

# BeoVision 10 – 40

Type 9570

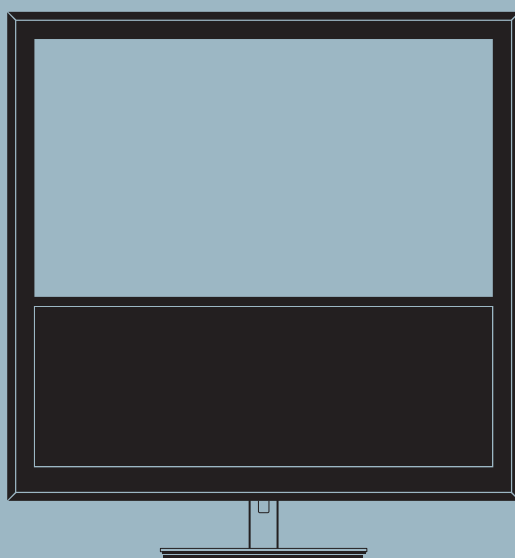
# BeoVision 10 – 46

Type 9565

Service Manual

English

*German, French, Italian, Spanish, Danish, Dutch and Simplified Chinese versions are available in the Retail System*



*This Service Manual must be returned  
with the defective parts/back-up suitcase !*

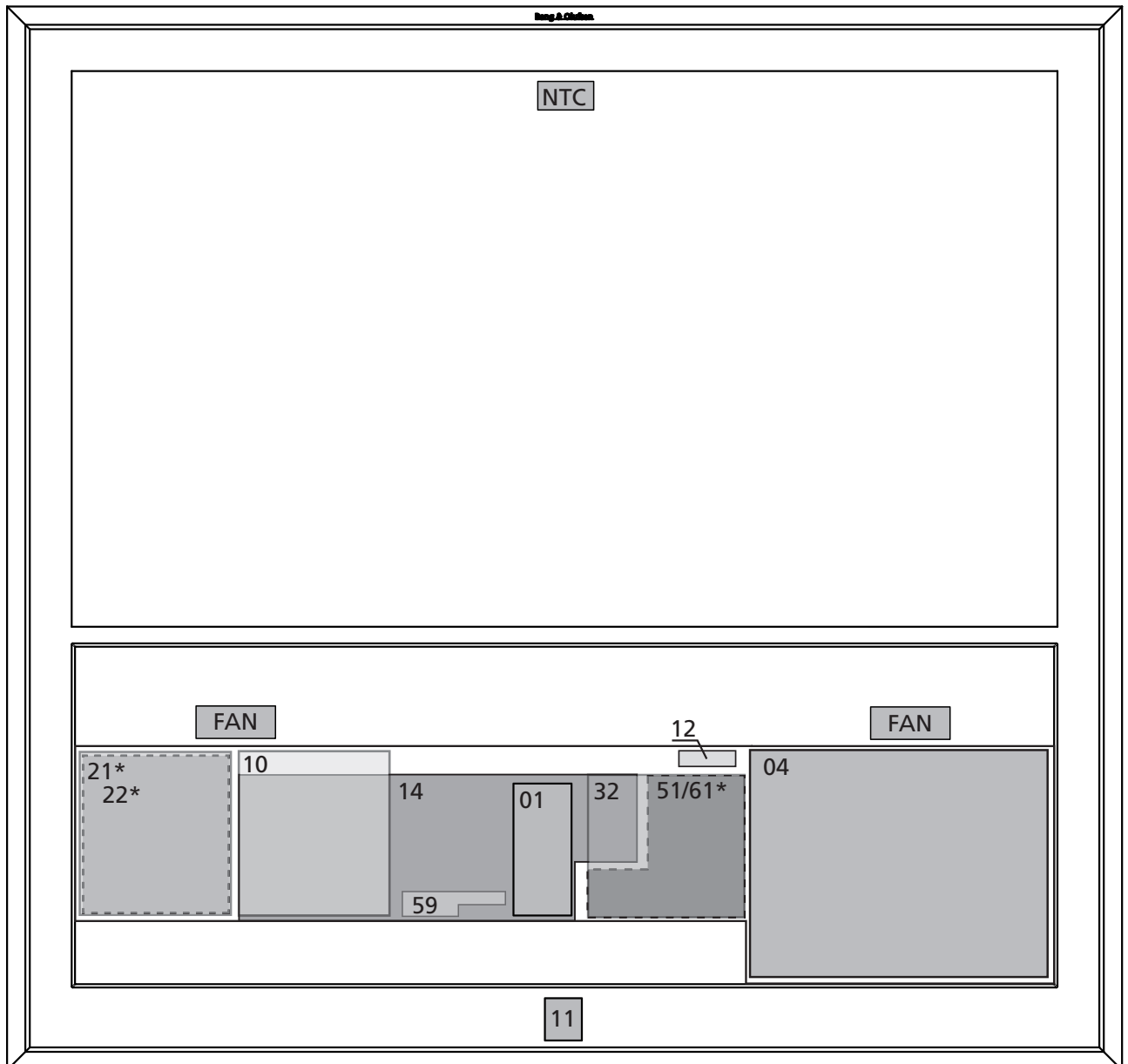
BANG & OLUFSEN



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Survey of modules



**\*Optional**

- |        |                    |
|--------|--------------------|
| PCB01  | Tuner              |
| PCB04  | Power Supply       |
| PCB10  | Audio              |
| PCB11  | IR Receiver        |
| PCB12  | Filter             |
| PCB14  | Main               |
| PCB21* | Engine f/DVB-HD    |
| PCB22* | Front-End f/DVB-HD |
| PCB32  | DSM                |
| PCB51  | System Module      |
| PCB59  | Camera             |
| PCB61* | BtB                |

## How to service

### Strategy

The television is to be serviced in the customer's home.

The static-protective field service kit must always be used when the product is disassembled or modules are being handled.

The repair involves replacement of the module(s) or LCD panel, which are supplied in the Back-up suitcase (LCD screen not included).

Exchange modules must be returned for repair at Bang & Olufsen, Module Repair Department.

Fault description must be made in the Retail Order System, Exchange Module.

BeoVision 10 can be serviced hanging on the wall bracket or on the floor stand. Service stand can be mounted. Connect the mains cable to the BeoVision, before mounting the service stand.

## Preparations before service

### Fault explanation and demonstration

Before troubleshooting is initiated, let the customer demonstrate the fault, if possible.

### Recommended tools for service

B&O ServiceTool MKII  
USB 2.0 Flash Drive for DVB-HD software update  
Integrated Living – Test DVD  
Motorised screw driver incl. different torx bits  
BeoVision 10-40 or BeoVision 10-46 product cover  
White gloves  
Soft lint-free cloth

## Handling and cleaning

### Static electricity

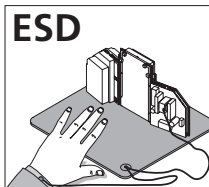


Static electricity may damage the product.

Static-protective field service kit.

A static-protective field service kit must always be used when the product is disassembled or modules are being handled.

Follow the instructions in the guide and use the ESD-mat for both old and new modules.



Please note:

When mains voltage on the product is required, remove the connection between the product and the ESD-mat.

The chassis or modules must always be connected to the static-protective field service kit or placed in an ESD-proof bag.

### Symbol of safety components



When replacing components with this symbol, the same type has to be used, also the same values for ohm and watt.

The new component is to be mounted in the same way as the replaced one.

### Cleaning

Please refer to the chapter "Final check after repair" or the User's guides

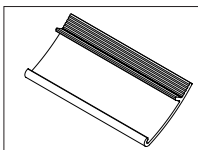
### Transport and handling

The product must not be transported placed on the screen.

It is recommended to use the product cover when transporting the television.

The product cover can be ordered.

### Protection strip



Protection strips can be mounted on the front frame and used when lifting the television.

### How to handle heavy products

As a Bang & Olufsen technician you are responsible for repair and service of heavy Bang & Olufsen products. Below we have listed some useful tips on how you may handle heavy products.

#### Tips for correct handling of heavy products



- You must familiarize yourself with national handling regulations and recommendations as these differ worldwide.
- Video products are too heavy to be lifted manually. Make sure that you use proper lifting methods and equipment when it is necessary to move the products. Or use trained personnel or partners to carry out the lifting in a safe manner.
- Always use the product cover when you transport the product to avoid damages.
- Always lift the product in an upright position and avoid putting pressure on the screen. Please refer to the documentation with the product or stands/wall brackets for specific advice.
- You must support the product until it is mounted on a wall bracket or stand since it cannot stand on its own.
- You must not move the product when it is switched on. Please make sure that the product is completely disconnected from the mains before moving it.

### Waste of Electrical and Electronic Equipment (WEEE)



Electrical and electronic equipment, parts and batteries marked with this symbol must not be disposed of with normal household wastage; all electrical and electronic equipment, parts and batteries must be collected and disposed of separately.

Your Bang & Olufsen retailer will advise you of the correct way of disposal in your country.

