

## TV: Miscellaneous

<b>Revision history</b>	
2003-01-31	<ul style="list-style-type: none"> <li>• Changed/added a lot of info on several chassis'</li> </ul>
2002-11-19	<ul style="list-style-type: none"> <li>• Added link</li> </ul>
2002-11-02	<ul style="list-style-type: none"> <li>• Added remarks for A10E chassis (PW6516)</li> </ul>
2002-04-30	<ul style="list-style-type: none"> <li>• Moved old type list to seperate page</li> <li>• Moved software version overview to Matchline page</li> <li>• Moved MG2 stuff to Matchline page</li> </ul>
2002-04-28	<ul style="list-style-type: none"> <li>• Added link</li> </ul>
2002-04-27	<ul style="list-style-type: none"> <li>• Added abbreviations information L9.1 chassis</li> <li>• Updated SDM menu L9.1 chassis</li> </ul>
2002-04-20	<ul style="list-style-type: none"> <li>• Added service (default) mode for L9.1 chassis</li> </ul>
2002-03-31	<ul style="list-style-type: none"> <li>• Added reference list (older) models and chassis types</li> </ul>
2002-03-22	<ul style="list-style-type: none"> <li>• Added more ANUBIS info</li> <li>• Added more TV/VCR combi info</li> <li>• Added CTT-H info</li> <li>• Added GR-1AX info</li> <li>• Added GR2.x info</li> <li>• Added more GR2.2 info</li> <li>• Added L7 info</li> <li>• Added more L7.2 info</li> </ul>
2002-03-20	<ul style="list-style-type: none"> <li>• Updated information on hotel mode for the L9.2 chassis</li> <li>• Added settings information on the PW6006 model</li> </ul>
2002-03-14	<ul style="list-style-type: none"> <li>• Added additional material</li> </ul>
2002-03-10	<ul style="list-style-type: none"> <li>• Added GR2.2 info/reference</li> <li>• Added FL1 info/reference</li> <li>• Re-arranged it alphabetically</li> </ul>
2002-03-09	<ul style="list-style-type: none"> <li>• Added additional material</li> </ul>
2002-03-03	<ul style="list-style-type: none"> <li>• Added typical MG2 geometry settings</li> <li>• Added some moved material</li> </ul>
2002-03-02	<ul style="list-style-type: none"> <li>• Added A10E info</li> <li>• Added L9H info</li> <li>• Added ANUBIS A/B info</li> <li>• Added AA5 info</li> <li>• Added L6.X info</li> <li>• Added L7.2 info</li> <li>• Added L9.X info</li> <li>• Added COMBI TV/VCR info</li> </ul>
2002-03-01	<ul style="list-style-type: none"> <li>• Corrected service mode sequence</li> </ul>
2002-02-27	<ul style="list-style-type: none"> <li>• First appearance of this new section</li> </ul>

On this page you will find information not directly related to the other TV pages. This information typically includes information on some other TV models as contributed by other people or by other means.

If you have a contribution yourself then you are encouraged to send it in, so others can benefit from your information and/or experience.

Confirmation of the (in)correctness of the information presented here would be appreciated, since some information is rather inconclusive in that respect.

*Notes:*

- if in service mode and no 'store' item is available, using the standby function on the TV itself will store the settings usually.
- Not all of this information has been confirmed (except maybe the contribution items). Please take care when using this information. If you can report a success or failure (or have any other information in that respect), please let me know.
- It is not always clear if the methods presented here are used to enter service mode or another mode.
- More methods can exist for particular models/types, usually depending on the software.
- Take care when using the 'short circuit' method. The connections presented could be incorrect!
- Almost all chassis types support the method of shorting service pins.
- Almost all chassis types support the special remote control codes, see [Service mode remote control codes](#)
- You might have a look at these sites:  
<http://homepages.paradise.net.nz/erichard> with a lot of information on viewer TV/VCR adjustments.  
<http://www.tehnicaavtv.com/tvservice.htm> has service mode information on several TV's.

**20PT424A**

**21PT263A Service mode**

- Short circuit pin 1 of the EEPROM (24C08) to ground.

**20PV220 Hotel mode on/off**

*Contribution by Janne Halla-aho*

- TV preset 38
- Push STOP -button on both, remote and TV, for 5 seconds
- You'll see text H- / H+ on screen
- Close TV from remote, and on again

**20PV220 Service menu**

*Contribution by Janne Halla-aho*

- TV preset 38
- Push STOP -button on the remote and the PLAY -button on the TV simultaneously, for 5 seconds
- You'll get the service menu on screen
- *Clear EEPROM is the only cure for the problem that all items in installation menu are in " non active " mode with red text*
- Close TV from remote, and on again
- Tune channels again

**24PW6006/28PW6006**

*Contribution by John Jennings*

The standard access code (062596 i+) works correctly for the PW6006.

The geometry settings appear as follows:

## VERTICAL:

VSL

VAM (Vertical Amplitude ???)

VSC

VSH (Vertical Shift ???)

VX

SBL (Set to 'off'. All other settings have numerical values)

H60

V60

## HORIZONTAL:

HP

HB

HSH (Horizontal Shift ???)

EWW

EWP (East-West parabola ???)

VCP

LCP

EWT

There are also the following options with further sub-pages.

TUNER (some options include AGC (auto gain control), IFPLL, CL (clipper??))

WHITE TONE (to adjust the TGB colour balance for the Cool, Normal and Warm settings)

AUDIO OPTIONS (the sub-pages just show options labelled OP1 - OP7. They have numerical values.)

