lock arm
(e) AEL-H/AEL circuit board
(f) MAN-H/MAN circuit board
(g) Card slot cover
(h) Flat cable
(i) Hinge of side case-R
(j) Frame
(k) Side case-R
(m) Loader
(n) Disc drive unit

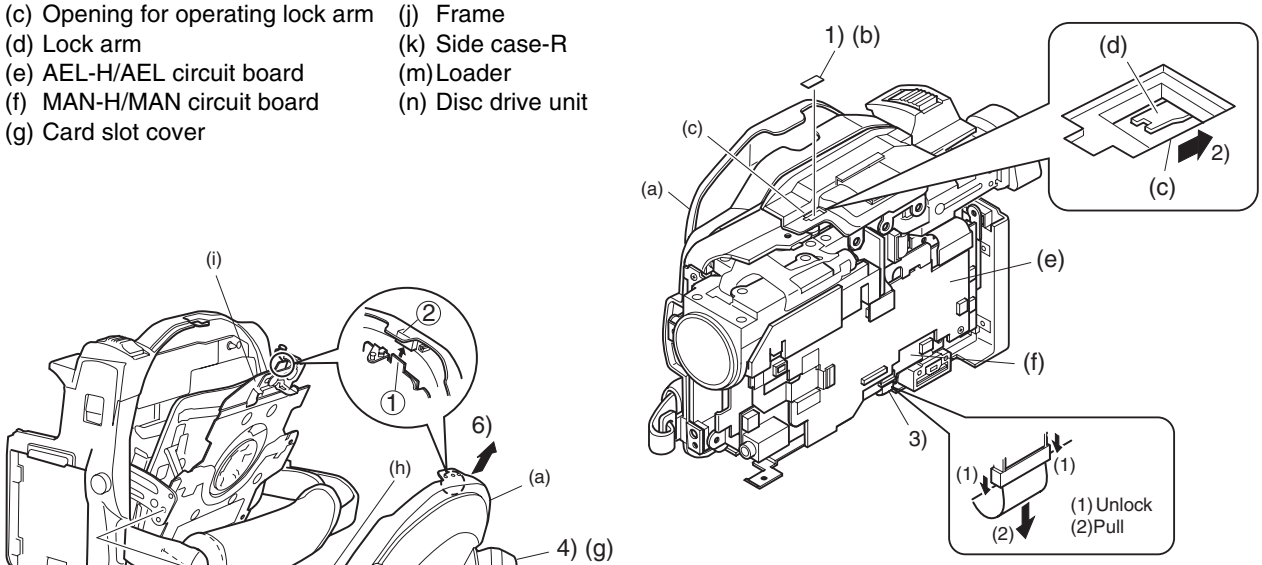


Fig. 5-3-11 Left Side

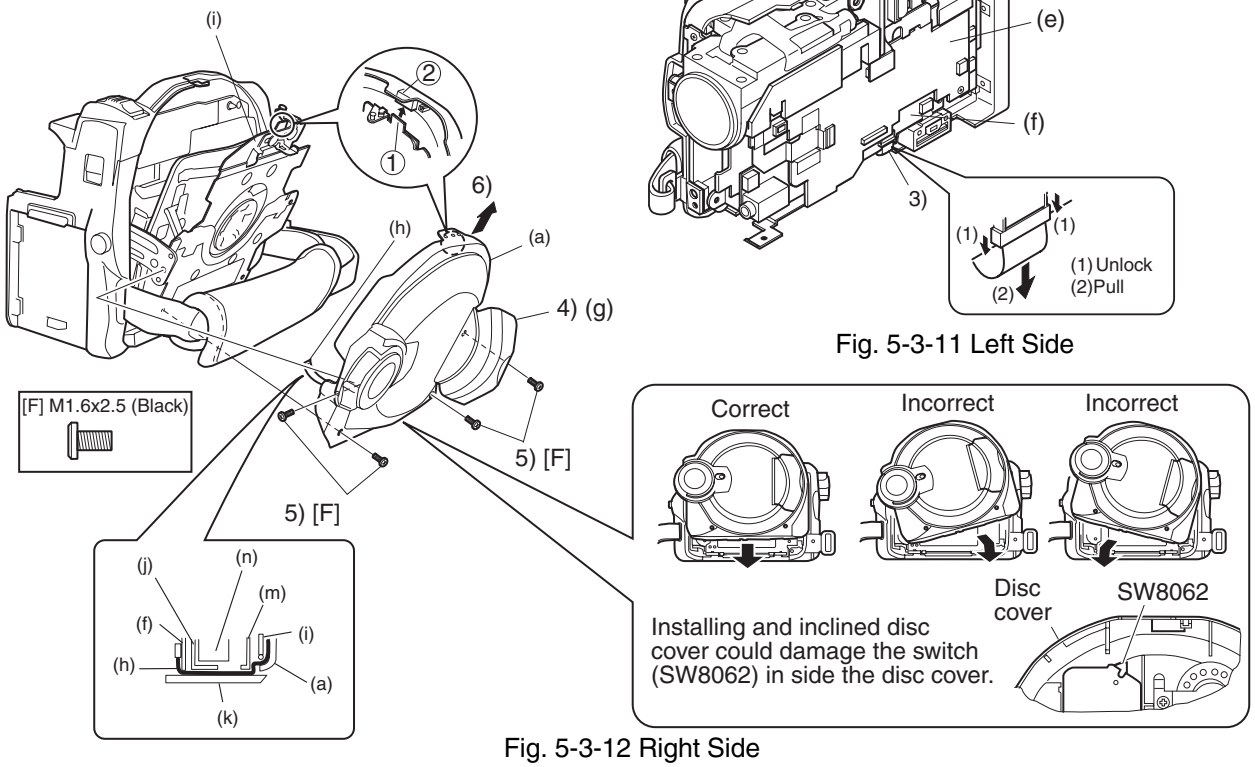


Fig. 5-3-12 Right Side

(11) USB Holder, USB-H/USB Circuit Board, Rear Cover, EVF Unit, and Hand Strap

Note:
Before replacing the EVF unit, always perform "(1) BL DET Check" in "6-4-11 EVF".

◆ USB Holder (a) and USB-H/USB Circuit Board (b)

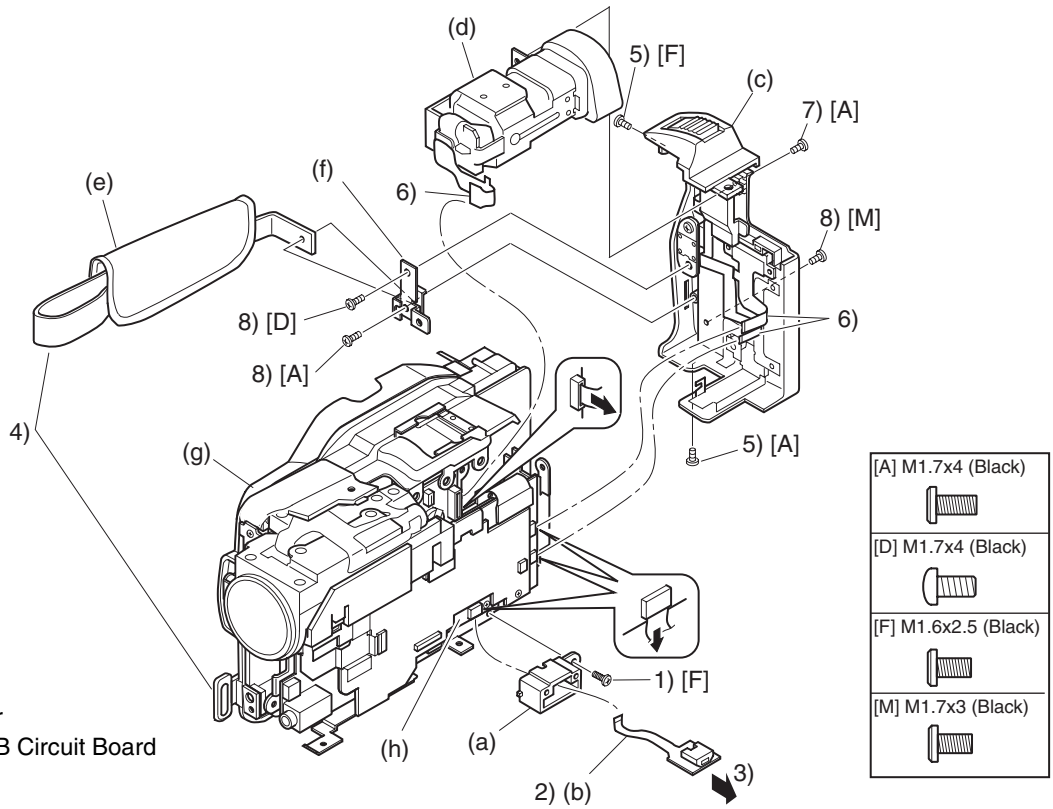
1) Remove one screw [F].
2) Disconnect the USB-H/USB circuit board from MAN-H/MAN circuit board (h).
3) Remove the USB-H/USB circuit board from USB holder in the direction of the arrow.

◆ Rear Cover (c) and EVF Unit (d)

4) Remove the hand strap from side case-R (g).
5) Remove one screw [F] and one screw [A].
6) Disconnect the three flat cables, and then remove the rear cover along with the EVF unit.
7) Remove one screw [A], and then remove the EVF unit.

◆ Hand Strap (e)

8) Remove screw [A], screw [D] and screw [M], and then remove the hand strap.



(a) USB holder
(b) USB-H/USB Circuit Board
(c) Rear cover
(d) EVF unit
(f) Hand strap plate
(g) Side case-R
(h) MAN-H/MAN circuit board

Fig. 5-3-13

(12) SHE-H Circuit Board and Accessory Shoe in DZ-MV580E

1) Disconnect the SHE-H circuit board (a) from AEL-H circuit board (c).
2) Disconnect the GYR-H (d) circuit board from SHE-H circuit board.
3) Remove one screw [G], one screw [H], and then remove the SHE-H circuit board along with the accessory shoe (b).
4) Disconnect the SHE-H circuit board from accessory shoe.

(a) SHE-H circuit board
(b) Accessory shoe
(c) AEL-H circuit board
(d) GYR-H circuit board

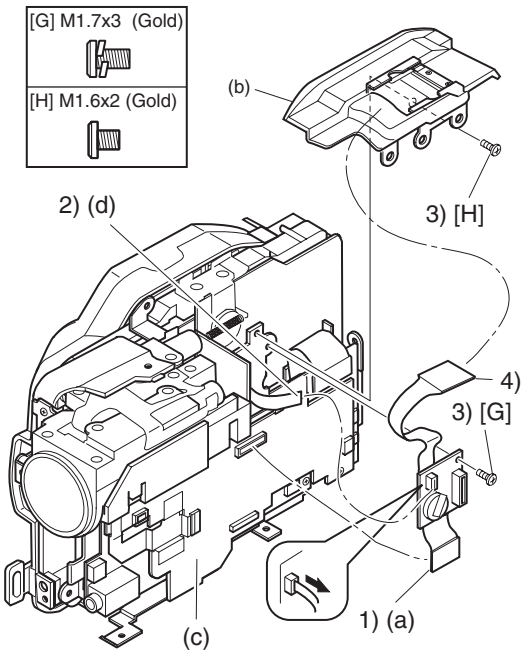


Fig. 5-3-14

(13) SHE Circuit Board in DZ-MV550E

1) Disconnect the SHE circuit board (a) from AEL circuit board (b).
2) Disconnect the GYR circuit board (c) from SHE circuit board.
3) Remove one screw [G], and then remove the SHE circuit board.

(a) SHE circuit board
(b) AEL circuit board
(c) GYR circuit board

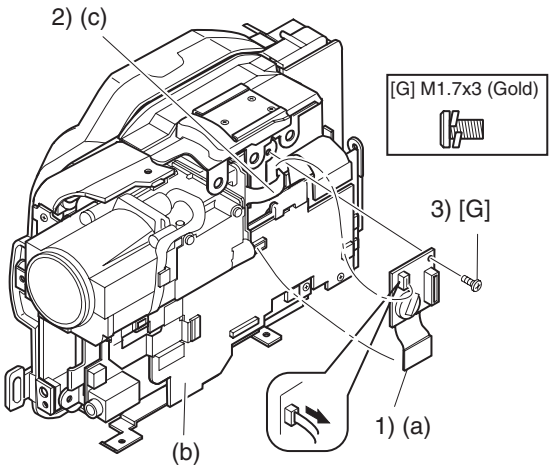


Fig. 5-3-15

(14) Accessory Shoe in DZ-MV550E

1) Remove one screw [H], and then remove the accessory shoe (a).

(a) Accessory shoe

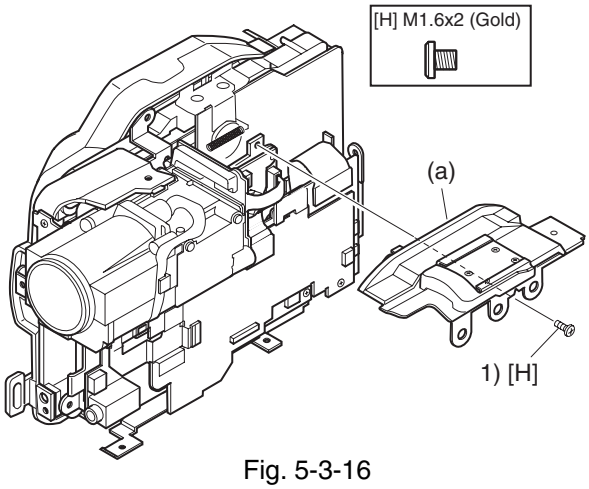


Fig. 5-3-16

(15) AEL-H/AEL and MAN-H/MAN Circuit Boards

Note:
Before replacing the MAN-H/MAN circuit board, always perform "4-9-2 EEPROM data backup and write".

1) Disconnect the two flat cables.
2) Disconnect the DRF-H/DRF circuit board (c) from MAN-H/MAN circuit board (b).
3) Remove three screws [G].
4) Remove the AEL-H/AEL circuit board (a) that is assembled with MAN-H/MAN circuit board in the direction of the arrow: It may be difficult to remove these circuit boards, since the heat sink rubbers (e) on MAN-H/MAN circuit board may stick to the frame (d).
5) Remove the AEL-H/AEL circuit board from MAN-H/MAN circuit board in the direction of the arrow.

Note:
Do not scratch the surface of IC2009 or IC2010: The surfaces of IC2009 or IC2010 are silicon substrate (silicon wafer) that is semi-conducting. Scratching them could cause fault in operation.

■ Procedure and caution for reassembly

1) Be sure to paste the two heat sink rubbers (e) on the MAN-H/MAN circuit board: Neglecting to paste the heat sink rubber could cause a fault.
2) Connect the MAN-H/MAN circuit board and AEL-H/AEL circuit board, and then attach them to the frame. If the MAN-H/MAN and AEL-H/AEL circuit boards are attached to the frame independently, a connection fault could result.

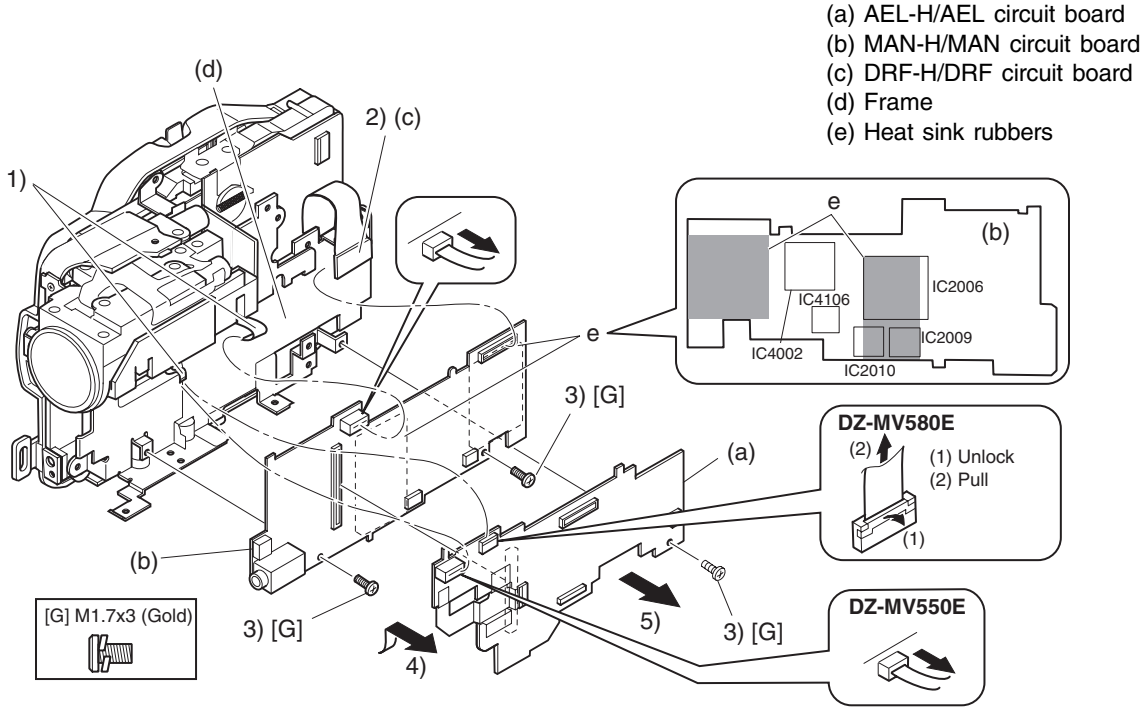


Fig. 5-3-17

(16) Camera Block

1) Remove two screws [F], and then remove the camera block (a).

■ Procedure and caution for reassembly

Fit the hook (c) of camera frame onto the square hole (d) in frame before tightening the screws.

Note:
Take great care when handling the camera block: The camera block contains the lens unit, which is a precision component. Subjecting the lens unit to any impact could result in a fault.

(a) Camera block
(b) Frame
(c) hook of camera frame
(d) square hole in frame

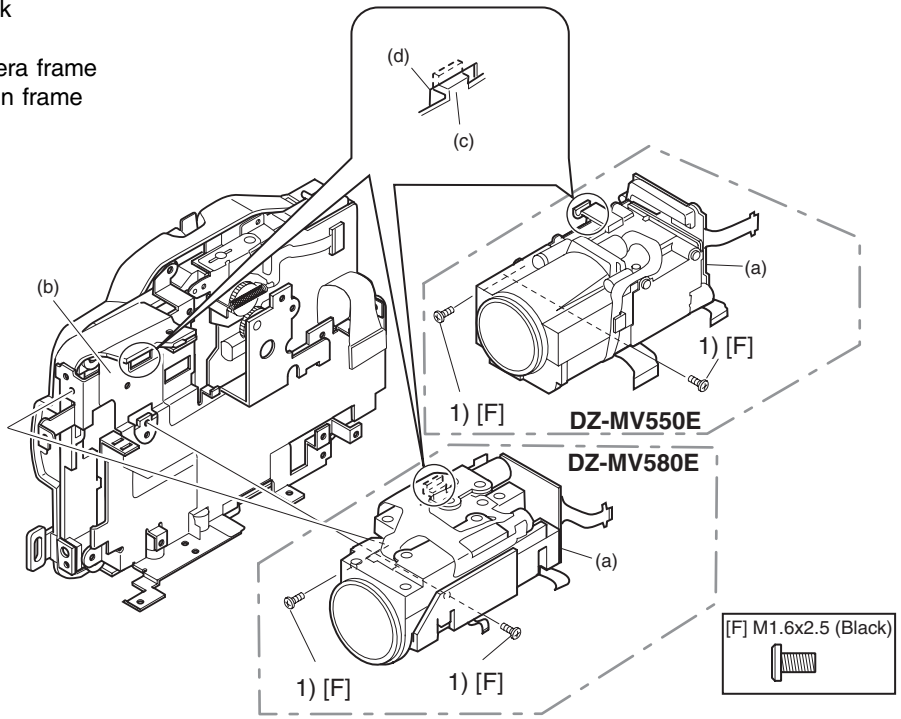


Fig. 5-3-18

(17) Link Bracket

1) Remove two screws [H], and then remove the link bracket (a).

(a) Link bracket

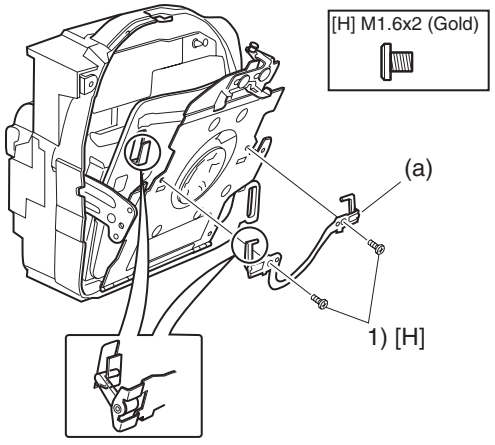


Fig. 5-3-19

(18) Drive Block and Side Case-R

1) Remove five screws [F] and two screws [A], and then remove the drive block (a) from the side case-R (b).

Note:
Take great care when handling the drive block: The drive block contains the disc drive unit, which is a precision component. Do not subject the disc drive unit to any impact: Doing so could cause a fault.

(a) Drive block
(b) Side case-R

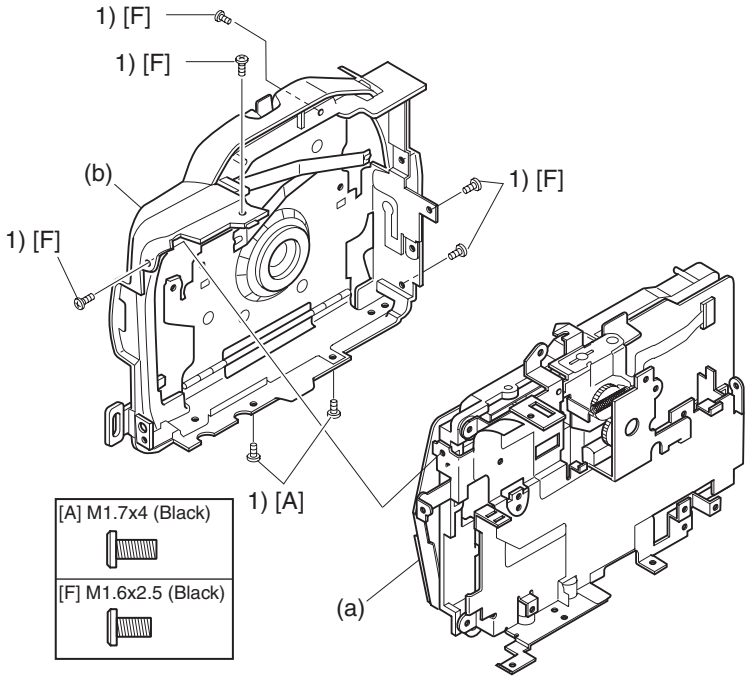


Fig. 5-3-20 Left side

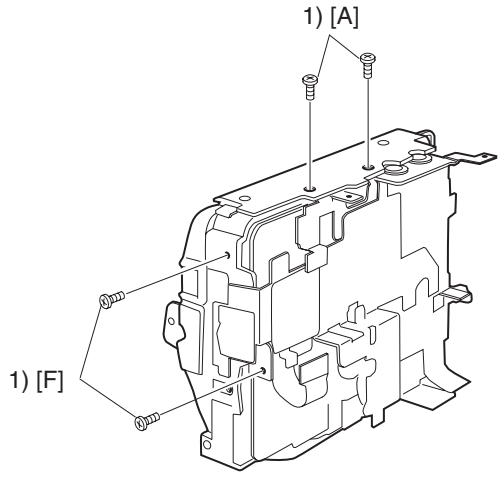


Fig. 5-3-21 Bottom side

(19) Loader, DRF-H/DRF Circuit Board, Disc Drive Unit, Lock Unit, and Frame

◆ Loader (a)

1) Remove two screws [L], and then remove the loader.

◆ DRF-H/DRF Circuit Board (b) and Disc Drive Unit (c)

2) Remove three screws [K].

3) Disconnect the one flat cable.

4) Disconnect the DRF-H/DRF circuit board from DRV-R circuit board in disc drive unit.

◆ Lock Unit (d) and Frame (e)

5) Remove one screw [H], and then remove the lock unit.

Note:
The disc drive unit is a precision component: Take great care when handling it. Do not subject the disc drive unit to any impact: Doing so could cause a fault.

■ Procedure and caution for reassembly

Be sure to paste the heat sink rubber (f) on the frame: Neglecting to paste it could cause a fault.

(a) Loader
(b) DRF-H/DRF circuit board
(c) Disc drive unit
(d) Lock unit
(e) Frame
(f) Heat sink rubber

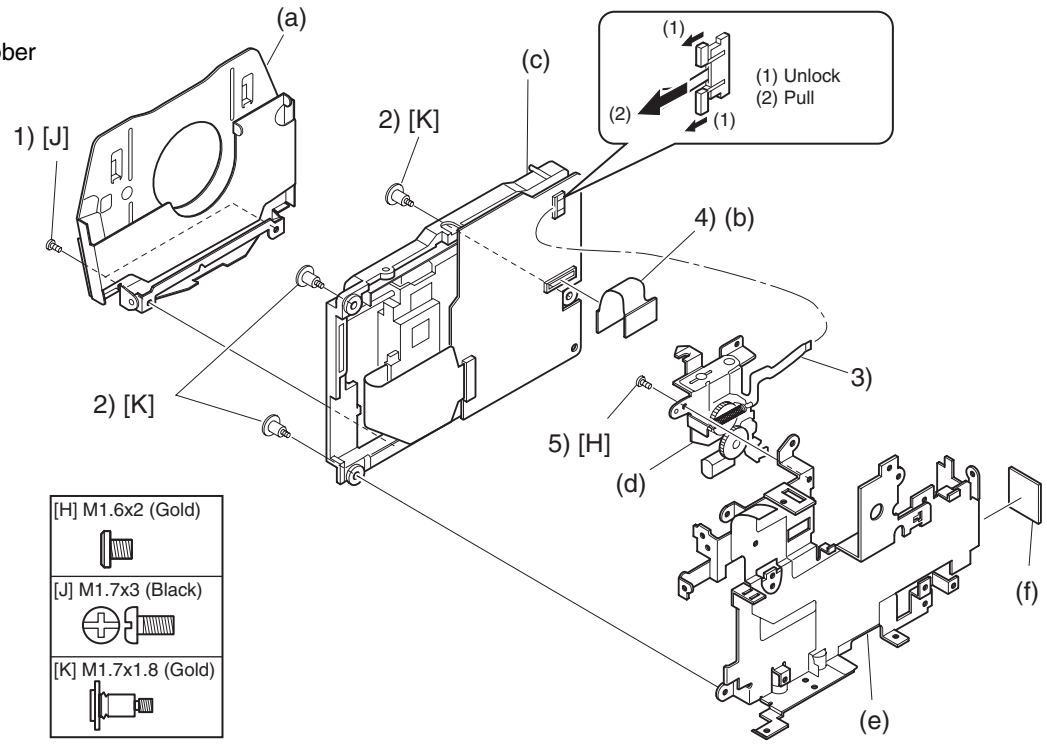


Fig. 5-3-22

(20) Fulcrum Cover-U, Fulcrum Cover-B and Fulcrum Unit

1) Remove two screws [P], and then remove the fulcrum cover-U (a) and fulcrum cover-B (b) from the fulcrum unit (c).

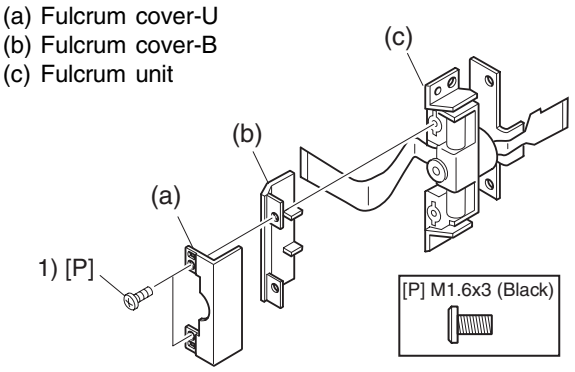


Fig. 5-3-23

(21) LCD Case-B and LCD Circuit Board

◆ LCD Case-B (a)

1) Remove the LCD case-B in the direction of the arrow.

◆ LCD Circuit Board (b)

2) Disconnect the one flat cable.

3) Release the two tabs, and then remove the LCD circuit board.
Be careful not to deform LCD frame (c) at this time.

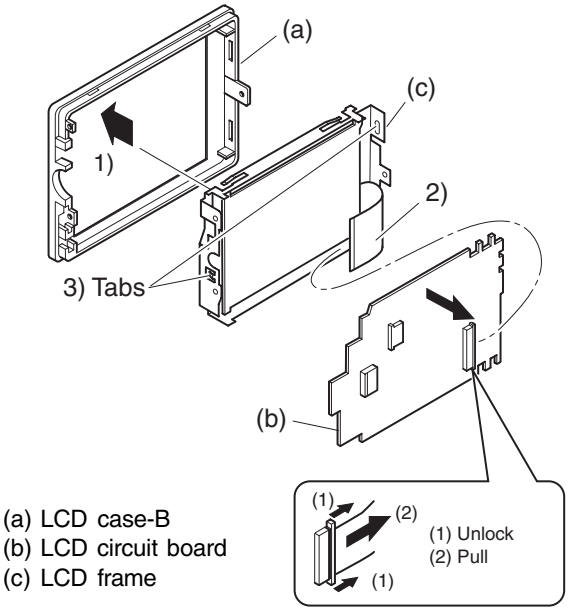


Fig. 5-3-24 LCD Case-B and LCD Circuit Board

Note:

1) Do not remove the mirror sheet (d), light guide plate (e), diffusion sheet (f), prism sheets (g) or LCD panel (h) from the LCD frame (c).

2) If the mirror sheet, light guide plate, diffusion sheet, prism sheets or LCD panel becomes detached from the LCD frame, assemble them as shown in Fig. 5-3-25.

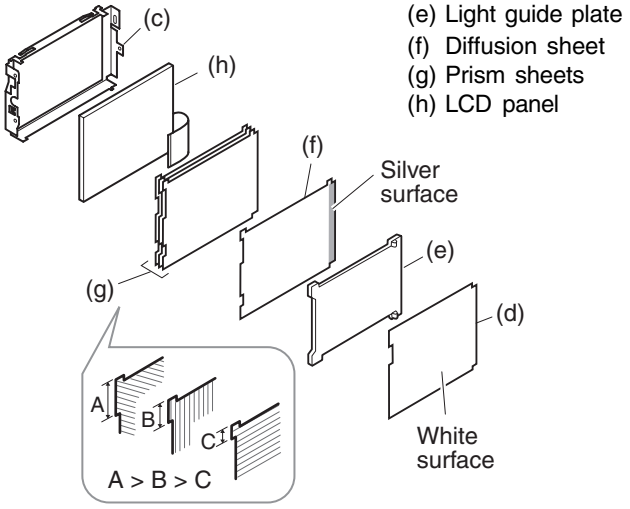


Fig. 5-3-25 Assembling parts inside LCD frame

(22) GYR-H Circuit Board, Lens Frame, Lens Unit, Cushion, Crystal Filter, CCD Image Sensor, and SEN-H Circuit Board in DZ-MV580E

◆ GYR-H Circuit Board (a)

1) Remove two screws [D], and then remove the GYR-H circuit board.

◆ Lens Frame (b)

2) Remove one screw [D].

3) Release the two tabs.

4) Remove the lens frame in the direction of the arrow.

◆ Lens Unit (c), Cushion (d) and Crystal Filter (e)

5) Remove two screws [L], and then remove the lens unit, cushion and crystal filter.

◆ CCD Image Sensor (f) and SEN-H Circuit Board (g)

6) Unsolder the fourteen points of CCD image sensor terminals on SEN-H circuit board.

Note:

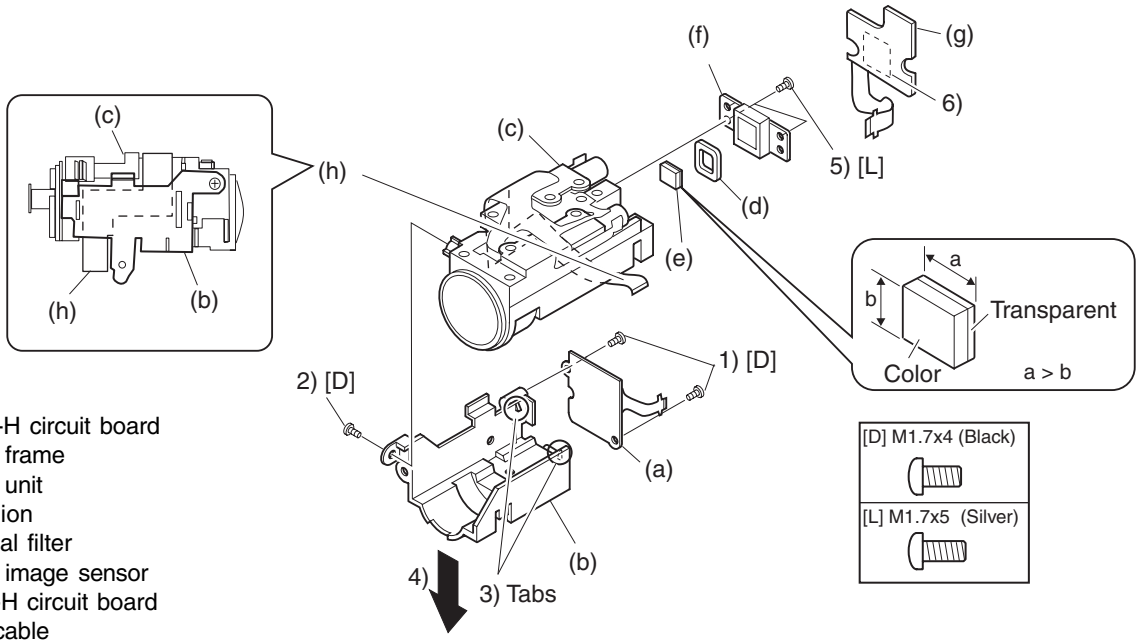
1) The lens unit, crystal filter and CCD image sensor are precision components: Take great care when handling them. Adherence of dust, foreign object, fingerprint, etc. to them, scratches or impact, could cause a fault.

2) Never use metal tweezers to handle the crystal filter: Doing so could cause a fault.

■ Procedure and caution for reassembly

1) Take care with the orientation of crystal filter when assembling it: Incorrect orientation of the crystal filter could cause a fault.

2) When assembling the lens unit into lens frame, insert the flat cable (h) of lens unit inside the lens frame.



(a) GYR-H circuit board
(b) Lens frame
(c) Lens unit
(d) Cushion
(e) Crystal filter
(f) CCD image sensor
(g) SEN-H circuit board
(h) Flat cable

Fig. 5-3-26

(23) GYR Circuit Board, Lens Frame, and Lens Unit in DZ-MV550E

Information:
The DZ-MV550E lens unit is set as a service component: It includes the parts equivalent to cushion rubber, crystal filter, CCD image sensor and SEN-H circuit board of DZ-MV580E.

◆ GYR Circuit Board (a)

1) Remove two screws [D], and then remove the GYR circuit board.

◆ Lens Frame (b) and Lens Unit (c)

2) Remove two screws [D], and then remove the lens frame.

Caution:
1) The lens unit is a precision component: Take great care when handling it. Do not allow any dust to adhere to it, and do not subject it to damage or impact: Doing so could cause a fault.
2) Do not disassemble the lens unit: Doing so could cause a fault.

(a) GYR circuit board
(b) Lens frame
(c) Lens unit

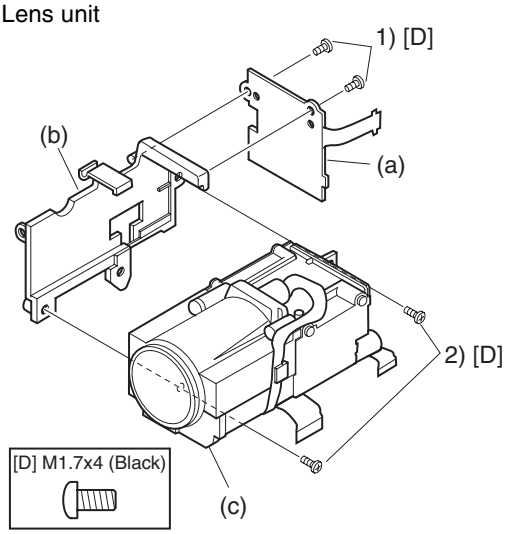


Fig. 5-3-27

6 Adjustment

6-1 Creating Reference Data

The reference data is necessary for adjustment: The adjustment program will not operate normally without it. Before adjustment, be sure to create the reference data, using the same model (with normal camera block) as the one to be adjusted.
See section 6-1-1 and subsequent sections for details.

Information:

1) The reference data is used to reduce the difference between environments of servicing site and factory (color temperature of light box, etc.). Using the reference data will increase adjustment accuracy.
2) The reference data is usually created once for each model because it is recorded on hard disk drive (HDD) of PC with the adjustment program. However, creating reference data again is necessary in the following cases:
   a) When performing adjustment using a light box that is different from that used when the reference data was created.
   b) When performing maintenance of the light box used when creating the reference data (replacing fluorescent light, etc.).
   c) When performing adjustment using a C12 light balancing filter that is different from that used when the reference data was created.
   d) When deleting the folder containing the adjustment program from HDD.

Restrictions:

If the same model with normal camera block as the one to be adjusted is not available, the reference data can be created by the following procedure. However, reference data created this way has been prepared at the factory, assuming the environment of service workplace, and may not be suitable for all service workplaces. Therefore, it is recommended that you create reference data using the same model with normal camera block as that to be adjusted.

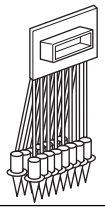
1) Store the adjustment program on HDD, referring to "6-1-5 Copying or Deleting Adjustment Program".
2) Start up Explorer and open the refdata folder in map04w folder.
3) Refer to the following table to check the reference data file name of the model to be adjusted.
4) Copy the file with the same name as the reference data file name checked in step 3) in refdata folder to map04w folder.

Model	Name of reference data file
DZ-MV580E	m580ae.dat
DZ-MV550E	m550e.dat

6-1-1 List of Jigs and Tools used when Creating Reference Data

NEW
Adjustment floppy disk
Note: Create the data using the adjustment data downloaded from Intranet. If downloading is not possible, obtain the floppy disk with Parts No. TP13875

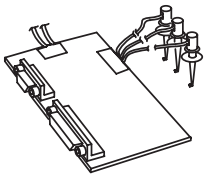
Skylark connection jig
Parts No. TP14161



Personal computer (PC)
All of the following OS must operate normally on it.(*1)
OS: Windows 95/98/98 Second Edition/Me/2000 Professional/XP/NT4.0

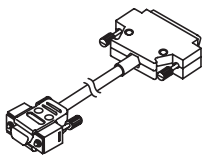
C12 light balancing filter
(Diameter: 46mm)
Parts No. 7099369

DSP-R jig
Parts No. 7099448

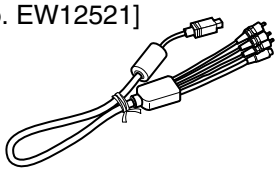


Step-up rings (Diameter 37 - 46 mm)
[Generally available]
Note: The filter diameter of DVD video camera/recorder is 37 mm: When using a filter with a diameter of 46 mm, use a step-up rings for better workability.

