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-DVX100.
Please refer to **"Y"** in table below, these tools were also used for servicing the AG-DVC15.

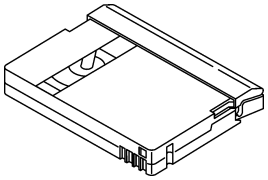
1-1. Summary Table of Servicing Fixtures and Tools

No.	Parts No.	NAME	AG-DVC15	PURPOSE	REMARK
1	VFM3010EDS	DV Alignment Tape (Color bar)	Y	Electrical Adjustment	
2	VFM3000EDS	DV Alignment Tape (Linearity)	Y	Tape Interchangeability Adjustment	
3	VFK1217	Tape End/Beg Detect Cassette	Y	Sensor Sensitivity Adjustment	
4	VFK1811	EVR Adjustment Software	N	PC Electrical Adjustment System	**NEW**
5	VFK1308P	Measuring Board	Y	Test point Board and PC I/F	
6	VFK1309A	EVR Connector Board	N	Connection for PC Adjustment	**NEW (NOTE)**
7	VFK1694	EVR Extender board	Y	Connection for PC Adjustment	
8	VJA0941	DC Cable	Y	Power Supply for Measuring Board	
9	VFK1317	30pin Flat Cable	Y	Between Meas. & Con. Boards	
10	VFK1809	72mm Attachment Ring	N	Camera Adjustment	**NEW**
11	VFK1164TAR43	43mm Attachment Ring	Y	Camera Adjustment	
12	VFK1164TCM01	Collimator Set (Infinity Lens)	Y	Camera Adjustment	
13	VFK1341	CC Filter (LB40)	Y	Camera Adjustment	
14	VFK1347	CC Filter (LB120)	Y	Camera Adjustment	
15	VFK1345	CC Filter Holder	Y	Camera Adjustment	
16	VFK1346	Step Down Ring	Y	Camera Adjustment	
17	VFK1659	Step-Up Ring(43mm-49mm)	Y	Camera Adjustment	
18	VFK1660	Step-Up Ring(49mm-62mm)	Y	Camera Adjustment	
19	VFK1481E	LISTA Software	Y	LISTA Adjustment	
20	VFK1409A	Measuring Board	N	LISTA Adjustment	**NEW (NOTE)**
21	VFK1233	Mech. Neutral Plate	Y	Mechanical Maintenance	
22	VFK1266	Gear Driver	Y	Mechanical Maintenance	
23	VFK1149	Post Driver	Y	Tape Post Height Adjustment	
24	VFK1151	Nut Driver(2.5mm)	Y	Tape Post Height Adjustment	
25	VFK1810	LISTA Measuring Board	N	LISTA Adjustment	**NEW**
26	VFK1186	LISTA Cable	Y	LISTA Adjustment	

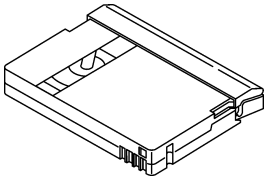
NOTE:

1. If you already have VFK1309, if can be modified to VFK1309A.
   Please refer to explanation on section 4.
2. If you already have VFK1409S, if can be use to LISTA adjustment with VFK1810 instead of VFK1409A.
   How to install the VFK1810 to VFK1409S, please refer to explanation in section 3.

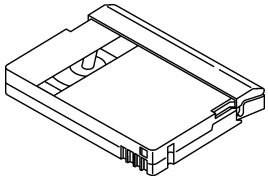
1 **VFM3010EDS**
DV Alignment Tape
(Color bar)



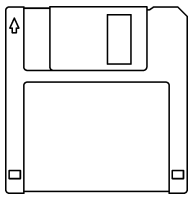
2 **VFM3000EDS**
DV Alignment Tape
(Linearity)



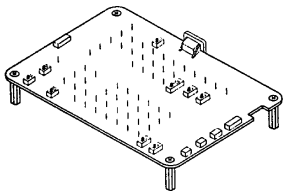
3 **VFK1217**
Tape End／Beg. Detect
Cassette



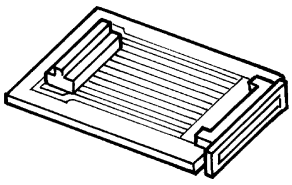
4 **VFK1811**
EVR Adjustment Software



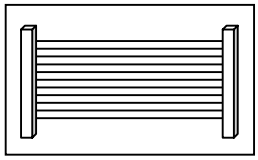
5 **VFK1308P**
Measuring Board



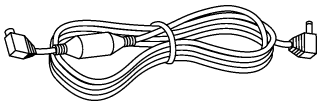
6 **VFK1309A**
EVR Connector Board



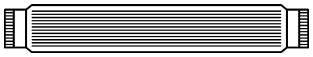
7 **VFK1694**
EVR Extender Board



8 **VJA0941**
DC Cable

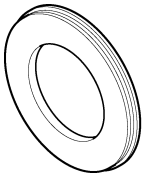


9 **VFK1317**
30pin Flat Cable

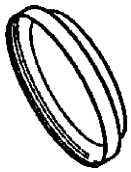


(Measuring Board is required 2pcs. of this cable)

