TV: MG7.1E Service alignment mode

Revision history	
2002-06-28	• Changes made to error codes
2002-04-28	• Additions made
2002-04-19	• Updated
2002-04-14	• First appearance

The service alignment mode (SAM) allows you to makes changes to the alignment and options.

Entering service alignment mode

There are a number of ways for entering the service alignment mode:
- Entering the following code with the standard remote control:
  062596   and press [i+]
- Using the Dealer Service Tool (DST), activating the GFL Alignment mode (see Service mode remote
- Using ComPair (an extensive service tool)
- Shorting pin 1 and 2 of connector 0356 for a short duration
  Important note: shorting these pins will get you into service alignment mode with all security featur

Service alignment mode: Main menu

```
Date:Sep 26 2000 Id: MG31E11.8_02581


Operation Hours: XXXXX.X
Errors:XXX XXX XXX XXX ...


Defect. Module: Unknown


Service


Reset Error Buffer
Functional Test
Alignments
Dealer Options
```

Date

The release date of the software.

Id

Identification of the software. The displayed value is to be interpreted in the following way:
```
 MG31E11.8_02581
 MG31----------- = chassis identification
 ----E---------- = country
                  E = Europe
                  A = Asia
                  U = USA
 -----1--------- = language
 ------1-------- = major version number
 --------8------ = minor version number
```

```
----------02581 = software identification
```

Operation hours

The number of hours the device has been operating. This does NOT include the standby mode.

Errors

Error codes are reported as three digit numbers. Each number represent a specific error. The most r
displayed first.

Error code	Related problem
001	Non volatile memory (24E16)
002	Non volatile memory (24E32)
003	Microprocessor
005	Tuner
010	I/O video electronic switch
011	I/O audio
015	I/O video/Video processing
020	Video control/geometry
021	Luma/chroma processing
025	Sound processor
026	Dolby processor
050	Feature box Picnic
051	Feature box Prozonic
052	Feature box Melzonic
053	Feature box Falconic
054	Feature box Veric
055	Feature box Macpacic
065	I2C bus blocked (slow bus)
066	I2C bus blocked (fast bus)
067	5V2 supply
068	8V6 supply
070	Vertical fail protection
071	Horizontal fail protection
073	Line deflection protection
074	Beam current protection
076	DC sound protection
077	3V Feature box
078	3V Dolby processor
080	8V tuner

Defect. Module

The defective module which generated the error. An 'Unknown' device will be shown if more than or
module generated an error.

Reset Error Buffer

This clears the list of detected errors.

Functional Test

All internal devices are checked and any detected error will be reported (added to 'Errors').

Alignments

Selects the alignment menu (see Alignment menu).

Dealer Options

Selects the dealer options menu (see Dealer options menu).

Service alignment mode: Alignment menu

Option Alignment	Description
General	Access to general settings menu
Normal Geometry	Access to normal geometry settings menu
Super Wide Geometry	Access to super wide geometry settings menu
Options	Access to options settings menu
Option Numbers	Access to option numbers settings menu
Store	Make settings permanent Note: because the Options settings and Option numbers settings are only rea is switched on from the mains (thus **not** from standby!), you have to switch back on using the mains switch for these to become active

Service alignment mode: General settings menu

Option Alignment - General	Selection	Description
Drive		Access to drive settings menu
Luminance Delays		Access to luminance delays menu
EHT compensation	0	Always set to 0 Range 0-63
Soft clipper	Pwl + 0%	Always set to this value
	Pwl + 5%	
	Pwl + 10%	
	Off	
Luma gain	1	Always set to 1 Range 0-3
IF AFC	(82)	Range 0-127 Sets the correct correction level for the Automatic F Control of the tuner To be adjusted using an external reference signal (
Tuner AGC	(16)	Range 0-63 Sets the correct DC-level for the Automatic Gain Co tuner

		To be adjusted using an external reference signal (with a specific signalstrength
Blend intensity	(22)	Transparency of the menu text Needs to be adjused when the processor (IC7003) Output Processor has been replaced (IC7300)
Adjust Peak White Limiter	4	Always set to this value
Vg2 Test Pattern	Off	
	On	
VDS/PIP		Access to VDS/PIP menu

