

The Blinking LED Procedure

5.6.1 Introduction

The blinking LED procedure can be split up into two situations:

- Blinking LED procedure in case of a protection. In this case the error is automatically blinked. This will be only one error, namely the one that is causing the protection.

Therefore, you do not have to do anything special, just read out the blinks. A long blink indicates the decimal digit, a short blink indicates the units.

- Blinking LED procedure in the “on” state. Via this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful for fault finding, when there is no picture.

When the blinking LED procedure is activated in the “on” state, the front LED will show (blink) the contents of the error-buffer.

Error-codes > 10 are shown as follows:

1. “n” long blinks (where “n” = 1 - 9) indicating decimal digit,
2. A pause of 1.5 s,
3. “n” short blinks (where “n”= 1 - 9),
4. A pause of approx. 3 s,
5. When all the error-codes are displayed, the sequence finishes with a LED blink of 3 s,
6. The sequence starts again.

Example: Error 12 8 6 0 0.

After activation of the SDM, the front LED will show:

1. 1 long blink of 750 ms (which is an indication of the decimal digit) followed by a pause of 1.5 s,
2. 2 short blinks of 250 ms followed by a pause of 3 s,
3. 8 short blinks followed by a pause of 3 s,
4. 6 short blinks followed by a pause of 3 s,
5. 1 long blink of 3 s to finish the sequence,
6. The sequence starts again.

5.6.2 How to Activate

Use one of the following methods:

- **Activate the SDM or CSM.** The blinking front LED will show the entire contents of the error buffer (this works in “normal operation” mode).

- **Transmit the commands “MUTE” - “062500” - “OK”**

with a normal RC. The complete error buffer is shown.

Take notice that it takes some seconds before the blinking LED starts.

- **Transmit the commands “MUTE” - “06250x” - “OK”**

with a normal RC (where “x” is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... Take notice that it takes some seconds before the blinking LED starts

Rebooting. When a TV is constantly rebooting due to internal problems, most of the time no errors will be logged or blinked. This rebooting can be recognized via a ComPair interface and Hyperterminal (for Hyperterminal settings, see paragraph "Stand-by software upgrade). You will see that the loggings which are generated by the main software keep continuing. In this case (rebooting) diagnose has to be done via ComPair.

- **Error 3 (I2C bus 3 blocked).**

At the time of release of this manual, this error was not working as expected (error 3 is logged and can be read out). Current situation: when this error occurs, the TV will constantly reboot due to the blocked bus. The best way for further diagnosis here, is to use ComPair (e.g. read out the NVM content). Instead of error "3" it is possible you will see error "2" in the error buffer.

- **Error 5 (PNX85xx doesn't boot).**

Indicates that the mainprocessor was not able to read his bootscript. This error will point to a hardware problem around the PNX85xx (supplies not OK, PNX 8535 completely dead, I2C link between PNX and Stand-by Processor broken, etc...). When error 5 occurs it is also possible that I2C2 bus is blocked (NVM).

I2C2 can be indicated in the schematics as follows: SCLUP- MIPS, SDA-UP-MIPS, SCL-SLAVE, SDA-SLAVE, SCL-2 or SDA-2.

- **Error 11 (I2C MUX1).**

Indicates a blocked (short circuited) I2C-MUX1 bus. At the time of release of this manual, this error was not working as expected. Current situation: when this error occurs the TV will constantly reboot due to the blocked bus. The best way for further diagnosis, is to use ComPair (e.g. read out the NVM content).

- **Error 12 (I2C MUX2)**

Indicates a blocked (short circuited) I2C-MUX2 bus. At the time of release of this manual, this error was not working as expected. Current situation: when this error occurs the TV will constantly reboot due to the blocked bus. The best way for further diagnosis, is to use ComPair (e.g. read out the NVM content).

- **Error 24 (I2C switch).**

As a side effect of error 24 it is possible that error 47(no existing error) will also be logged.

- **Error 28 (DFI Ambilight MOP).**

It can take up to 2 minutes or more before this error is logged. So if you suspect that this MOP is defective: clear the error buffer, restart the TV and wait for about 2 mnutes before checking the error buffer.

- **Error 37 (Channel decoder).**

When this error occurs, there probably will be no picture and sound from tuner input. As a side effect of error 37 it is possible that error 4(no existing error) is also logged.

- **Error 46 (Pacific 3).**

When there is an actual problem with or around the Pacific during start-up, you will have no picture and error 46 will be blinked via the blinking LED procedure. For further diagnosis you can always dump the CSM content on USB stick (see CSM) or use ComPair.

- **Error 53.**

This error will indicate that the PNX85xx has read his bootscript (if this would have failed, error 5 would blink) but initialization was never completed because of hardware problems (NAND flash, ...) or software initialization problems. Possible cause could be that there is no validsoftware loaded (try to upgrade to the latest main software version). Note that it can take up to 2 minutes before the TV starts blinking error 53.

• **Error 63 (POWER OK).**

When this error occurs, it means that the POWER-OK line did not become “high”. This error is only applicable for TV’s with an LCD display. For PDP displays there will be no protection during a POWER-OK line failure, but error 63 will be logged in the error buffer.

Caution: in case a PDP TV ends up into power-ok protection, it can indicate that the display option code is set to “LCD”. To change the display option code to “PDP” you need to activate SDM via the service pads (see figure “Service mode pads”). Then change the display option code blindly via a standard RC: key in the code “062598” directly followed by the “MENU” button and “XXX” (where XXX is the 3 digit decimal display option code as mentioned in figure “Display option code overview”).

• **Error 65 (DFI EPLD error).** When this error occurs it means that there is a problem with the I2C communication towards the EPLD (picture processing EPLD, not the Ambilight EPLD) on the DFI panel.

Error	Description	Error/Prot	Detected by	Device	Result
3	I ² C3	E	MIPS	PNX85xx	Error logged.
5	PNX85xx does not boot (HW cause)	E	Stby P	PNX85xx	Error blinking.
6	5V, 12V supply	P	Stby P	/	Protection + Error blinking.
8	1V2, 1V4, 2V5, 3V3 supply	P	Stby P	/	Protection + Error blinking.
9	Supply fault	P	Stby P	/	Protection + Error blinking.
11	I ² C-MUX1	E	MIPS	PCA9540	Error logged.
12	I ² C-MUX2	E	MIPS	PCA9540	Error logged.
22	PNX5050	E	MIPS	PNX5050	Error logged.
23	HDMI mux	E	MIPS	AD8190/ AD8191	Error logged.
24	I ² C switch	E	MIPS	PCA9540	Error logged.
26	Master IF	E	MIPS	TDA9898/ 9897/9890	Error logged.
28	MOP (Ambilight MOP on DFI panel) ¹⁾	E	MIPS	EP2CXXF4 84C7N	Error logged.
34	Tuner	E	MIPS	TD1716	Error logged.
37	Channel decoder	E	MIPS	TDA10060/ TDA10048	Error logged.
46	Pacific3	E	MIPS	T6TF4	Error blinking + Error logged.
53	PNX85xx does not boot (SW cause)	E	Stby P	PNX85xx	Error blinking.
63	Power OK	E/P	MIPS	/	Error logged in case of a PDP set. Protection in case of an LCD set.
65	DFI (EPLD on DFI panel) ¹⁾	E	MIPS	/	Error blinking + Error logged.