## 2B

- Error codes

Code	Description
E0	Check CITAC (SAB3035 PCB) and memory
E1	Microprocessor and infrared receiver
E2	Teletext decoder
E3	Power supply
E4	Microprocessor and memory PCB
E5	Stereo sound
88	Remote control and TV keyboard functional indicate error in U1840, I830, IC7103
88	Bar and blinking LED's indicate error in U1820 and IC7830
88	No volume, contrast, intensity commands indicate error in D6922 and IC7900
88	Bar and contrast, volume, intensity commands indicate error in U1830 and IC7830 (5V supply)

**3A**

- Error codes

The way the different LED's are showing indicates the kind of error (Blinking, on or off). There are about 30 possible combinations.

**3A Service mode**

- The following applies for using a RC5991 remote control
- Press PRINT on the remote control
- Press MONO on the TV keyboard, then press PRINT on the remote control
- 4 digits will appear on screen ' - - - - '
- Select the appropriate program

Program	Description
00	Horizontal synchronization
01	Horizontal position
02	Vertical amplitude
03	Vertical linearity
04	Vertical linearity top/bottom
05	Vertical position
06	Vertical compensation
07	Horizontal amplitude
08	East-West bow correction
09	East-West correction
10	Trapezium correction
11	Horizontal compensation

- Adjust the setting with VOLUME +/-
- Store the setting with PP (Personal Preferences, green key)
- Exit the mode by placing the TV into standby

**A8.0**

- No information

**A10E**

*(at least with software A10et1-1.6, A10ep1-1.6, A10EP1-2.0 )*

- This model also supports the 062596 sequence followed by [i+]/[OSD].
- Service default mode is entered using the 062596 sequence, followed by the - button on the TV set itself.
- Also see [TV: Matchline service mode](#) (settings PW6516) which has the A10EP1-2.0 software version.
- The remote control sequence (GFL), see [Service mode remote control codes](#) section, should also work.
- Alternatively you can short-circuit pins 9261 and 9262 inside the set and then powering it up.

**AA5 Hotel mode**

- Select program 38 on the TV
- Simultaneously press the MENU key and the SLEEPTIMER (or OSD) key on the remote for about 4 seconds (toggles hotel mode on/off)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it.
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds
  - A green 'H+' appears in the left bottom of the screen when hotel mode is activated, which can be removed by powering down the TV and powering it up again
  - A green 'H-' appears in the left bottom of the screen when hotel mode is deactivated, which can be removed by powering down the TV and powering it up again

**AA5 Service mode**

- Short circuit terminals S1 and S2 (near the microprocessor)
- A 'S' appears onscreen
- Simultaneously press the - and + key on the keyboard of the TV
- The menu will appear

<b>0023S</b>	<b>1.0</b>
<b>0 0 0 3 2</b>	
- <b>Systeme BS+L+I</b>	+
<b>YNNNYYYNN</b>	

The top line shows the version number ('S' stands for service mode).

The 0 0 0 3 2 shows the last detected errors.

The next lines shows the options.

From left to right:

Y Norm

Y PLL

N TXT

N 16/9 switch

N S-video

Y Scart

Y Definition

Y Keyboard on TV

Y 40 programs

N Sleep timer

N Not used

Use the PROGRAM+/- on the remote to select the option you want to modify and then use the MENU+/- to change the option.

**ANUBIS (generic) Hotel mode**

- Select program 38
- Now you have to press a key on the TV itself and a key on the remote simultaneously for 4 seconds. Depending on the TV model these keys are:

	TV	Remote
14"	Selection (Volume / Program)	Print (Exit programming)
Others	Menu	OSD

- A 'H' will appear on screen
- To store to setting go into standby

**ANUBIS Service mode**

- Short circuit terminals M61 and M62
- Afterwards press Program+ and Volume-

**ANUBIS Service mode (check)**

- Short circuit terminals M28 and M29

**ANUBIS Service mode**

- Short circuit terminals M31 and M32 (IC7710)

**ANUBIS A Hotel mode**

- Select program 38 on the TV
- Simultaneously press the INSTALL and PROGRAMM+ key on the TV (hotel mode on)
- Simultaneously press the INSTALL and CONTROL- key on the TV (hotel mode off)

**ANUBIS A Hotel mode**

- Select program 38 on the TV
- Simultaneously press for about 4 seconds the INSTALL key on the TV and the SLEEPTIMER on the remote (hotel mode on)
- Simultaneously press for about 4 seconds the STORE key on the TV and the SLEEPTIMER on the remote (hotel mode off)

**ANUBIS A (3 buttons) Hotel mode**

- Select program 38 on the TV
- Simultaneously press the FINE key and the STOP PROG (or OSD for certain

models) key on the keyboard of the TV for about 4 seconds

- A 'H' appears onscreen

#### **ANUBIS A (3 buttons) Hotel mode, uP TMP47C434N-3144/3145**

- Hotel mode is NOT available for uP versions TMP47C434N-3144 and TMP47C434N-3145 -> replaced by TMP47C424N-3146

#### **ANUBIS A (3 buttons) Hotel mode, uP TMP47C434N-3146**

- Select program 38
- To activate hotel mode:  
Simultaneously press the INSTALL and SLEEPTIMER key on the remote for 4 seconds
- To de-activate hotel mode:  
Simultaneously press the INSTALL and CONTROL key on the TV for 4 seconds
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it.
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds
  - A green 'H' appears in the left bottom of the screen, which can be removed by powering down the TV and powering it up again

