SECTION 1

SERVICE INFORMATION

CONTENTS

1. SERVICING FIXTURES AND TOOLS INF-1
   1-1. Summary Table of Servicing Fixtures and Tools INF-1
2. MAINTENANCE INF-4
   2-1. Maintenance Chart INF-4
   2-2. Mechanical Parts Location INF-5
3. MANUAL TAPE EJECT (EMERGENCY EJECT) INF-6
4. LITHIUM BATTERY INF-7
   4-1. Replacement Procedure INF-7
5. SERVICE MENU INF-8
   5-1. Diagnostic Menu INF-8
      5-1-1. VTR and CAMERA Microprocessor Software Version Display INF-8
      5-1-2. How to display the Error Rate INF-9
      5-1-3. Auto Off Log INF-10
   5-2. Adjust Menu INF-11
      5-2-1. Setting item for LISTA Adjustment INF-11
      5-2-2. Adjustment item for Video Level INF-12
      5-2-3. White Blemish Compensation INF-12
      5-2-4. Camera Debug Information INF-12
      5-2-5. VTR EEPROM Version INF-12
6. CAMERA REMOTE INF-13
   6-1. Record start / stop input INF-13
   6-2. Zooming control input INF-13
7. SOFTWARE INF-14
   7-1. Software Version Display INF-14
      7-1-1. Camera EEPROM Version INF-14
      7-1-2. VTR EEPROM Version INF-14
      7-1-3. VTR & CAMERA Microprocessor Software Version INF-14
   7-2. EEPROM Data INF-15
      7-2-1. Setting menu data INF-15
      7-2-2. The other data INF-15
   7-3. EEPROM Version Upgrade INF-15
8. INTERCONNECTION INF-16
9. CIRCUIT BOARD LAYOUT INF-17

1. SERVICING FIXTURES AND TOOLS

The following servicing tools are required for mechanical and electrical servicing and alignment.
The items marked **"NEW"** in the following list are necessary for the AG-DVX100A and AG-DVC180A.
Please refer to **"Y"** and **"N"** in table below, which tools required for servicing the NTSC and PAL model.

1-1. Summary Table of Servicing Fixtures and Tools

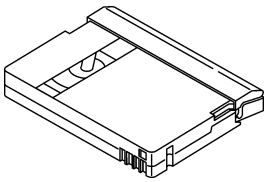
No	Parts No.	NAME	NTSC Model	PAL Model	PURPOSE	REMARK
1	VFM3010EDS	DV Alignment Tape (Color bar)	Y	N	Electrical Adjustment	
2	VFM3110EDS	DV Alignment Tape (Color bar)	N	Y	Electrical Adjustment	
3	VFM3000EDS	DV Alignment Tape (Linearity)	Y	Y	Tape Interchangeability Adjustment	
4	VFK1217	Tape End/Beg Detect Cassette	Y	Y	Sensor Sensitivity Adjustment	
5	*VFK1811B	EVR Adjustment Software	Y	N	PC Electrical Adjustment System	**NEW, NOTE 1** Download from WEB site.
6	*VFK1840A	EVR Adjustment Software	N	Y	PC Electrical Adjustment System	**NEW, NOTE 2** Download from WEB site.
7	*VFK1481K	LISTA Software	Y	Y	LISTA Adjustment	Download from WEB site.
8	VFK1308P	Measuring Board	Y	Y	Test point Board and PC I/F	
9	VFK1309A	EVR Connector Board	Y	Y	Connection for PC Adjustment	**NOTE 3**
10	VFK1694	EVR Extender Board	Y	Y	Connection for PC Adjustment	
11	VJA0941	DC Cable	Y	Y	Power Supply for Measuring Board	
12	VFK1317	30pin Flat Cable	Y	Y	Between Meas. & Con. Boards	
13	VFK1809	72mm Attachment Ring	Y	Y	Camera Adjustment	
14	VFK1164TAR43	43mm Attachment Ring	Y	Y	Camera Adjustment	
15	VFK1164TCM01	Collimator Set (Infinity Lens)	Y	Y	Camera Adjustment	
16	VFK1345	CC Filter Holder	Y	Y	Camera Adjustment	
17	VFK1346	Step Down Ring	Y	Y	Camera Adjustment	
18	VFK1659	Step-Up Ring (43mm-49mm)	Y	Y	Camera Adjustment	
19	VFK1660	Step-Up Ring (49mm-62mm)	Y	Y	Camera Adjustment	
20	VFK1341	CC Filter (LB40)	Y	N	Camera Adjustment	
21	VFK1342	CC Filter (LB80)	N	Y	Camera Adjustment	
22	VFK1347	CC Filter (LB120)	Y	Y	Camera Adjustment	
23	VFK1884	CC Filter (LBA2)	Y	Y	Camera Adjustment	
24	VFK1888	CC Filter (LBB6)	Y	Y	Camera Adjustment	**NOTE 4**
25	VFK1885	CC Filter (LBB2)	Y	N	Camera Adjustment	
26	VFK1886	CC Filter (CC C10)	N	Y	Camera Adjustment	
27	VFK1887	CC Filter (CC C20)	N	Y	Camera Adjustment	
28	VFK1409A	Measuring Board	Y	Y	LISTA Adjustment	**NOTE 5**
29	VFK1233	Mech. Neutral Plate	Y	Y	Mechanical Maintenance	
30	VFK1266	Gear Driver	Y	Y	Mechanical Maintenance	
31	VFK1149B	Post Driver	Y	Y	Tape Post Height Adjustment	
32	VFK1151A	Nut Driver (2.5mm)	Y	Y	Tape Post Height Adjustment	
33	VFK1810	LISTA Measuring Board	Y	Y	LISTA Adjustment	**NOTE 5**
34	VFK1186	LISTA Cable	Y	Y	LISTA Adjustment	
35	MOR265	Morlytone Grease (For Metal)	Y	Y	Mechanical Part Replacement	
36	VFK1300	A/D Converter Board	Y	Y	LISTA Adjustment	

NOTE:

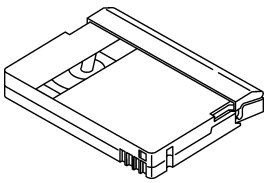
1. VFK1811B can be use for AG-DVX100 and AG-DVC80 EVR adjustment.
2. VFK1840A can be use for AG-DVX100 and AG-DVC180 EVR adjustment.
3. If you already have VFK1309, you can be modified to VFK1309A. (Refer to item "1-1. Modification procedure of VFK1309" in section 4.)
4. The LBB6 is the compatible article of 80D. The cc filter 80D is made by Kodak, which was introduced with the AG-DVX100/DVC80/DVC180 service manual. Being supplying LBB6(VFK1888) as service tool, which is made from Fuji film, either can be used LBB6 and 80D for White Balance (5100K) adjustment.
5. If you already have VFK1409S, it can be use to LISTA adjustment with VFK1810 instead of VFK1409A. (Refer to item "1-6-1. Connection of LISTA Adjustment system" in section 3.)

1 **VFM3010EDS**

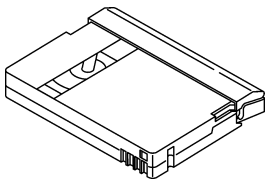
2 **VFM3110EDS**
DV Alignment Tape
(Color bar)



3 **VFM3000EDS**
DV Alignment Tape
(Linearity)



4 **VFK1217**
Tape End / Beg. Detect
Cassette



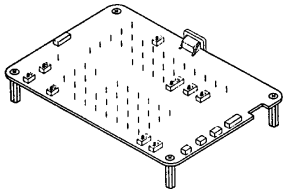
5 **VFK1811B**

6 **VFK1840A**
EVR Adjustment Software

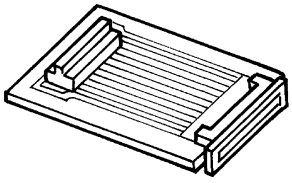
7 **VFK1481K**
LISTA Software

DOWN LOAD

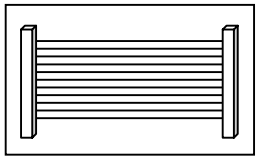
8 **VFK1308P**
Measuring Board



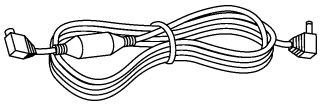
9 **VFK1309A**
EVR Connector Board



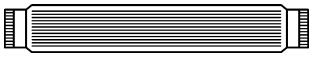
10 **VFK1694**
EVR Extender Board



11 **VJA0941**
DC Cable



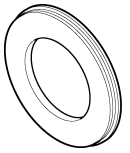
12 **VFK1317**
30pin Flat Cable



(In case of using VFK1308P, required 2pcs. of this cable)

