
3 Alignments and Adjustments

3-1 General Alignment Instruction

1. Usually, a color LCD-TV needs only slight touch-up adjustment upon installation.
Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
7. To protect against shock hazard, use an isolation transform.

3-2 Factory Mode Adjustments

3-2-1 Entering Factory Mode

To enter 'Service Mode' Press the remote -control keys in this sequence :

- If you do not have Factory remote - control



3-2-2 Panel Check

- Specially for LE32T51BX, You have to check Panel Maker Because of different adjustments as follows.
First of all, Check the label rating!

1) Label Rating File



* If not printed you could consider S(sec) panel mark.

2) If Panel Mark is "S", Set the factory mode indicating as follows.

* Option Byte

1. Panel Option : 32" AMLCD

If Panel Mark is "A", Set the factory mode indicating as follows.

* Option Byte

1. Panel Option : 32" AUO

Others are same shown below.

3-2-3 Factory Mode Tree

- If you have Factory remote - control

[INFO] -> [FACTORY]

1. Calibration
 2. Option Byte
 3. W/B
 4. VCTi
 5. YC Delay
 6. FLI5961
 7. Adjust
 8. Test Pattern
 9. Password
 10. Check Sum
 11. Spread Spectrum
 12. HDCP
 13. Reset
 T-TRNPEU-0000 month day year time
 P-TRNPEU-0000
 Panel On Time(Hour) 0000

1. Calibration : W/B Calibration

AV Calibration
 DTV Calibration
 PC Calibration

2. Option byte : Setting option

Panel option : 23" AMLCD, 27" CMO,
 32" AUO, 32" AMLCD
 Gamma : on/off
 Auto Power : on/off
 Video Mute : 5
 Language : English
 Hotel Mode : off/on
 LNA Plus : off/on
 V-chip : off
 Auto FM : off/on
 High Deviation : off/on
 TTX List : Flop/List
 MCC : off/on
 TTX Group : User OSD
 DVI : on/off

