

S.M.A.R.T. Service Material and Reference Tips

Product: LCD
Models: 42HL196, 42LX196 and 47LX196

Date: 7/6/2007

Doc Ref/File: SMART200603_Version1.2.pdf

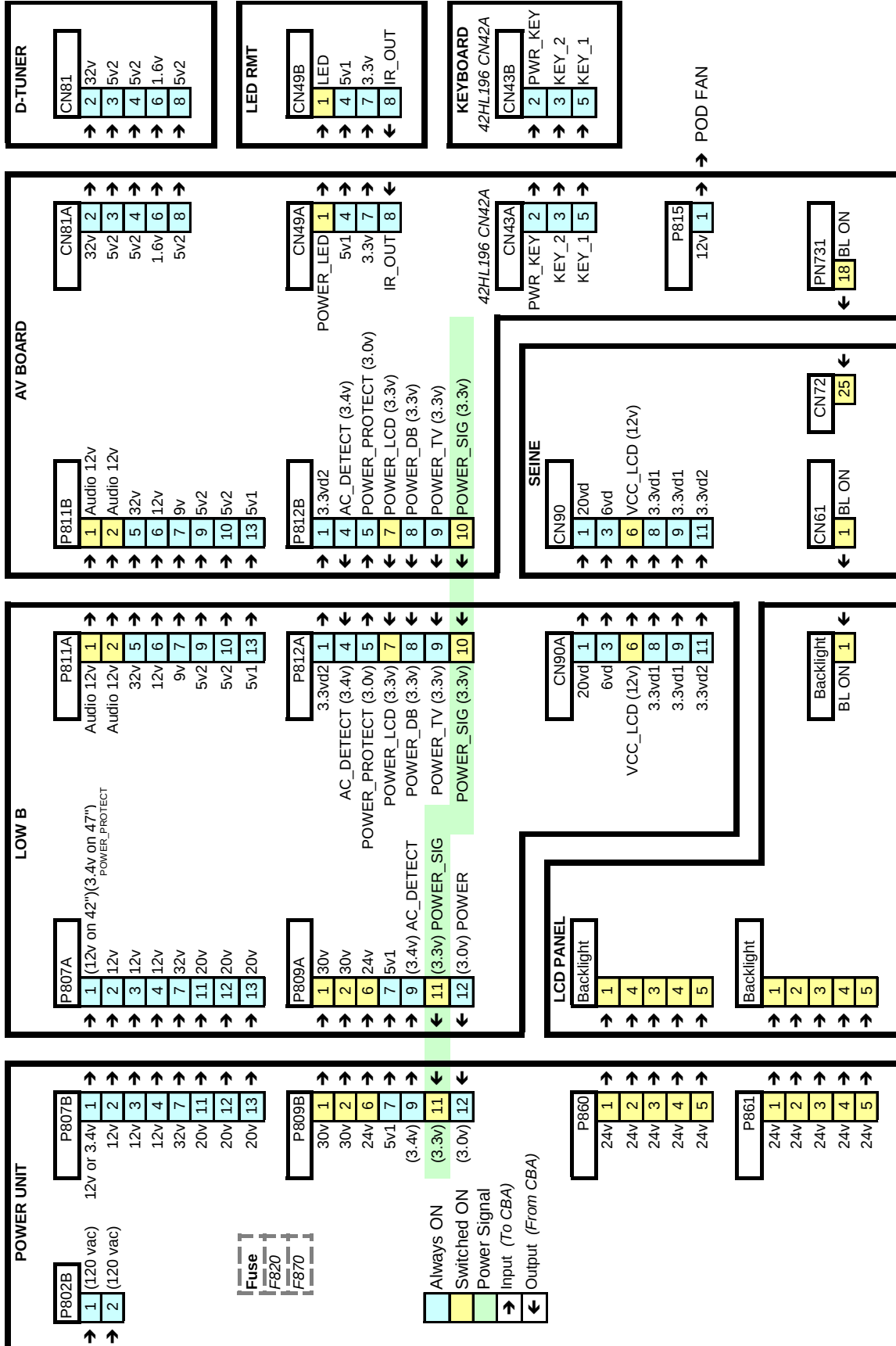
Purpose: The purpose of this document is to give the service provider information regarding the troubleshooting and diagnostics of Toshiba Consumer Products.

[The information contained within the document will evolve over time so a version number has been indicated in the document name. The servicer should always use the latest version available.]

