

# PHILIPS

TCM1.0E  
TCM2.0E

At Your Service Learning Centre



< Instructor Theo Heijnen >  
May, 2008

V1.0

PERSONAL NOTES:



Philips CL, Consumer Car

slide 2

After this training you:

Know the main features

Can diagnose the set

Can do software upgrades

Can repair the set on component level for SSB



Philips CL, Consumer Car

slide 4

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Range Overview

TCM1.0E	20PFL3403/10 26PFL3403/10
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TCM2.0E	19PFL5403D/10 20PFL3403D/10 22PFL5403D/10 26PFL3403D/10 26PFL5403D/12
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Philips CL, Consumer Care, April 2008

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The **xxPFL3403/10** models are Europe LCD platform designed for driving below panels:

- 20" LPL (RGB TTL)
- 26" AUO (LVDS)

The main chip is from Mediatec (MTK8200 series) and supports below inputs:

- one analog RF (PAL B/G D/K I, SECAM B/G D/K L/L')
- one SCART (CVBS & RGB)
- one CMP (YPrPb can support from 480i up to 1080i)
- one VGA
- one HDMI (can support 480i/p, 576i/p, 720p up to 1080i/p)
- one S-Video input
- one Headphone output

PERSONAL NOTES:

PHILIPS

## Specifications 20PFL3403

## Preliminary



## Clearly the smart choice

Designed for ease of use, this Flat TV features modern design, 2 HDMI connections, a powerful 576p, 50Hz display and brilliant Crystal Clear III engine. Making the smart choice in total picture quality has never been easier.

## Connect, install and enjoy

- HDMI input for full digital HD connection in one cable
- Smart mode selects a perfect mode for what you are watching
- PC input allows you to use your TV as a PC monitor

## Hear crisp and clear sound

- Incredible Surround for enhanced audio enjoyment

## Superb picture quality

- Crystal Clear III for natural images with enhanced quality
- LCD display, 640 x 480p



## Preliminary

Flat TV with Crystal Clear III

20" LCD

## Specifications

## Picture/Display

- Brightness: 300 cd/m<sup>2</sup>
- Contrast ratio (typical): 800:1
- Diagonal screen size: 20 inch / 51 cm
- Display screen type: LCD VGA Active Matrix TFT
- Panel resolution: 640 x 480p
- Picture enhancement: 3:5 - 1:2 motion pull down, Crystal Clear III, Progressive Scan, Smart Picture, 2D CombFilter, White stretch
- Response time (typical): 12 ms
- Screen enhancement: Anti-Reflection coated screen
- Viewing angle: 178° (H) / 178° (V)
- Aspect ratio: 4:3

## Supported Display Resolution

## Computer format

- | Resolution | Refresh rate |
|------------|--------------|
| 640 x 480  | 60Hz         |
| 800 x 600  | 60Hz         |
| 1024 x 768 | 60Hz         |

## Video format

- | Resolution | Refresh rate |
|------------|--------------|
| 480i       | 60Hz         |
| 480p       | 60Hz         |
| 576i       | 50Hz         |
| 576p       | 50Hz         |
| 720p       | 50, 60Hz     |
| 1080i      | 50, 60Hz     |

## Sound

- Output power (RMS): 2 x 3W
- Sound Enhancement: Auto Volume Leveller, Incredible Surround, Smart Sound
- Sound System: Mono, Stereo

## Tuner/Reception/Transmission

- Tuner bands: Hyperband, S-Channel, UHF, VHF
- Tuner Display: PLL
- TV system: PAL, SECAM, PAL D/K, PAL L, SECAM B/G, SECAM D/K, SECAM U/L
- Video Playback: NTSC, PAL, SECAM
- Aerial input: 75 ohm coaxial (IEC75)

## Connectivity

- Ext 1: i-Scan: Audio L/R, CVBS In/out, RGB
- Other connections: PC Audio in, PC-in VGA, Headphone out
- Ext 4: HDMI
- Ext 5: S-video in
- Ext 3: YPBPr in, Audio L/R in, CVBS in

## Convenience

- Clock-Sleep Timer
- Ease of installation: Auto Program Naming, Automatic Channel Install(ACI), Automatic Tuning System (ATS), Autostore, Fine Tuning, Flip & Play
- Ease of Use: Program List, On Screen Display, Auto Volume Leveller (AVL), Side Control
- Remote Control: TV
- Remote control type: RCS
- Screen Format Adjustment: 4:3
- Teletext: 100 page Smart Text
- Picture in Picture: Text dual screen
- Smart mode: Movie, Standard, Power saver, Personal, Vivid

## Accessories

- Included Accessories: Batteries for remote control, Remote Control, Table top stand, User Manual, Warranty certificate, Power cord, Quick start guide

## Dimensions

- VESA wall mount compatible: 100 x 100 mm
- Set dimensions with stand (W x H x D): 470 x 445 x 225 mm
- Set dimensions (W x H x D): 470 x 406 x 71 mm
- Product weight: 6.7 (with stand), 5.8 (without stand) kg
- Box dimensions (W x H x D): 572 x 500 x 225 mm
- Weight incl. Packaging: 9.7 kg

## Power

- Standby power consumption: <0.3 W
- Main power: 100-240V/50/60Hz
- Ambient temperature: 5 °C to 35 °C
- Power consumption: 45 W

## 20PFL3403/I/O

## Product highlights

## HDMI input

HDMI realizes an uncompressed digital RGB connection from the source to the screen, by eliminating conversion to an analog signal it delivers an unenhanced image. The non-degraded signal reduces flicker and leads to a clearer picture. HDMI intelligently communicates the highest output resolution with the source device. The HDMI input is fully backward compatible with DVI sources but includes digital audio. HDMI uses HDCP copy protection.

## Smart mode

The optimum picture and sound depends on various aspects like the video source, content type, surroundings of the room, type of display device etc. Smart Mode has predefined picture and sound settings conveniently preset by the way you use your TV. The Personal setting allows you to define the picture settings according to your preference, store it and gain easy access for future selection. All these conveniently built into your TV for optimal settings.

## Incredible Surround

Incredible Surround is an audio technology from Philips that dramatically magnifies the sound field to immerse you in the audio. Using state-of-the-art electronic phase shifting, Incredible Surround mixes sounds from left and right in such a way that it expands the virtual distance between the two speakers. This wider spread greatly enhances the stereo effect and creates a more natural sound dimension. Incredible Surround allows you to experience total surround with greater depth and width of sound, without the use of additional speakers.

## Crystal Clear III

Crystal Clear III combines a wide range of enhancements to provide a better picture. They include a 3D Comb Filter, Dynamic contrast, Blue stretch and Green enhancement so that you always get the most natural looking colors.

## LCD display, 640 x 480p

## LCD display, 640 x 480p

PC input (VGA)  
With PC input you can connect your TV to a computer by a VGA cable and use the TV as a PC monitor.

**PHILIPS**  
sense and simplicity



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Version: 0.4.12

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EAN: 87 1291 37660 4

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Picture/Display

- **Brightness:** 300 cd/m<sup>2</sup>
- **Contrast ratio (typical):** 800:1
- **Diagonal screen size:** 20 inch / 51 cm
- **Display screen type:** LCD VGA Active Matrix TFT
- **Panel resolution:** 640 x 480p
- **Picture enhancement:** 3/2 - 2/2 motion pull down, Crystal Clear III, Progressive Scan, Smart Picture, 2D Combfilter, White stretch
- **Response time (typical):** 12 ms
- **Screen enhancement:** Anti-Reflection coated screen
- **Viewing angle:** 178° (H) / 178° (V)
- **Aspect ratio:** 4:3

Supported Display Resolution

• **Computer formats**

Resolution	Refresh rate
640 x 480	60Hz
800 x 600	60Hz
1024 x 768	60Hz

• **Video formats**

Resolution	Refresh rate
480i	60Hz
480p	60Hz
576i	50Hz
576p	50Hz
720p	50, 60Hz
1080i	50, 60Hz

Philips CL, Consumer Care, April 2008

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PERSONAL NOTES:

## Preliminary



Designed for ease of use, this Flat TV features modern design, 2 HDMI connections, a powerful 576p, 50Hz display and brilliant Crystal Clear III engine. Making the smart choice in total picture quality has never been easier.

- **Connect, install and enjoy**
  - HDMI input for full digital HD connection in one cable
  - Smart mode selects a perfect mode for what you are watching
  - PC-input allows you to use your TV as a PC monitor
- **Hear crisp and clear sound**
  - Incredible Surround for enhanced audio enjoyment
- **Superb picture quality**
  - HD ready for the highest quality display of HDTV signals
  - Up to 5ms response time for clear, fast moving action
  - HD LCD display, with a 1366 x 768p resolution
  - Crystal Clear II for natural images with enhanced quality

### Product highlights

HDMI input

HDMI makes an uncompressed digital RGB connection from the source to the screen. By eliminating conversion to an analog signal, it delivers an unblemished image. The non-degraded signal reduces flicker and leads to a clearer picture. HDMI intelligently communicates the highest output resolution with the source device. The HDMI input is fully backward compatible with DVI sources but includes digital audio. HDMI uses HDCP copy protection.

**HD Ready**  
Enter the world

Enjoy the exceptional picture quality of a true High Definition TV signal and be fully prepared for HD sources like HDTV broadcast, Blu-ray DVD or HD-DVD. HD ready is a protected label that offers picture quality beyond that of progressive scan. It conforms to strict standards laid out by EICTA to offer a HD screen that displays the benefits of resolution and picture quality of a High Definition TV signal. It has a universal connection for both analog YPbPr and uncompressed Digital connection of DVI or HDMI, supporting HDCP. It can display 720p and 1080i signals at 50 and 60Hz.

### Smart mode

The optimum picture and sound depends on various aspects like the video source, content type, surroundings of the room, type of display device etc. Smart Mode has predefined picture and sound settings conveniently preset by the way you use your TV. The 'Personal' setting allows you to define the picture settings according to your preference, store it and gain easy access for future selection. All these conveniently built into your TV for optimal settings.

### Incredible Surround

Incredible Surround is an audio technology from Philips that dramatically magnifies the sound field to immerse you in the audio. Using state-of-the-art electronic phase shifting, Incredible Surround mixes sounds from left and right in such a way that it expands the virtual distance between the two speakers. This wider spread greatly enhances the stereo effect and creates a more natural sound dimension. Incredible Surround allows you to experience total surround with greater depth and width of sound, without the use of additional speakers.

LCD display, 1366 x 768p

This WXGA display with state-of-the-art LCD screen technology gives you widescreen HD resolution of 1366 x 768p pixels. It produces brilliant flicker-free progressive scan pictures with optimum brightness and superb colors. This vibrant and sharp image will provide you with an enhanced viewing experience.

### Crystal Clear III

Crystal Clear III combines a whole range of enhancements to provide a better picture. They include a 2D Comb filter, Dynamic contrast, Blue stretch and Green enhancement so that you always get the most natural looking colors.

PC input (VGA)

With PC input you can connect your TV to a computer by a VGA cable and use the TV as a PC monitor.

### Specifications

## Picture/Display

- Aspect ratio: Widescreen
- Brightness: 500 cd/m<sup>2</sup>
- Contrast ratio (typical): 1000:1
- Diagonal screen size: 26 inch / 66 cm
- Display screen type: LCD WXGA Active Matrix TFT
- Panel resolution: 1366 x 768p
- Picture enhancement: 3/2 - 2/2 motion pull down, Crystal Clear III, Progressive Scan, Smart Picture, 2D Combfilter, White stretch
- Response time (typical): 5 ms
- Screen enhancement: Anti-Reflection coated screen
- Viewing angle: 160° (H) / 160° (V)

**Supported Display Resolution**

- | Computer formats |  | Refresh rate |
|------------------|--|--------------|
| Resolution       |  |              |
| 640 x 480        |  | 60Hz         |
| 800 x 600        |  | 60Hz         |
| 1024 x 768       |  | 60Hz         |
| 1266 x 768       |  | 60Hz         |
| 1280 x 1024      |  | 60Hz         |
| 1440 x 900       |  | 50Hz, 75Hz   |
| Video formats    |  | Refresh rate |
| Resolution       |  |              |
| 480i             |  | 60Hz         |
| 480p             |  | 60Hz         |
| 576i             |  | 50Hz         |
| 576p             |  | 50Hz         |
| 720p             |  | 50, 60Hz     |
| 1080i            |  | 50, 60Hz     |

**Soup.**

- Output power (RMS): 2 x 5W
  - Sound Enhancement: Auto Volume Leveller
  - Incredible Surround, Smart Sound
  - Sound Systems: Mono, Stereo
- Tuner/Reception/Transmission**
- Tuner bands: Hyperband, S-Channel, UHF,
  - Tuner Display: PLL
  - TV system: PAL B/G, PAL D/K, PAL I, SECAM G, SECAM D/K, SECAM L/L'
  - Video Playback: NTSC, PAL, SECAM
  - Aerial input: 75 ohm coaxial (IEC75)

## Tuner/Reception/Transmission

- Tuner bands: Hyperband, S-Channel, UHF, VHF
- Tuner Display: PLL
- TV system: PAL B/G, PAL D/K, PAL I, SECAM B/G, SECAM D/K, SECAM L/L'
- Video Playback: NTSC, PAL, SECAM
- Aerial Input: 75 ohm coaxial (IEC75)

### Connectivity

- **Ext 1** **Scart:** Audio L/R, CVBS in/out, RGB
- **Other connections:** PC Audio In, PC-In VGA, Headphone out
- **Ext 4:** HDMI
- **Ext 3:** S-video in
- **Ext 2:** YPbPr In, Audio L/R In, CVBS In

**Convenience**

- **Click Sleep Timer**
- **Ease of Installation:** Auto Program Naming, Automatic Channel Install(ACI), Automatic Tuning System (ATS), Autostore, Fine Tuning, Plug & Play
- **Ease of Use:** Program List, On Screen Display, Auto Volume Leveller (AVL), Slide Control
- **Remote Control:** TV
- **Remote control type:** RGS
- **Screen Format Adjustments:** 16:9 compress, 4:3
- **Teletext:** 100 page Smart Text
- **Picture in Picture:** Text dial screen
- **Smart mode:** Movie, Standard, Power saver, Personal, Vivid

## Accessories

- **Included Accessories:** Batteries for remote control, Remote Control, Table top stand, User Manual, Warranty certificate, Power cord, Quick start guide

### Dimensions

- VESA wall mount compatible: 200 x 100 mm
- Set dimensions with stand (W x H x D): 671 x 503 x 215 mm
- Set dimensions (W x H x D): 671 x 458 x 90 mm
- Product weight: 9.1 (with stand), 7.7 (without stand) kg
- Box dimensions (W x H x D): 748 x 535 x 251 mm
- Weight incl. Packaging: 12 kg

## Power

- Standby power consumption: <0.3 W
- Mains power: 100-240V, 50/60Hz
- Ambient temperature: 5 °C to 35 °C
- Power consumption: 80 W



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Owner: Jessica CC Lee  
Version: 0.8.7

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**PERSONAL NOTES:**

**PHILIPS**

Specifications 26PFL3403

**Picture/Display**

- **Aspect ratio:** Widescreen
- **Brightness:** 500 cd/m<sup>2</sup>
- **Contrast ratio (typical):** 1000:1
- **Diagonal screen size:** 26 inch / 66 cm
- **Display screen type:** LCD WXGA Active Matrix TFT
- **Panel resolution:** 1366 x 768p
- **Picture enhancement:** 3/2 - 2/2 motion pull down, Crystal Clear III, Progressive Scan, Smart Picture, 2D Combfilter, White stretch
- **Response time (typical):** 5 ms
- **Screen enhancement:** Anti-Reflection coated screen
- **Viewing angle:** 160° (H) / 160° (V)

**Supported Display Resolution**• **Computer formats**

Resolution	Refresh rate
640 x 480	60Hz
800 x 600	60Hz
1024 x 768	60Hz
1366 x 768	60Hz
1280 x 1024	60Hz
1440 x 900	50Hz, 75Hz

• **Video formats**

Resolution	Refresh rate
480i	60Hz
480p	60Hz
576i	50Hz
576p	50Hz
720p	50, 60Hz
1080i	50, 60Hz

Philips CL, Consumer Care, April 2008

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PERSONAL NOTES:

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## Specifications 19PFL5403D



Philips  
Flat TV with Digital Crystal  
Clear

19"  
LCD integrated digital

19PFL5403D



## Brilliant design, powerful performance.

Style and performance meet in one complete experience. Combining HD display, Digital Crystal Clear and fantastic invisible sound, this Flat TV provides brilliant design and powerful performance for years to come.