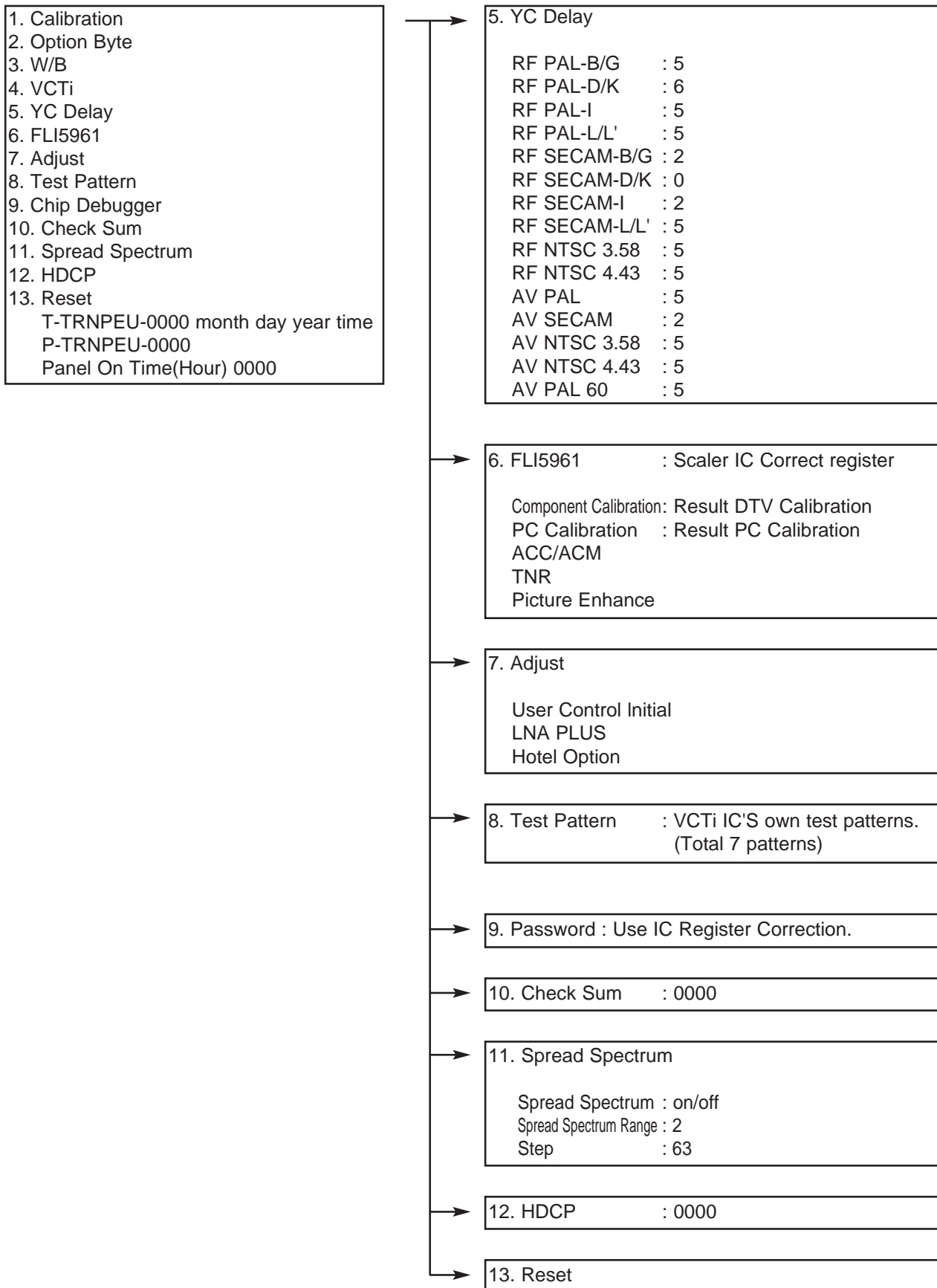
3. W/B : Adjustment White Balance

Sub Bright : 128
 R off set : 128
 G off set : 128
 B off set : 128
 Sub contrast : 128
 R gain : 128
 G gain : 128
 B gain : 128

4. VCTi : VCTi IC Correct register

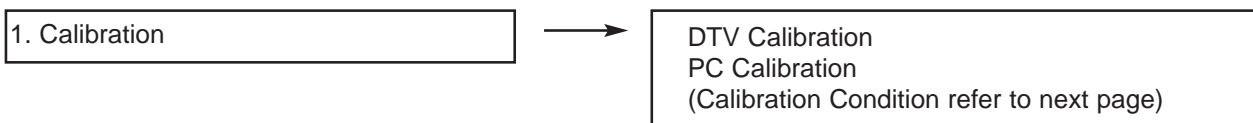
VCTi Page 1
 VCTi Page 2

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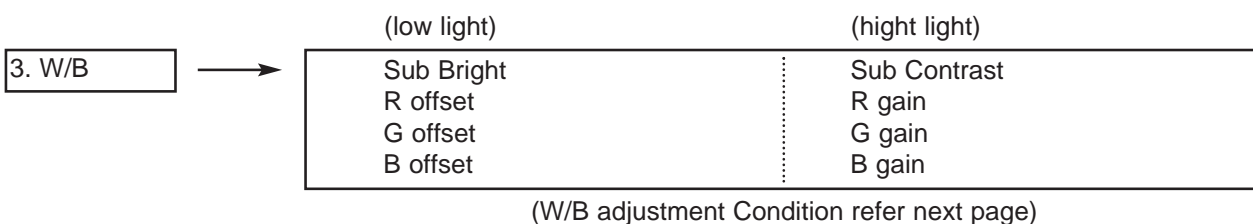