### Management methods for controlling pollution caused by Electronic Information Products



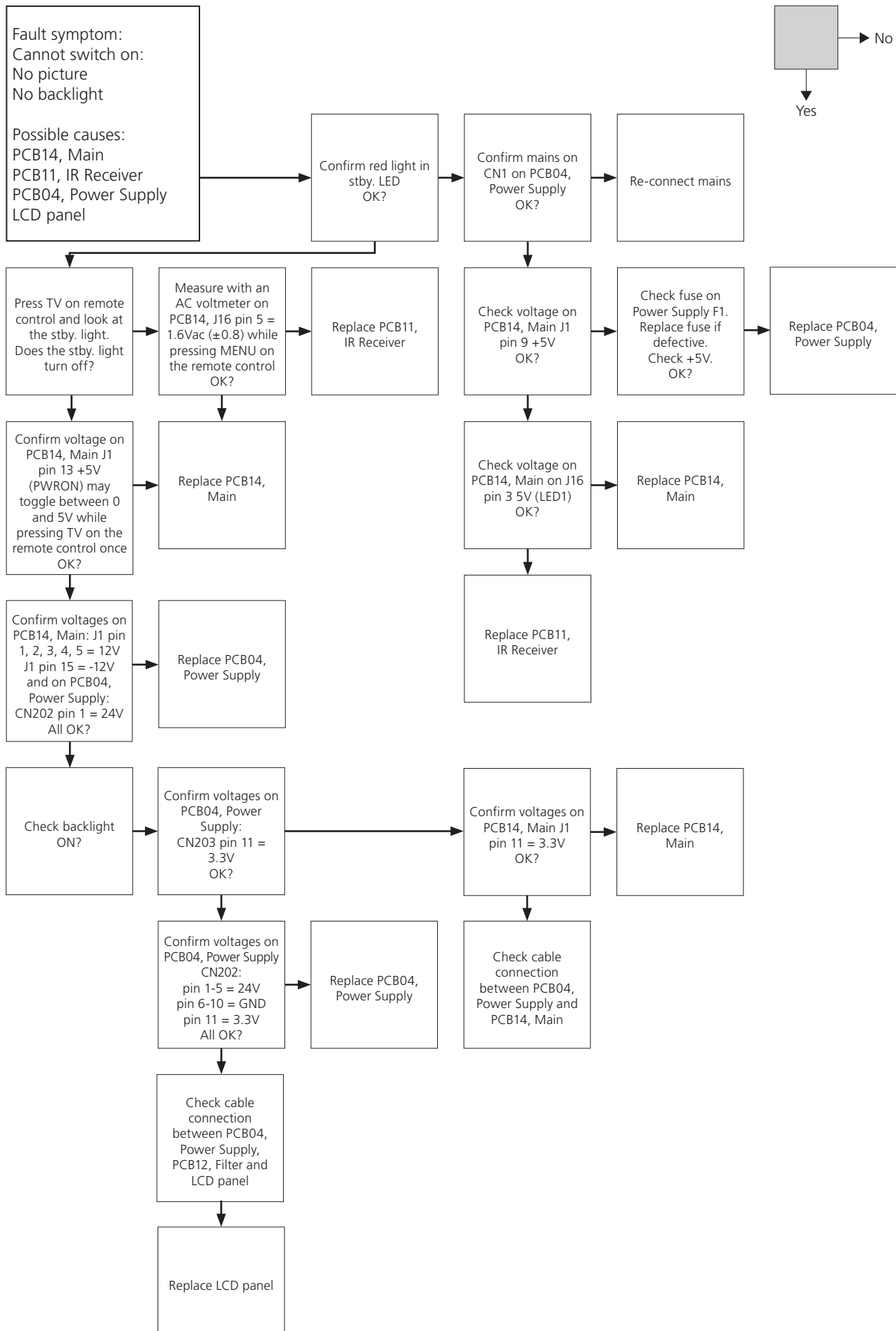
Component name:	Hazardous substance					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
Aluminum parts	×	○	○	○	○	○
PCBA	×	○	○	○	○	○

Symbols used in the charts:

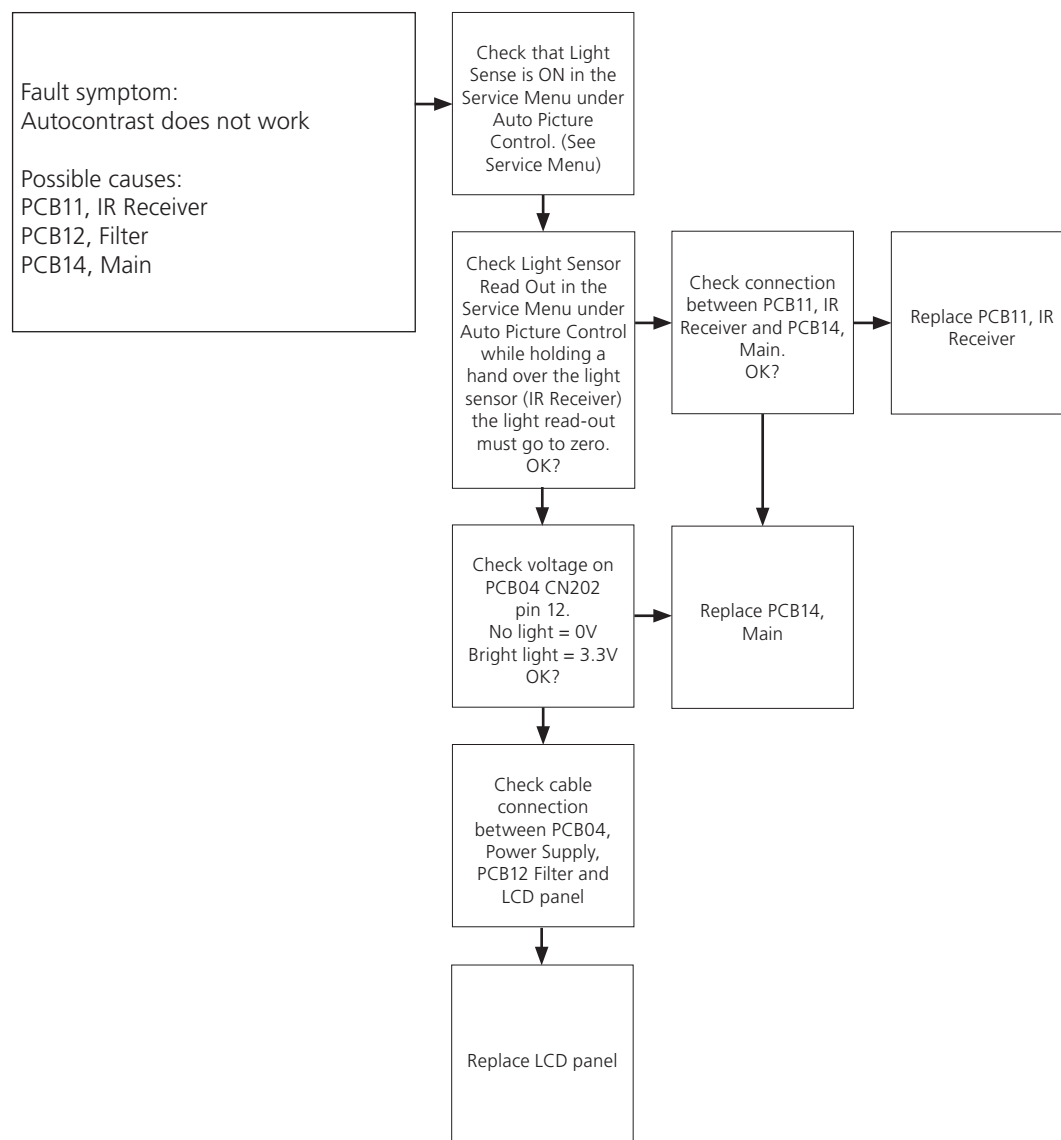
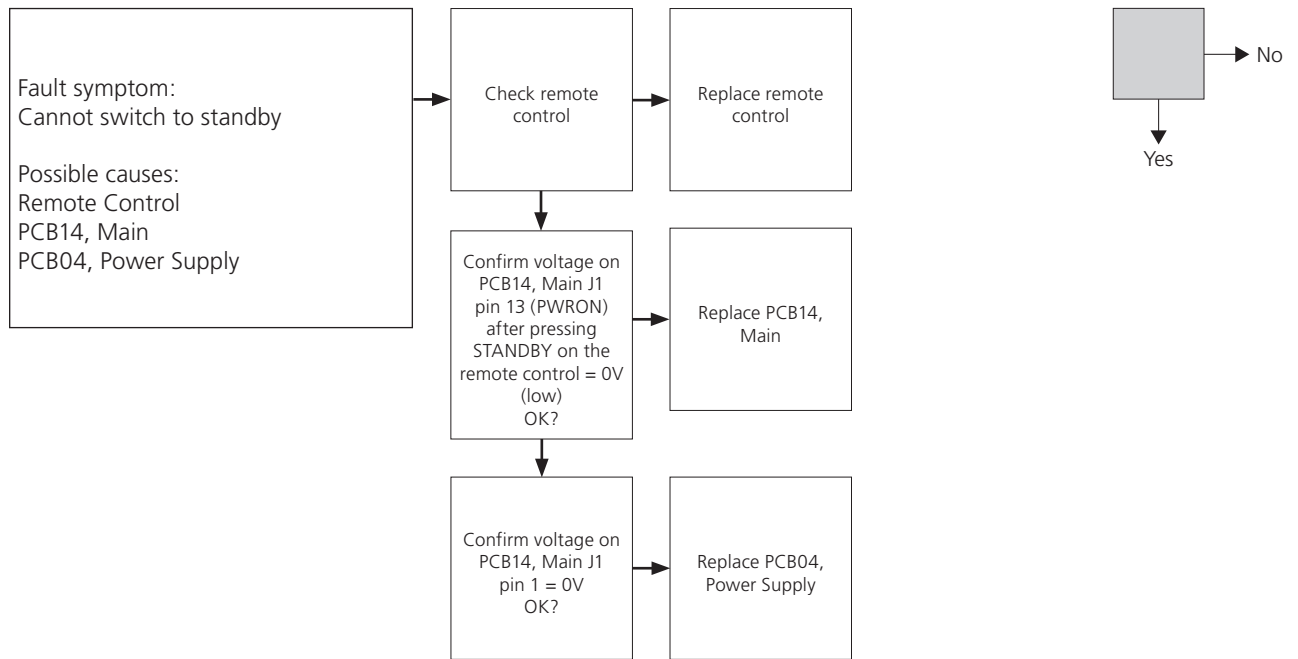
- Indicates all homogeneous materials' hazardous substances content are below the ST/T 11363–2006 MCV limit.
  - ×
- Indicates that the hazardous substance content contained in any one of the homogeneous materials of the part exceeded the MCV limits specified in the standard SJ/T 11363-2006.