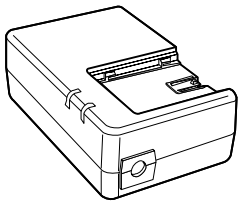
RS-232C cable (9-pin or 25-pin straight type)
[Generally available]



AV/S input/output or output cable
[Accessory: Parts No. EW12521]

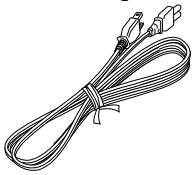


DZ-ACS1
AC adapter/charger
[Accessory](*2)

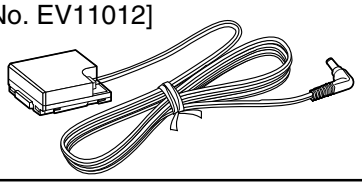


Power cable for AC adapter/ charger [Accessory](*2)

Example



DC power cord
[Accessory: Parts No. EV11012]



*1: The adjustment program used on DVD video camera/recorder is exclusively for Windows 95/98/98 Second Edition/Me/2000 Professional/XP/NT4.0: The program cannot be run on MS-DOS.

*2: The part numbers of AC adapter/charger and power cable are different depending on the destination: Refer to the "Replacement Parts List" for the part numbers.

6-1-2 Power Supply and Materials for Creating Reference Data

1) DVD video camera/recorder that is the same model as the one to be adjusted and whose camera block is operating normally.

> Note:
> It is recommended that you use a brand-new unit of the same model when creating the reference data. If such a unit is not available, use the same model of the DVD video camera/recorder that is received from customer for repairing fault in disc drive that is other than in the camera block, and one where there is no problem in recording of camera image and the zoom is operating normally.

2) 3100 K light box (maintenance is necessary)
3) Color monitor (color TV with AV input jacks)
4) DC power supply for DSP-R jig (5 V/1 A)

6-1-3 Connections when Creating Reference Data

Connect the DVD video camera/recorder (for creating reference data), jigs and test equipment as shown in Fig. 6-1-1.

> **Prohibition:**
> Assemble the DVD video camera/recorder completely, and create reference data with only the adjustment cover removed (see Fig. 6-1-1).
> Do not attempt to create reference data with the DVD video camera/recorder disassembled: Doing so is very dangerous because the DVD video camera/recorder incorporates high-voltage circuits and a laser emitter block.

(1) Setting of light box

1) Use a light box whose color temperature is controlled with no flickering: Using an inappropriate light box will interference with work.

(2) Setting and disassembly of DVD video camera/recorder

1) Refer to "(1) Adjustment cover" in "5-3 Disassembly" for how to remove the adjustment cover.
2) Set the light box 30-50 cm away from DVD video camera/recorder, and eliminate any effects from surrounding light, except where such designation is given.
3) Set the lens surface of DVD video camera/recorder in parallel with the surface of light box as far as possible, and adjust the focus.
4) Use a small tripod to fix the DVD video camera/recorder, making certain it does not move during creation of reference data.

Note:

1) Always connect the Skylark connection jig before connecting the DC power cord to the DVD video camera/recorder : Connecting the Skylark connection jig after powering the DVD video camera/recorder could cause a fault.

2) Connect the Skylark connection jig so that the lead wires from jig face up.

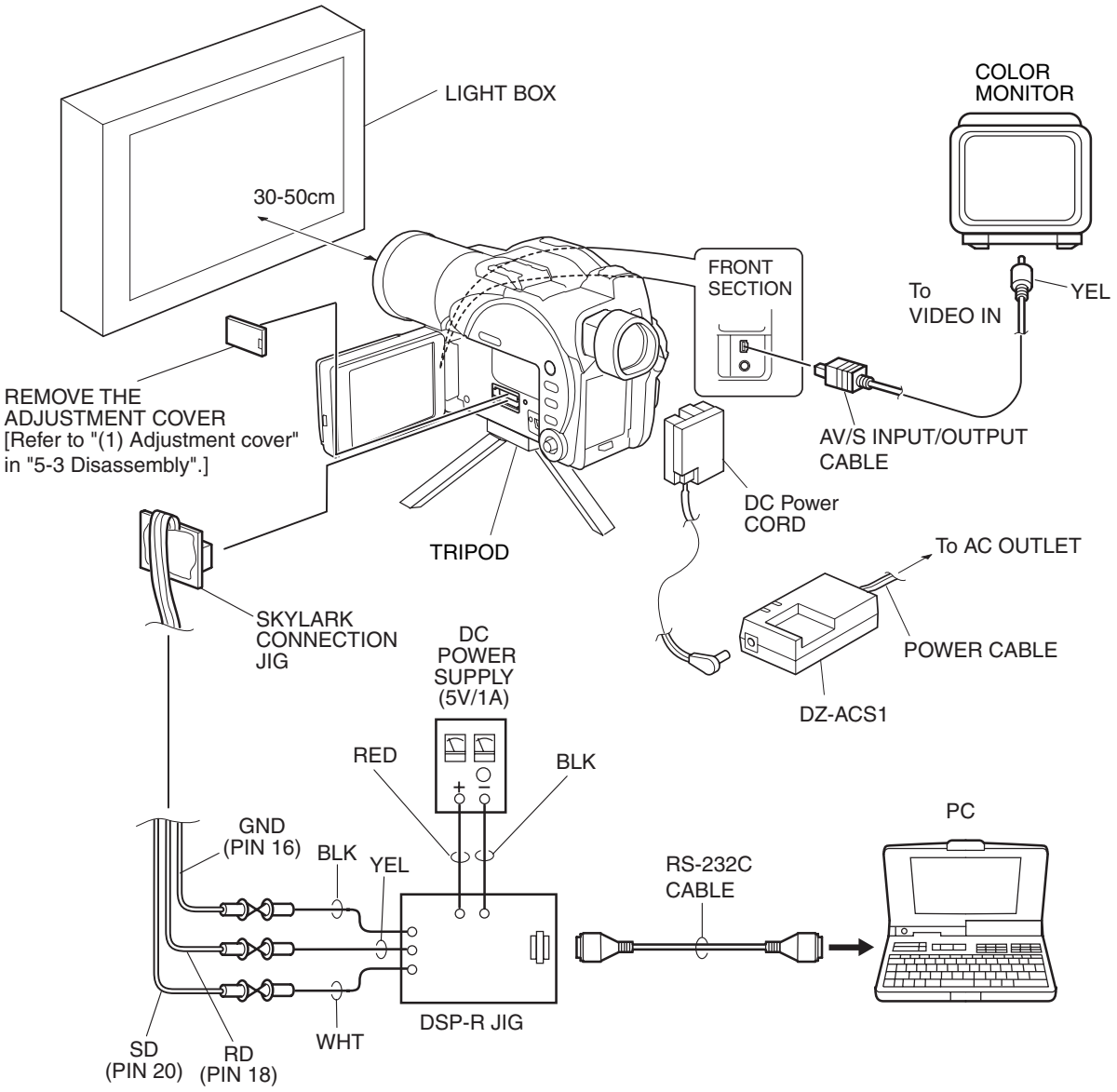


Fig. 6-1-1 Connections when Creating Reference Data

6-1-4 Settings when Creating Reference Data

When the connections for creating reference data are complete, set the DVD video camera/recorder and test equipment as follows:

1) Make sure that no disc or card is inserted: Neither is necessary when creating reference data.
2) Set the power switch to "VIDEO" and quick mode switch to "OFF": After that operate the DVD video camera/recorder while watching the LCD monitor screen.
3) Press the MENU button to display the menu screen.
4) Use the joystick to choose "Initial Setup", and then press the center of joystick.
5) Use the joystick to choose "Reset", and then press the center of joystick: The screen for verifying reset will appear.
6) Use the joystick to choose "ENTER", and then press the center of joystick: Reset will be executed.
7) When reset is complete, operate the joystick by the above procedure to set the items on menu screens as follows:
   a) Specify Demo Mode "Off" in Initial Setup menu. Failing to specify Demo Mode "Off" will interfere with adjustment.
8) Press the MENU button to restore the normal display.

Information:

The following table shows the menu status after the above settings:

The settings for Date Setup are not shown in the table below, since they do not have any meaning when creating reference data.

Item	Setting
Camera Functions Setup	
Program AE	Auto
White Balance	Auto
EIS	On
Dig. Zoom	×40
MIC Filter	Off
16:9	Off
Recording Functions Setup	
VIDEO Mode	FINE
Quality	FINE
Input Source(*1)	CAMERA
PHOTO Input(*1)	Field
Self Timer	Off
OSD Output	Off

Item	Setting
LCD Setup	
Brightness	− +
Color Level	− +
Initial Setup	
Beep	On
Power Save	Off
Record LED	On
Language	English
Demo Mode	Off

*1: Dispaly only on models that have the line input function.

6-1-5 Copying or Deleting Adjustment Program

Information:
The adjustment program also includes a program for creating reference data.

(1) Copy

1) Start the PC.
2) Start Explorer and create a new folder in HDD of PC. The name “map04w” is recommended for the folder: If a folder with the same name exists, give the folder a similar name that is easily understandable.

Note:
Be sure to manage the adjustment programs for Windows and MS-DOS in different folders: Managing them in the same folder will interfere with adjustment.

3) Copy all the folders and files on adjustment floppy disk to the map04w folder.

(2) Deleting

If it is necessary to delete the adjustment program from hard disk drive (HDD) of PC, delete the map04w folder that was created during storage.

6-1-6 Starting and Terminating Reference Data Creation Program

Make sure that the connections are correct, the power switch on DVD video camera/recorder is set to “VIDEO”, and the DC power supply for DSP-R jig is turned on: The reference data creation program will not start unless the connections for creating reference data are correct, and the DVD video camera/recorder or DSP-R jig is powered.
For subsequent operation, operate the PC mouse while watching the PC monitor screen.

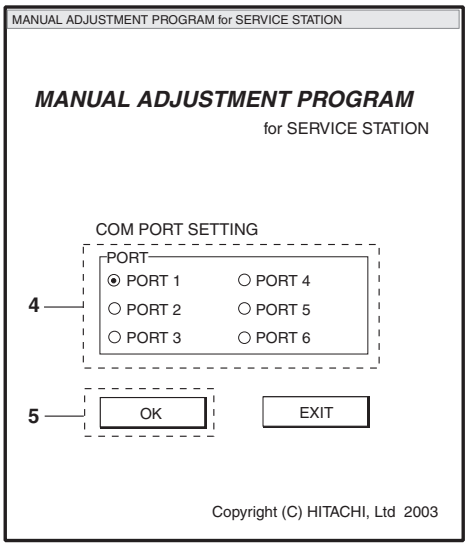
Information:
1) Display ×××× on subsequent PC screen shows the model name.
2) The numbers on PC screens show the operational procedure.

(1) Start

1) Start the PC. If the PC has already started, terminate all other applications.
2) Start Explorer, and double-click the “SETUPforMAP2004W.EXE” file in map04w folder to start the program.
3) Once the program has started, the COMMUNICATION PORT SETTING screen will appear.

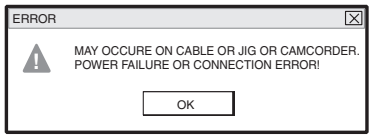
4) Choose the communication port to which the RS-232C cable is connected, and then choose the radio button of corresponding port on COMMUNICATION PORT SETTING screen.
5) Click the OK button on the COMMUNICATION PORT SETTING screen, and then proceed with the MODEL SELECT screen.

COMMUNICATION PORT SETTING screen



Note:
If the following dialogs appear, perform the troubleshooting below:

POWER OR CONNECTION ERROR dialog



COM PORT ERROR dialog

When the power or connection error dialog appears:
A connection is incorrect or power is not turned on.
Make sure that all connections are correct and that power is supplied to the reference data creating device or DSP-R interface jig.
Clicking the OK button will finish the program:
After solving the problem, restart the program.

When the communication port error dialog appears:
There was a mistake in selecting communication port.
Check the communication port.
Clicking the OK button will finish the program:
Select the communication port again after restart.

6) Refer to the following table and choose the radio button of corresponding model name in MODEL SELECT screen.

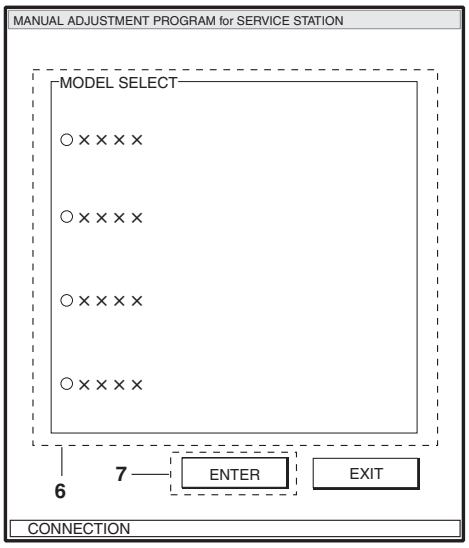
Name of model to be adjusted	Corresponding model name on MODEL SELECT screen
DZ-MV580E/MV580E(UK)	DZ-MV580E
DZ-MV580E(AU)/ MV580E(SW)/MV580E(SWH)	DZ-MV580ESW
DZ-MV550E/MV550E(UK)	DZ-MV550E
DZ-MV550E(AU)/ MV550E(SW)/MV550E(SWH)	DZ-MV550ESW

Information:
The symbols in parentheses ( ) in the above model names show the destinations and are displayed only on packing box.
Refer to "2-5 Differences in Rating Labels and Difference in Function" when checking the body of DVD video camera/recorder to judge its destination.

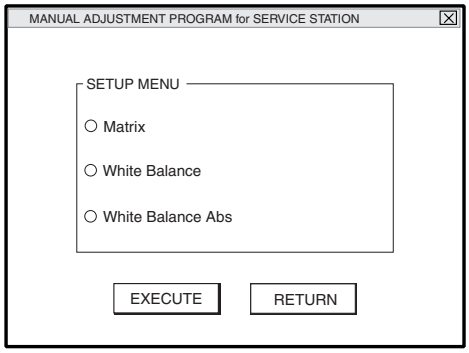
7) Click the ENTER button in MODEL SELECT screen, and then proceed with the SETUP MENU screen. Refer to next item for subsequent operations.
If there is an error in model selection, the FILE HANDLE ERROR dialog will appear. Click the OK button, and then choose the correct model.

Note:
If the FILE HANDLE ERROR dialog appears when the correct model has been chosen, obtain (download) the newest adjustment program, and then start over again. If the FILE HANDLE ERROR dialog still appears with the newest adjustment program, check with the factory.

MODEL SELECT screen.



SETUP MENU screen.



FILE HANDLE ERROR dialog

(2) Termination

1) Click the RETURN button on MENU screen of program to return to the MODEL SELECT screen.
2) Click the EXIT button on the MODEL SELECT screen.

Information:
If the PC does not accept any operation during work, or the reference data creating program does not work, perform the following procedure:
1) Set the power switch of reference data creating device to “OFF”.
2) Turn off the DC power supply of DSP-R interface jig.
3) Simultaneously press the Ctrl, Alt and Delete keys on PC keyboard to restart the PC.
4) After the PC restarts, set the power switch of reference data creating device to “VIDEO” and turn on the DC power supply of DSP-R interface jig again.
5) Restart the reference data creating program.

6-1-7 Creating Reference Data

Start the setup program referring to "6-1-6 Starting and Terminating Reference Data Creation Program". For subsequent operation, operate the PC mouse while watching the PC monitor screen.

Information:
It takes approx. 20 minutes to create reference data.
The following shows the times required for each item:
Matrix: Approx. 10 minutes
White Balance: Approx. 10 minutes
White Balance Abs: Approx. 30 seconds

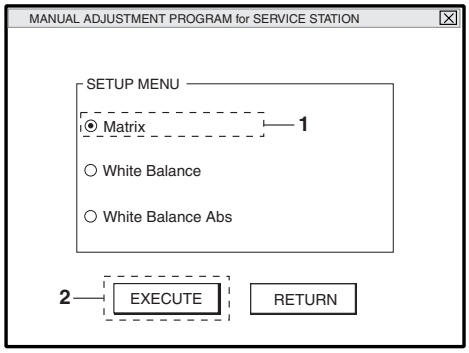
◆ Preparation:

1) Point at light box without chart, filling the screen.
2) Prepare the C12 light balancing filter (step-up rings): Attach it during setup.

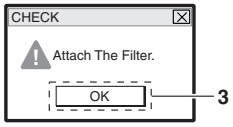
◆ Procedure:

1) Choose MATRIX on the SETUP MENU screen.
2) Click the EXECUTE button on SETUP MENU screen to start setup.
3) The ATTACH THE FILTER dialog will appear during setup. Attach the C12 light balancing filter over the lens of DVD video camera/recorder, and then click the OK button in ATTACH THE FILTER dialog.
4) The REMOVE THE FILTER dialog will appear during setup.
   Remove the C12 light balancing filter from the lens of DVD video camera/recorder, and then click the OK button in REMOVE THE FILTER dialog.
   After that, the ATTACH THE FILTER dialog and REMOVE THE FILTER dialog may occasionally appear: Reattach the C12 light balancing filter and remove it each time.
5) When setup is complete, the SETUP FINISHED dialog will appear: Click the OK button in
   dialog to restore the SETUP MENU screen.
   When setup is complete with the C12 light balancing filter attached, remove the C12 light balancing filter.
6) Choose WHITE BALANCE on the SETUP MENU screen.
7) Repeat steps 2)-5).

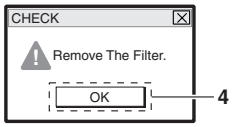
SETUP MENU screen.



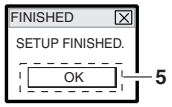
ATTACH THE FILTER dialog



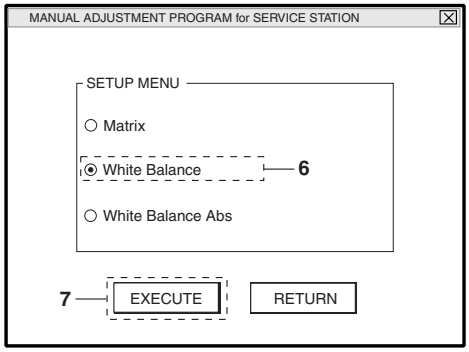
REMOVE THE FILTER dialog



SETUP FINISHED dialog



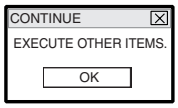
SETUP MENU screen.



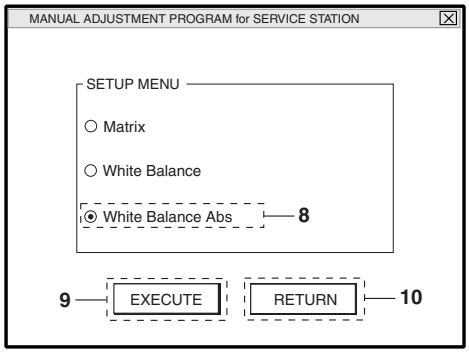
8) Choose WHITE BALANCE ABS on the SETUP MENU screen.
9) Repeat steps 2)-5).
10) Click the RETURN button on SETUP MENU screen.
11) The ALL SETUP FINISH dialog will appear: Click the OK button to complete the creation of reference data.

Note:
Neither Matrix, White Balance nor White Balance Abs in SETUP MENU can be executed independently. Be sure to execute all items at the same time.
If you click the RETURN button on the SETUP MENU screen with an unfinished item, the EXECUTE OTHER ITEMS dialog will appear. Click the OK button in EXECUTE OTHER ITEMS dialog, and then execute the unfinished items.

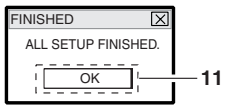
EXECUTE OTHER ITEMS dialog



SETUP MENU screen.



ALL SETUP FINISH dialog



6-2 Setups for Adjustment

6-2-1 Checking Reference Data

Before starting adjustment, check whether it will be necessary to create the reference data or not, referring to the flowchart below:

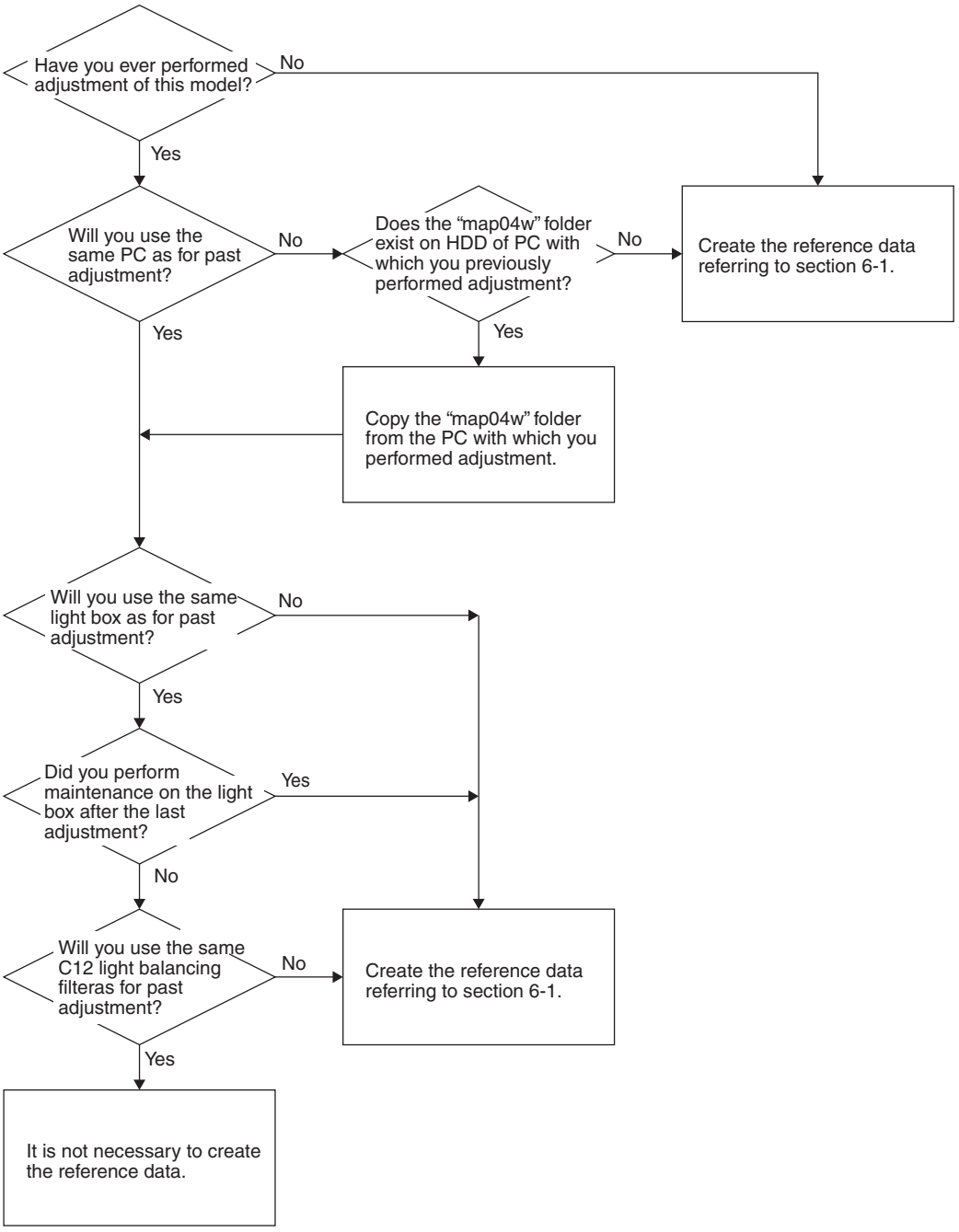


Fig. 6-2-1

6-2-2 List of Jigs and Tools for Adjustment

This list is the same as when creating reference data: Refer to "6-1-1 List of Jigs and Tools when Creating Reference Data".

6-2-3 Test Equipment, Power Supply and Charts for Adjustment

1) Color bar chart
2) 3100 K light box (maintenance is necessary)
3) Backfocus chart
4) Color monitor (color TV with AV input jacks)
5) Oscilloscope
6) Vectorscope
7) Digital voltmeter
8) Frequency counter
9) DC power supply for DSP-R jig (5 V/1 A)

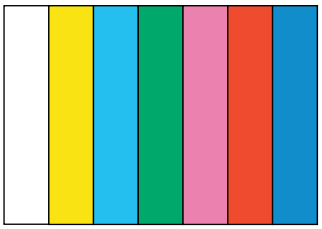


Fig. 6-2-2 Color Bar Chart

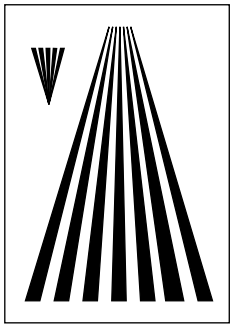


Fig. 6-2-3 Backfocus Chart

Information:
It is recommended that you use a vectorscope when performing the chroma gain adjustment.
You can use an oscilloscope instead: Note, however, that the adjustment accuracy will be lower.

6-2-4 Connections for Adjustment

Connect the DVD video camera/recorder, jigs and test equipment as shown in the Fig. 6-2-4.

Prohibition:
Assemble the DVD video camera/recorder completely, and perform adjustment with only the adjustment cover removed (see Fig. 6-2-4).
Do not attempt to perform any adjustment with the DVD video camera/recorder disassembled: Doing so is very dangerous because the DVD video camera/recorder incorporates high-voltage circuits and a laser emitter block.

(1) Setting of light box

1) Use the same light box as when the reference data was created: Its color temperature and illuminance are strictly controlled and free from flickering. If the setting of color box is not appropriate, the adjustment program may not operate normally.

(2) Setting and disassembly of DVD video camera/recorder

1) Refer to "(1) Adjustment cover" in "5-3 Disassembly" for how to remove the adjustment cover.
2) Set the light box 30-50 cm away from DVD video camera/recorder, and eliminate any effects from surrounding light, except where such designation is given.
3) Set the lens surface of DVD video camera/recorder in parallel with the surface of light box as far as possible, and adjust the focus.
4) Use a small tripod to fix the DVD video camera/recorder, making certain it does not move during creation of reference data.
5) Be sure to connect the video output of DVD video camera/recorder to the video input jack of color monitor, which is usually terminated by 75 ohm: If the video output is not terminated by 75 ohm, the video output value cannot be measured correctly.

Note:

1) Always connect the Skylark connection jig before connecting the DC power cord to the DVD video camera/recorder: Connecting the Skylark connection jig after powering the DVD video camera/recorder could cause a fault.

2) Connect the Skylark connection jig so that the lead wires from jig face up.

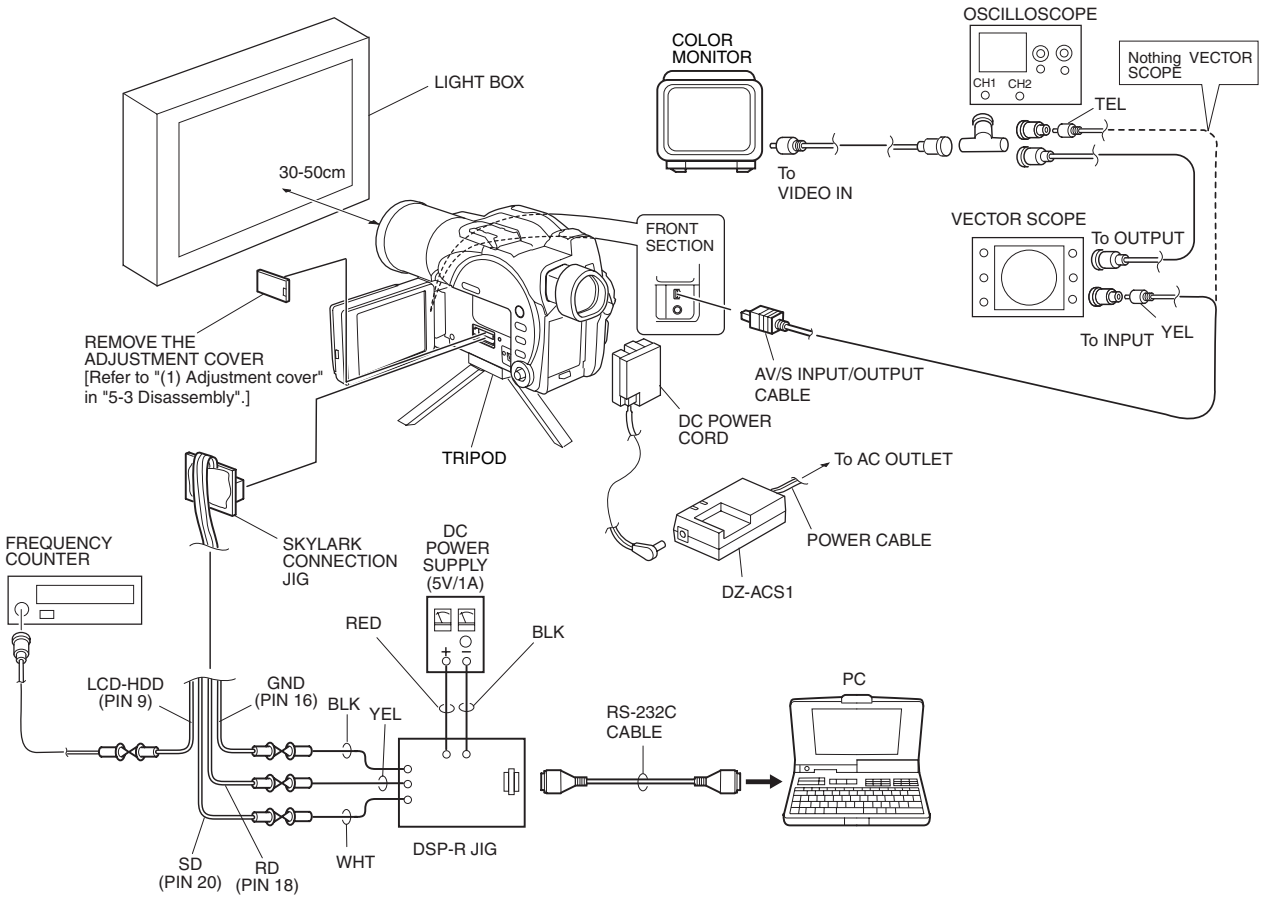


Fig. 6-2-4 Connections for Adjustment

6-2-5 Settings for Adjustment

When the connections for adjustment are complete, set the DVD video camera/recorder and test equipment as follows:

(1) Setting the DVD video camera/recorder

Information:
This item is the same as when creating reference data.

1) Make sure that no disc or card is inserted: Neither is necessary when creating reference data.
2) Set the power switch to "VIDEO" and quick mode switch to "OFF": After that operate the DVD video camera/recorder while watching the LCD monitor screen.
3) Press the MENU button to display the menu screen.
4) Use the joystick to choose "Initial Setup", and then press the center of joystick.
5) Use the joystick to choose "Reset", and then press the center of joystick: The screen for verifying reset will appear.
6) Use the joystick to choose "ENTER", and then press the center of joystick: Reset will be executed.
7) When reset is complete, operate the joystick by the above procedure to set the items on menu screens as follows:
   a) Specify Demo Mode "Off" in Initial Setup menu. Failing to specify Demo Mode "Off" will interfere with adjustment.
8) Press the MENU button to restore the normal display.

Information:
The following table shows the menu status after the above settings:
The settings for Date Setup are not shown in the table below, since they do not have any meaning when creating reference data.

Item	Setting
Camera Functions Setup	
Program AE	Auto
White Balance	Auto
EIS	On
Dig. Zoom	×40
MIC Filter	Off
16:9	Off
Recording Functions Setup	
VIDEO Mode	FINE
Quality	FINE
Input Source(*1)	CAMERA
PHOTO Input(*1)	Field
Self Timer	Off
OSD Output	Off

Item	Setting
LCD Setup	
Brightness	− +
Color Level	− +
Initial Setup	
Beep	On
Power Save	Off
Record LED	On
Language	English
Demo Mode	Off

*1: Dispaly only on models that have the line input function.

(2) Setting test equipment

The names of switches, etc. of test equipment may vary depending on the manufacturer and model. Some switches in addition to those shown below may have to be set: See the instruction manual of test equipment for details.

1) Oscilloscope

a) Probe:	10:1
b) TIME/DIV:	10 or 20 μs (except where some other designation is given)
c) VOLTS/DIV:	Change depending on the measurement object
d) TRIGGER SOURCE:	CH1 (except where some other designation is given)
e) AC/DC/GND:	AC

2) Vectorscope

a) SATURATION:	75%

6-2-6 Starting and Terminating Adjustment Program

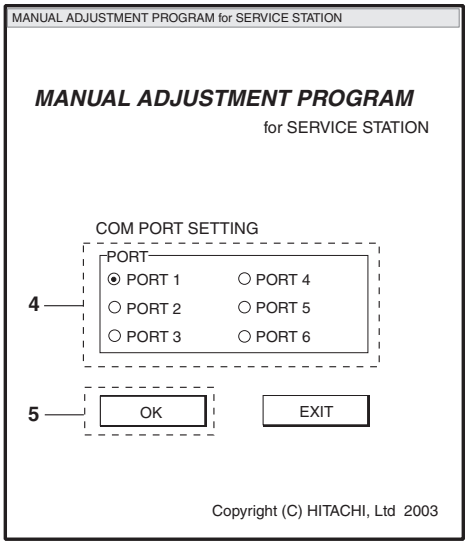
Make sure that the connections are correct, the power switch on DVD video camera/recorder is set to "VIDEO", and the DC power supply for DSP-R jig is turned on. The adjustment program will not start unless the connections for adjustment are correct, and the DVD video camera/recorder or DSP-R jig is powered.

Information:
1) Display ×××× on subsequent PC screen shows the model name.
2) The numbers on PC screens show the operational procedure.

(1) Start

1) Start the PC. If the PC has already started, terminate all other applications.
2) Start Explorer, and double-click the "MAP2004W.EXE" file in map04w folder to start the adjustment program.
3) Once the adjustment program has started, the COMMUNICATION PORT SETTING screen will appear.
4) Check the communication port to which the RS-232C cable is connected, and then choose the radio button of corresponding port on COMMUNICATION PORT SETTING screen.
5) Click the OK button on the COMMUNICATION PORT SETTING screen, and then proceed with the MODEL SELECT screen.

COMMUNICATION PORT SETTING screen

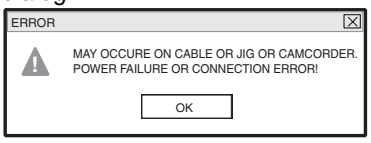


Note:
If the dialogs on right appear, perform the following troubleshooting:

When the power or connection error dialog appears:
A connection is incorrect or power is not turned on.
Make sure that all connections are correct and that power is supplied to the reference data creating device or DSP-R interface jig.
Clicking the OK button will finish the program:
After solving the problem, restart the program.

When the communication port error dialog appears:
There was a mistake in selecting communication port.
Check the communication port.
Clicking the OK button will finish the program:
Select the communication port again after restart.

POWER OR CONNECTION ERROR dialog



COM PORT ERROR dialog

Information:
When communications between the PC and DVD video camera/recorder are normal during adjustment, the word "CONNECTION" in status bar (bottom left) of each screen will flash.

6) Choose the radio button of corresponding model name in MODEL SELECT screen.

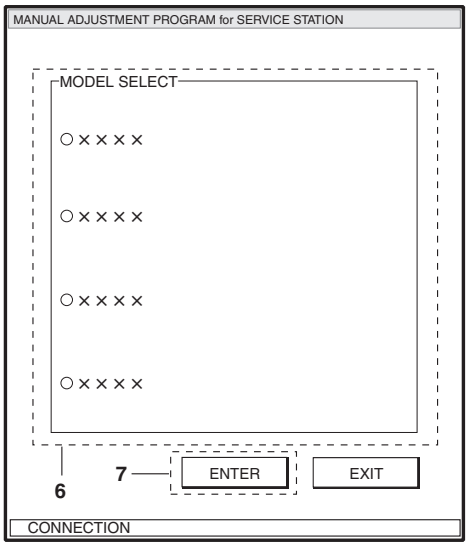
Name of model to be adjusted	Corresponding model name on MODEL SELECT screen
DZ-MV580E/MV580E(UK)	DZ-MV580E
DZ-MV580E(AU)/ MV580E(SW)/MV580E(SWH)	DZ-MV580ESW
DZ-MV550E/MV550E(UK)	DZ-MV550E
DZ-MV550E(AU)/ MV550E(SW)/MV550E(SWH)	DZ-MV550ESW

Information:
The symbols in parentheses ( ) in the above model names show the destinations and are displayed only on packing box.
Refer to "2-5 Differences in Rating Labels and Difference in Function" when checking the body of DVD video camera/recorder to judge its destination.

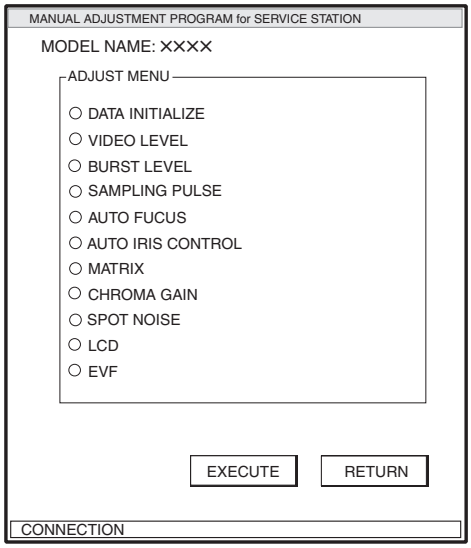
7) Click the ENTER button in MODEL SELECT screen, and then proceed with the ADJUST MENU screen.
Start of the adjustment program is now complete. Refer to "6-3 Adjustment Procedure" for subsequent operations.
If there is an error in model selection, the FILE HANDLE ERROR dialog will appear. Click the OK button, and then choose the correct model.

Note:
If the FILE HANDLE ERROR dialog appears when the correct model has been chosen, obtain (download) the newest adjustment program, and then start over again.
If the FILE HANDLE ERROR dialog still appears with the newest adjustment program, check with the factory.

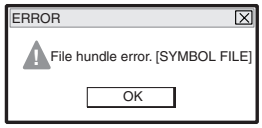
MODEL SELECT screen.



ADJUST MENU screen.



FILE HANDLE ERROR dialog



(2) Termination

1) Click the RETURN button on MENU screen of adjustment program to return to the MODEL SELECT screen.
2) Click the EXIT button on the MODEL SELECT screen.

Information:
If the PC does not accept any operation during work, or the reference data creating program does not work, perform the following procedure:
1) Set the power switch of reference data creating device to “OFF”.
2) Turn off the DC power supply of DSP-R interface jig.
3) Simultaneously press the Ctrl, Alt and Delete keys on PC keyboard to restart the PC.
4) After the PC restarts, set the power switch of reference data creating device to “VIDEO” and turn on the DC power supply of DSP-R interface jig again.
5) Restart the reference data creating program.