### Visual and razor sharp pictures

- Digital Crystal Clear for detail depth and clarity
- HD LCD display, with a 1440 x 900 resolution
- HD Ready for the highest quality display of HD signals
- Up to 5ms response time for clear, fast moving action

### Pure and powerful sound

- Superb audio enjoyment from unique invisible speakers
- Incredible Surround for enhanced audio enjoyment

### Connect, install and enjoy

- 2 HDMI inputs for full digital HD connection in one cable
- EasyLink: easy control of TV & connected device via HDMI CEC
- PC-input allows you to use your TV as a PC monitor
- Smart mode selects a perfect mode for what you are watching

### Ready for digital

- Integrated Digital Tuner for DVB-T reception

### Flat TV with Digital Crystal Clear 19" LCD integrated digital

#### Specifications

##### Picture/Display

- Aspect ratio: Widescreen
- Remote control: TV
- Remote control type: RCP050588
- Screen Format Adjustment: 4:3, Movie expand
- 14:9, Movie expand 16:9, Subtitle Zoom, Super Zoom, Widescreen
- Teletext: 100 pages Smart Text
- Smart mode: Movie, Personal, Power saver, Standard, VHS

##### Tuner/Reception/Transmission

- Aerial input: 75 ohm coaxial (IEC75)
- TV system: PAL, PAL B/G, PAL D/K, SECAM B/G, SECAM D/K, SECAM L/L
- Video Playback: NTSC, SECAM, PAL
- DVB: DVB-T terrestrial
- Tuner bands: Hyperband, S-Channel, UHF, VHF

##### Supported Display Resolution

###### Computer formats

- | Resolution  | Refresh rate |
|-------------|--------------|
| 640 x 480   | 60Hz         |
| 800 x 600   | 60Hz         |
| 1024 x 768  | 60Hz         |
| 1280 x 1024 | 60Hz         |

###### Video formats

- | Resolution | Refresh rate |
|------------|--------------|
| 480i       | 60Hz         |
| 480p       | 60Hz         |
| 576i       | 50Hz         |
| 576p       | 50Hz         |
| 720p       | 50, 60Hz     |
| 1080i      | 50, 60Hz     |

##### Sound

- Output power (RMS): 2 x 2W
- Sound Enhancement: Auto Volume Leveller, Incredible Surround, Smart Sound
- Sound System: Mono, Stereo

##### Convenience

- Clock, Sleep Timer, Start timer, Stop timer
- Connection Enhancement: Easy link
- Ease of installation: Auto Program Naming, Automatic Channel install (ACI), Automatic Tuning System (ATS), Autotune, Fine Tuning, PLL
- Digital Tuning: Plug & Play
- Ease of Use: Auto Volume Leveller (AVL), On Screen Display, Program List, Side Control
- Electronic Program Guide: Now & Next EPG, 8 day Electronic Program Guide

- Picture in Picture, Text dual screen
- Remote control: TV
- Remote control type: RCP050588
- Screen Format Adjustment: 4:3, Movie expand
- 14:9, Movie expand 16:9, Subtitle Zoom, Super Zoom, Widescreen
- Teletext: 100 pages Smart Text
- Smart mode: Movie, Personal, Power saver, Standard, VHS

##### Tuner/Reception/Transmission

- Aerial input: 75 ohm coaxial (IEC75)
- TV system: PAL, PAL B/G, PAL D/K, SECAM B/G, SECAM D/K, SECAM L/L
- Video Playback: NTSC, SECAM, PAL
- DVB: DVB-T terrestrial
- Tuner bands: Hyperband, S-Channel, UHF, VHF

##### Connectivity

- Ext 1 Scan: Audio L/R, CVBS in/out, RGB
- Ext 2: S-video in, CVBS in, Audio L/R in
- Ext 3: Y/Pb/C, Audio L/R in
- HDMI 1: HDMI v1.3
- HDMI 2: HDMI v1.3
- HDMI-control (CEC features): One touch play, System standby
- Other connections: Headphone out, PC Audio In, PC-In VGA, SPDIF out (coaxial), Common Interface

##### Power

- Ambient temperature: 5 °C to 35 °C
- Main power: 100-240V, 50/60Hz
- Power consumption: 50 W
- Standby power consumption: <0.3 W

##### Dimensions

- See dimensions (W x H x D): 475 x 334 x 71 mm
- See dimensions with stand (W x H x D): 475 x 287 x 140 mm
- See dimensions (W x H x D): 475 x 334 x 71 mm
- See dimensions (W x H x D): 475 x 287 x 140 mm
- VESA wall mount compatible: 100 x 100 mm

##### Accessories

- Included Accessories: Table top stand, Power cord, Quick start guide, User Manual, Warranty certificate, Remote Control, Batteries for remote control

### 19PFL5403D/10

#### Product highlights

##### Digital Crystal Clear

Digital Crystal Clear is a package of picture innovations that digitally adjusts and optimizes picture quality to optimal contrast, color and sharpness levels. It's like watching vivid cinema-like images.

##### LCD display, 1440 x 900p

This WXGA+ display with state-of-the-art LCD screen technology gives you widescreen HD resolution of 1440 x 900 pixels. It produces brilliant flicker-free progressive scan pictures with optimum brightness and superb colors. The vibrant and sharp image will provide you with an enhanced viewing experience.

##### HD Ready

Enjoy the exceptional picture quality of High Definition pictures and be fully prepared for HD sources like HDTV setup box or Blu-ray disc. HD Ready is a protected label that offers picture quality beyond that of progressive scan. It conforms to strict standards laid out by ECTA to offer HD screen that displays the benefits of resolution and picture quality of a High Definition signal. It has a universal connection for both analog Y/Pb/C and uncomponent Digital connections of DVI or HDMI, supporting HDCP. It can display 720p, and 1080i signals at 50 and 60Hz.

##### Integrated Digital DVB-T Tuner

The integrated DVB-T tuner lets you receive Digital Terrestrial TV to watch or record. This means you do not need an additional set top box and also the additional cables.

##### Incredible Surround

Incredible Surround is an audio technology from Philips that dramatically enlarges the sound field to immerse you in the audio. Using state-of-the-art electronic phase shifting, Incredible Surround mixes sounds from left and right in such a way that it expands the virtual distance between the two speakers. This wider spread greatly enhances the stereo effect and creates a more natural sound dimension. Incredible Surround allows you to experience total surround with greater depth and width of sound, without the use of additional speakers.

##### 2 HDMI inputs

HDMI makes an uncompressed digital RGB connection from the source to the screen. By eliminating conversion to an analog signal, it delivers an unblemished image. The non-degraded signal reduces flicker and leads to a clearer picture. HDMI intelligently communicates the highest output resolution with the source device. The HDMI input is fully backward compatible with DVI sources but includes digital audio. HDMI uses HDCP copy protection. With 2 HDMI inputs you can connect multiple HD sources, for instance an HD setup box, and a Blu-ray player. Your TV is fully prepared for the HD future.

##### EasyLink

EasyLink uses the HDMI CEC industry standard protocol to share functionality between connected devices and the TV. With EasyLink, only one remote control is needed to operate main functionalities on your TV and connected devices. EasyLink uses the standard HDMI cable to transfer system commands. It works between all electronic devices equipped with HDMI CEC.

##### PC input (VGA)

With PC input you can connect your TV to a computer by a VGA cable and use the TV as a PC monitor.



**PHILIPS**  
sense and simplicity



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PHILIPS

## Specifications 20PFL3403D



Philips  
Flat TV with Crystal Clear  
III

20"  
LCD integrated digital

20PFL3403D



## Clearly the smart choice

Designed for ease of use, this Flat TV features modern design, 2 HDMI connections, a powerful and brilliant Crystal Clear III engine. Making the smart choice in total picture quality has never been easier.

## Superb picture quality

- Crystal Clear III for natural images with enhanced quality
- LCD display, 640 x 480p

## Hear crisp and clear sound

- Incredible Surround for enhanced audio enjoyment

## Connect, install and enjoy

- 2 HDMI inputs for full digital HD connection in one cable
- EasyLink: easy control of TV & connected device via HDMI CEC
- PC-Input allows you to use your TV as a PC monitor
- Smart mode selects a perfect mode for what you are watching

## Ready for digital

- Integrated Digital Tuner for DVB-T reception

## Flat TV with Crystal Clear III

20" LCD integrated digital

## Specifications

## Picture/Display

- Aspect ratio: 4:3
- Brightness: 300 cd/m<sup>2</sup>
- Contrast ratio (typical): 800:1
- Response time (typical): 12 ms
- Viewing angle: 178° (H) / 178° (V)
- Diagonal screen size: 20 inch / 51 cm
- Display screen type: LCD VGA Active Matrix TFT
- Panel resolution: 640 x 480p
- Picture enhancement: Crystal Clear III, 3D Combiter, 2/2 - 2/2 motion pull down, White stretch, Progressive Scan, Smart Picture
- Screen enhancement: Anti-Reflection coated screen

## Supported Display Resolution

Computer formats	Resolution	Refresh rate
	640 x 480	60Hz
	800 x 600	60Hz
	1024 x 768	60Hz
Video formats	Resolution	Refresh rate
	480i	60Hz
	480p	60Hz
	576i	50Hz
	576p	50Hz
	720p	50, 60Hz
	1080i	50, 60Hz

## Sound

- Output power (RMS): 2 x 2W
- Sound Enhancement: Auto Volume Leveller, Incredible Surround, Smart Sound
- Sound System: Mono, Stereo

## Convenience

- Clock: Sleep Timer, Start timer, Stop timer
- Connection Enhancement: Easy link
- Size of Installation: Auto Program Naming, Automatic Channel Install (ACI), Automatic Tuning System (ATS), Auto-tune, Fine Tuning, PLL Digital Tuning, Plug & Play
- Size of User: Auto Volume Leveller (AVL), On Screen Display, Program List, Side Control
- Electronic Program Guide: Now + Next EPG, 8 day Electronic Program Guide
- Picture In Picture: Text dial screen
- Remote Control: TV

- Remote control type: RCPT05088
- Screen Format Adjustment: 16:9 compress, 4:3, 4:3 expand
- Teletext: 100 pages Smart Text
- Smart mode: Movie, Personal, Power saver, Standard, Vivid

## Tuner/Reception/Transmission

- Aerial input: 75 ohm coaxial (ISO75)
- TV system: PAL I, PAL B/G, PAL D/K, SECAM I/G, SECAM D/K, SECAM L/L
- Video Playback: NTSC, SECAM, PAL
- DVB: DVB Terrestrial \*
- Tuner bands: Hyperband, S-Channel, UHF, VHF

## Connectivity

- Ext 1: S-Video, Audio L/R, CVBS in/out, RGB
- Ext 2: S-Video in, CVBS in, Audio L/R in
- Ext 3: Y/Pb/P, Audio L/R in
- HDMI 1: HDMI v1.2
- HDMI 2: HDMI v1.2
- HDMI-control (CEC features): One touch play, System standby
- Other connections: Headphone out, PC Audio In, PC-In VGA, S/PDIF out (coaxial), Common Interface

## Power

- Ambient temperature: 5 °C to 35 °C
- Main power: 100-240V/50/60Hz
- Power consumption: 58 W
- Standby power consumption: <0.3 W

## Dimensions

- Set dimensions (W x H x D): 470 x 406 x 71 mm
- Set dimensions with stand (W x H x D): 470 x 448 x 203 mm
- Weight incl. Packaging: 9.7 kg
- Product weight: 5.8 kg
- Product weight (retail): 6.7 kg
- Set dimensions (W x H x D): 372 x 500 x 225 mm
- VESA wall mount compatible: 100 x 100 mm

## Accessories

- Included Accessories: Table top stand, Power cord, Quick start guide, User Manual, Warranty certificate, Remote Control, Batteries for remote control

## 20PFL3403D/10

## Product highlights

## Crystal Clear III

Crystal Clear III combines a whole range of enhancements to provide a better picture. They include a 3D Comb filter, Dynamic contrast, blue stretch and Green enhancement so that you always get the most natural looking colors.

## LCD display, 640 x 480p

LCD display, 640 x 480p

## Integrated Digital DVB-T tuner

The integrated DVB-T tuner lets you receive Digital Terrestrial TV to watch or record. This means you do not need an additional set top box and also the additional cables.

## Incredible Surround

Incredible Surround is an audio technology from Philips that dramatically magnifies the sound field to immerse you in the audio. Using state-of-the-art electronic phase shifting, Incredible Surround mixes sounds from left and right in such a way that it expands the virtual distance between the two speakers. This wider spread greatly enhances the stereo effect and creates a more natural sound dimension. Incredible Surround allows you to experience total surround with greater depth and width of sound, without the use of additional speakers.

## 2 HDMI inputs

HDMI makes an uncompressed digital RGB connection from the source to the screen. By retransmitting conversion to an analog signal, it delivers an unblemished image. The non-analog signal reduces flicker and leads to a clearer picture. HDMI intelligently communicates the highest output resolution with the source device. The HDMI input is fully backward compatible with DVI sources but includes digital audio. HDMI uses HDCP copy protection. With 2 HDMI inputs you can connect multiple HD sources, for instance an HD setup box, and a Blu-ray player. Your TV is fully prepared for the HD future.

## EasyLink

EasyLink uses the HDMI CEC industry standard protocol to share functionality between connected devices and the TV. With EasyLink, only one remote control is needed to operate main functionalities on your TV and connected devices. EasyLink uses the standard HDMI cable to transfer system commands. It works between all electronic devices equipped with HDMI CEC.

