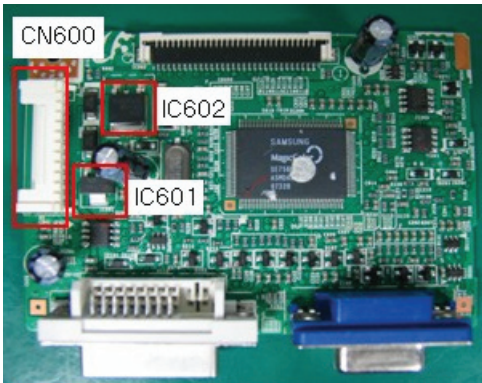


4. Troubleshooting

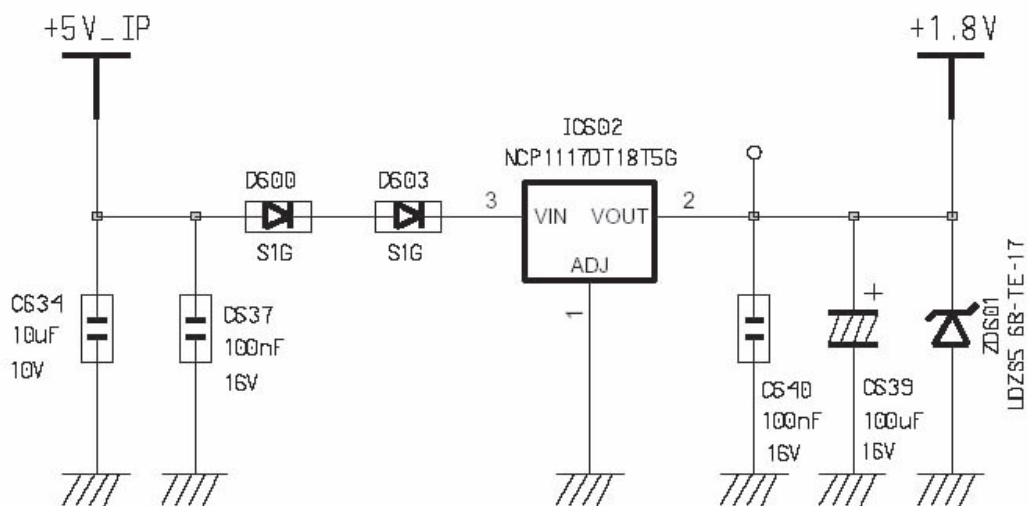
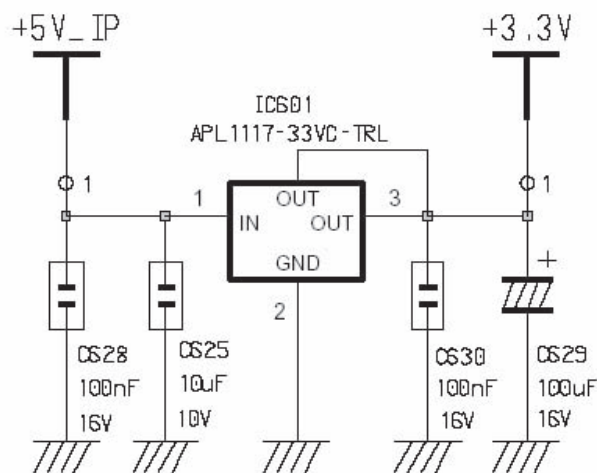
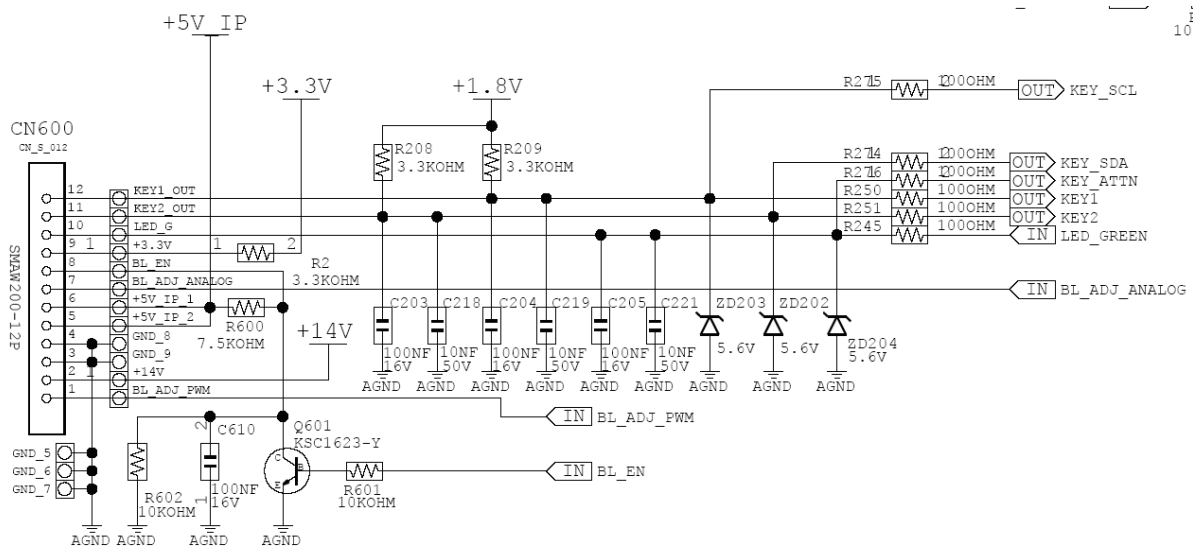
4-1. Troubleshooting