6-3 List of Adjustment Items

6-3-1 Adjustment Program Hierarchy Diagram

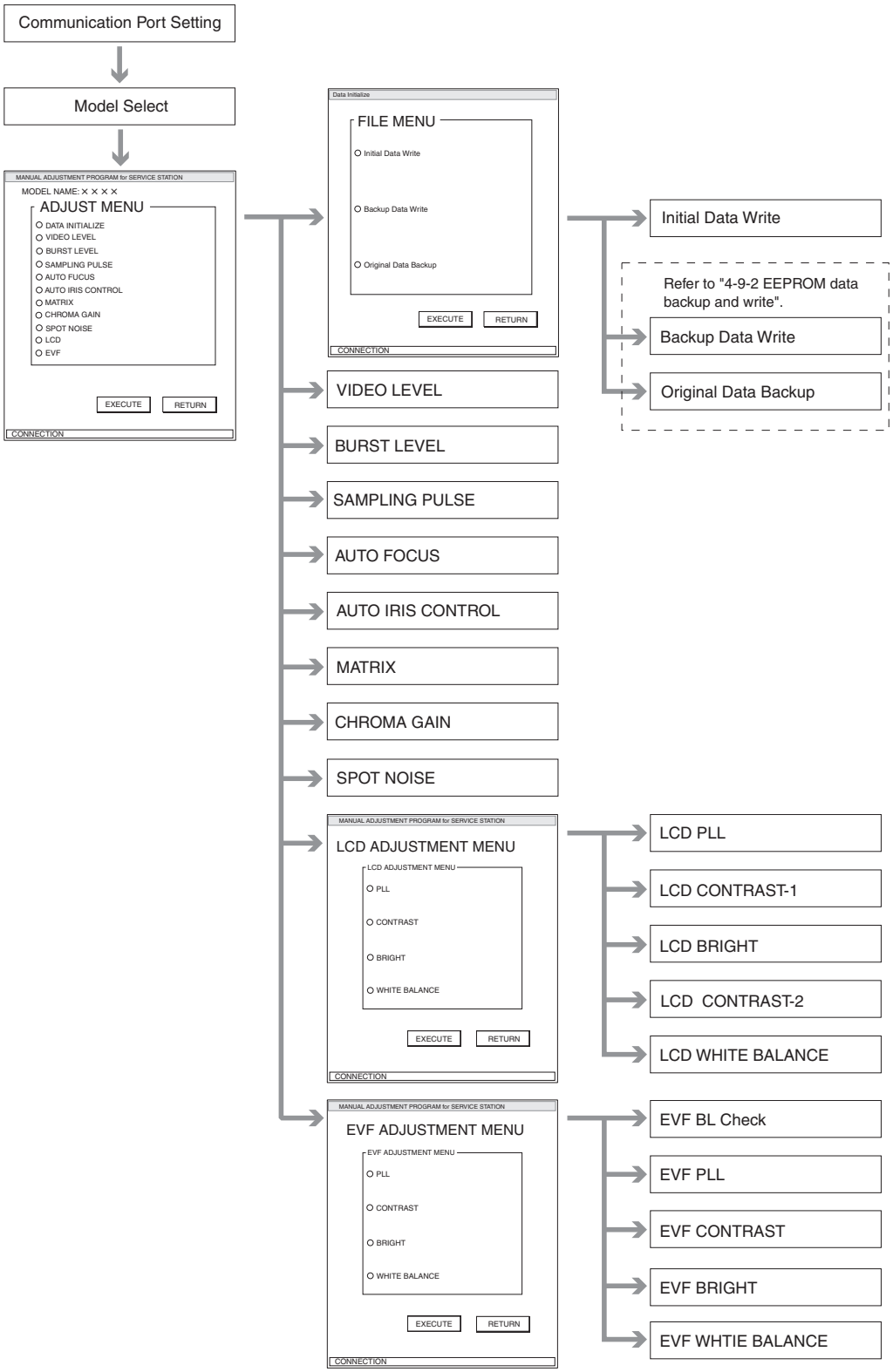


Fig. 6-3-1

6-3-2 List of Adjustments Needed After Replacing Major Components

Item	Major Components			
	MAN-H/MAN circuit board(*1) (EEPROM backup data already written)	MAN-H/MAN circuit board(*1) (EEPROM data backup disabled)(*2)	EVF unit(*3)	LCD unit
Initial Data Write		●		
Video Level	●	●		
Burst Level	●	●		
Sampling Pulse	●	●		
Autofocus		●		
Auto Iris Control	●	●		
Matrix		●		
Chroma Gain		●		
Spot Noise		●		
LCD PLL	●	●		●
LCD Contrast-1(*4)	●	●		●
LCD Bright(*4)	●	●		●
LCD Contrast-2(*4)	●	●		●
LCD White Balance	●	●		●
EVF BL DET Check	●	●	●	
EVF PLL	●	●		
EVF Contrast	●	●		
EVF Bright	●	●		
EVF White Balance	●	●	●	

*1: Be sure to perform "4-9-2 EEPROM data backup and write" before replacing the MAN-H/MAN circuit board.

*2: "EEPROM data backup disabled" refers to when the backup of EEPROM data from the MAN-H/MAN circuit board to be replaced could not be properly executed due to some fault, such as the DVD video camera/recorder not being turned on, etc.

*3: When replacing the EVF unit, be sure to perform EVF backlight check between the replaced and new EVF units.

*4: The following three items cannot be performed singly. Be sure to perform these adjustments as a set with the three items, and in the order stated:

LCD contrast – 1
LCD bright
LCD contrast – 2

Item	Major Components					
	Lens unit [For DZ-MV580E]	Lens unit [For DZ-MV550E]	IC1001 [For DZ-MV580E]	IC1301 IC1302	IC3701	IC6103
Initial Data Write						
Video Level						●
Burst Level						●
Sampling Pulse						
Autofocus	●	●	●			
Auto Iris Control	●	●	●	●		
Matrix		●	●			
Chroma Gain		●	●			
Spot Noise		●	●			
LCD PLL						
LCD Contrast-1(*4)						
LCD Bright(*4)						
LCD Contrast-2(*4)						
LCD White Balance						
EVF BL DET Check					●	
EVF PLL					●	
EVF Contrast					●	
EVF Bright					●	
EVF White Balance					●	

*4: The following three items cannot be performed singly. Be sure to perform these adjustments as a set with the three items, and in the order stated:

LCD contrast – 1
LCD bright
LCD contrast – 2

6-3-3 Purpose of Adjustments and Incompleted Phenomenon

Item	Purpose	Incompleted Phenomenon
Initial Data Write	To write initial data to EEPROM in which adjustment data has been stored	----------
Video Level	To set the video output level.	The picture becomes dark or whitish.
Burst Level	To set the burst level.	
Sampling Pulse	To measure the delay time in sampling IC, and optimize pulse timing.	Diagonal beats and horizontal noise occur.
Autofocus	To set out-of-focus correction level during zoom.	Focus is lost during zooming. It takes time until a subject is brought into focus, or correct focus is not obtained.
Auto Iris Control	To set iris control data.	The picture becomes too bright or dark.
Matrix	To compensate for unevenness in the chroma signal and input auto white balance control data.	Color reproduction becomes defective.
Chroma Gain	To set color saturation for the reference color temperature.	Color of the picture is denser or lighter than that of the subject.
Spot Noise	To correct spot noise.	Spot noise occurs.
LCD PLL	To synchronize LCD image.	Synchronization of LCD image is distorted.
LCD Contrast-1	To set the bright level and contrast of the LCD monitor.	Color reproduction becomes defective of the LCD monitor.
LCD Bright		
LCD Contrast-2		
LCD White Balance		
EVF BL DET Check	To check the characteristics of EVF backlight.	----------
EVF PLL	To synchronize EVF image	Synchronization of EVF image is distorted.
EVF Contrast	To set the bright level and contrast of the viewfinder.	Color reproduction becomes defective of the viewfinder.
EVF Bright		
EVF White Balance		

6-4 Adjustment Procedure

Start the adjustment program referring to "6-2-6 Starting and Terminating Adjustment Program". For the subsequent operation, operate the PC mouse while watching the PC monitor screen.

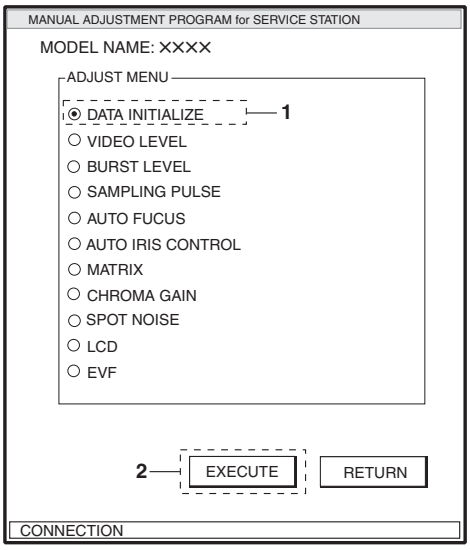
Information:
1) Display ×××× on subsequent PC screen shows the model name.
2) The numbers on PC screens show the operational procedure.

6-4-1 Initial Data Write

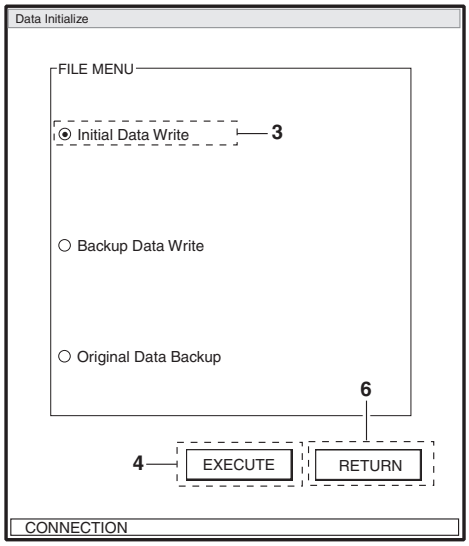
Note:
1) Write the initial data only after the MAN-H/MAN circuit board has been replaced when the backup of EEPROM data could not be performed using the MAN-H/MAN circuit board before replacement.
   Refer to "4-9-2 EEPROM data backup and write" for backup of EEPROM data.
2) Writing the initial data will initialize all the adjustment data in EEPROM. After writing, be sure to perform all the appropriate adjustments.

◆ Procedure:
1) Choose DATA INITIALIZE on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to proceed with the DATA INITIALIZE MENU screen.
3) Choose Initial Data Write on the DATA INITIALIZE MENU screen.
4) Click the EXECUTE button on DATA INITIALIZE MENU screen to start writing of initial data.
   The progress status can be confirmed using the PROGRESS STATUS dialog.
5) When writing is complete, the INITIALIZATION FINISHED dialog will appear: Click the OK button in dialog to restore the DATA INITIALIZE MENU screen.
6) Click the RETURN button on DATA INITIALIZE MENU screen to restore the ADJUST MENU screen, and then be sure to perform all the adjustment items.

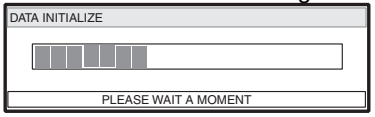
ADJUST MENU screen



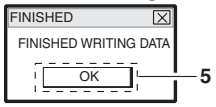
DATA INITIALIZE MENU screen



PROGRESS STATUS dialog



INITIALIZATION FINISHED dialog



6-4-2 Video Level

◆ Preparations:

1) Connect the oscilloscope CH1 to video out.
2) Switch the oscilloscope V-MODE to “CH1” and TRIGGER SOURCE to “CH1”.

◆ Procedure:

1) Choose VIDEO LEVEL on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to proceed with the VIDEO LEVEL ADJUSTMENT screen.
3) Click the UP or DOWN button so that level of waveform is 1.0 ± 0.05 Vp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in level of waveform.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the ADJUST MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.

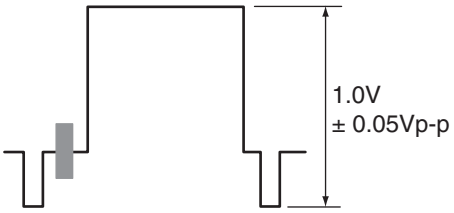
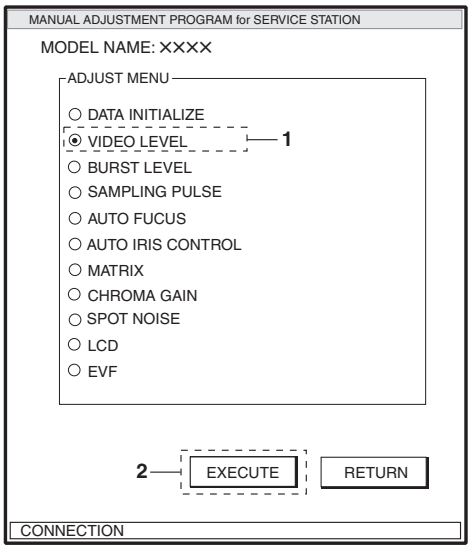
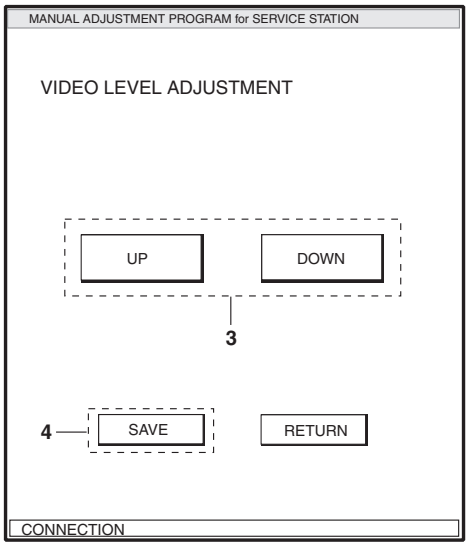


Fig. 6-4-1

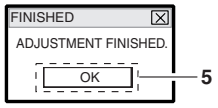
ADJUST MENU screen



VIDEO LEVEL ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



6-4-3 Burst Level

◆ Preparations:

1) Connect the oscilloscope CH1 to video out.
2) Switch the oscilloscope V-MODE to “CH1” and TRIGGER SOURCE to “CH1”.

◆ Procedure:

1) Choose BURST LEVEL on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to proceed with the BURST LEVEL ADJUSTMENT screen.
3) Click the UP or DOWN button so that burst level of the waveform is 300mV ± 15 mVp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in burst level.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the ADJUST MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.

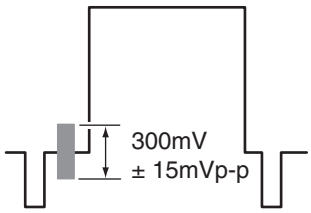
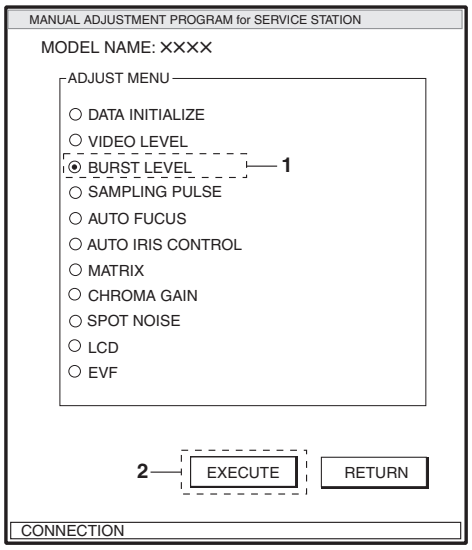
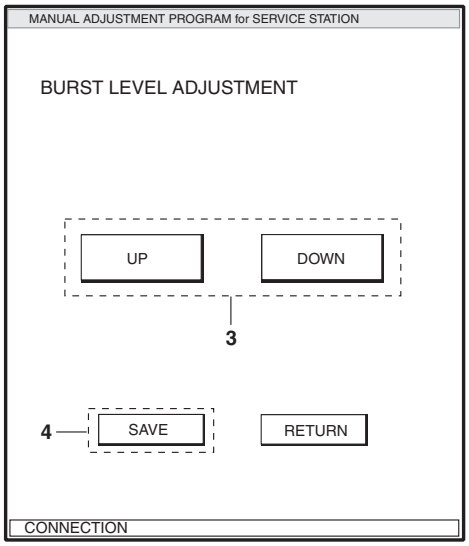


Fig. 6-4-2

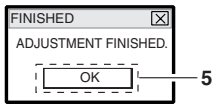
ADJUST MENU screen



BURST LEVEL ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



6-4-4 Sampling Pulse

Note:
Start this adjustment after the circuit operation is stabilized, e.g., after leaving the DVD video camera/recorder for at least one hour at normal temperature, and then starting within 90 seconds after turning it on. Unstable circuit operation will cause improper adjustment.

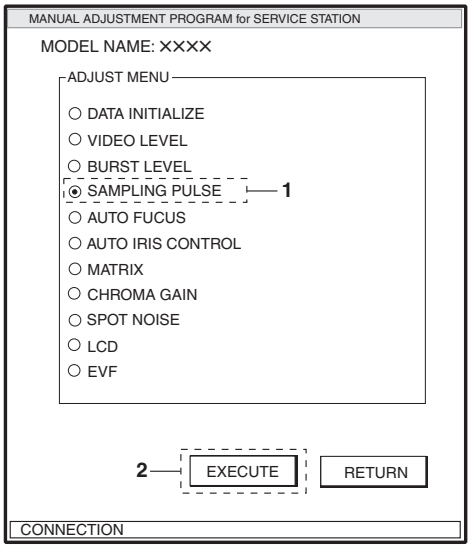
◆ Preparation:

Cap the lens of DVD video camera/recorder.

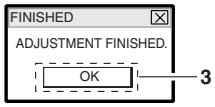
◆ Procedure:

1) Choose SAMPLING PULSE on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to start adjustment.
3) When adjustment is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.

ADJUST MENU screen



ADJUSTMENT FINISHED dialog



6-4-5 Autofocus

◆ Preparations:

1) Use the backfocus chart vertically (portrait mode) as shown in Fig. 6-4-3.
2) Point at backfocus chart 1500mm ± 5 mm away from the lens surface: Measure the distance precisely.
3) Set the zoom to telephoto end, and make sure that the center of backfocus chart appears.
4) If an illuminometer is available and the brightness of illumination can be varied, set the illuminance of backfocus chart surface to 200-400 lx. This setting is not necessary if the brightness of illumination cannot be varied: Perform adjustment under indoor light that is as bright as possible.

◆ Procedure:

1) Choose AUTO FOCUS on the adjustment menu screen.
2) Click the EXECUTE button on ADJUST MENU screen to start adjustment.
3) When adjustment is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.
   If the AF ADJUSTMENT ERROR dialog appears, click the OK button in dialog, perform the following troubleshooting, and then execute readjustment:
   a) Increase the illumination.
   b) Set the distance between the backfocus chart and lens surface precisely to 1500mm ± 5 mm.

   If the AF adjustment error dialog still appears even after troubleshooting, the connection of lens unit may be incorrect or the unit may be faulty.

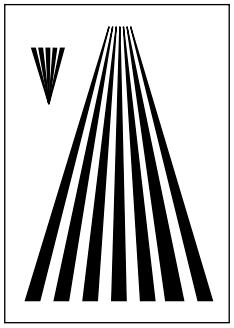
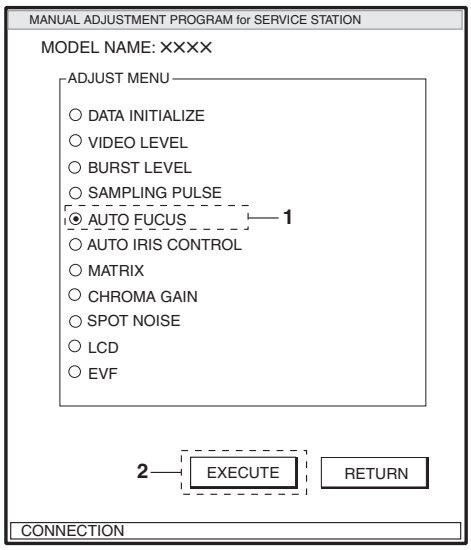
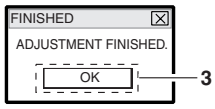


Fig. 6-4-3 Backfocus Chart

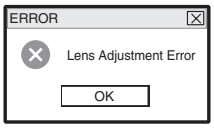
ADJUST MENU screen



ADJUSTMENT FINISHED dialog



AF ADJUSTMENT ERROR dialog



6-4-6 Auto Iris Control

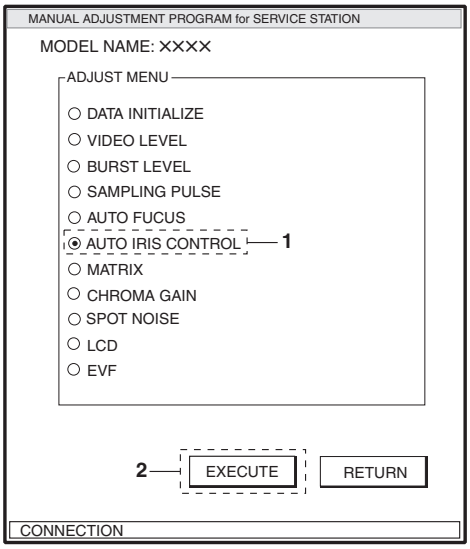
◆ Preparation:

Set zoom to wide-angle end, and point at light box without chart, filling the screen.

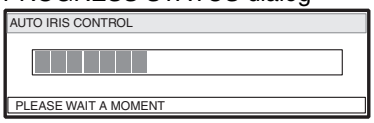
◆ Procedure:

1) Choose AUTO IRIS CONTROL on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to start adjustment.
   The progress status can be confirmed using the PROGRESS STATUS dialog.
3) When adjustment is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.
   If the IRIS ADJUSTMENT ERROR dialog appears, click the OK button in dialog, perform the appropriate corrective action, and then perform readjustment. If the IRIS ADJUSTMENT ERROR dialog still appears after the corrective action, the lens unit may be faulty:
   a) Turn the light box off, and then make sure that no surrounding light reflects on glass surface of light box. If any surrounding light does reflect on it, perform adjustment in a place where no surrounding light will affect the adjustment.
   b) Widen or shorten the distance between the light box and DVD video camera/recorder.

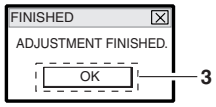
ADJUST MENU screen



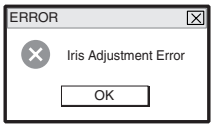
PROGRESS STATUS dialog



ADJUSTMENT FINISHED dialog



IRIS ADJUSTMENT ERROR dialog



6-4-7 Matrix

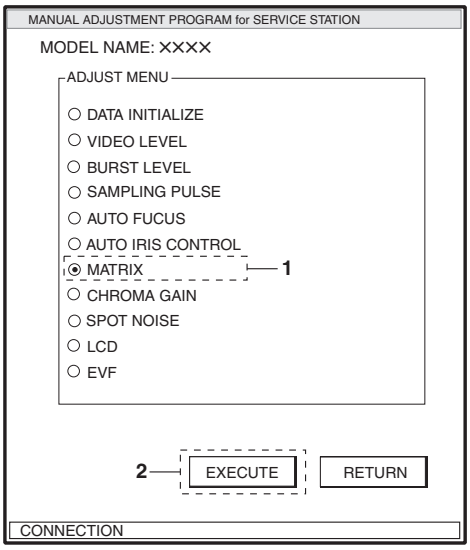
◆ Preparation:

1) Point at light box without chart, filling the screen.
2) Prepare the C12 light balancing filter (step-up rings): Attach it during adjustment.

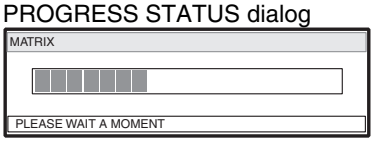
◆ Procedure:

1) Choose MATRIX on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to start adjustment.
   The progress status can be confirmed using the PROGRESS STATUS dialog.
3) The ATTACH THE FILTER dialog will appear during setup.
   Attach the C12 light balancing filter over the lens of DVD video camera/recorder, and then click the OK button in ATTACH THE FILTER dialog.
4) The REMOVE THE FILTER dialog will appear during setup.
   Remove the C12 light balancing filter from the lens of DVD video camera/recorder, and then click the OK button in REMOVE THE FILTER dialog.
   After that, the ATTACH THE FILTER dialog and REMOVE THE FILTER dialog may occasionally appear: Reattach the C12 light balancing filter and remove it each time.
5) When adjustment is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.

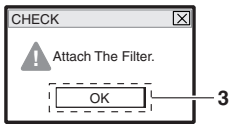
ADJUST MENU screen



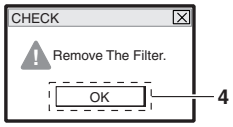
PROGRESS STATUS dialog



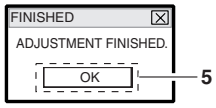
ATTACH THE FILTER dialog



REMOVE THE FILTER dialog



ADJUSTMENT FINISHED dialog



6-4-8 Chroma Gain

◆ Preparation:

1) Point at light box without chart, filling the screen.
2) Prepare the color bar chart: Use it during adjustment.

◆ Procedure:

1) Press the MENU button on DVD video camera/recorder, and use the joystick to specify "White Bal.: Set" to display the white balance screen. (See Fig. 6-4-4)
2) Press the center button on joystick: The "▚" mark on the white balance setting screen will blink. Hold down the button until the "▚" mark changes to a steady light.
3) Press the STOP button on DVD video camera/recorder.
4) Insert the color bar chart into light box and point the DVD video camera/recorder at the chart so that it fills the screen.

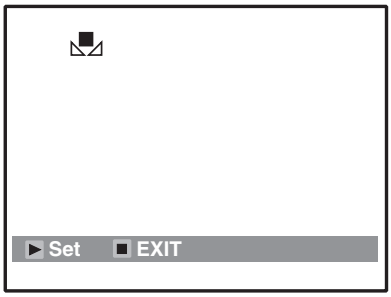
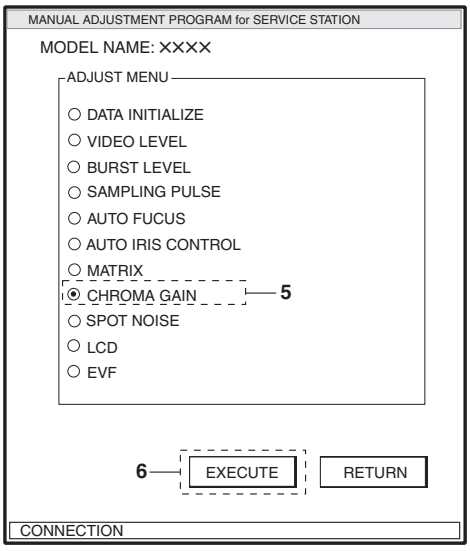


Fig. 6-4-4 White balance set screen

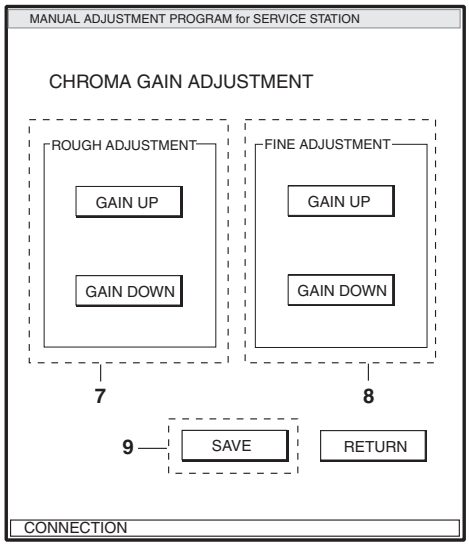
5) Choose CHROMA GAIN on the ADJUST MENU screen.
6) Click the EXECUTE button on ADJUST MENU screen to proceed with the CHROMA GAIN ADJUSTMENT screen.

ADJUST MENU screen



7) Click the GAIN UP or GAIN DOWN button in ROUGH ADJUSTMENT box so that the value of red vector or red level approaches that in Table 6-4-1. Click the button at approx. 2-second intervals while checking the increase or decrease of vector or level.
8) Click the GAIN UP or GAIN DOWN button in FINE ADJUSTMENT box so that the value of red vector or red level matches that in Table 6-4-1. Click the button at approx. 2-second intervals while checking any increase or decrease in vector or level.
9) After step 8) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the ADJUST MENU screen to the status before the adjustment was performed.
10) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.
11) Press the MENU button on DVD video camera/recorder, and use the joystick to specify (return to) "White Bal.: Auto".

CHROMA GAIN ADJUSTMENT screen



ADJUSTMENT FINISHED dialog

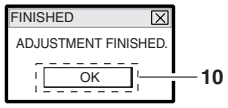


Table 6-4-1 Value of Red Level/Vector

Model	When using a vectorscope	When using an oscilloscope
DZ-MV580E	A = 310 % ± 5 %	B = 850mV ± 20 mVp-p
DZ-MV550E	A = 280 % ± 5 %	B = 780mV ± 20 mVp-p

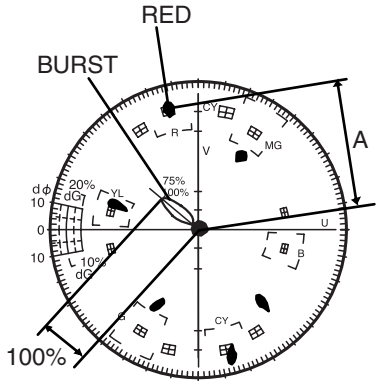


Fig. 6-4-5 When using a vectorscope

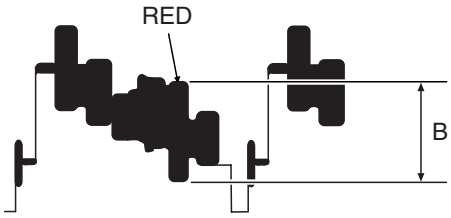


Fig. 6-4-6 When using an oscilloscope

6-4-9 Spot Noise

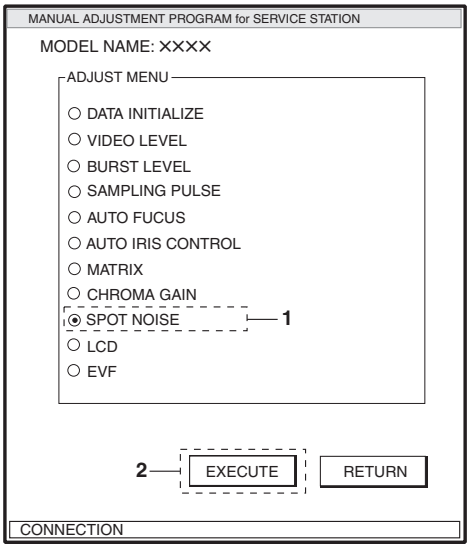
Information:

1) The SPOT NOISE adjustment compensates for bright points that appear on the screen, and these are caused by a defect in pixel of CCD image sensor that may occur when DVD video camera/ recorder is used under particular conditions or for a long time. Therefore, execute SPOT NOISE only in the following cases:
   a) Pixel defect occurs in CCD image sensor and a bright point appears on screen,
   b) CCD image sensor (DZ-MV550E: Lens unit) is replaced
   c) "Initial Data Write" is executed
2) The presence or absence of a bright point that appears on screen due to pixel defect on CCD image sensor can easily be judged by capping the lens. Use a CRT color monitor for this check.

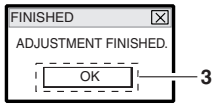
◆ Procedure:

1) Choose SPOT NOISE on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to start adjustment.
   When SPOT NOISE starts, the DVD video camera/ recorder will automatically turn on again.
3) When adjustment is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the ADJUST MENU screen.
   If bright point still appears after adjustment is finished, the CCD image sensor (DZ-MV550E: Lens unit) may be faulty.

ADJUST MENU screen



ADJUSTMENT FINISHED dialog



6-4-10 LCD

Note:
1) Perform LCD only after replacing the MAN-H/MAN circuit board, LCD circuit board or LCD unit, or executing “Initial Data Write”.
2) Neither light box nor chart is needed for LCD adjustment.

Before performing any adjustments for LCD, be sure to shift the DVD video camera/recorder to the test mode using the procedure below, and then display the LCD ADJUSTMENT MENU.

◆ Procedure:

1) Choose LCD on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to shift the DVD video camera/recorder to the test mode. The progress status can be confirmed using the PROGRESS STATUS dialog.
3) When the DVD video camera/recorder has shifted to the test mode, the LCD screen will be black and white (see Fig. 6-4-7), and the LCD ADJUSTMENT MENU screen will appear on the PC monitor screen.

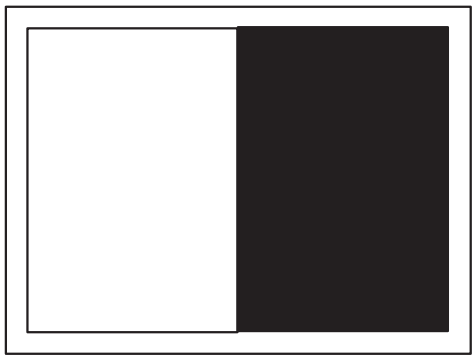
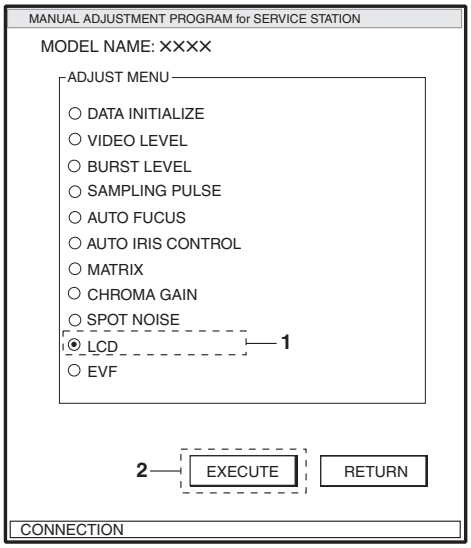
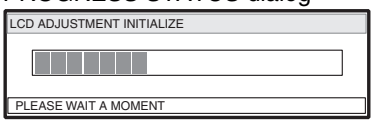


Fig. 6-4-7 LCD Monitor Screen

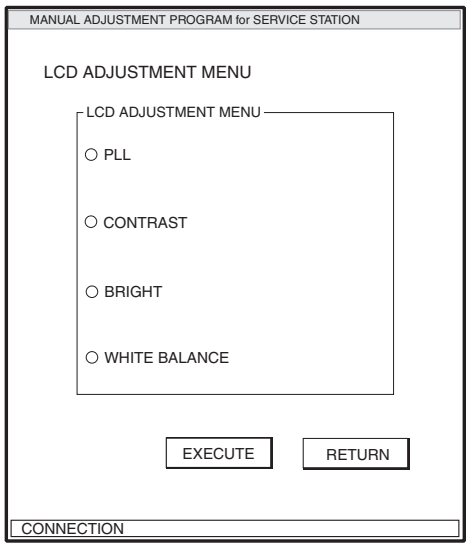
ADJUST MENU screen



PROGRESS STATUS dialog



LCD ADJUSTMENT MENU screen



(1) LCD PLL

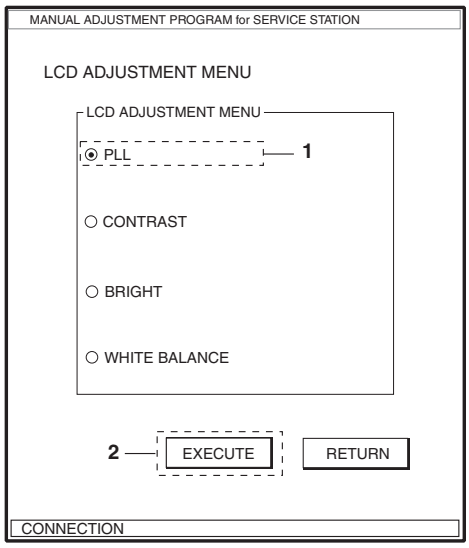
◆ Preparation:

Connect the frequency counter to "LCD-HDD (pin 9)" of Skylark Connection jig.

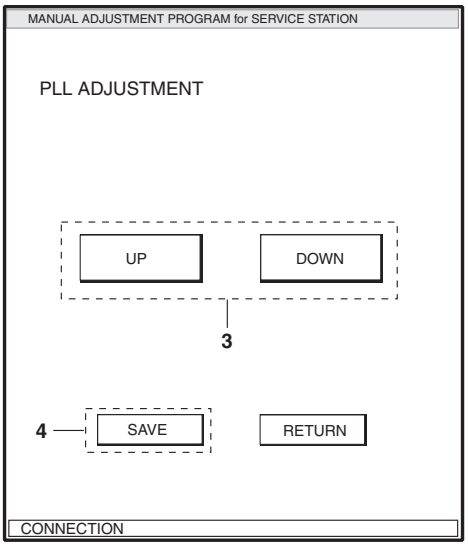
◆ Procedure:

1) Choose PLL on the LCD ADJUSTMENT MENU screen.
2) Click the EXECUTE button on LCD ADJUSTMENT MENU screen to proceed with the PLL ADJUSTMENT screen.
   Synchronization of the video on LCD monitor screen will be off at this time, and the image will flow.
3) Click the UP or DOWN button so that the frequency is 15.625 kHz ± 0.1 kHz. Click the button at approx. 2-second intervals while checking the variation of frequencies.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the LCD ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the LCD ADJUSTMENT MENU screen.

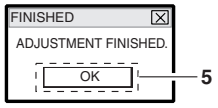
LCD ADJUSTMENT MENU screen



PLL ADJUSTMENT screen.



ADJUSTMENT FINISHED dialog



(2) LCD Contrast-1

Note:
Be sure to adjust LCD brightness and LCD contrast-2 after completing LCD contrast-1 adjustment.

◆ Preparations:

1) Connect the oscilloscope CH2 to "LCD-G (pin 5)" of Skylark Connection jig.
2) Switch the oscilloscope V-MODE to "CH2": Leave the TRRIGER SOURCE in "CH1" as is.

◆ Procedure

1) Choose CONTRAST on the LCD ADJUSTMENT MENU screen.
2) Click the EXECUTE button on LCD ADJUSTMENT MENU screen to proceed with the CONTRAST ADJUSTMENT screen.
3) Click the UP or DOWN button so that the value of level A of waveform is 2.20V ± 0.02Vp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in level A.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the LCD ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the LCD ADJUSTMENT MENU screen.

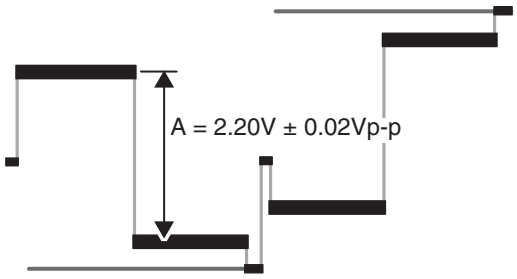
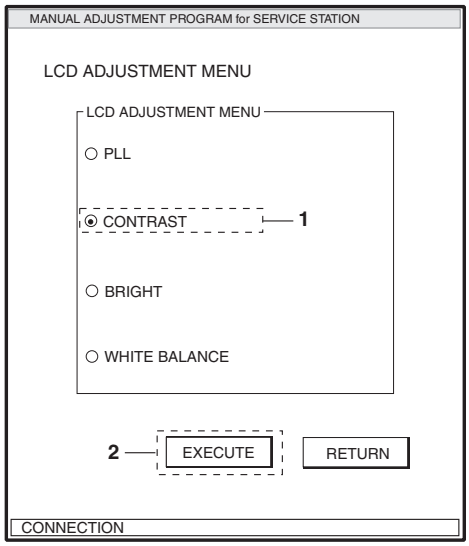
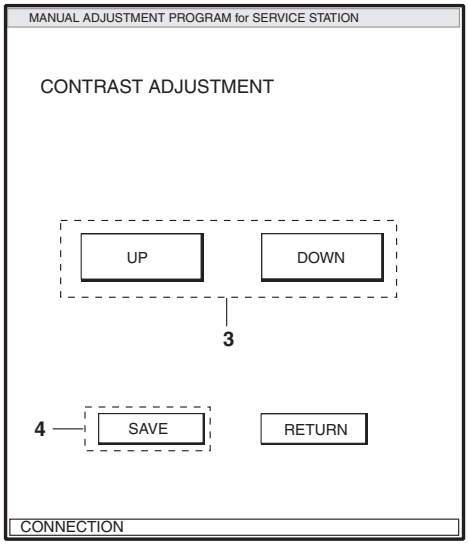


Fig. 6-4-8 Waveform of LCD Contrast-1 Adjustment

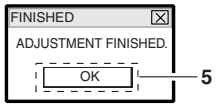
LCD ADJUSTMENT MENU screen



CONTRAST ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



(3) LCD Brightness

Note:
1) Be sure to adjust LCD contrast-1 before performing LCD brightness adjustment.
2) Be sure to adjust LCD contrast-2 after completing LCD brightness adjustment.