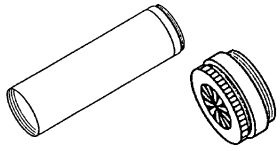
13 **VFK1809**
72mm Attachment Ring

14 **VFK1164TAR43**
43 mm Attachment Ring


VFK1809


VFK1164TAR43

15 **VFK1164TCM01**
Collimator Set
(Infinity Lens)



16 **VFK1345**
CC Filter Holder

17 **VFK1346**
Step Down Ring


VFK1345 VFK1346

18 **VFK1659**
Step-up Ring (43mm 49mm)

19 **VFK1660**
Step-up Ring (49mm 62mm)

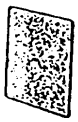

VFK1659
VFK1660

20 **VFK1341** (LB40)

21 **VFK1342** (LB80)

22 **VFK1347** (LB120)

CC Filter



23 **VFK1884** (LBA2)

24 **VFK1888** (LBB6)

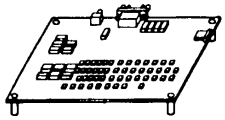
25 **VFK1885** (LBB2)

26 **VFK1886** (CC C10)

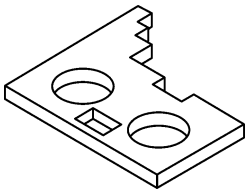
27 **VFK1887** (CC C20)

CC Filter

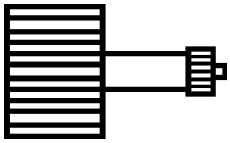
28 **VFK1409A**
Measuring Board



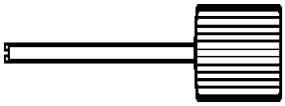
29 **VFK1233**
Mech. Neutral Plate



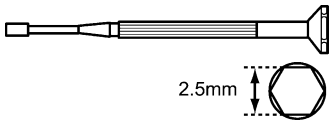
30 **VFK1266**
Gear Driver



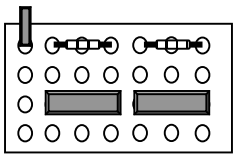
31 **VFK1149B**
Post Driver



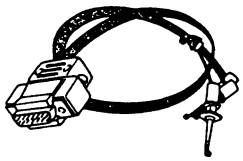
32 **VFK1151A**
Nut Driver (2.5mm)



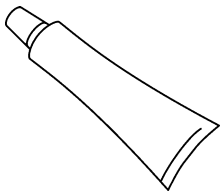
33 **VFK1810**
LISTA Measuring Board



34 **VFK1186**
LISTA Cable



35 **MOR265**
Morlytone Grease
(For Metal)



36 **VFK1300**
A/D Converter Board

In the necessity of each servicing fixtures and tools for which adjustment, refer to the following table.

No.	Parts No.	NAME	ADJUSTMENT ITEM
1	VFM3010EDS	DV Alignment Tape (Color bar)	1-5. Confirmation of the Envelope (SEC.3)
2	VFM3110EDS	DV Alignment Tape (Color bar)	7-2. PG shifter Adjustment (SEC.4)
3	VFM3000EDS	DV Alignment Tape (Linearity)	1-6-4. LISTA Sensitivity Detection (SEC.3) 1-6-5. LISTA Linearity Adjustment (SEC.3)
4	VFK1217	Tape End/Beg Detect Cassette	7-1. Sensitivity adj. of Tape sensors Adjustment (SEC.4)
5 6	VFK1811B VFK1840A	EVR Adjustment Software	4. EEPROM (SEC.4) 5. HOUR METER RESET (SEC.4) 6. CAMERA ADJUSTMENT PROCEDURE (SEC.4) 7. VTR ADJUSTMENT PROCEDURE (SEC.4) 8. LCD ADJUSTMENT PROCEDURE (SEC.4) 9. EVF ADJUSTMENT PROCEDURE (SEC.4) 10. OTHER ADJUSTMENT PROCEDURE (SEC.4)
7	VFK1481K	LISTA Software	1-6-4. LISTA Sensitivity Detection (SEC.3) 1-6-5. LISTA Linearity Adjustment (SEC.3)
8 9 10 11 12	VFK1308P VFK1309A VFK1694 VJA0941 VFK1317	Measuring Board EVR Connector Board EVR Extender Board DC Cable 30pin Flat Cable	1-5. Confirmation of the Envelope (SEC.3) 1-6. LISTA Adjustment Procedures (SEC.3) 4. EEPROM (SEC.4) 5. HOUR METER RESET (SEC.4) 6. CAMERA ADJUSTMENT PROCEDURE (SEC.4) 7. VTR ADJUSTMENT PROCEDURE (SEC.4) 8. LCD ADJUSTMENT PROCEDURE (SEC.4) 9. EVF ADJUSTMENT PROCEDURE (SEC.4) 10. OTHER ADJUSTMENT PROCEDURE (SEC.4)
13	VFK1809	72mm Attachment Ring	6-4. Zoom Tracking Adjustment (SEC.4) 6-5-2. Outdoor(5100K) White Balance Adjustment (SEC.4) 6-5-3. Cool white(4500K) White Balance Adjustment (SEC.4) 6-5-4. Warm white(3600K) White Balance Adjustment (SEC.4)
14 15	VFK1164TAR43 VFK1164TCM01	43mm Attachment Ring Collimator Set (Infinity Lens)	6-4. Zoom Tracking Adjustment (SEC.4)
16 17 18 19	VFK1345 VFK1346 VFK1659 VFK1660	CC Filter Holder Step Down Ring Step-Up Ring (43mm-49mm) Step-Up Ring (49mm-62mm)	6-5-2. Outdoor(5100K) White Balance Adjustment (SEC.4) 6-5-3. Cool white(4500K) White Balance Adjustment (SEC.4) 6-5-4. Warm white(3600K) White Balance Adjustment (SEC.4)
20	VFK1341	CC Filter (LB40)	6-5-4. Warm white(3600K) White Balance Adjustment (SEC.4)
21	VFK1342	CC Filter (LB80)	6-5-3. Cool white(4500K) White Balance Adjustment (SEC.4)
22	VFK1347	CC Filter (LB120)	6-5-2. Outdoor(5100K) White Balance Adjustment (SEC.4) 6-5-3. Cool white(4500K) White Balance Adjustment (SEC.4)
23 24	VFK1884 VFK1888	CC Filter (LBA2) CC Filter (LBB6)	6-5-2. Outdoor(5100K) White Balance Adjustment (SEC.4)
25 26	VFK1885 VFK1886	CC Filter (LBB2) CC Filter (CC C10)	6-5-4. Warm white(3600K) White Balance Adjustment (SEC.4)
27	VFK1887	CC Filter (CC C20)	6-5-3. Cool white(4500K) White Balance Adjustment (SEC.4)
28	VFK1409A	Measuring Board	1-6-4. LISTA Sensitivity Detection (SEC.3) 1-6-5. LISTA Linearity Adjustment (SEC.3)
29	VFK1233	Mech. Neutral Plate	1-1. Tension Post & T3 Post Height Adjustment (SEC.3) 1-2. Tension Post Position Adjustment (SEC.3) 1-3. Supply & Take-up Reel Table Height Adjustment (SEC.3)
30	VFK1266	Gear Driver	2. MECHANICAL PARTS REPLACEMENT PROCEDURE (SEC.3)
31	VFK1149B	Post Driver	1-1. Tension Post & T3 Post Height Adjustment (SEC.3) 1-5. Confirmation of the Envelope (SEC.3) 1-6-5. LISTA Linearity Adjustment (SEC.3)
32	VFK1151A	Nut Driver (2.5mm)	1-1. Tension Post & T3 Post Height Adjustment (SEC.3)
33 34	VFK1810 VFK1186	LISTA Measuring Board LISTA Cable	1-6-4. LISTA Sensitivity Detection (SEC.3) 1-6-5. LISTA Linearity Adjustment (SEC.3)
35	MOR265	Morlytone Grease (For Metal)	2. MECHANICAL PARTS REPLACEMENT PROCEDURE (SEC.3)
36	VFK1300	A/D Converter Board	1-6-4. LISTA Sensitivity Detection (SEC.3) 1-6-5. LISTA Linearity Adjustment (SEC.3)

2. MAINTENANCE

Maintenance is done by periodically performing suitable maintenance servicing in order to maintain the functions always in the best condition, so that the user can use the equipment safely. Video equipment with mounted mechanisms uses wear parts, and their wear and deterioration causes troubles. Dust and dirt also can impair stable operation. For this reason it is important not to just perform repair at the time of trouble, but also to perform suitable maintenance at regular intervals.