#### **ANUBIS A-AC (3 buttons, Teletext) Hotel mode**

- Select program 38 on the TV
- Simultaneously press the MENU key and the SLEEPTIMER (or OSD) key on the remote for about 4 seconds (toggles hotel mode on/off)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it.
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds
  - A green 'H+' appears in the left bottom of the screen when hotel mode is activated, which can be removed by powering down the TV and powering it up again
  - A green 'H-' appears in the left bottom of the screen when hotel mode is deactivated, which can be removed by powering down the TV and powering it up again

#### **ANUBIS A (8 buttons) Hotel mode, uP TMP47C434N-3123**

- Hotel mode is NOT available for uP version TMP47C434N-3123

#### **ANUBIS A (8 buttons) Hotel mode, µP TMP47C434N-3121/3122**

- Select program 38
- To activate hotel mode:

Simultaneously press the INSTALL key and PROGRAM+ on the TV for 4 seconds

- To de-activate hotel mode:

Simultaneously press the INSTALL key and CONTROL- on the TV for 4 seconds

- Notes:

- The maximum volume in hotel mode will be the volume present when activating it.

- STORE or INSTALL mode can not be entered

- The program number is displayed continuously

#### **ANUBIS A (8 buttons) Hotel mode, $\mu$ P TMP47C434N-R217**

- Select program 38

- To activate hotel mode:

Simultaneously press the INSTALL and SLEEPTIMER on the remote for 4 seconds

- To de-activate hotel mode:

Simultaneously press the STORE key on the TV and SLEEPTIMER on the remote for 4 seconds

- Notes:

- The maximum volume in hotel mode will be the volume present when activating it.

- STORE or INSTALL mode can not be entered

- The program number is displayed on the screen for 4 seconds

- A green 'H' appears in the left bottom of the screen, which can be removed by powering down the TV and powering it up again

#### **ANUBIS A (8 buttons) Hotel mode**

- Select program 38 on the TV

- Simultaneously press the 5th and 7th key from the left on the keyboard of the TV

- The currently set volume is then the maximum allowed volume and the installation menu cannot be called any more

#### **ANUBIS A (Teletext) Hotel mode**

- Select program 38 on the TV

- Simultaneously press for about 4 seconds the MENU key on the TV and the SLEEPTIMER (or OSD) on the remote

#### **ANUBIS B Service mode**

- Select program 38 on the TV

- Simultaneously press the P key and the VOLUME+ key (keyboard?/remote?)

- To enable hotel mode you should set 'HO' to 'one'

#### **ANUBIS B Service mode**

- With the TV powered off (disconnected from the mains!) short circuit pins M61

and M62 (next to IC7600). Power up the TV and remove the short circuit. A 'S' will be displayed indicating it is in service mode

- Simultaneously press the P - and VOL+ keys on the TV. The screen now shows 'service menu'.
- To allow hotel mode from being set on and off you have to select Option 2 with the remote and set 'Hotel' to 'on'.
- Exit the service mode by putting the TV into standby

#### **ANUBIS B Hotel mode enabling, uP P83C054-CV6006/CV6014/CV6107**

- Enter service default mode (see above)
- Simultaneously press the P - and VOL+ keys on the TV
- To allow hotel mode from being set on and off you have to select Option 2 with the remote and set 'Hotel' to 'on' (on can be set with CONTR+ -)
- Exit the service mode by putting the TV into standby

#### **ANUBIS B Hotel mode, uP P83C054 -CV6006**

- Make sure hotel mode is enabled using the service mode
- Select program 38 on the TV
- Simultaneously press the INSTALL and PROGRAMM+ key on the TV (toggles hotel mode), the displayed '38' will change from green into red (hotel mode on) or from red to green (hotel mode off)
- Put the TV into standby
- Power up the TV with PROGRAMM+/-
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it
  - STORE or INSTALL mode can not be entered
  - When INSTALL is pressed the channel number changes from green to red and the installation menu is no longer displayed

#### **ANUBIS B Hotel mode, uP P83C054 -CV6014/CV6107**

- Make sure hotel mode is enabled using the service mode
- Select program 38 on the TV
- Simultaneously press the INSTALL key on the TV and SLEEPTIMER on the remote for about 4 seconds (toggles hotel mode)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it
  - STORE or INSTALL mode can not be entered
  - When INSTALL is pressed the channel number changes from green to red and the installation menu is no longer displayed
  - The program number is displayed on the screen for 4 seconds
  - A red 'H+' appears in the left bottom of the screen when hotel mode is activated, which can be removed by powering down the TV and powering it up again
  - A red 'H-' appears in the left bottom of the screen when hotel mode is deactivated, which can be removed by powering down the TV and powering it up again

**ANUBIS B Hotel mode**

- Make sure 'HO' is set to 'one' using the service mode
- Select program 38 on the TV
- Simultaneously press INSTALL and the P+ key on the keyboard of the TV (toggles hotel mode)
- In hotel mode programs can not be rescanned and the volume can not be increased

**ANUBIS B Hotel TV**

- Always has hotel mode activated

**COMBI TV/VCR Hotel mode**

**Note: also see the 20PV220 Combi TV**

- Select program 38 on the product
- Simultaneously press the STOP -button on the remote control and the keyboard of the product
- Wait until 'H+' or 'H-' appears (approx. 5 seconds)

**COMBI TV/VCR Hotel mode,  $\mu$ P versions M27C1001-20B1/15F1**

- Select program 38 on the product
- Simultaneously press the SELECT key on the TV and SLEEPTIMER on the remote for about 4 seconds (toggles hotel mode), a red 'H+' (hotel mode on) or a red 'H-' (hotel mode off) is being displayed
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it
  - STORE or INSTALL mode can not be entered

**CTT-H Hotel mode, uP TMP47C434N-3146**

- Select program 38
- Simultaneously press the SELECT key on the TV and the SLEEPTIMER key on the remote for about 4 seconds (toggles hotel mode)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it.