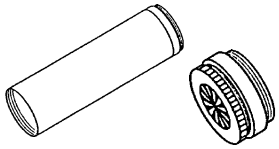
10 **VFK1809**
72mm Attachment Ring



11 **VFK1164TAR43**
43 mm Attachment Ring



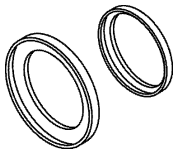
12 **VFK1164TCM01**
Collimator Set
(Infinity Lens)



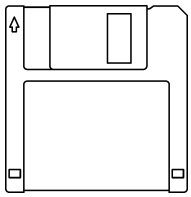
13 **VFK1341** (LB40)
14 **VFK1347** (LB120)
CC Filter

15 **VFK1345**
CC Filter Holder
16 **VFK1346**
Step Down Ring

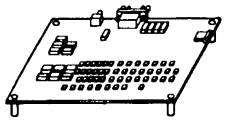
17 **VFK1659**
Step-up Ring (43mm 49mm)
18 **VFK1660**
Step-up Ring (49mm 62mm)



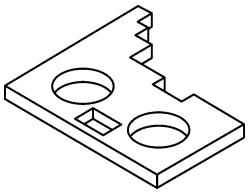
19 **VFK1481E**
LISTA Software



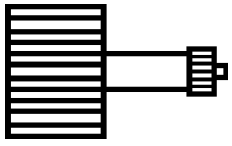
20 **VFK1409A**
Measuring Board



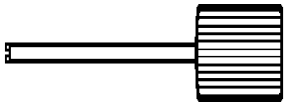
21 **VFK1233**
Mech. Neutral Plate



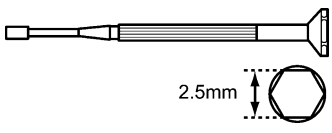
22 **VFK1266**
Gear Driver



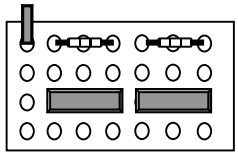
23 **VFK1149**
Post Driver



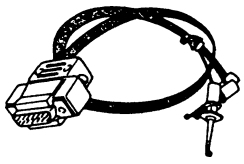
24 **VFK1151**
Nut Driver (2.5mm)



25 **VFK1810**
LISTA Measuring Board



26 **VFK1186**
LISTA Cable



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 AG-DVX100 in good condition

