


SERVICE MODE AND BUS DATA

1. How to Enter the Service Mode with the Remote Control

- 1) Decrease volume to 0.
- 2) Press the MUTE button on the remote control and VIDEO button on the TV at the same time.
- 3) Adjust the TV with the MENU SELECT buttons on the remote control.
- 4) Press the  button on the remote control to quit the Service mode.

2. Bus Data

Item	Symbol Description	Bus Data
MENU.00		
V.POS /50H	VERTICAL POSITION /50Hz	39
H.PSH /50H	HORIZONTAL PHASE /50Hz	9
V.SIZE /50H	VERTICAL SIZE /50Hz	78
V.POS /60H	VERTICAL POSITION /60Hz	32
V.PH /60H	HORIZONTAL PHASE /60Hz	12
V.SIZE /60H	VERTICAL SIZE /60Hz	93
V.SC	VERTICAL S-CORRECTION	4
V.LINE	VERTICAL LINE	18
V.SIZE CMP	VERTICAL SIZE COMPENSATION	7
MENU.01		
SUB.BIGHT	SUB-BRIGHT	63
SUB.CONT	SUB-CONTRAST	45
V.KILL	VERTICAL KILL	0
RF.AGC	RF AGC	15
R.BIAS	RED BIAS	60
G.BIAS	GREEN BIAS	120
B.BIAS	BLUE BIAS	60
R.DRIVE	RED DRIVE	90
G.DRIVE	GREEN DRIVE	15
B.DRIVE	BLUE DRIVE	90
MENU.02		
H.AFC GAIN	HORIZONTAL AFC GAIN	0
H.BLK.L	HORIZONTAL BLANKING LEFT	4
H.BLK.R	HORIZONTAL BLANKING RIGHT	3
CROS.B/W	CROSSHATCH BLACK/WHITE	0
VIDEO.LVL	VIDEO LEVEL	4
FM.LEVEL	FM LEVEL	16
MENU.03		
FM.MUTE	FM MUTE	0
AUD.MUTE	AUDIO MUTE	0
VIDEO.MUTE	VIDEO MUTE	0
SND.TRAP	SOUND TRAP	0
MENU.04		
SUB.COLOR	SUB COLOR	31
SUB.TINT	SUB TINT	31
S.SHARP	SUB SHARP	32
CORING.	CORING GAIN	1

SERVICE MANUAL

C.EXT	EXTERNAL CHROMA	0
C.BYPASS	CHROMA BAND-PASS BYPASS	0
C.KILL ON	COLOR KILL ON	0
MENU.05		
BLANK.DEF	BLANK DEFEAT	0
BLK.ST.DEF		0
FBP.BLK.SW	FLYBACK PULSES (HORIZONTAL) BLANKING SWITCH	0
FILT.SYS	FILTER SYSTEM: SELECT Y/C FILTER MODE	0
VOL.FIL	VOLUME FILTER	0
VIF.SYS	VIF SYSTEM	0
VIDEO.SW	VIDEO SWITCH	0
MENU.06		
R/B ANGLE	R-Y/B-Y ANGLE	9
GREY MODE	GREY MODE	0
V.SETUP	VERTICAL SETUP	1
B.GAM.SEL		3
RG.GAM.DEF		1
MENU.07		
BRT.ABL.TH	BRIGHT ABL THRESHOLD	7
EM.ABL.DEF		0
BRT.ABL.DF	BRIGHT ABL DEFEAT	1
MID.STP.DF	BRIGHT MID STOP DEFEAT	1
MENU.08		
DIGITAL.OSD	DIGITAL OSD MODE	0
OSD.CONT	OSD CONTRAST CONTROL	1
OSD.H.POS	OSD HORIZONTAL POSITION	22
MENU.09		
H.FREQ	HORIZONTAL FREQUENCY	27
C.KILL.OFF	COLOR KILL OFF	0
AUDIO.SW	AUDIO SWITCH	0
T.DISBLE	TEST MODE SWITCH DISABLE	1
MENU.10		
OPT.TV.AV	OPTION TV/AV	1
OPT.COLOR	OPTION COLOR	0
OPT.V-CHIP	OPTION V-CHIP	1
OPT.CCD	OPTION CCD	1
OPT.CLOCK	OPTION CLOCK	1
OPT.P-ON	OPTION P-ON	0
SRCH.SPEED	SEARCH SPEED	0
ROM.CORREC	ROM CORRECTION	0

Notes:

- ① The data sheet may differ dependent on different models.
- ② The data sheet may differ dependent on different CRTs for the same model.

3. Service Mode Adjustment

1) Sub-brightness

a) Receive colour signals.

b) Set the contrast to maximum and brightness to medium.

c) Set the chroma to medium.

Enter the TV to the Service mode. Select "SUB-BRIGHT" by pressing the \leftarrow/\rightarrow buttons on the remote control, and set the data to 31 by pressing the data adjustment buttons. Operate the TV for 5 minutes in the mode.

d) Adjust the sub-bright data until blurry picture does not appear on the high bright area of the screen and too dim picture not on the low-bright area.

e) Set the contrast and brightness to maximum or minimum, and then test normal picture alternation.

f) If the picture does not become dark when the contrast and brightness are set to minimum, or not become bright when set to maximum, then adjust the sub-bright data to get normal picture.

2) White balance adjustment

a) Turn on the TV and preheat it for over 7 minutes.

b) Use the remote control to set the contrast to maximum and the brightness to medium. Set the chroma to minimum.

c) Enter the TV to the Service mode, and set the following data without changing other items.

R-DRIVE.....70

G-DRIVE.....15

B-DRIVE.....70

d) Pull out the external antenna and press the MUTE button once on the remote control until a right horizontal line appears on the screen. Adjust the R-DRV data to get $160V \pm 0.5$ green gun voltage across the CRT RGB PCB.

e) Adjust the G-DRV and B-DRV data according to Step 4 so that the bright horizontal line turns to yellow, then to white.

3) Horizontal centering adjustment

Enter the TV to the Service mode and receive Philips test pattern. Select "H.PH/60H" by pressing the \leftarrow/\rightarrow buttons on the remote control, and adjust horizontal picture position in the center of screen by pressing the data adjustment buttons.

4) Vertical centering adjustment

Enter the TV to the Service mode and receive Philips test pattern. Select "V.POS/60H" by pressing the \leftarrow/\rightarrow buttons on the remote control, and adjust vertical picture position in the center of screen by pressing the data adjustment buttons.

5) Vertical amplitude adjustment

Enter the TV to the Service mode and receive crosshatch test pattern. Select "V.SIZE" by pressing the \leftarrow/\rightarrow buttons on the remote control, and adjust vertical amplitude by pressing the data adjustment buttons so that vertical amplitude is not enough. Continue to adjust vertical amplitude by pressing the data adjustment button until the first bar on the pattern touches edge of the screen.