2-1. Maintenance Chart

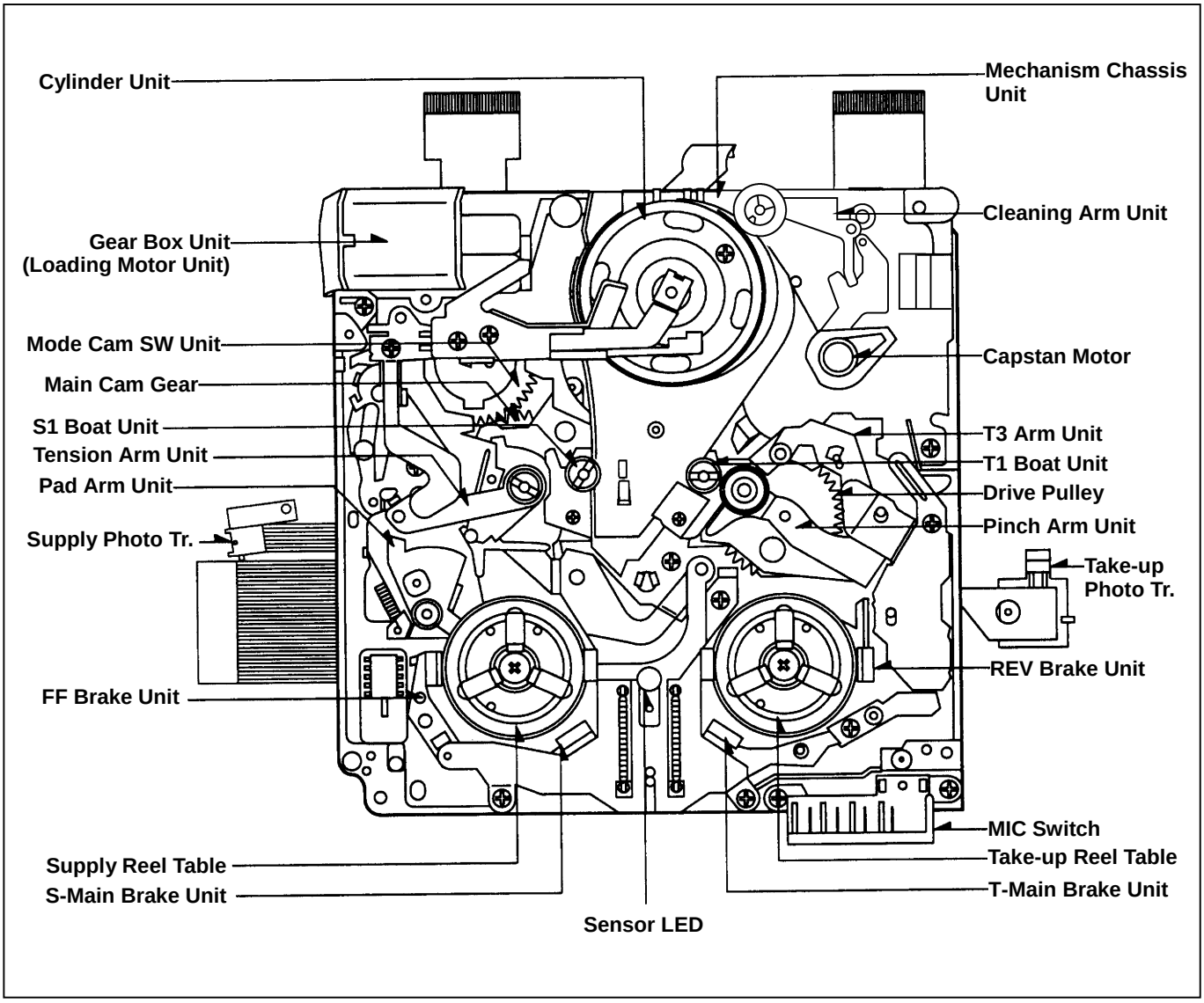
The following periodic maintenance is required to maintain in good condition

No.	Part Name	Part No.	Cleaning	Replacement	Remark
	Tape Transport Part	------	100 hours	------	*1
1	Cylinder Unit	VEG1573	100 hours	Every 1000 hours	
2	Pinch Arm Unit	VXL3161	------	Every 1000 hours	
3	Cleaning Arm Unit	VXL3103	------	Every 1000 hours	
4	Gear Box (Loading Motor Unit)	VXA5417	------	Every 1000 hours	
5	REV Brake Unit	VXZ0441	------	Every 1000 hours	
6	FF Brake Unit	VXZ0322	------	Every 1000 hours	
7	S-Main Brake Unit	VXZ0321	------	Every 1000 hours	
8	T-Main Brake Unit	VXZ0319	------	Every 1000 hours	
9	Supply Reel Table	VXR0355	------	Every 1000 hours	
10	Take-up Reel Table	VXR0356	------	Every 1000 hours	
11	Mode Cam SW Unit	VSR0114	------	Every 1000 hours	
12	Main Cam Gear	VXA5407	------	Every 1000 hours	
13	S1 Boat Unit	VXL3242	------	Every 1000 hours	
14	T1 Boat Unit	VXL3243	------	Every 1000 hours	
15	Tension Arm Unit	VXL3244	------	Every 1000 hours	
16	Pad Arm Unit	VXL2732	------	Every 1000 hours	
17	Mechanism Chassis Unit	VXY1801	------	Every 3000 hours	*2

Note:
Using hours are based on the head rotation hours. (HOUR METER can be confirm on item HOUR METER in OTHER FUNCTION menu.)
Using hours are recommendation. It may depend on temperature, humidity, quality of tape or dust condition.
Using hours are listed as the reference of maintenance. They do not mean guarantee hours.
HOUR METER can be reset by EVR software (Refer to item “5. HOUR METER RESET” in section 4.)

*1 Tape transport parts mean following parts.
(Tension Post, S3 Post, S2 Post, S1 Post, Cylinder & Heads,T1 Post, T2 Post, Capstan Shaft, Pinch Roller and T3 Post)
*2 Parts listed from No.1 to 16 are included in Mechanical Chassis Unit. Replacing the Mechanism Chassis Unit is recommended every 3000 hours.

2-2. Mechanical Parts Location



3. MANUAL TAPE EJECT (EMERGENCY EJECT)

When the tape cannot be ejected by normal operation because of trouble in the electrical system or mechanical system, the tape can be removed from the unit manually by using the following method.

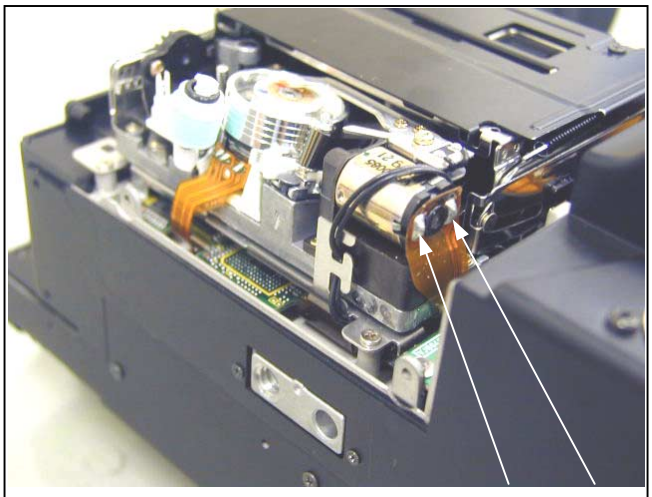
1. Remove the Grip Cover Unit (Refer to item “4. Removal of Grip Cover Unit” in section 2).
2. Supply 4.5 Volts using 3 AA batteries in series to unload the posts using the motor.
3. Stop supplying the power at unloading complete position.

NOTE: If supply the power continuously, the Cassette Up Unit be eject.