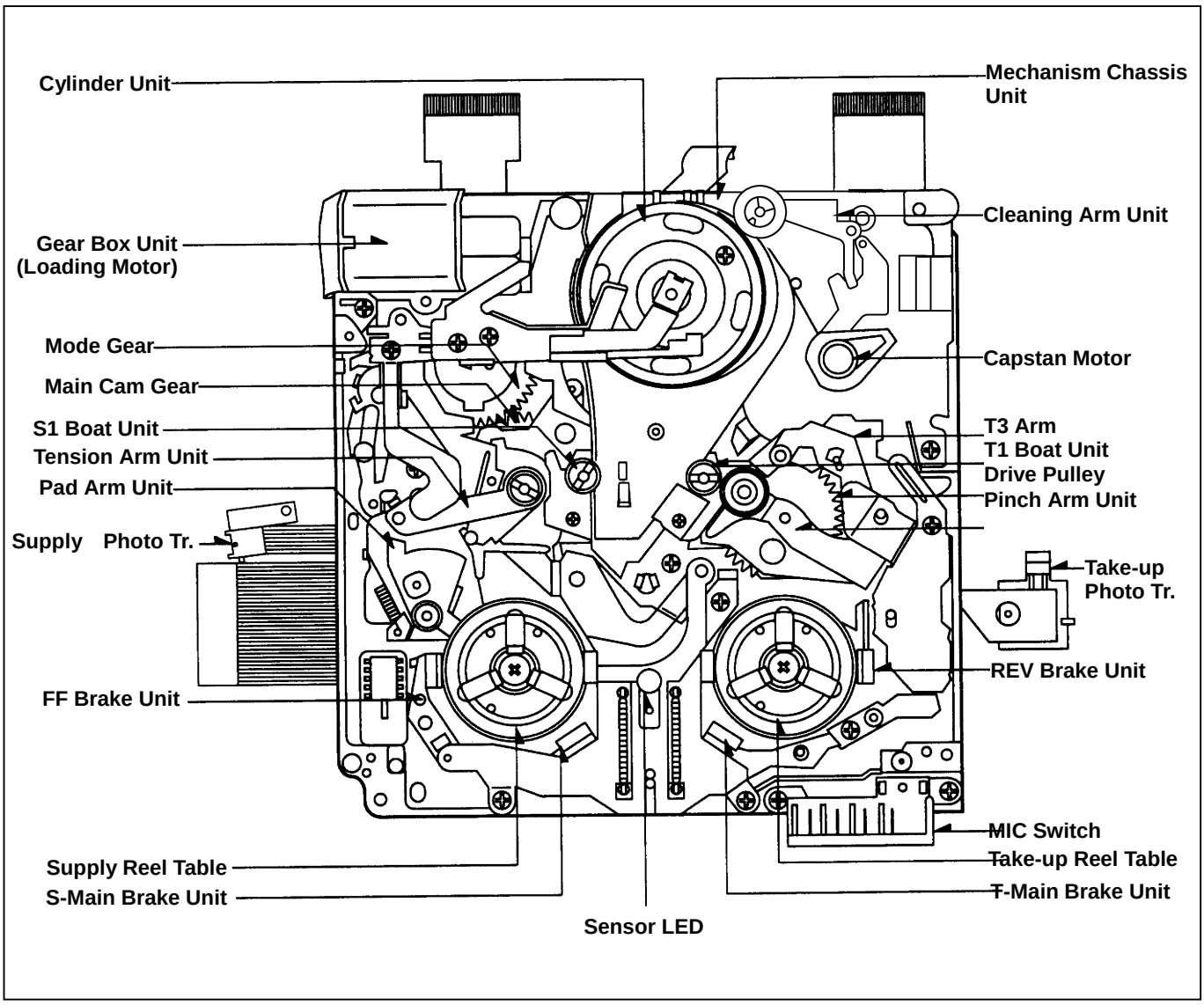
No.	Part Name	Part No.	Cleaning	Replacement	Remark
	Tape Transport Part	------	100 hours	------	*1
1	Cylinder Unit	VEG1573	100 hours	Every 1000 hours	
2	Pinch Arm Unit	VXL3161	------	Every 1000 hours	
3	Cleaning Arm Unit	VXL3103	------	Every 1000 hours	
4	Gear Box	VXA5417	------	Every 1000 hours	
5	REV Brake Unit	VXZ0323	------	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	Made Cam SW Unit	VSR0114	------	Every 1000 hours	
12	Main Cam Gear	VXA5407	------	Every 1000 hours	
13	S1 Boat Unit	VXA5409	------	Every 1000 hours	
14	T1 Boat Unit	VXA5410	------	Every 1000 hours	
15	Tension Arm Unit	VXL2456	------	Every 1000 hours	
16	Pad Arm Unit	VXL2732	------	Every 1000 hours	
17	Mechanism Chassis Unit	VXY1738S	------	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.

*1 Tape transport parts mean following parts.
(Tension Post, S3 Post, S2 Post, S1Roller, Cylinder & Heads,T1 Roller, 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.

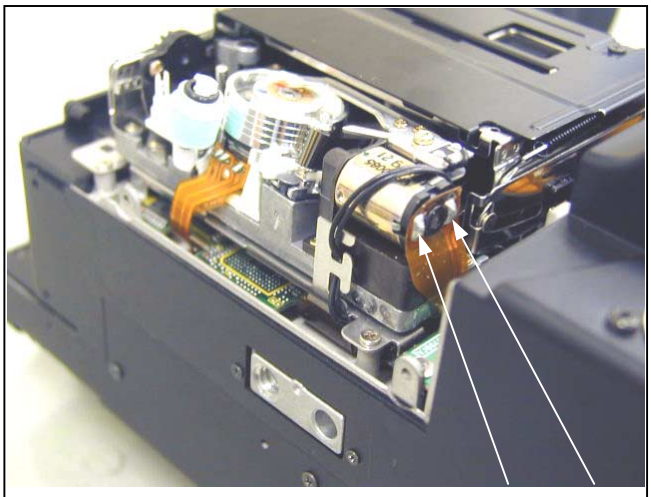
1. Remove the Grip Cover Unit.
2. Supply 4.5 Volts using 3 AA batteries in series to unload the posts using the motor.
3. Stop supplying the power at unloading complete position.