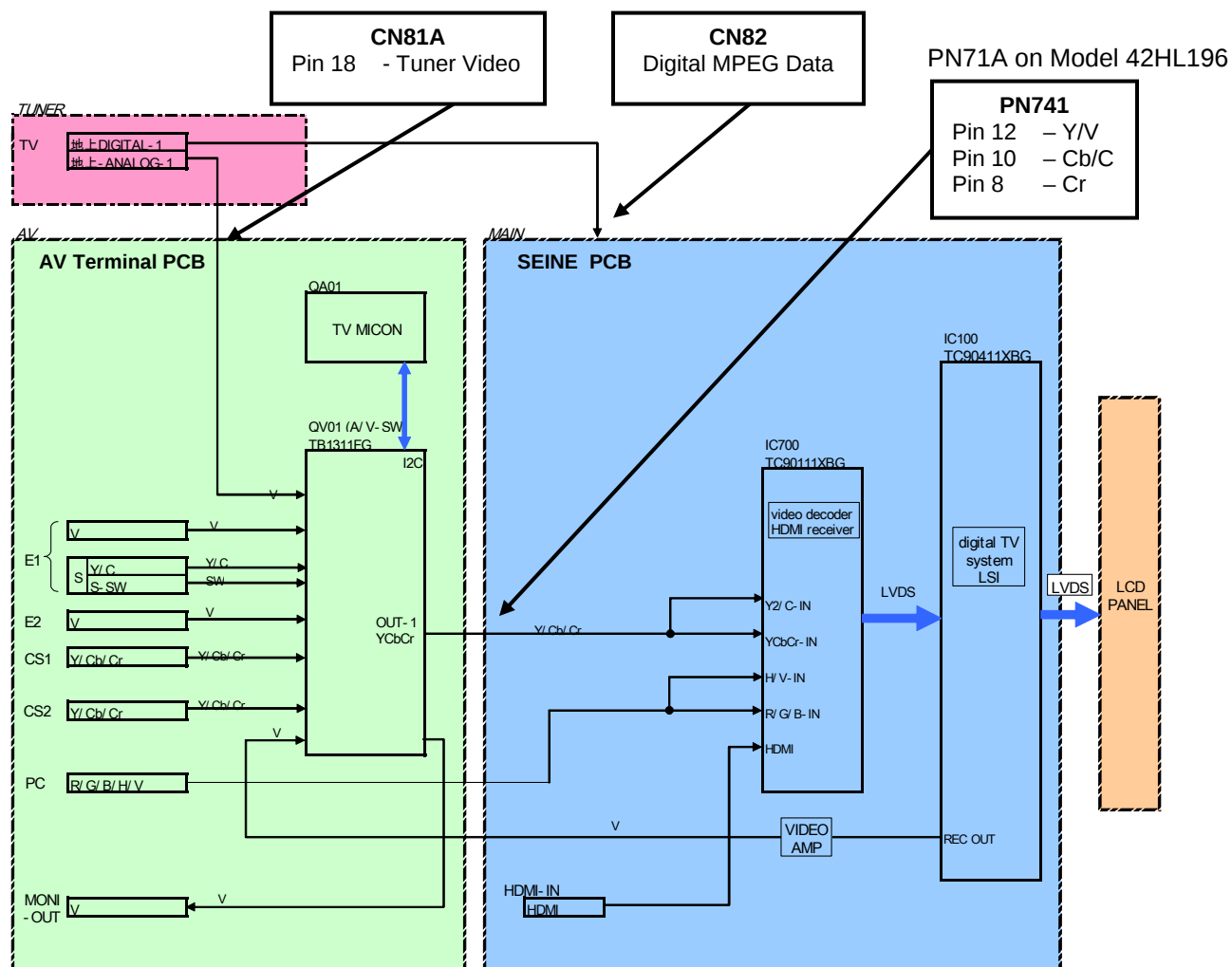
Table of Contents

	Page
Part I Circuit Descriptions and Diagrams	
Power Supply Connection Diagram.....	2
Video Block Diagram.....	3
Part II Troubleshooting Flowcharts	
TV Does Not Power On.....	4
Backlight Won't Turn On.....	5
Loss of Video (Blank Screen) Has OSD.....	6
Part III Service Mode	
Service Mode Entry.....	7
Self Diagnostics.....	8
LED Status Indications.....	9
Part IV Parts Listing	
Common Parts.....	10

Feedback: Please provide any comments or suggestions about this document to technical_support@tacp.com. When commenting please provide the document and version number on all correspondence.