◆ Preparations:

1) Connect the oscilloscope CH2 to "LCD-G (pin 5)" of Skylark Connection jig.
2) Switch the oscilloscope V-MODE to "CH2": Leave the TRRIGER SOURCE in "CH1" as is.

◆ Procedure:

1) Choose BRIGHT on the LCD ADJUSTMENT MENU screen.
2) Click the EXECUTE button on LCD ADJUSTMENT MENU screen to proceed with the BRIGHT ADJUSTMENT screen.
3) Click the UP or DOWN button so that the value of level B of waveform is 2.35V ± 0.1Vp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in level B.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the LCD ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the LCD ADJUSTMENT MENU screen.

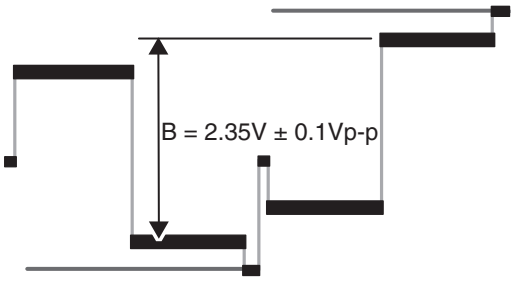
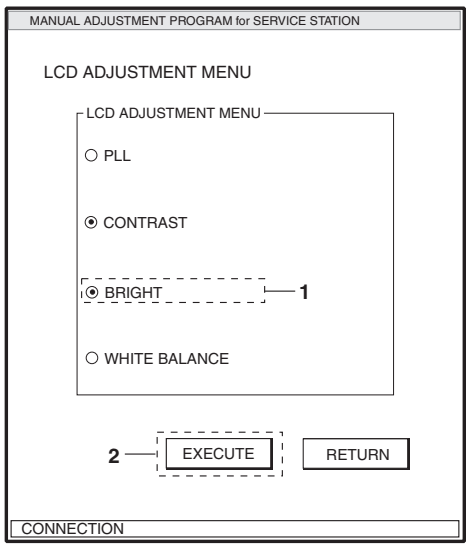
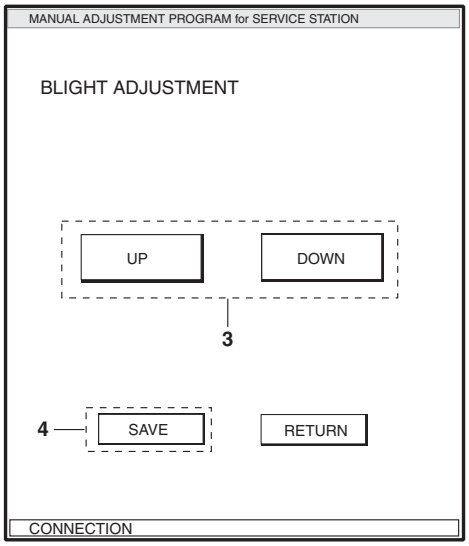


Fig. 6-4-9 Waveform of LCD Bright Adjustment

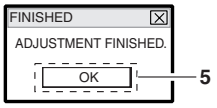
LCD ADJUSTMENT MENU screen



BRIGHT ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



(4) LCD Contrast-2

Caution:
Be sure to adjust LCD contrast-1 and LCD brightness before performing LCD contrast-2 adjustment.

◆ Preparations:

1) Connect the oscilloscope CH2 to "LCD-G (pin 5)" of Skylark Connection jig.
2) Switch the oscilloscope V-MODE to "CH2": Leave the TRRIGER SOURCE in "CH1" as is.

◆ Procedure

1) Choose CONTRAST on the LCD ADJUSTMENT MENU screen.
2) Click the EXECUTE button on LCD ADJUSTMENT MENU screen to proceed with the CONTRAST ADJUSTMENT screen.
3) Click the UP or DOWN button so that the value of level A of waveform is 2.00V ± 0.02Vp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in level A.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the LCD ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the LCD ADJUSTMENT MENU screen.

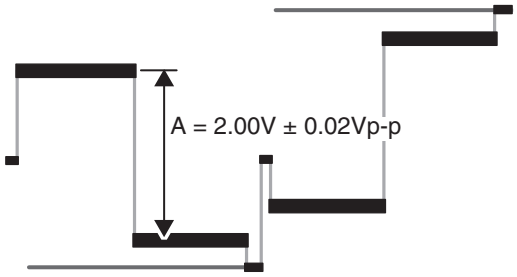
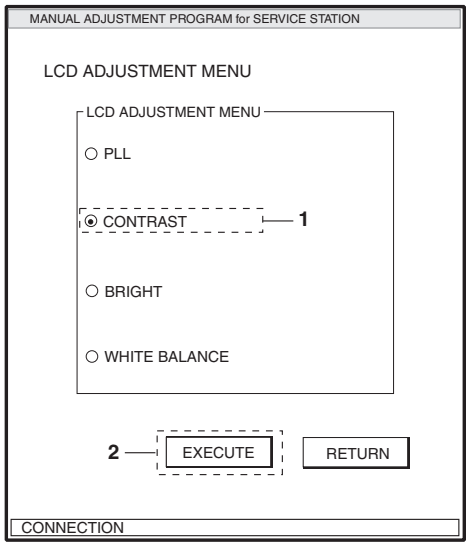
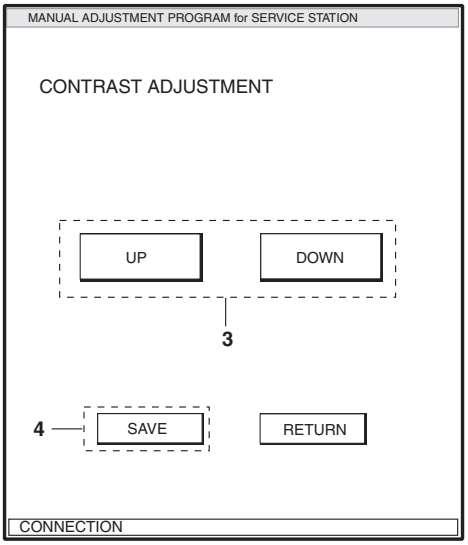


Fig. 6-4-10 Waveform of LCD Contrast-2 Adjustment

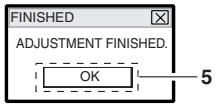
LCD ADJUSTMENT MENU screen



CONTRAST ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



(5) LCD White Balance

◆ Preparations:

1) Connect the oscilloscope CH1 to "LCD-R (pin 3)" of Skylark Connection jig.
2) Connect the oscilloscope CH2 to "LCD-G (pin 5)" of Skylark Connection jig.
3) Connect the oscilloscope EXT TRIG to video output.
4) Switch the oscilloscope V-MODE to "ALT" and TRIGGER SOURCE to "EXT".
5) Set the switches and knobs on oscilloscope so that the CH1 and CH2 waveforms appear as shown in Fig. 6-4-11.

◆ Procedure

1) Choose WHITE BALANCE on the LCD ADJUSTMENT MENU screen.
2) Click the EXECUTE button on LCD ADJUSTMENT MENU screen to proceed with the SUB CONTRAST RED ADJUSTMENT screen.
3) Click the UP and DOWN buttons so that level a of CH1 waveform is equal to level b of CH2 waveform. Click the button at approx. 2-second intervals while checking any increase or decrease in level a.
4) After step 3) is complete, be sure to click the NEXT button, and then proceed with the SUB BRIGHT RED ADJUSTMENT screen.
   Note that clicking the RETURN button will restore the LCD ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) Use the same procedure as in step 3) to equalize levels c and d of the waveform.
6) After step 5) is complete, be sure to click the NEXT button, and then proceed with the SUB CONTRAST BLUE ADJUSTMENT screen.

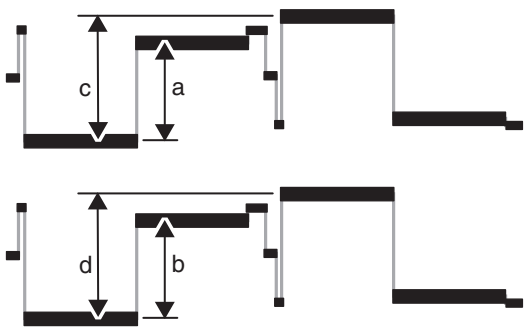
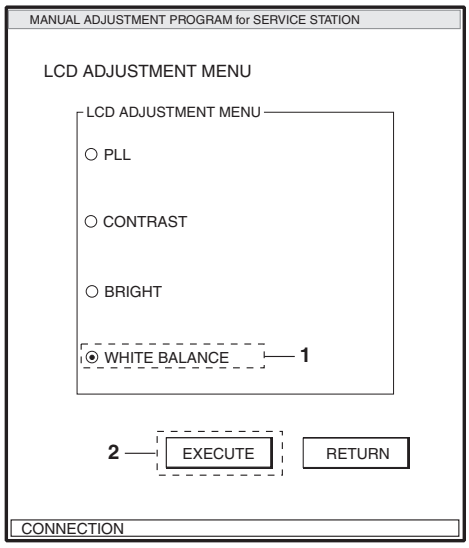
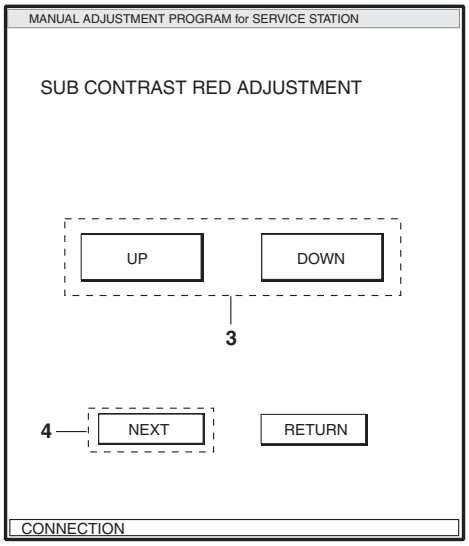


Fig. 6-4-11 Waveform of LCD White Balance Adjustment

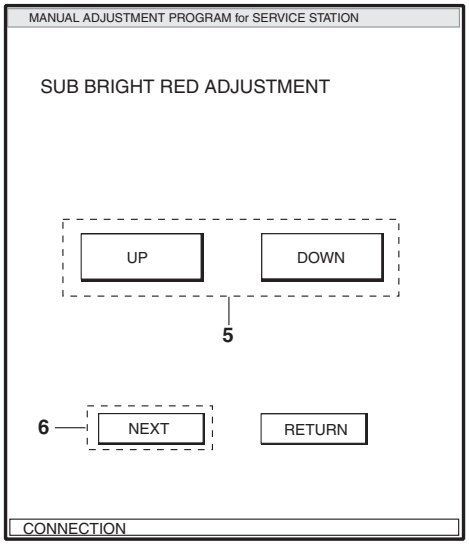
LCD ADJUSTMENT MENU screen



SUB CONTRAST RED ADJUSTMENT screen.

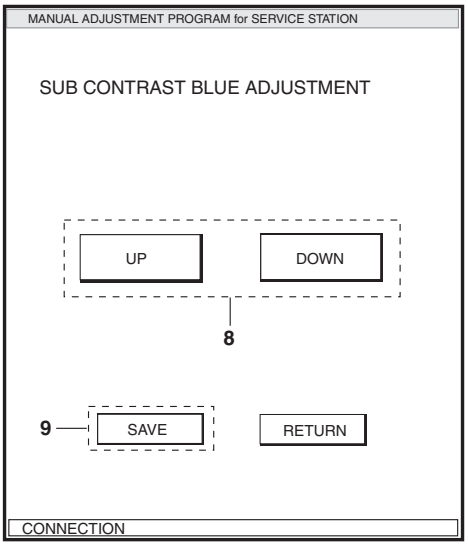


SUB BRIGHT RED ADJUSTMENT screen.

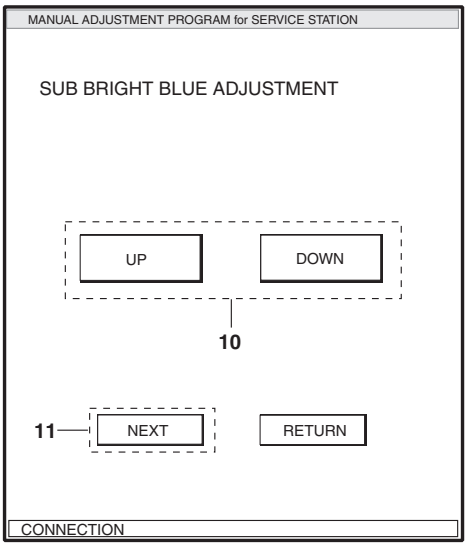


7) Connect the oscilloscope CH1 to “LCD-B (pin 7)” of Skylark Connection jig.
8) Use the same procedure as in step 3) to equalize levels a and b of the waveform. (See Fig. 6-4-11)
9) After step 8) is complete, be sure to click the NEXT button, and then proceed with the SUB BRIGHT BLUE ADJUSTMENT screen.
10) Use the same procedure as in step 3) to equalize levels c and d of the waveform.
11) After step 10) is complete, be sure to click the SAVE button.
12) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the LCD ADJUSTMENT MENU screen.
13) Click the RETURN button in LCD ADJUSTMENT MENU to restore the ADJUST MENU screen.

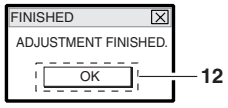
SUB CONTRAST BLUE ADJUSTMENT screen.



SUB BRIGHT BLUE ADJUSTMENT screen.



ADJUSTMENT FINISHED dialog



6-4-11 EVF

Note:
1) Perform EVF only after replacing IC3701 and its peripheral components, MAN-H/MAN circuit board or EVF unit, or executing "Initial Data Write".
2) Neither light box nor chart is needed for EVF adjustment.

Before performing any adjustments for EVF, be sure to shift the DVD video camera/recorder to the test mode using the procedure below, and then display the EVF ADJUSTMENT MENU.

◆ Procedure:

1) Choose EVF on the ADJUST MENU screen.
2) Click the EXECUTE button on ADJUST MENU screen to shift the DVD video camera/recorder to the test mode. The progress status can be confirmed using the PROGRESS STATUS dialog.
3) When the DVD video camera/recorder has shifted to the test mode, the viewfinder screen will be black and white (see Fig. 6-4-12), and the EVF ADJUSTMENT MENU will appear on the PC monitor screen.

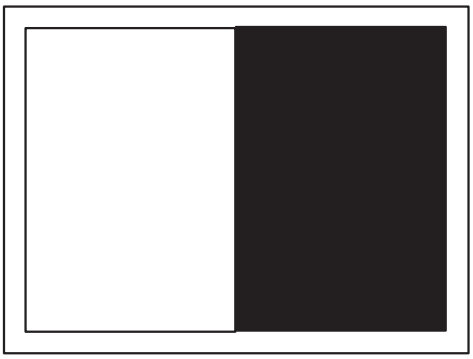
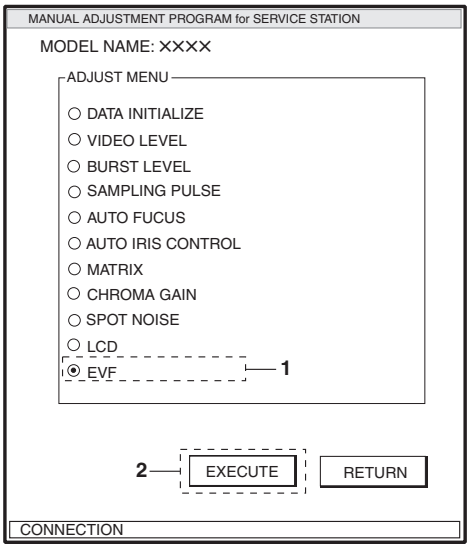
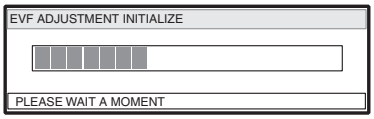


Fig. 6-4-12 EVF Screen

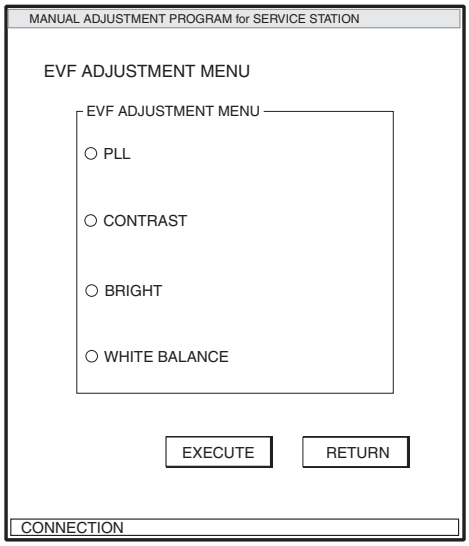
ADJUST MENU screen



PROGRESS STATUS dialog



EVF ADJUSTMENT MENU screen



(1) EVF BL DET Check

Note:
Be sure to take note of the resulting value of this check because the check value will be needed when EVF adjustment is completed.
There are two types of EVF unit mounted in these DZ-MV580E/MV550E:
The backlight characteristics of the two types are different.
This check item identifies the type of EVF unit mounted (replaced).

◆ Procedure:

1) Connect the digital voltmeter to "BL-DET (pin 12)" of Skylark Connection jig.
2) Check whether the reading on digital voltmeter is 5 V or 0 V., and take note of the value.

(2) EVF PLL

◆ Preparations:

1) Connect oscilloscope CH-1 to EVF-RPD (pin 8) of the Skylark connection jig.
2) Switch the oscilloscope V-MODE to "CH1" and TRIGGER SOURCE to "CH1"

◆ Procedure:

1) Choose "PLL" on the EVF ADJUSTMENT MENU screen.
2) Click the EXECUTE button on EVF ADJUSTMENT MENU screen to proceed with the PLL ADJUSTMENT screen.
3) Click the UP or DOWN button to flatten the waveform: Click the button at intervals of approx. 2 seconds while observing the movement of waveform.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the EVF ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the EVF ADJUSTMENT MENU screen.

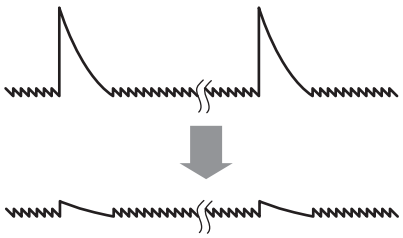
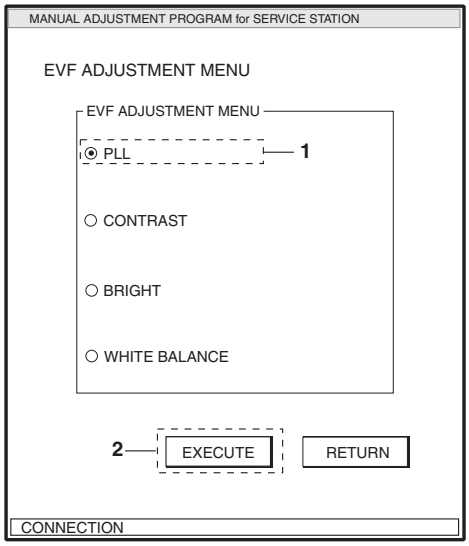
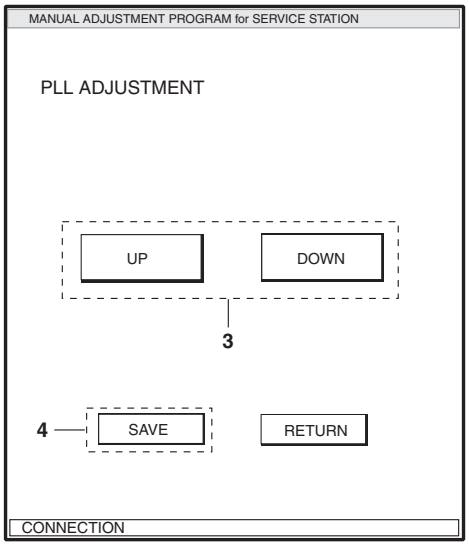


Fig. 6-4-13 Waveform of EVF PLL Adjustment

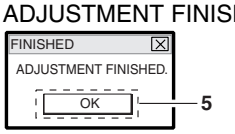
EVF ADJUSTMENT MENU screen



PLL ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



(3) EVF Contrast

◆ Preparations:

1) Confirm the CH1 connection to video out.
2) Connect the oscilloscope CH2 to "EVF-G (pin 4)" of Skylark Connection jig.
3) Switch the oscilloscope V-MODE to "CH2": Leave the TRIGGER SOURCE in "CH1" as is.

◆ Procedure:

1) Choose CONTRAST on the EVF ADJUSTMENT MENU screen.
2) Click the EXECUTE button on EVF ADJUSTMENT MENU screen to proceed with the CONTRAST ADJUSTMENT screen.
3) Click the UP or DOWN button so that level A of the waveform is 1.9V ± 0.1Vp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in level A.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the EVF ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the EVF ADJUSTMENT MENU screen.

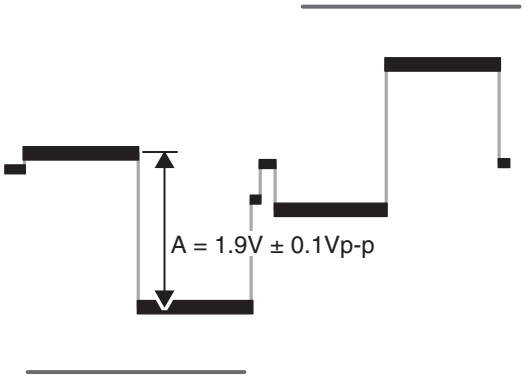
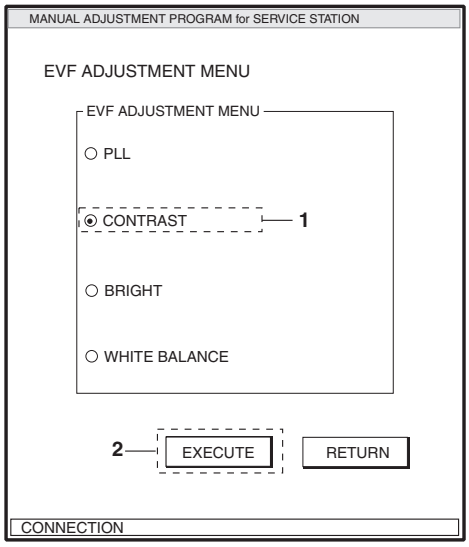
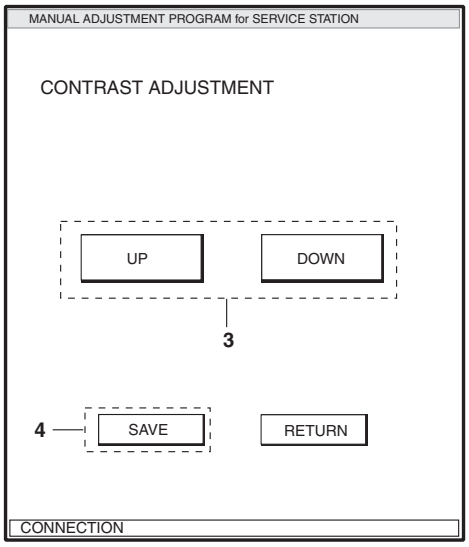


Fig. 6-4-14 Waveform of EVF Contrast Adjustment

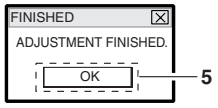
EVF ADJUSTMENT MENU screen



CONTRAST ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



(4) EVF Brightness

◆ Preparations:

1) Connect the oscilloscope CH1 to video output.
2) Connect the oscilloscope CH2 to "EVF-G (pin 4)" of Skylark Connection jig.
3) Switch the oscilloscope V-MODE to "CH2" and TRIGGER SOURCE to "CH1".

◆ Procedure:

1) Choose BRIGHT on the EVF ADJUSTMENT MENU screen.
2) Click the EXECUTE button on EVF ADJUSTMENT MENU screen to proceed with the BRIGHT ADJUSTMENT screen.
3) Click the UP or DOWN button so that level B of the waveform is 3.1V ± 0.1Vp-p. Click the button at approx. 2-second intervals while checking any increase or decrease in level B.
4) After step 3) is complete, be sure to click the SAVE button.
   Note that clicking the RETURN button will restore the EVF ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) When save is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the EVF ADJUSTMENT MENU screen.

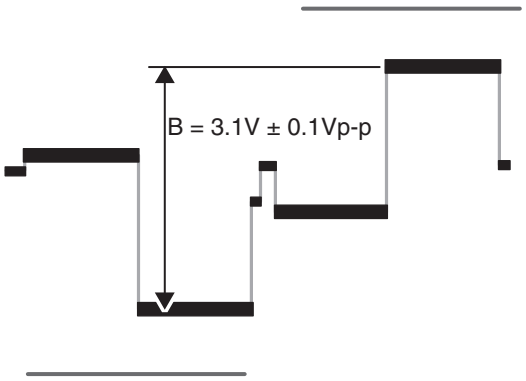
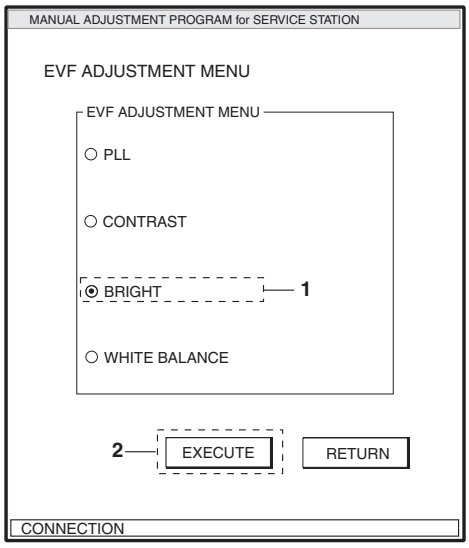
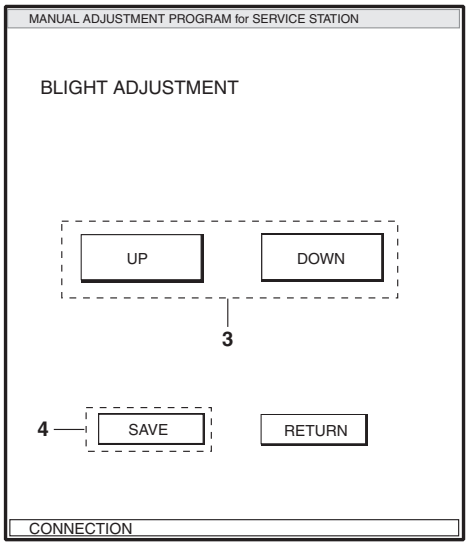


Fig. 6-4-15 Waveform of EVF Bright Adjustment

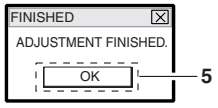
EVF ADJUSTMENT MENU screen



BRIGHT ADJUSTMENT screen



ADJUSTMENT FINISHED dialog



(5) EVF White Balance

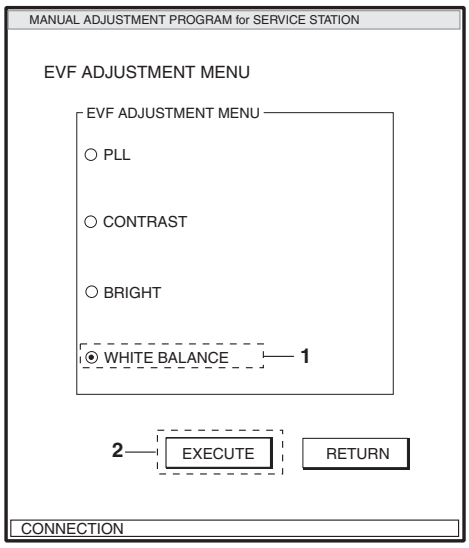
◆ Preparations:

1) Connect the oscilloscope CH1 to "EVF-R (pin 2)" of Skylark Connection jig.
2) Connect the oscilloscope CH2 to "EVF-G (pin 4)" of Skylark Connection jig.
3) Connect the oscilloscope EXT TRIG to video output.
4) Switch the oscilloscope V-MODE to "ALT" and TRIGGER SOURCE to "EXT".
5) Set the switches and knobs on oscilloscope so that the CH1 and CH2 waveforms appear as shown in Fig. 6-4-16.

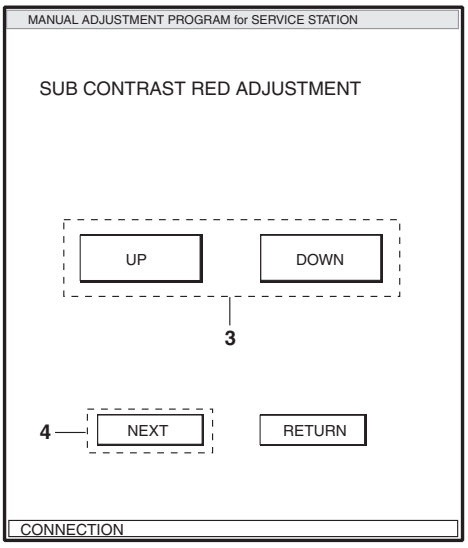
◆ Procedure:

1) Choose WHITE BALANCE on the EVF ADJUSTMENT MENU screen.
2) Click the EXECUTE button on EVF ADJUSTMENT MENU screen to proceed with the SUB CONTRAST RED ADJUSTMENT screen.
3) Click the UP and DOWN buttons so that level a of CH1 waveform is equal to level b of CH2 waveform. Click the button at approx. 2-second intervals while checking increase or decrease level a.
4) After step 3) is complete, be sure to click the NEXT button, and then proceed with the SUB BRIGHT RED ADJUSTMENT screen.
   Note that clicking the RETURN button will restore the EVF ADJUSTMENT MENU screen to the status before the adjustment was performed.
5) Use the same procedure as in step 3) to equalize levels c and d of the waveform.
6) After step 5) is complete, be sure to click the NEXT button, and then proceed with the SUB CONTRAST BLUE ADJUSTMENT screen.

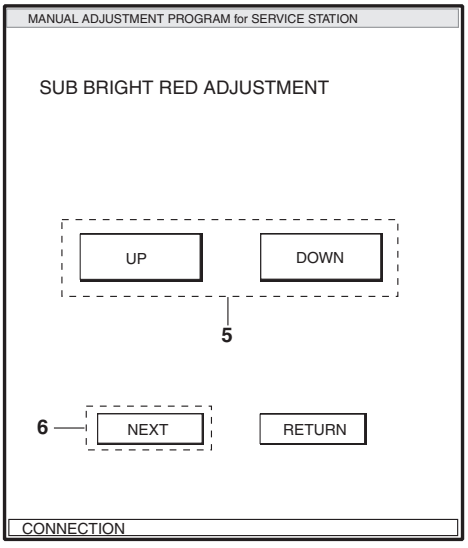
EVF ADJUSTMENT MENU screen



SUB CONTRAST RED ADJUSTMENT screen.



SUB BRIGHT RED ADJUSTMENT screen.



7) Connect the oscilloscope CH1 to "EVF-B (pin 6)" of Skylark Connection jig.
8) Use the same procedure as in step 3) to equalize levels a and b of the waveform.
9) After step 8) is complete, be sure to click the NEXT button, and then proceed with the SUB BRIGHT BLUE ADJUSTMENT screen.
10) Use the same procedure as in step 3) to equalize levels c and d of the waveform.
11) After step 10) is complete, be sure to click the SAVE button and then proceed with the BL DET screen. Note that clicking the RETURN button will restore the EVF ADJUSTMENT MENU screen to the status before the adjustment was performed.
12) Click either button on the BL DET screen according to the voltage checked in "(1) EVF BL DET Check": "High" button when the check value is 5 V, or "Low" button when it is 0 V.
13) When BL DET is complete, the ADJUSTMENT FINISHED dialog will appear: Click the OK button in dialog to restore the EVF ADJUSTMENT MENU screen.
14) Click the RETURN button in EVF ADJUSTMENT MENU to restore the ADJUST MENU screen.

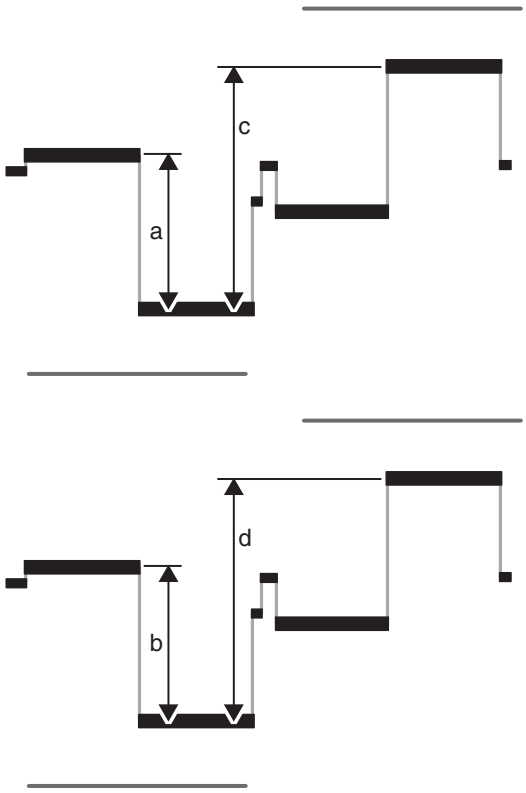
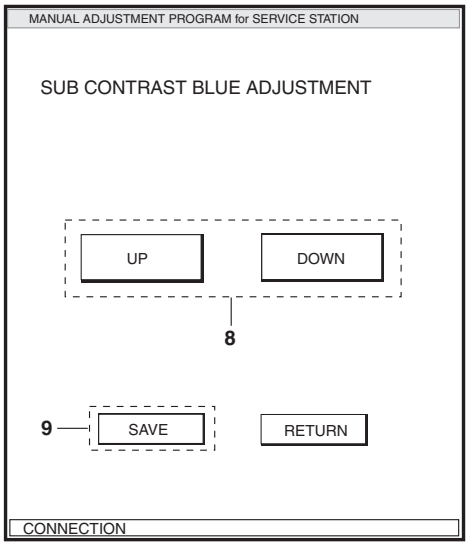
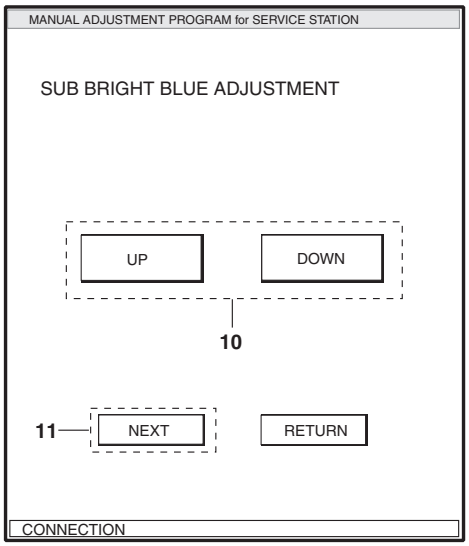


Fig. 6-4-16 Waveform of White Balance Adjustment

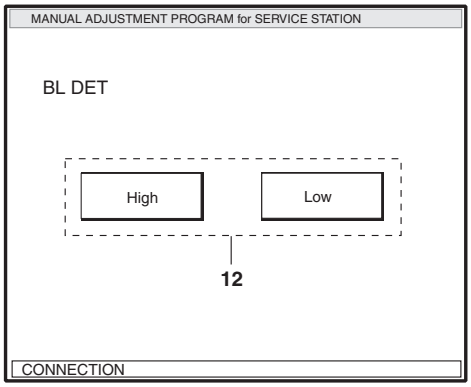
SUB CONTRAST BLUE ADJUSTMENT screen.



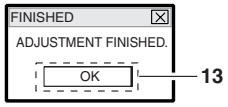
SUB BRIGHT BLUE ADJUSTMENT screen.



BL DET screen.