## Smart mode

The optimum picture and sound depends on various aspects like the video source, content type, surroundings of the room, type of display device etc. Smart Mode has predefined picture and sound settings, conveniently preset by the way you use your TV. The 'Personal' setting allows you to define the picture settings according to your preferences, store it and gain easy access for future selection. All these conveniently built into your TV for optimal settings.



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EAN 87 1251 37899 4

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## Specifications 22PFL5403D



Philips  
Flat TV with Digital Crystal  
Clear

22"  
LCD integrated digital

22PFL5403D



## Brilliant design, powerful performance.

Style and performance meet in one complete experience. Combining HD display, Digital Crystal Clear and fantastic invisible sound, this Flat TV provides brilliant design and powerful performance for years to come.

### Visual and razor sharp pictures

- Digital Crystal Clear for detail depth and clarity
- HD LCD display with a 1680 x 1050p resolution
- HD Ready for the highest quality display of HD signals
- Up to 5ms response time for clear, fast moving action

### Pure and powerful sound

- Superb audio enjoyment from unique invisible speakers
- Incredible Surround for enhanced audio enjoyment

### Connect, install and enjoy

- 2 HDMI inputs for full digital HD connection in one cable
- EasyLink: easy control of TV & connected device via HDMI CEC
- PC-input allows you to use your TV as a PC monitor
- Smart mode selects a perfect mode for what you are watching

### Ready for digital

- Integrated Digital Tuner for DVB-T reception

### Flat TV with Digital Crystal Clear 22" LCD integrated digital

#### Specifications

##### Picture/Display

- Aspect ratio: Widescreen
- Brightness: 300 cd/m<sup>2</sup>
- Contrast ratio (typical): 1000:1
- Response time (typical): 5 ms
- Viewing angle: 170° (H) / 160° (V)
- Diagonal screen size: 22 inch / 56 cm
- Display screen type: LCD WXGA Active Matrix TFT
- Panel resolution: 1680 x 1050p
- Picture enhancement: 3:2, 2:1 motion pull down, 3D Combfilter, White stretch, Digital Crystal Clear, Progressive Scan, Smart Picture
- Screen enhancement: Anti-Reflection coated screen

##### Supported Display Resolution

###### Computer formats

- | Resolution  | Refresh rate |
|-------------|--------------|
| 640 x 480   | 60Hz         |
| 800 x 600   | 60Hz         |
| 1024 x 768  | 60Hz         |
| 1280 x 1024 | 60Hz         |
| 1680 x 1050 | 50Hz, 60Hz   |

###### Video formats

- | Resolution | Refresh rate |
|------------|--------------|
| 480i       | 60Hz         |
| 480p       | 60Hz         |
| 576i       | 50Hz         |
| 576p       | 50, 60Hz     |
| 720p       | 50, 60Hz     |
| 1080i      | 50, 60Hz     |

##### Sound

- Output power (RMS): 2 x 5W
- Sound Enhancement: Auto Volume Leveller, Incredible Surround, Smart Sound
- Sound System: Mono, Stereo

##### Convenience

- Clock: Sleep Timer, Start timer, Stop timer
- Connection Enhancement: Easy Link
- Ease of Installation: Auto Program Naming, Automatic Channel Install (ACI), Automatic Tuning System (ATS), Autozone, Fine Tuning, PLL Digital Tuning Plug & Play
- Ease of Use: Auto Volume Leveller (AVL), On Screen Display, Program List, Side Control
- Electronic Program Guide: Now + Next EPG, 8

##### Electronic Program Guide

- Picture in Picture: Text, Still screen
- Remote Control: TV
- Remote control type: RCMP050268
- Screen Format Adjustment: 4:3, Movie expand 14:9, Movie expand 16:9, Subtitle Zoom, Super Zoom, Widescreen
- Teletext: 100 page Smart Text
- Smart mode: Movie, Personal, Power saver, Standard, Vivid

##### Tuner/Reception/Transmission

- Aerial input: 75 ohm coaxial (IEC75)
- TV system: PAL, PAL S/G, PAL G/K, SECAM E/ G, SECAM D/K, SECAM L/L
- Video Playback: NTSC, SECAM PAL
- DVB: DVB-T, Terrestrial
- Tuner bands: Hyperband, S-Channel, UHF, VHF

##### Connectivity

- Ext 1: SCART, Audio L/R, CVBS input, RGB
- Ext 2: S-video in, CVBS in, Audio L/R in
- Ext 3: Y/Pr/Pb, Audio L/R in
- HDMI 1: HDMI v1.3
- HDMI 2: HDMI v1.3
- HDMI control (CEC features): One touch play, System standby
- Other connections: Headphone out, PC Audio in, PC in VGA, S/PDIF out (coaxial), Common Interface

##### Power

- Ambient temperature: 5 °C to 35 °C
- Max power: 100-200V, 50/60Hz
- Power consumption: 53 W
- Standby power consumption: <0.3 W

##### Dimensions

- Set dimensions (W x H x D): 538 x 375 x 71 mm
- Set dimensions with stand (W x H x D): 538 x 428 x 205 mm
- Box dimensions (W x H x D): 643 x 481 x 237 mm
- VESA wall mount compatible: 100 x 100 mm

##### Accessories

- Included Accessories: Table top stand, Power cord, Quick start guide, User Manual, Warranty certificate, Remote Control, Batteries for remote control

### 22PFL5403D/10

#### Product highlights

##### Digital Crystal Clear

Digital Crystal Clear is a package of picture innovations that digitally adjusts and optimizes picture quality to optimal contrast, color and sharpness levels. It's like watching vivid cinema-like images.

##### LCD display: 1680 x 1050p

This WXGA display with state-of-the-art LCD screen technology gives you widescreen HD resolution of 1680 x 1050p pixels. It produces brilliant flicker-free progressive scan pictures with optimum brightness and superior colors. This vibrant and sharp image will provide you with an enhanced viewing experience.

##### HD Ready

Enjoy the exceptional picture quality of High Definition pictures and be fully prepared for HD sources like HDTV setup box or Blu-ray disc. HD Ready is a protected label that offers picture quality beyond that of progressive scan. It conforms to strict standards laid out by EICTA to offer HD screens that display the benefits of resolution and picture quality of a High Definition signal. It has a universal connection for both analog Y/Pr/Pb and unbalanced Digital connector of DVI or HDMI, supporting HDCP. It can display 720p, and 1080i signals at 50 and 60Hz.

##### Integrated Digital DVB-T Tuner

The integrated DVB-T tuner lets you receive Digital Terrestrial TV to watch or record. This means you do not need an additional set top box and also the additional cables.

##### Incredible Surround

Incredible Surround is an audio technology from Philips that dramatically magnifies the sound field to immerse you in the audio. Using state-of-the-art electronic phase shifting, Incredible Surround mixes sounds from left and right in such a way that it expands the virtual distance between the two speakers. This wider spread greatly enhances the stereo effect and creates a more natural sound dimension. Incredible Surround allows you to experience total surround with greater depth and width of sound, without the use of additional speakers.

##### 2 HDMI inputs

HDMI makes an uncompressed digital RGB connection from the source to the screen. By introducing conversion to an analog signal, it delivers an unblemished image. The non-analog signal reduces jitter and leads to a clearer picture. HDMI intelligently communicates the highest output resolution with the source device. The HDMI input is fully backward compatible with DVI sources but includes digital audio. HDMI uses HDCP copy protection. With 2 HDMI inputs you can connect multiple HD sources, for instance an HD setup box, and a Blu-ray player. Your TV is fully prepared for the HD future.

##### EasyLink

EasyLink uses the HDMI CEC industry standard protocol to share functionality between connected devices and the TV. With EasyLink, only one remote control is needed to operate main functionalities on your TV and connected devices. EasyLink uses the standard HDMI cable to transfer system commands. It works between all electronic devices equipped with HDMI CEC.

##### PC input (VGA)

With PC input you can connect your TV to a computer by a VGA cable and use the TV as a PC monitor.

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Specifications 26PFL3403D



Philips  
Flat TV with Crystal Clear  
III

26"

LCD integrated digital

26PFL3403D



## Clearly the smart choice

Designed for ease of use, this Flat TV features modern design, 2 HDMI connections, a powerful and brilliant Crystal Clear III engine. Making the smart choice in total picture quality has never been easier.

### Superb picture quality

- Crystal Clear III for natural images with enhanced quality
- HD LCD display, with a 1366 x 768p resolution
- HD Ready for the highest quality display of HD signals

### Hear crisp and clear sound

- Incredible Surround for enhanced audio enjoyment

### Connect, install and enjoy

- 2 HDMI inputs for full digital HD connection in one cable
- EasyLink: easy control of TV & connected device via HDMI CEC
- PC-input allows you to use your TV as a PC monitor
- Smart mode selects a perfect mode for what you are watching

### Ready for digital

- Integrated Digital Tuner for DVB-T reception

Flat TV with Crystal Clear III  
26" LCD integrated digital

### Specifications

#### Picture/Display

- Aspect ratio: Widescreen
- Brightness: 500 cd/m<sup>2</sup>
- Contrast ratio (typical): 900:1
- Response time (typical): 8 ms
- Viewing angle: 160° (H) / 160° (V)
- Diagonal screen size: 26 inch / 66 cm
- Display screen type: LCD WXGA Active Matrix TFT
- Panel resolution: 1366 x 768p
- Picture enhancement: Crystal Clear III, 2D CombFilter, 3:2 > 2:1 motion pull-down, White stretch, Progressive Scan, Smart Picture
- Screen enhancement: Anti-Reflection coated screen

#### Supported Display Resolution

##### Computer formats

Resolution	Refresh rate
640 x 480	60Hz
800 x 600	60Hz
1024 x 768	60Hz
1280 x 768	60Hz
1280 x 1024	60Hz
1366 x 768	60Hz

##### Video formats

Resolution	Refresh rate
480i	60Hz
480p	60Hz
576i	50Hz
576p	50Hz
720p	50, 60Hz
1080i	50, 60Hz

#### Sound

- Output power (RMS): 2 x 5W
- Sound Enhancement: Auto Volume Leveller, Incredible Surround, Smart Sound
- Sound System: Mono, Stereo

#### Convenience

- Clock, Sleep Timer, Start timer, Stop timer
- Connection Enhancement: Easy link
- Ease of Installation: Auto Program Naming, Automatic Channel Install (ACI), Automatic Tuning System (ATS), Auto-tune, Fine Tuning, PLL Digital Tuning, Plug & Play
- Ease of Use: Auto Volume Leveller (AVL), On Screen Display, Program List, Side Control
- Electronic Program Guide: Now + Next EPG, 8 day Electronic Program Guide

#### Picture in Picture, Text dual screen

- Remote Control: TV
- Remote control type: RCPF05088
- Screen Format Adjustments: 4:3, Movie expand (4:3), Movie expand (4:3), Subtitle Zoom, Super Zoom, Widescreen
- Teletext: 100 pages Start Text
- Smart mode: Movie, Personal, Power saver, Standard, Vivid

#### Tuner/Reception/Transmission

- Aerial input: 75 ohm coaxial (SC75)
- TV system: PAL I, PAL S/G, PAL D/K, SECAM E/ G, SECAM D/K, SECAM L/L
- Video Playback: NTSC, SECAM, PAL
- DVB: DVB-Terrestrial
- Tuner bands: Superband, S-Channel, UHF, VHF

#### Connectivity

- Ext 1: Scan: Audio L/R, CVBS In/out, RGB
- Ext 2: S-video in, CVBS in, Audio L/R in
- Ext 3: Y/PbPr, Audio L/R in
- HDMI 1: HDMI v1.2
- HDMI 2: HDMI v1.2
- HDMI-control (CEC features): One touch play, System standby
- Other connections: Headphone out, PC Audio in, PC-in VGA, S/PDIF out (coaxial), Common Interface

#### Power

- Ambient temperature: 5 °C to 35 °C
- Main power: 100-240V, 50/60Hz
- Power consumption: 120 W
- Standby power consumption: <0.3 W

#### Dimensions

- Set dimensions (W x H x D): 671 x 458 x 90 mm
- Set dimensions with stand (W x H x D): 671 x 503 x 215 mm
- Weight incl. Packaging: 12 kg
- Product weight: 7.7 kg
- Box dimensions (W x H x D): 748 x 535 x 251 mm
- VESA wall mount compatible: 200 x 100 mm

#### Accessories

- Included Accessories: Table top stand, Power cord, Quick start guide, User Manual, Warranty certificate, Remote Control, Batteries for remote control



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PERSONAL NOTES:

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## Specifications 26PFL5403D



Philips  
Flat TV with Digital Crystal  
Clear

26"  
LCD integrated digital

26PFL5403D



## Brilliant design, powerful performance.

Style and performance meet in one complete experience. Combining HD display, Digital Crystal Clear and fantastic invisible sound, this Flat TV provides brilliant design and powerful performance for years to come.

