ADJUSTMENT MODE

MITSUBISHI 50P-GHS91

This Product is provided with the following adjustment modes.

TEST 1.1.8   mode   : Ajustment of Convergence, Point convergenece, ATC, Alignment, DAC, and Cumulative energizing time
                           display (See Page 1-3)
TEST 1.1.10 mode   : Convergence adjustment (To save the changed data of the convergence and the point convergence in the
                           TEST 1.1.8 mode without pressing the "ENTER" button)(See the page 3)
TEST 1.1.9 mode   : Maintenace menu (See the page 4)
TEST 8.8.▶ mode   : Basic setting of Digital convergence (See the page 4)
TEST 9.9.▶ mode   : Option setting (See the page 5)
TEST 1.1.▶ mode   : Adjustment of the auto adjustor correction coefficient (See the page 5)
User Adjust mode   : adjustment performed by users (See the page 6)
TEST Cross Pattern Mode : Adjustment of "HSTA" and "VSTA" of Red and Blue pictures in Convergence adjustment (See the page 6)

❏ TEST 1.1.8 Mode (Adjustment)

Perform adjustments using the remote hand unit.
Take the following steps for adjustments.

To activate
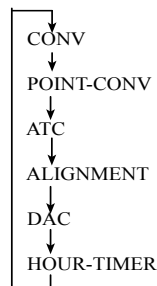❍ Press the "TEST" "1" "1" and "8" buttons on the remote hand unit.
To terminate
❍ Press the "TEST" button on the remote hand unit.
❍ The normal picture is displayed again unless any buttons are
  pressed within 5 minutes.
To save the data
❍ Press the "ENTER" button.

Effective buttons and their functions in the TEST 1.1.8 mode

R/B   : To switch the adjustment functions in the following order.

```
CONV
  ↓
POINT-CONV
  ↓
ATC
  ↓
ALIGNMENT
  ↓
DAC
  ↓
HOUR-TIMER
```

R/G/B   : To switch Green, Red and Blue on the "CONV", "POINT-CONV
            (Position)/(Adjustment)" or "DAC" picture.

▲▼   : To Switch the adjustment items on the "CONV","ATC" or "DAC" picture.
           : To move the cursor verticallly on the "POINT-CONV (Position)" picture.
           : To increase or decrease the V data on the "POINT-CONV (Adjustment)" picture.
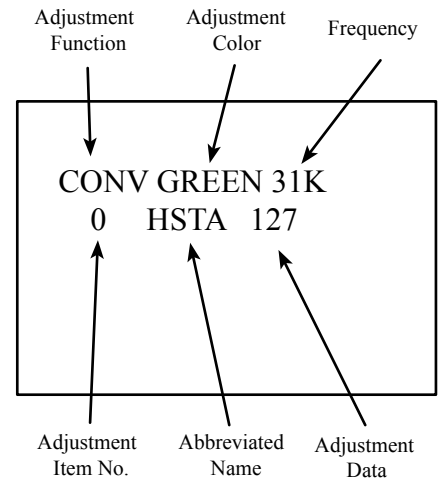
◀ ▶   : To increase or decrease the data on the "CONV", "ATC" or "DAC" picture.
           : To move the cursor horizontally on the "POINT-CONV (Position)" picture.
           : To increase or decrease the H data on the "POINT-CONV (Adjustment)" picture.
           : To switch ON and OFF on the "ALIGNMENT" picture.

PICTURE: To switch the "POINT-CONV (Position)" picture and the "POINT-CONV
            (Adjustment)" picture.

R-MUTE, G-MUTE, B-MUTE: Turn ON or OFF the video mute of R/G/B.

1   : To switch the internal signal (Crosshatch) and the external signal on the
            "CONV" or "POINT-CONV (Position)/(Adjustment)" picutre.