Service alignment mode: Drive settings menu

Option Alignment - General - Drive	Selection		Description
Test Pattern	Off		Enables the test picture (will appears after a settin
	On		Disables the test picture
Red	Normal	25	Range 0-63
	Warm	27	Range 0-63
	Cool	24	Range 0-63
Green	Normal	20	Range 0-63
	Warm	20	Range 0-63
	Cool	20	Range 0-63
Blue	Normal	14	Range 0-63
	Warm	10	Range 0-63
	Cool	18	Range 0-63
Cathode	5		Value depends on the picture tube size and manuf
Red BL offset	7		
Green BL offset	7		
Tint	Normal		Selects the parameters above for the 'Normal' setti
	Warm		Selects the parameters above for the 'Warm' settin
	Cool		Selects the parameters above for the 'Cool' setting

Service alignment mode: Luminance delays settings menu

Option Alignment - General - Luminance Delays	Selection	Description
Lum. Delay Pal	(7)	Range 0-11
Lum. Delay Secam	(11)	Range 0-11

| Lum. Delay Bypass | (10) | Range 0-11 |

Service alignment mode: VDS/PIP settings menu

These are the settings for the, optional, second tuner. See Alignment-General for the first tuner.

Option Alignment - General - VDS/PIP	Selection	Description
IF AFC	0	Range 0-127 Channel 'SER T' is selected
Tuner AGC	31	Range 0-63 Channel 'SER T' is selected

Service alignment mode: Normal geometry settings menu

Except for the V slope setting you should use an external applied test signal to carry out adjustments he

Option Alignment - Normal Geometry	Selection	Description
Test Pattern	Off	Enables the test picture (will appears after a setting Note: this test pattern only works correctly for the All other settings should be carried out using an ex test signal.
	On	Disables the test picture
V slope	(53)	Range 0-63
V. shift	(35)	Range 0-63
V. amplitude	(38)	Range 0-63
V S-Correction	0	Range 0-63
H. shift	(28)	Range 0-63
H. amplitude	(44)	Range 0-63
East/West Parabola	(44)	Range 0-63
Upper East/West corner	(6)	Range 0-63
Lower East/West corner	(5)	Range 0-63
East/West Trapezium	(17)	Range 0-63
Horizontal parallelogram	(7)	Range 0-15
Horizontal bow	(10)	Range 0-15

Service alignment mode: Super wide geometry settings menu

Prior to adjusting these settings you should have set the normal geometry settings correctly.

Option Alignment - Super Wide Geometry	Selection	Description

Test Pattern	Off	Enables the test picture (will appears after a setting i?
		Note: use an external applies test signal
	On	Disables the test picture
V. shift	(33)	Range 0-63 (no need to adjust this setting)
V. amplitude	(25)	Range 0-63 (no need to adjust this setting)
V S-Correction	0	Range 0-63: you should set this equal to the normal (
H. amplitude	(44)	Range 0-63: you should set this equal to the normal (
East/West Parabola	(44)	Range 0-63: you should set this equal to the normal (

Service alignment mode: Options settings menu

Option	Description
Alignment - Options	
Dual screen/PIP	Access to dual screen/PIP settings menu
Teletext/EPG	Access to teletext/EPG settings menu
Communication	Access to communication settings menu
Picture Tube	Access to picture tube settings menu
Video repro	Access to video reproduction settings menu
Source Selection	Access to source selection settings menu
Audio Repro	Access to audio reproduction settings menu
Miscellaneous	Access to miscellaneous settings menu

Service alignment mode: Dual screen/PIP settings menu

Option	Selection	Description
Alignment - Options - Dual screen/PIP		
Aux type	None	Dual Screen/PIP not present
	Video Dual Screen	Dual screen module present
	PIP	PIP module present
Text dual screen	Yes	Teletext dual screen present
	No	Teletext dual screen not present
Aux Headph. Sound	No	Aux. headphone present
	Yes	Aux headphone not present
		Not available when Aux type=None

Service alignment mode: Teletext/EPG settings menu

Option	Selection	Description
Alignment - Options - Teletext/EPG		

TXT	Yes	Teletext present
	No	Teletext not present
NextView present	Yes	NextView set
	No	NextView not set
NextView type	Flashram	Flashram IC present
	No flashram	Flashram IC not present
		Some 32PW9525 have this default set to 'No flashr the flashram IC is present. This means you might r input a NextView provider.