3-3 White Balance - Calibration

3-3-1 White Balance -Calibration



3-3-2 White Balance - Adjustment



3-3-3 Conditions for Measurement

- On the basis of toshiba ABL pattern : High Light level (57 IRE)
 - INPUT SIGNAL GENERATOR : MSPG-925LTH
 - * Mode NO 1 : 744X484@60 Hz
 - NO 6 : 1280X720@60 Hz (Component 720P)
 - NO 21 : 1024X768@60 Hz
 - * Pattern NO 15 : Color bar
 - NO 16 : Toshiba ABL Pattern
 - NO 17 : 16 gray
- Optical measuring device : CA210 (FL)

Please use the MSPG-925 LTH generator for model LNR2355W,LNR2755W,LNR3255W.

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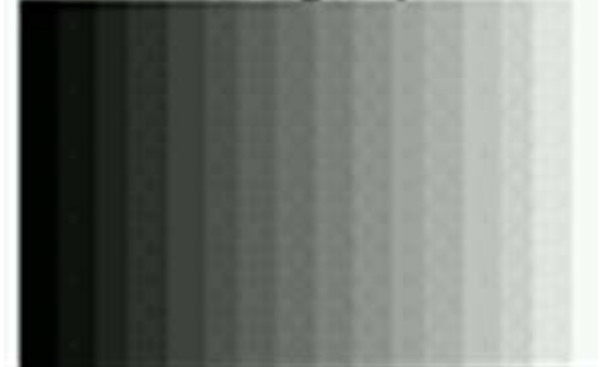
3-3-4 Method of Adjustment

1. Adjust the basic level of Component and PC input signals.
 - a) Set the input to the mode in which the adjustment will be made (Component → PC).
 - * Input signal - Component Mode : Model #6 (1280*720 Mode), Pattern #15 (picture 4-1)
 - PC Mode : Model #21 (1024*768 Mode), Pattern #17 (Picture 4-2)
 - b) Enter factory Calibration (DTV, PC Mode Only).
 - * DTV Calibration → Source change for PC → PC Calibration