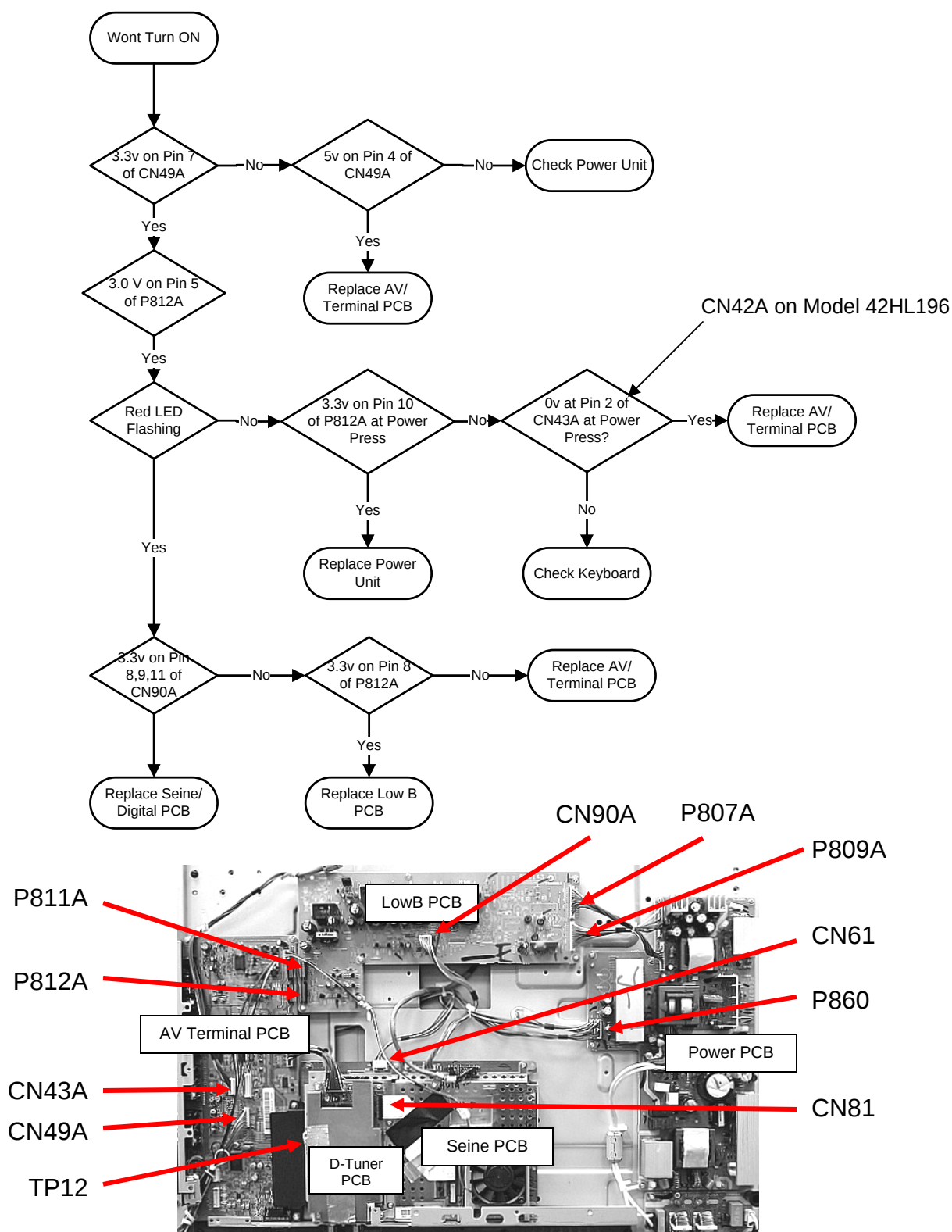


Video Block Diagram



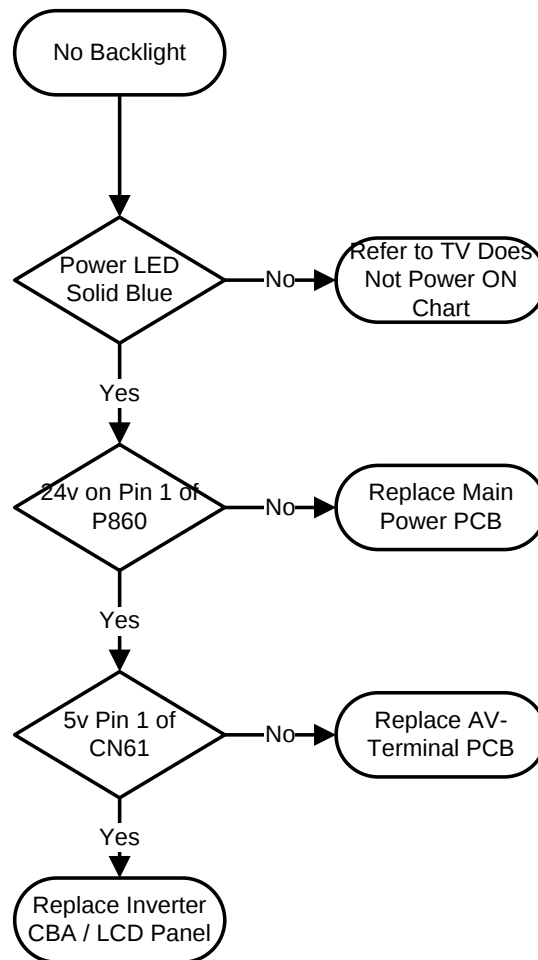
Troubleshooting Flowchart 2006 LCD "TV Does Not Power On"

V1.0



Troubleshooting Flowchart 2006 LCD “Backlight Won’t Turn ON”