The volume at switching on of the TV can be louder than that defined here, which can be resolved in the following way:

  - . de-activate hotel mode
  - . set PP volume at normal volume but no louder than maximum hotel mode volume
  - . re-activate hotel mode
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds
  - A green 'H' appears in the left bottom of the screen, which can be removed by

powering down the TV and powering it up again

### D16 Service mode

- Short circuit M30 and M31
- Use the following keys: '-/--', VOLUME+/-
- The following items are available:

OPTION 1

OPTION 2

Drive VG2

Vertical adjustment

Vertical amplitude

S correction

Y delay

Horizontal adjustment

Horizontal amplitude

Parabole 1

Parabole 2

Trapezium

Power drive oscillator

RGB cut-off

R drive

G drive

B drive

S-video Y delay

The OPTION 1 and OPTION 2 numbers are defined as follows:

OPTION 1 code bit	Description (0 = Multi Europe)	
	Non ECO model	ECO model
0	UHF	
1	Multi France	
2	PIP	
3	MAC	Reservd
4	SAT	Reserved
5	Only system BG	Only system BG
6	System DK	System DK
7	EXT3	No S-video

OPTION 2 code bit	Description (0 = NICAM Teletext)	
	Non ECO model	ECO model
0	Siemens PIP	No teletext
1	TPU2732	TPU2732

2	No NICAM	No NICAM
3	No NICAM	No NICAM
4	Large tube	Large tube
5	No TOP teletext	No TOP teletext
6	Extended teletext	Extended teletext
7		

- Store the settings with the PP key (Personal Preferences, green key)
- Use the TV key to exit service mode
  - Errors are reported by means of the LED's on the TV. There are a total of 19 distinctive errors.

Error	LED				Description	
	SB	ON	TXT	RGB		
1				X	IC7130	
2			X		IC7655	
3			X	X	IC7103 (Memory/EEPROM)	
4		X			not used	
5		X		X	IC7106 (Program)	
6		X	X		IC7150 (Microprocessor)	
7		X	X	X	IC7190	
8	X				+5V digital board	
9	X			X	IM - bus	
10	X		X		I2C bus	
11	X		X	X	UV816 (Tuner)	
12	X	X			IC7150 (Remote control input)	
13	X	X		X	IC7235	
14	X	X	X		PIP	
15	X	X	X	X	Protection	
16					NICAM	TV is switch into standby
17				X	IC7200, IC7201	
18			X		IC7260	
19			X	X	U bus	

#### FLx

- You need to use the *FL1* remote control code sequence as described on the [Service mode remote control codes](#).
- Option bytes:

OPTION 1	Description
----------	-------------

code bit	(0 = PAL BG/SECAM BG)
0	Only UHF
1	SECAM L
2	SECAM L / L'
3	PIP module
4	NTSC
5	SECAM DK
6	NICAM
7	PIP tuner

OPTION 2 code bit	Description
0	Only used for FL1.6AA
1	Mode 1/2 digits
2	100 Hz (except for 100Hz ECO FLx.x7)
3	Language
4	NICAM with double PIP tuner
5	ECO NICAM module
6	100 Hz ECO (FLx.x7) except for digital scan (FLx.x4/FLx.x6)
7	Comb filter IC7000 MC141625

OPTION 3 code bit	Description
0	FSS reception by satellite box
1	2GHz tuner SAT SF916
2	MAC tuner SAT SF914
3	MAC module (D2MAC)
4	Wireless audio
5	MAC hyperband
6	16/9 tube
7	36" videocolor tube

OPTION 4 code bit	Description
0	Scandinavian teletext
1	Multi - PIP
2	FL2 and FL4
3	DAF module
4	Comb filter

5	Mosaic
6	
7	16/9 rotation

OPTION 5 code bit	Description
0	3rd ??
1	SCAVEM available
2	
3	SCAVEM not available
4	
5	
6	
7	

The following is a list of the different FLx.x models.

For some models the last option number(s) are not used and these are therefore omitted.

Model	Chassis	Option numbers				
		1	2	3	4	5
25PT800A/19	FL1. 1 7AA	020	038	000	004	
25PT800B/19	FL1.17AA	020	064	000	000	000
25PT802B/19	FL1.17AA	084	064	000	000	016
25PT900A/19	FL2.16AA	020	068	000	004	001
25PT902B/19	FL2.26AA	018	068	000	004	001
25PT910A/19	FL2.16	028	068	000	006	
28PT800A/19	FL1.17	020	064	000	000	
28PT800B/19	FL1. 1 7AA	020	064	000	000	000
28PT802B/19	FL1.17AA	084	064	000	000	016
28PT840A/39	FL1.17AA	020	064	000	032	000
28PT842B/19	FL1.17AA	084	064	000	000	016
28PT842B/19	FL1.16AA	084	064	000	000	016
28PT900A/19	FL2.16	028	068	000	004	
28PT910A/19	FL2.16	028	068	000	006	
28PW960B/19	FL2.24AA	028	068	064	038	009
28PW962B/19	FL2.24AA	092	068	064	038	025
29PT820B/19	FL4.27AA	020	064	000	004	008
29PT822B/19	FL4.27AA	084	064	000	004	024
29PT900B/19	FL2.26AA	020	068	000	004	009
29PT902B/19	FL2.26AA	084	068	000	004	001
29PT910A/19	FL2.16	028	068	000	006	
29PT910B/19	FL2.26AA	028	068	000	038	009
29PT912B/19	FL2.26AA	092	068	000	038	009
32PW960B/19	FL2.24AA	156	068	064	174	009
32PW962B/19	FL2.24AA	220	068	064	174	025
32PW977A/19	FL2.24AA	154	196	064	174	025
33PT700A/19	FL1.1	020	000	000	000	
33PT700B/19	FL1.10AA	020	000	000	000	000
33PT702B/19	FL1.10AA	084	000	000	000	016
33PT702C/19	FL1.20AA	084	000	000	000	017
33PT910B/19	FL2.26AA	156	068	000	038	009
33PT912B/19	FL2.26AA	220	068	000	038	025