TEST 1.1.8 Mode Display

Adjustment Function   Adjustment Color   Frequency

CONV GREEN 31K
0   HSTA   127

Adjustment Item No.   Abbreviated Name   Adjustment Data

List of Adjustment Functions and Adjustment Items
The data in ( ) are the initial value. Perform the adjustment items given in the "Note" column.
The data without ( ) are not to be changed.

Function Display				CONV					
No.			Abbreviated	Adjustment	Range	Data			Note
R	G	B	Name	name		15k	24k	31k	
0	0	0	HSTA	Horizontal Static	-512~511	0	0	(0)	✳1
1	1	1	VSTA	Vertical Static	-512~511	0	0	(0)	
2	2	2	TILT	Tilt	-512~511	0	0	(0)	
3	3	3	SKEW	Skew	-512~511	0	0	(0)	
4	4	4	HWID	Horizontal Width	-512~511	0	0	(0)	
5	5	5	HLIN	Horizontal Linearity	-512~511	0	0	(0)	✳2
-	6	-	HPCC	Side-PCC	-512~511	0	0	(0)	✳3
-	7	-	VPCC	Top-Bottom-PCC	-512~511	0	0	(0)	
6	8	6	VKEY	Vertical Keystone	-512~511	0	0	(0)	✳1
7	-	7	HSBW	Horizontal Side Balance Width	-512~511	0	0	(0)	✳4

✳ 1 Refer to the adjustments 11 (Raster Distortion and 12 (Dynamic Convergence).
✳ 2 Refer to the adjustments 6 (Raster Size), 11 (Raster Distortion) and 12 (Dynamic Convergence).
✳ 3 Refer to the adjustments 5 (Centering) and 11 (Raster Distortion).
✳ 4 Refer to the adjustment 12 (Dynamic Convergence).

Function Display			POINT-CONV						
No.			Adjustment	Range	Data			Note	
R	G	B	name		15k	24k	31k		
0-0	0-0	0-0	Upper Left	-512~511	0,0	0,0	(0),(0)	#13 (Point Convergence) Left: H, Right: V	
↓	↓	↓	↓	↓	↓	↓	↓		
7-7	7-7	7-7	Bottom Right	-512~511	0,0	0,0	(0),(0)		

Function Display				ATC					
No.			Abbreviated	Adjustment	Range	Data			Note
R	G	B	Name	name		15k	24k	31k	
0	0	0	HSTA	Horizontal Static	-512~511	0	0	0	
1	1	1	VSTA	Vertical Static	-512~511	0	0	0	
2	2	2	TILT	Tilt	-512~511	0	0	0	
3	3	3	SKEW	Skew	-512~511	0	0	0	

Function Display	ALIGNMENT		
Adjustment Name	Range	Setting	Note
Alignment Blooming / Just	ON/OFF	OFF	

Adjustment Item No.	Abbreviated Name	Adjustment Name	Range	15k	24k	31k	Note
Function Display		DAC					
				Data			
0	HV-ADJ	HV-ADJ	-127~127		(-127)		#2 (High Voltage Control)
1	H-POSI	Horizontal Position	-127~127	0	0	(0)	#5 (Centering)
2	V-POSI	Vertical Position	-127~127	0	0	(0)	
3	H-WIDTH	Horizontal Width	-127~127	-127	-127	(-127)	#6 (Raster Size)
4	V-HEIGHT	Vertical Hight	-127~127	0	0	(0)	
5	V-C-LIN	V-C-LIN	-127~127	0	0	(0)	✳ 5
6	V-S-LIN	V-S-LIN	-127~127	0	0	0	#5 (Centering)
7	H-DUTY	H-DUTY	-127~127	0	0	0	
8	F/V-REF	F/V-REF	-127~127	-95	-17	(+41)	#1 (Horizontal Free Run Frequency)
9	GAIN-R	R Gain	-127~127	0	0	(0)	#10 (White)
10	GAIN-B	B Gain	-127~127	0	0	(0)	
11	SUB-CONT	Sub Contrast	-127~127		(0)		
12	SUB-BRT	Sub Brightness	-50 ~ 50		(0)		✳6
13	OSD-ADJ	OSD-ADJ	-127~127		0		
14	GAMMA-H	GAMMA-H	-127~127		-2		
15	GAMMA-L	GAMMA-L	-127~127		0		

✳ 5 Refer to the adjustments 5 (Centering) and 6 (Raster Size).
✳ 6 Refer to the adjustments 3 (Cut Off) and 10 (White).