4. It has lifted a tape with the finger from the front as shown in the figure and it makes space, it confirms the position of a supply reel. It inserts stick as shown in the figure, it turns a supply reel to counterclockwise from the front and it rolls up a tape.

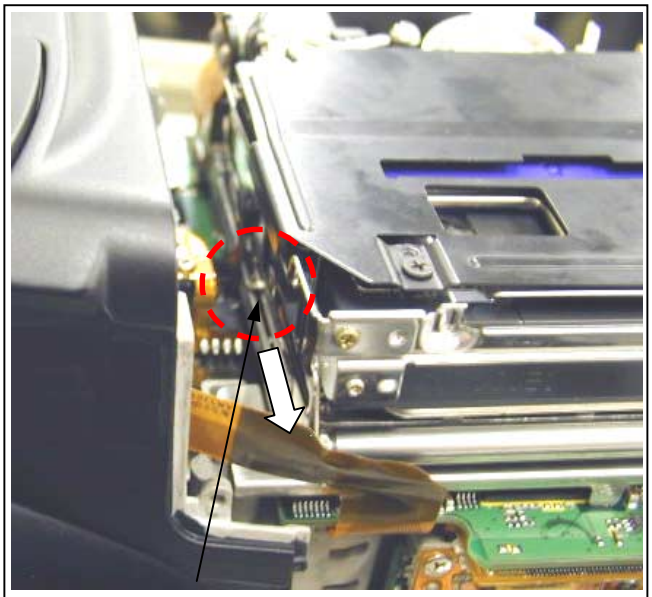
NOTE: Please use the one which doesn't damage the Supply Reel with the non-magnetism type.

5. Push the lock lever to arrow direction as shown in figure 3 to eject the Cassette Up Unit and remove the tape.



UNLOADING ..... A: +4.5V B: GND
LOADING ..... A: GND B: +4.5V

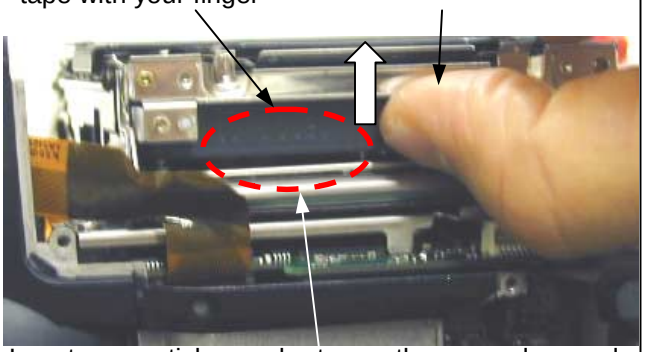
Figure 1



LOCK LEVER

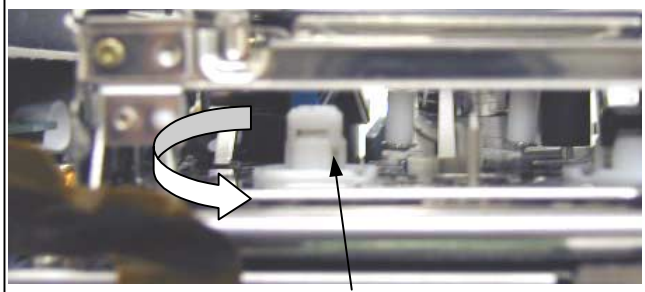
Figure 3

Confirm the position of the supply reel and lift the tape with your finger



Insert a stick and turn the supply reel counterclockwise from the front and roll the tape back into the cassette.

It has a condition with no tape.



The supply reel base

Turn the supply reel counterclockwise and this will take up the slack in the tape.

Figure 2

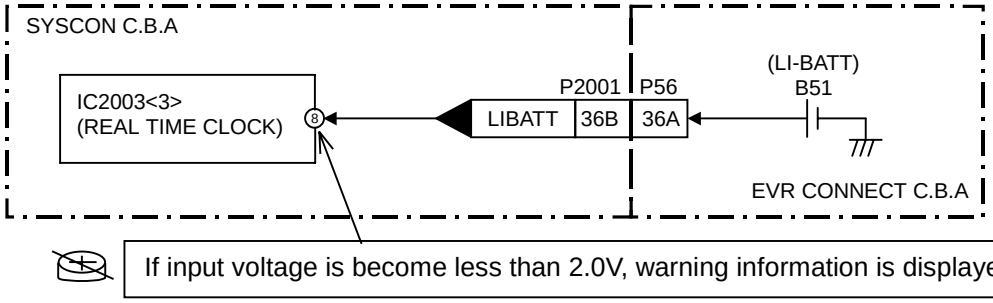
4. LITHIUM BATTERY

4-1. Replacement Procedure

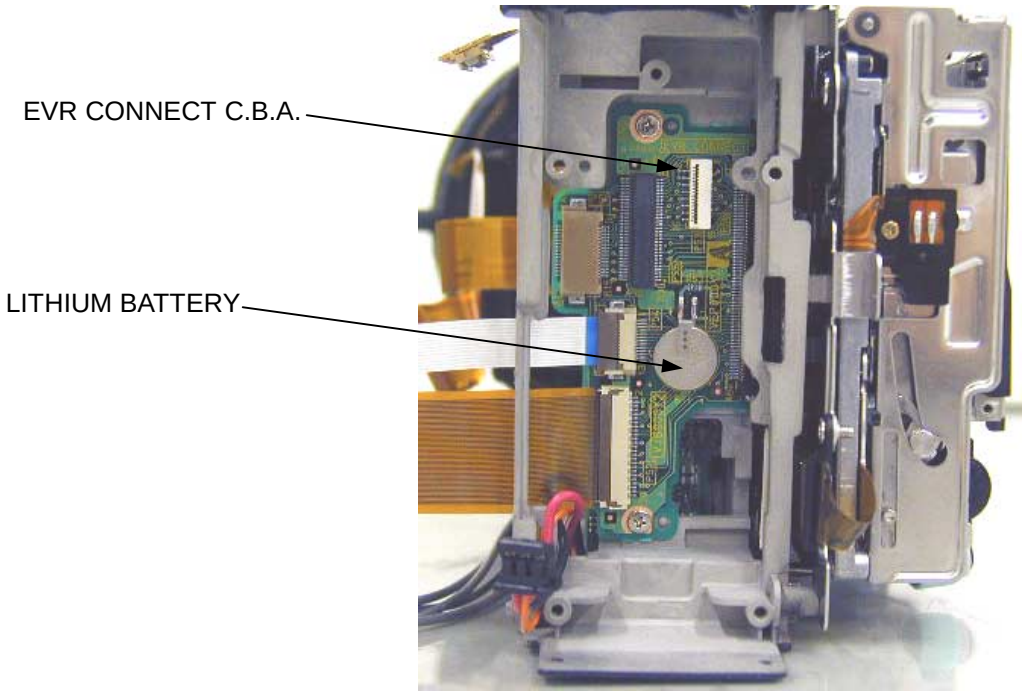
1. Remove the EVR CONNECT C.B.A. (Refer to item “14. Removal of EVR CONNECT C.B.A.” in section 2).
2. Unsolder the Lithium battery “Ref No: B51/Part No: VSB0407” and then replace with the new one.

<INFORMATION>

Lithium battery is charge/discharge type, therefore no require exchange it as maintenance part.



If input voltage is become less than 2.0V, warning information is displayed.



NOTE:

The lithium battery is a critical component.
It must never be subjected to excessive heat of discharge.
It must therefore only be fitted in equipment designed specifically for its use.
Replacement batteries must be of the same type and manufacture.
They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.
Do not attempt to re-charge the old battery or re-use it for any other purpose.
It should be disposed of in waste products destined for burial rather than incineration.