46PP960A/19	FL1 PTV	156	079	064	000	000
46PP962A/19	FL1 PTV AB	220	111	064	000	000
70TA8310/38	FL1.1 7AA	020	064	000	000	
70TA8330/38	FL1.17AA	084	064	000	000	016
70TA8331/18	FL1.16A	084	068	000	000	016
72TA7911/18	FL1.17AA	020	064	000	004	000
72TA7931/18	FL4.17AA	084	064	000	000	016
72TA7932/18	FL4.16AA	084	068	000	004	016
72TB7891/19	FL4.17AA	020	064	000	004	000
72TB7911/19	FL4.17AA	084	064	000	000	016
72TB7912/19	FL4.16AA	084	068	000	004	016
25PV7506/39	FL1.10	028	000	000	000	
25SL5501/39	FL1.10	020	000	000	000	
28PV7806/39	FL1.10	028	000	000	000	
28SL5501/39	FL1.10	020	000	000	000	
28SL5801/39	FL1.10	020	000	000	000	
28CL6976/39	FL1.10	028	000	000	000	
33ML8905/39	FL1.16	156	068	000	002	
21PT700A/19	FL1.0	020	003			
21SL5101/19	FL1.0	020	003			
21SL5756/19	FL1.0	004				
25PV7966/39	FL1.0	028	001			
28PV7506/19	FL1.0	028	003			
28PV7976/39	FL1.0	028	001			
25SL5501/19B	FL1.0	020	003			
25SL5776/39B	FL1.0	004				
25SL5776/39S	FL1.0	020	001			
28SL5776/39B	FL1.0	004				
28SL5776/39S	FL1.0	020	001			
28SL5801/19B	FL1.0	020	003			
28CL6976/19Z	FL1.0	028	003			
33PV7996/19B	FL1.0	012	000			
33SL5901/19B	FL1.0	020	003			
256597WQ/19S	FL1.0	028	003			
256597WQ/39M	FL1.0	028	001			
256575KR/19M	FL1.0	004				
256575KR/39M	FL1.0	004				
256575KR/19S	FL1.0	020	003			
287597WQ/19M	FL1.0	028				
287597WQ/19S	FL1.0	028	003			
287575KR/19M	FL1.0	004				
287575KR/39M	FL1.0	004				
287575KR/19S	FL1.0	020	003			
339975KR/19B	FL1.0	004				
339975KR/39S	FL1.0	020	003			
85RK5987/38S	FL1.0	020	003			
70RK5797/18Z	FL1.0	020	003			
25ML8300/19B	FL1.7	020	007			
25ML8305/19B	FL1.7	028	007			
25ML8500/19B	FL1.6	020	071			
25ML8505/19B	FL1.6	028	071			
25ML8766/19B	FL1.1	004	004			
25ML8966/19B	FL1.1	012	004			
28ML8600/19B	FL1.7	020	007			
28ML8605/19B	FL1.7	028	007			
28ML8766/19B	FL1.1	004	004			
28ML8776/19B	FL1.1	004	004			
28ML8976/19B	FL1.1	012	004			
28ML8800/19B	FL1.6	028	071			
28ML8805/19B	FL1.6	058	071			
33ML8905/19B	FL1.6	156	071			
33ML8996/19B	FL1.1	156	004			
28ML8762/19B	FL1.2	020	071	064	000	

<b>28ML8785/19B</b>	FL1.2	028 069 094 000
<b>28ML8916/19B</b>	FL1.2	020 004
<b>36ML8906/19B</b>	FL1.2	156 071
<b>36ML8965/39B</b>	FL1.2	156 069 192
<b>70RK5816/18R</b>	FL1.2	020 071 064 000
<b>46ML0985/19B</b>	FL1 PTV	156 079 094 000
<b>41ML0955/19B</b>	FL1 PTV	156 079 064 000
<b>46PP960A/19</b>	FL1 PTV	156 079 000 000
<b>46PP962A/19</b>	FL1 PTV	220 111 000 000

- Service mode is entered by shorting pins 1 and 3 of S30 and then powering up the TV.
- Some data is protected from being changed by means of S30. If S30 is shorted then access to these protected data is possible, otherwise it is not. The protected data is:  
Cut-off of green and blue  
Drive of white, green and blue  
The options
- Errors are indicated by means of the LEDs on the TV. There are about 50 possible errors.