ADJUSTMENT FINISHED dialog

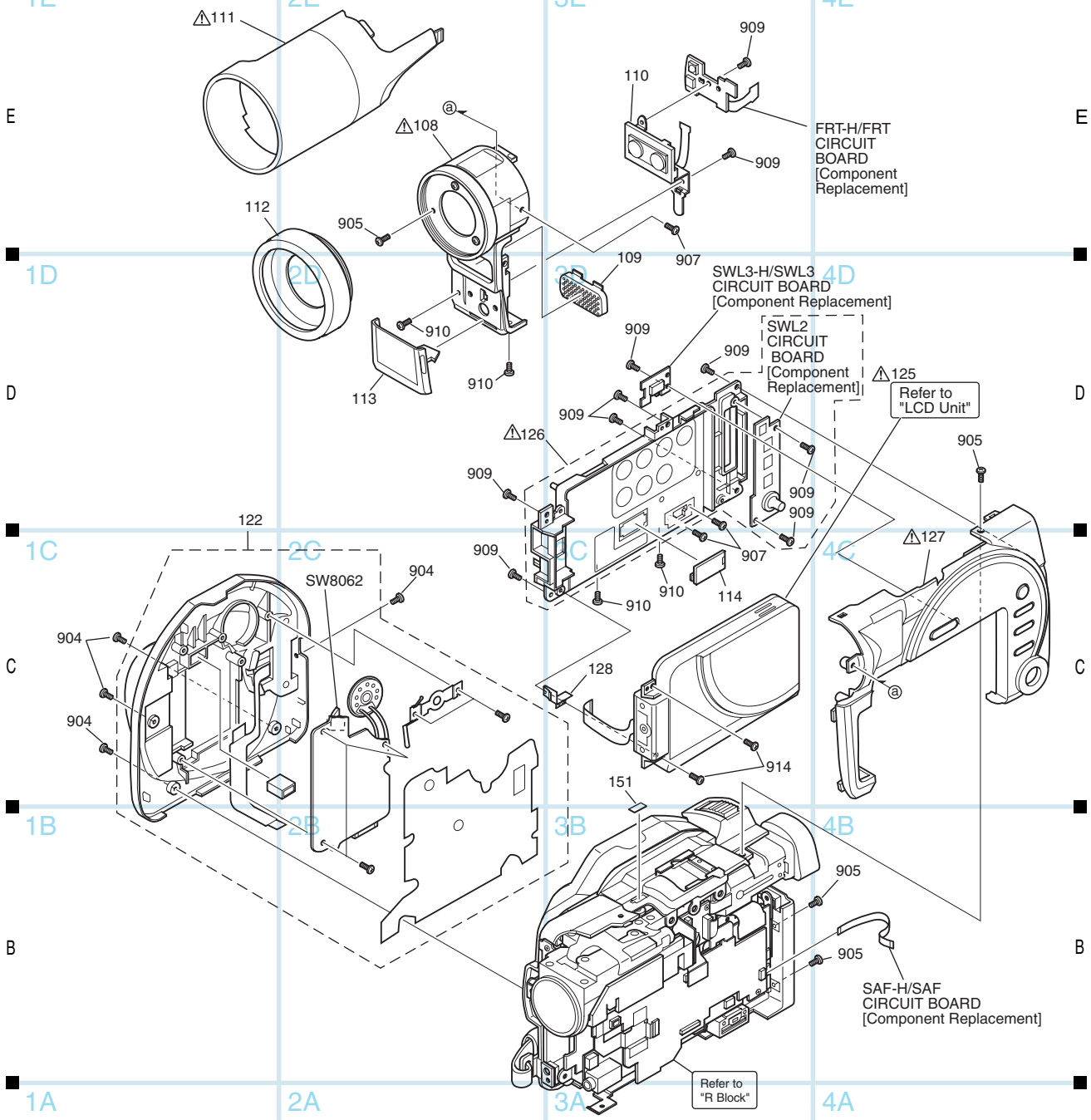


7 Exploded View and Parts List

7-1 Exploded Views

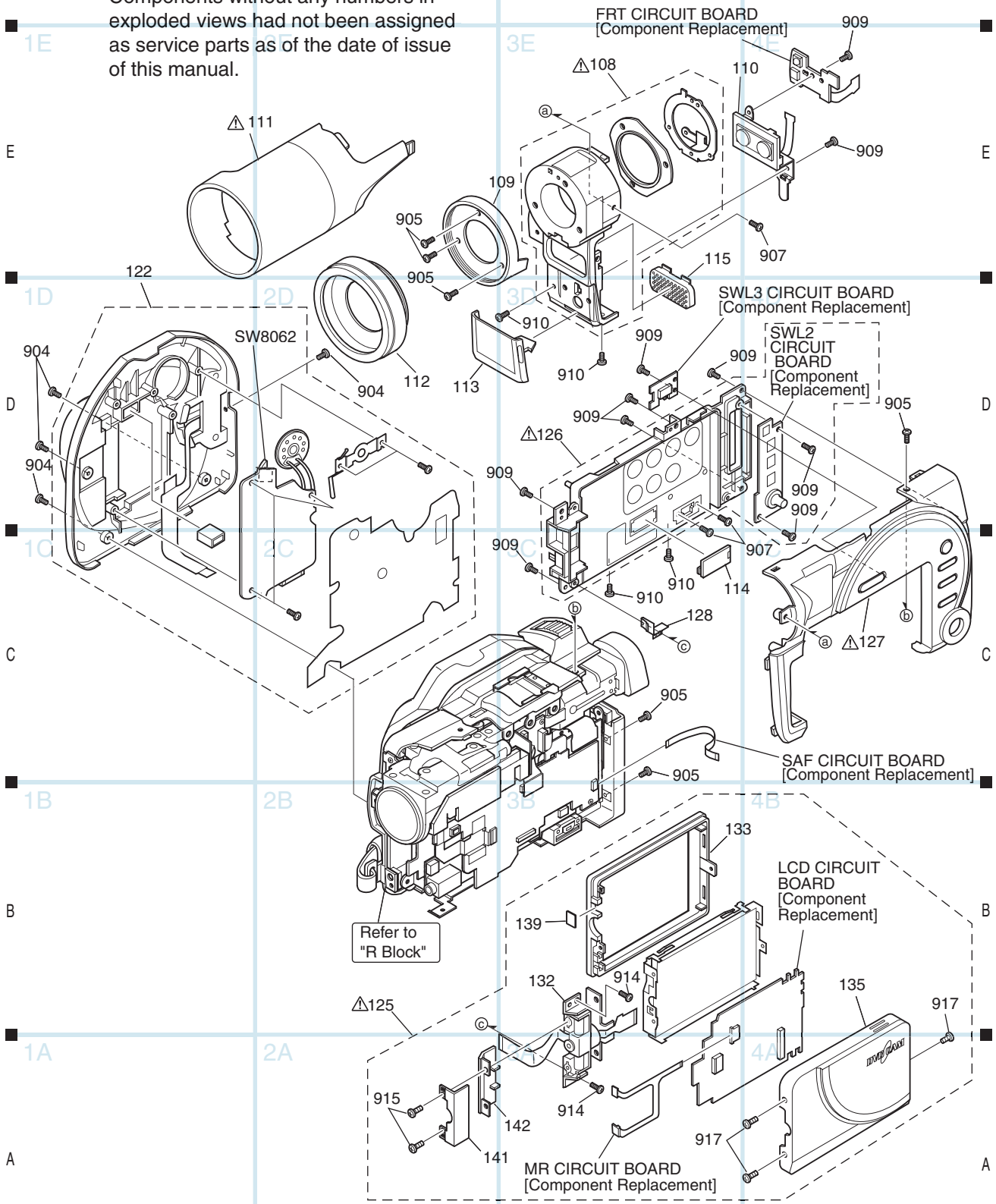
7-1-1 L Block and Front Block
(DZ-MV550E, DZ-MV580E)

Note: Components without any numbers in exploded views had not been assigned as service parts as of the date of issue of this manual.

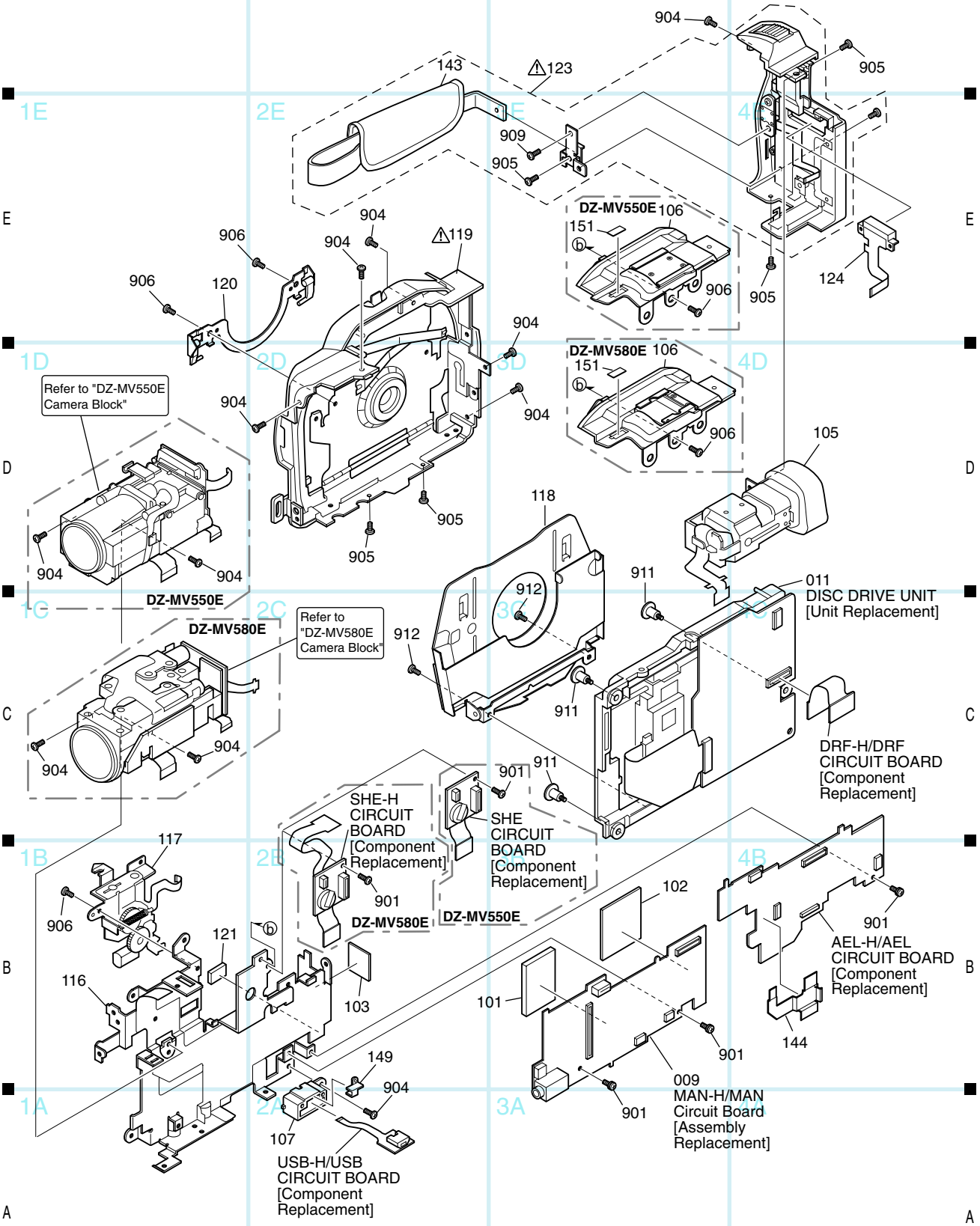


7-1-1a L Block and Front Block
(DZ-MV1000E(UK)

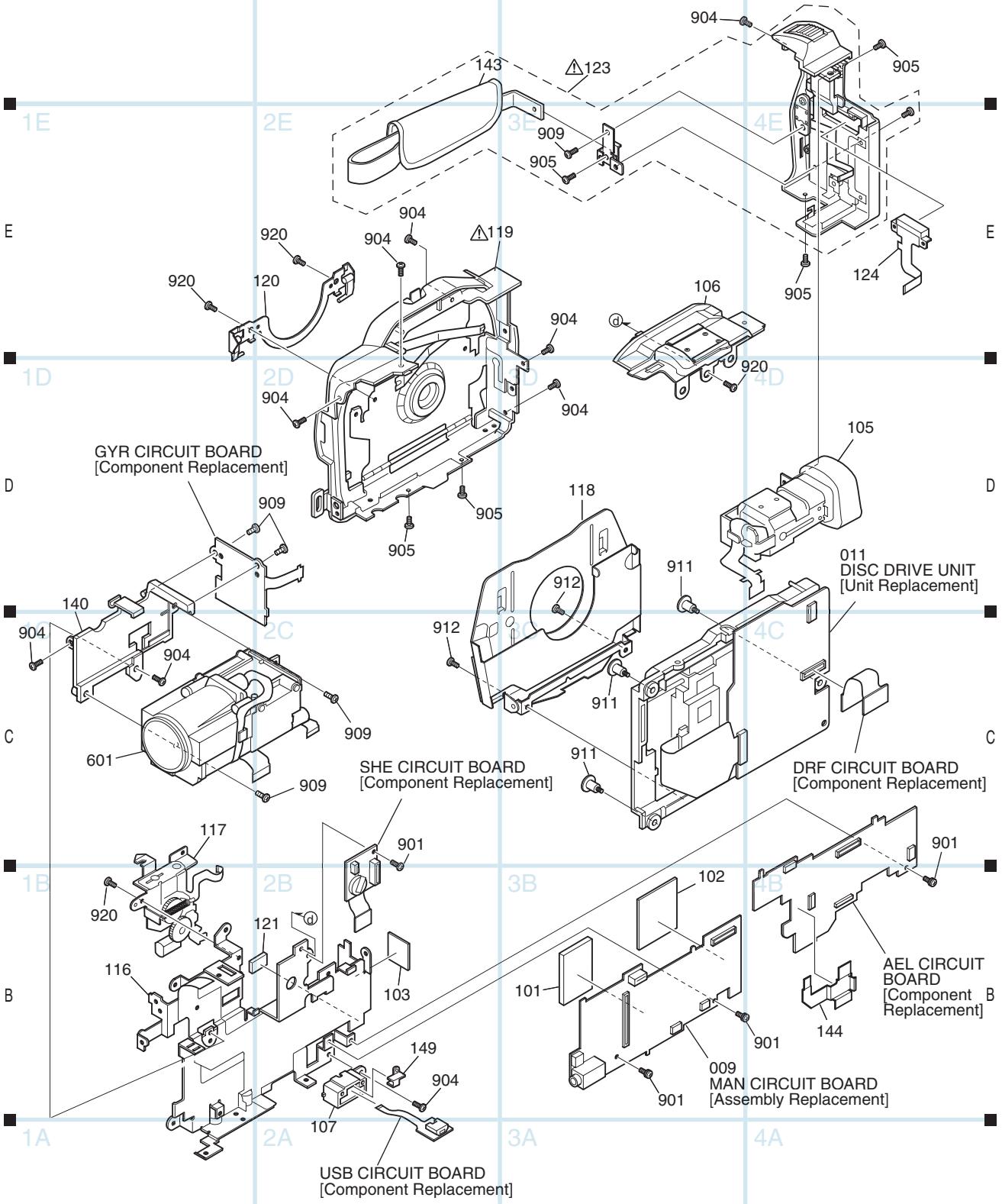
Note: Components without any numbers in exploded views had not been assigned as service parts as of the date of issue of this manual.



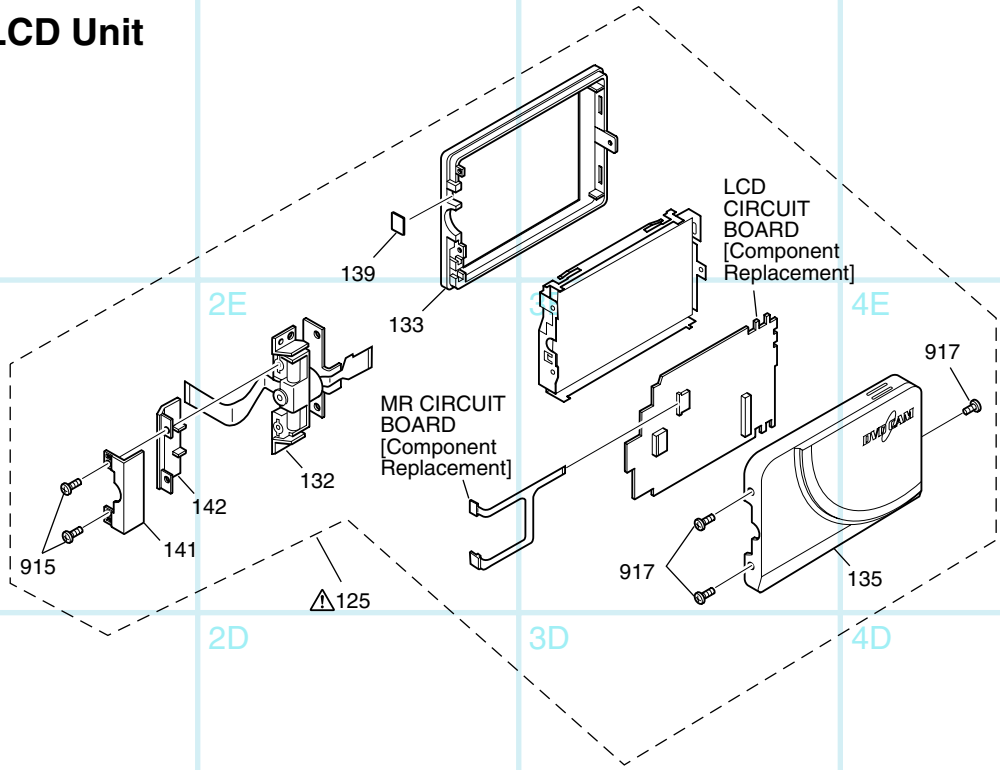
7-1-2 R Block - (DZ-MV550E, DZ-MV580E)



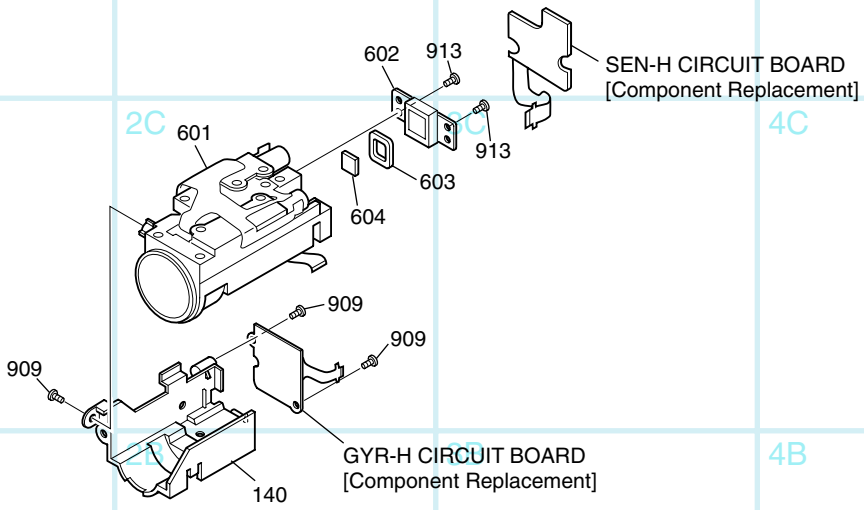
5-1-2a R Block - DZ-MV1000E(UK)



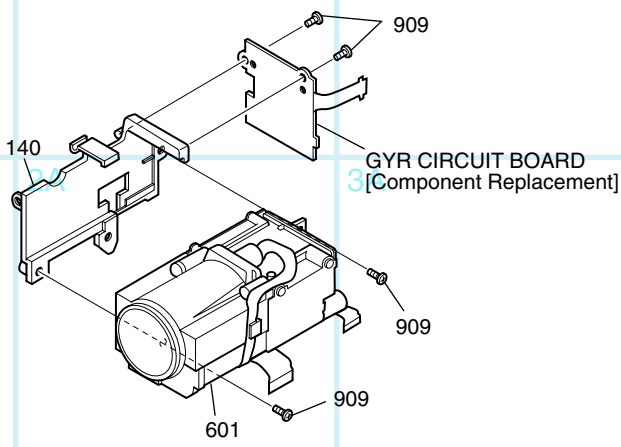
7-1-3 LCD Unit



7-1-4 DZ-MV580E Camera Block



7-1-5 DZ-MV550E, DZ-MV1000E(UK) Camera Block



7-2 Replacement Parts List

7-2-1 Mechanical Parts List

SYMBOL NO	P-NO	DESCRIPTION
		MECHANISM SECTION FOR DZ-MV580E
009		PWB ASSY MAN-H [MV580E/MV580E(UK)]
009		PWB ASSY MAN-H [MV580E(AU)/MV580W(SW)/MV580E(SWH)]
011		DVD DRIVE ASSY(PC3RB)
101		HEAT SINK
102		HEAT SINK
103		HEAT SINK
105		EVF ASSY
106		SHOE ASSY
107		HOLDER,USB
⚠ 108		CASE,FRONT [MV580E]
⚠ 108		CASE,FRONT [MV580E(AU)/MV580E(SW)/MV580E(SWH)/MV580E(UK)]
109		COVER,MIC
110		MICROPHONE
⚠ 111		COVER,LENS
112		HOOD ASSY
113		COVER,JACK
114		COVER,ADJUSTMENT
116		FRAME,MECHA
117		LOCK UNIT
118		LOADER ASSY
⚠ 119		CASE,SIDE(R)
120		BRACKET,LINK
121		HEAT SINK
122		COVER,DISC
⚠ 123		COVER,REAR
124		TERMINAL,BATTERY
⚠ 125		LCD UNIT
⚠ 126		CASE,SIDE(L)
⚠ 127		COVER(L)
128		BRACKET(L)
132		FULCRUM ASSY
133		CASE,LCD(B)
135		CASE,LCD(U)
139		SHEET,LCD(MR)
140		FRAME,LENS [MV580E]
140		FRAME,LENS [MV580E(AU)/MV580E(SW)/MV580E(SWH)/MV580E(UK)]
141		COVER,FULCRUM(U)
142		COVER,FULCRUM(B)
143		STRAP,HAND
144		SHEET,LCD [MV580E]
144		SHEET,LCD [MV580E(AU)/MV580E(SW)/MV580E(SWH)/MV580E(UK)]
149		PLATE,USB
151		SHEET,SPACE
601		LENS ASSY
602		SENSOR ASSY
603		CUSHION
604		CRYSTAL
901		SCREW(M1.7X3S)
904		SCREW(1.6X2.5)
905		SCREW(1.7X4)
906		SCREW(1.6X2)
907		SCREW(1.7X4)
909		SCREW(1.7X4)
910		SCREW(1.7X4)
911		SCREW(M1.7W)
912		SCREW(M1.7)
913		SCREW(1.7X5)
914		SCREW(2X5)
915		SCREW(1.6X3)
917		SCREW(1.7X4)
		ACCESSORIES FOR DZ-MV580E
⚠		ADPTOR,AC
⚠		CORD,POWER [MV580E/MV580E(SW)]
⚠		CORD,POWER(AU) [MV580E(AU)]
⚠		CORD,POWER [MV580E(SWH)/MV580E(UK)]
		CORD,AVS
		CORD,DC
⚠		REMOTE HAND SET(DZ-RM3WF)
		CORD,USB
		COVER,LENS
		COVER,LENS
		STRAP,SHOLDER
		CAP,LENS
		CD-ROM(SWIFT)
		MECHANISM SECTION FOR DZ-MV550E
009		PWB ASSY MAN [MV550E/MV550E(UK)]
009		PWB ASSY MAN [MV550E(AU)/MV550E(SW)/MV550E(SWH)/MV550E(UK)]
011		DVD DRIVE ASSY(PC3RB)
101		HEAT SINK
102		HEAT SINK
103		HEAT SINK
105		EVF ASSY
106		SHOE,COLD
107		HOLDER,USB
⚠ 108		CASE,FRONT [MV550E]
⚠ 108		CASE,FRONT [MV550E(AU)/MV550E(SW)/MV550E(SWH)/MV550E(UK)]
109		COVER,MIC
110		MICROPHONE
⚠ 111		COVER,LENS
112		HOOD ASSY
113		COVER,JACK
114		COVER,ADJUSTMENT
116		FRAME,MECHA
117		LOCK UNIT
118		LOADER ASSY
⚠ 119		CASE,SIDE(R)
120		BRACKET,LINK
121		HEAT SINK
122		COVER,DISC
⚠ 123		COVER,REAR
124		TERMINAL,BATTERY
⚠ 125		LCD UNIT
⚠ 126		CASE,SIDE(L)
⚠ 127		COVER(L)
128		BRACKET(L)
132		FULCRUM ASSY
133		CASE,LCD(B)
135		CASE,LCD(B)
139		SHEET,LCD(MR)
140		FRAME,LENS
141		COVER,FULCRUM(U)
142		COVER,FULCRUM(B)
143		STRAP,HAND
144		SHEET,LCD [MV550E]
144		SHEET,LCD [MV550E(AU)/MV550E(SW)/

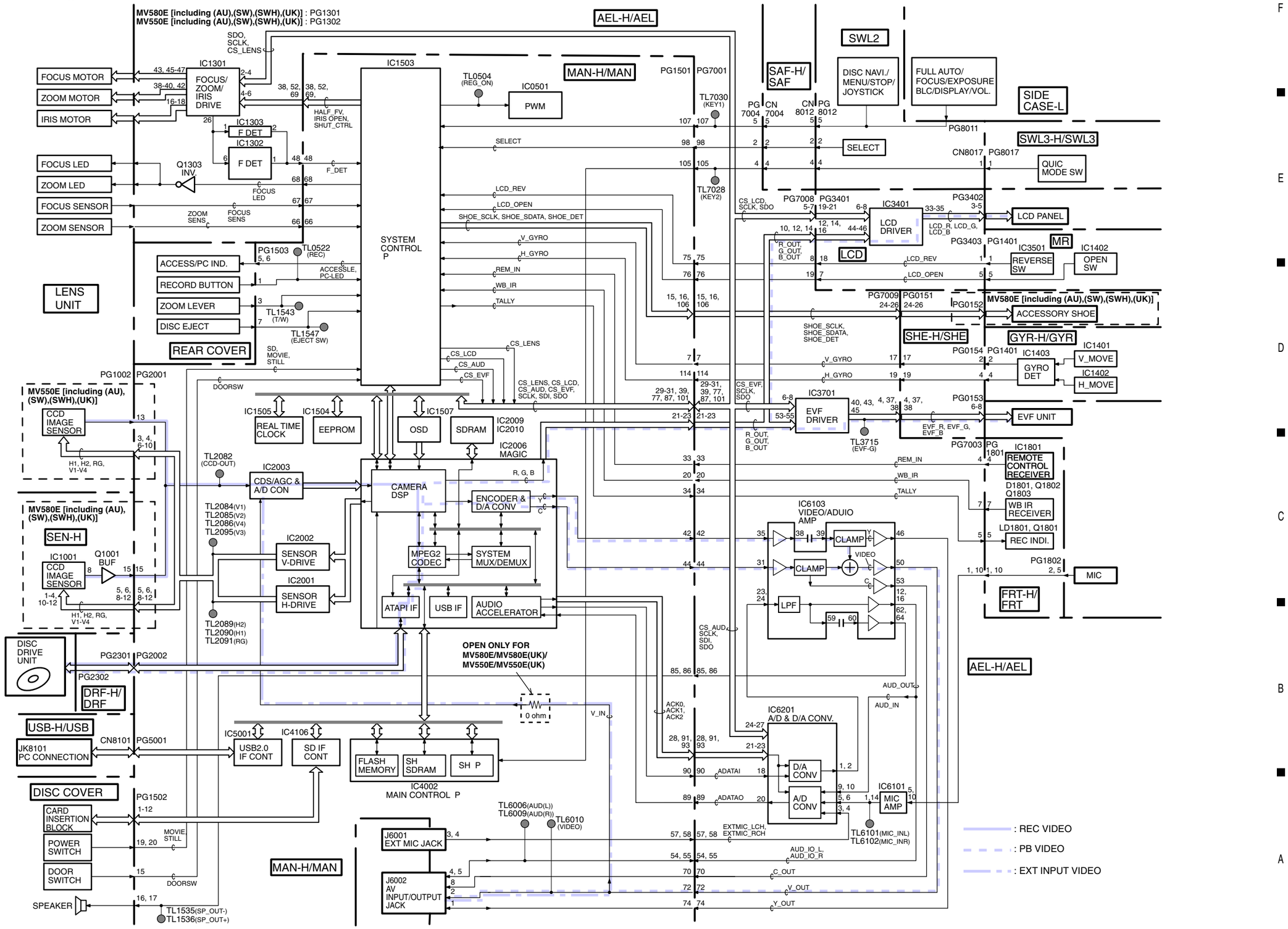
SYMBOL NO	P-NO	DESCRIPTION
		MV550E(SWH)/MV550E(UK)]
149		PLATE,USB
151		SHEET,SPACE
601		LENS ASSY
901		SCREW(M1.7X3S)
904		SCREW(1.6X2.5)
905		SCREW(1.7X4)
906		SCREW(1.6X2)
907		SCREW(1.7X4)
909		SCREW(1.7X4)
910		SCREW(1.7X4)
911		SCREW(M1.7W)
912		SCREW(M1.7)
914		SCREW(2X5)
915		SCREW(1.6X3)
917		SCREW(1.7X4)
		ACCESSORIES FOR DZ-MV550E
⚠		ADPTOR,AC
⚠		CORD,POWER [MV550E/MV550E(SW)]
⚠		CORD,POWER [MV550E(SWH)/MV550E(UK)]
⚠		CORD,POWER(AU)[MV550E(AU)]
		CORD,AVS
		CORD,DC
⚠		REMOTE HAND SET(DZ-RM3WF)
		CORD,USB
		COVER,LENS
		COVER,LENS
		STRAP,SHOLDER
		CAP,LENS
		CD-ROM(SWIFT)

THE UPDATED PARTS LIST

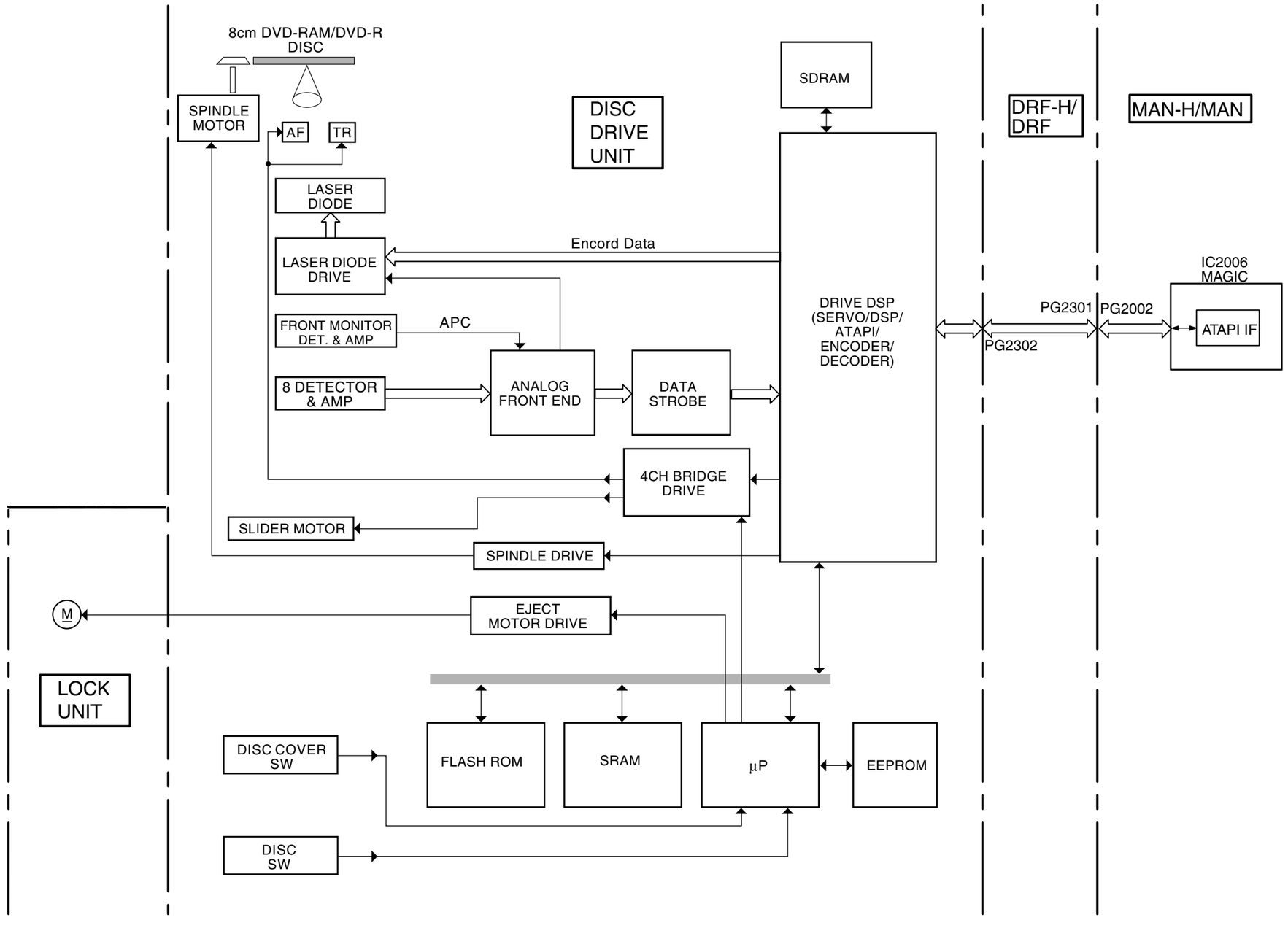
FOR THIS MODEL IS

AVAILABLE ON ESTA

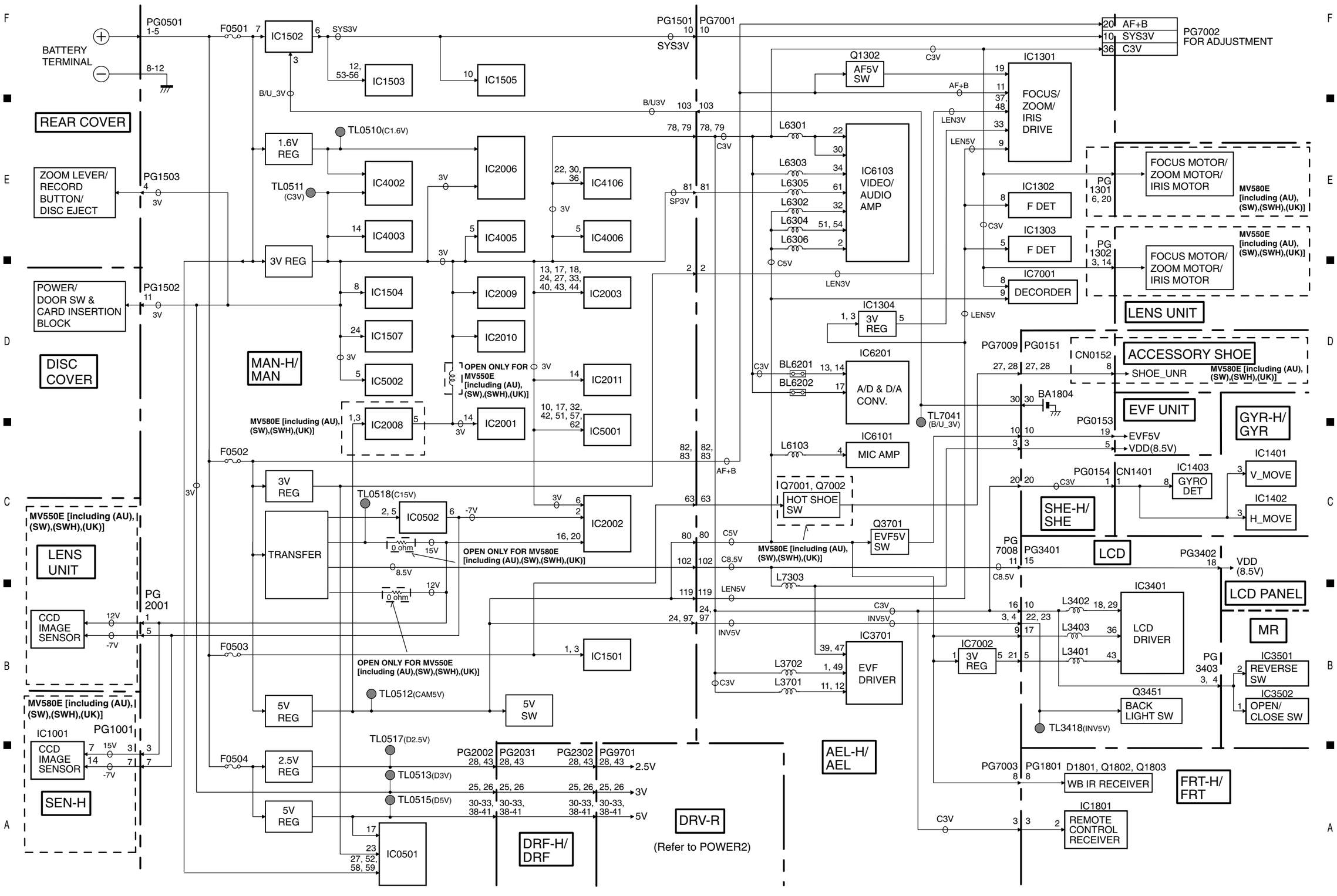
B Block Diagrams
B-1 Video/Audio Signal Process



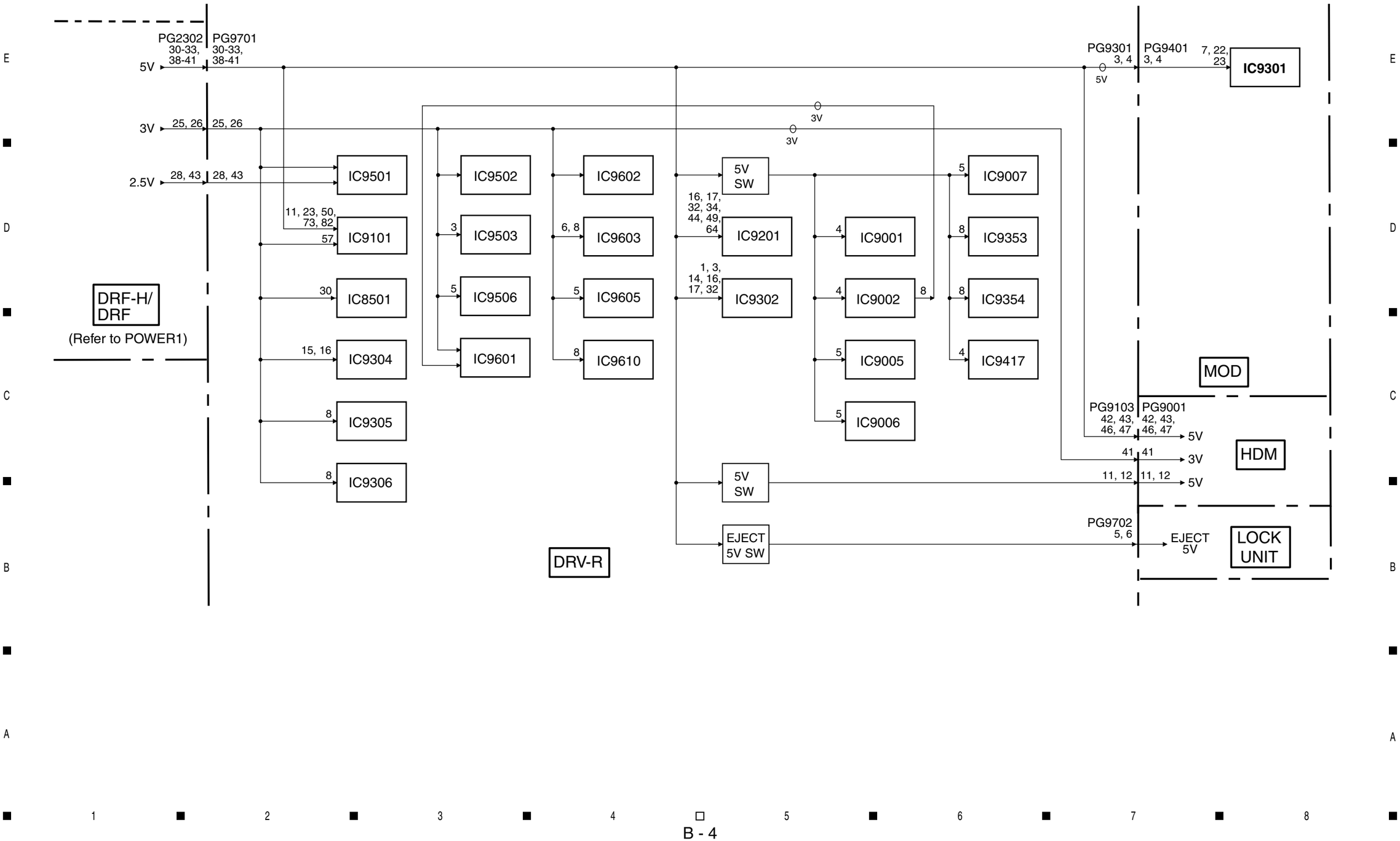
B-2 Disc Drive



B-3 Power-1

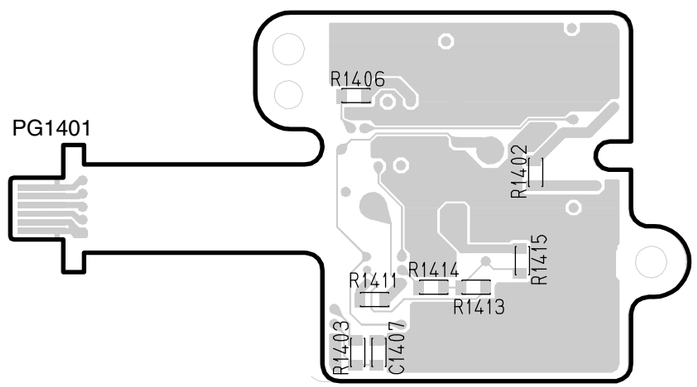

BATTERY TERMINAL
PG0501 1-5
8-12
REAR COVER
F0501
IC1502
SYS3V
IC1503
IC1505
B/U_3V
1.6V REG
TL0510(C1.6V)
IC2006
ZOOM LEVER/ RECORD BUTTON/ DISC EJECT
PG1503
TL0511 (C3V)
IC4002
IC4003
IC4106
IC4005
IC4006
3V REG
POWER/ DOOR SW & CARD INSERTION BLOCK
PG1502
IC1504
IC1507
IC5002
IC2009
IC2010
IC2003
DISC COVER
MAN-H/ MAN
OPEN ONLY FOR MV550E [including (AU),(SW),(SWH),(UK)]
IC2011
MV580E [including (AU),(SW),(SWH),(UK)]
IC2008
IC2001
IC5001
F0502
3V REG
TL0518(C15V)
IC0502
0 ohm
TRANSFER
IC2002
OPEN ONLY FOR MV580E [including (AU),(SW),(SWH),(UK)]
MV550E [including (AU),(SW),(SWH),(UK)]
LENS UNIT
PG 2001
CCD IMAGE SENSOR
F0503
IC1501
OPEN ONLY FOR MV550E [including (AU),(SW),(SWH),(UK)]
5V REG
TL0512(CAM5V)
5V SW
MV580E [including (AU),(SW),(SWH),(UK)]
IC1001
PG1001
CCD IMAGE SENSOR
SEN-H
F0504
2.5V REG
TL0513(D3V)
5V REG
TL0515(D5V)
TL0517(D2.5V)
IC0501
DRF-H/ DRF
PG2002 PG2031 PG2302 PG9701
2.5V
3V
5V
DRV-R
(Refer to POWER2)
AEL-H/ AEL
PG1501 PG7001
SYS3V
B/U3V
SP3V
C3V
C5V
C8.5V
LEN3V
LEN5V
INV5V
AF+B
Q1302
AF5V SW
IC1301
FOCUS/ ZOOM/ IRIS DRIVE
L6301
L6303
L6305
L6302
L6304
L6306
IC6103 VIDEO/ AUDIO AMP
IC1302
F DET
IC1303
F DET
IC7001
DECORDER
IC1304
3V REG
IC6201
A/D & D/A CONV.
BL6201
BL6202
L6103
IC6101
MIC AMP
Q7001, Q7002
HOT SHOE SW
Q3701
EVF5V SW
L7303
IC3701
EVF DRIVER
L3702
L3701
IC7002
3V REG
TL7041 (B/U_3V)
BA1804
PG7002 FOR ADJUSTMENT
AF+B
SYS3V
C3V
FOCUS MOTOR/ ZOOM MOTOR/ IRIS MOTOR
PG 1301 6, 20
MV580E [including (AU),(SW),(SWH),(UK)]
PG 1302 3, 14
MV550E [including (AU),(SW),(SWH),(UK)]
LENS UNIT
ACCESSORY SHOE
CN0152
SHOE_UNR
MV580E [including (AU),(SW),(SWH),(UK)]
PG7009 PG0151
EVF UNIT
PG0153
EVF5V
VDD(8.5V)
GYR-H/ GYR
IC1401
V_MOVE
IC1402
H_MOVE
IC1403
GYRO DET
PG0154 CN1401
SHE-H/ SHE
LCD
PG 7008
PG3401
PG3402
VDD (8.5V)
LCD PANEL
MR
IC3401
LCD DRIVER
L3402
L3403
L3401
IC3501
REVERSE SW
IC3502
OPEN/ CLOSE SW
PG 3403
Q3451
BACK LIGHT SW
TL3418(INV5V)
PG7003 PG1801
D1801, Q1802, Q1803
WB IR RECEIVER
IC1801
REMOTE CONTROL RECEIVER