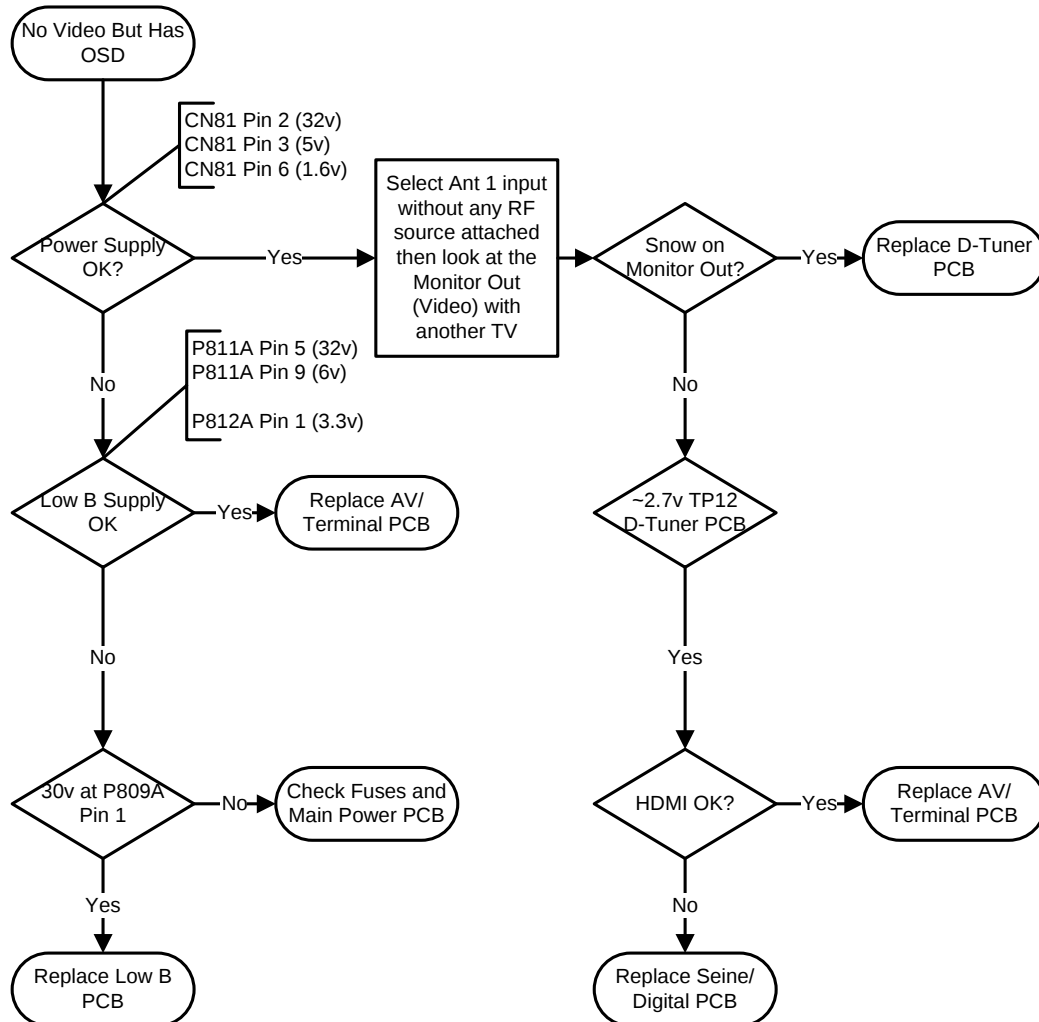
V1.0



See Page 4 for Connector and Plug Locations

Troubleshooting Flowchart 2006 LCD “Loss of Video (Blank Screen) Has OSD”

V1.0



See Page 4 for Connector and Plug Locations

SERVICE MODE ENTRY

Service Mode

Entering to Service Mode

Press "MUTE" on the remote.

Press "MUTE" again on the remote.

Press "MUTE" a third time but hold the mute button down now.

Press "MENU" on the TV while still holding the "MUTE" on the remote.

Key Function in the Service Mode

The following key entry during display of adjustment menu provides special functions.

Selection of the adjustment items	CH ▲/▼ on TV or remote control)
Change of the data value	Volume +/- (on TV or remote control)
Adjustment menu mode ON/OFF	MENU button (on remote control)
Reset the count of operating protect circu	CALL + CH button on TV (▼)
"RCUT" selection	1 button
"GCUT" selection	2 button
"BCUT" selection	3 button
"CNTX" selection	4 button
"COLC" selection	5 button
"UVTT" selection	6 button
Self diagnostic display ON/OFF	9 button

SELF DIAGNOSTICS

- 1) Enter the Factory Service Mode by pressing the following buttons:
 Press "MUTE" on the remote.
 Press "MUTE" again on the remote.
 Press "MUTE" a third time but hold the mute button down now.
 Press "MENU" on the TV while still holding the "MUTE" on the remote.
 With the TV in the Service Mode now Press the "9" button on the remote.
 You should now be in the Production – Self Check Screen.
 To exit simply press the "POWER" button on the remote or the Television.

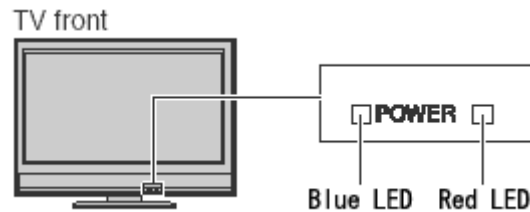
Production - Self Check		
(1)	TV CPU SW version	34
(2)	EEPROM Version	7
(3)	DVD SW Version	***