#### G110

- No information

#### G90

- No information

#### GR1-AX Hotel mode

- Select program 38 on the TV
- Simultaneously press the STORE and the PROGRAM+ key on the TV (hotel mode on)
- Simultaneously press the STORE and the CONTROL+ key on the TV (hotel mode off)

#### GR1-AX Hotel mode

- Select program 38 on the TV
- Simultaneously press the STORE key on the TV and the SLEEPTIMER on the remote for 4 about seconds

#### GR1-AX (3 buttons) Hotel mode, uP TMP47C434N-3141

- There is NO hotel mode

#### GR1-AX (3 buttons) Hotel mode, uP TMP47C434N-3142

- Select program 38 on the TV

- Simultaneously press the SELECT key on the TV and the SLEEPTIMER on the remote for 4 about seconds (toggles hotel mode)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it
  - STORE or INSTALL mode can not be entered
  - A green 'H+' appears in the left bottom of the screen when hotel mode is activated, which can be removed by powering down the TV and powering it up again
  - A green 'H-' appears in the left bottom of the screen when hotel mode is deactivated, which can be removed by powering down the TV and powering it up again

**GR1-AX (3 buttons) Hotel mode, uP TMP47C434N-3537**

- There is NO hotel mode

**GR1-AX (8 buttons) Hotel mode, uP TMP47C434N-3414/3415, uP TMP47C634N-R494**

- Select program 38 on the TV
- Simultaneously press the STORE key and the PROGRAM+ key on the TV for 4 about seconds (hotel mode on)
- Simultaneously press the STORE key and the CONTROL - key on the TV for 4 about seconds (hotel mode off)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds

**GR1-AX (8 buttons) Hotel mode, uP TMP47C434N-R221**

- Select program 38 on the TV
- Simultaneously press the STORE key on the TV and SLEEPTIMER on the remote for 4 about seconds (toggles hotel mode)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds
  - A green 'H' appears in the left bottom of the screen, which can be removed by powering down the TV and powering it up again

**GR2.1/GR2.2 Service mode**

For the GR2.2 see also another table.

- Short circuit pins M33 and M34 before powering up the TV.
- When powered up the TV LED will show as orange after which the short circuit can be removed.

- After some seconds SER will be displayed on screen.
- The TV is now in service mode. If the TV has 5 buttons then press simultaneously keys VOL- and PROG+. For a 3 button TV press simultaneously keys MENU and -.
- The main menu will appear. Use the MENU button to go through the menu's)

Main menu:

<b>A</b>	<b>OPTION 1</b>
<b>B</b>	<b>OPTION 2</b>
<b>C</b>	<b>WHITE BALANCE</b>
<b>D</b>	<b>CUTT-OFF</b>

OPTION 1 menu:

<b>A</b>	<b>PIP</b>
<b>B</b>	<b>SECOND SCART</b>
<b>C</b>	<b>TELETEXT</b>
<b>D</b>	<b>SIXTEEN/NINE</b>

OPTION 2 menu:

<b>A</b>	<b>MULTISYSTEM</b>
<b>B</b>	<b>HYPERBAND</b>
<b>C</b>	<b>UHF ONLY</b>
<b>D</b>	<b>NI CAM/TWIN</b>

WHITE LIMIT menu (BM = black matrix settings; BL = black line settings):

	<b>BM</b>	<b>BL</b>
<b>A</b>	<b>GREEN</b>	<b>51 51</b>
<b>B</b>	<b>BLUE</b>	<b>46 46</b>
<b>C</b>	<b>WHITE LIM</b>	<b>53 43</b>

CUTT-OFF menu:

<b>A</b>	<b>RED</b>	<b>56</b>
<b>B</b>	<b>GREEN</b>	<b>16</b>
<b>C</b>	<b>BLUE</b>	<b>15</b>
<b>D</b>	<b>DISABLE</b>	<b>off</b>

Store the settings by means of going into standby.

## GR2.2

*Confirmed*

- You need to use the *GR2.X Open factory - Service* remote control code sequence as described on the [Service mode remote control codes](#).
- When you use the 'Open service version 2' you get into SER FAC mode with the following screen:

<b>SER FAC</b>	
<b>SERVICE</b>	
<b>A</b>	<b>OPTION I</b>
<b>B</b>	<b>OPTION II</b>
<b>C</b>	<b>WHITE BALANCE</b>
<b>D</b>	<b>CUTT-OFF</b>

Activating the different options gives the following settings:

<b>Settings GR2.2 (28ST2781/10S)</b>			
<i>Selection</i>	<i>Selection</i>	<i>Settings</i>	<i>Comments</i>
A OPTION I	A PIP	On / <b>Off</b>	
	B SECOND SCART	<b>On</b> / Off	
	C TELETEXT	<b>On</b> / Off	
	D SIXTEEN/NINE	<b>On</b> / Off	
	E SVHS	<b>On</b> / Off	
B OPTION II	A MULTISYSTEM	On / <b>Off</b>	
	B HYPERBAND	<b>On</b> / Off	
	C UHF ONLY	On / <b>Off</b>	
	D NICAM TWIN	On / <b>Off</b>	
C WHITE BALANCE	A GREEN	55	Range 0-63
	B BLUE	49	Range 0-63
	C WHITE LIMIT	43	Range 0-63
D CUT-OFF	A RED	30	Range 0-63
	B GREEN	30	Range 0-63
	C BLUE	30	Range 0-63
	D DISABLE	On / <b>Off</b>	

#### **GR2.4 Service mode**

- Short circuit pins M33 and M34 before powering up the TV.
- When powered up the TV LED will show as orange after which the short circuit can be removed.
- After some seconds SER will be displayed on screen.
- The TV is now in service mode. If the TV has 5 buttons then press simultaneously keys VOL - and PROG+. For a 3 button TV press simultaneously keys MENU and -.
- The main menu will appear (use the MENU button to go through the menu's)

Main menu:

<b>A OPTIONS</b> <b>B SOUND/SYNC</b> <b>C W. BAL/STRETCH</b> <b>D CUTT-OFF/GAMMA</b> <b>E SIXT. /NINE</b> <b>NICAM</b>
---

SOUND/SYNC menu:

<b>A</b>	<b>SYNC. FREQ</b>	<b>168</b>
<b>B</b>	<b>STRE. LEV</b>	<b>-0.4</b>

W.BAL/STRETCH menu (BM = black matrix settings; BL = 29" black line settings):

		<b>BM</b>	<b>BL</b>
<b>A</b>	<b>G/AMP</b>	<b>50</b>	<b>49</b>
<b>B</b>	<b>B/AMP</b>	<b>40</b>	<b>34</b>
<b>C</b>	<b>WH/LIM</b>	<b>51</b>	<b>45</b>
<b>D</b>	<b>BLUE</b>		<b>on</b>
<b>E</b>	<b>BLACK</b>		<b>on</b>

CUTT-OFF/GAMMA menu (BM = black matrix settings; BL = 29" black line settings):

		<b>BM</b>	<b>BL</b>
<b>A</b>	<b>R/CUT</b>	<b>30</b>	<b>30</b>
<b>B</b>	<b>G/CUT</b>	<b>30</b>	<b>30</b>
<b>C</b>	<b>B/CUT</b>	<b>30</b>	<b>30</b>
<b>D</b>	<b>CUT/OFF</b>	<b>off</b>	<b>off</b>
<b>E</b>	<b>GAMMA</b>		<b>15</b>

SIXT./NINE menu:

<b>A</b>	<b>HEIGHT</b>
<b>B</b>	<b>PARAB SIXT/NINE</b>
<b>C</b>	<b>WIDE</b>
<b>D</b>	<b>PARAB FOUR/THREE</b>

Store the settings by means of going into standby.

### L6 Hotel mode

- Select program 38 on the TV
- Simultaneously press the MENU key and the SLEEPTIMER (or OSD) key on the remote for about 4 seconds (toggles hotel mode on/off)
- Notes:
  - The maximum volume in hotel mode will be the volume present when activating it.
  - STORE or INSTALL mode can not be entered
  - The program number is displayed on the screen for 4 seconds
  - A green 'H+' appears in the left bottom of the screen when hotel mode is activated, which can be removed by powering down the TV and powering it up again
  - A green 'H-' appears in the left bottom of the screen when hotel mode is deactivated, which can be removed by powering down the TV and powering it up again

### L6.1 (without Teletext) Hotel mode

- Select program 38 on the TV
- Simultaneously press the - key on the keyboard of the TV and the OSD key of the remote control

**L6.1 (with Teletext) Hotel mode**

- There is NO hotel mode

**L6.2 Service mode**

- Use special remote codes, see [Service mode remote control codes](#) section,
- or short circuit the two contactS S1 and S2 close to the microprocessor (pin 14 IC7600)

**L6.2 (mono, 3 buttons) Hotel mode**

- Select program 38 on the TV
- Simultaneously press the - key on the keyboard of the TV and the OSD key of the remote control

**L6.2 (mono, 4 buttons) Hotel mode**

- Select program 38 on the TV
- Simultaneously press the VOLUME+and FLIGHT (?) key on the keyboard of the TV and the OSD key of the remote control

**L6.2 (stereo) Hotel mode**

- There is NO hotel mode

**L6.3 Service mode**

- Use special remote codes, see [Service mode remote control codes](#) section,
- or short circuit the two wires close to the microprocessor

**L7 Service mode**

- Next to the processor are two pins marked 0028 and 0029 (M25/M26). Shortcircuit these before powering the TV. The TV will power up in it's service menu which has some settings for geometry and for the tuner. To store the parameters, put the TV into standby.

**L7.2 Service mode**

- Next to the processor are two pins marked 0028 and 0029. Shortcircuit these before powering the TV. The TV will power up in it's service menu which has some settings for geometry and for the tuner. To store the parameters, put the TV into standby.

**L7.2 Service mode/Hotel mode**

- Select program 38 on the TV
- Simultaneously press the VOLUME+ and FLIGHT (?) key on the keyboard of the TV and the OSD key of the remote control
- Note: hotel mode can only be selected if the service menu has option 'HO' set to 'one'

### L7.2 Service mode

- Short circuit pins 24 and 25

### L9.1/L9.2 Service mode

- Use special remote codes, see [Service mode remote control codes](#) section.
- Or for Service Alignment Mode (SAM) use '062596' and OSD/Time button
- Or for Service Default Mode (SDM) use '062596' and MENU
- Or depending on the software versions shorting pins 0225/0226 and 0228/0224 accesses/activates these modes as well:

Version	0225/0226	0228/0224
L90EF1-1.7 (with ST24W0x EEPROM)	SAM	SDM
L90EF2-1.4 (with ST24W0x EEPROM)	SAM	SDM
L90EM1-1.3 (with ST24W0x EEPROM)	SAM	SDM
L90EM2-1.1 (with ST24W0x EEPROM)	SAM	SDM
L90ET1-1.5 (with ST24W0x EEPROM)	SAM	SDM
L90ET2-1.3 (with ST24W0x EEPROM)	SAM	SDM
L90EF1-1.8	SDM	-
L90EF2-1.5	SDM	-
L90EM1-1.4	SDM	-
L90EM2-1.2	SDM	-
L90ET1-1.6	SDM	-
L90ET2-1.4	SDM	-

Press the V- and P- keys on the set simultaneously to go from stage to stage.