B-4 Power-2

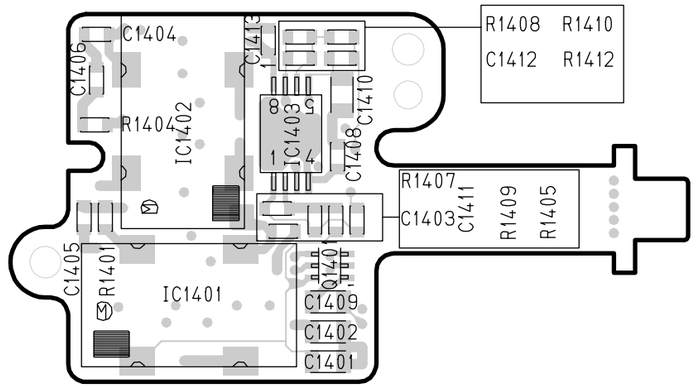

PG2302
30-33, 38-41
PG9701
30-33, 38-41
5V
3V
25, 26
25, 26
2.5V
28, 43
28, 43
DRF-H/ DRF
(Refer to POWER1)
IC9501
IC9101
11, 23, 50, 73, 82
57
IC8501
30
IC9304
15, 16
IC9305
8
IC9306
8
IC9502
IC9503
3
IC9506
5
IC9601
IC9602
IC9603
6, 8
IC9605
5
IC9610
8
DRV-R
3V
3V
5V SW
16, 17, 32, 34, 44, 49, 64
IC9201
1, 3, 14, 16, 17, 32
IC9302
5V SW
EJECT 5V SW
IC9001
4
IC9002
4
8
IC9005
5
IC9006
5
IC9007
5
IC9353
8
IC9354
8
IC9417
4
PG9301
3, 4
5V
PG9401
3, 4
7, 22, 23
IC9301
MOD
PG9103
42, 43, 46, 47
PG9001
42, 43, 46, 47
5V
HDM
41
41
3V
11, 12
11, 12
5V
PG9702
5, 6
EJECT 5V
LOCK UNIT

C Circuit Board Diagrams

C-1 GYR-H



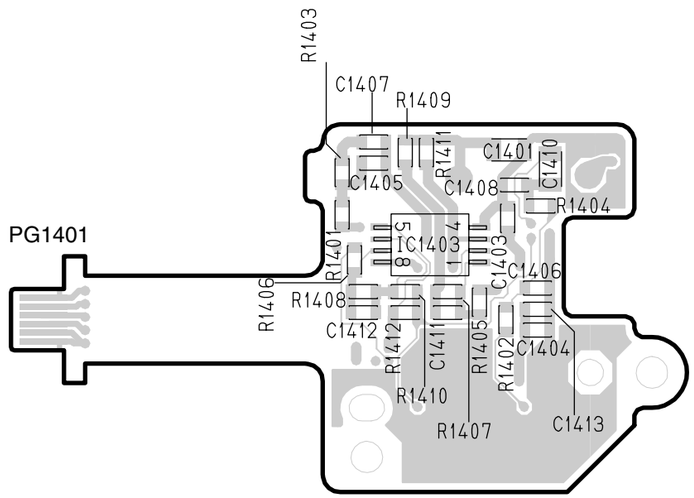
GYR-H -SIDE A-



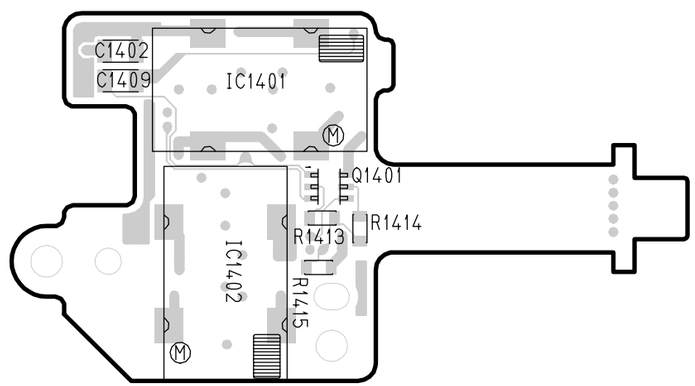
GYR-H -SIDE B-

[PATTERN No.JD1176-5]

C-2 GYR



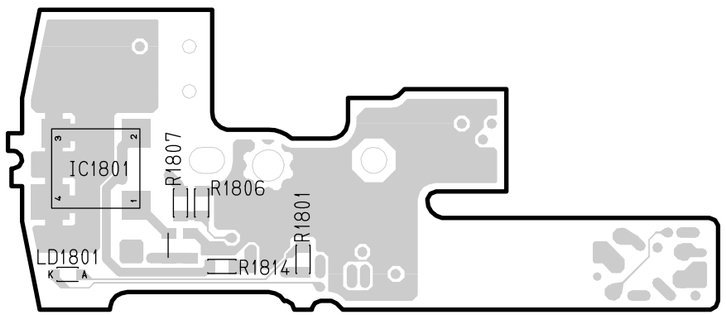
GYR -SIDE A-



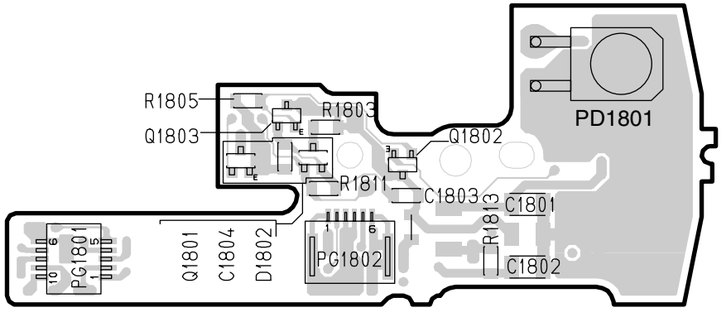
GYR -SIDE B-

[PATTERN No.JD1175-3]

C-3 FRT-H

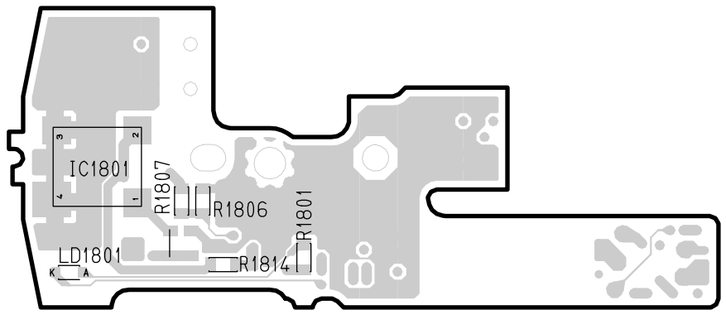


FRT-H -SIDE A-

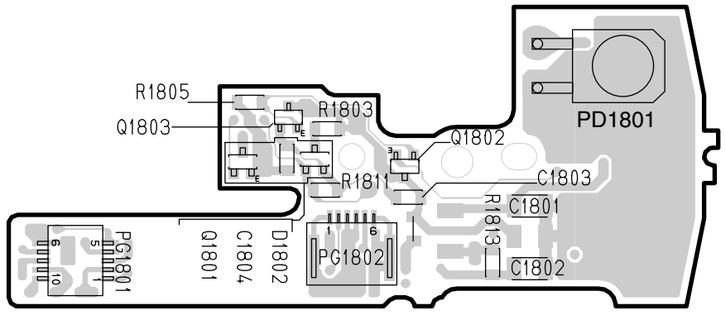


FRT-H -SIDE B-
[PATTERN No.JD1176-5]

C-4 FRT

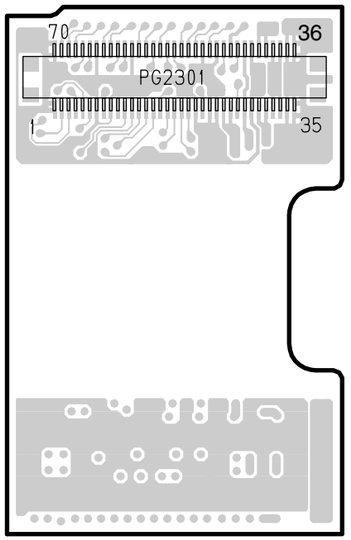


FRT -SIDE A-

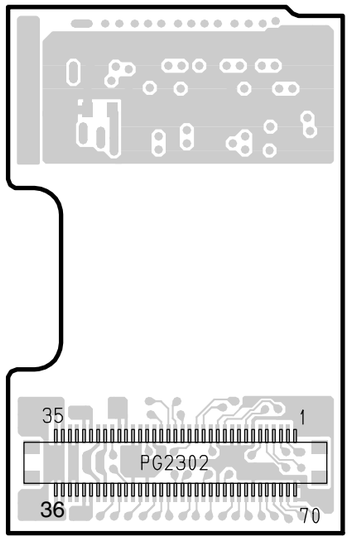


FRT -SIDE B-
[PATTERN No.JD1175-3]

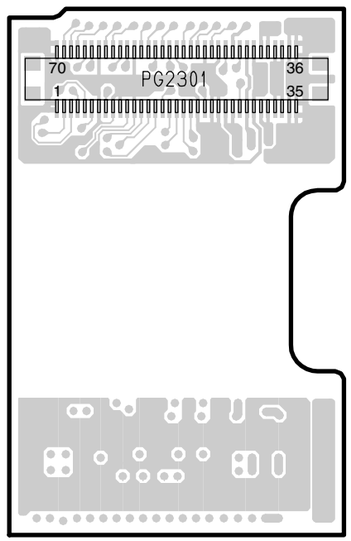
C-5 DRF-H/DRF



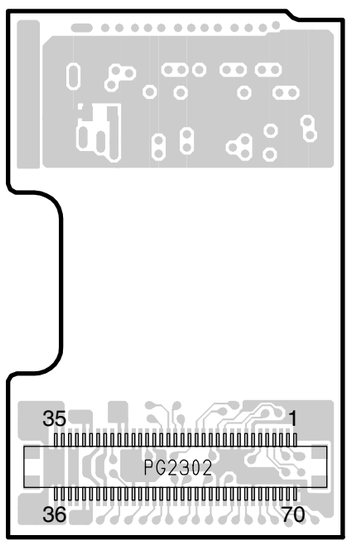
DRF-H -SIDE A-



DRF-H -SIDE B-
[PATTERN No.JD1176-5]

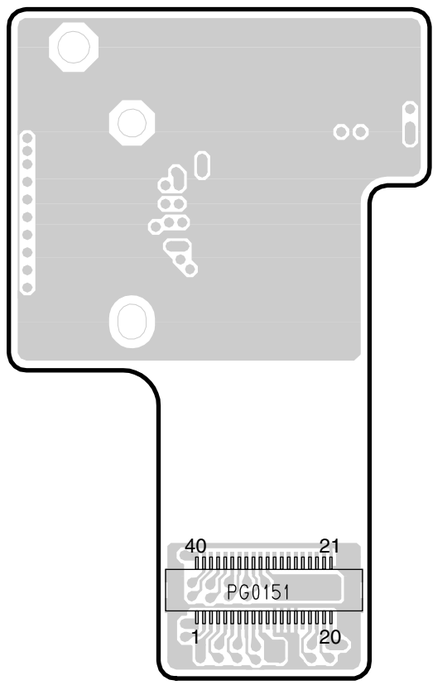


DRF -SIDE A-

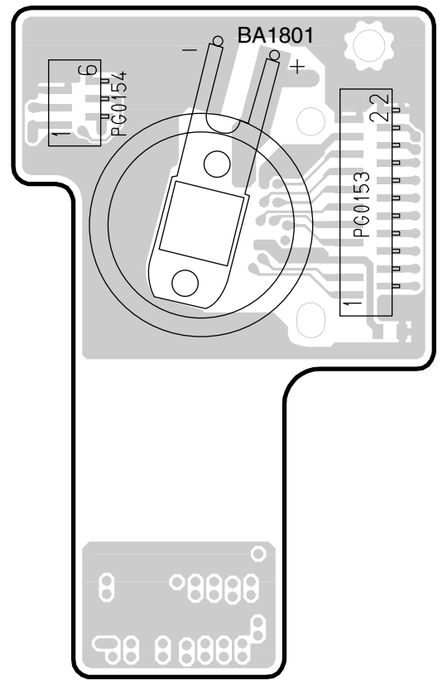


DRF -SIDE B-
[PATTERN No.JD1176-5]

C-6 SHE

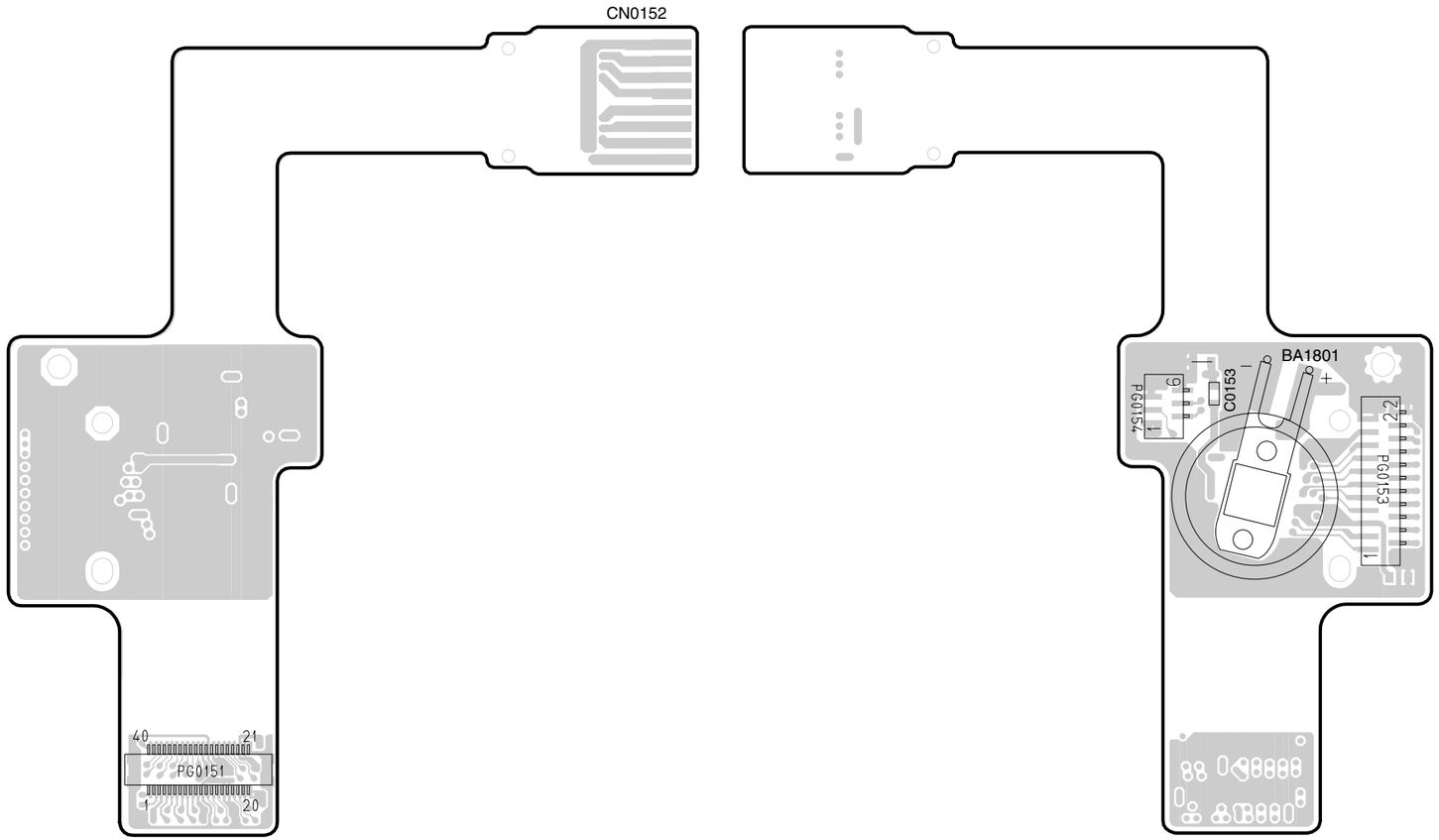


SHE -SIDE A-



SHE -SIDE B-
[PATTERN No.JD1175-3]

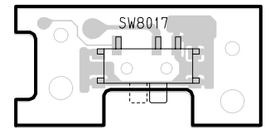
C-7 SHE-H



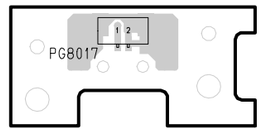
SHE-H -SIDE A-

SHE-H -SIDE B-
[PATTERN No.JD1176-5]

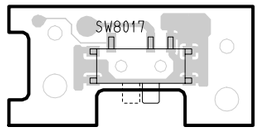
C-8 SWL3-H/SWL3/SWL2



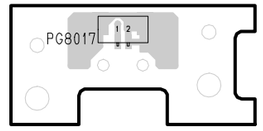
SWL3-H -SIDE A-



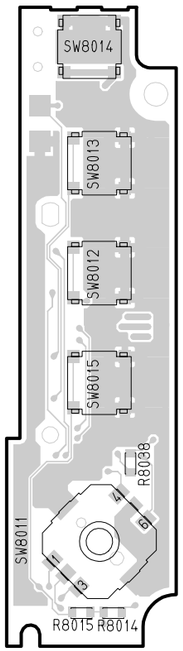
SWL3-H -SIDE B-
[PATTERN No.JD1176-5]



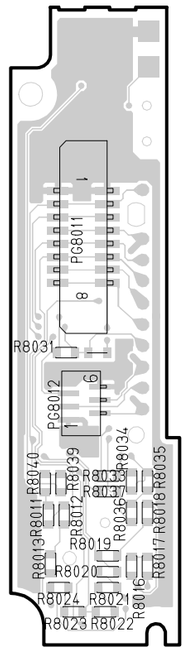
SWL3 -SIDE A-



SWL3 -SIDE B-
[PATTERN No.JD1175-3]

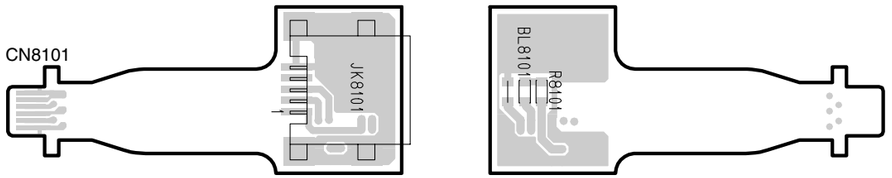


SWL2 -SIDE A-



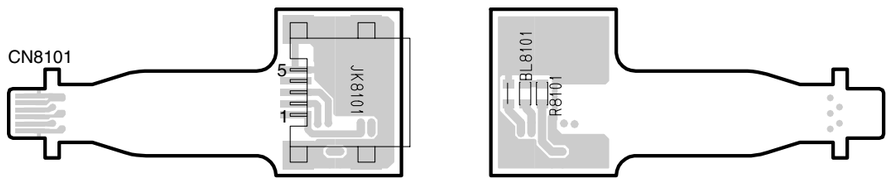
SWL2 -SIDE B-
[PATTERN No.JA2255-1]

C-9 USB-H/USB



USB-H -SIDE A-

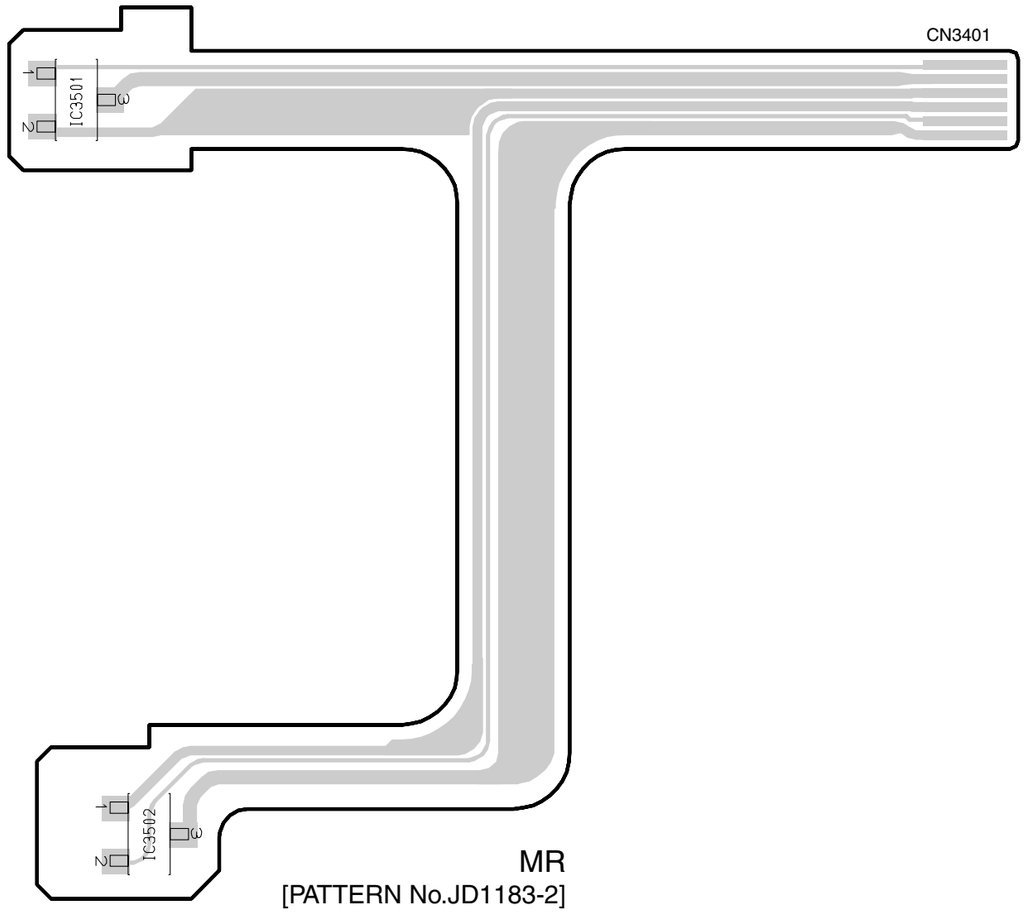
USB-H -SIDE B-
[PATTERN No.JD1176-5]



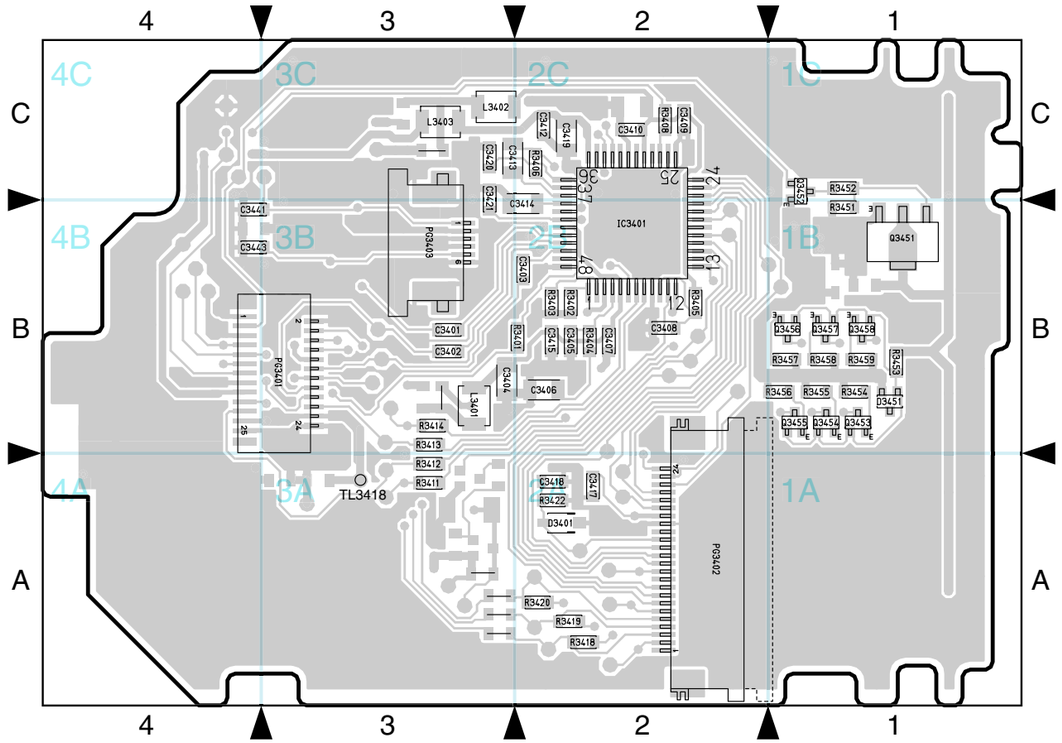
USB -SIDE A-

USB -SIDE B-
[PATTERN No.JD1175-3]

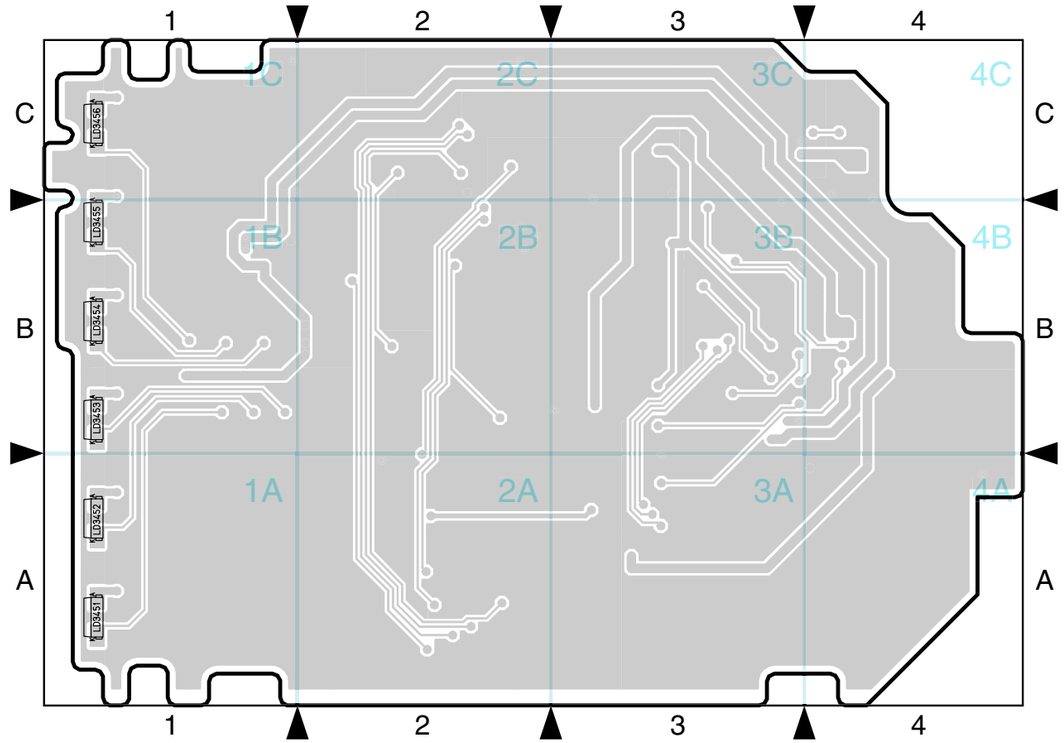
C-10 MR



MR
[PATTERN No.JD1183-2]

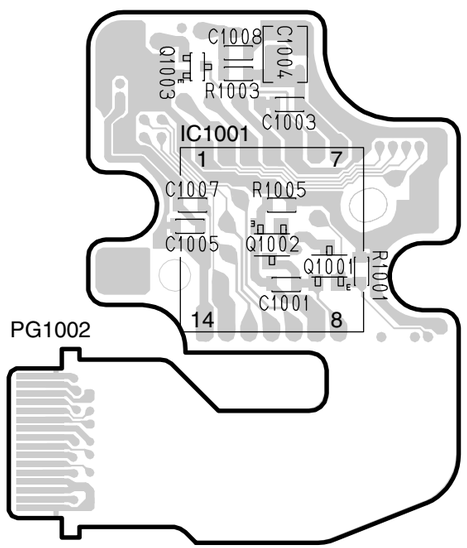


LCD -SIDE A-

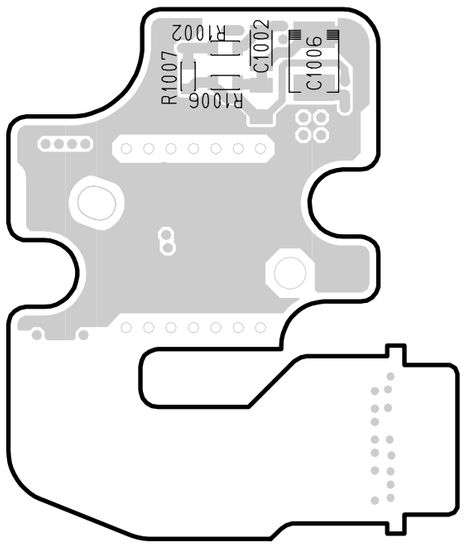


LCD -SIDE B-
[PATTERN No.JA2244-4]

C-12 SEN-H

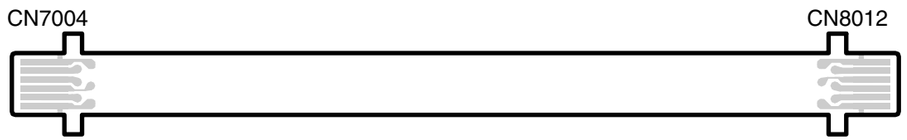


SEN-H -SIDE A-

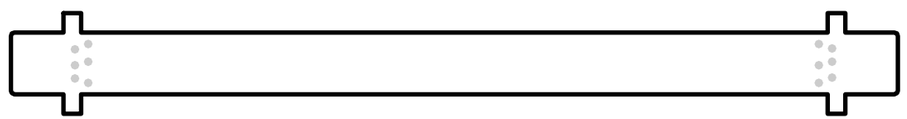


SEN-H -SIDE B-
[PATTERN No.JD1176-5]

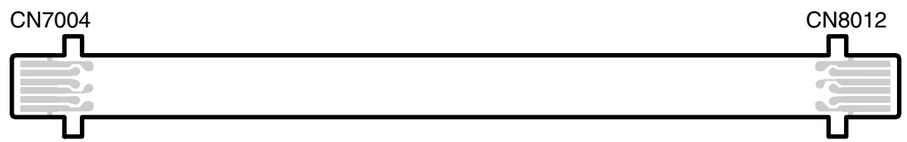
C-13 SAF-H/SAF



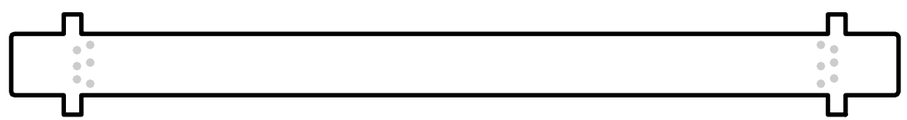
SAF-H -SIDE A-



SAF-H -SIDE B-
[PATTERN No.JD1176-5]

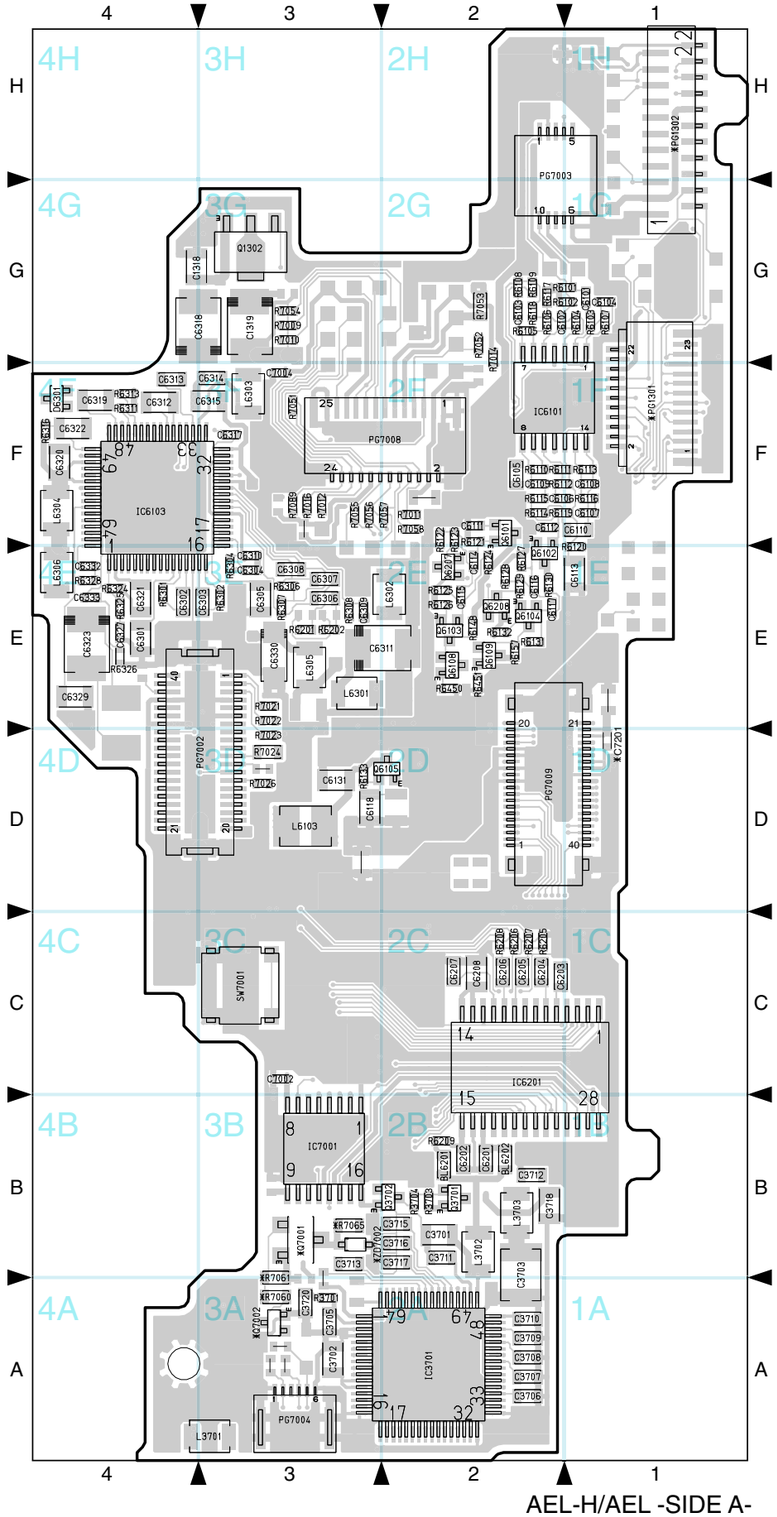


SAF -SIDE A-



SAF -SIDE B-
[PATTERN No.JD1175-3]

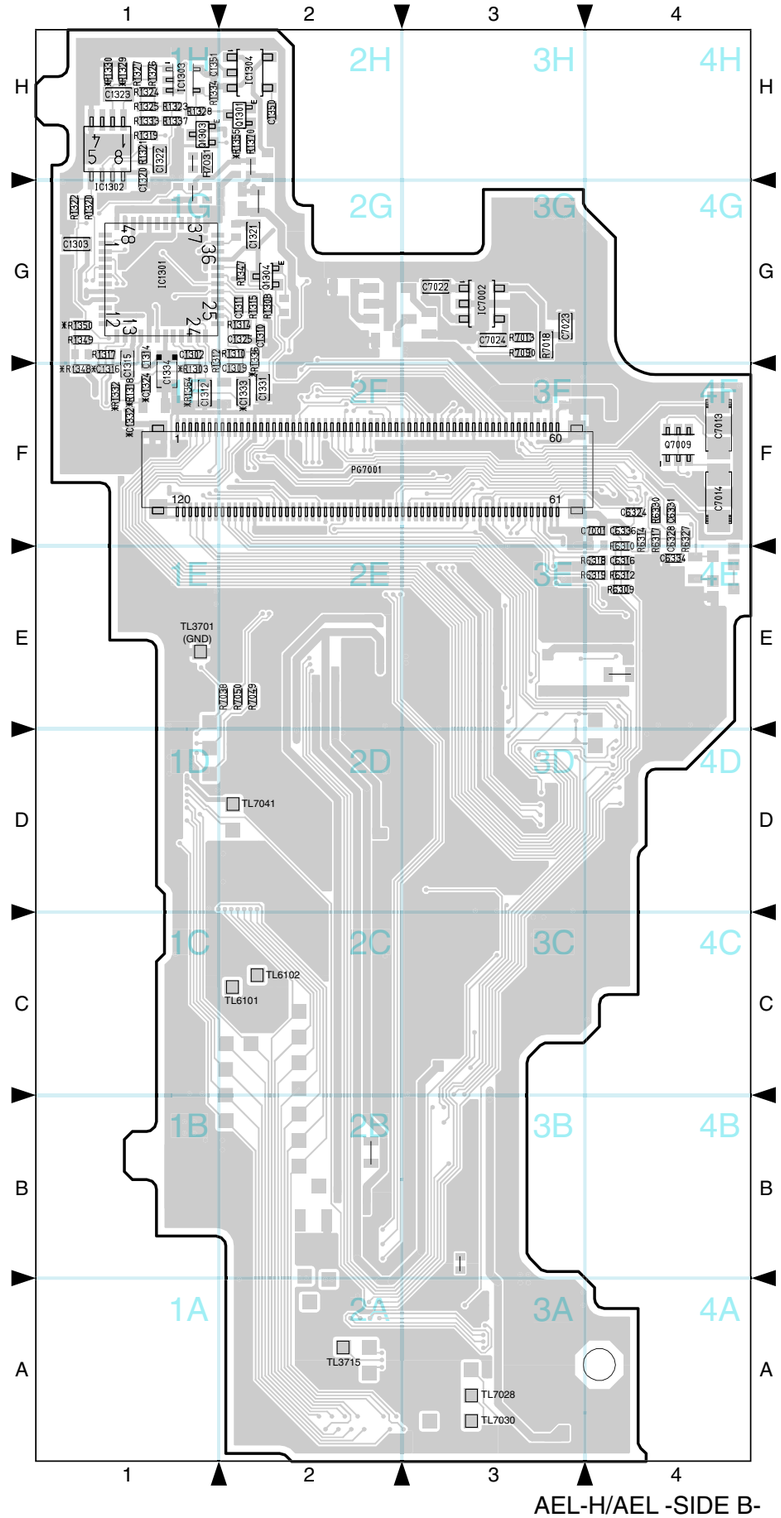
C-14 AEL-H/AEL



AEL-H/AEL -SIDE A-

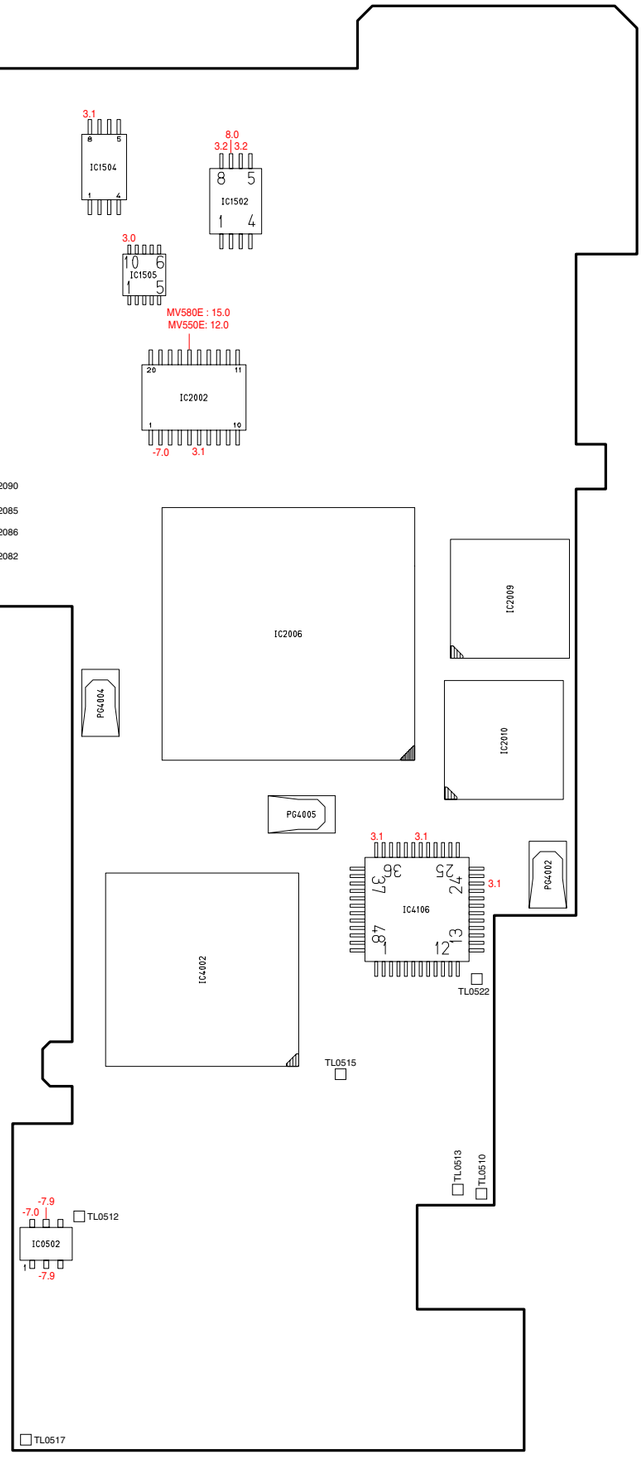
Components marked * are different between DZ-MV580E [including (AU),(SW),(SWH),(UK)] and DZ-MV550E [including (AU),(SW),(SWH),(UK)]: Refer to the difference tables in diagrams for the different components.