Picture 4-1 Color bar

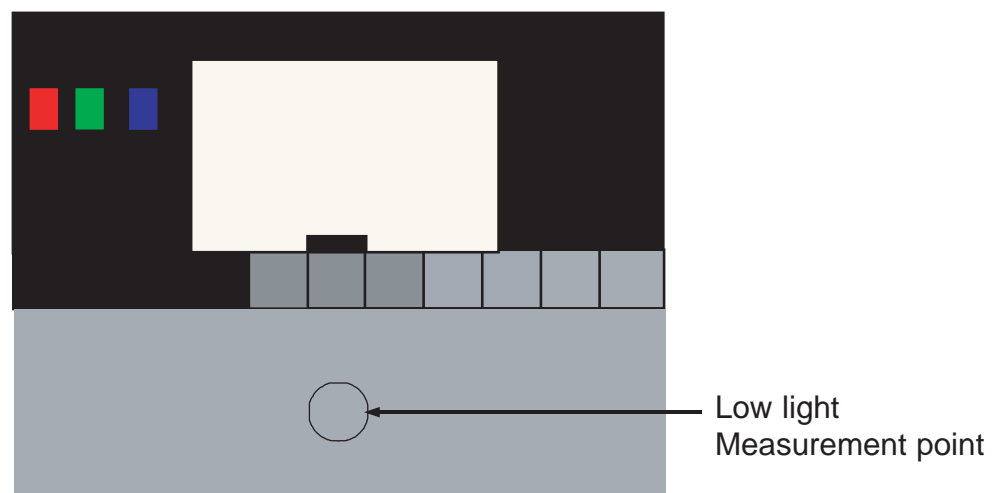


Picture 4-2 16gray



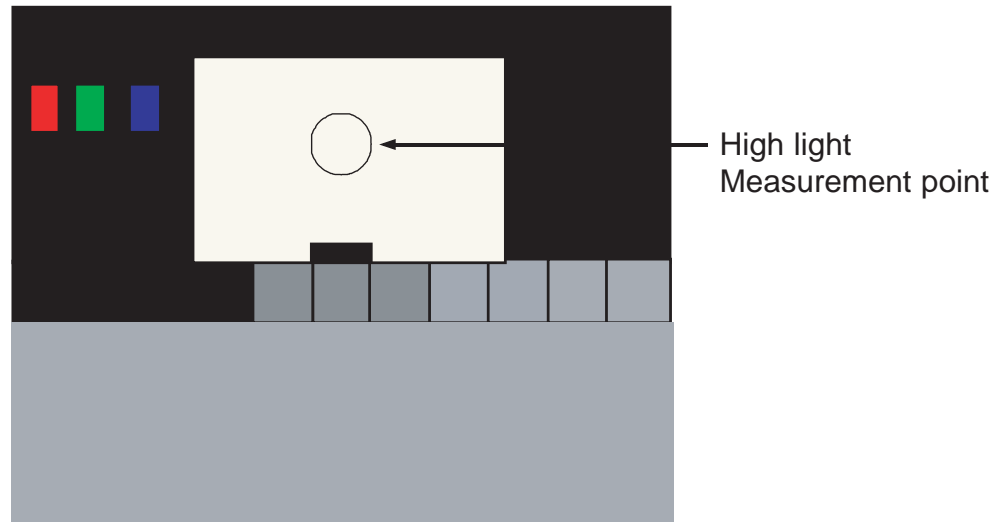
2. Adjust the white balance of AV, Component and DVI Modes.
 - a) Set the input to the mode in which the adjustment will be made (AV → Component → DVI).
 - * Input signal - VIDEO Mode : Model #1 (744*484 Mode), Pattern #16
 - Component, DVI Mode : Model #6 (1280*720 Mode), Pattern #16
 - b) Enter factory W/B.
 - c) Adjust the low light.
 - Adjust sub - Brightness to set the 'Y' value.
 - Adjust red offset ('x') and blue offset ('y') to the color coordinates. (x : 263, y : 267, Y : 1.3 ft)
 - * Do not adjust green offset data.

Picture 4-3 Toshiba ABL Pattern



- d) Adjust the high light. (Refer to table 1, 2 in adjustment position by mode)
- Adjust red gain ('x') and blue gain ('y') to the color coordinates. (x : 263, y : 267)
 - * Do not adjust the green gain and sub-contrast (Y) data.
 - * (Only RE32T51BX) If Panel is AM-LCD, Y adjust 36FT/L.