1. Before troubleshooting, setup the PC 's display as below.
 - Resolution: 1280 x 1024
 - H-frequency: 65 kHz
 - V-frequency: 60 Hz
2. If no picture appears, make sure the power cord is correctly connected.
3. Check the following circuits.
 - No raster appears: Function PBA, Main PBA, I/P PBA
 - 55V develop but no screen: Main PBA
 - 5V does not develop: I/P PBA
4. If you select Brightness adjust menu and push the “ (Enter/Source)” button for 5 seconds, the monitor automatically returns to factory reset.

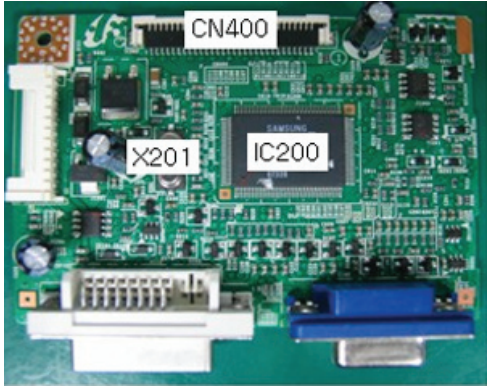
4-2. When the Power Does Not Turn On

Symptom	When turning on the Power button after connecting the power, the LED at the front of the monitor does not operate.
Major checkpoints	- When turning on the Power button after connecting the power cable, the LED at the front of the monitor does not operate. - Check the IP board power fuse and the IP board output power. - Check the connections for the IP board and the Main board inside the monitor. - Check the Main board power part and also check whether there is any abnormal output at any of the other output terminals.
Diagnostics	 Main Board Front <pre> graph TD Start([Start]) --> Q1{Is DC 5V measured at pins 5, 6 of the CN600 connector when pins 3, 4 are 0V?} Q1 -- Yes --> A1[Check the connection status for the function assy.] Q1 -- No --> A2[Replace IP board.] A1 --> Q2{Is DC 3.3V measured at pin 3 of IC601 when pin 1 is DC 5V?} Q2 -- No --> A3[Check the circuits related to IC601.] Q2 -- Yes --> Q3{Is DC 1.8V measured at pin 2 of IC602 when pin 3 is DC 5V?} Q3 -- No --> A4[Check the circuits related to IC602.] Q3 -- Yes --> A5[Check and replace the IP board.] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

4-2-1. Circuit diagrams when the power does not turn on

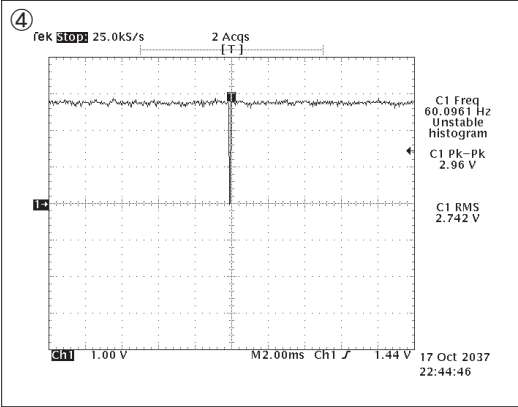
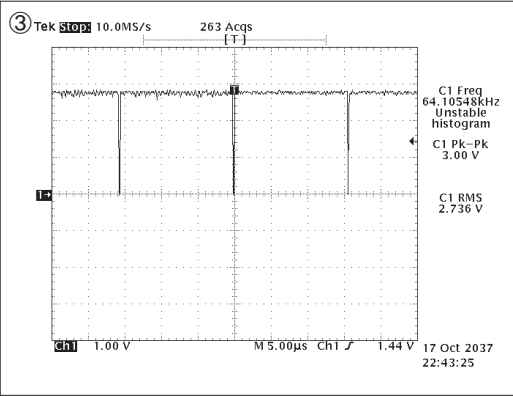
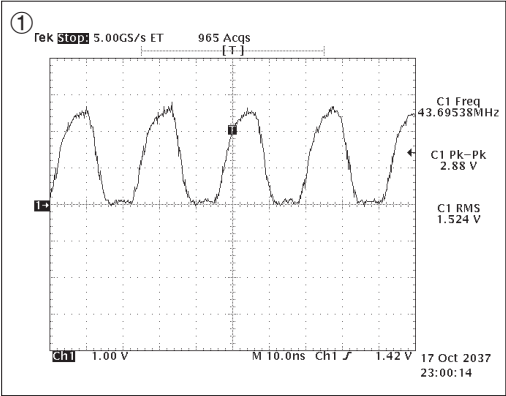


4-3. When the screen is blank (Analog)