### Vivid and razor sharp pictures

- Digital Crystal Clear for detail depth and clarity
- HD LCD display, with a 1366 x 768 resolution
- HD Ready for the highest quality display of HD signals

### Pure and powerful sound

- Superb audio enjoyment from unique invisible speakers
- Incredible Surround for enhanced audio enjoyment

### Connect, install and enjoy

- 2 HDMI inputs for full digital HD connection in one cable
- EasyLink: easy control of TV & connected device via HDMI CEC
- PC-Input allows you to use your TV as a PC monitor
- Smart mode selects a perfect mode for what you are watching

### Ready for digital

- Integrated Digital Tuner for DVB-T reception

### Flat TV with Digital Crystal Clear 26" LCD integrated digital

#### Specifications

##### Picture/Display

- Aspect ratio: Widescreen
- Brightness: 500 cd/m<sup>2</sup>
- Contrast ratio (typical): 900:1
- Response time (typical): 8 ms
- Viewing angle: 160° (H) / 160° (V)
- Digital screen size: 26 inch / 66 cm
- Display screen type: LCD WXGA Active Matrix TFT
- Panel resolution: 1366 x 768
- Picture enhancement: 3:2, 2:1 motion pull down
- 3D CombFilter, White stretch, Digital Crystal Clear, Progressive Scan, Smart Picture
- Screen enhancement: Anti-Reflection coated screen

##### Supported Display Resolution

- | Resolution  | Refresh rate |
|-------------|--------------|
| 640 x 480   | 60Hz         |
| 800 x 600   | 60Hz         |
| 1024 x 768  | 60Hz         |
| 1280 x 768  | 60Hz         |
| 1280 x 1024 | 60Hz         |
| 1366 x 768  | 60Hz         |

- | Resolution | Refresh rate |
|------------|--------------|
| 480p       | 60Hz         |
| 576p       | 50Hz         |
| 576p       | 50Hz         |
| 720p       | 50, 60Hz     |
| 1080i      | 50, 60Hz     |

##### Sound

- Output power (RMS): 2 x 5W
- Sound Enhancement: Auto Volume Leveller, Incredible Surround, Smart Sound
- Sound System: Mono, Stereo

##### Convenience

- Quick Sleep Timer, Start timer, Stop timer
- Connection Enhancement: Easy Link
- Ease of Installation: Auto Program Naming, Automatic Channel Install (ACI), Automatic Tuning System (ATS), Autocolor, Fine Tuning PLL, Digital Tuning, Plug & Play
- Ease of Use: Auto Volume Leveller (AVL), On Screen Display, Program List, Side Control
- Electronic Program Guide: Now + Next EPG, 8

##### Electronic Program Guide

- Picture in Picture, Text dual screen
- Remote Control: TV
- Remote control type: RCMP050268
- Screen Format Adjustment: 4:3, Movie expand 14:9, Movie expand 16:9, Subtitle Zoom, Super Zoom, Widescreen
- Teletext: 100 page Smart Text
- Smart mode: Movie, Personal, Power saver, Standard, Vivid

##### Tuner/Reception/Transmission

- Aerial input: 75 ohm coaxial (IEC75)
- TV system: PAL / PAL S/G, PAL G/K, SECAM B/G, SECAM D/K, SECAM L/L
- DVB: DVB-Terrastream
- Tuner bands: Hyperband, S-Channel, UHF, VHF

##### Connectivity

- Ext 1: Start: Audio L/R, CVBS input, RGB
- Ext 2: S-video in, CVBS in, Audio L/R in
- Ext 3: Y/Pr/Pb, Audio L/R in
- HDMI 1: HDMI v1.2
- HDMI 2: HDMI v1.2
- HDMI control (CEC features): One touch play, system standby

- Other connections: Headphone out, PC Audio in, PC to VGA, S/PDIF out (coaxial), Common Interface

##### Power

- Ambient temperature: 5 °C to 35 °C
- Main power: 100-240V, 50/60Hz
- Power consumption: 120 W
- Standby power consumption: <0.3 W

##### Dimensions

- Set dimensions (W x H x D): 667 x 425 x 95 mm
- Set dimensions with stand (W x H x D): 667 x 427 x 219 mm
- Box dimensions (W x H x D): 764 x 522 x 259 mm
- VESA wall mount compatible: 200 x 100 mm

##### Accessories

- Included Accessories: Table top stand, Power cord, Quick start guide, User Manual, Warranty certificate, Remote Control, Batteries for remote control

### 26PFL5403D/10

#### Product highlights

##### Digital Crystal Clear

Digital Crystal Clear is a package of picture innovations that digitally adjusts and optimizes picture quality to optimal contrast, color and sharpness levels. It's like watching vivid cinema-like images.

##### LCD display, 1366 x 768p

This WXGA display with state-of-the-art LCD screen technology gives you widescreen HD resolution of 1366 x 768 pixels. It produces brilliant flicker-free progressive scan pictures with optimum brightness and superb colors. This vibrant and sharp image will provide you with an enhanced viewing experience.

##### HD Ready

Enjoy the exceptional picture quality of High Definition pictures and be fully prepared for HD sources like HDTV setup box or Blu-ray disc. HD Ready is a protected label that offers picture quality beyond that of progressive scan. It conforms to strict standards laid out by EICTA to offer HD screens that display the benefits of resolution and picture quality of a High Definition signal. It has a universal connection for both analog Y/Pr/Pb and uncomponent Digital connector of DVI or HDMI, supporting HDCP. It can display 720p, and 1080i signals at 50 and 60Hz.

##### Integrated Digital DVB-T tuner

The integrated DVB-T tuner lets you receive Digital Terrestrial TV to watch or record. This means you do not need an additional set top box and also the additional cables.

##### Incredible Surround

Incredible Surround is an audio technology from Philips that dramatically magnifies the sound field to immerse you in the audio. Using state-of-the-art electronic phase shifting, Incredible Surround mixes sounds from left and right in such a way that it expands the virtual distance between the two speakers. This wider spread greatly enhances the stereo effect and creates a more natural sound dimension. Incredible Surround allows you to experience total surround with greater depth and width of sound, without the use of additional speakers.

##### 2 HDMI inputs

HDMI makes an uncompressed digital RGB connection from the source to the screen. By introducing conversion from the source to the screen, it delivers an unprocessed image. The non-compressed digital reduces jitter and leads to a clearer picture. HDMI intelligently communicates the highest output resolution with the source device. The HDMI input is fully backward compatible with DVI sources but includes digital audio. HDMI uses HDCP copy protection. With 2 HDMI inputs you can connect multiple HD sources, for instance an HD setup box, and a Blu-ray player. Your TV is fully prepared for the HD future.

##### EasyLink

EasyLink uses the HDMI CEC industry standard protocol to share functionality between connected devices and the TV. With EasyLink, only one remote control is needed to operate main functionality on your TV and connected devices. EasyLink uses the standard HDMI cable to transfer system commands. It works between all electronic devices equipped with HDMI CEC.

##### PC input (VGA)

With PC input you can connect your TV to a computer by a VGA cable and use the TV as a PC monitor.



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Delta's TCM2.0

	Display resolution	Max. supported computer format		Sound output
19PFL5403D	1440 x 900P	1280 x 1024	60Hz	2 x 3W
20PFL3403D	640 x 480P	1024 x 768	60Hz	2 x 3W
22PFL5403D	1680 x 1050P	1680 x 1050	50Hz, 60Hz	2 x 5W
26PFL3403D	1366 x 768P	1440 x 900	50Hz, 75Hz	2 x 5W
26PFL5403D	1366 x 768P	1366 x 768	60Hz	2 x 5W

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PERSONAL NOTES:





Place the TV set upside down on a table top, using the foam bars  
Remove the screws that secure the rear cover.

**Be careful:** Now the rear cover could be lifted but the SSB and power supply panel(s) are mounted in the rear cover and still connected to the LCD panel and other boards.

Turn the set now.

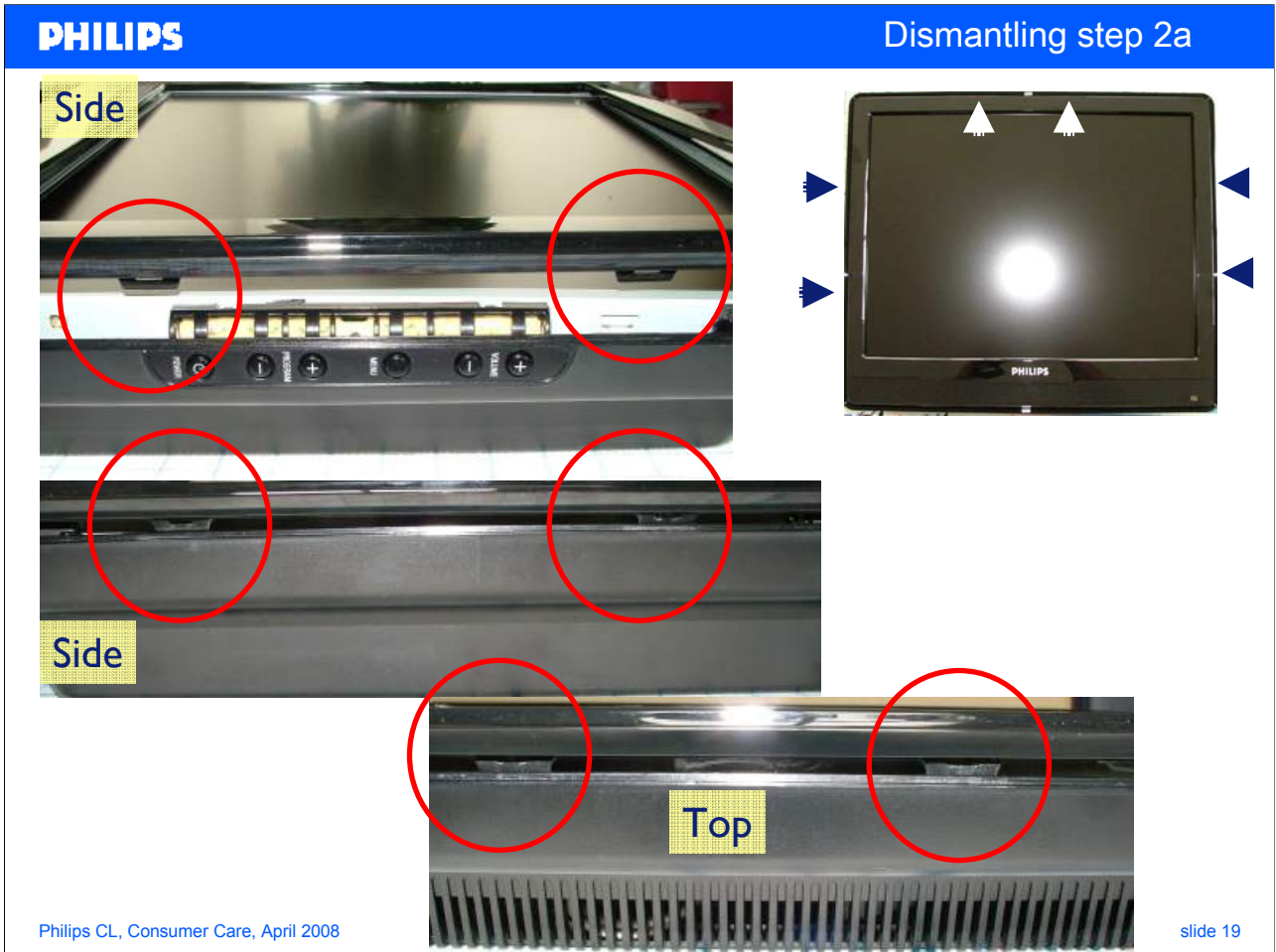
PERSONAL NOTES:



After turning the set remove the front cabinet.

Take care: Use a plastic putty knife to release the click's as located.

PERSONAL NOTES:

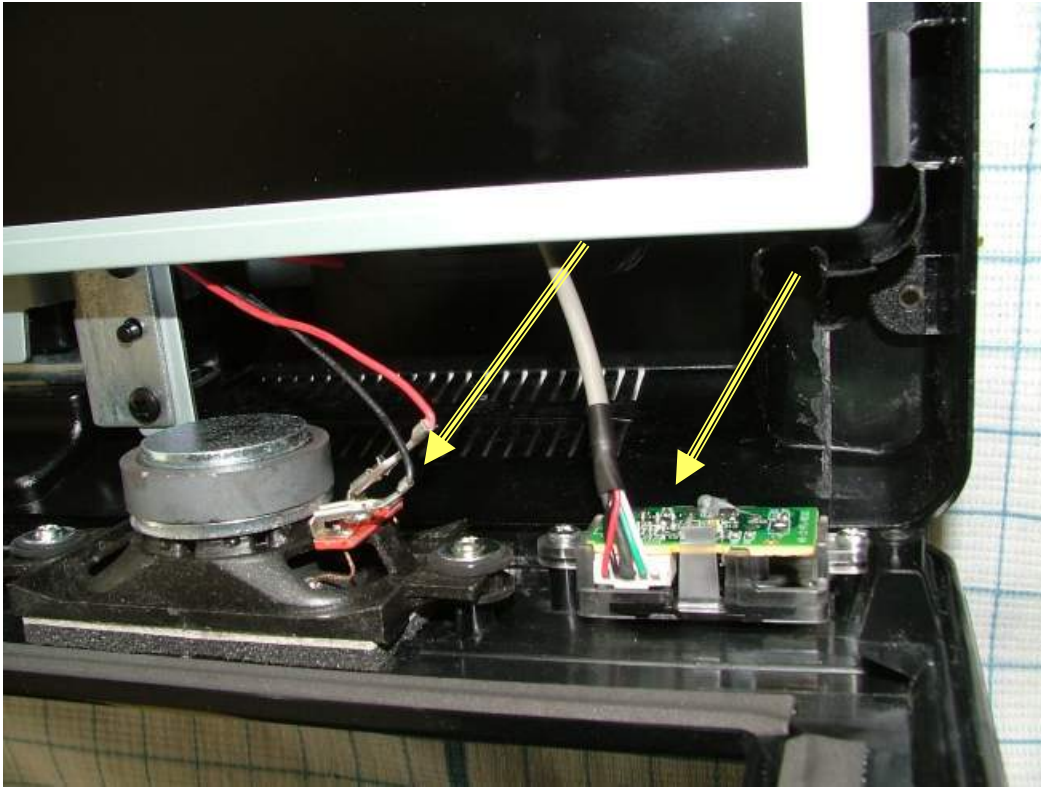


See here the location of the click's.

PERSONAL NOTES:

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Dismantling step 2b



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slide 20

Release loudspeaker cables and connection to IR receiver.

PERSONAL NOTES:

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Dismantling step 3



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To get access to the inverter board simply put the panel on the left side.

PERSONAL NOTES:

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Dismantling step 4



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slide 22

When laying the panel on top all boards are accessible.

PERSONAL NOTES:

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Dismantling step 5



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slide 23

Remove 2 screws at Cinch connectors before removing the SSB.

PERSONAL NOTES:

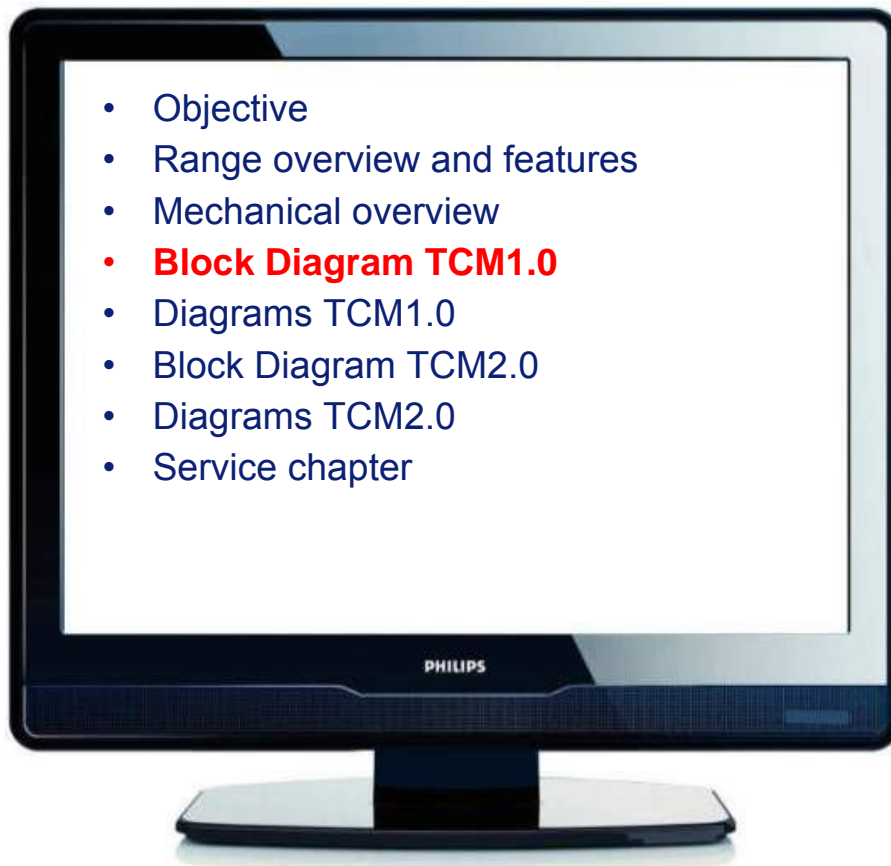


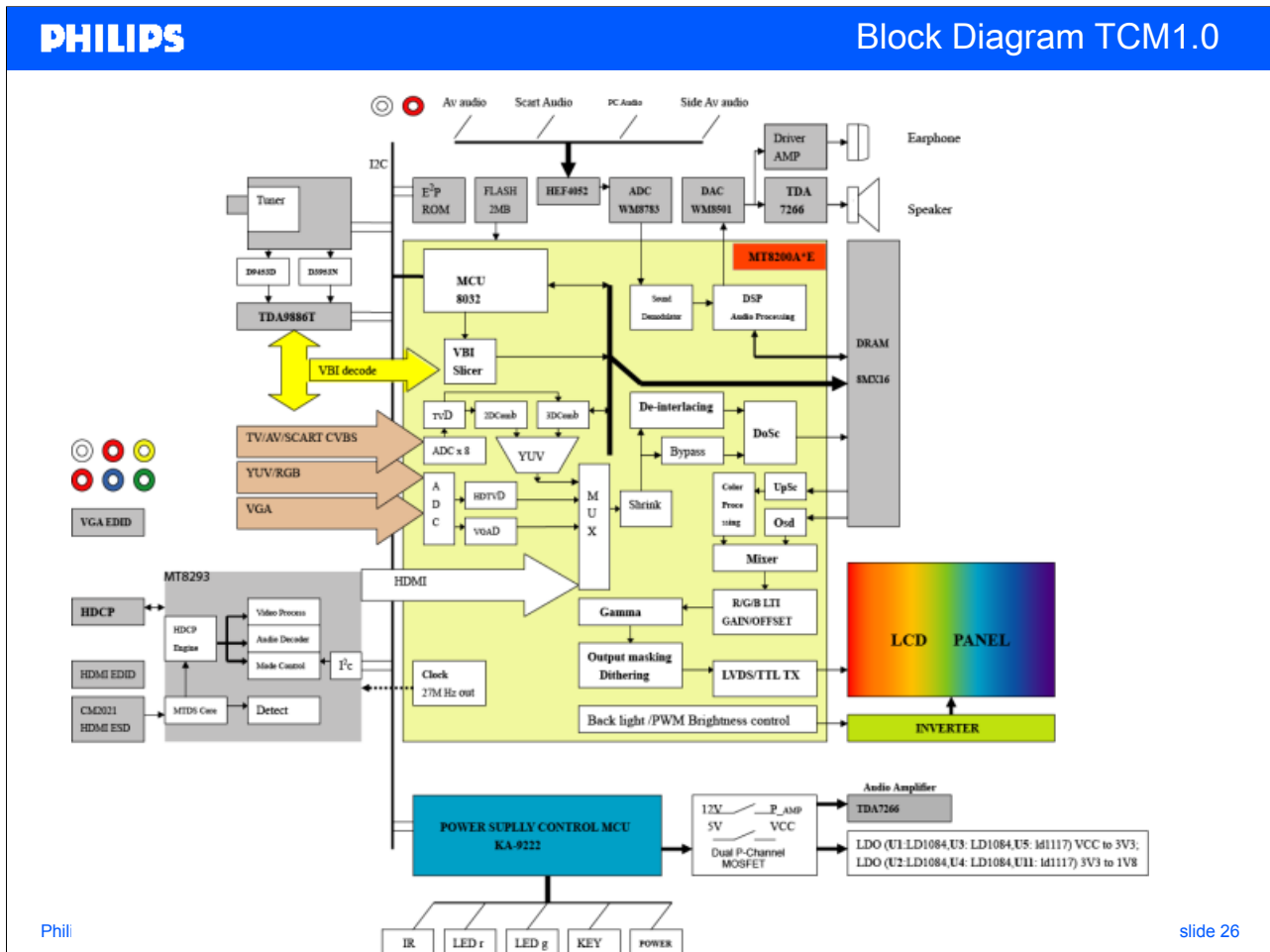
Philips CL, Consumer Care, April 2008

slide 24

SSB board is good accessible to do measurements  
and LCD panel (so the picture) is visible.

PERSONAL NOTES:





The MediaTek **MT8200** is a highly integrated IC used in the TCM1.0E. IT supports video input and output formats up to 1440x900. The MT8200 includes a high-quality TV decoder retrieving the best image from popular composite signals and embedded HDTV/VGA decoders perfectly reproducing the high bandwidth input signals.

## Features

Advanced MDDi(TM) motion adaptive de-interlacer accordingly converts the interlace to progressive video overlaying with a 2D graphic processor.

An on-chip audio processor with a lip sync control decodes analog signals received from the tuner, delivering high-quality post-processed sound effect.

An on-chip microprocessor.

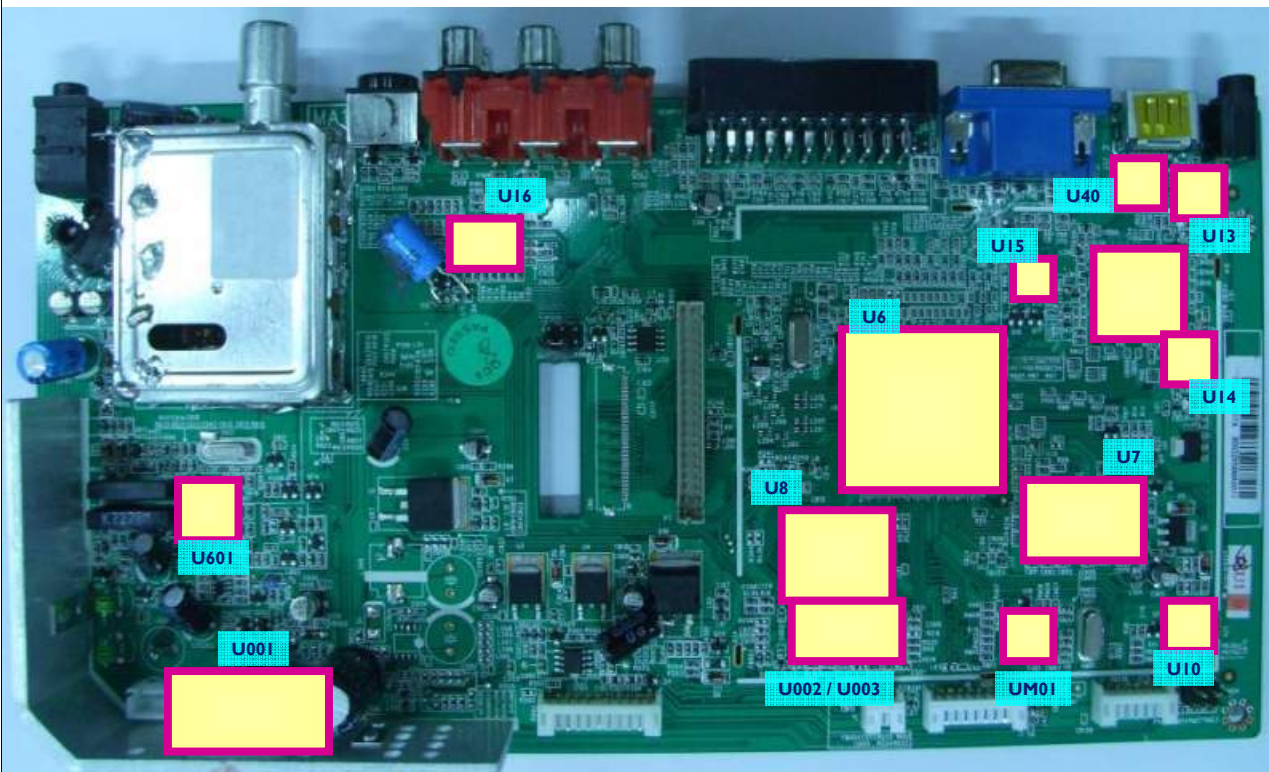
PERSONAL NOTES:

High quality TV decoder, supports PAL (B,G,D,H,M,N,I,Nc), PAL(Nc), PAL, NTSC, NTSC-4.43, SECAM.

A 16/8 bits digital port accept HDMI Rx coming from the MT8293 HDMI receiver.

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Main Board TCM1.0



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## Key components:

U001: Audio Amplifier

U002: Audio DAC

U003: Audio ADC

U6: MT8200 Main Processor

U7: DDR

U8: Flash

U10: Main EEPROM

U12: HDMI receiver

U13: EDID EEPROM HDMI

U14: HDCP Key eeprom

U15: EDID EEPROM VGA

U16: Audio Source Select.

U40: HDMI Port Protection

U601: IF demodulator

UM001: Standby processor

PERSONAL NOTES:

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Main Board rear side



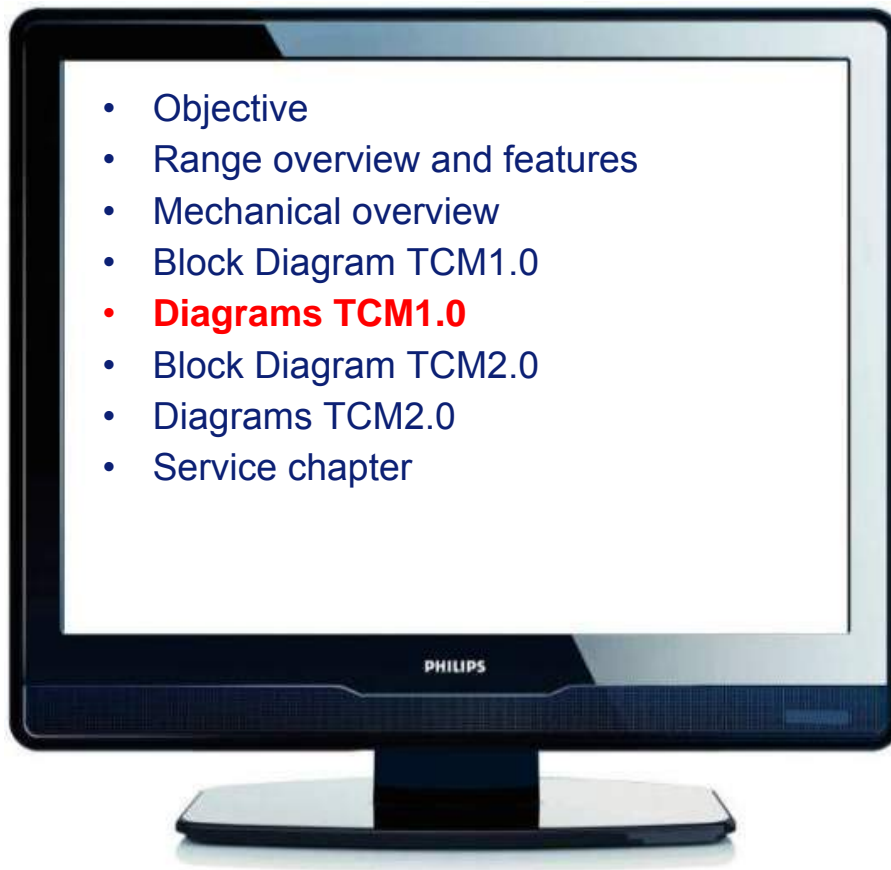
Philips CL, Consumer Care, April 2008

slide 28

Rear side of the panel does not contain main components.

Clear visible is the location of the E-pad for the main processor. It is important to heat up this part when removing the processor. We advice to use a BGA machine to remove and place the processor.

PERSONAL NOTES:



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slide 29



slide 30

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MT8200

See Coloured Diagrams document PDF

RS232

KEY BOARD

IC

I2C

SIF

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slide 31

PERSONAL NOTES:







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The diagram illustrates the internal circuitry of a television receiver. Key components and sections include:

- Tuner Intermediate Frequency:** Located at the bottom left, featuring a transformer and associated tuning components.
- Video SAW:** A Surface Acoustic Wave filter section, highlighted in green, used for video signal processing.
- Audio SAW:** Another Surface Acoustic Wave filter section, also highlighted in green, for audio signal processing.
- CVBS To MT8200:** A section for converting Composite Video Baseband Signals to a format compatible with the MT8200 chip.
- Other Components:** Numerous transistors (e.g., BC177, BC107), capacitors (e.g., 100nF, 10k, 1M), resistors (e.g., 10k, 1M, 100k), and integrated circuits (e.g., IC1, IC2) are shown throughout the circuit.

A large red watermark "See Coloured Diagrams document PDF" is prominently displayed across the center of the image.