Picture 4-4 Toshiba ABL Pattern



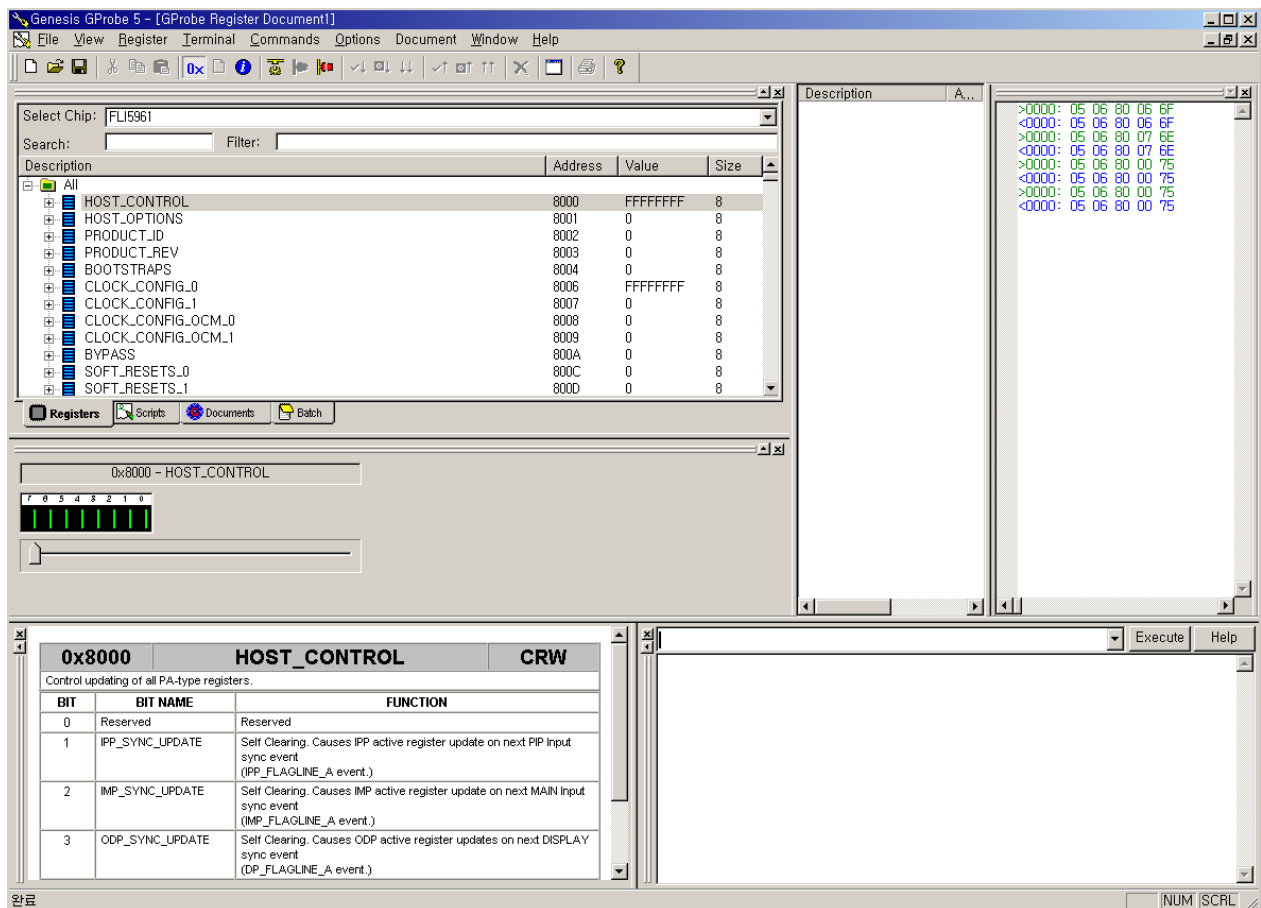
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3-4 TORINO Micom Update

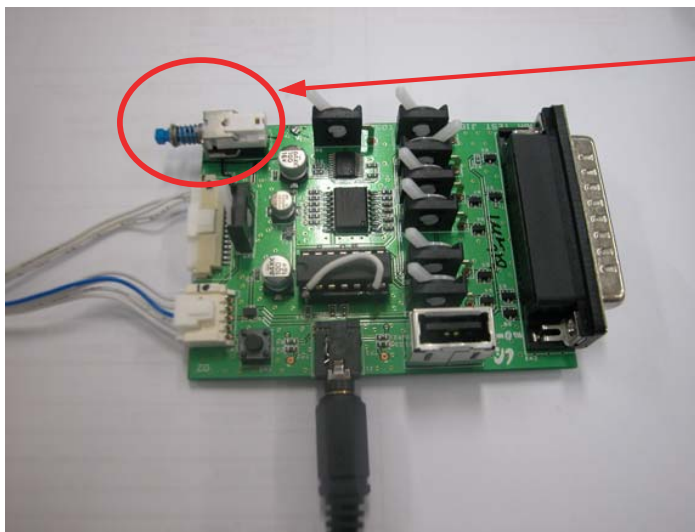
3-4-1 Installing G-Probe

1. Uncompress GProbe5.1.0.18.zip.
2. Run GProbe5.1.0.18.exe.
3. The files are created in the C:\Program Files\Genesis Microchip\GProbe 5 folder.
4. Copy the ispoak_spi.hex file to the C:\Program Files\Genesis Microchip\GProbe 5 folder.
5. Uncompress FLI5961-AC_GProbe_S0006-CSC-33B.zip.
6. Three files are extracted (FLI5961.Chip.GProbe, FLI5961.chm).
7. Copy all 2 files to the C:\Program Files\Genesis Microchip\GProbe 5\ChipDB folder.
8. Run GProbe.exe in the C:\Program Files\Genesis Microchip\GProbe 5 folder. The G-Probe program is created.