Service alignment mode: Communication settings menu

Option Alignment - Options - Communication	Selection	Description
Easylink Plus	Yes	Easylink Plus set
	No	Easylink Plus not set

Service alignment mode: Picture tube settings menu

Option Alignment - Options - Picture tube	Selection	Description
CRT Type	16:9	16:9 picture tube present
	4:3	4:3 picture tube present
Picture Rotation	Yes	Frame rotation circuitry present Not available for CRT Type=4:3
	No	Fram rotation circuitry not present
Dynamic focus	Yes	Dynamic focus picture tube present
	No	Dynamic focus picture tube not present
One point control	No	One point control not present
	Yes	One point control present

Service alignment mode: Video reproduction settings menu

Option Alignment - Options - Video repro	Selection	Description
Featurebox type	Falconic	
	Eco	IC7606 present
	Prozonic	IC7606/IC7607 present
Field memories	3	Only available for Featurebox type=Falconic

	2	
Lightsensor	Yes	Lightsensor present
	No	Lightsensor not present
PALplus	No	PALplus module not present
	Yes	PALplus module present
Combfilter	Yes	Combfilter IC present (IC7560)
	No	Combfilter IC not present
Picture improvement	Yes	
	No	
Picnic AGC	Yes	Normal operation
	No	During drive alignments
Signalling bits	Yes	
	No	

Service alignment mode: Source selection settings menu

Option Alignment - Options - Source selection	Selection	Description
External 3	Yes	EXT3 connector present
	No	EXT3 connector not present
External 4	No	EXT4 connector not present
	Yes	EXT4 connector present

Service alignment mode: Audio reproduction settings menu

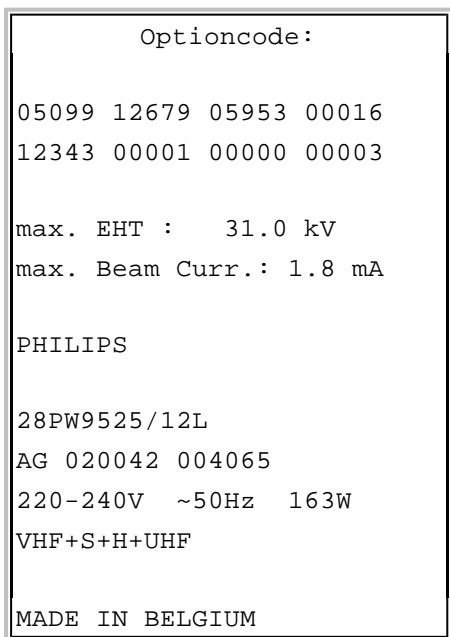| Option Alignment - Options - Audio repro	Selection	Description
Dolby	Pro Logic	
	Digital	MCS module present
	None	
Rear speakers	Virtual	Not available for Dolby=None
	Cordless	Active surroundbox present Not available for Dolby=None
	Corded	Not available for Dolby=None
Acoustic system	FI9 DAS	
	FI10	
	FI11	
	FI12	

FI14	
FI6	
FI7	For sets with subwoofer
FI8	For sets without subwoofer
FI9 Monitor	Monitor look

Service alignment mode: Miscellaneous settings menu

Option Alignment - Options - Miscellaneous	Selection	Description
Heatsink Present	Yes	Heatsink present (CRT panel)
	No	Heatsink not present (CRT panel)

Service alignment mode: Option numbers menu

This menu allows the direct entry of the options present on the TV. This menu is typically used after the memory has been replaced. When a new non-versatile memory is installed it will be loaded with default option numbers can be found inside the TV, placed on the picture type. Here is an example of such an o sticker:

```
        Optioncode:


05099 12679 05953 00016
12343 00001 00000 00003


max. EHT :   31.0 kV
max. Beam Curr.: 1.8 mA


PHILIPS


28PW9525/12L
AG 020042 004065
220-240V  ~50Hz  163W
VHF+S+H+UHF


MADE IN BELGIUM
```

Most of these options can also be changed through the dealer options.