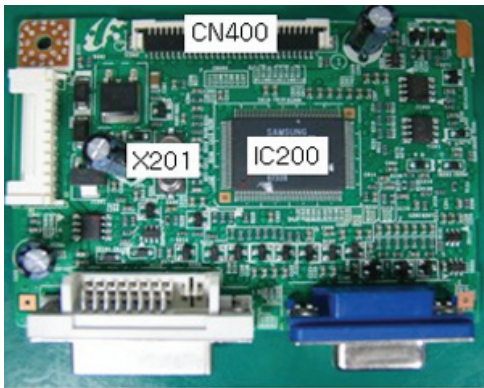
Symptom	Though the LED power turns on, the screen is blank when connecting the VGA cable.
Major checkpoints	- Even though the LED power turns on, the screen is blank when connecting the VGA cable. - Check the D-sub cable connections. - Check whether the LVDS cable is connected correctly to the panel. - Check whether the lamp connector of the panel is connected correctly to the IP board.
Diagnostics	 Main Board Front <pre> graph TD A[Check the signal cables and their connections.] -- Yes --> B{① Is X201 oscillating correctly?} B -- No --> C[Replace or check related circuit.] B -- Yes --> D{② Do the RGB inputs appear at R111, R114, and R118?} D -- No --> E[Check the R111, R114, and R118 input terminals.] D -- Yes --> F{Do the ③ Hsync and ④ Vsync waveforms appear at pins 32, 33 of IC200, respectively?} F -- No --> G[Check IC200 and related circuit.] F -- Yes --> H{Do output signals appear at pins 8 to 30 of CN400?} H -- No --> I[Check CN400 and related circuit.] H -- Yes --> J{There are DC 5V at Pin 1, 2 and 3 of CN400?} J -- No --> K[Check the +5V_Panel signal and the BL_EN signal.] J -- Yes --> L[Replace LCD Panel.] </pre>
Caution	Make sure to disconnect the power before working on the IP board.



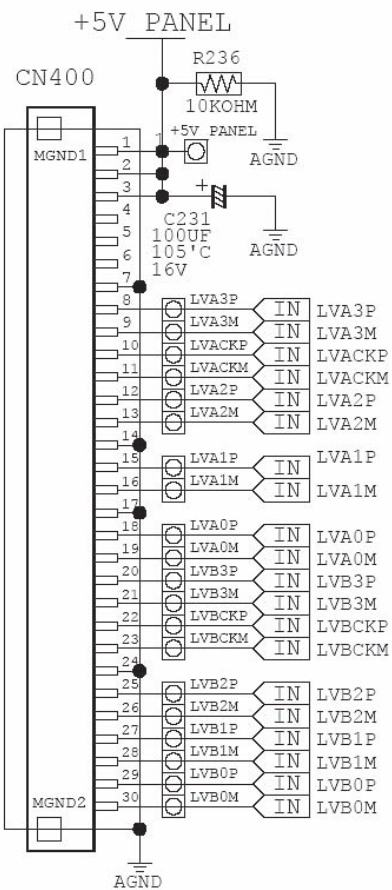
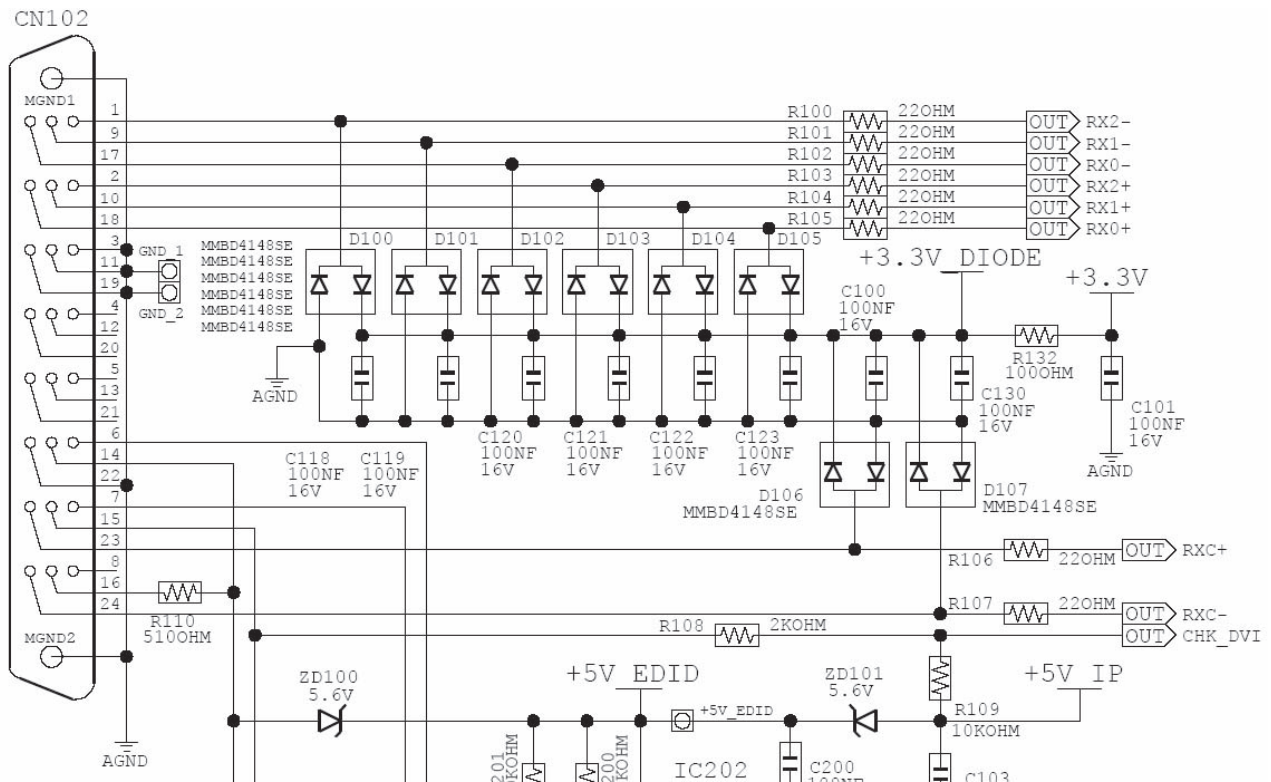
4-3-2. Waveforms when no screen is displayed (Analog)