Example of the menu (by Martti Koskinen). Most explanations of the abbreviations donated by Eric Richards

(<http://homepages.paradise.net.nz/erichard>):

SDM		
01E4 L90ET1 1.6		
Selection	Option (default in <b>bold</b> )	Comments
AM	<b>OFF</b> / ON	
VI	<b>ON</b> / OFF	
CK	<b>ON</b> / OFF	Clock
CL	<b>ON</b> / OFF	
AT	<b>ON</b> / OFF	
CI	<b>ON</b> / OFF	

FV	<b>OFF / ON</b>	UHF type
SA	<b>ON / OFF</b>	Spatial
SS	<b>ON / OFF</b>	Smart Sound
SP	<b>ON / OFF</b>	
RC	<b>ON / OFF</b>	
TW	<b>ON / OFF</b>	
AC	<b>ON / OFF</b>	Auto Cable Select
C8	<b>ON / OFF</b>	ON = 79, OFF = 99
TN	<b>OFF / ON</b>	
2X	<b>ON / OFF</b>	External 2
X5 or XS	<b>ON / OFF</b>	
EX	<b>ON / OFF</b>	4:3 EXpand
CX	<b>ON / OFF</b>	
CP	<b>ON / OFF</b>	L9H.2A: East/West corner parabola (only if option EW is ON) L7.3A: Contrast Plus
EW	<b>ON / OFF</b>	East/West correction
BS	<b>ON / OFF</b>	
AS	<b>ON / OFF</b>	Auto Scan
IS	<b>ON / OFF</b>	
DV	<b>ON / OFF</b>	
UB	<b>ON / OFF</b>	
LV	<b>OFF / ON</b>	
ST	<b>I / DK / M / BG</b>	TV System
SB	<b>ND / IT / MA</b>	ND = stereo
SY	<b>EF / EL / SS / SP / AD / ED</b>	In position AD only sound will work
OB	142 247 190 056 247 248 076	Option Bytes

#### L9.1/L9.2 Service mode /Hotel mode

- Select program 38 on the TV
- Simultaneously press the keys VOLUME- and VOLUME+ on the keyboard of the TV and the OSD key of the remote control

#### L9.2 Hotel mode

- Hans Munsters reports that this model has a hotel mode, which can be activated in the same way as the L9.1 chassis.

**L9H Service mode**

This model also supports the 062596 sequence followed by [MENU] (service default) or [i+]/[OSD] (service mode).

The remote control sequence (GFL), see [Service mode remote control codes](#) section, should also work.

**MD1.x Service mode**

- To get into service mode short circuit 1s42 and 1s43
- By pressing simultaneously on the keys MENU and - on the TV itself you get into the maintenance menu (SAM).

Service mode 24PW6321/01

**ER 0 0 0 0 0 0 0 0 0 0**

<b>E2 Y</b>	<b>AX 12</b>	<b>RD 34</b>
<b>U0 N</b>	<b>VP 38</b>	<b>GD 28</b>
<b>LL Y</b>	<b>VA 00</b>	<b>BD 19</b>
<b>NI Y</b>	<b>VL 38</b>	<b>HD 36</b>
<b>TT Y</b>	<b>VS 35</b>	<b>HW 40</b>
<b>ET N</b>		<b>HP 12</b>
<b>BR Y</b>		<b>HG 00</b>
		<b>HT 31</b>

Service mode 25PT5121/39

**ER 0 0 0 0 0 0 0 0 0 0**

<b>E2 Y</b>	<b>AX 13</b>	<b>RD 28</b>
<b>U0 N</b>	<b>VP 27</b>	<b>GD 32</b>
<b>LL Y</b>	<b>VA 18</b>	<b>BD 40</b>
<b>NI Y</b>	<b>VL 31</b>	<b>HD 38</b>
<b>TT Y</b>	<b>VS 31</b>	<b>HW 24</b>
<b>ET N</b>		<b>HP 36</b>
		<b>HG 31</b>

The top line list the last detected errors.

The left row are the options, the two right rows are the geometry settings.

The options are:

- E2: 2nd peri
- U0: Only UHF
- LL: System
- NI: NICAM
- TT: Teletext France
- ET: Teletext Eastern Europe
- BR: 16/9

**MD1.2 Service mode**

*Contribution by Denis Cornet*

The following reply was received concerning the Service mode TV set Philips 28PW6322/01 Chassis MD1.2E AA:

"... in the meantime I've found some info over the service mode of this TV set.

There is a small Service jumper to short on the small signal PCB.

When the TV is in this first level service mode, you can go in the second level service mode by pressing both MENU and - keys on top of the TV at the same time.

There you can read much parameters and proceed with most of the adjustments.

In fact this method let you use an ordinary Remote control but you also need to open the back cover.

With the special service remote control, a special code is sent to enter the service mode. It is also possible to record this remote control code in a learning remote control."

#### MID1.X

- Is MD1.X

#### MID2.X Service mode

- Is MD2.x
- Use special remote codes, see [Service mode remote control codes](#) section, or short circuit the service pins

#### TVC12/13

- Error codes

Error	LED	No longer functional	Still functional	Description/Problems
E0				IC7702 (No 5V at D6706) Battery 1701 D6706, IC7703
E1				Remote receiver (T7856) Controller board (IC7830)
E3				No +13V (IC7703)
E4				Controller board (IC7830)
88		Remote control	TV keyboard	Remote receiver (T7856) Controller board (IC7830)
88		Volume, Contrast, Intensity		No +31V (IC7830)
88	Blinking			Controller board (IC7830)
88		Volume, Contrast, Intensity		+5V Controller board (IC7830)

<b>Y6 Service mode</b>
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This model also supports the 062596 sequence followed by [MENU].
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**Other material**

<b>Other material</b>	
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<b>Additional service mode methods</b>	<ul style="list-style-type: none"><li>• Press [MENU], then press 061596 or 061597</li></ul>
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<b>Demo mode</b>	<ul style="list-style-type: none"><li>• Press volume up and down at the same time on the TV</li></ul>
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