Adjustment Name	Range	Time	Note
Function Display	HOUR-TIMER		
Cumulative operating time	0~9999	0	Reset in the TEST 1.1.9 mode.

❏ **TEST 1.1.10 Mode (Convergence)**

"CONV" and "POINT-CONV" in the TEST 1.1.189 mode are adjusted in this mode.
The changed data in this kmode are saved in EEPROM without pressing the "ENTER" button.

To activate
1- Press the "TEST" , "1" , "1" and "10" buttons on the remote hand unit.
To operate
2- Same steps as in the TEST 1.1.8 mode.
To terminate
3- Press the "TEST" button on the remote hand unit.

TEST 1.1.10 Mode Display

```
CONV GREEN 31K
  0    HSTA  127
```

❑ TEST 1.1.9 (Reset)

Following items are reset in this mode.

To activate

1- Press the "TEST " , "1" , "1" and "9" buttons on the remote hand unit.

To operate

2- Select an item using the "▲" or "▼" button on the remote hand unit.

3- Change the data using the "◄" or "►" button on the remote hand unit.
  (For POWER ON DELAY only)

To initalize

4- Press the "ENTER" button on the remote hand unit.

To terminate

5- Press the "TEST" button on the remote hand unit.

TEST 1.1.9 Mode Display

```
► INITIAL
  E2RESET
  HOUR-RESET
  POWER ON DELAY : 2SEC
```

INITAL	: To reset the "CONTRAST" and "BRIGHTNESS" in the User Adjustment mode.
E2RESET	: Never select. All the data in EEPROM are reset.
HOUR-RESET	: To reset the HOUR-TIMER. Carry out when replacing the CRTs.
POWER ON DELAY	: To increase the data of POWER ON DELAY in the range of 2 ~ 20 seconds.

❑ TEST 8.8.► (Digital Convergence Setting)

Basic setting of the Digital Convergence is performed in this mode.

Take the following steps for setting.

Supply the input signal of fh : 31kHz.

To activate

1- Press the "TEST " , "8" , "8" and "►" buttons on the remote hand unit.

To operate

2- Select an item using the "▲" or "▼" button on the remote hand unit.

3- Change the data using the "◄" or "►" button on the remote hand unit.

To save

4- Press the "ENTER" button on the remote hand unit.

To terminate

5- Press the "TEST" button on the remote hand unit.

TEST 8.8.► Mode Display

```
CONV INITAL 31K
  0    LINE   3
```

Item	Data (31kHz)	Note
0 LINE	3	
1 NORP	1	
2 VINT	1	
3 HINT	0	
4 COUT	1	
5 HPLL	1	
6 VSTR	0	
7 VCNT	Automatic detection	
8 STLN	"	
9 FPHS	(197)	#4 (Convergence Horizontal Phase)
10 CPHS	0	
11 DPHS	0	
12 TPHS	70	
13 HDLY	254	
14 PLWD	40	
15 HVOl	0	
16 PWM2	0	

4

❏ TEST 9.9.▶(Option Setting)

Option setting is performed in this mode. Take the following steps for setting.

To activate
1- Press the "TEST ", "1", "1" and "9" buttons on the remote hand unit.
2- Press the "9", "9" and "▶" buttons within 10 seconds after the TEST 1.1.9 mode is activated.
To operate
3- Select an item using the "▲" or "▼" button on the remote hand unit.
4- Switch ON or Off using the "◀" or "▶" button on the remote hand unit.
To terminate
5- Press the "TEST" button on the remote hand unit.