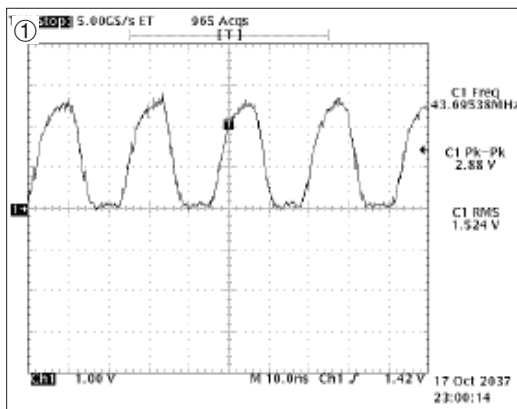
4-4. When a blank screen is displayed (Digital)-743B / 943B only

Symptom	The LED power turns on but the screen is blank when the DVI cable is connected.
Major checkpoints	- Even though the LED power turns on, the screen is blank when connecting the DVI cable. - Check the DVI cable connections. - Check whether the LVDS cable is connected correctly to the panel. - Check whether the lamp connector of the panel is connected correctly to the IP board.
Diagnostics	 Main Board Front <pre> graph TD A[Check the signal cables and their connections.] -- Yes --> B{① Is X201 oscillating correctly?} B -- No --> C[Check and replace the circuits related to X201.] B -- Yes --> D{② Do the inputs appear at R100, R101, R103, and R107?} D -- No --> E[Check the R100, R101, R103, and R107 input terminals.] D -- Yes --> F{Do output signals appear at pins 8 to 30 of CN400?} F -- No --> G[Check IC400 and related circuit.] F -- Yes --> H{Can DC 5V be measured at pins 1, 2, and 3 of CN400?} H -- No --> I[Check the Panel EN signal and the BL_EN signal.] H -- Yes --> J[Replace LCD Panel.] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

4-4-1. Circuit diagrams and waveforms (DVI) when no screen is displayed on the monitor



4-4-2. Waveforms when a blank screen is displayed (Digital)



4-5. Faults and Corrective Actions

Fault Photo	Symptoms and Corrective Actions	Remarks
	Symptoms: DVI signals are not recognized. Causes: This fault occurs when the PC does not recognize the mode information because the DVI DDC has not been input to the monitor. Corrective Actions: Input the DVI DDC to the monitor.	* Refer to the Training Manual for information on inputting the DVI DDC.
	Symptoms: When the monitor is turned on, only a full white pattern is displayed continually regardless of the signals. Causes: This fault occurs when only the lamp power is supplied and no video signals are input to the panel due to a fault or incorrect connections of the LVDS cable. Corrective Actions: Replace or reconnect the LVDS cable correctly so that video signals can be supplied to the panel.	* A full white pattern is a feature of the TN panel and is displayed when no video signals are supplied.
	Symptoms: There is no sound when the earphones are connected. Causes: This fault occurs when the Audio Assy is out of order. Corrective Actions: Replace the Audio Assy.	*If the speaker works but the earphones do not work, the Audio Assy is out of order.

4-6. Adjustment

4-6-1. Service Adjustment Conditions

1. Precautions before a Service Adjustment

- 1) Check whether the devices for the service adjustment are operating normally.
- 2) Secure a space that is sufficiently wide for disassembling the monitor.
- 3) Prepare a soft mat on which the monitor will be disassembled.

2. Entering Service Mode

Entering: Menu → Brightness 0 → Contrast 0 → Hold down the Enter button for five (5) seconds.