slide 35

# PHILIPS

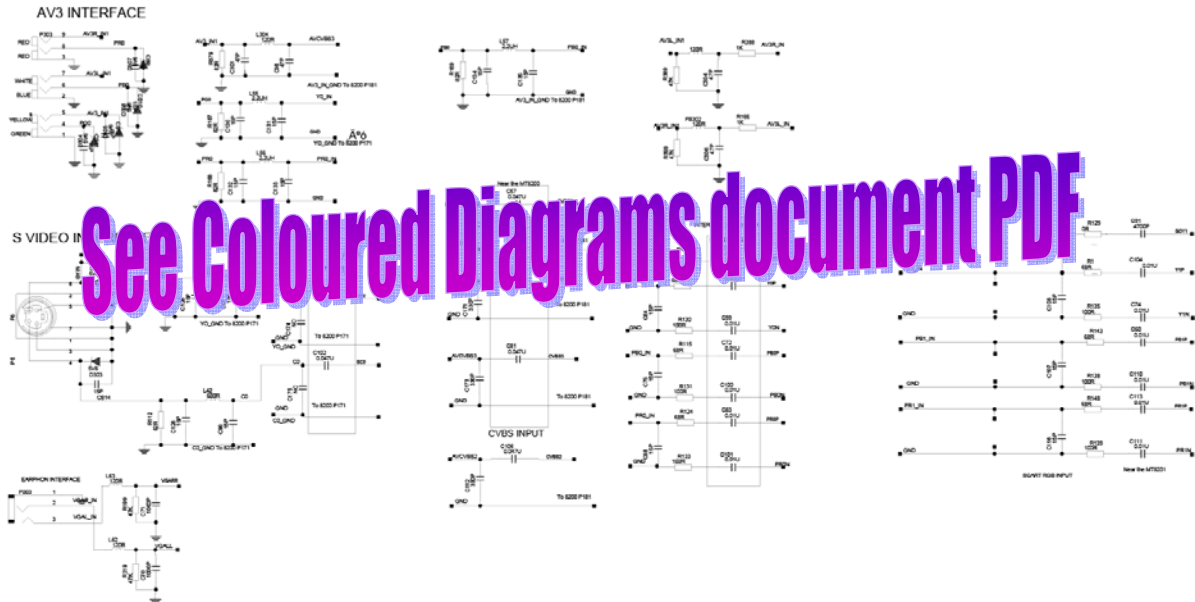


**PERSONAL NOTES:**

PHILIPS

Video input

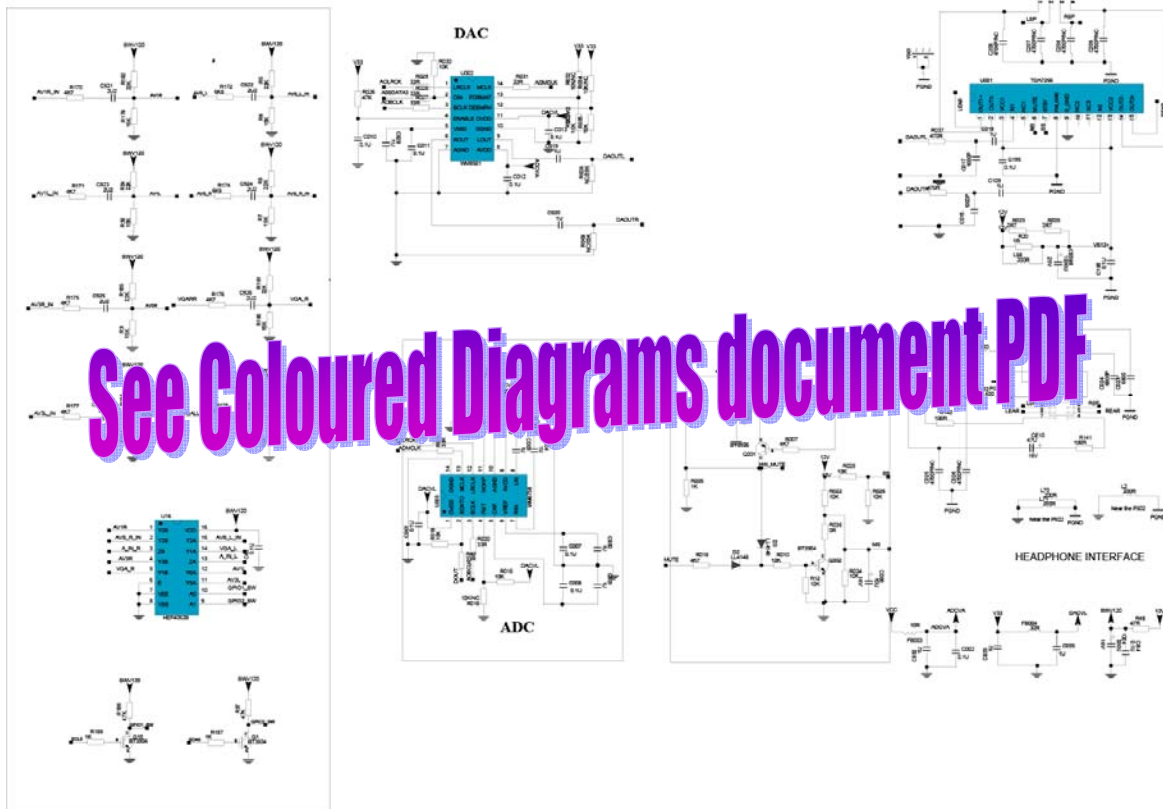
8. AV & S\_VIDEO & PC-AUDIO INPUT



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PERSONAL NOTES:



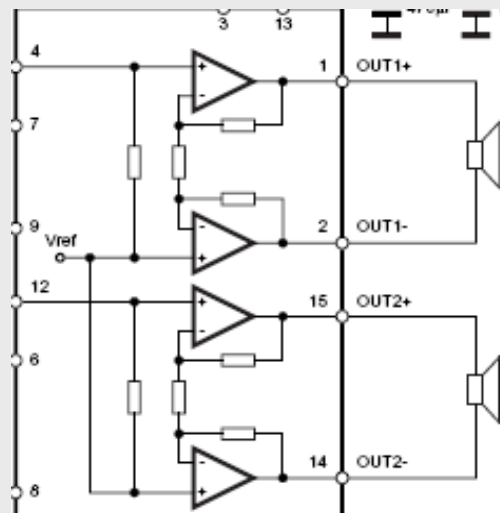
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External audio input is selected by the audio source select U16. The output of the source select is connected to the ADC (U003).

The I2S output is the input for the MT8200. After audio signal processing in the MT8200, a I2S output is connected to the DAC (U002).

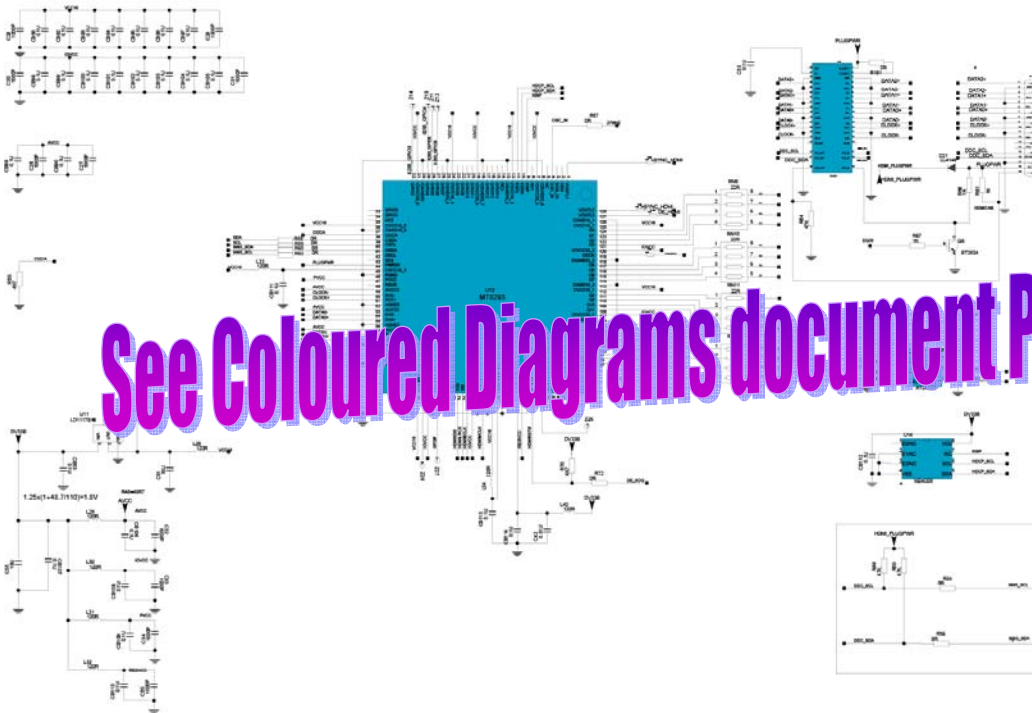
From the DAC the left and right audio channels are amplified by the TDA7266 (U001) The TDA7266 is a dual bridge amplifier.



**PERSONAL NOTES:**

PHILIPS

HDMI Switch



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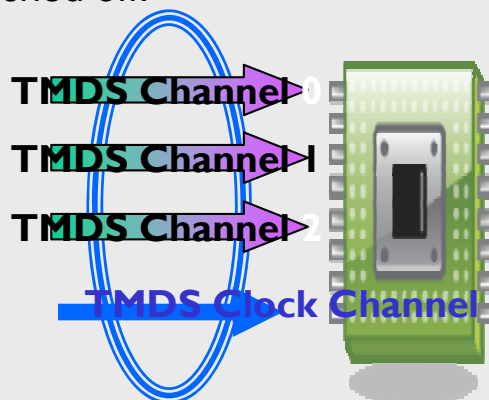
slide 39

The HDMI connector is connected to U40. This is a port protector.

HDMI signals are received by the MT8293. The three TMDS data and clock channels, (these are the channels used to carry video, audio and auxiliary data) are converted to 16/8 bits digital signal connected to the input port of the MT8200.

HDMI Edid data is stored in the eeprom U13. This eeprom is supplied by the HDMI plugpower. This means that the data is also available for a source when the TV set is switched off.

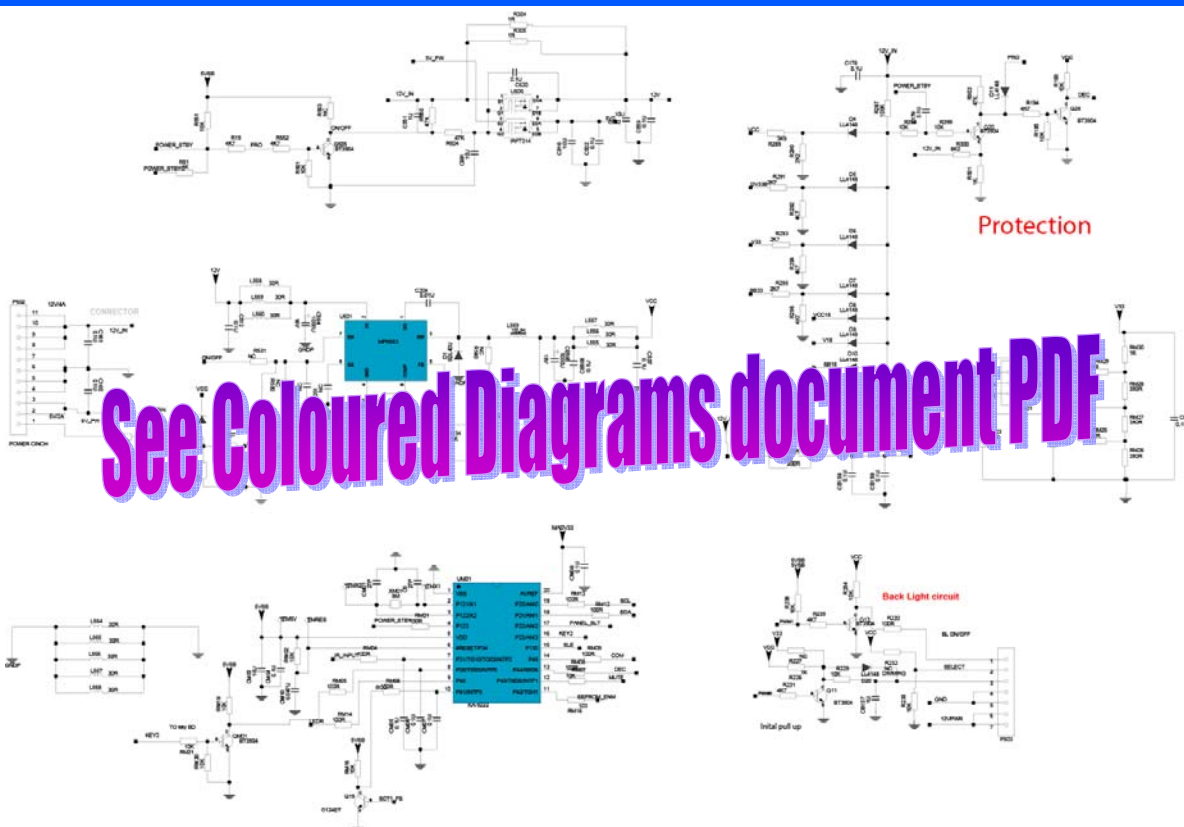
U14 contains the HDCP keys.



PERSONAL NOTES:

PHILIPS

DC-DC



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UM01 is the standby processor. Via the Power Standby line (pin4) the 5V and 12V are switched (via U505)

From eco-standby the set can be switched on via:

Local Power Key  
IR command  
Scart Fast Blanking

COM is high in case of communication via I2C.

Protection: In case one of the voltages VCC, DV33B, V33 or SB33 is not present DEC will get low. The standby processor will switch off the set.

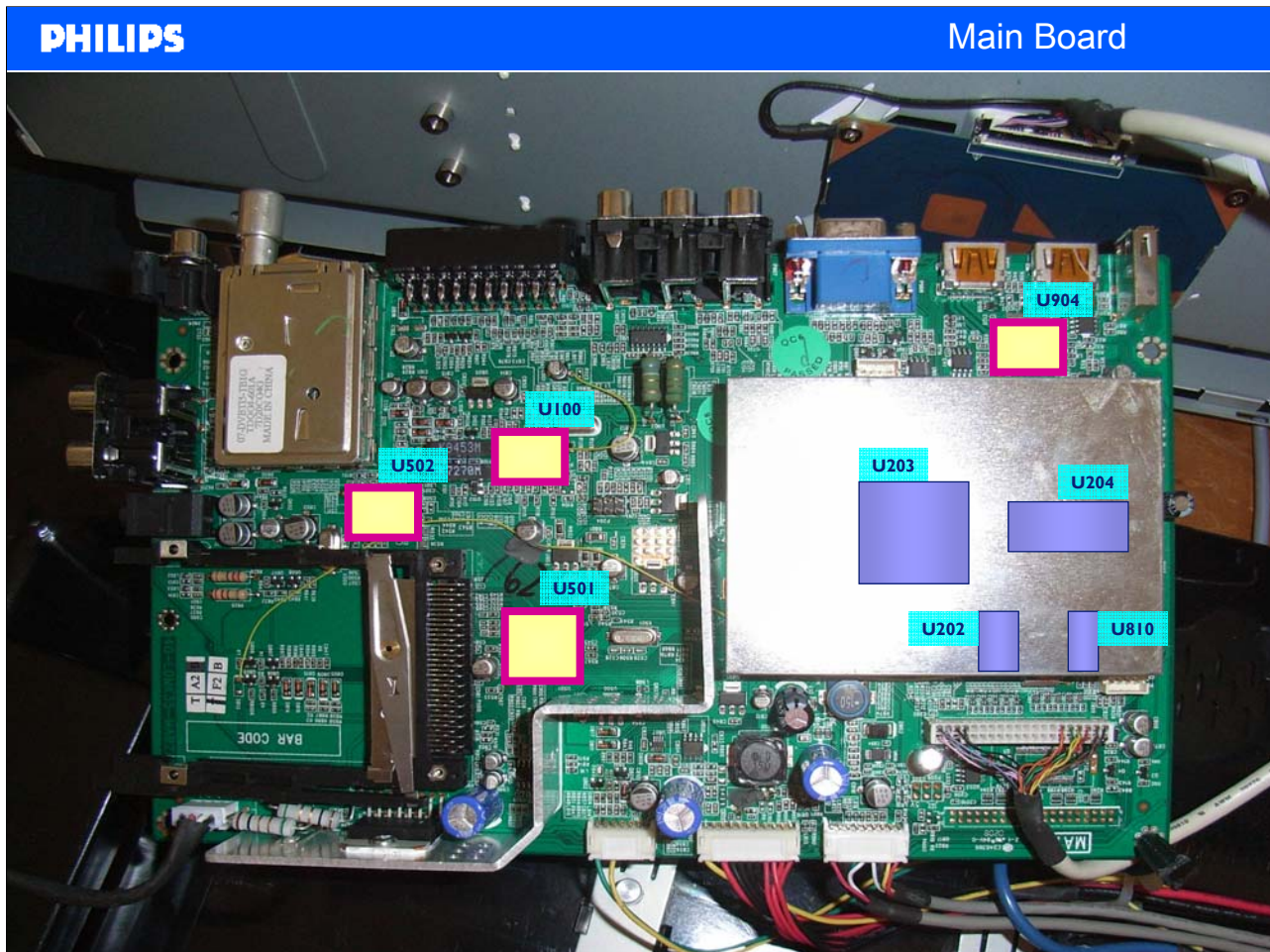
PERSONAL NOTES:



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U100: IF demodulator (analogue)

U202 Flash

U203 Main video processor

U204 SDRAM

U501 DVBT Cam Switch

U502 digital channel decoder

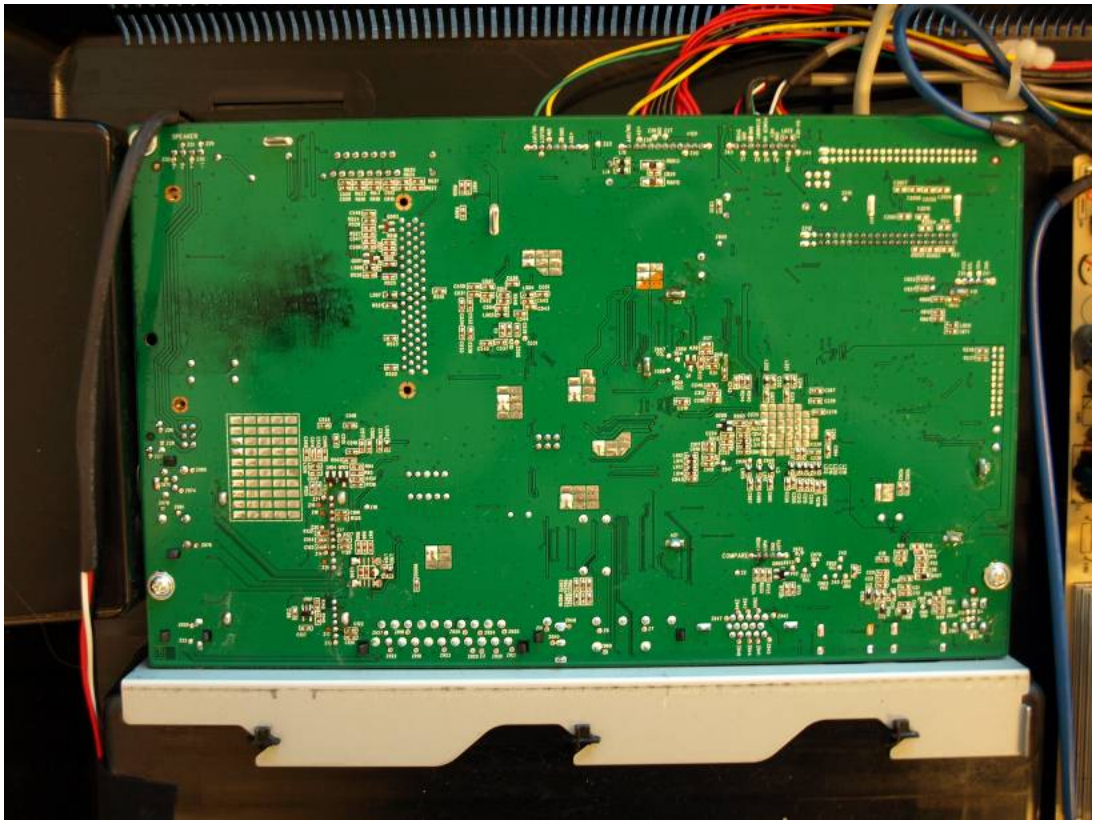
U810 MCU Standby

U904 HDMI Switch

PERSONAL NOTES:

PHILIPS

Main Board



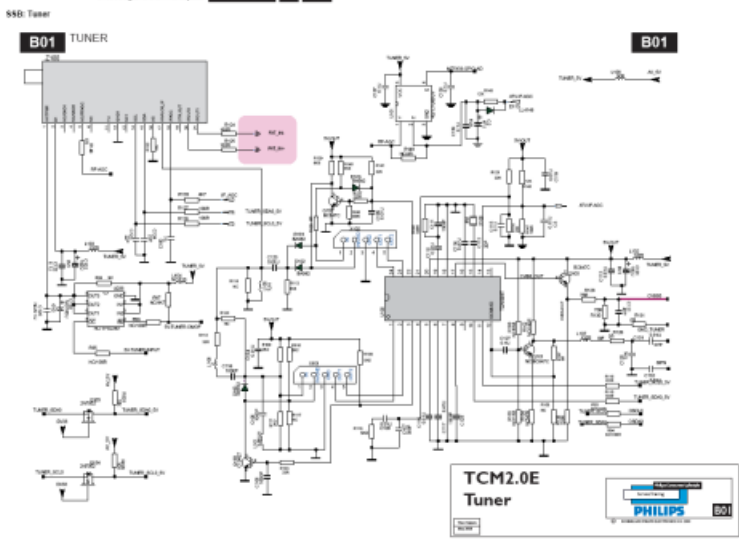
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PERSONAL NOTES:

PHILIPS

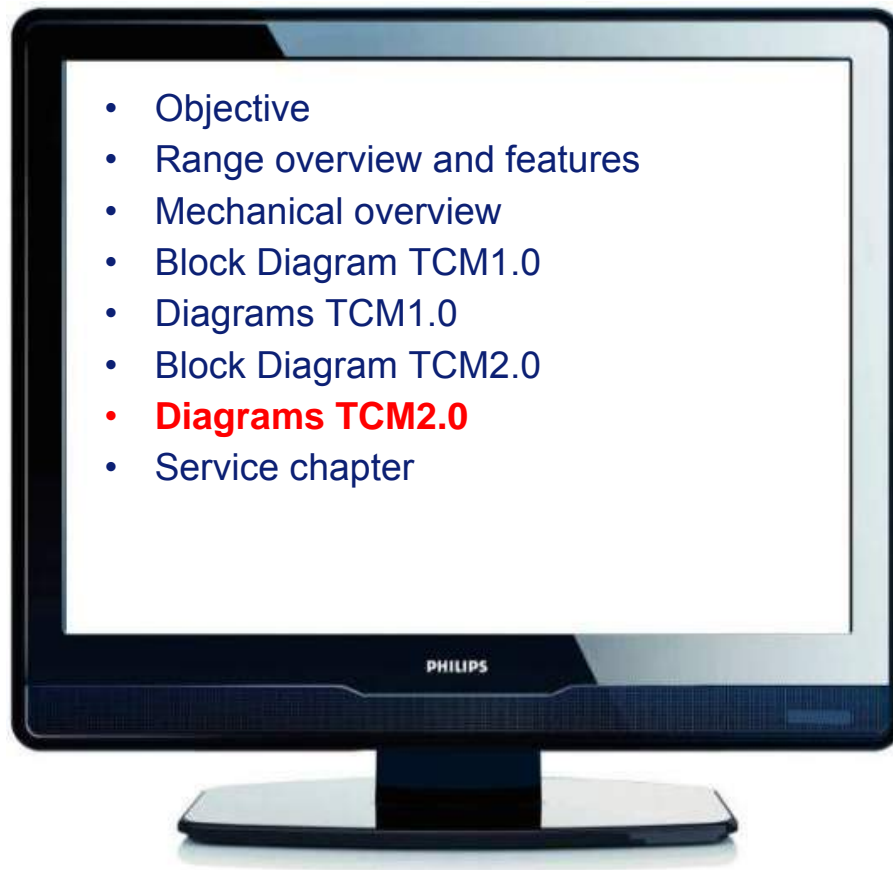
Diagrams TCM2.0



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PERSONAL NOTES:



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PHILIPS

Diagrams TCM2.0

W&B Tuner

Print Diagrams and PCB Layouts

TCM2.0E

B01 TUNER

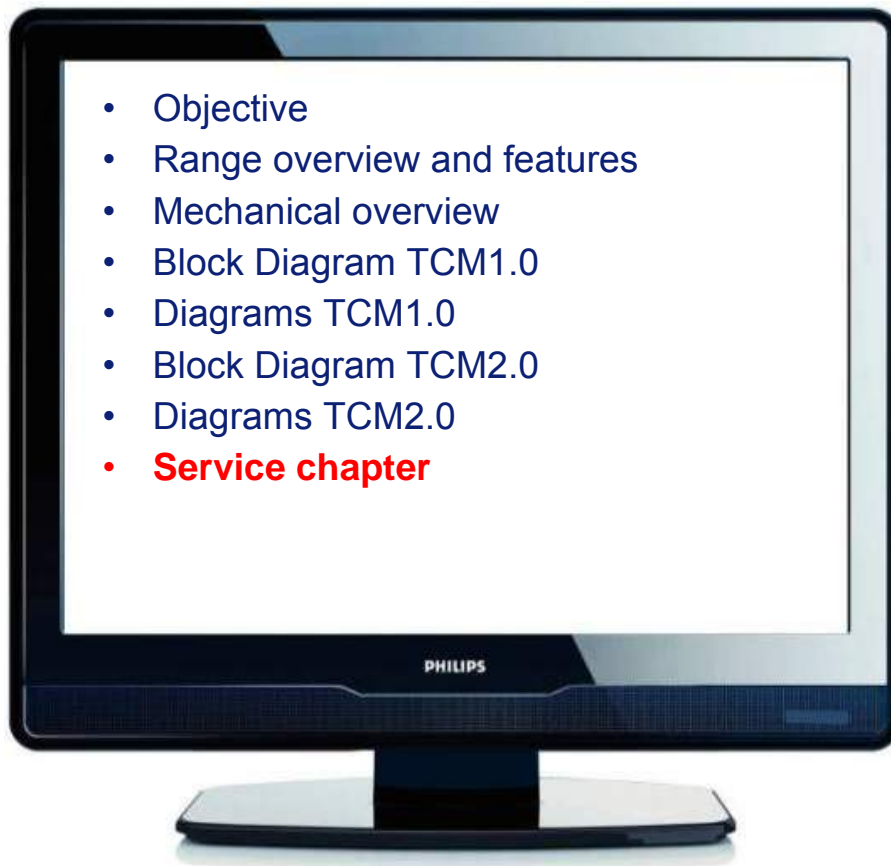
B01

TCM2.0E Tuner

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PERSONAL NOTES:



PHILIPS

CSM TCM1.0

No signal

Customer Service Menu: 123654

	CSM
1 Set Type:	20PFL3403/10
2 Production Code	CG1A0820012120
3 Current main SW	TCM120E 5.09
4 Standby MCU SW	6
5 Code	0 0 0 0 0
6 NVM	7
7 Signal Quality	No
8 System	PAL
9 Sound	
10 Key(HDCP) HDMI	
11 HDMI input format	
12 HDMI audio stream	

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PERSONAL NOTES:

To enter into Factory Menu:

- press the RemoteControl keys "0", "6", "2", "5", "9", "6", and "INFO"

To exit "FactoryMenu", press "Exit" key from RemoteControl.

To comeback to "FactoryMenu" root when you are into a submenu:

- press RemoteControl "Menu" key.

Remark: To enter the Factory Service mode you must press the key sequence not to fast.

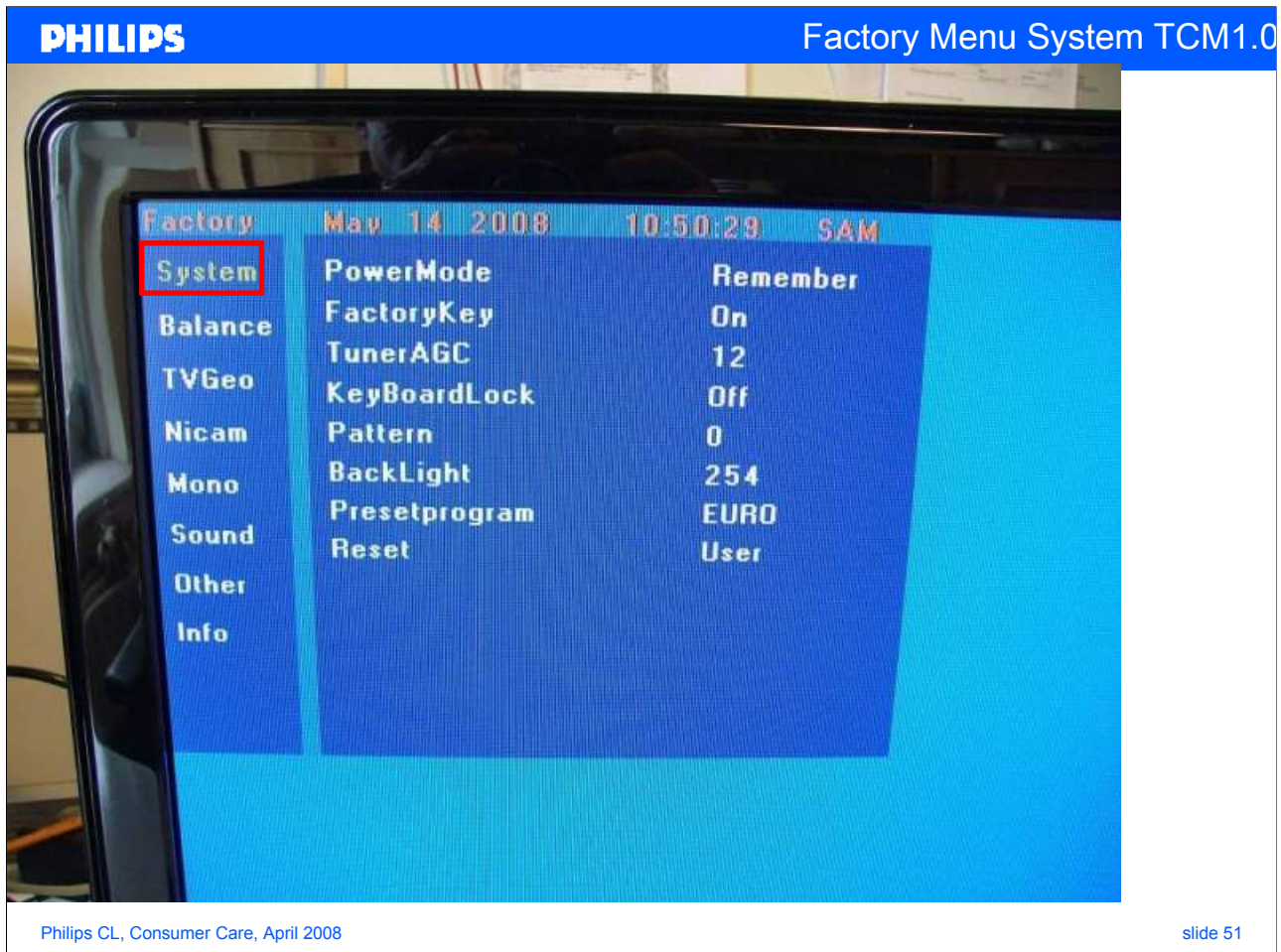
If a repair need more often to enter Factory Menu the Factory Menu can be set in Enable mode.