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.

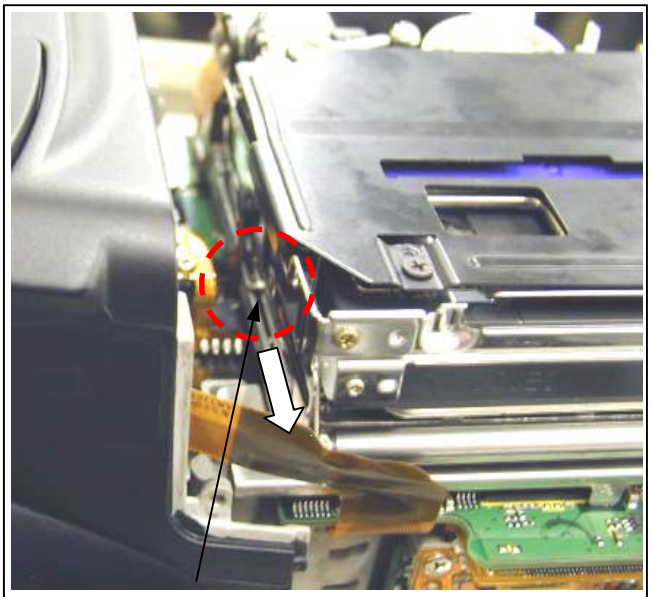
NOTE: Please use the one which doesn't damage the Supply Reel with the non-magnetism type.

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

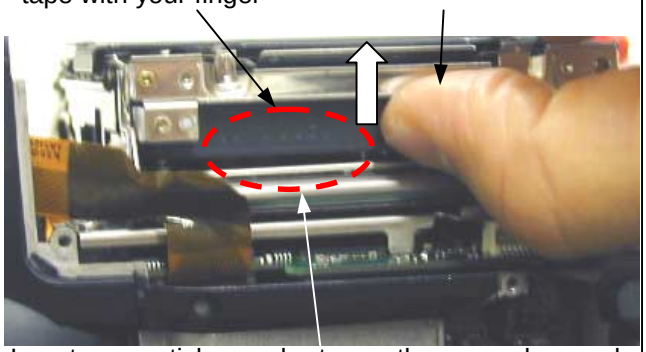
Figure 1



Change to LOCK LEVER

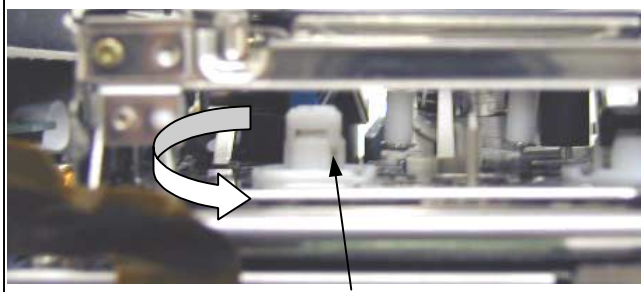
Figure 3

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

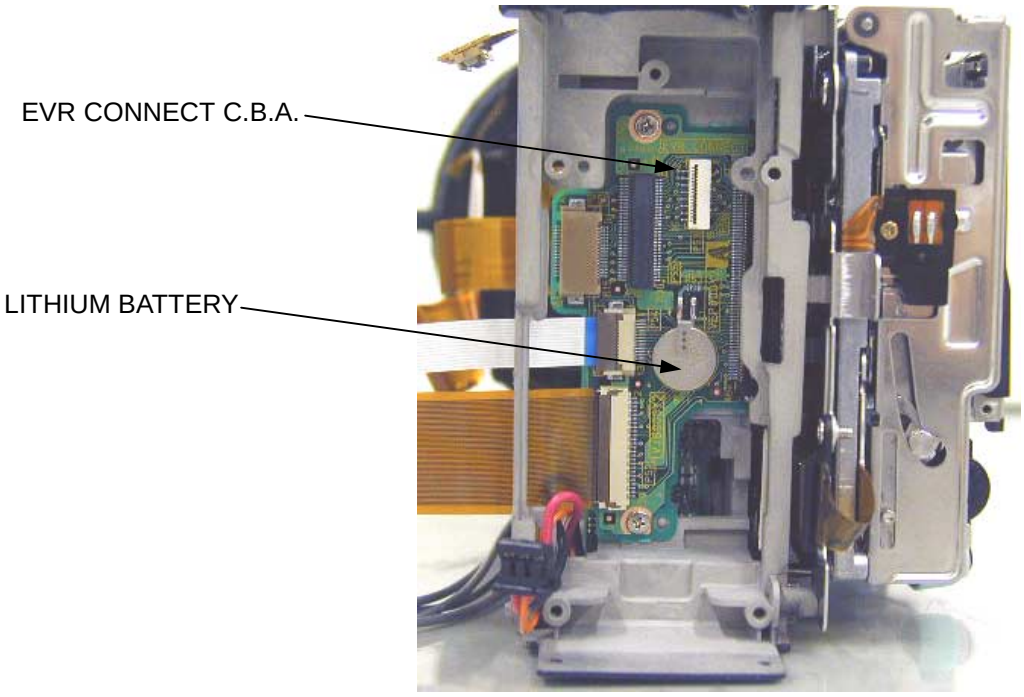
Turn the supply reel counterclockwise and this will take up the slack in the tape.