<The screen that appears when G-Probe is successfully installed>

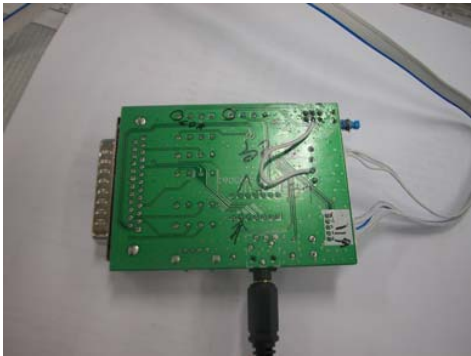


3-4-2 Connecting to the MAIN PCB

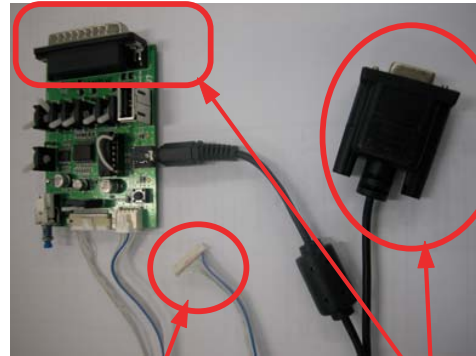


Switch off

<Micom Download Jig Top Side: Note the direction of the switch>



<Bottom Side>



Connect to the MAIN PCB. Connect to the PC



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3-4-3 Update Procedures

1. Open mgm.txt in the C:\Program Files\WGenesis Microchip\WProbe 5 folder.
2. The following result will appear.

```
//  
// Batch file to program a sPI serial flash using ISP.  
// Moving the stack to high memory area is now taken care of in IROM  
// through the "Reset 0" command. Assumes the ISP driver is in the same  
// directory as this file. Change ISP driver path in "fastFlashWrite"  
// command, if different from current directory.  
//  
debugon  
  
SetBuffer 0x2000 0x800  
delay 200  
Reset 0  
delay 500  
  
// SPI flash driver  
RAMWrite ispoak_spi.hex  
  
Run 0x500  
delay 100  
  
// Optional - Get Flash ID. The second parameter is a don't care  
//FLASHCRC 0xff0000 0x20000  
  
// Command delay for flash erase  
SetDelay 1000 9000  
  
FlashErase  
  
// Command delay for flash write. This is for each flash write packet (upto 4 k Bytes)  
SetDelay 1000 3000  
  
// Change this line to point to a file in a different location, if needed  
//fastFlashWrite C:\Proj\WOAK\WAPP-59xx\debug\wobj\W59xx_proj.hex  
fastFlashWrite C:\Program Files\WGenesis Microchip\WProbe 5\W_T-TRNNUS.hex  
  
// Optional - Get CRC of 128 kByte flash. For other sizes, change second parameter  
// accordingly  
//FLASHCRC 0x80000 0x20000  
// to reset the monitor after programming the flash using DDC2BI ONLY:  
// Un-comment the following three lines (PLEASE - FOR DDC2BI PORT SELECTED ONLY)  
//0x8000=1  
//0x8003=0  
//0x8027=1
```

The Micom program is to be copied to the folder marked in red and the name of the program is to be the same as the file name marked in blue.