To enable/disable "FactoryKey", ,please to follow below steps:

- press RemoteControl "Zoom+"key to enter into "System" submenu
- press RemoteControl "Down" key till "FactoryKey" item
- press RemoteControl "Zoom+"key to toggle mode

To pop-up Factory Menu in case of "FactoryKey" is enabled, follow below step:

- press RemoteControl key "Blue"



Power Mode	Remember:	Remember the state of last shut off
	Open :	Always power-on the set
	OFF :	Stand by after power on
Factory Key	OFF :	Factory Key is not valid
	ON :	Factory Key is available, and BLUE button is the shortcut key.
Tuner AGC	12	
Key Board Lock	On :	the keypad board is locked, only the RC is available;
	Off:	disabled
Pattern	MT8200 generates test pattern	
Back Light	Peak White Alignment	
Reset	Reset EEPROM data, and load the default value of EEPROM	
	All: Reset factory and user Menu's data	
	User: Reset user Menu's data	

## PERSONAL NOTES:

Pattern test: select 1-5 for different patterns generated by MT8200.

Pattern 6 runs different patterns automatically.

In this mode the RC is disabled. This mode can be used for testing the set! To exit this mode press the local menu button on the set!

PHILIPS

FactoryMenu Balance TCM1.0

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Source	For Balance Source
Tone	Normal/Warm.Cool
White R	R White Balance
White G	G White Balance
White B	B White Balance
Gray R	R Gray Balance
Gray G	G Gray Balance
Gray B	B Gray Balance
RGB Calibrate	ADC Adjust
Scaling Brightness	Maximum brightness
Scaling Contrast	Maximum Contrast
Scaling Saturation	Maximum Contrast
Scaling Hue	Maximum Hue

PERSONAL NOTES:

PHILIPS

FactoryMenu TV Geometry TCM

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TV GEO	Color System
H POS	Horizontal Position
H SIZE	Horizontal Size
V POS	Vertical Position
V SIZE	Vertical Size

PERSONAL NOTES:

PHILIPS

FactoryMenu Nicam TCM1.0

Item	Sub-item	Value
System	Correct Thres	5
	Sync Loop	50
	Error Thre	6
Balance	Parity Error Thres	47
	Every Num Frames	32
TVGeo	A2 System	4
Nicam		
Mono		
Sound		
Other		
Info		

Philips CL, Consumer Care, April 2008

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Item	Sub-item	Don't modify
Nicam	Correct Thres	5
	Sync Loop	50
	Error Thre	6
	ParityErrorThres	47
	EveryNumFrames	32
	A2 system	4

PERSONAL NOTES:

PHILIPS

FactoryMenu Mono TCM1.0

Item	Sub-item	Value
Mono	High DEVI	Off
	AM Mute	On
	AM Mute High	69
	AM Mute Low	53
	Carrier Shift	Off
	Saturation Mute	Off
	FM Mute	On
	FM Mute High	24
	FM Mute Low	19

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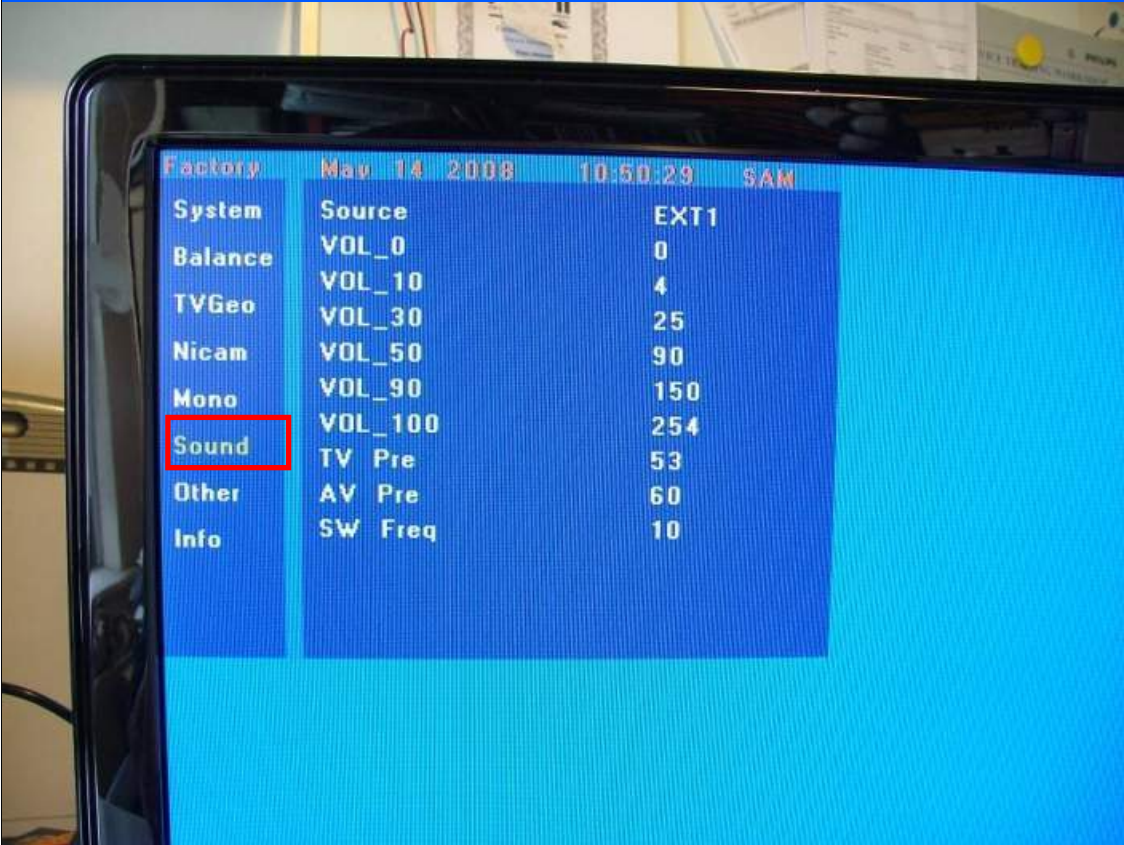
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PERSONAL NOTES:

Item	Sub-item	Don't modify
Mono	High DEVI	OFF
	AM Mute	ON
	AM Mute High	69
	AM Mute Low	53
	Carrier Shift	OFF
	Saturation Mute	OFF
	FM Mute	ON
	FM Mute High	24
	FM Mute Low	19

PHILIPS

FactoryMenu Sound TCM1.0



FactoryMenu Sound TCM1.0

System	Source	EXT1
Balance	VOL_0	0
TVGeo	VOL_10	4
Nicam	VOL_30	25
Mono	VOL_50	90
	VOL_90	150
Sound	VOL_100	254
Other	TV Pre	53
	AV Pre	60
Info	SW Freq	10

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Item	Sub-item	Volume Curve
Sound	VOL_0	0
	VOL_10	4
	VOL_30	25
	VOL_50	90
	VOL_90	150
	VOL_100	254
	TV Pre	53
	AV Pre	60
	SWPREQ	10

PERSONAL NOTES:

PHILIPS

FactoryMenu Other TCM1.0

Factory May 14 2008 10:50:29 SAM

System	Blue Mute	On
Balance	CTI	Middle
TVGeo	Flesh Tone	On
Nicam	DeInterlace Mode	Automatic
Mono	White Peak limiter	On
Sound	MDDi Kenar koruma	High
Other	TTX Contrast	10
Info	Seamless	Off

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Item	Sub-item	Don't modify
Other	Blue Mute	ON
	CTI	Middle
	Flesh Tone	ON
	Deinter Mode	Automatic
	White Peak Limiter	ON
	MDDi Kenar korkuma (Edge Pre)	High
	TTX Contrast	10
	Seamless	OFF

PERSONAL NOTES:

PHILIPS

FactoryMenu Info TCM1.0

Factory May 14 2008 10:50:29 SAM

System Project: 20PFL3403/10

Balance SN: CG1A0820012120

TVGeo Main Version: TCM120E 5.09

Nicam Sub Version: 6

Mono Date: 2008-02-19

Sound Panel: LPL

ERR 3 0 0 0 0

Clear >

System

Balance

TVGeo

Nicam

Mono

Sound

Other

Info

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PERSONAL NOTES:

PHILIPS			FactoryMenu Factory Default TCM1.0 Setti
User Menu	Source	TV(channel 1)	
	Picture Preset	Standard	
	Dynamic Contrast	ON	
	Tone	Normal	
	Volume	30	
	Sound Type	Automatic	
	Virtual Surround	OFF	
	Auto Volume	OFF	
	Sound effect	OFF	
Factory Menu	FACTORY-KEY	OFF	
	POWER ON	Remember	
	Flesh Tone	ON	
	White Peak Limiter	ON	

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PERSONAL NOTES:

- **RF AGC – Takeover point** (*Analog part*)
- Not any AGC alignment is required. The TunerAGC value is set to **12** by default and accessible into the FactoryMenu.

PERSONAL NOTES:

Three inputs require an ADC calibration for the time being that are:

#### VGA

Provide a test signal 1024×768@60Hz with WhiteBlack squares.

Select the corresponding “Balance/RGBCalibrate” submenu item from “FactoryMenu”, then press “Zoom+” to start.

#### CMP

Provide a test signal 576i@50Hz with 100% 8 steps ColorBar.

Select the corresponding “Balance/RGBCalibrate” submenu item from “FactoryMenu”, then press “Zoom+” to start.

**The ADC is well performed when it's displayed “CMP” after few seconds.**

#### SCART-RGB

Provide a test signal PAL, SCART RGB with WhiteBlack squares.

Select the corresponding “Balance/RGBCalibrate” submenu item from “FactoryMenu”, then press “Zoom+” to start.

**The ADC is well performed when it's displayed “RGB” after few seconds.**

**PHILIPS**
CSM TCM2.0

0 - CSM 1

1. Model Number	SGP_5335
2. Production Serial Number	
3. Software Version	TCM21E 0.49
4. Codes	000 000 000 000 000
5. SSB	
6. DISPLAY	
7. NVM Version	00.60
8. Key (HDCP)	Valid
9. Digital Signal Quality	
10. Audio System	Unknown

0 - CSM 2

12. Video Format	Unknown
13. Standby up SW ID	WT6702 V0.17

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### Menu Explanation

1. **Model Number** Type number and region.
2. **Production Serial Number** Product serial no.
3. **SW Version** Software cluster and version is displayed (TC = TCL, M2 = MTK2, E = Europe, 0.49 = software version).
4. **Codes** Error buffer contents.
5. **SSB** SSB serial number.
6. **DISPLAY** Display type.
7. **NVM Version** NVM version.
8. **Key (HDCP) HDMI** Shows Valid or invalid HDCP key when HDMI connected. Else blank.
9. **Digital Signal Quality** ..% (antenna signal).
10. **Audio System** Audio system (Mono/Stereo/Nicam stereo)

PERSONAL NOTES:

PHILIPS

SAM TCM2.0



System Information

Clear

Options

RGB Align

NVM Editor

NVM Copy

Clear OAD Version

Op Hour: 00214

MAIN SW ID: TCM21E 0.49

ERR: 000 000 000 000 000

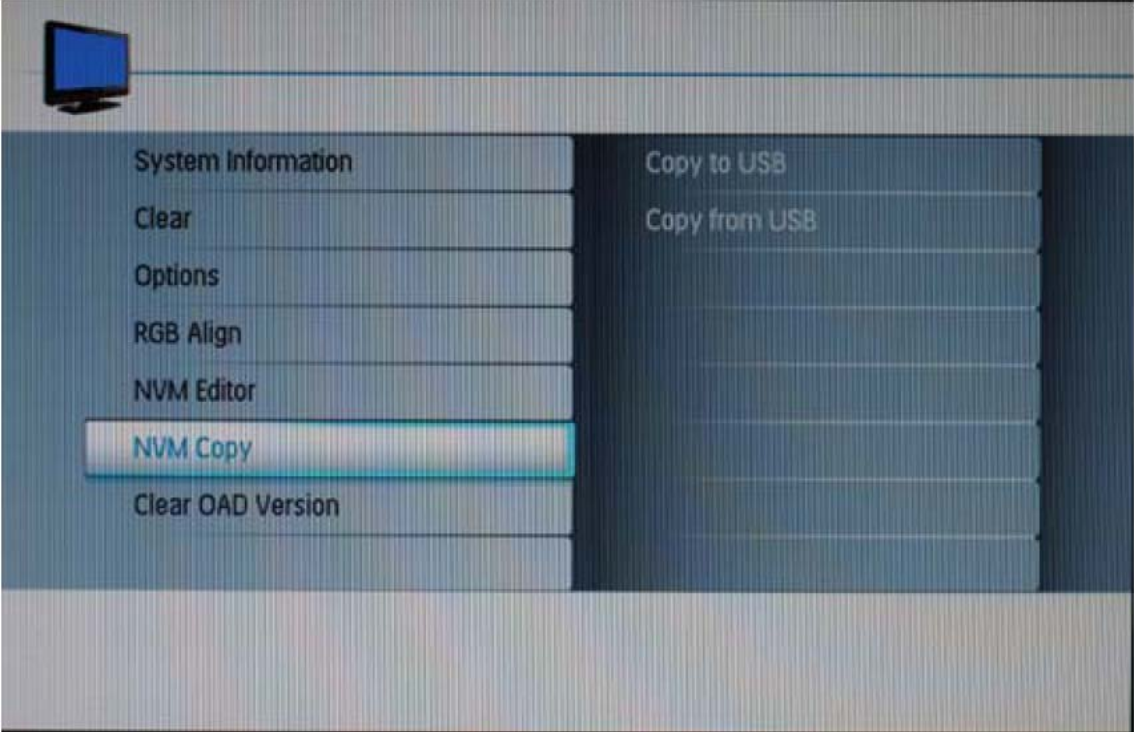
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PERSONAL NOTES:

PHILIPS

SAM TCM2.0



System Information

Clear

Options

RGB Align

NVM Editor

NVM Copy

Clear OAD Version

Copy to USB

Copy from USB


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PERSONAL NOTES:

PHILIPS

SAM TCM2.0



System Information

Clear

Options

RGB Align

NVM Editor

NVM Copy

Clear OAD Version

Op Hour: 00214

MAIN SW ID: TCM21E 0.49

ERR: 000 000 000 000 000


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PERSONAL NOTES:

PHILIPS

SAM TCM2.0



System Information

Clear

Options

RGB Align

NVM Editor

NVM Copy

Clear OAD Version

Op Hour: 00214

MAIN SW ID: TCM21E 0.49

ERR: 000 000 000 000 000

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PERSONAL NOTES:

PHILIPS

SAM TCM2.0



System Information

Clear

Options

RGB Align

NVM Editor

NVM Copy

Clear OAD Version

Op Hour: 00214

MAIN SW ID: TCM21E 0.49

ERR: 000 000 000 000 000

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PERSONAL NOTES:

Errors can also be displayed by the blinking LED procedure.

To activate the blinking LED procedure go into SDM mode:

*Press on the remote control the code “062596” directly followed by the “MENU” key.*

The method is to repeatedly let the front LED pulse with as many pulses as the error code number, followed by a period of 1.5 seconds in which the LED is “off”. Then this sequence is repeated.

Any RC command terminates the sequence. Error code LED blinking is in white colour.

Basically there are six kind of errors:

Code	Description
0	no error
3	µP Contro
4	General I2C bus Error
7	TunerI2C-bus
8	Demodulator
10	MT8295
11	MT5133
13	HDMI switch



PERSONAL NOTES: