5 SERVICE NOTES

5.1. SELF DIAGNOSIS FEATURE FOR TV PORTION

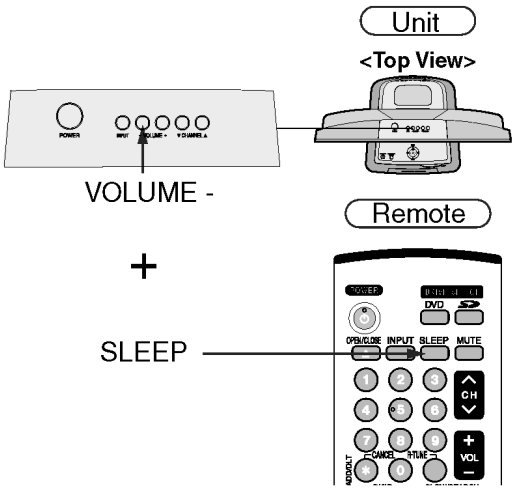
5.1.1. Self Check Feature

The confirmation of the problem´s existence and focusing on the cause will be possible by Self Diagnosis.

5.1.2. How to Display

Press VOLUME- Button on the unit and SLEEP Button on the remote control unit at the same time.

5.1.3. Display on Screen

How to Display	Display on Screen
	SELF CHECK MEMORY OK TNR1 OK SOUND OK MTS OK MTS-R OK AVSW-V OK AVSW-A OK GC3FM OK GC3FS OK GC3I OK HDMI OK DVD OK INCH 22 PROG 1.01.02 CHECKSUM 6DCC EEPROM 1.00.00 TIMER 0112 ROM COR 0.00.00 MAIN 0102

5.1.4. How to return to the normal screen

Press any key to release the Self Check Screen.

5.1.5. Display of Symptom and Remedy

Screen Display	Symptom/Condition	Remedy
MEMORY	No Picture/No Audio	Replace DG-Board
TNR1	No Picture/No Audio from Tuner	Replace TA-Board
SOUND	No Audio from Speaker/Earphone Terminal Adjustments for Bass/Treble/Balance/Surround/Audio Compensation does not work.	Replace A-Board
MTS	No Audio from Tuner Switching of STEREO/SAP/MONO for Audio from Speaker does not work.	Replace TA-Board
MTS-R	Audio from Tuner can not be recorded. Switching of STEREO/SAP/MONO for recording does not work.	Replace A-Board
AVSW-V	No Picture	Replace A-Board
AVSW-A	No Audio	Replace A-Board
GC3FM	No Picture from Tuner and Video In signal	Replace DG-Board
GC3FS	No Picture from Component Input Signal	Replace DG-Board
GC3I	No Picture	Replace DG-Board
HDMI	No Digital Picture/No Digital Audio from HDMI Input Signal	Replace DV-Board
DVD	Recording/Playback does not work. Clock does not work. DVD Menu can not be displayed.	Replace RD-Board

5.2. SELF DIAGNOSIS FOR POWER

5.2.1. Self Diagnosis for Power

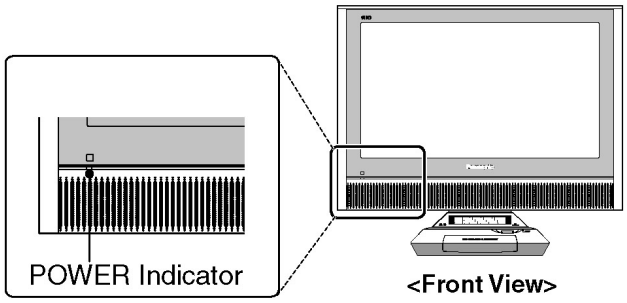
When an abnormal condition occurs in the Power Supply line, a Protection Circuit is activated and Power turns OFF.

At that time, the defective line which tripped the Protection Circuit can be focused upon by the number of times the POWER Indicator flashes red on the Front of the unit.

When the protection circuit is tripped, all keys become inoperative.

5.2.2. Indication Method

The POWER Indicator flashes on the Front of the unit when an abnormal Power condition occurs.



<Front View>

5.2.3. Display of Symptom and Remedy

Number of Flashes	Symptom/Condition	Remedy
Flashes 3 times	SUB 9V, DR12V and DR 5,9V are abnormal.	Replace PA-Board or P-Board
Flashes 5 times	Main 9 V is abnormal	Replace PA-Board or P-Board
Flashes 8 times	SUB 5V is abnormal	Replace PA-Board or P-Board

5.3. DVD-RAM SELF DIAGNOSIS

The Self Diagnosis information is indicated on the Indication Panel on the Front of the unit.

Indication Panel	Indication Information	Cause	Remedy
U14	---	The unit is hot. Internal Temperature is hot. - Drive Temperature exceeded 85°C. - When U14 is displayed, the DVD Unit turns OFF and all key related to DVD operation are inoperative for 30 minutes. (The operations which do not relate to DVD operation are available.)	Confirm the setup condition of the unit and see if a portion of Fan Motor is blocked. Then, place the unit in an ambient temperature of 25°C for about 2 hours and confirm if U14 disappears. **[Possible Cause]** 1. Fan 2. RD-Board
U99	---	Hang up (Unit does not work properly) - Communication Error between DVD Main Microcontroller and Timer Microcontroller	Disconnect the AC Plug and then reinsert it after about 1minute. Confirm operation. **[Possible Cause]** 1. M8-Board
H01	---	Fan does not work. - Fan Motor does not work when Power turns ON.	**[Possible Cause]** 1. Fan 2. RD-Board
F00	---	No Error Information	------
F01	---	Drive Hardware Error - Communication Error between M8-Board and DVD Unit	**[Possible Cause]** 1. DVD Unit 2. M8-Board
F12	---	Main Microcontroller activation Error -When Timer Recording is performed, Main Microcontroller on the M8-Board does not activate properly.	**[Possible Cause]** 1. M8-Board
NO DISC	NO DISC	No Disc is inserted. - When Tray Open/Close operation is performed without a Disc inserted.	Confirm if a DVD Disc is inserted. **[Possible Cause]** 1. M8-Board 2. DVD Unit
UNFORMAT	This disc is not formatted properly.	The format of Disc is not supported.	Perform "FORMAT" in Disc Control of Menu in Stop condition. **[Possible Cause]** 1. Confirm operation by inserting another Disc 2. M8-Board 3. DVD Unit
READ ONLY	This is non-recordable disc.	A Disc which is not recordable is inserted.	
UN SUPPORT	This disc is incompatible.	A Disc which is not supported by this unit is used. Also indicated when the Disc is supported, but the data format is not.	Refer to "Information" in the Operating Instructions. **[Possible Cause]** 1. Insert another DVD-RAM and confirm the recognition and operation of DVD-RAM. 2. M8-Board 3. DVD Unit
DISC	Cannot record. Disc is full.	Recording has exceeded Disc capacity.	Delete unnecessary programs (DVD-RAM only) **[Possible Cause]** 1. Replace with a new Disc 2. M8-Board
TTL FULL	Cannot record. Maximum amount of titles exceeded.		
NO WRITE	Cannot record.	Disc is dirty or damaged.	Check and clean the Disc. **[Possible Cause]** 1. Confirm if the Disc is recognized or operates properly when another DVD-RAM Disc is inserted. 2. M8-Board 3. DVD Unit
NO READ	Cannot read. Please check the disc.	-Disc is dirty or damaged. -Disc is in poor condition. -Reading of Track Information failed.	
HARD ERR	DVD drive error.	-DVD Drive does not work properly.	**[Possible Cause]** 1. M8-Board 2. DVD Unit

5.4. DVD-RAM SERVICE MODE

The information and condition of DVD-RAM Drive can be displayed on the Indication Panel.

5.4.1. How to enter DVD-RAM Service Mode

During Power Off condition via the Remote Control Unit, press VOLUME+, OPEN/CLOSE and STOP buttons on the unit together for more than 5 seconds.

5.4.2. How to finish DVD-RAM Service Mode

Turn Power OFF using Power Button on the unit or on the Remote Control Unit.

5.4.3. Service Mode Table

Name of Mode	Content	Indication Panel	Operation using Remote Control Unit
Release Indication	Release each Item and return to Service Mode Indication	SERVICEMODE	"0""0" in Service Mode
Error Code	The last Error code held in the Timer Microcontroller is indicated.	F00	"0""1" in Service Mode
ROM Version	- Region Number - Main Version - Timer Version - Driver Firmware Version - ROM Version of Timer Microcontroller **Note:** Indicates each item for 5 seconds and finally ROM version is indicated.	REGION* ↓ after 5 seconds MAIN ****** ↓ after 5 seconds TIMER****** ↓ after 5 seconds DRIVE *** ↓ after 5 seconds ROM ***	"0""2" in Service Mode
White Picture Output	Output Color-Difference signal of White Picture (Chroma:100%) from AV Decoder.	WHIT I	"1""1" in Service Mode
Magenta Picture Output	Output Color-Difference signal of Magenta Picture (Chroma:100%) from AV Decoder.	MAGE I	"1""2" in Service Mode
RTSC Return XP (A&V)	L1 input signal is not recorded on the Disc but External Output after ENC -> DEC is performed.	Initial Mode (interlace) EE2 I XP 48	"1""3" in Service Mode
		Progressive EE2 P XP 48	"1""4" in RTSC Return XP
Audio Mute (XTMUTE)	Confirm if Mute from Timer Microcontroller works properly.	TIME MUTE	"2""1" in Service Mode
Audio Mute (XDMUTE)	Confirm if Mute from Digital Main Microcontroller works properly.	MAIN MUTE	"2""2" in Service Mode
Output Audio-Sound Test Tone	Output Audio pattern of Internal memory -Output Signal: Sine Wave Lch: 1 KHz, Rch: 400Hz -18dB	AUDIO 48	"2""3" in Service Mode
Switch Audio Clock	Audio Clock for DAC can be switched in order to confirm the hardware operation. 48KHz<--> 44.1KHz	for 48 kHz AUDIO 48 EE2 * XP 48 for Progressive AUDIO 44 EE2 * XP44	"2""4" in Service Mode

Name of Mode	Content	Indication Panel	Operation using Remote Control Unit
Erapsed "Laser ON" Time	Elapsed "Laser ON" Time is displayed on the indicator.	LASER hhhhh	"4""1" in Service Mode Note: "hhhhh" is displayed by the unit of "Hour".
All light On of Indicator Panel and LED	All segments of Indicator Panel and all LED are lighted ON.		"5""1" in Service Mode
SD Card Check	Writing/Reading operation for SD Card is confirmed.	CARD TEST OK SD SUCCESS NG SD ERROR	"7""4" in Service Mode
Tray Open/Close Check	Check Tray Open/Close operation.	NO********	"9""1" in Service Mode A test which repeats Open/Close operation is performed. To end test, disconnect Unit AC Plug.
Reset of Erapsed "Laser ON" Time	Reset of Erapsed "Laser ON" Time	CLR LASER	"9""5" in Service Mode
Initialize Error Code	Last Error Code in Memory is initialized.	CLR E -CODE	"9""8" in Service Mode
Initialize Service	Return last Drive Error, History and Error code to initial setting.	CLR SERV	"9""9" in Service Mode