	MV580E	MV550E
PG1301	Provided	Not Provided
PG1302	Not Provided	Provided
C1316	560p	0.068
C1324	0.01	0.22
C1333	Not Provided	2.2
C7021	0.01	Not Provided
R1303	100k	180k
R1318	10k	8.2k
R1329	47k	27k
R1330	47k	27k
R1332	27k	39k
R1336	Not Provided	10k
R1348	Not Provided	5.6k
R1350	0	180
R1355	100	120
R1364	2.2k	Not Provided
R7060	220k	Not Provided
R7061	470k	
R7065	BM10345R	
Q7001	NDS336P	
Q7002	RT1N144U-T11-1	
ZD7002	RD13UMB-1	



AEL-H/AEL -SIDE B-
[PATTERN No.JA2237-5]

C-15 MAN-H/MAN



MAN-H/MAN -SIDE A-

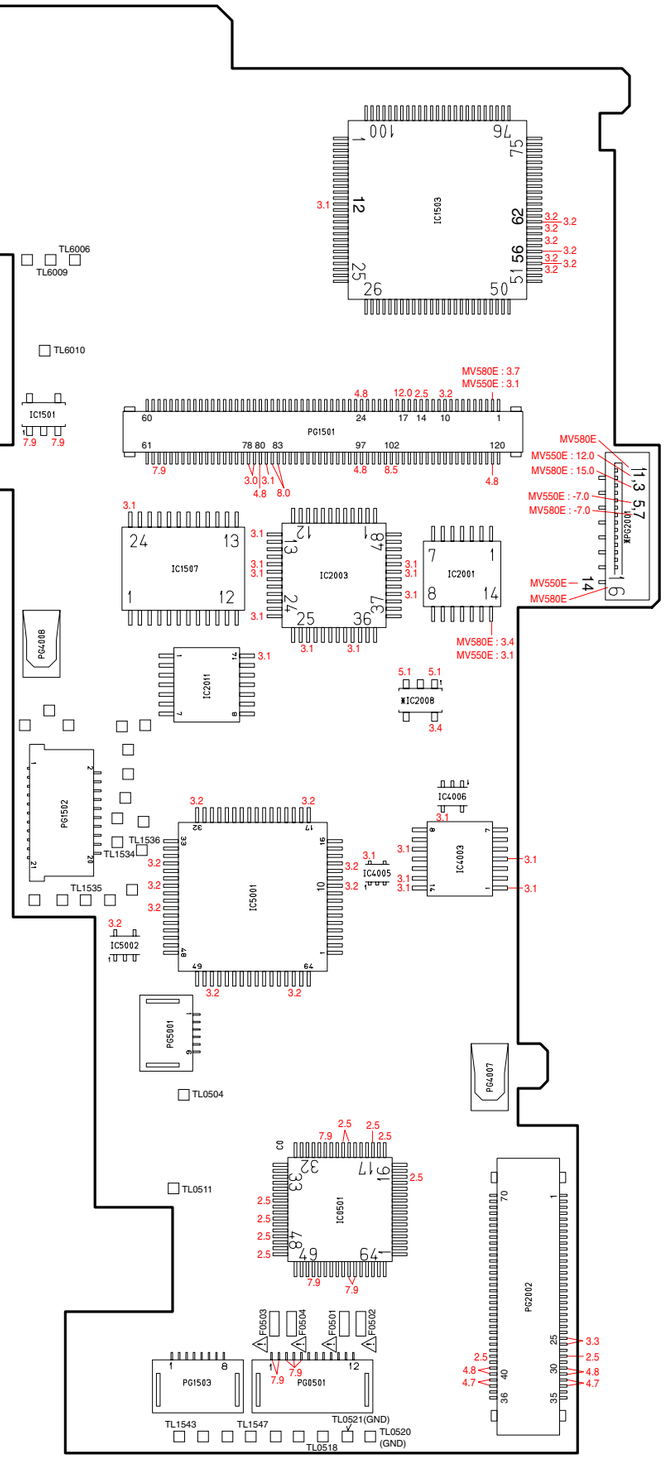
Information of MAN-H/MAN,DRV-R, MOD and HDM Circuit Boards

If a fault is located on the MAN-H/MAN circuit board, the entire circuit board must be replaced for servicing.
If there is a fault in the DRV-R, MOD or HDM circuit board, the entire disc drive unit must be replaced, since these circuit boards are included in this unit.
Because of this servicing method, this service manual does not include any schematic circuit diagrams.
For circuit board diagrams, the manual includes the simple diagrams, which show only the information that is necessary for troubleshooting.

Components marked * are different between DZ-MV580E and DZ-MV550E :
Refer to the difference tables in diagrams for the different components.

	MV580E MV580E(UK)	MV580E(AU) MV580E(SW) MV580E(SWH)	MV550E MV550E(UK)	MV550E(AU) MV550E(SW) MV550E(SWH)
IC2008	Provided		Not Provided	
PG2001	16PIN		14PIN	
LINE INPUT FUNCTION	Not Provided	Provided	Not Provided	Provided

Note: Voltage values are in REC status.
Model names "MV580E" and "MV550E" shown for voltage values include (AU),(SW),(SWH) and (UK).

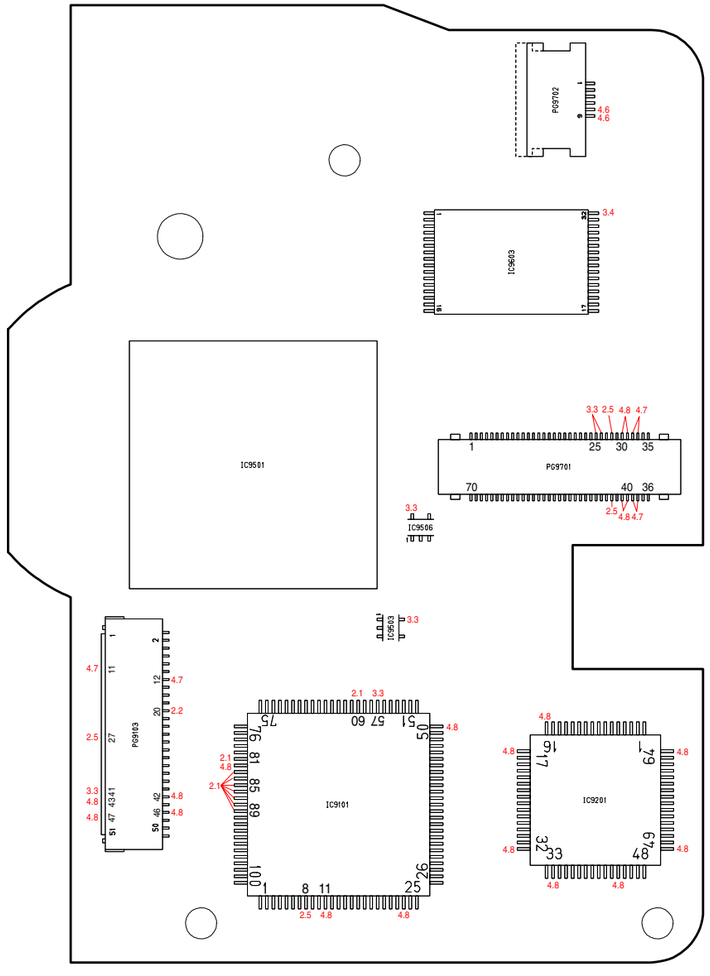


MAN-H/MAN -SIDE B-
[PATTERN No.JA2226-4]

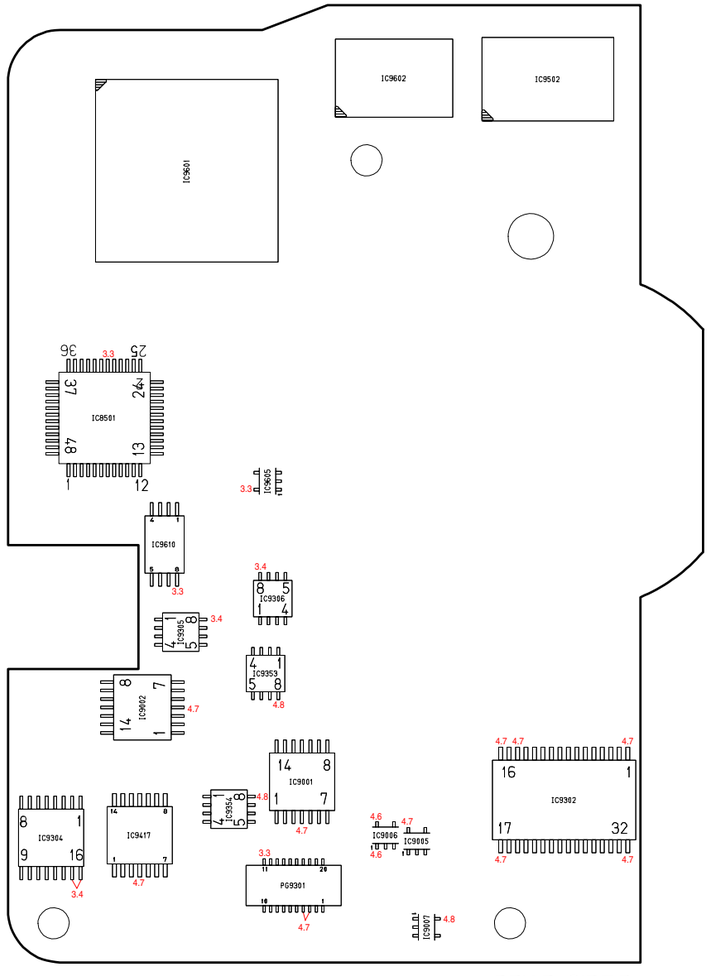
C-16 DRV-R

Note: Voltage values are in reading status.
Supplement: Since the DVD disc drive is intermittently operated, set to the reading status in which laser light is emitted from the pickup.

Information of MAN-H/MAN,DRV-R, MOD and HDM Circuit Boards
If a fault is located on the MAN-H/MAN circuit board, the entire circuit board must be replaced for servicing.
If there is a fault in the DRV-R, MOD or HDM circuit board, the entire disc drive unit must be replaced, since these circuit boards are included in this unit.
Because of this servicing method, this service manual does not include any schematic circuit diagrams.
For circuit board diagrams, the manual includes the simple diagrams, which show only the information that is necessary for troubleshooting.



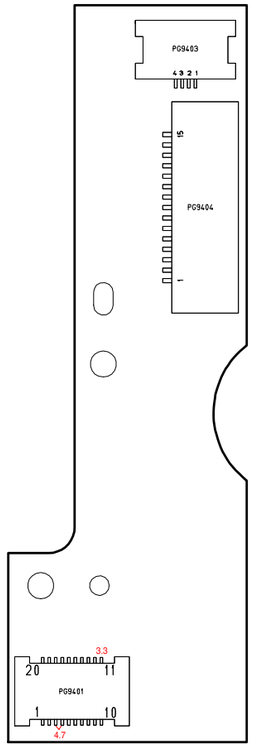
DRV-R -SIDE A-



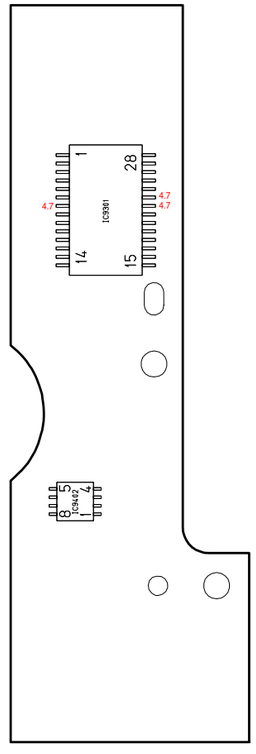
DRV-R -SIDE B-
[PATTERN No.JA2238-3]

C-17 MOD

Note: Voltage values are in reading status.
Supplement: Since the DVD disc drive is intermittently operated, set to the reading status in which laser light is emitted from the pickup.

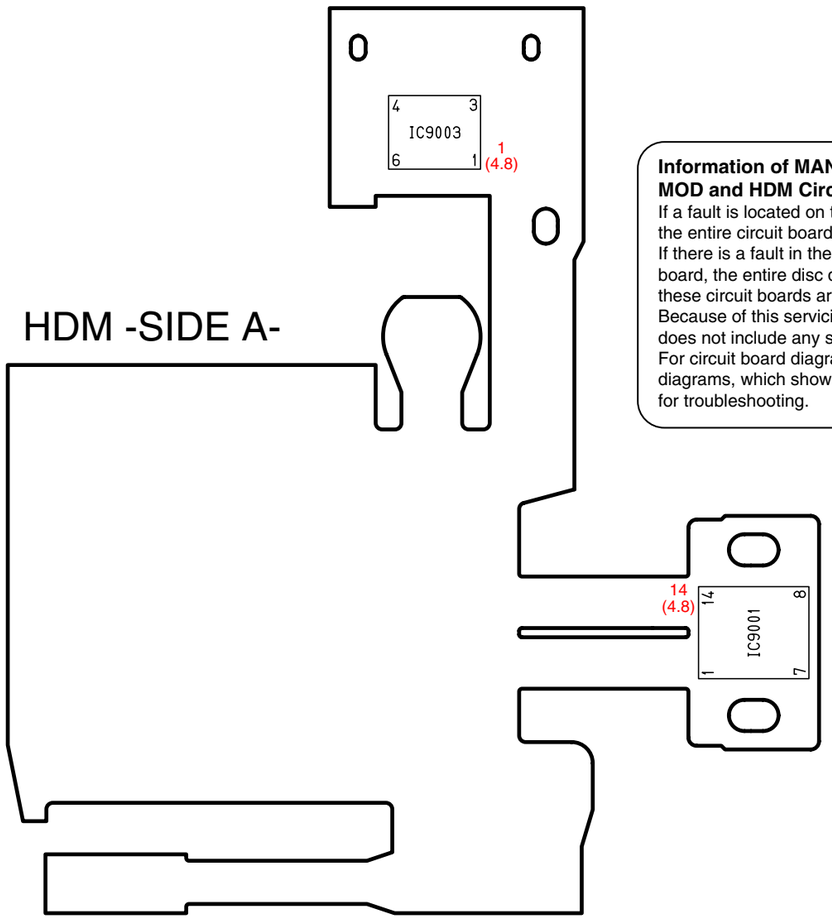


MOD -SIDE A-

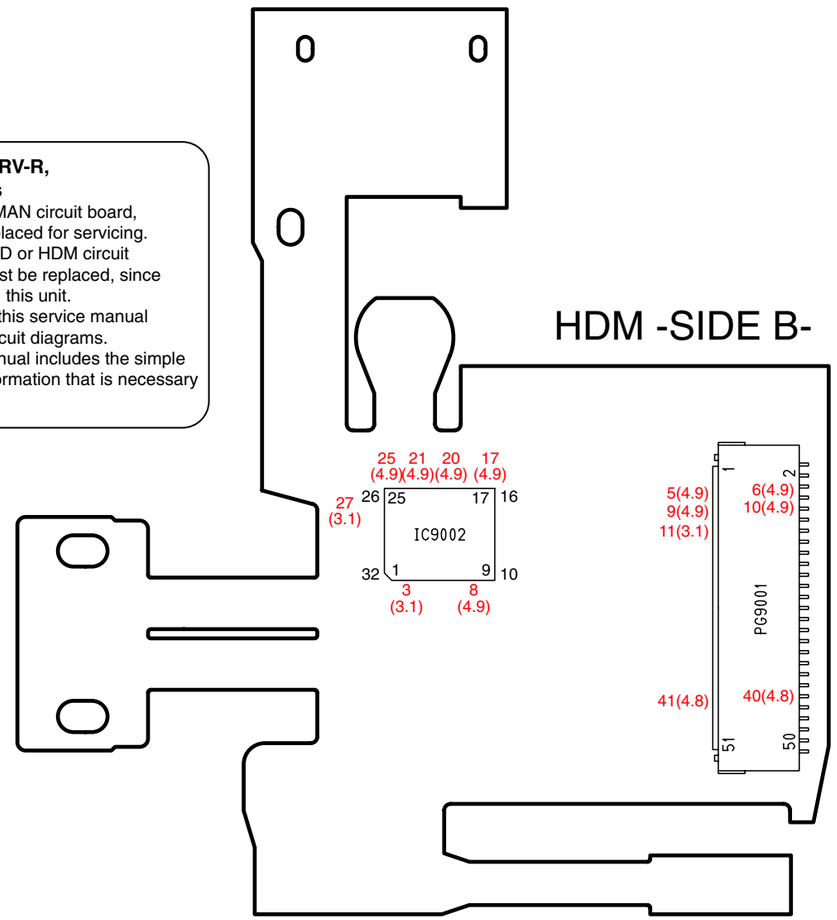


MOD -SIDE B-
[PATTERN No.JA2238-3]

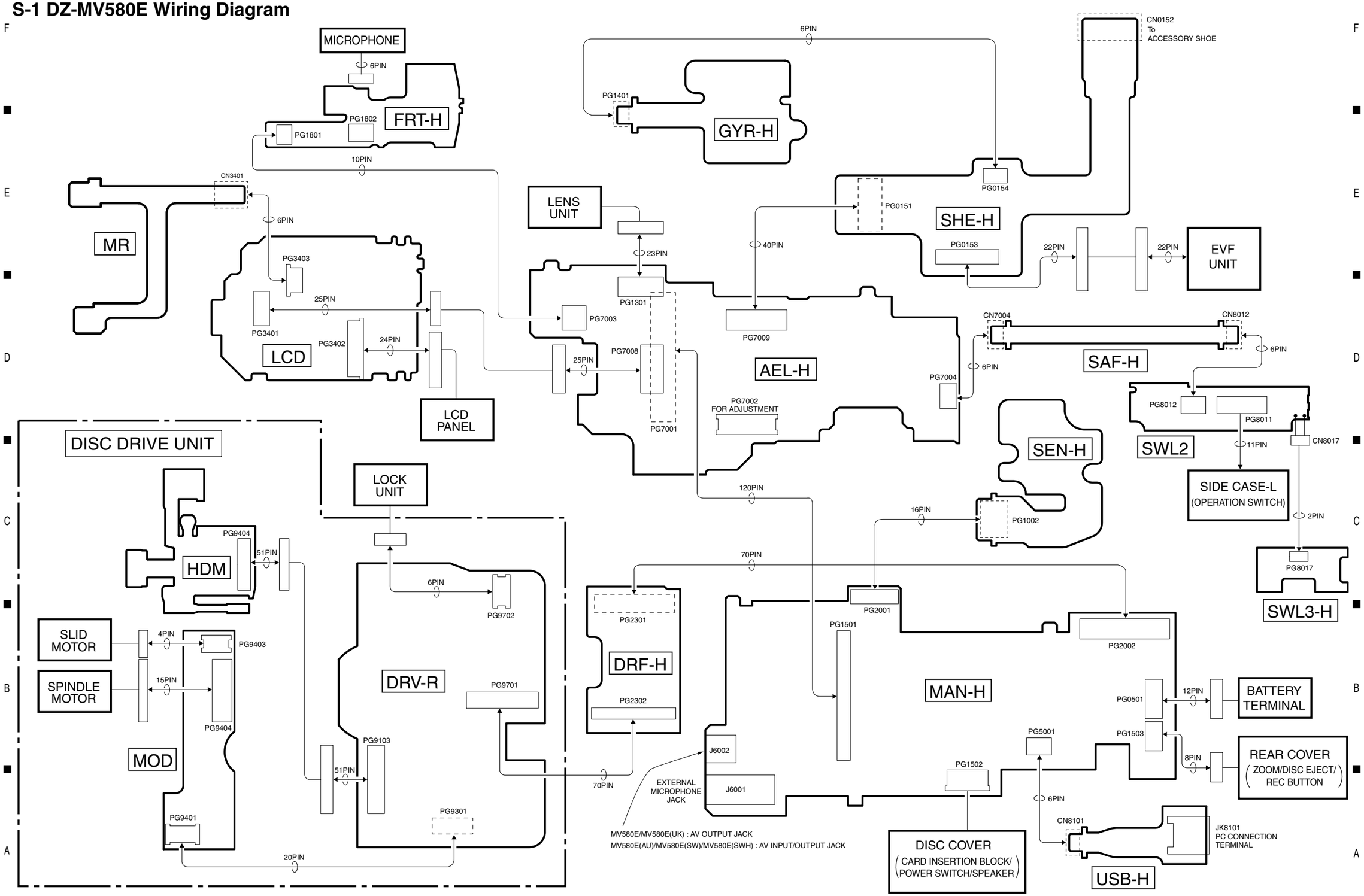
Note: Voltage values are in reading status.
Example: 24 (4.7): Terminal no. (voltage value)
Supplement: Since the DVD disc drive is intermittently operated, set to the reading status in which laser light is emitted from the pickup.



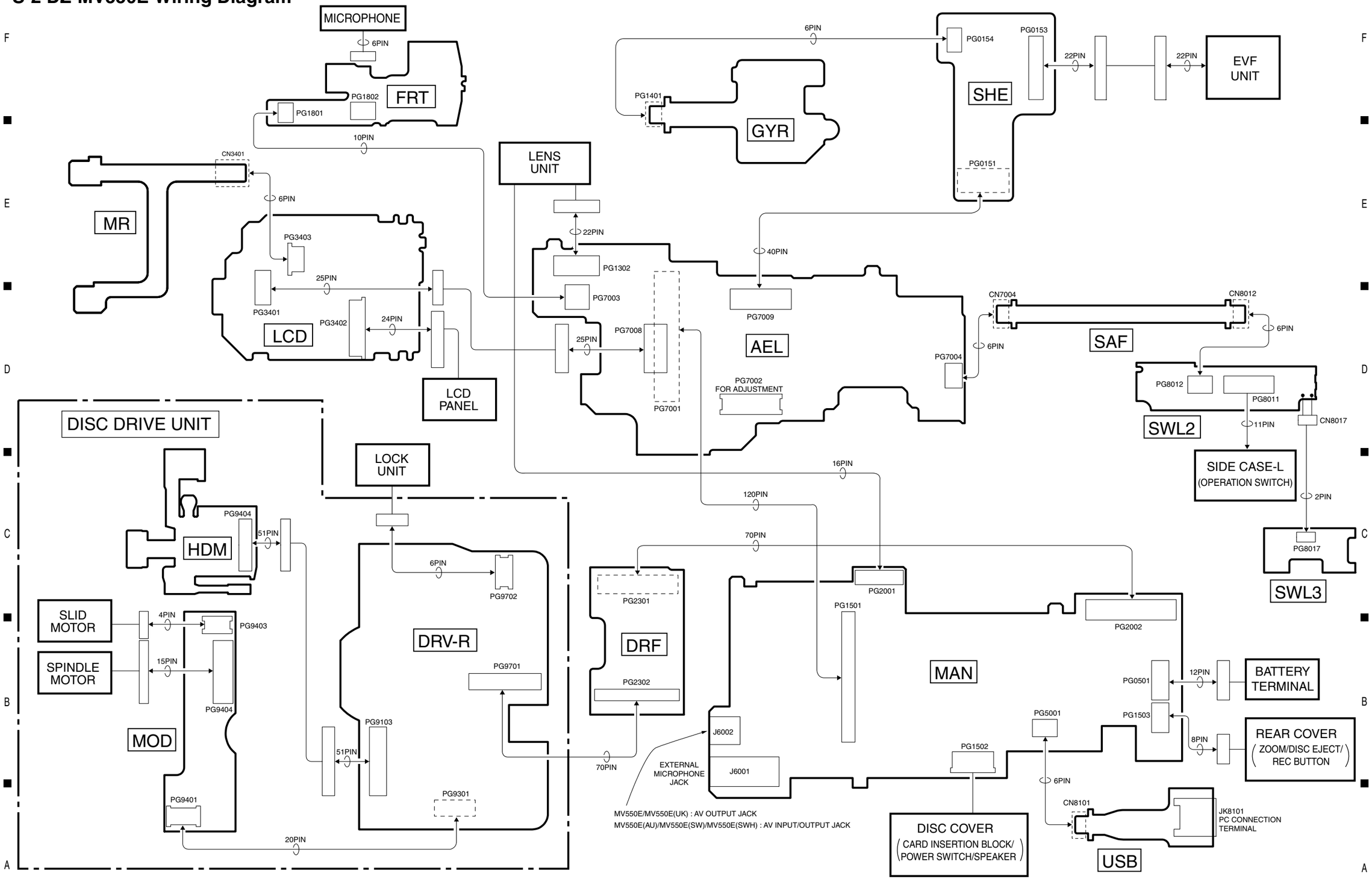
Information of MAN-H/MAN,DRV-R, MOD and HDM Circuit Boards
If a fault is located on the MAN-H/MAN circuit board, the entire circuit board must be replaced for servicing.
If there is a fault in the DRV-R, MOD or HDM circuit board, the entire disc drive unit must be replaced, since these circuit boards are included in this unit.
Because of this servicing method, this service manual does not include any schematic circuit diagrams.
For circuit board diagrams, the manual includes the simple diagrams, which show only the information that is necessary for troubleshooting.



S Schematic & Wiring Diagrams
S-1 DZ-MV580E Wiring Diagram

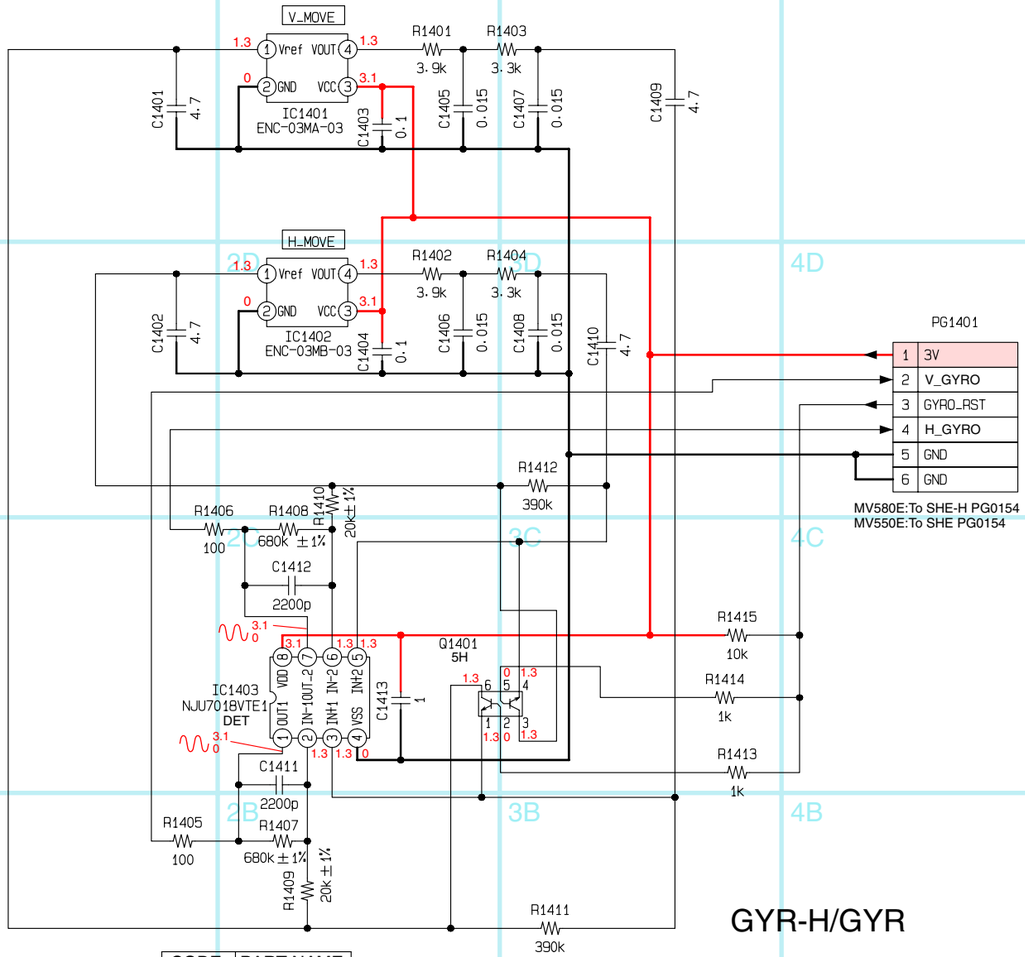


S-2 DZ-MV550E Wiring Diagram



S-3 GYR-H/GYR

Model names "MV580E" and "MV550E" in the diagram include (AU),(SW),(SWH) and (UK).