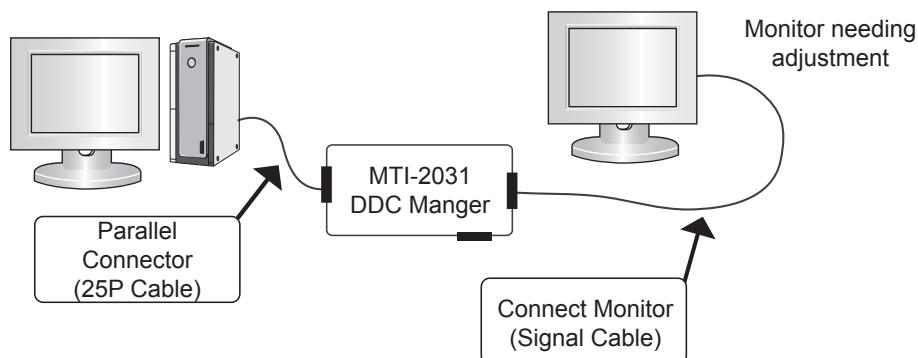
Exiting: Power OFF → Power ON

3. Basic Service Items to Perform after Replacing a Board

- 1) Check the PC color adjustment status.
- 2) Input DDC (input both of Analog and Digital).
- 3) Check whether the appropriate MCU code for the model is input.
- 4) Hard power the monitor off after entering service mode and performing a reset.

4. DDC EDIT Data Input

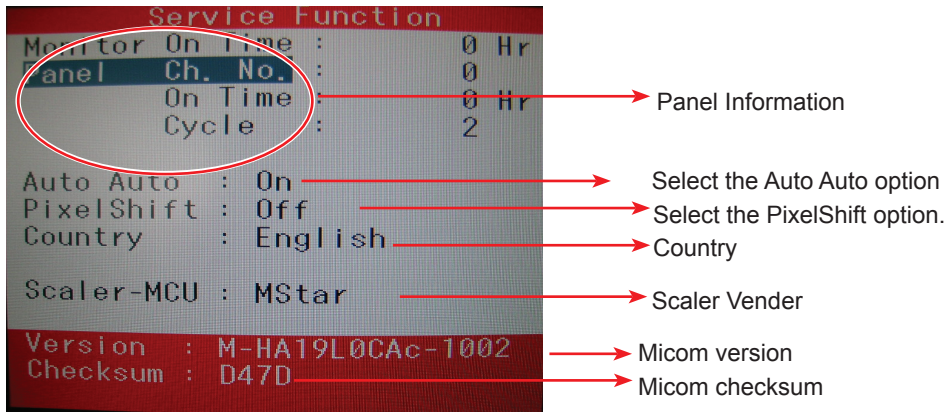
- 1) Use when updating the AD board code.
- 2) Download the WinDDC program, DDC Input program, and Hex and DDC files appropriate to the model through the Quality Control department of Samsung Electronics. Install the jig and input the data, as shown in the figure.



4-6-2. Service Function Spec.

■ Service Mode (Entering)

1. Set both the brightness and contrast to 0.
 2. Hold down the <Button>(Enter, Source) button for five (5) seconds.
 3. The SVC Function OSD will appear.
- To exit the SVC Function OSD, you have to turn off the power

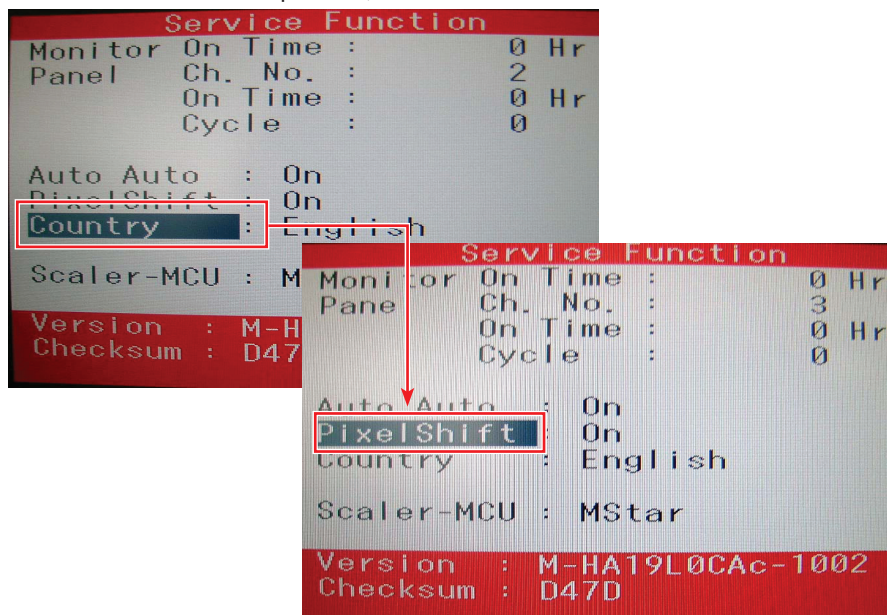


The SVC Function OSD consists of a 29 (width) X 12 (height) grid.