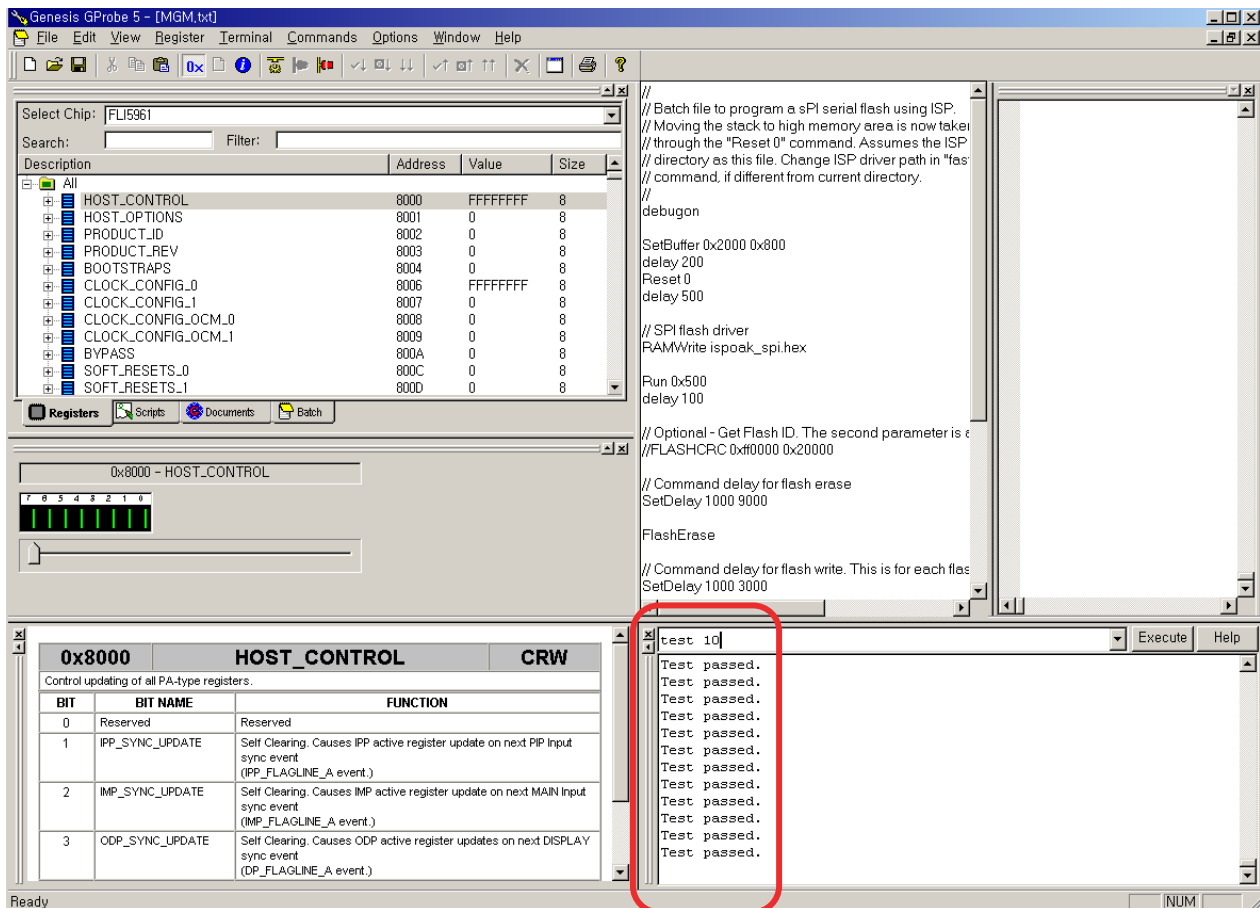
(If the Micom program is not in the folder marked in red, change the path to the folder which includes the Micom program and then save the file.)

- When completing all the procedures above, connect the Jig and the PCB, and run the G-Probe program.