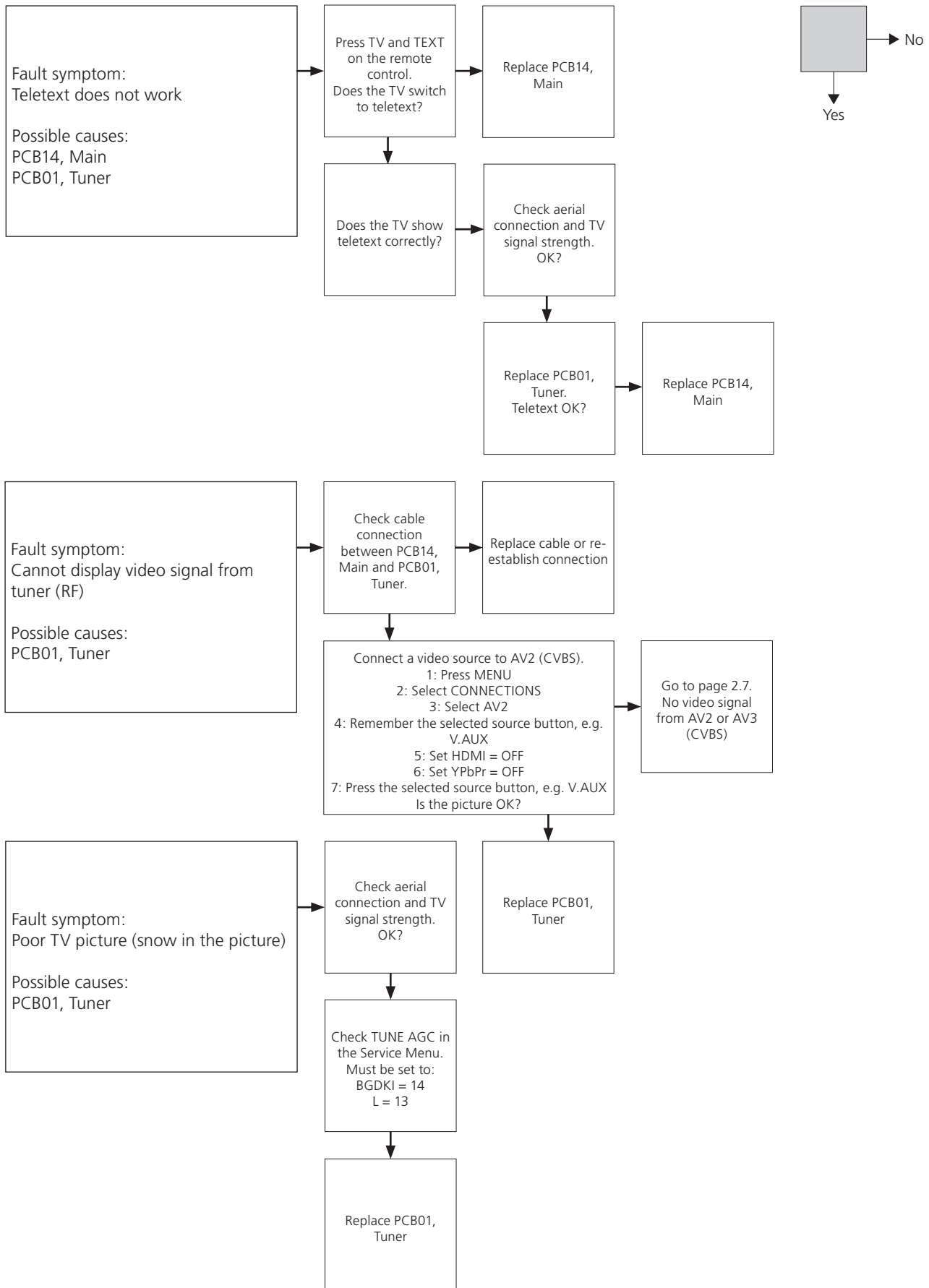
## Fault flow chart

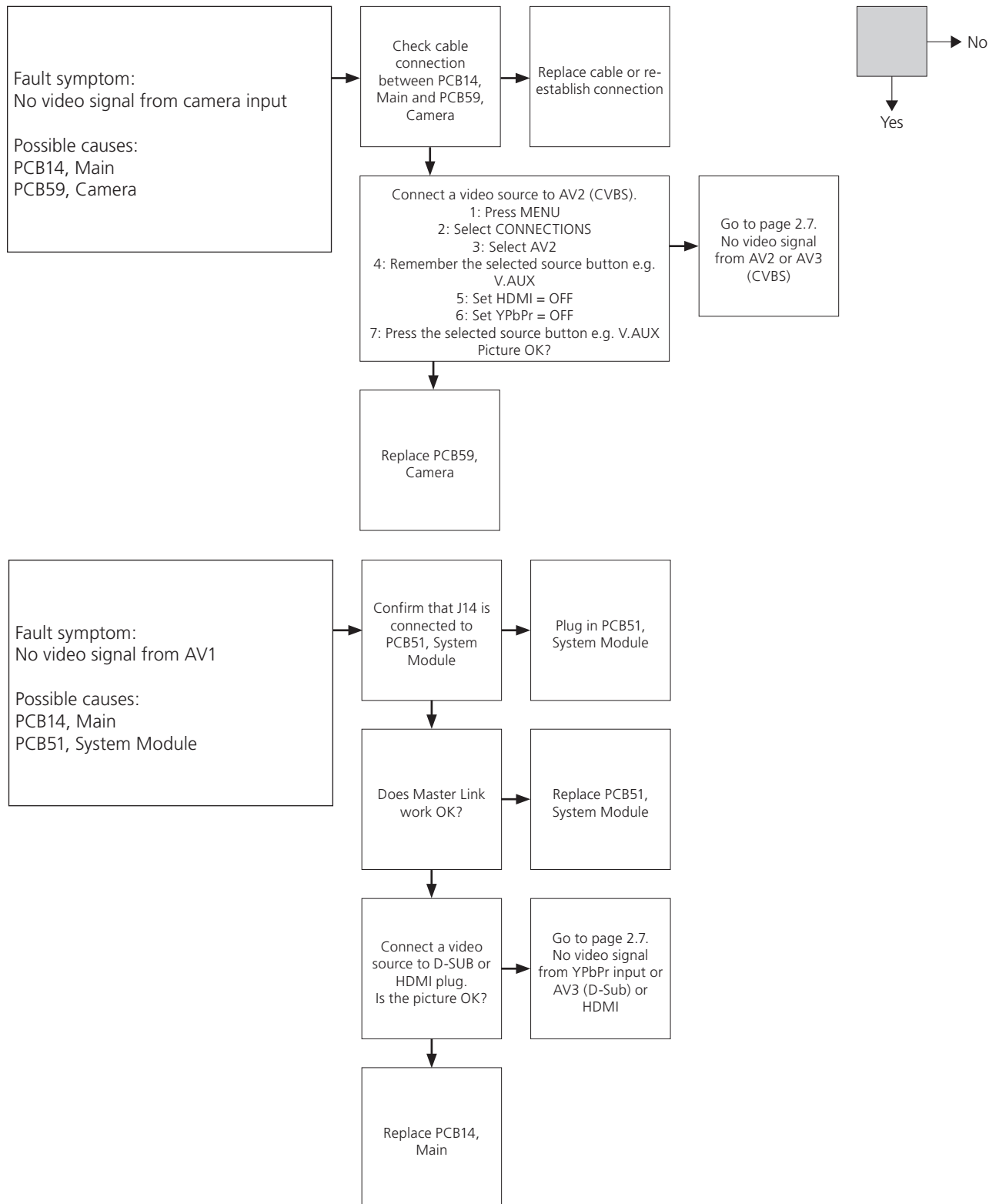
Cannot switch on: No picture, No backlight .....	2.2
Cannot switch to standby .....	2.3
Autocontrast does not work .....	2.3
Teletext does not work .....	2.4
Cannot display video signal from tuner (RF) .....	2.4
Poor TV picture (snow in the picture) .....	2.4
No video signal from camera input .....	2.5
No video signal from AV1 .....	2.5
Cannot display any video sources at all .....	2.6
No video signal from AV2 or AV3 (CVBS) .....	2.7
No video signal from YPbPr input or AV3 (D-Sub) or HDMI .....	2.7
No sound output on headphones .....	2.7
No sound output on Power Link .....	2.8
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No sound output in headphones, Power Link and internal speakers when using AV1 .....	2.10
No sound in headphones, Power Link and internal speakers when using SPDIF input .....	2.11
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No sound output at all (headphones, Power Link, and internal speakers) when TV is switched on .....	2.12
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DVB-HD .....	refer to Service Manual for DVB-HD

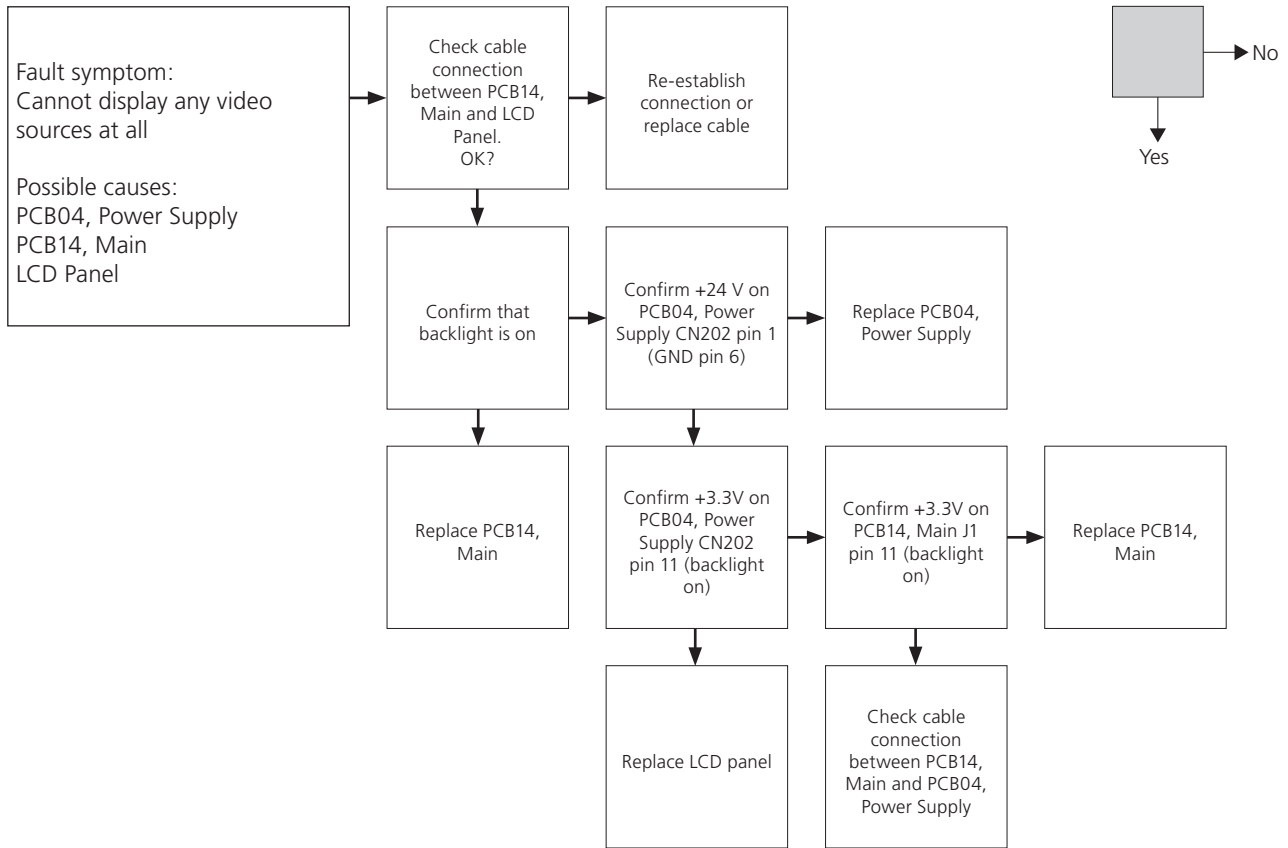


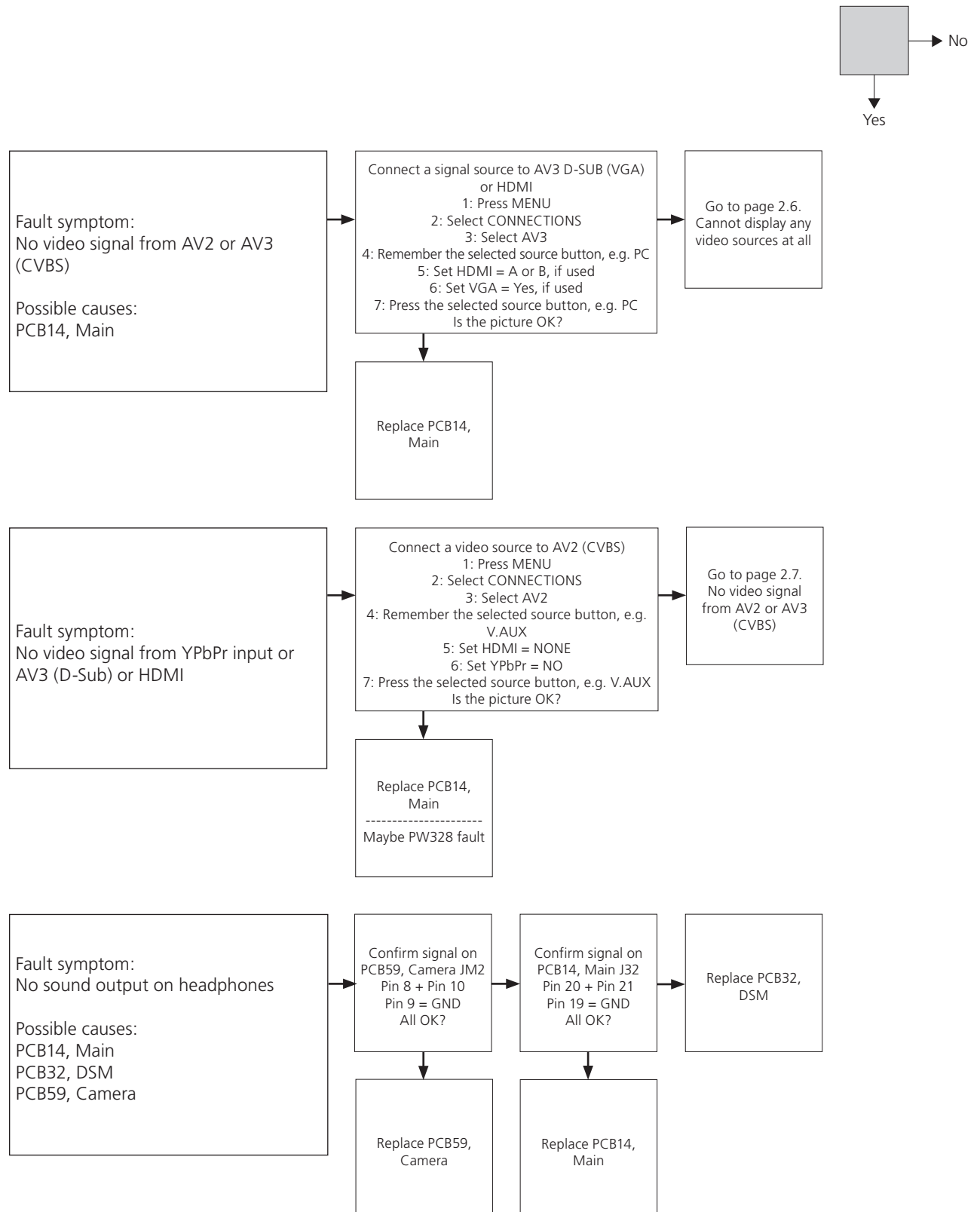


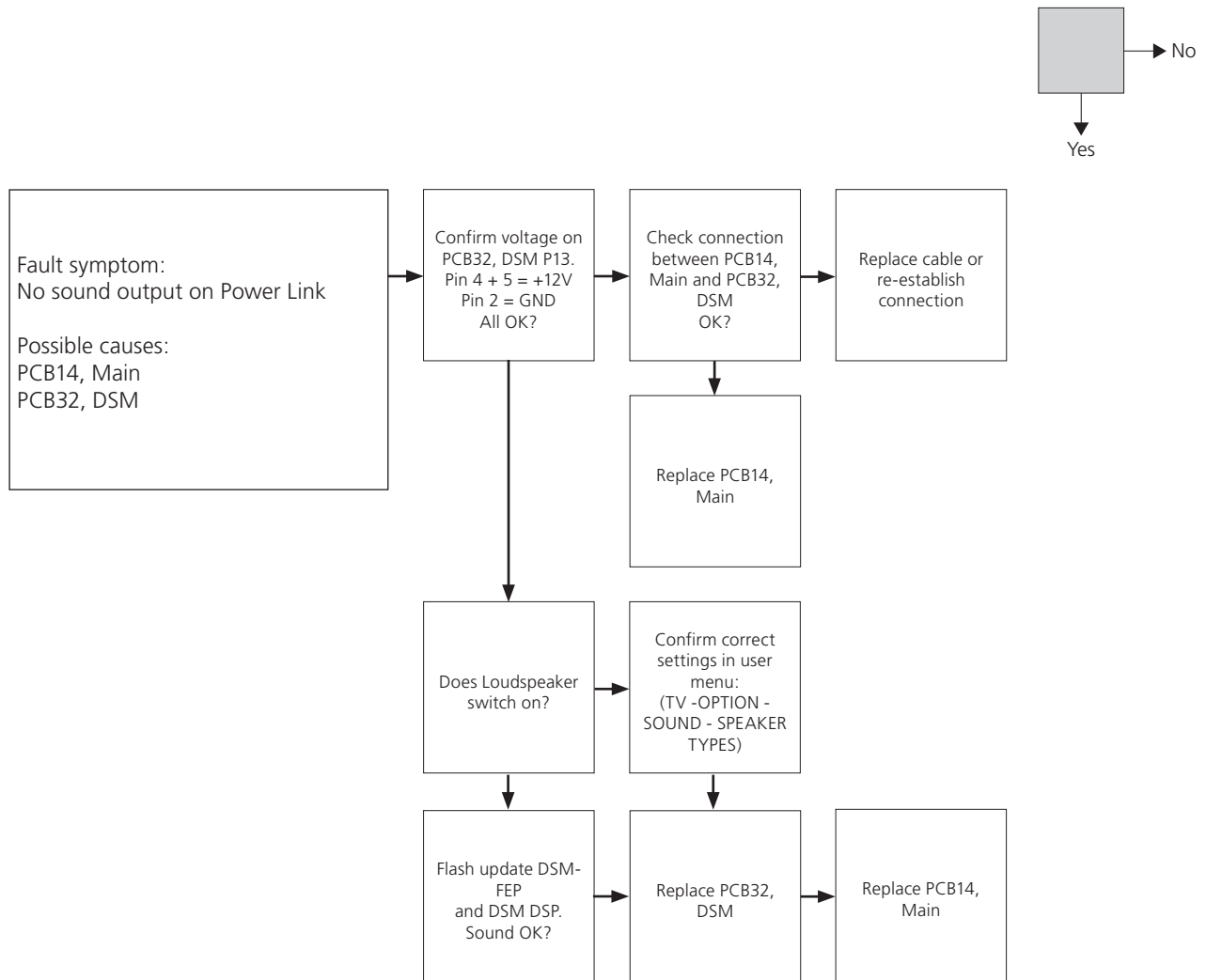


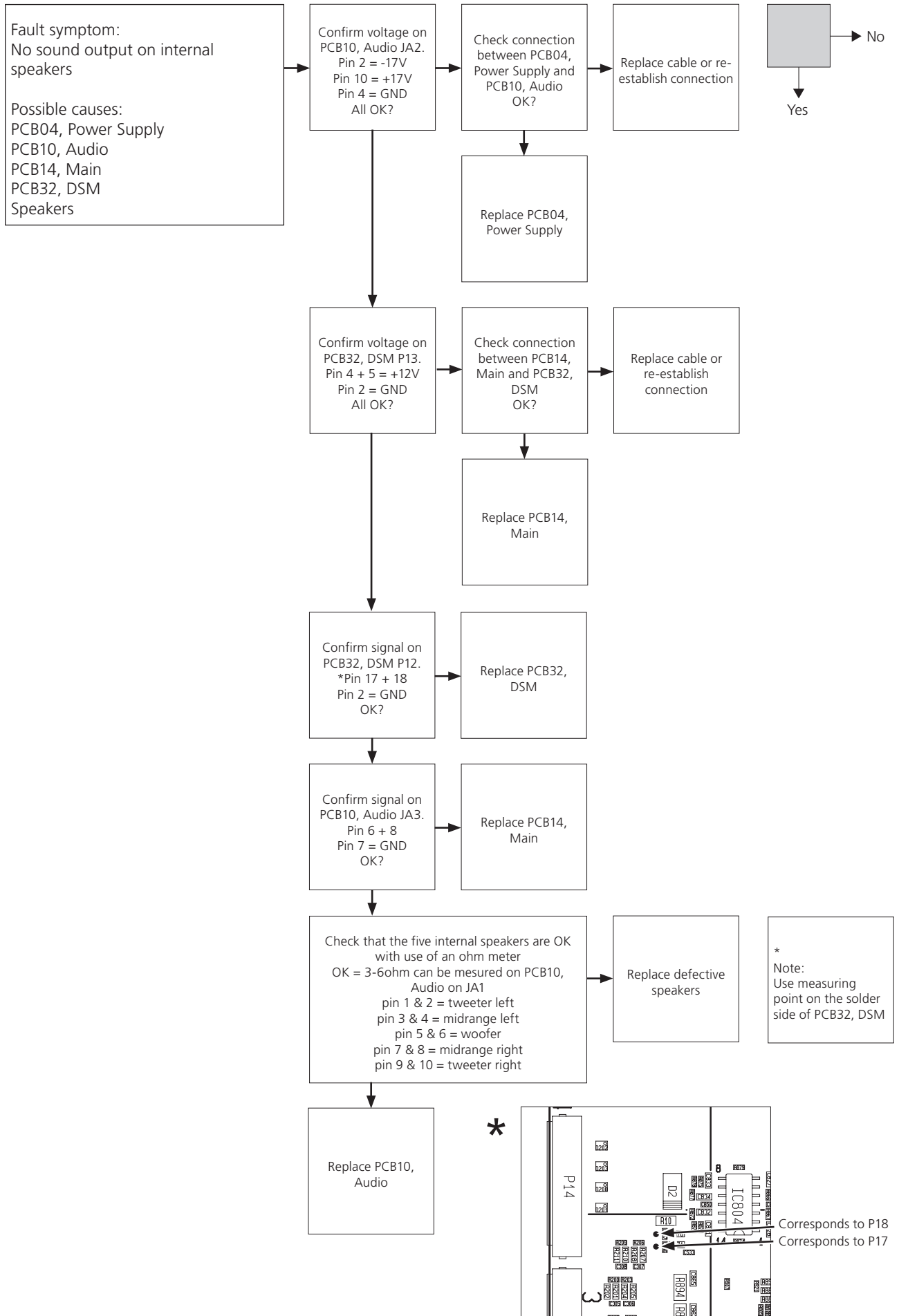


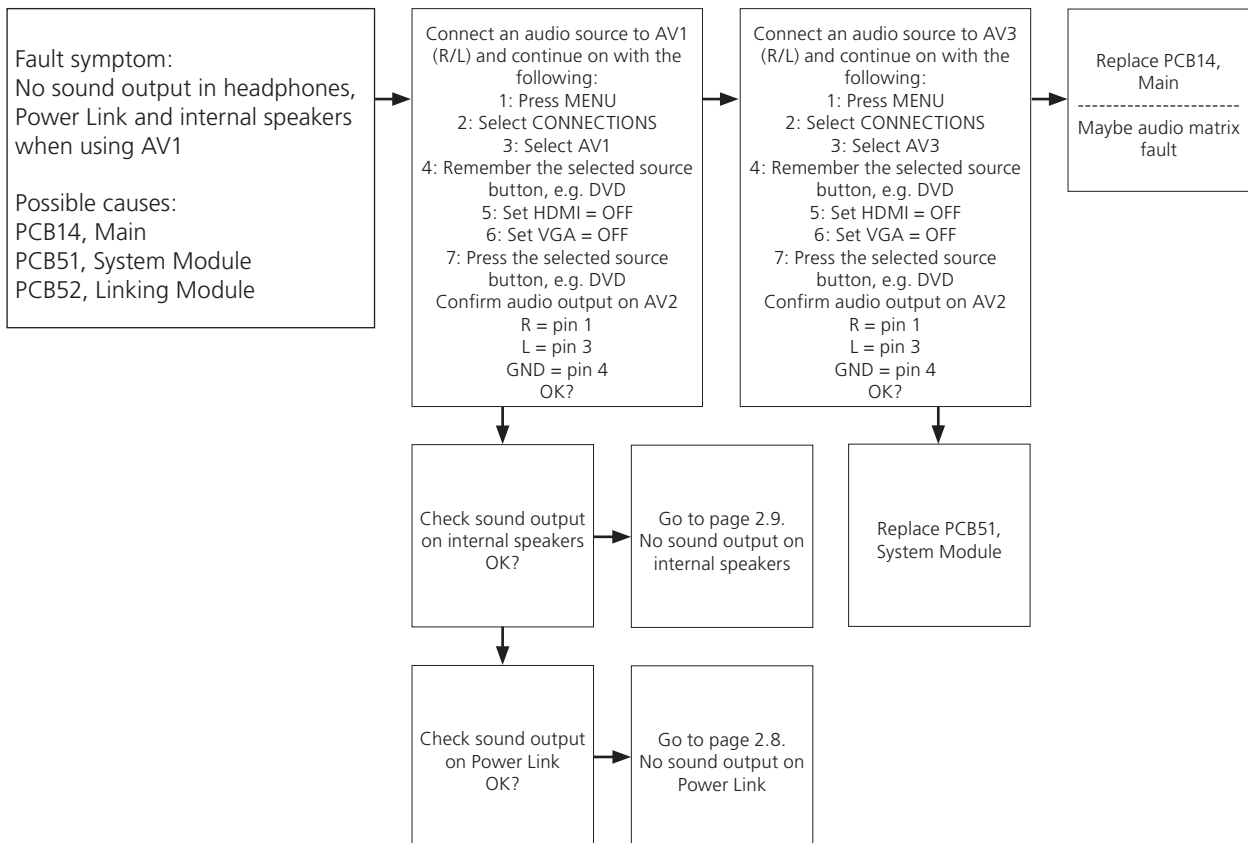
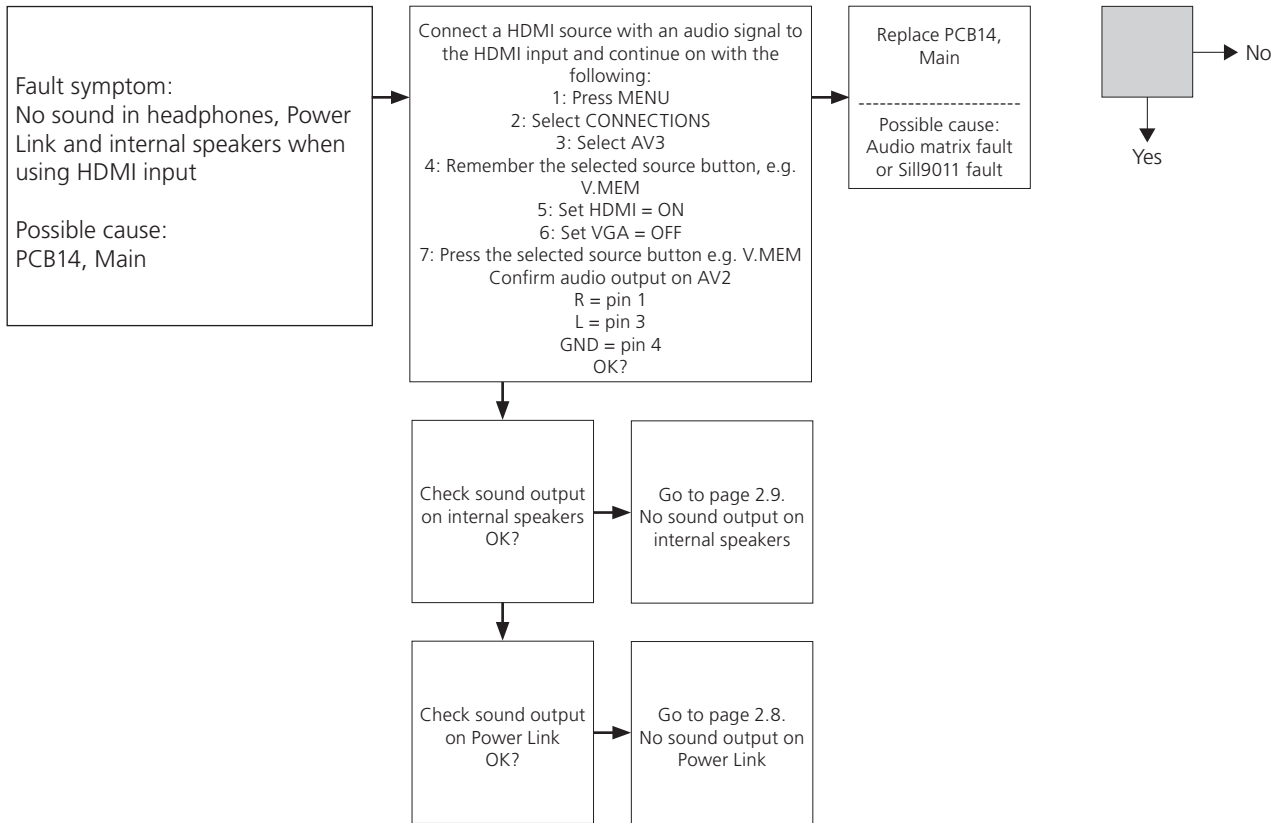




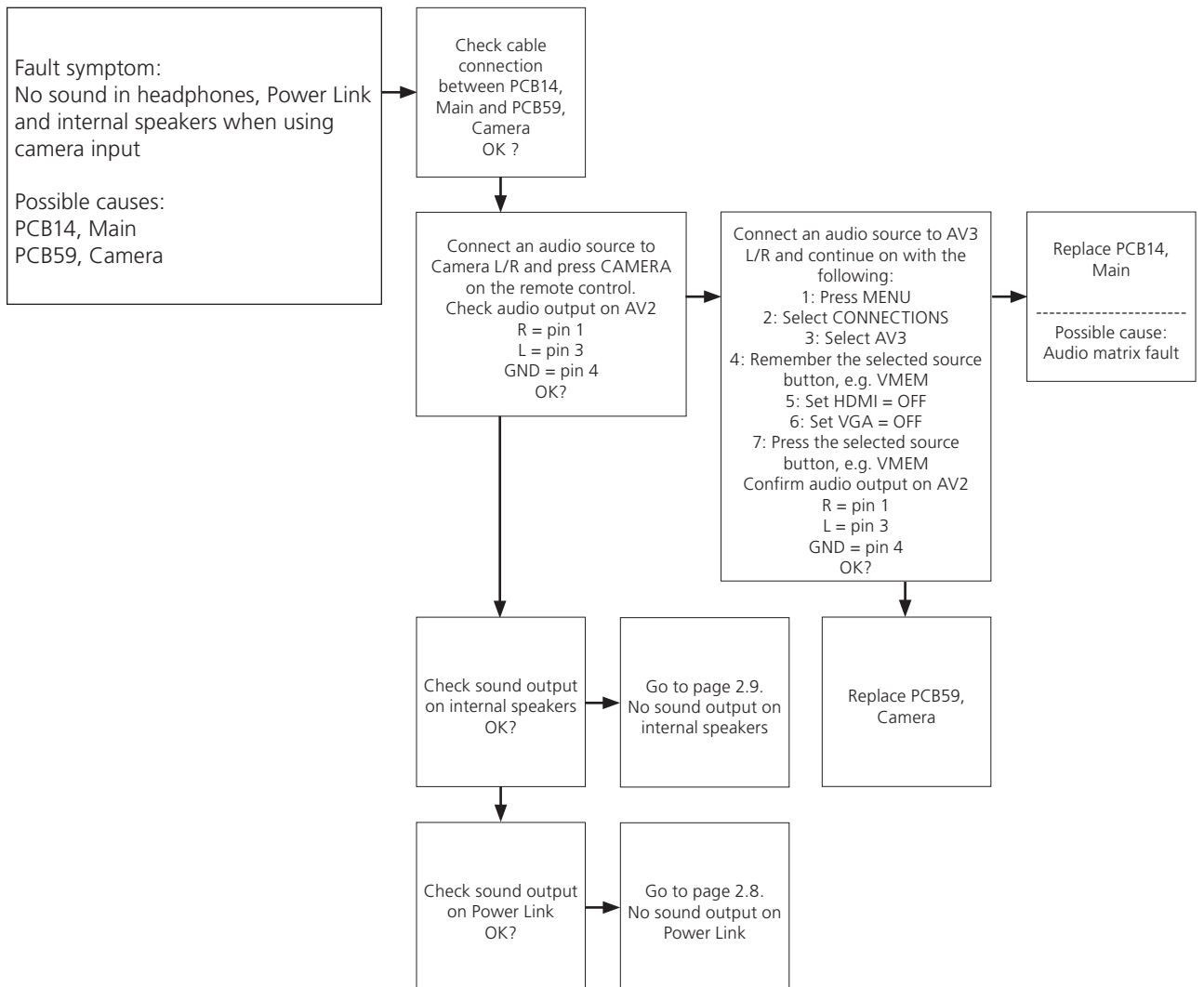
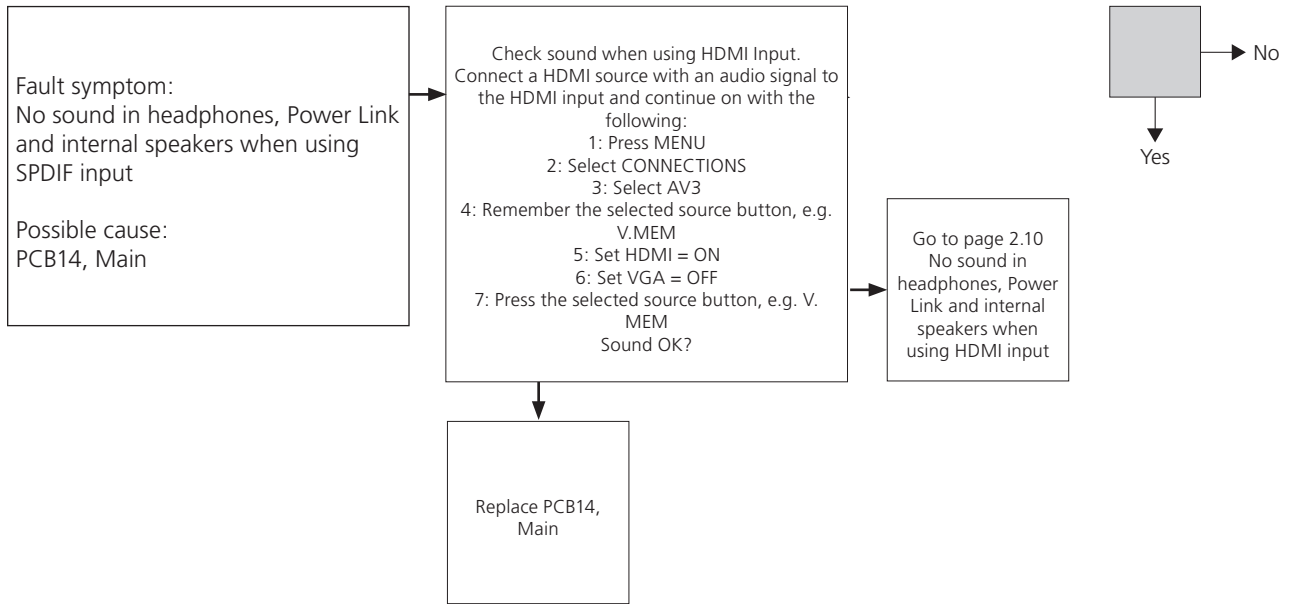


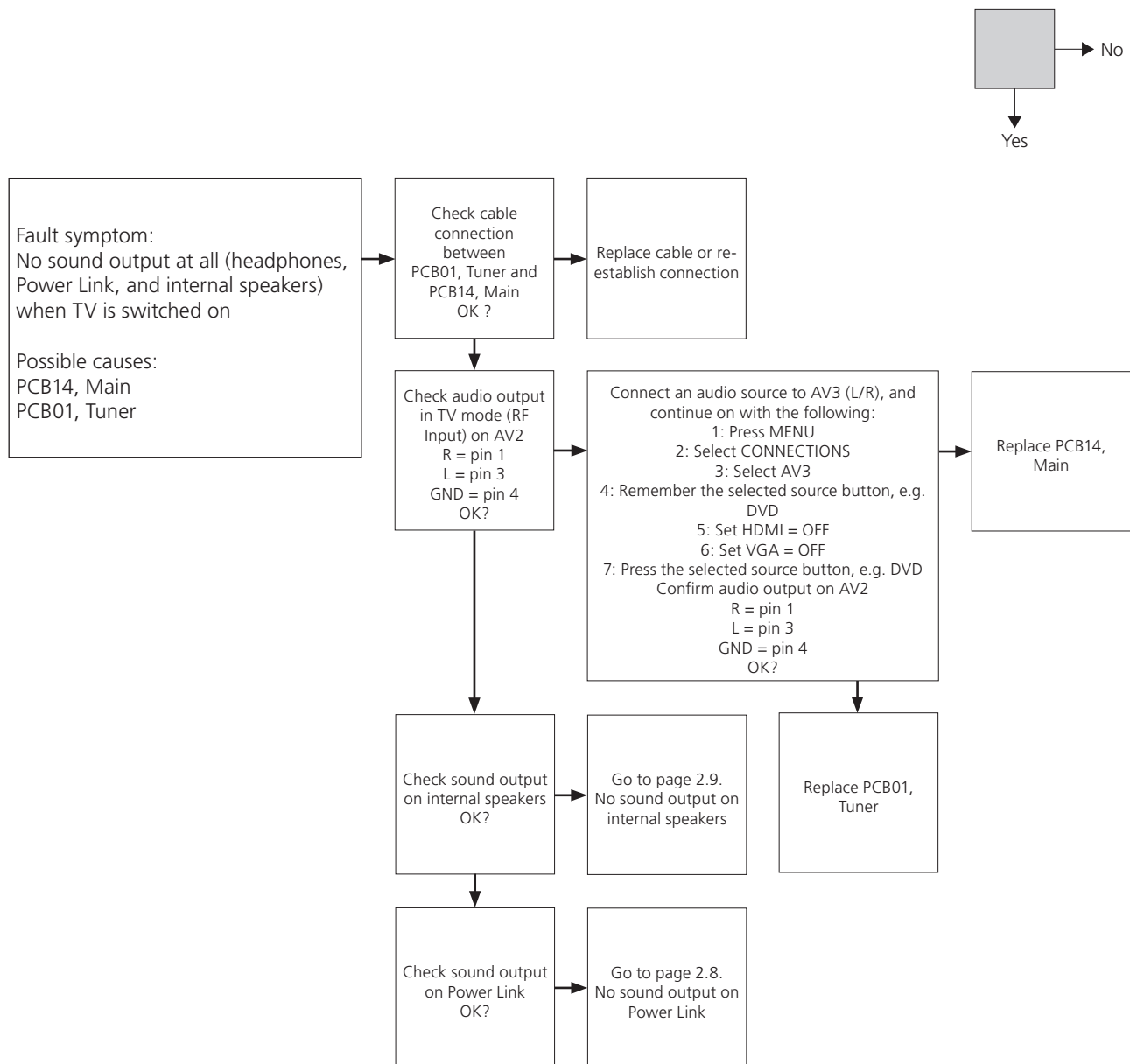


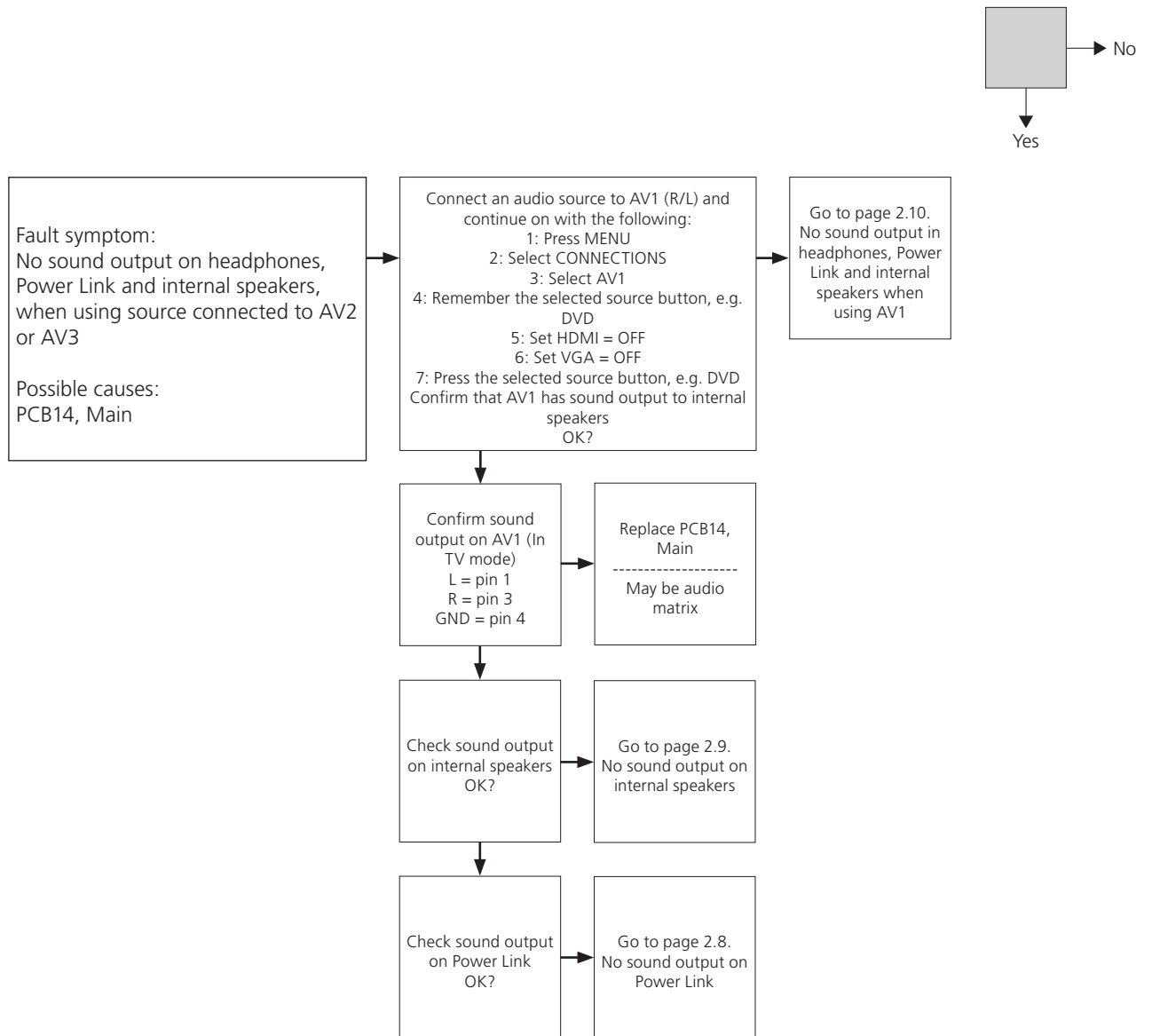


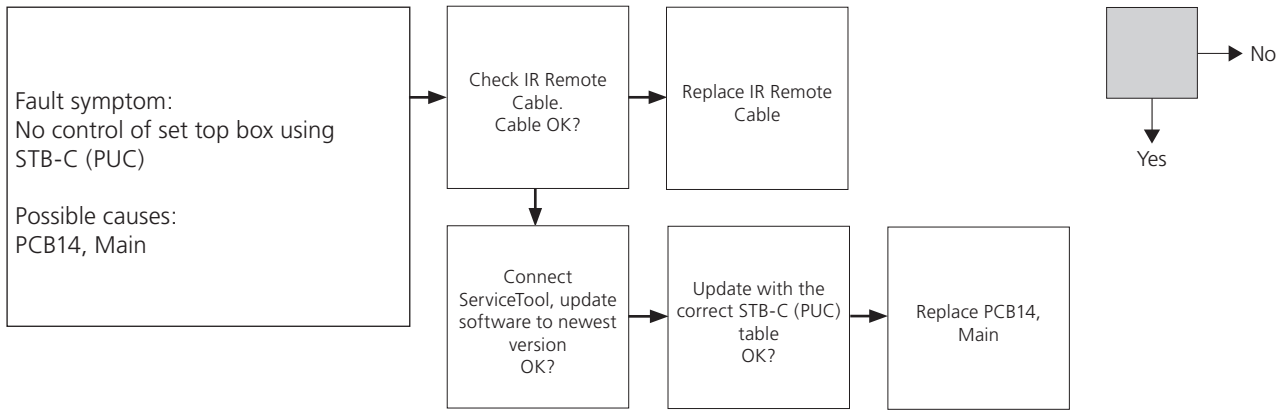
















## Adjustments - ServiceTool - Final check after repair

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## Adjustments

### Adjustments described

Geometry check.  
Picture check.

### Purpose of Adjustments

Adjustment instructions contain the following:

- Text and illustrations if needed.
- The correct sequence for adjusting the product.
- The correct procedure for the adjustment.

Illustrations of:

- Geometry measuring points.

### General considerations

- Correct adjustment of all parameters can only be obtained by using special test signals and equipment for light measurement.
- Factory settings will give the best result.
- Customer picture setup, brilliance, contrast and colour are found in the menu: TV SETUP – PICTURE.

### Picture adjustments

Brightness, contrast and colour can only be adjusted in the menu: PICTURE.  
The SERVICE MENU does not give this opportunity.

### Measurements

For the best result, measurements are performed in a straight angle to the LCD panel, meaning that you must be looking into the reflection of your own eye.

The television must be on for minimum 20 minutes before measurements may be started.

This is due to the backlight which does not reach a 90% level until 20 minutes have passed.

The test signal is applied to the V.TAPE input, SCART connector, unless differently specified.

### Preparations before check and adjustment

1. Switch the television on.
2. The television must warm up for minimum 20 minutes before adjustment can be performed.  
The backlight reaches 90% efficiency after app. 20 minutes.
3. Select the correct test picture.
4. Set the television in the correct FORMAT.



### Access to Service Menu

Press **MENU** and press **0 0 GO** within 3 seconds.  
Select **EXIT** to leave Service Mode.

### Access to Customer Service Menu

Press **MENU** move to connections and press the **RED** button, and then **GO**.

Operation in Service Menu and Customer Service menu.

Beo4	Possible actions
<b>MENU</b>	Select menus
<b>GO</b>	Selects the submenu that a cursor is on Accepts a menu, which results in entered values being saved and the menu being exited Activates functions, for example start/stop DVD Deletes incorrect registrations in the monitor information menu and exits the menu
▲	Moves the cursor up Returns to the previous menu when the cursor is at the top Modified data is not saved
▼	Moves the cursor down Selects a submenu in some cases
◀	Modifies data
▶	Modifies data
<b>STOP</b>	Backs up through menus
<b>0-9 Digit</b>	Modifies data
<b>EXIT</b>	Exits all menus

### Geometry adjustment

Geometry adjustment is usually not necessary, it is done from the factory.

The geometry may be checked.

It is recommended to use a TV test-generator, but to verify the different formats the Integrated Living test DVD can be used.

Geometry formats are shown below.

There is no access to geometry adjustments from the Service Menu or the Customer Service Menu.

Geometry is checked in FORMAT 1 and the values for all other picture formats are calculated.

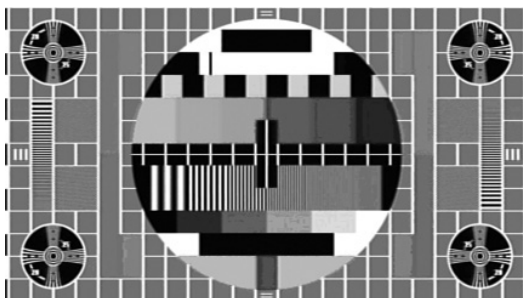
### Geometry Control procedure

1. Check the geometry specifications in FORMAT 1.  
FORMAT 1, 16:9 Panorama  
FORMAT 1, 15:9  
FORMAT 1, 4:3  
FORMAT 2, 16:9 Letterbox  
FORMAT 3, 16:9 - use the 16:9 test picture

## Geometry specifications

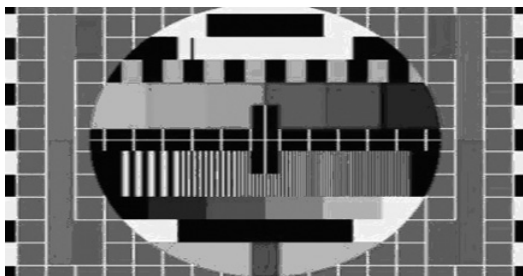
Format 1

16:9 Panorama



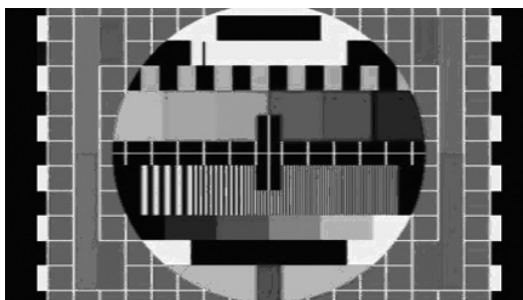
Format 1

15:9



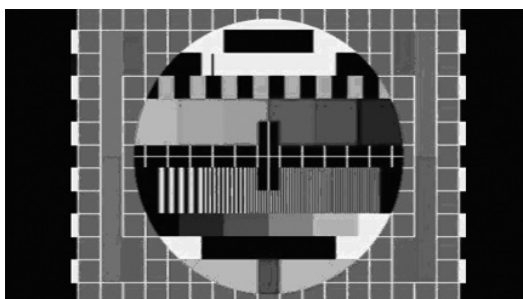
Format 1

4:3



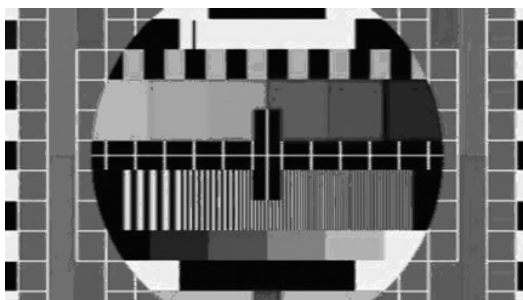
Format 2

16:9 Letterbox



Format 3

Real 16:9



## Picture adjustments

Correct adjustment of all parameters can only be obtained by using special test signals and equipment for light measurement.

Before entering the Service Menu you must first apply the signal you want to adjust. The ADC Adjustments, Picture Offsets and Scaler menu allow you only to adjust the signal currently applied. To adjust e.g. VGA you must apply a VGA signal and select it to be displayed on the TV before entering the Service Menu. Before changing any values in the Service Menu, we strongly recommend that you write down the old values.

Adjustment of the specific parameters is not described.

Picture settings (TV – MENU – PICTURE)

Brightness	Contrast	Colour
Middle position	Middle position	Middle position

## Picture adjustments

1. Check the picture quality.
2. If adjustment is necessary, insert default factory values.
3. Confirm the picture quality.

## Default factory values

Area	Default factory		Actual
ADC adjustments	YPbPr	D-sub	
Red offset	000	001	
Green offset	015	001	
Blue offset	000	001	
Red gain	058	093	
Green gain	054	092	
Blue gain	057	091	
Auto black level	001	001	
Video AGC	001	001	
Clamp delay	001		
PLL phase	000		
White point adjustments			
Red gain	255		
Green gain	254		
Blue gain	243		
Red offset	032		
Green offset	032		
Blue offset	032		
Blue stretch	001		
Picture offsets			
	CVBS/YC/TV		
	BV10-40	BV10-46	
Brightness	0032	0030	
Colour	0030		
Contrast	0030		

Auto picture control							
	Light sense	ON					
Scaler menu		TUNER	SCAM	V.TAPE	HDMIPC	OTHERS	
	B/W level expander	001	001	001	001	001	
	CUEC/ICP	000	000	000	000	000	
	Blue Stretch	000	000	000	000	000	
	Frame rate modulation	001	001	001	001	001	
	Flesh tone correction	000	000	000	000	000	
	Film mode	001	001	001	001	001	
	3 : 2 Film sensitivity	002	002	002	002	002	
	2 : 2 Film sensitivity	002	002	002	002	002	
	Pixel boost	000	000	000	000	000	
	DCS	000	000	000	000	000	
	DCTI	001	001	001	001	001	
	Peaking	002	007	010	009	014	
	Spatial noise filter	007	004	003	005	003	
	Luma Temp noise filter	002	002	002	001	000	
	Low angle Interpolation	002	002	002	002	002	
	3 D comb filter	001	001	001	001	001	
	XCXL	003	003	003	003	003	
	TCON film mode	001	001	001	001	001	
Adaptive Backlight							
	BL High	180					
	BL Low	60					
Tv tuner							
	CN SOUND	OFF					
	TUNER AGC BGDKI	14					
	TUNER AGC L	13					
Customer Service Menu							
	WSS Status	Broadcast only					

Speaker adjustments

Filter adjustment on PCB10, Audio module.

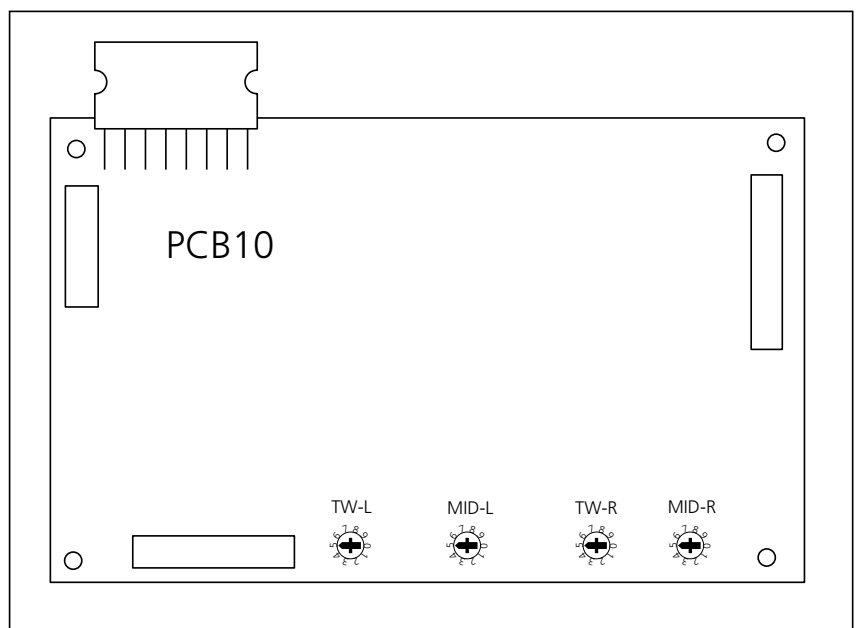
The speaker units are individually measured and the Audio module must be adjusted accordingly.

Adjustment must be performed when either speaker unit or Audio module is replaced.

Access to adjustment points

Set BeoVision 10 in service position. See page 5.2.

Set PCB10, Audio module in service position. See page 5.7.



Speaker adjustment table

Speaker value from label on speaker	Switch position
3.1 - 3.6	0
2.3 - 3.0	1
1.5 - 2.2	2
0.8 - 1.4	3
0.3 - 0.7	4
-0.2 - 0.2	5
-0.3 - -0.7	6
-0.8 - -1.2	7
-1.3 - -1.7	8
-1.8 - -2.2	9