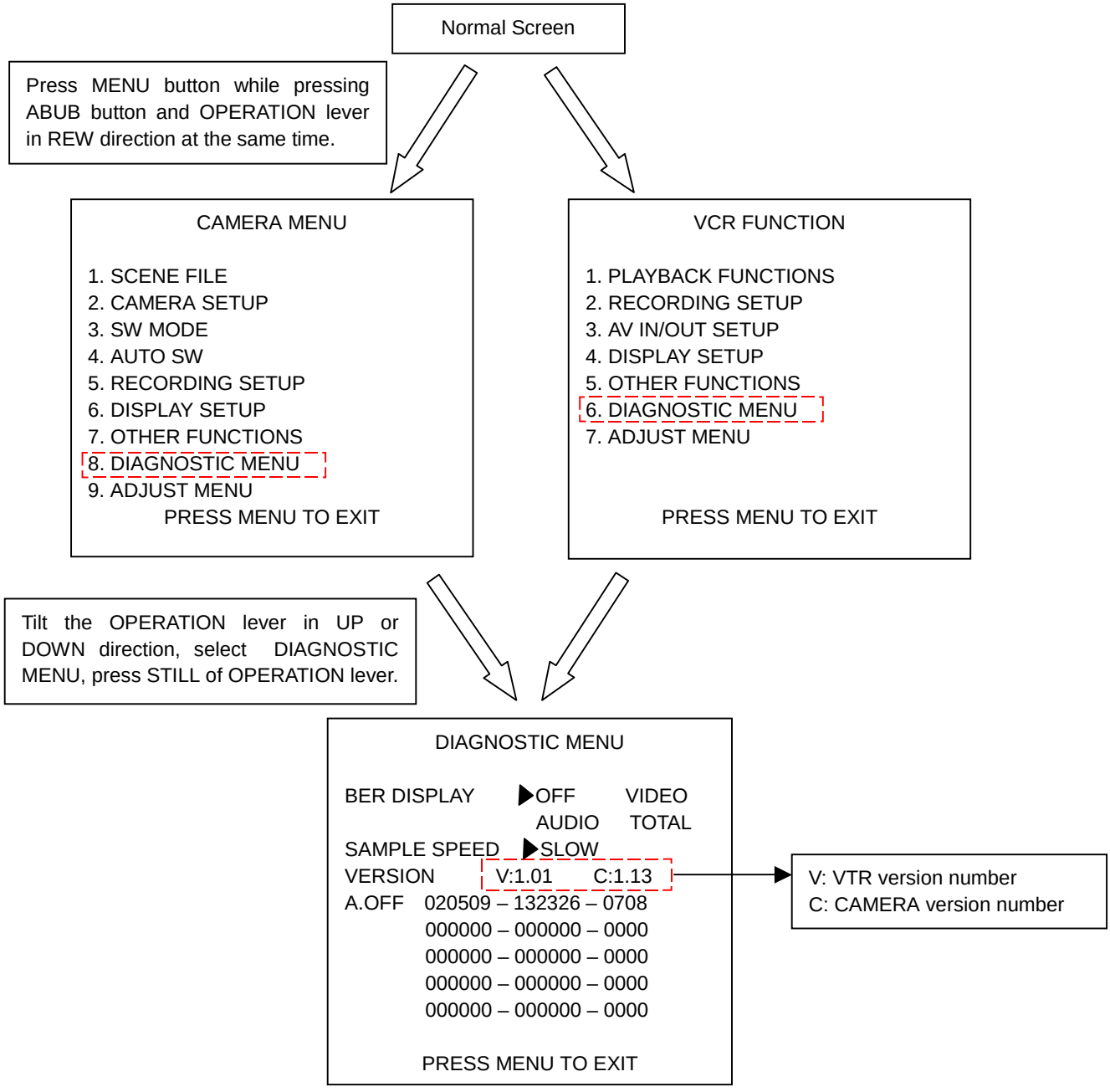
CAUTION

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 manufacture’s instructions.

5. SERVICE MENU

The DIAGNOSTIC and ADJUST menu can be displayed as follows.

When pressing the MENU button while pressing the ADUB button and the OPERATION lever in REW direction at the same time, DIAGNOSTIC and ADJUST menu can be displayed.
Next, Tilt the OPERATION lever in the UP(► :PLAY) or DOWN (■:STOP) direction, select the DIAGNOSTIC or ADJUST menu, press SET(STILL) of the OPERATION lever to open the DIAGNOSTIC or ADJUST menu.



5-1. Diagnostic Menu

The DIAGNOSTIC menu is the menu to confirm the condition of the VCR and it is possible to do the confirmation of the error rate, software version and auto off log.

5-1-1. VTR and CAMERA Microprocessor Software Version Display

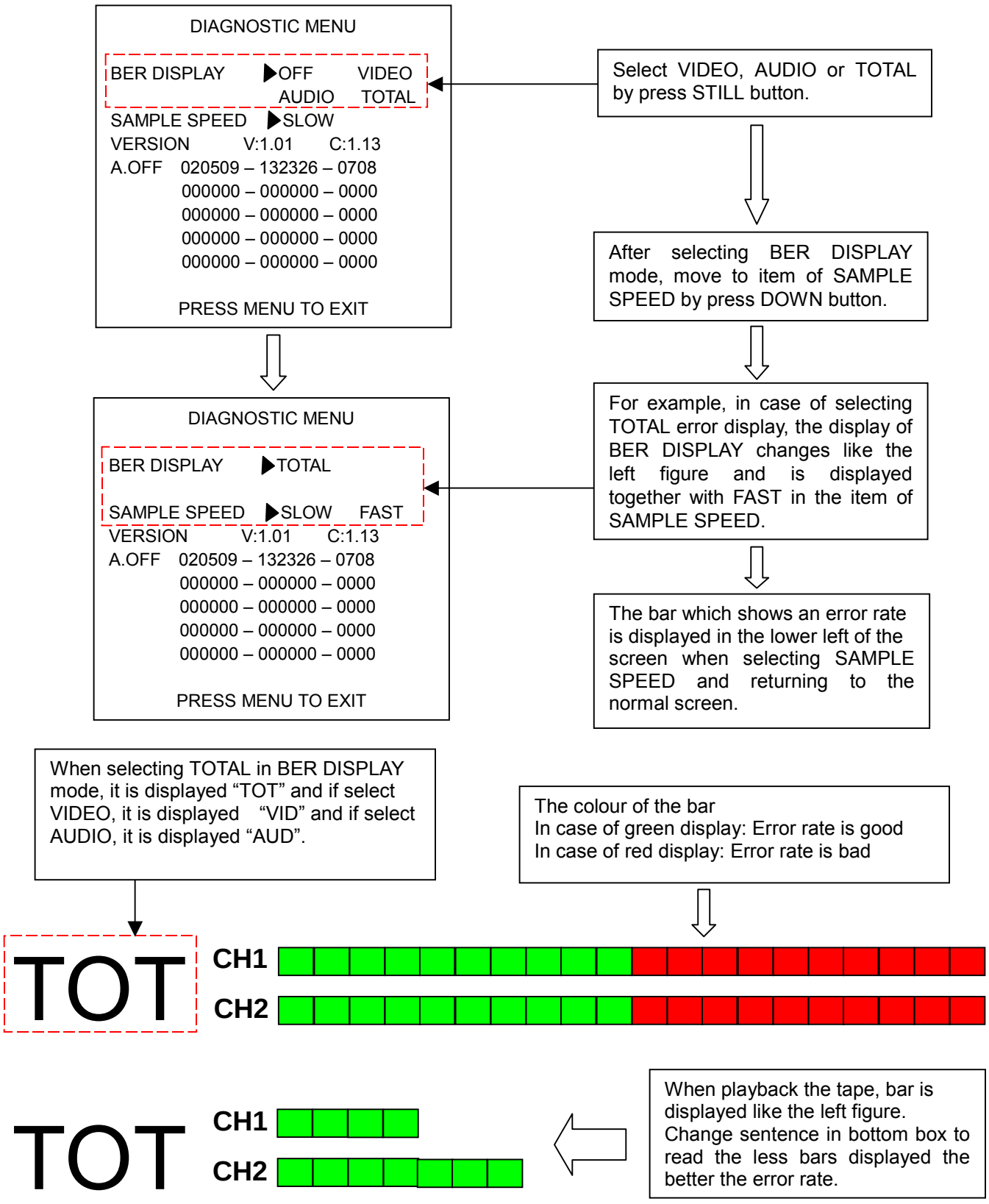
Software version of VTR and CAMERA microprocessor is displayed.

V: 1.** C: 1.**

Version Number

5-1-2. How to display the Error Rate.

This unit can be displayed Error Rate and it shows the playing condition of the VCR.
In case of the error rate is displayed, BER DISPLAY and SAMPLE SPEED mode is select on DIAGNOSTIC menu.



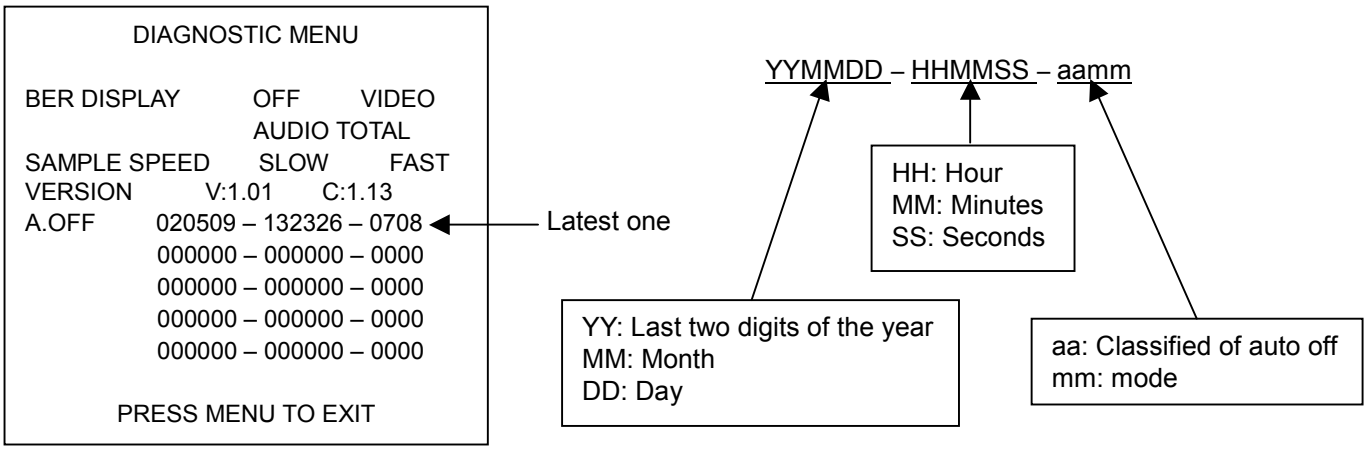
How to confirm the Error rate.

1. Select the TOTAL in item of BER DISPLAY.
2. Record the color bar signal on LP mode and playback the recorded portion. Confirm that the number of bar on display within 10 pieces.

5-1-3. Auto Off Log

The VCR can be displayed warning and auto off as alarm display. In case of the auto off occurred, the number and message are displayed in the normal screen. Contents of auto off can be confirm until previous 5 problem in diagnostic menu.

When auto off occurred, VCR is memorized date, time, classified of auto off and mode follow as below indicated format. Diagnostic menu can be displayed until previous 5 problem.

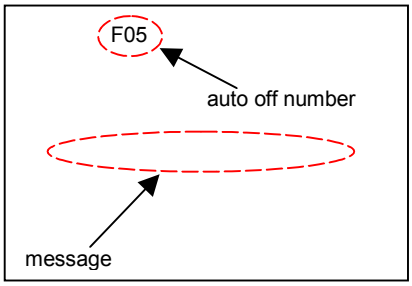


For example, in case of displayed “020209–132326–0708”, Cylinder Lock occurred in normal playback mode at 13:23:26 on May 9th in 2002.
Please refer to below indicated tables with classification of auto off and mode.

< aa: Classified of AUTO OFF >

aa	Super display	Contents
01	F51	FOCUS MOTOR LOCK
03	F53	PSD NG
07	F05	CYLINDER LOCK
08	F04	LOADING LOCK
09	F03	UNLOADING LOCK
0A	F01	T REEL LOCK
0B	F02	S REEL LOCK

(super position of number and message)



NOTE: FOCUS MOTOR LOCK and PSD NG, which are not AUTO OFF message, it indicated as warning condition.

< mm : MODE >

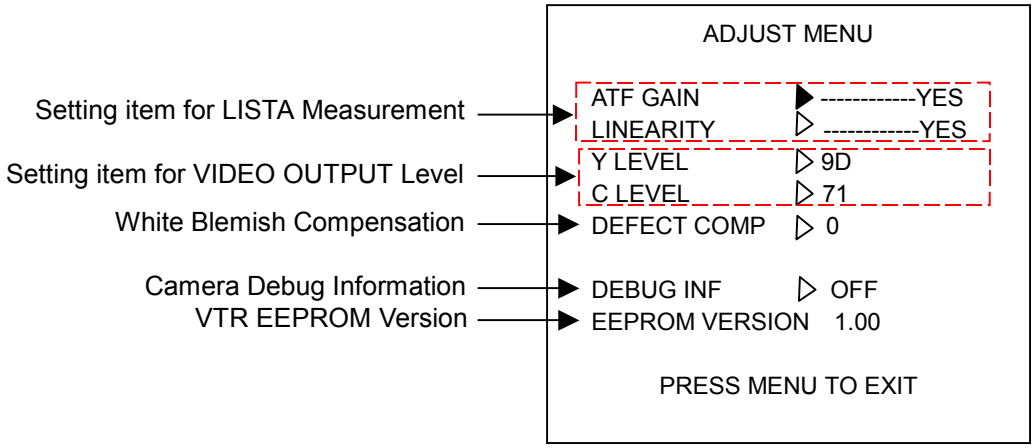
mm	Contents	mm	Contents
01	EJECT	12	AUDIO DUB RECORDING
02	STOP 1(CAMERA mode)	13	CAMERA RECORDING STANDBY
03	STOP 2(VCR mode)	14	CAMERA RECORDING
04	FAST FORWARD	15	CAMERA SEARCH (FORWARD)
05	REWIND	16	CAMERA SEARCH (REVERSE)
06	RECORDING STANDBY	17	REC REVIEW
07	MORMAL RECORDING	18	CAMERA EJECT
08	NORMAL PLAYBACK	1D	CYLINDER OFF
09	REVERSE PLAYBACK	22	SEARCH (FORWARD)
0A	CUE (FAST PLAYBACK)	23	SEARCH (REVERSE)
0B	REVIEW (FAST PLAYBACK)	24	BLANK SEARCH
0C	SLOW PLAYBACK	25	FRAME ADVANCE PLAYBACK
0D	REVERSE SLOW PLAYBACK	26	REVERSE FRAME ADVANCE PLAYBACK
11	AUDIO DUB STANDBY	---	---

<Reference: Detection of Auto Off>

Display	Detection Condition	Detection signal
CYLINDER LOCK	When the cylinder does not rotate after about 1 second from the cylinder is ON mode.	Cylinder FG signal (IC2001-U9)
T REEL LOCK	When the take-up reel does not rotate according to the rotation speed.	T Reel FG signal (IC2001-V5)
S REEL LOCK	When the supply reel does not rotate according to the rotation speed.	S Reel FG signal (IC2001-P7)
LOADING LOCK	When the movement of mechanical position does not completed to move loading direction within regular time. (Ex. FWD → STOP : 7 seconds)	POS1,2 and 3 signal (IC2001-C1,C2,D3)
UNLOADING LOCK	When the movement of mechanical position does not completed to move unloading direction within regular time.	POS1,2 and 3 signal (IC2001-C1,C2,D3)

In all Auto Off mode, CAMERA LED is flashed and the Unit goes to power off automatically after about 1 minutes from problem occurred.

5-2. Adjust Menu



5-2-1. Setting item for LISTA Measurement

ATF GAIN

To confirm the ATF sensitivity, change the tape speed.
By pressing SET button, enter the adjustment mode and then exit the menu once. It can be operated VTR operation that the menu mode is exited temporary. In this time, the screen is displayed as follow.
NOW SERVO ADJUST
PUSH MENU TO RETURN
It will be returned to ADJUST MENU when the MENU key is pressed in this condition.

LINEARITY

To confirm the LINEARITY, change the ATF sensitivity.
By pressing SET button, enter the adjustment mode and then exit the menu once. It can be operated VTR operation that the menu mode is exited temporary. In this time, the screen is displayed as follow.
NOW SERVO ADJUST
PUSH MENU TO RETURN
It will be returned to ADJUST MENU when the MENU key is pressed in this condition.

NOTE: ATF GAIN and LINEARITY can not be selected on CAMERA mode.

5-2-2. Adjustment item for Video Level

Y LEVEL
Y level of VIDEO OUTPUT and S-VIDEO OUTPUT signal can be adjusted by value is change on this item.
The displayed value is the same as value for Luminance level adjustment in EVR adjustment.

C LEVEL
C level of VIDEO OUTPUT and S-VIDEO OUTPUT signal can be adjusted by value is change on this item.
The displayed value is the same as value for Chroma level adjustment in EVR adjustment.

5-2-3. White Blemish Compensation

DEFECT COMP
The operation of Median Filter and Address defect compensation can be set ON or OFF by this item DEFECT COMP.
The value set to 0,1,2 or 3 as follows.

Value / Method	0	1	2	3
Median filter	ON	ON	OFF	OFF
Address defect compensation	ON	OFF	ON	OFF

Factory default setting is 0.

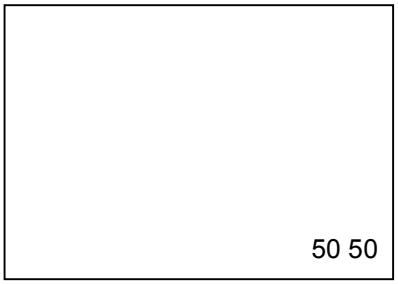
NOTE: CCD White scratch damage revision(EVR ADJ.) can be execute without the relation of above setting.

5-2-4. Camera Debug Information

DEBUG INF
It can be selected ON/OFF that the screen of Camera Debug information.
OFF Not displayed
ON Displayed

Factory default setting is OFF.

Camera Debug information is displayed lower right corner of screen as indicated as below.



NOTE: Basically this information use for designer.

5-2-5. VTR EEPROM Version

EEPROM VERSION
This item is displayed version of VTR EEPROM.

6. CAMERA REMOTE

The control equipment is connected to CAMERA REMOTE jack to enable zooming and record start/stop to be initiated by remote control.

NOTE: CAMERA remote control is only effective CAMERA mode.

Please refer to below indicated specification, in case of external remote performed.

Equivalent circuit of CAM REMOTE jack

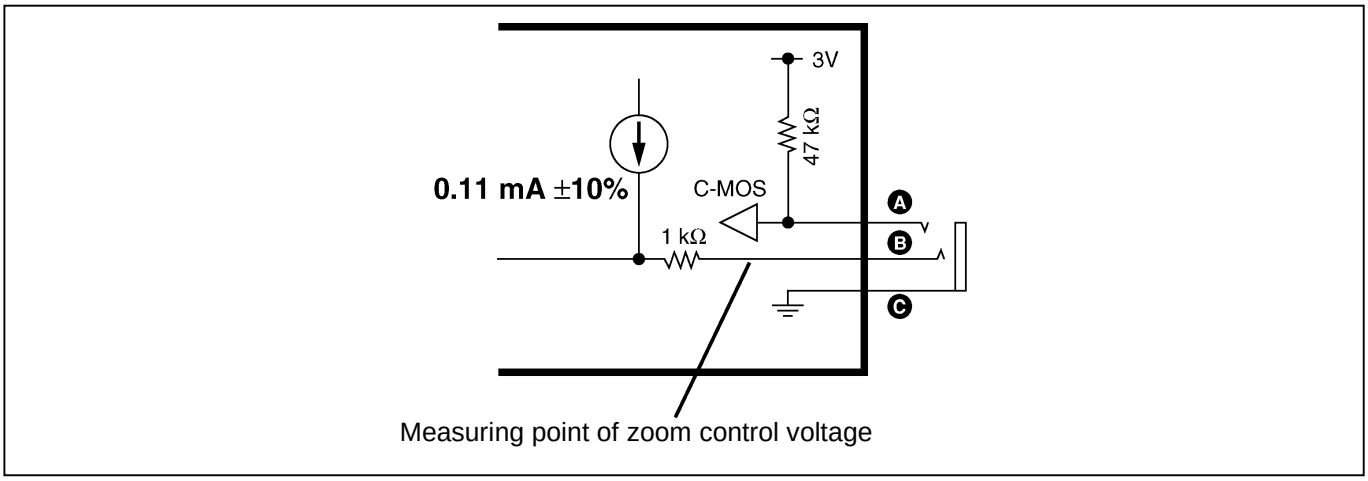


Figure A

Terminal (refer to figure A)	Contents
A	Record start/stop input
B	Zooming control input
C	GND

6-1. Record start / stop input

Every time it connects A terminal with the GND, it repeats recording and a recording stop.

6-2. Zooming control input

With the voltage to input to the B terminal, the zoom speed changes. As for the relation between the zoom control voltage and the zoom speed, it is as shown in the following.

Relation between the zoom control voltage and zoom speed

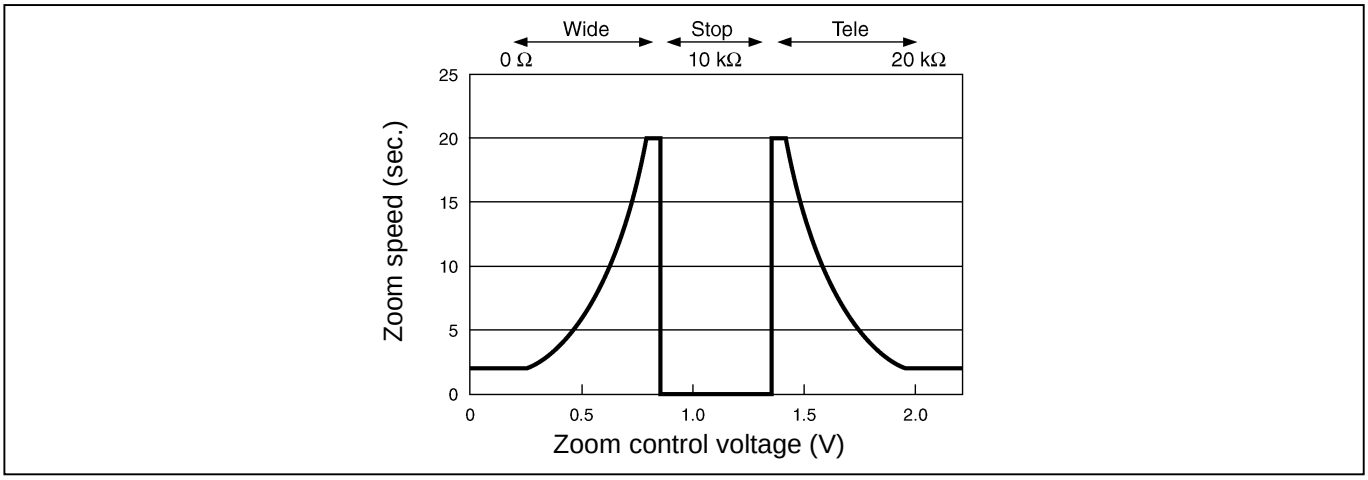
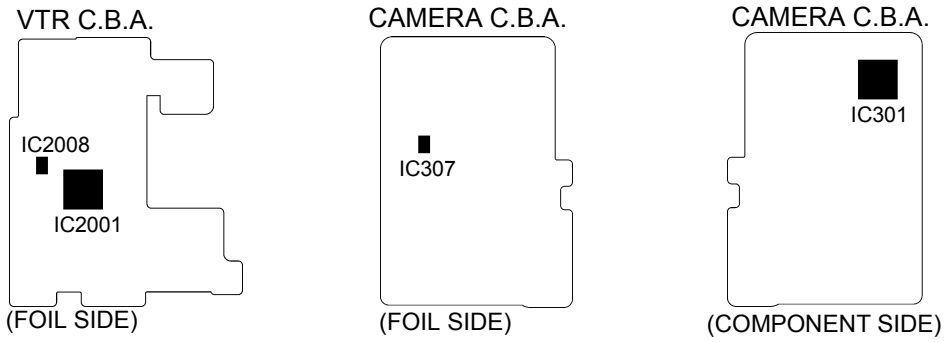


Figure B

7. SOFTWARE

This unit have two pieces of microprocessor and two pieces of EEPROM

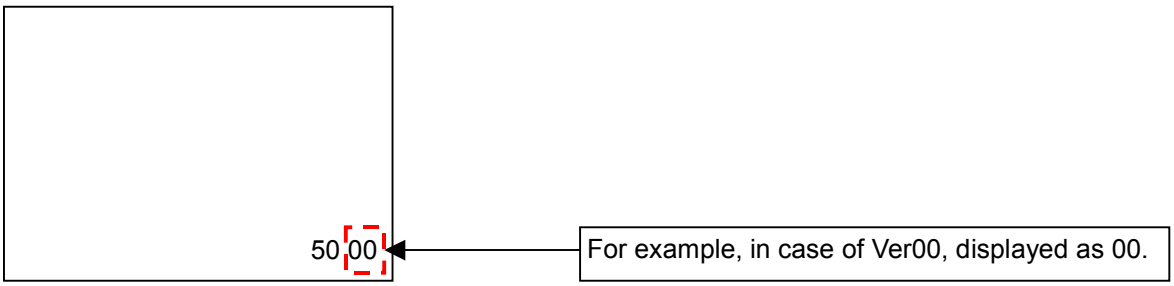
---	Camera board	VTR board
Microprocessor	IC301	IC2001
EEPROM	IC307	IC2008



7-1. Software Version Display

7-1-1. Camera EEPROM Version

1. Press the MENU button while pressing the ADUB button and REW button at the same time, DIAGNOSTIC and ADJUST menu can be displayed (Service menu mode).
2. Open the **"9. ADJUST MENU"**.
3. Select the item **"DEBUG INF"** and set to ON.
4. Press MENU button to move to normal screen from menu screen.
5. Set the GAIN SW to H position.
6. The numerical value, which is indicated as version. It display on lower right corner as indicated as below.