After that

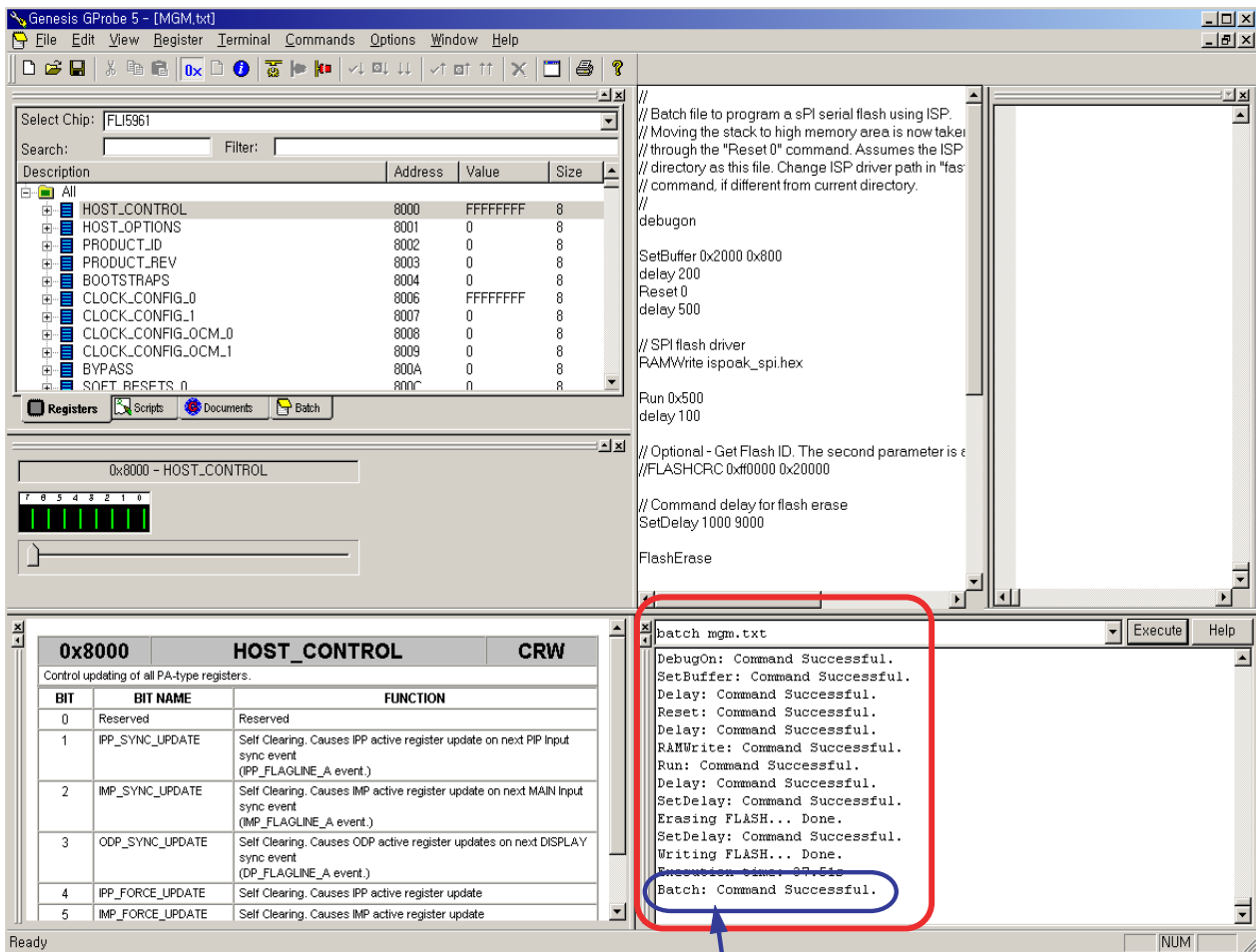
Enter 'test 10' as shown in the following figure and press Enter or click the Execute button.

If the result appears as shown in the following figure, it is properly connected.



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4. Enter 'batch mgm.txt' as show in the following figure and press Enter or click the Execute button to update Micom.



If the MICOM update is successfully completed, the above message appears.