Figure 2

4. LITHIUM BATTERY

4-1. Replacement Procedure

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



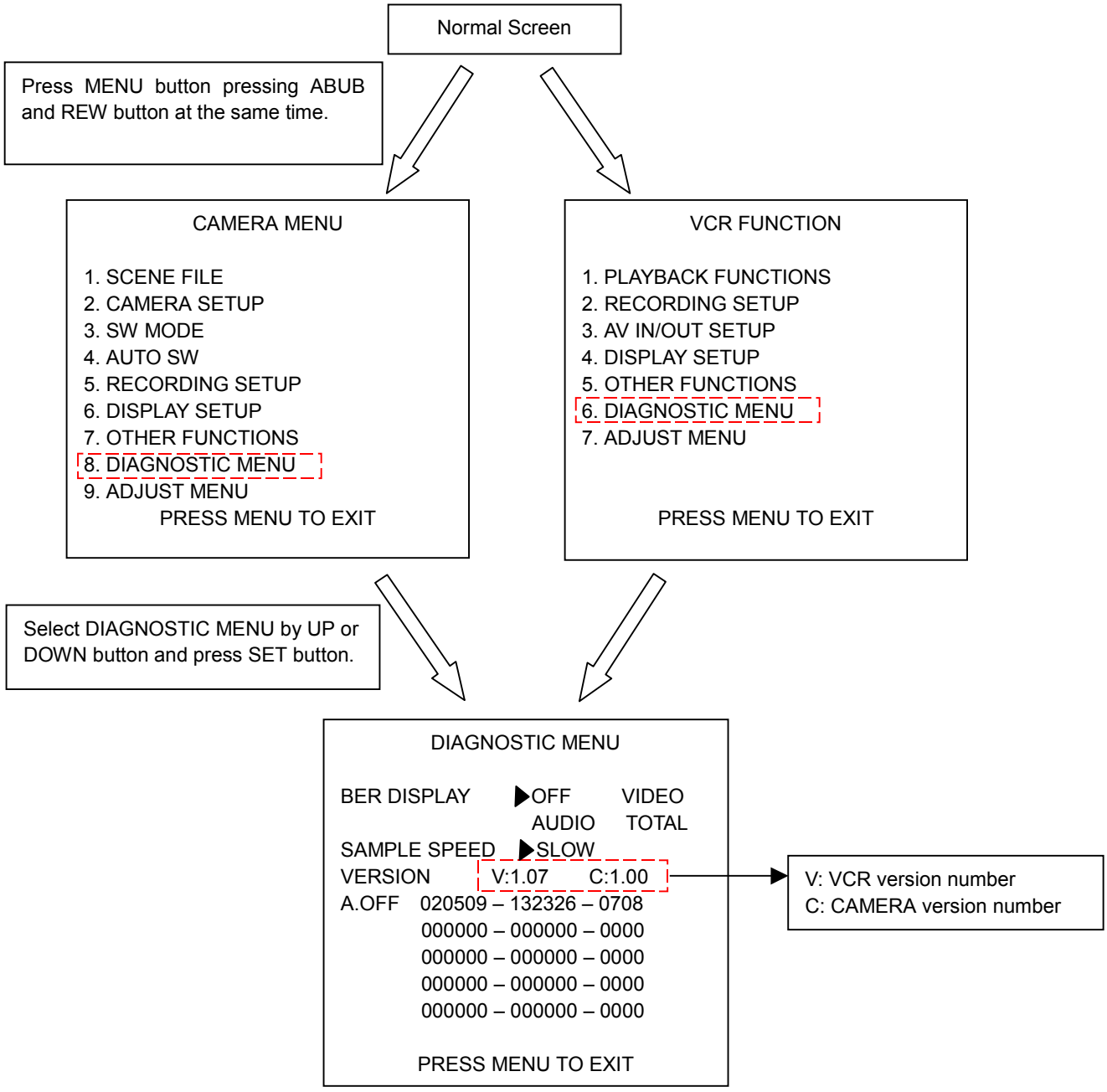
NOTE:
The lithium battery is a critical component.
It must never be subjected to excessive heat of discharge.
It must therefore only be fitted in equipment designed specifically for its use.
Replacement batteries must be of the same type and manufacture.
They must be fitted in the same manner and location 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.

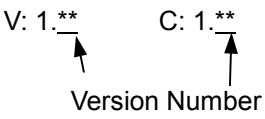
5. DIAG MENU

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.
When pressing the MENU button while pressing the ADUB button and the REW button at the same time, DIAGNOSTIC menu can be displayed.
Next, the DIAGNOSTIC menu is open when selecting DIAGNOSTIC MENU in UP(▲:PLAY) or DOWN (▼:STOP) button and pressing the SET(STILL) button.
NOTE: Also ADJUST menu is displayed is VCR mode.



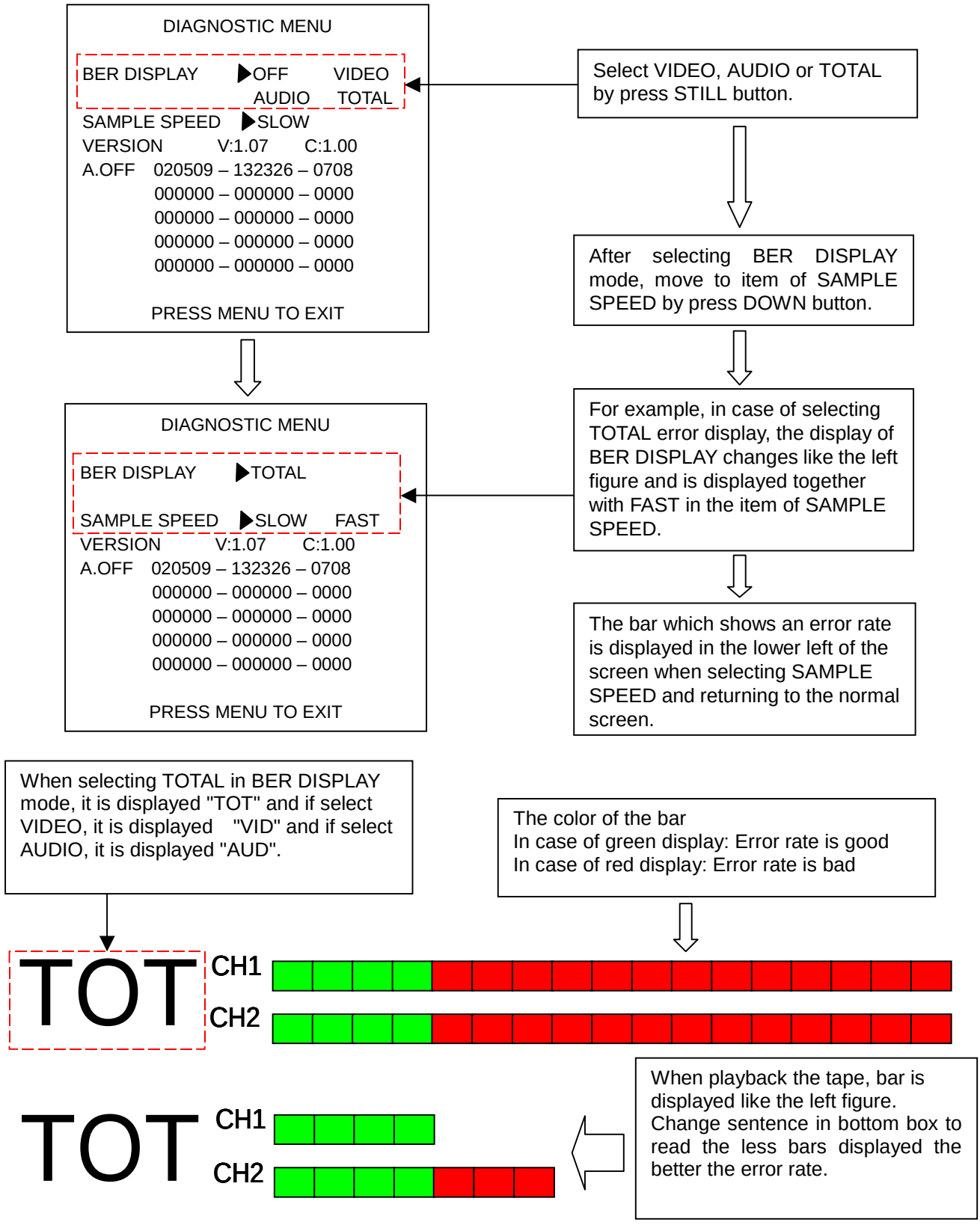
5-1. Software Version Display

Software version of VCR and CAMERA microprocessor is displayed



5-2. How to display the Error Rate.