(4)	DMD Engine OEM Revision	27
(5)	DMD Engine ASIC Revision	43
(6)	Power On Time	17
(7)	LAMP On Time	90
(8)	LAMP On/Off Count	68
(9)	DMD Engine Temp 1	26
(10)	DMD Engine Temp 2	31
(11)	DMD Engine Status	0x23C7
(12)	TV Status	***
(13)	Bus Errors	None

	Item	Description
1	Version information of TV-MICRO	Display 1 byte data.
2	Version information of TV-MICRO EEPROM	Display 1 byte data.
3	Version information of DVD MPU	Not used in this Model
4	Version information of DMD Engine OEM Revision	Not used in this Model
5	Version information of DMD Engine ASIC Revision	Not used in this Model
6	Total brightness hour of TV.	Display 4 bytes data.
7	Count the integrating lighting hour of lamp.	Not used in this Model
8	Number of times of TV ON/OFF.	Not used in this Model
9	Temperature display of thermo-Sensor. (DMD)	Not used in this Model
10	Temperature display of thermo-Sensor. (LAMP)	Not used in this Model
11	DMD Engine System status	Not used in this Model
12	TV-MICRO System status	Not used
13	IIC-BUS status	Bus line normal is "None" displayed. When it is abnormal, the block name is displayed as follows. "SCL-GND" (Red indication) : SCL-GND short circuit "SDA-GND" (Red indication) : SDA-GND short circuit "SCL-SDA" (Red indication) : SCL-SDA short circuit "NG : MTS" "NG : APRO" "NG : AVSW"

LED STATUS INDICATIONS

The yellow, blue and red/green LED lights on the TV (at the bottom center of the TV) indicate the TV's status, as described below:

Note: If the TV loses A/C power (e.g., a power outage occurs or the power cord is unplugged), when power is restored, the yellow LED will blink while the TV is booting until the remote control is usable. This is normal and is not a sign of malfunction.