Besides storing these options you also have to power down the TV through the mains switch. After pow on the options are loaded. Powering down the TV through standby will not work because the option set loaded (the mircroprocessor needs to restart for this).

Option Alignment - Options - Option numbers	Description
05099 12679 05953 00016	You can edit this line by selecting it and then starting to input each o

		These values here represent the hardware option settings (HW1-HW
12343 00001 00000 00003		You can edit this line by selecting it and then starting to input each d
		These values here represent the software option settings (SW1-SW4

HW1 option code bit	05099 = $13EB	Description	
0	1	FBX	000 = Eco
1	1		001 = PROZONIC
2	0		**011 = FALCONIC**
3	1	Combfilter	
4	0	PAL-plus	
5	1	Field memory	0 = 2 field memories
			1 = 3 field memories
6	1	Light sensor	
7	1	LTP	
8	1	PICNIC	
9	1	PICNIC-AGC	
10	0		
11	0	LNA	**0 = Normal**
			1 = Fast
12	1	WSS	
13	0	Time constant	
14	0		
15	0		

HW2 option code bit	12679 = $3187	Description	
0	1		
1	1	Dolby Pro Logic	
2	1	Virtual rear speakers	
3	0	Cordless rear speakers	
4	0	Dolby Digital	
5	0		
6	0	Cabinet	00 = Fl7
7	1		01 = Fl8
			10 = Fl9
8	1	P50	
9	0		
10	0		
11	0		

12	1	EPG	
13	1	EPG Type	0 = Type 2 **1 = Type 2C3**
14	0		
15	0		

HW3 option code bit	05953 = $1741	Description	
0	1	EXT3	
1	0	EXT4	
2	0		
3	0		
4	0	Dual Screen	**00 = None**
5	0		01 = PIP 10 = Dual Screen
6	1	TXT-EPG-DS	
7	0	Aux. headphone	
8	1	Aspect Ratio	0 = 4:3 **1 = 16:9**
9	1	Tilt	
10	1	DAF	
11	0		
12	1	Heatsink	
13	0	Home Cinema	
14	0		
15	0		

HW4 option code bit	00016 = $0010	Description	
0	0	MSP	**00 = MSP3415 (MSP3410D)**
1	0		01 = MSP3451 10 = MSP3411
2	0	China IF	
3	0	Tuner	**0 = Philips** 1 = Alps
4	1	TXT	
5	0	China TXT	
6	0		
7	0		
8	0		
9	0		

10	0		
11	0		
12	0		
13	0		
14	0		
15	0		

SW1 option code bit	12343 = $3037	Description	
0	1	Auto TV	
1	1	Auto Store Mode	00 = None
2	1		01 = PDC/VPS
			10 = TXT-Page
			11 = PDC/VPS/TXT-Page
3	0		
4	1	Picture Mute	
5	1	Demo	
6	0	Virgin	
7	0		
8	0		
9	0		
10	0		
11	0		
12	1	TXT preference	0 = TOP
			1 = FLOF
13	1	TXT region	0 = East
			1 = West
14	0		
15	0		

SW2 option code bit	00001 = $0001	Description	
0	1	CTI	
1	0		
2	0		
3	0		
4	0		
5	0		
6	0		
7	0		

8	0		
9	0		
10	0		
11	0		
12	0		
13	0		
14	0		
15	0		

SW3 option code bit	00000 = $0000	Description	
0	0		
1	0		
2	0		
3	0		
4	0		
5	0		
6	0		
7	0		
8	0		
9	0		
10	0		
11	0		
12	0		
13	0		
14	0		
15	0		

SW4 option code bit	00003 = $0003	Description	
0	1	??	
1	1	??	
2	0		
3	0		
4	0		
5	0		
6	0		
7	0		
8	0		

9	0		
10	0		
11	0		
12	0	??	
13	0		
14	0		
15	0		

Service alignment mode: Dealer options menu

This menu is usually entered through the service alignment main menu but there is an additional metho

Using the Dealer Service Tool (DST), activating the GFL Dealer options mode (see Service mode remote

will get you directly into the dealer option menu.