The AG-DVX100 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.



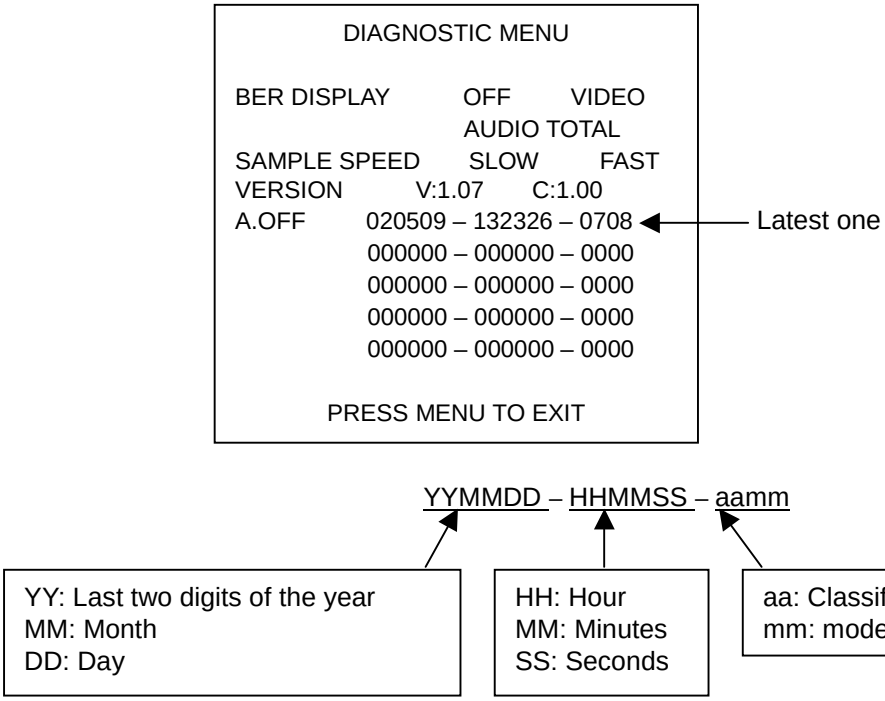
How to confirm the Error rate.

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.

5-3. 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.

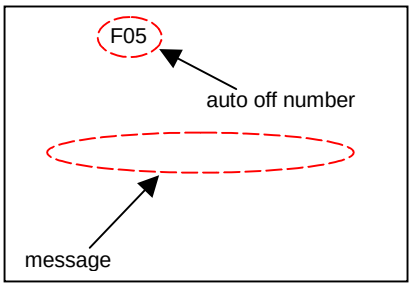


For example, in case of displayed “020209–132326–0708”, Cylinder Lock occurred in normal playback mode at 13:23:26 on Feb. 9th in 2002.
Please refer to below indicated tables with classification of auto off and mode.

< aa: Classified of AUTO OFF >

aa	Super display	Contents
01	F51	FOCUS MOTOR LOCK
03	F53	PSD NG
04	F54	GYRO 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)



< mm : MODE >

mm	Contents	mm	Contents
01	EJECT	12	AUDIO DUB RECORDING
02	STOP 1	13	CAMERA RECORDING STANDBY
03	STOP 2	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	19	CAMERA STOP
09	REVERSE PLAYBACK	1D	CYLINDER OFF
0A	CUE (FAST PLAYBACK)	22	SEARCH (FORWARD)
0B	REVIEW (FAST PLAYBACK)	23	SEARCH (REVERSE)
0C	SLOW PLAYBACK	24	BLANK SEARCH
0D	REVERSE SLOW PLAYBACK	25	FRAME ADVANCE PLAYBACK
11	AUDIO DUB STANDBY	26	REVERSE FRAME ADVANCE PLAYBACK

5-4. Adjust Menu

Item	Set value / Display	contents
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.
Y LEVEL		It is adjusted the output of Y level.
C LEVEL		It is adjusted the output of C level.
DEFECT COMP	0 1 2 3	DEFECT COMP 0 1 2 3 Median filter ON ON OFF OFF Address defect compensation ON OFF ON OFF
CAM DBG INF	<u>OFF</u> ON	It can be selected ON/OFF that the screen of camera debag information. Not displayed Displayed
EEPROM VERSION		It is displayed the version of EEPROM on the VTR C.B.A..