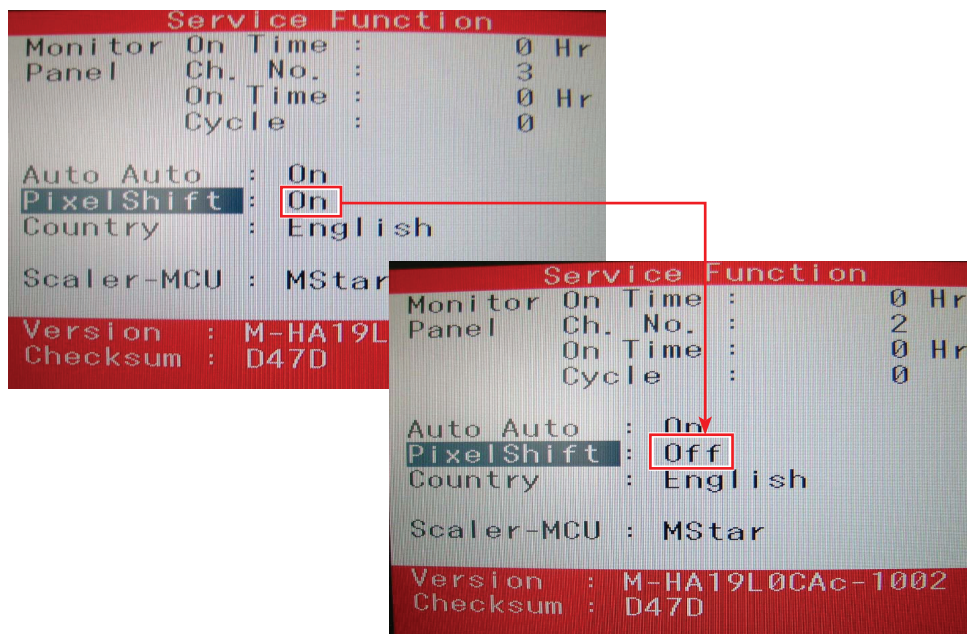
The SVC Function OSD shows the information, software version and Micom checksum.

■ Service Mode (Moving around)

1. Each time the + button is pressed, menu is selected.



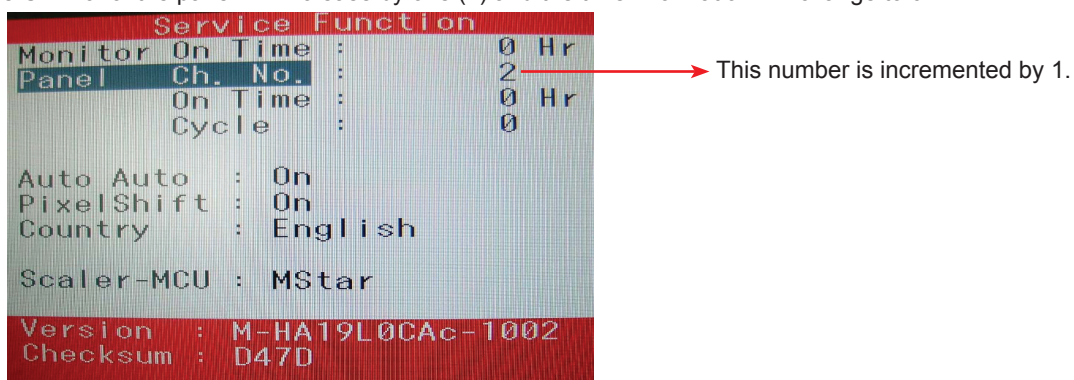
2. Press the - button to change the setting to On or Off.



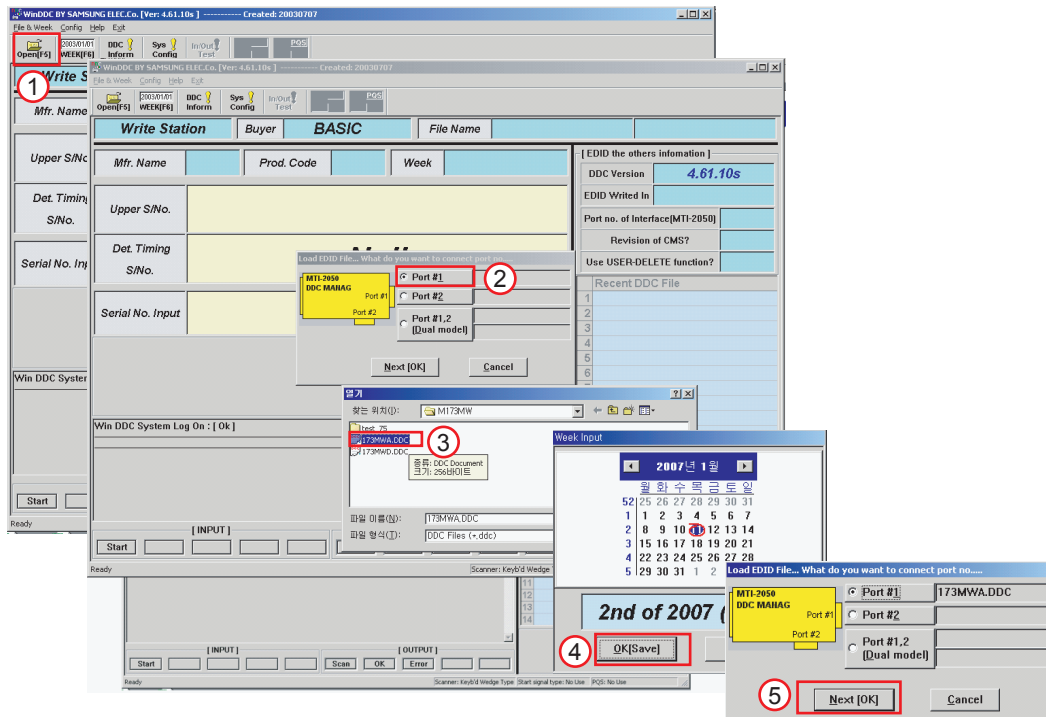
■ Service Mode (Replacing the Panel)

- When replacing the panel

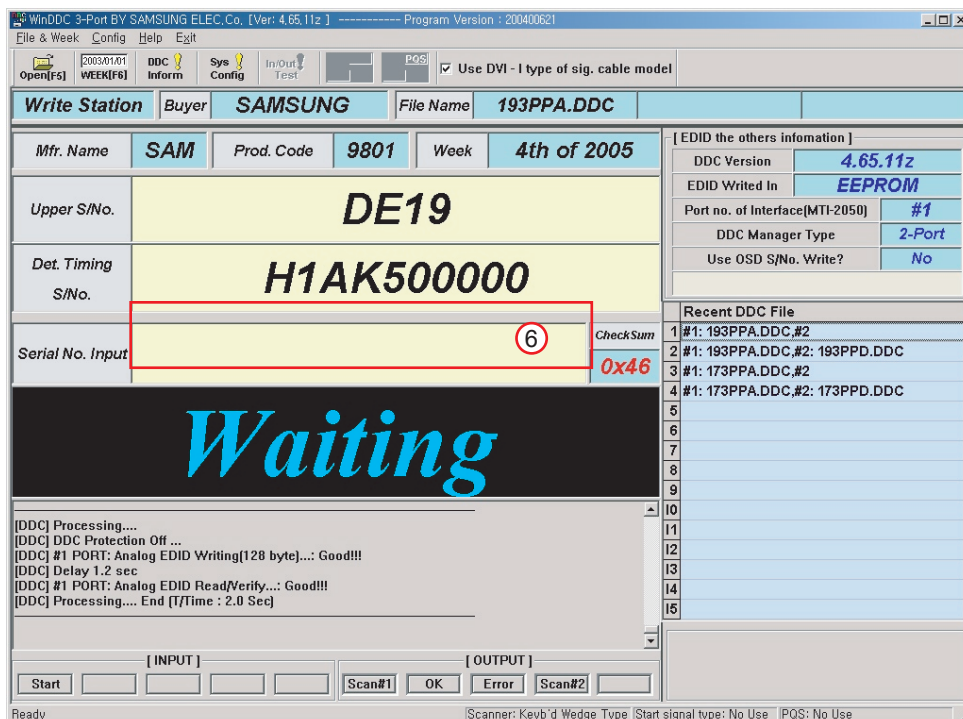
After replacing the panel, select the Panel item and then hold down the Menu button for five (5) seconds. The Ch. No. of the panel will increase by one (1) and the time information will change to 0.



How to execute DDC



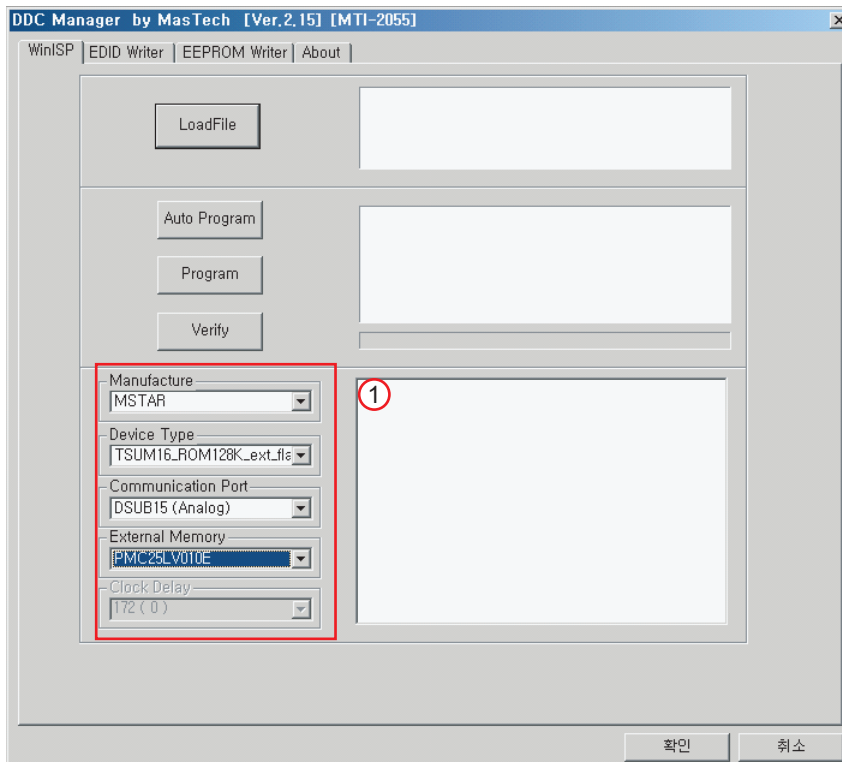
- 1) Click the Open icon
- 2) Select Two EDID
- 3) Select a DDC file.
- 4) Select week
- 5) Click Next (OK).