Note that these options are not activated immdiately. You have to power the TV off (using the mains sw

on, to have the (new) options activated. This is because these option settings are only read after a rese

microprocessor. Since the microprocessor is kept active (under power) at standby putting the TV into st

activate any changes made to the options.

| Option

Dealer	Description
Picture	Access to picture settings menu
Personal	Access to personal settings menu
Teletext	Access to teletext settings menu
Store	Make permanent

Note: because these settings (all options) are only read when the TV is switch

mains (thus **not** from standby!), you have to switch the TV off and back on u

switch |

These options can also be set using Options Numbers in the alignment menu.

Service alignment mode: Picture settings menu

| Option

Dealer - Picture	Selection	Description
CTI	Yes	CTI enabled (CTI = Colour Transient Improvement)
	No	CTI disabled

Service alignment mode: Personal settings menu

| Option

Dealer - Personal	Selection	Description
Blue Mute	Yes	Shows a blue screen if no picture signal is detected
	No	Shows noise if no picture signal is detected

Virgin Mode	No	The TV does not start up with the language selecti
	Yes	The TV starts up once with the language selection
Auto Store Mode	PDC-VPS-TXT	Auto store ACI or ATS enabled
	None	Auto store disabled (this feature will not be shown Installation menu)
	PDC-VPS	Auto store PDC-VPS (ATS) enabled
	TXT Page	Auto store ACI enabled (ACI = Automatic Channel
Demo Menu Enable	Yes	Allows activation of the demo menu
	No	Activation of the demo menu not possible
Auto TV	Yes	Auto TV mode enabled
	No	Auto TV mode disabled

Service alignment mode: Teletext settings menu

Option	Selection	Description
Dealer - Teletext		
Txt Preference	FLOF	Preference to FLOF teletext
	TOP	Preference to TOF teletext
East/West Txt	West	Teletext characters for non -/58 sets
	East	Teletext characters for -/58 sets

Demo menu

One of the Dealer Options in the service mode is the 'Demo Menu Enable'. To show this demo menu you the [MENU] button on the TV pressed for about 8 seconds. The following items will appear (one item at

Item	Options
COMB FILTER	ON / OFF
SURROUND MODE	3D SURROUND / DOLBY 3 STEREO / STEREO
TINT	NORMAL / WARM / COOL
DIGITAL OPTIONS	Natural Motion / **Nat. Motion Demo** / **100 Hz.** / Digital Scan
SMART SOUND CONTROL	PERSONAL / MOVIE / SPEECH / MUSIC
SMART PICTURE CONTROL	PERSONAL / ECO / NATURAL / RICH / MULTIMEDIA
VIEW MODE	AUTO FORMAT / SUPER ZOOM / 4:3 / MOVIE EXPAND 14:9 / MOVIE EXPAND 16:9 / 16:9 SUBTITLE / WIDESCREEN
DYNAMIC CONTRAST	MAX / OFF / MIN / MED
DYN. NOISE REDUCTION	MAX / OFF / MIN / MED
CTI	ON / OFF
ZOOM	OFF / 1X / 4X / 8X / 16X
LIGHTSENSOR	ON / OFF

There are some options available which are normally not accessible by other methods (ie. the bold emp
The 'Nat. Motion Demo' shows a black and white picture were colors are blended in were 'natural motio

Use TV-[MENU] to toggle the options. With TV-[P+] and TV-[P-] you can scroll through the items. After
last item and using TV-[P+] you leave this mode.

The settings you change are not permanent (even changing the channel, while being in this mode, will
changes made most of the time).

In the top of the screen the message 'Demo' is normally displayed. If you press the REMOTE-[i+] key or
were keeping the TV-[MENU] key pressed then 'Demo' will be removed. This works with some other key