TEST 9.9.▶Mode Display

Item	Data	Note
AUTO CONV	OFF	
AI PICTURE	OFF	
AUTO FRAME	OFF	
REMOCON	OFF	

```
▶ AUTO CONV    : OFF
  AI PICTURE   : OFF
  AUTO FRAME   : OFF
  REMOCON      : OFF
```

❏ TEST 1.1.▶(Auto Adjustor Setting)

The auto adjustor coefficient is set in this mode. Take the following steps for setting.
Supply the input signal of fh : 31kHz.

To activate
1- Press the "TEST ", "1", "1" and "   " buttons on the remote hand unit.
To operate
2- Select an item using the "▲" or "▼" button on the remote hand unit.
3- Select the color using the R/G/F/ button on the remote hand unit.
4- Change the data using the "◀" or "▶" button on the remote hand unit.
To save
5- Press the "ENTER" button on the remote hand unit.
To terminate
5- Press the "TEST" button on the remote hand unit.

TEST 1.1.▶Mode Display

```
  COEFF GREEN 31K
   H  HSTA
```

Item	Data (31kHz)		
	R	G	B
H HSTA	0	0	0
H VSTA	0	0	0
H TILT	0	0	0
H SKEW	0	0	0
H HWID	-11	---	+16
H HLIN	-54	0	+56
H HPCC	---	+8	---
H VPCC	---	-56	---
H VKEY	-13	-13	+12
H HSBW	0	---	0

Item	Data (31kHz)		
	R	G	B
V HSTA	0	0	0
V VSTA	0	0	0
V TILT	0	0	0
V SKEW	0	0	0
V HWID	0	---	0
V HLIN	0	0	0
V HPCC	---	-74	---
V VPCC	---	-24	---
V VKEY	-19	0	+26
V HSBW	0	---	-15

❏ User Adjustment Mode

To activate
1- Press the "Picture" button on the remote hand unit to display the "CONTRAST".
To operate
2- The items are switched to be displayed in the following order every time the "PICTURE"
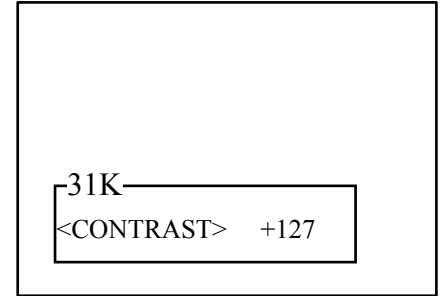   button is pressed.
3- Change the data using the "+" or "-" button on the remote hand unit.
To terminate
4- Press the "PICTURE" button while the last item is displayed.

User Adjustment Mode Display

CONTRAST
BRIGHTNESS
H-POSI
H-WIDTH
V-POSI
V-WIDTH
AI PICTURE *
AUTO FRAME   ADJ *
AUTO CONVERGENCE *

┌31K
<CONTRAST>   +127

*Display when they are ON in the Option setting (TEST 9.9.▶ mode).

❏ TEST Cross Pattern Mode
"HSTA" and "VSTA" of Red and Blue in the convergence adjustment are adjusted in this mode.

To activate
1- Press the "TEST" button on the remote hand unit to display the cross pattern at the screen center.
To operate
2- Press the "R/B" button on the remote hand unit to switch Red and Blue.
3- Increase or decrease the VSTA data using the "▲" or "▼" button on the remote hand unit.
4- Increase or decrease the HSTA data using the " ◀ " or "▶ " button on the remote hand unit.
    The changed data are saved in the EEPROM when the button is released.
To terminate
5- Press the "TEST" butrton on the remote hand unit.

TEST Cross Pattern Mode Display

RED   31K
H : +00 V : +00