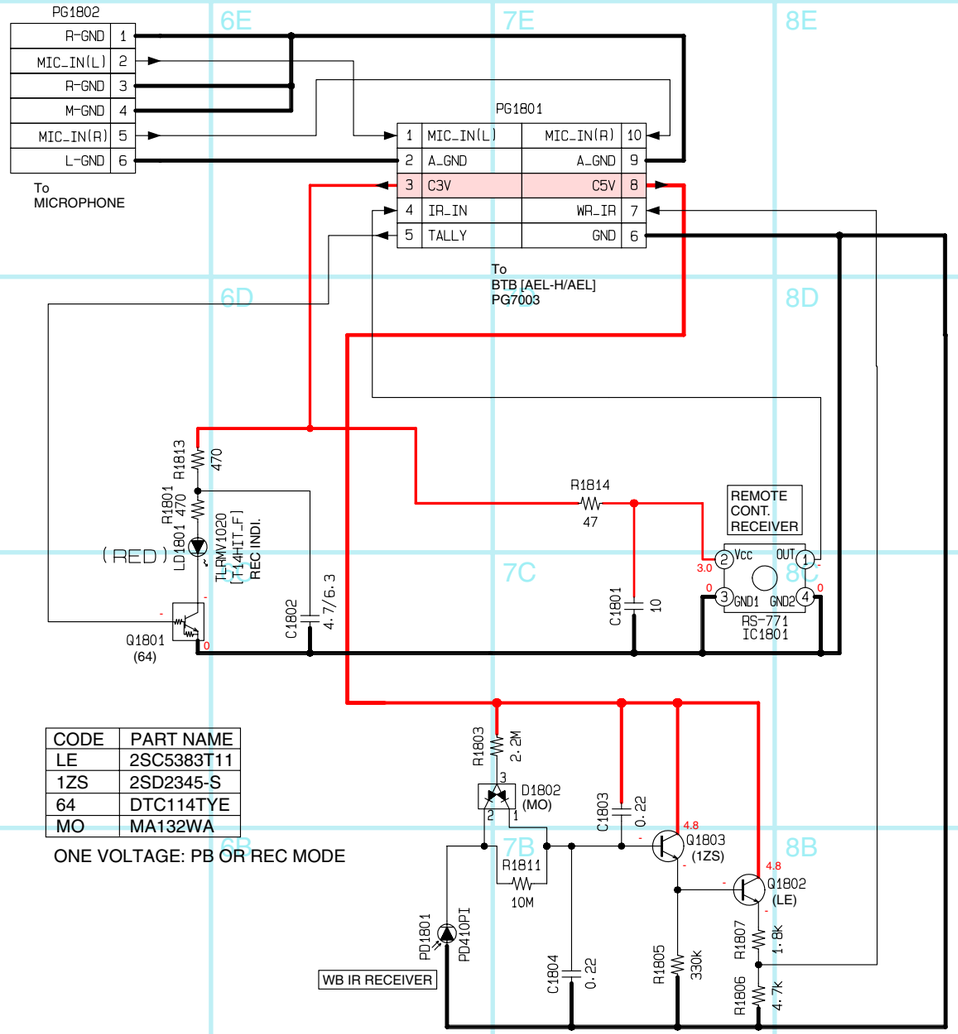


CODE	PART NAME
5H	XP4501

ONE VOLTAGE: PB OR REC MODE

GYR-H/GYR

S-4 FRT-H/FRT

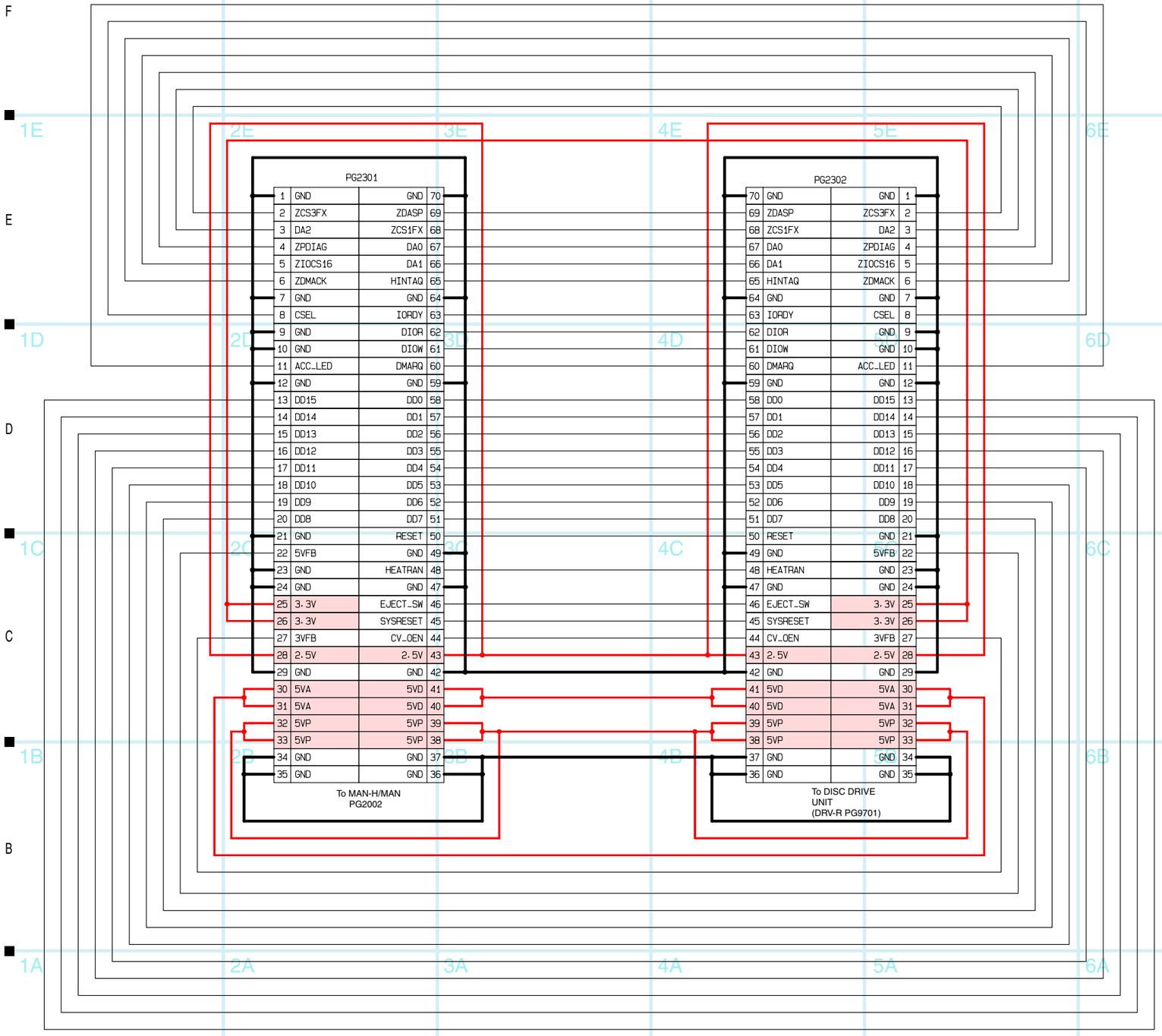


CODE	PART NAME
LE	2SC5383T11
1ZS	2SD2345-S
64	DTC114TYE
MO	MA132WA

ONE VOLTAGE: PB OR REC MODE

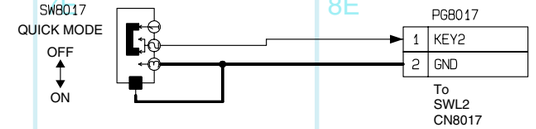
FRT-H/FRT

S-5 DRF-H/DRF



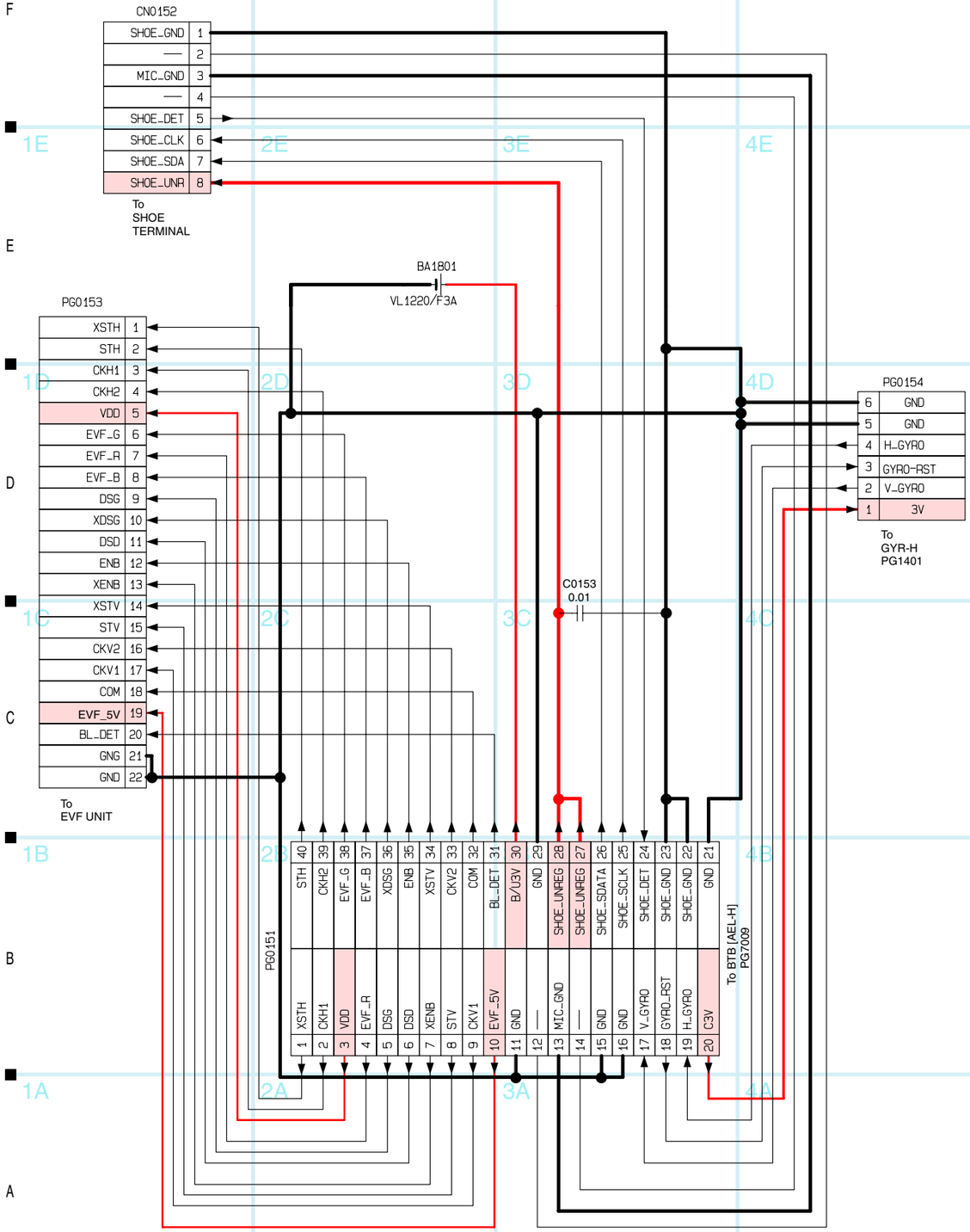
DRF-H/DRF

S-6 SWL3-H/SWL3



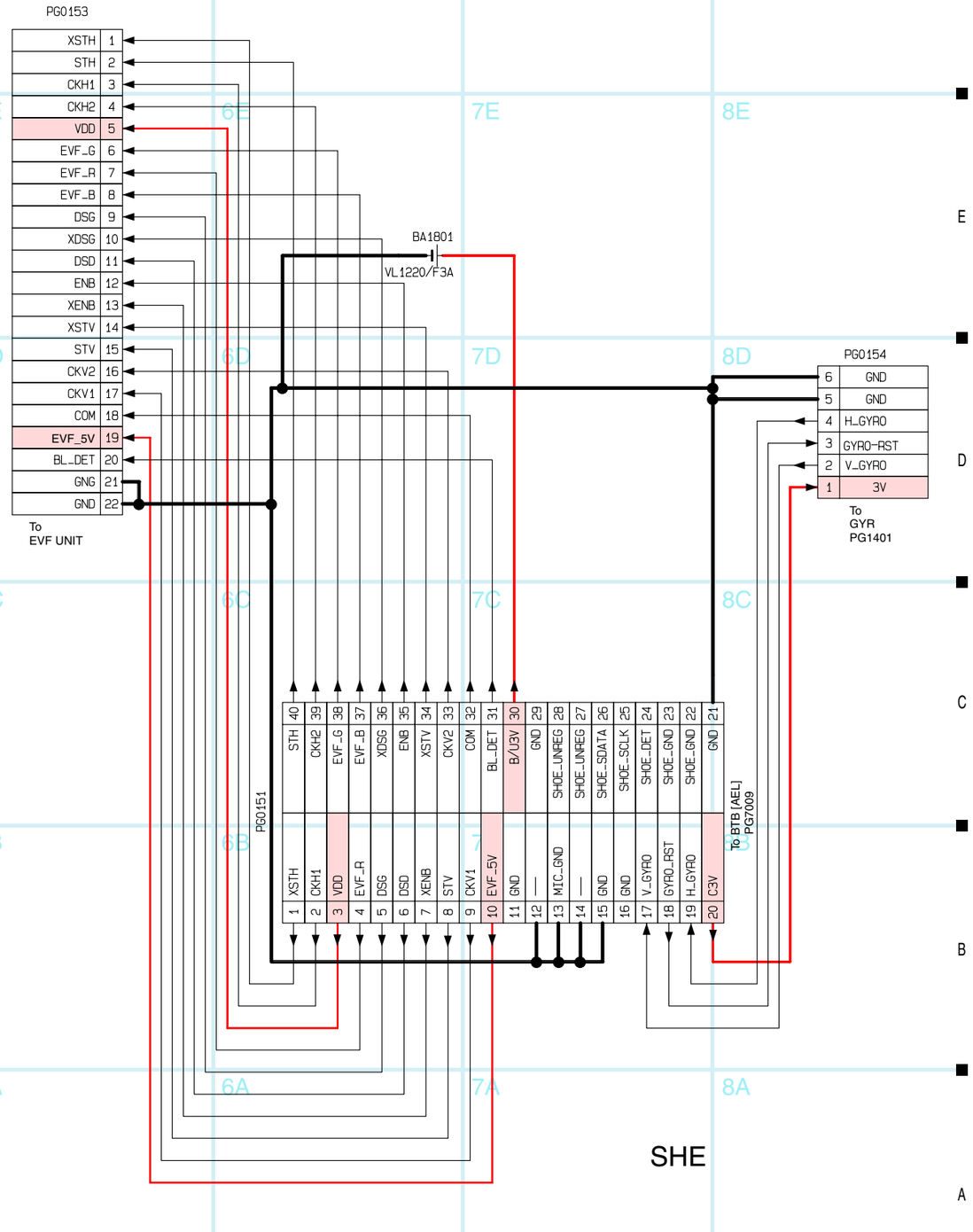
SWL3-H/SWL3

S-7 SHE-H



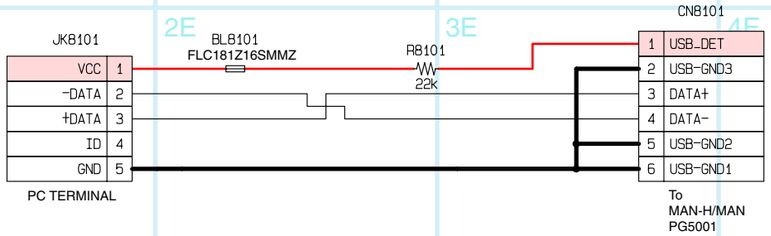
SHE-H

S-8 SHE



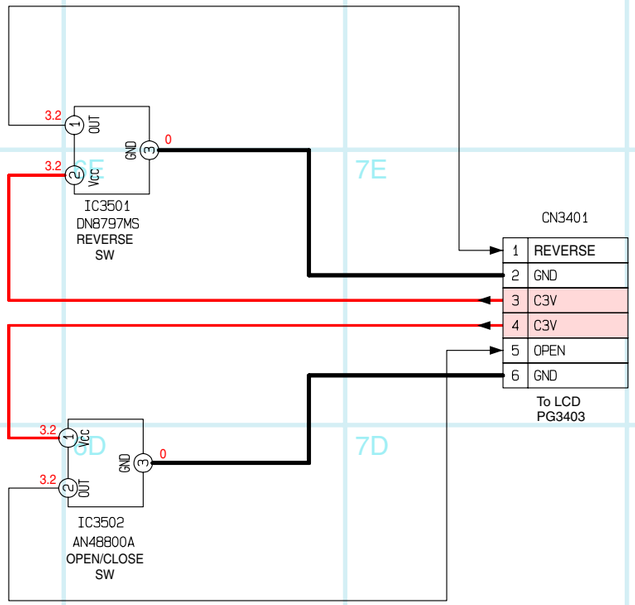
SHE

S-9 USB-H/USB



USB-H/USB

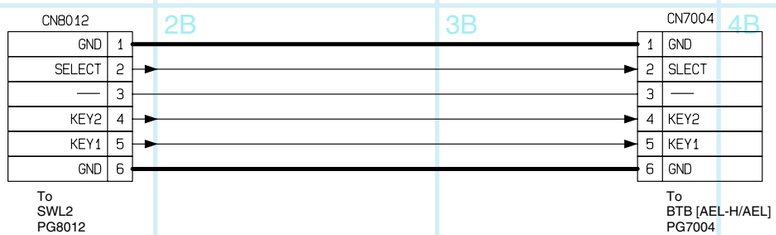
S-11 MR



ONE VOLTAGE: PB OR REC MODE

MR

S-10 SAF-H/SAF



SAF-H/SAF

S-12 LCD

CODE	PART NAME
AE	2SB1424R
LF	2SC5383-T11-1F
N5	RT1N144U-T11-1
MP	MA133
5.6	MA8056-M

ONE VOLTAGE: PB OR REC MODE

PG3403
REVERSE 1
GND 2
C3V 3
C3V 4
OPEN 5
GND 6
To MR CN3401

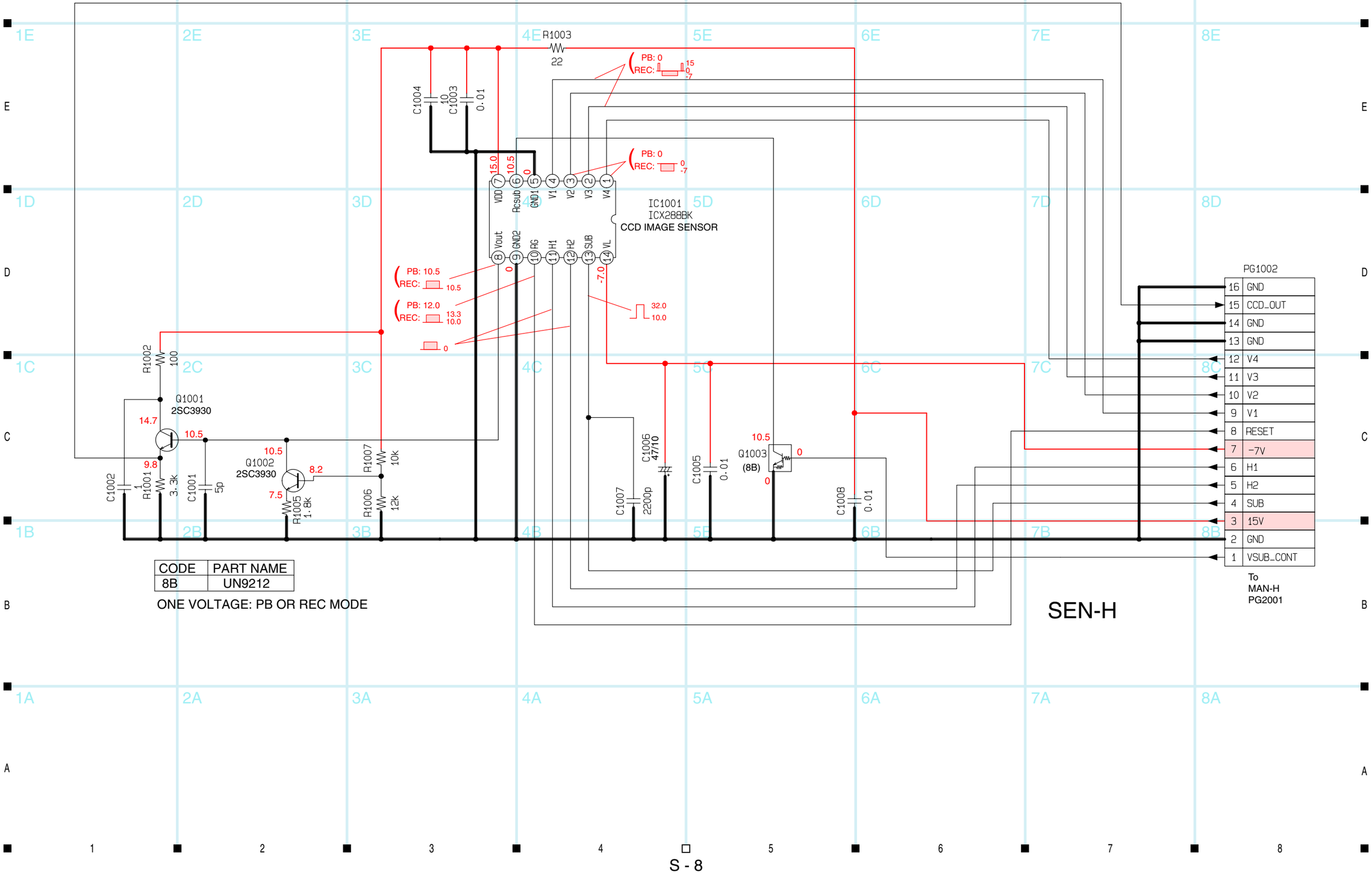
PG3401
1 BL_GND 25
2 BL_GND 24
3 INV5V 23
4 INV5V 22
5 LCD_CS 21
6 SDC 20
7 SCLK 19
8 LCD_REV 18
9 C5V 17
10 LCD_R 16
11 C8.5V 15
12 LCD_G 14
13 HDO 13
14 LCD_B 12
15 SSG_FV 11
16 C3V(DIGITAL) 10
17 SSG_HD 9
18 LCD_Rout 8
19 LCD_O/C 7
20 LCD_Gout 6
21 C3V(ANALOG) 5
22 LCD_Bout 4
23 BL_ON 3
24 GND 2
25 GND 1
To BTB [AEL-H/AEL] PG7008

PG3402
24 COM
23 CS
22 VST
21 VCK
20 EN
19 DWN
18 VDD
17 VSS
16 ——
15 VSSG
14 XSTBY
13 PCG
12 HST
11 REF
10 ——
9 WIDE
8 HCK2
7 HCK1
6 PSIG
5 GREEN
4 RED
3 BLUE
2 RGT
1 ——
To LCD PANEL

IC3401
CXM3009TQ
LCD DRIVER

LCD

S-13 SEN-H



CODE	PART NAME
8B	UN9212

ONE VOLTAGE: PB OR REC MODE

S-14 BTB [AEL-H/AEL]

Components marked * are different between
DZ-MV580E [including (AU),(SW),(SWH),(UK)] and
DZ-MV550E [including (AU),(SW),(SWH),(UK)]:
Refer to the difference tables in diagrams for the different components.

	C7021	Q7001	Q7002	R7060	R7061	R7065	ZD7002
MV580E	0.01	336	N5	220k	470k	BM10345R	RD13UMB1
MV550E	Not Provided						

CODE	PART NAME
N5	RT1N144U-T11-1
H9	UMH9N
336	NDS336P

ONE VOLTAGE: PB OR REC MODE
TWO VOLTAGES: PB AND (REC) MODE

To LCD
PG3401

PG7008

PG7002

FOR ADJUSTMENT

PG7001

To MAN-H/MAN PG1501

PG7003

To
FRT-H/FRT
PG1801

PG7004

To
SAF-H/SAF
CN7004

PG7009

MV580E : To SHE-H PG0151
MV550E : To SHE PG0151

IC7002

IC7001
MB89347PFV
M/M

MV580E

EVF
1B-9B

EVF
10B-19B

LENS DRIVE
1A-22A

AUD
1C-43C

EVF
20B-33B

BTB [AEL-H/AEL]

S-15 LENS DRIVE [AEL-H/AEL]

Components marked * are different between
DZ-MV580E [including (AU),(SW),(SWH),(UK)] and
DZ-MV550E [including (AU),(SW),(SWH),(UK)]:
Refer to the difference tables in diagrams for the different components.

	PG1301	PG1302	C1316	C1324	C1333	R1303	R1318	R1329	R1330	R1332	R1336	R1348	R1350	R1355	R1364
MV580E	Provided	Not Provided	560p	0.01	Not Provided	100k	10k	47k	47k	27k	Not Provided	Not Provided	0	100	2.2k
MV550E	Not Provided	Provided	0.068	0.22	2.2	180k	8.2k	27k	27k	39k	10k	5.6k	180	120	Not Provided

MV550E
*PG1302
THEROM GND 1
THEROM 2
VDD3V 3
FENC 4
FLED_CONT 5
FMT1 6
FMT4 7
FMT3 8
FMT2 9
ZMT3 10
ZMT2 11
ZMT1 12
ZMT4 13
VDD3V 14
ZENC 15
ZLED_CONT 16
HALL_IN(+) 17
HALL_OUT(+) 18
HALL_IN(−) 19
HALL_OUT(−) 20
ALCMAIN(+) 21
ALCMIN(−) 21
To LENS UNIT

*PG1301
FOCUSMOT φ4 1
FOCUSMOT φ3 2
FOCUSMOT φ2 3
FOCUSMOT φ1 4
MUGENSEN Tr 5
MUGENSEN Vcc 6
MUGENSEN LED 7
ZOOM MOT φ4 8
ZOOM MOT φ3 9
ZOOM MOT φ2 10
ZOOM MOT φ1 11
IRIS DAMP + 12
IRIS HGVcc + 13
IRIS HGout + 14
IRIS HGVss − 15
IRIS HGout − 16
IRIS DAMP − 17
IRIS DRIVE − 18
IRIS DRIVE + 19
WIDE SEN Vcc 20
WIDE SEN Tr 21
WIDE SEN LED 22
— 23
To LENS UNIT
MV580E

Q1301 (LF) R1370 4.7k
*R1330 MV580E:47k MV550E:27k
*R1329 MV580E:47k MV550E:27k
*R1355 MV580E:100 MV550E:120
R1328 120
*R1348 5.6k MV550E

Q1302 (AE)
C1318 1/16V
*R1332 MV580E:27k MV550E:39k
C1332 0.1
C1334 4.7 10V
C1314 100p
C1303 1
R1349 100k
*R1350 MV580E:0 MV550E:180
*C1316 MV580E:560p MV550E:0.068
R1317 1M
*R1318 MV580E:10k MV550E:8.2k
*C1324
C1315 1 6.3V
MV580E:0.01 MV550E:0.22
MV580E *R1364 2.2k
C1312 1 MV580E:100k MV550E:180k
*C1333 2.2
*R1336 10k MV550E
R1303 C1302 220p
R1312 4.7k
R1310 120k
C1309 470p
R1314 4.7k
R1315 4.7k
C1311 4700p
R1308 120
C1325 0.01
C1310 0.01
C1331 1
C1319 47 10V

IC1301
UPD168153
FOCUS/ZOOM
IRIS DRIVE

AF+B 2A
IRIS_PWM 7A
ZOOM_SEN 8A
FOCUS_SEN 9A
FOCUS_LED 10A
SHUT_CTRL 18A
IRIS_OPEN 19A
HALF_FV 15A
CS_LENS 14A
SCLK 12A
SDO 13A
LEN5V 5A
PGND 3A
SYS_RESET 17A
OSDSCK 16A
LEN3V 4A
C3V 1A
HALL_ADJ0 11A
HALL_ADJ1 20A
F_DET 21A
HALL_G 22A
BTB 1A-22A
GND 6A

Q1304 (BQ) R1347 1.5k
C1321 1/10V
C1351 0.1
IC1304 NJM2872AF285 3V REG
VOUT NC VIN VSS ON/OFF
C1350 0.01

IC1303 SN74AHC1G66HDCK F DET
C1320 0.01
IC1302 NJM13404R F DET
C1322 330p
R1321 100k
R1319 100k
R1322 100k
R1320 100k
R1334 10k
R1323 12k ± 1%
R1327 56k ± 1%
R1326 180k ± 1%
R1325 180k ± 1%
R1324 270k ± 1%
C1323 330p
R1333 1.5k
R1337 10k
Q1303 (N5)

IC1303
VCC GND
IC1304
REG VSS

CODE	PART NAME
AE	2SB1424R
BQ	2SC4617
LF	2SC5383-T11-1F
N5	RT1N144U-T11-1

ONE VOLTAGE: PB OR REC MODE
TWO VOLTAGES: PB AND (REC) MODE

LENS DRIVE [AEL-H/AEL]

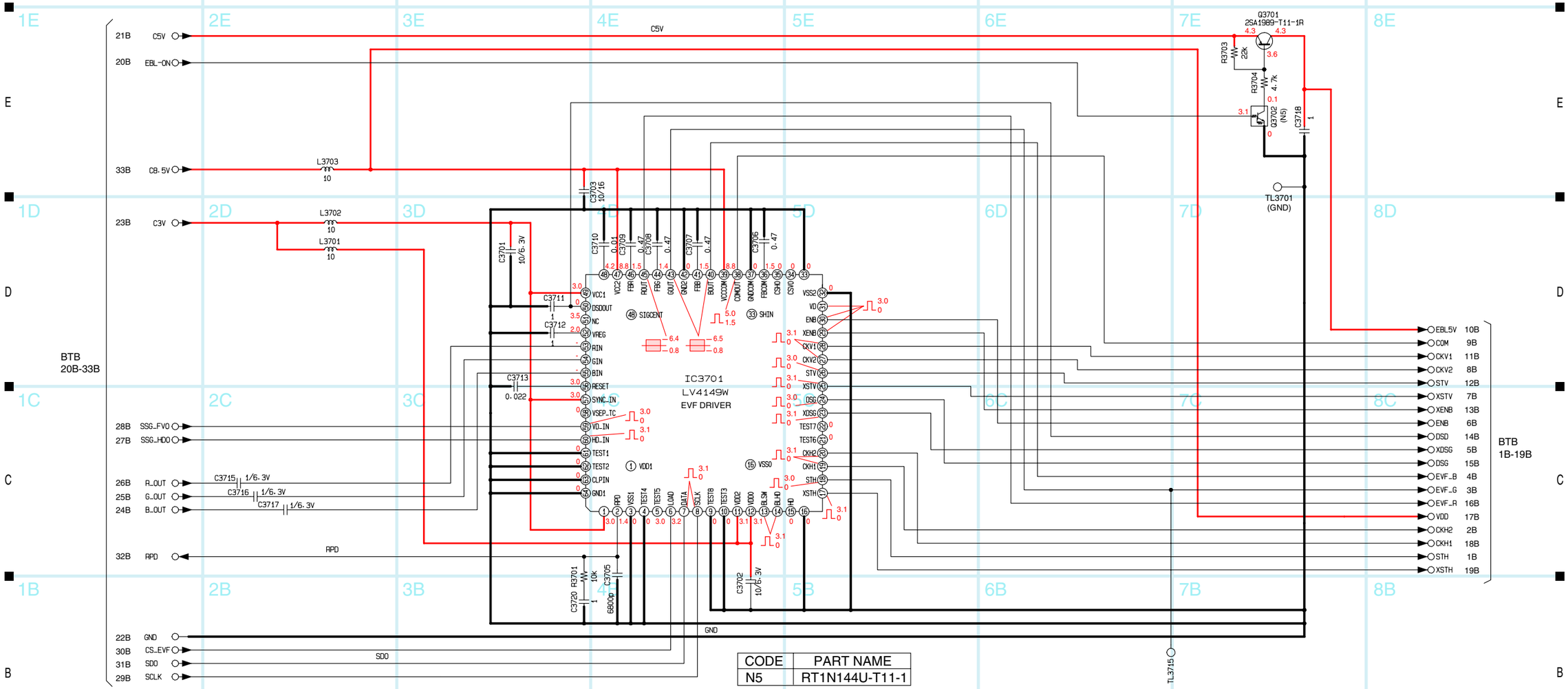
S-16 AUD [AEL-H/AEL]

CODE	PART NAME
LF	2SC5383-T11-1F
N2	RT1N144U-T11-1
MI	MA132K

ONE VOLTAGE: PB OR REC MODE
TWO VOLTAGES: PB AND (REC) MODE

AUD [AEL-H/AEL]

S-17 EVF [AEL-H/AEL]

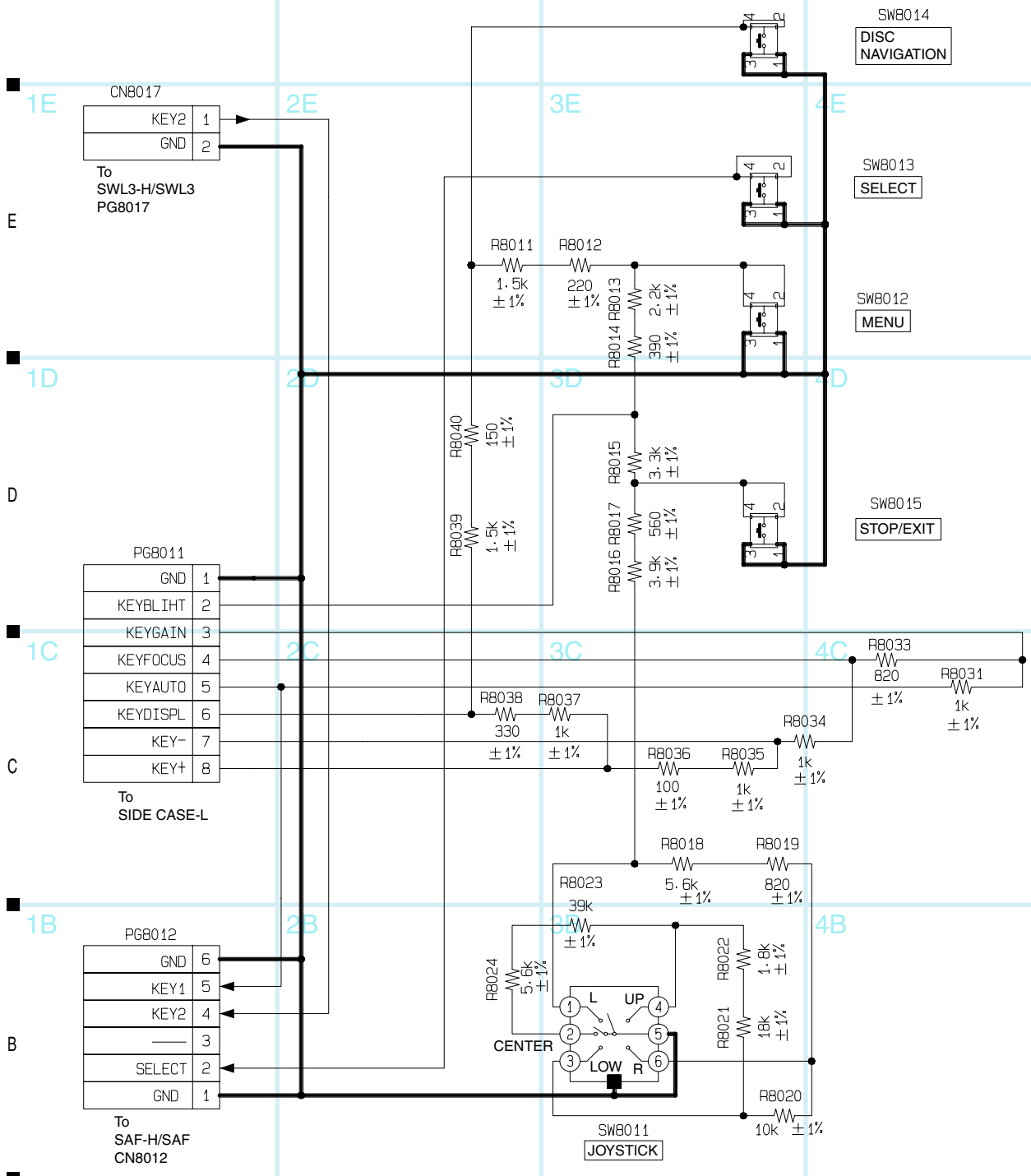


CODE	PART NAME
N5	RT1N144U-T11-1

ONE VOLTAGE: PB OR REC MODE

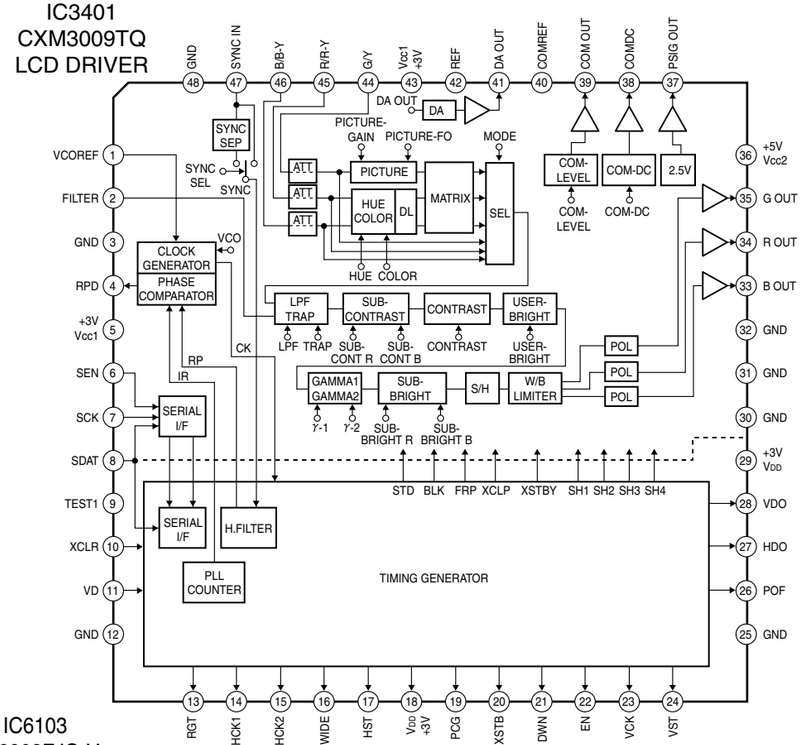
EVF [AEL-H/AEL]

S-18 SWL2

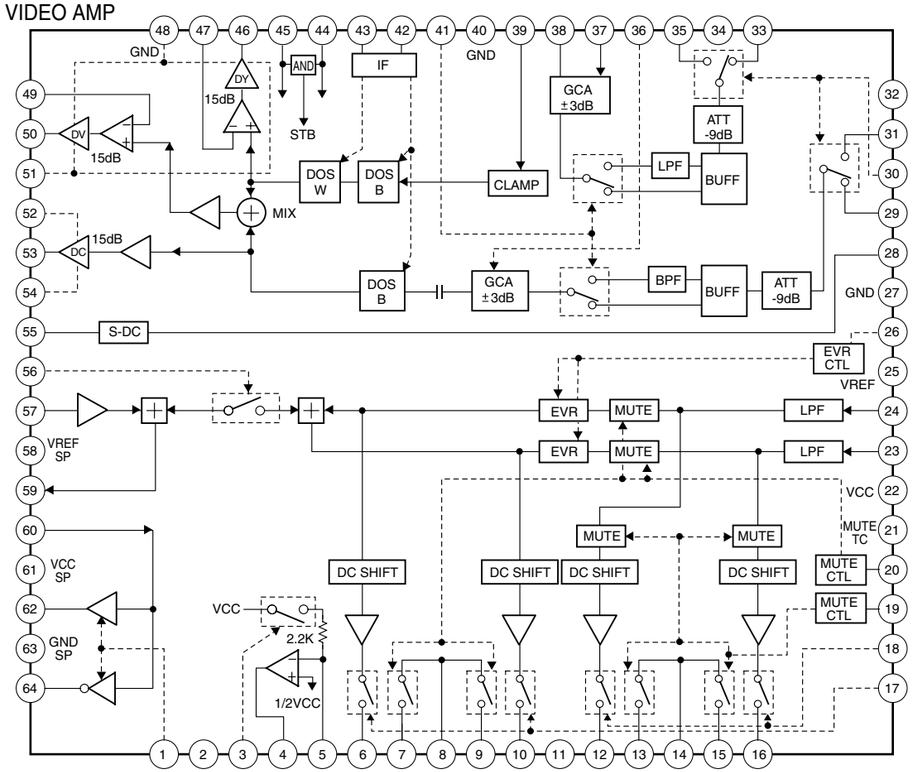

CN8017
KEY2 1
GND 2
To
SWL3-H/SWL3
PG8017
SW8014
DISC
NAVIGATION
SW8013
SELECT
SW8012
MENU
SW8015
STOP/EXIT
R8011
1.5k
±1%
R8012
220
±1%
R8013
2.2k
±1%
R8014
390
±1%
R8040
150
±1%
R8039
1.5k
±1%
R8015
3.3k
±1%
R8016
3.9k
±1%
R8017
560
±1%
PG8011
GND 1
KEYBLIHT 2
KEYGAIN 3
KEYFOCUS 4
KEYAUTO 5
KEYDISPL 6
KEY− 7
KEY+ 8
To
SIDE CASE-L
R8033
820
±1%
R8031
1k
±1%
R8034
1k
±1%
R8038
330
±1%
R8037
1k
±1%
R8036
100
±1%
R8035
1k
±1%
R8018
5.6k
±1%
R8019
820
±1%
R8023
39k
±1%
R8024
5.6k
±1%
R8022
1.8k
±1%
R8021
18k
±1%
L
UP
CENTER
LOW
R
R8020
10k
±1%
SW8011
JOYSTICK
PG8012
GND 6
KEY1 5
KEY2 4
— 3
SELECT 2
GND 1
To
SAF-H/SAF
CN8012
SWL2

S-19 IC BLOCK

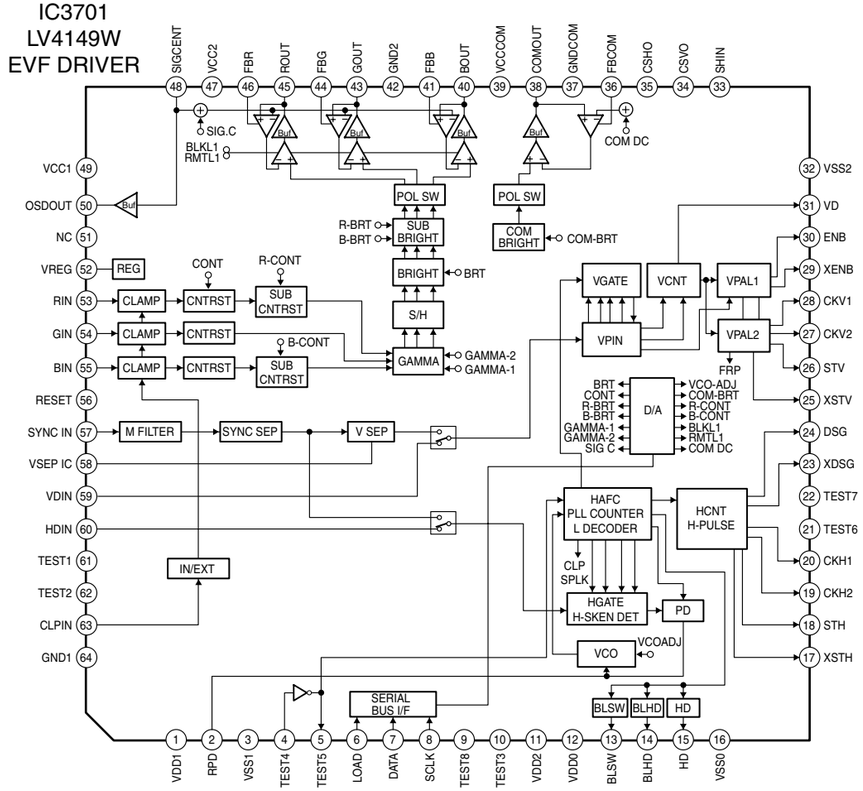
IC3401
CXM3009TQ
LCD DRIVER



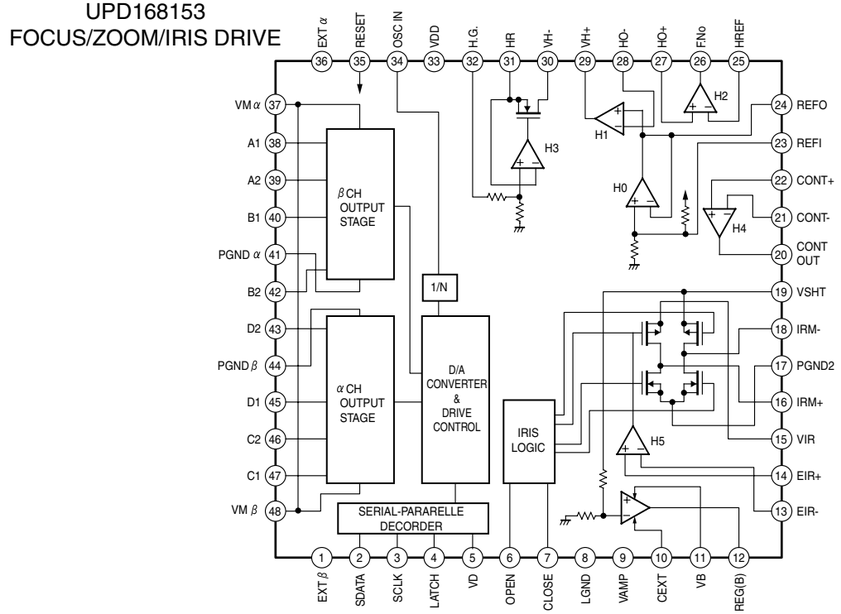
IC6103
AN2903FJQ-V
VIDEO AMP



IC3701
LV4149W
EVF DRIVER



IC1301
UPD168153
FOCUS/ZOOM/IRIS DRIVE



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