LED Indication	Condition
1 Blue is ON (solid). --	The TV is operating properly.
2 Red is ON (solid). --	Recording is in progress.
3 Red blinks three times. Check the Digital board.	The TV is in rebooting.
4 Blue blinks slowly. • •	Abnormal operation of BUS line. Check the faulty device through the self diagnostics function under SERVICE mode. Does BUS line (SCL, SDA) work normally? If the BUS line is under abnormal conditions, replace the faulty device with a new one.
5 Blue blinks quickly. Check the cause that the protecting circuit of the power supply.	Power Protect Detection.

Common Parts

	LCD Display		AV		D-TUNER	
	Vendor #	Part Number	Vendor #	Part Number	Vendor #	Part Number
26HL66	T260XW02 V5	75002324	PE0036A1	75002310	PE0044B1	75002318
26HLC56	T260XW02 V5	75002324	PE0102D1	75002939		
26HLV66	T260XW02 V5	75002324	PE0036B1	75002650	PE0044B1	75002593
32HL66	G5AUO32V5	75001844	PE0036A1	75002310	PE0044B1	75002318
32HLC56	G5AUO32V5	75001844	PE0102C1	75002972		
32HLV16	G5AUO32V5	75001844	PE0036B1	75002650	PE0044B1	75002902
32HLV66	G5AUO32V5	75001844	PE0036B1	75002650	PE0044B1	75002593
37HL66	XW01 V2 (B)	75003544	PE0036A1	75002310	PE0044B1	75002902
37HL86	G6AUO37 V2	75001858	PE0102A1	75002543		
37HLC56	G6AUO37 V2	75001858	PE0102C1	75002972		
37HLV66	G6AUO37 V2	75001858	PE0036B1	75002650	PE0044B1	75002593
37LX96	XW01 V2 (B)	75003544	PE0141A1	75003633	PE0044B1	75002902
42HL196	V420H1-L05	75002247	PE0135A1	75002915	PE0044A1	75002876
42LX196	V420H1-L05	75002247	PE0141B1	75003373	PE0044A1	75002876
42LZ196	V420H1-L05	75002247	PE0205A1	75004042	PE0044A1	75002876
47LX196	V470H1-L02	75002391	PE0141B1	75003373	PE0044A1	75002876
47LZ196	V470H1-L02	75002391	PE0205A1	75004042	PE0044A1	75002876

	LOWB		POWER		SEINE/SIGNAL	
	Vendor #	Part Number	Vendor #	Part Number	Vendor #	Part Number
26HL66	PE0040J2	75002316	PE0040J1	75002315	PE0079F1	75004709
26HLC56	PE0103F2	75002945	PE0103F1	75002944	PE0081E1	75004723
26HLV66	PE0040L2	75002656	PE0040L1	75002655	PE0079G1	75004718
32HL66	PE0040G2	75002338	PE0040G1	75002337	PE0079F1	75004710
32HLC56	PE0103D2	75002978	PE0103D1	75002977	PE0081E1	75004724
32HLV16	PE0040L2	75002656	PE0040L1	75002655	PE0079G1	75004720
32HLV66	PE0040L2	75002656	PE0040L1	75002655	PE0079G1	75004719
37HL66	PE0040K2	75003543	PE0040K1	75003542	PE0079F1	75004711
37HL86	PE0103C2	75002568	PE0103C1	75002567	PE0081E1	75004717
37HLC56	PE0103E2	75002986	PE0103E1	75002985	PE0081E1	75004725
37HLV66	PE0040H2	75002677	PE0040H1	75002676	PE0079G1	75004721
37LX96	PE0143A1	75003639	PE0071G1	75003371	PE0079J1	75004722
42HL196	PE0070B1	75002920	PE0071E1	75002913	PE0140H1	75004712
42LX196	PE0143B1	75003379	PE0071G1	75003371	PE0140K1	75004713
42LZ196	PE0207A1	75004243	PE0206A1	75004242	PE0208L	75004110
47LX196	PE0070C1	75003414	MPF4305	23122508	PE0140K1	75004714
47LZ196	PE0207B1	75004239	MPF4307	75004095	PE0208L	75004111