7-1-2. VTR EEPROM Version

VTR EEPROM version is displayed on ADJUST menu (refer to item 5-2-5 on page INF-12).

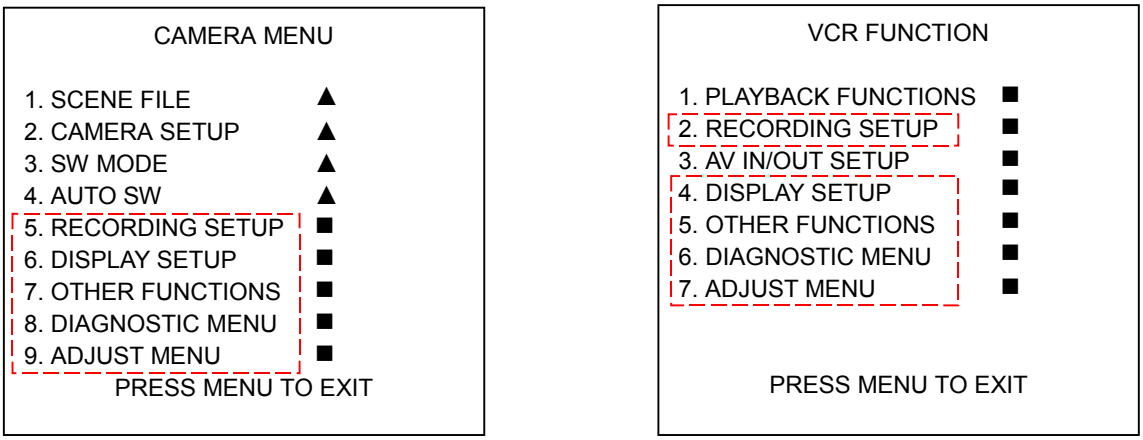
7-1-3. VTR & CAMERA Microprocessor Software Version

VTR and CAMERA microprocessor software version is displayed on DIAGNOSTIC menu (refer to item 5-1-1 on page INF-8).

7-2. EEPROM Data

Several information are stored in EEPROM. Please refer to below explanation, which data stored in EEPROM.

7-2-1. Setting menu data



■ : Each setting value are stored in VTR EEPROM.
▲ : Each setting value are stored in CAMERA EEPROM.
NOTE: The item “Aspect CONV” in CAMERA SETUP screen, which is stored in VTR EEPROM.

7-2-2. The other data

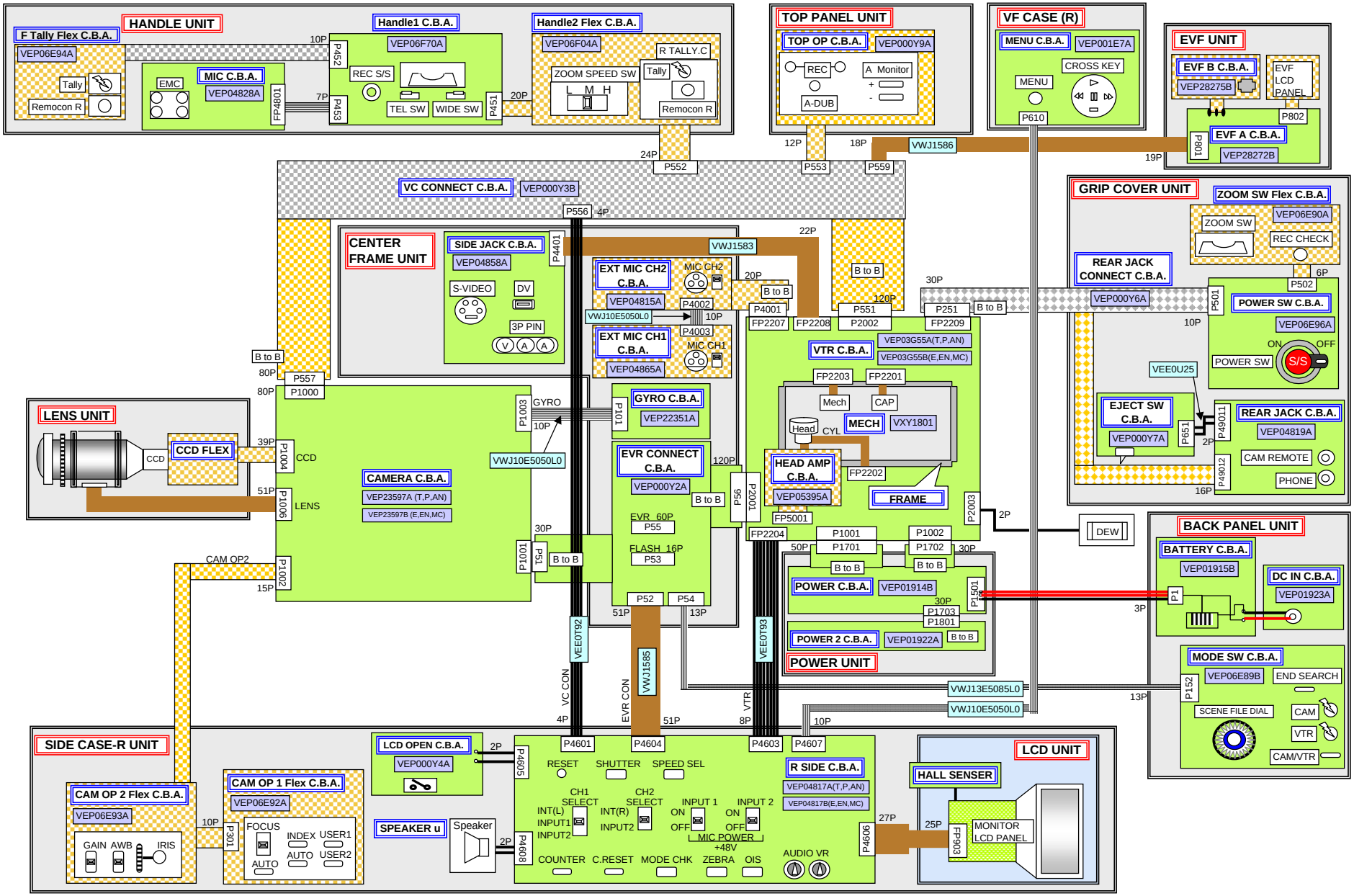
Except setting menu data, below indicated information are stored in EEPROM.

EEPROM	INFORMATION	REMARK
CAMERA EEPROM	CAMERA adjustment value	Adjustment values are set by EVR software.
	Control data	----------
VTR EEPROM	VTR,LCD and EVF adjustment Value	Adjustment values are set by EVR software.
	HOUR METER	----------
	Time code data	----------
	AUTO OFF LOG	----------
	Control data	----------

7-3. EEPROM Version Upgrade

EEPROM data can be up-graded by the EVR software (VFK1811B) as same as Electrical Adjustment.
Regarding the connection of some equipment and setting procedure when using the EVR software, please refer to the item “1. ADJUSTMENT SYSTEM” in section 4 on this manual. With EEPROM upgrade procedure, please refer to item “4-4.EEPROM Data Upgrade Procedure” in section 4 on this Service Manual.

INTERCONNECTION



9. CIRCUIT BOARD LAYOUT