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

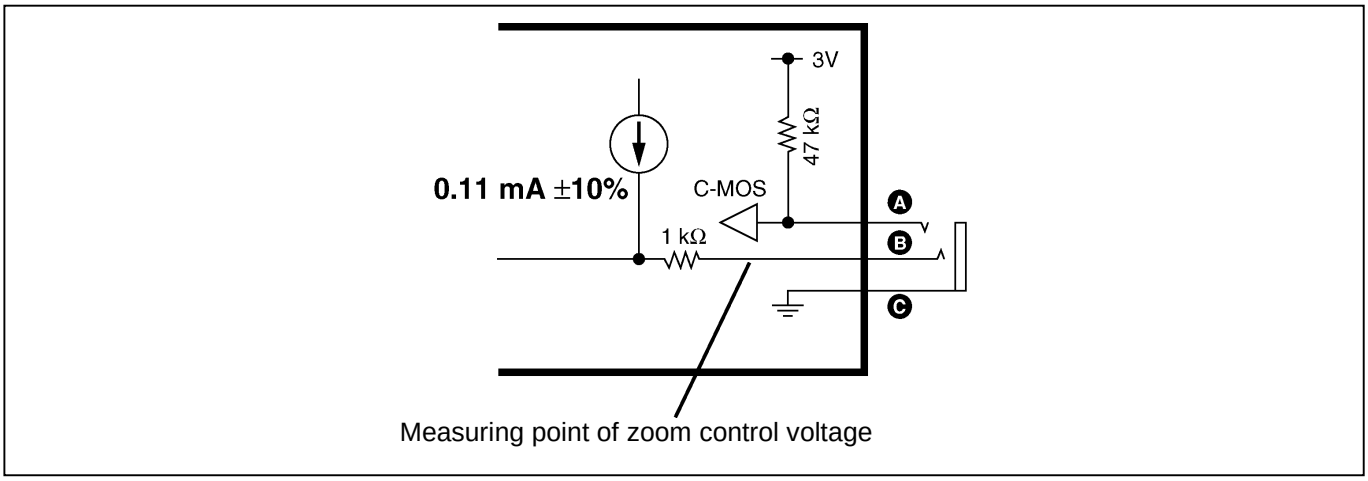


Figure A

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

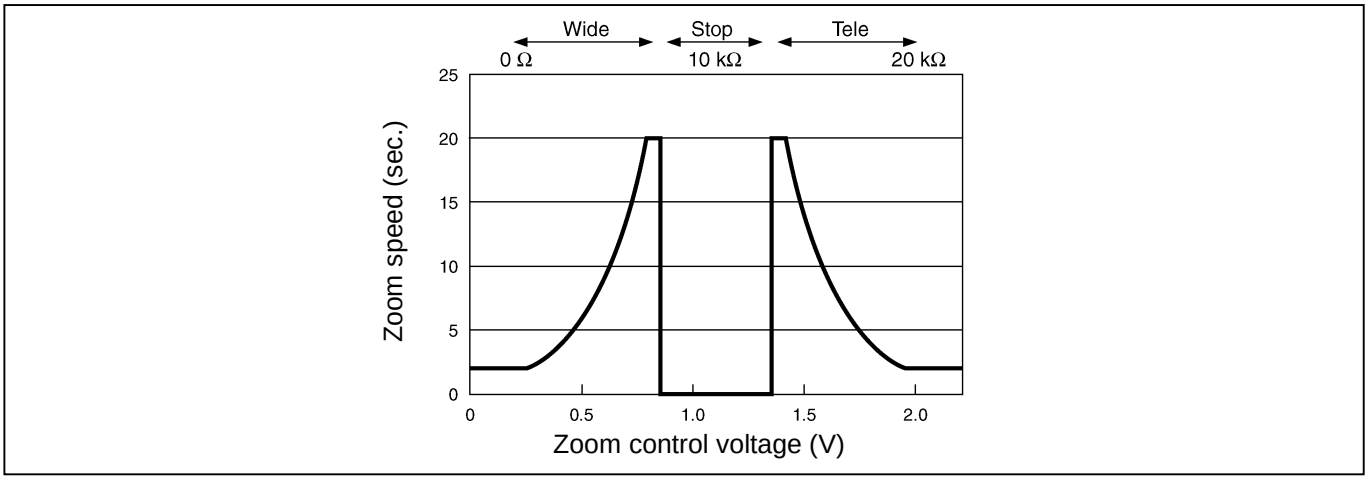


Figure B

7. CIRCUIT BOARD LAYOUT