- 6) Enter the serial number and press the Enter key.

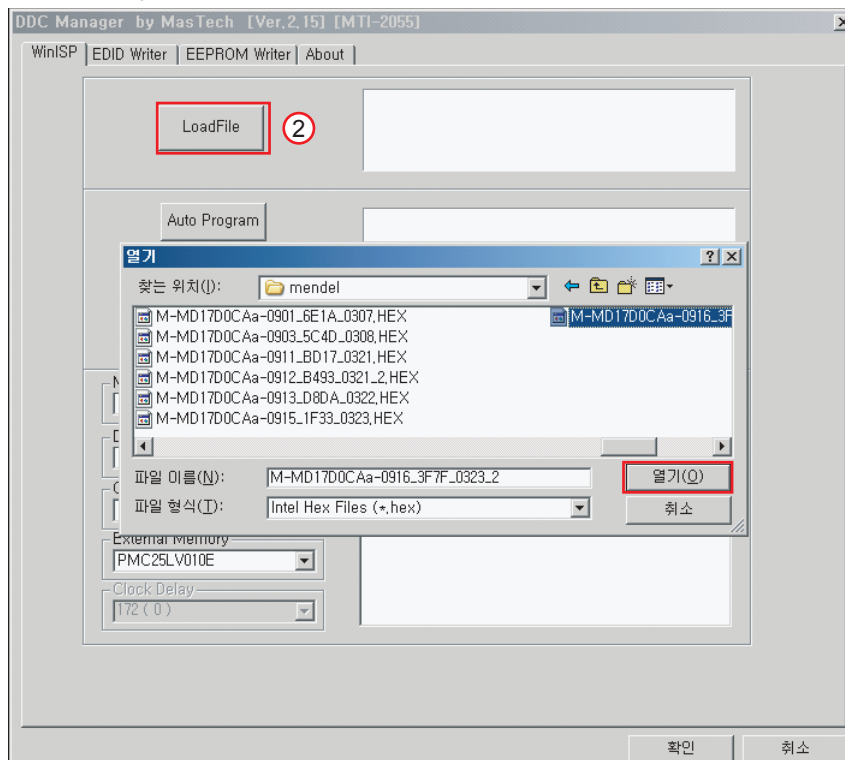
* After entering the analog data, repeat the procedure above 2 to 5 times to enter digital data.

■ How to Execute MCU Code



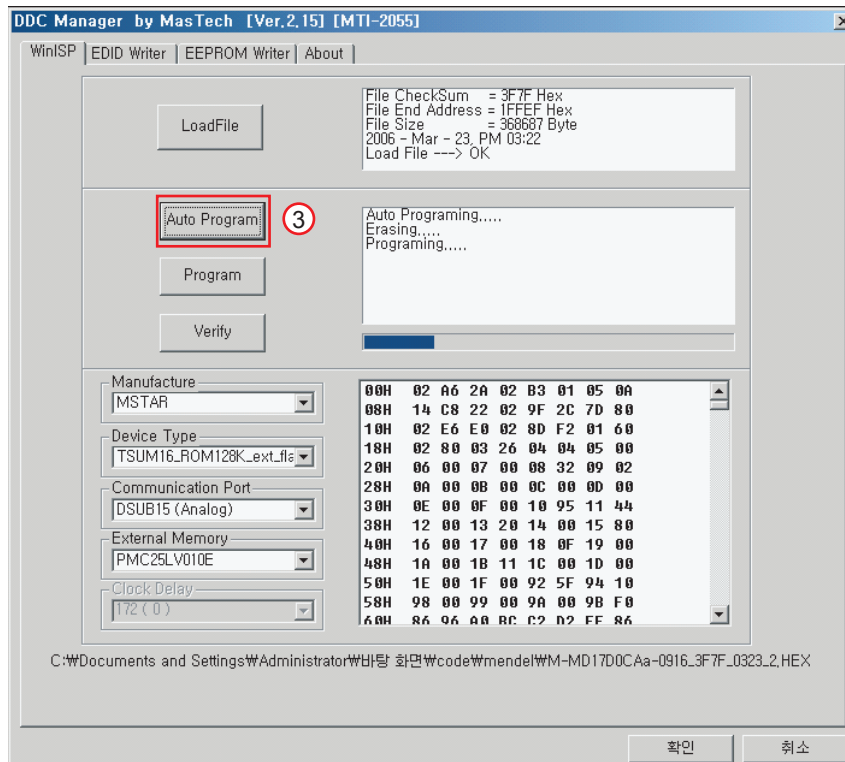
1) Options Checking.

- Manufacture : MSTAR
- Device Type: TSUM16_ROM128K_ext_flash
- Communication Port: DSUB15 (Analog)
- External Memory: PMC25LV010E

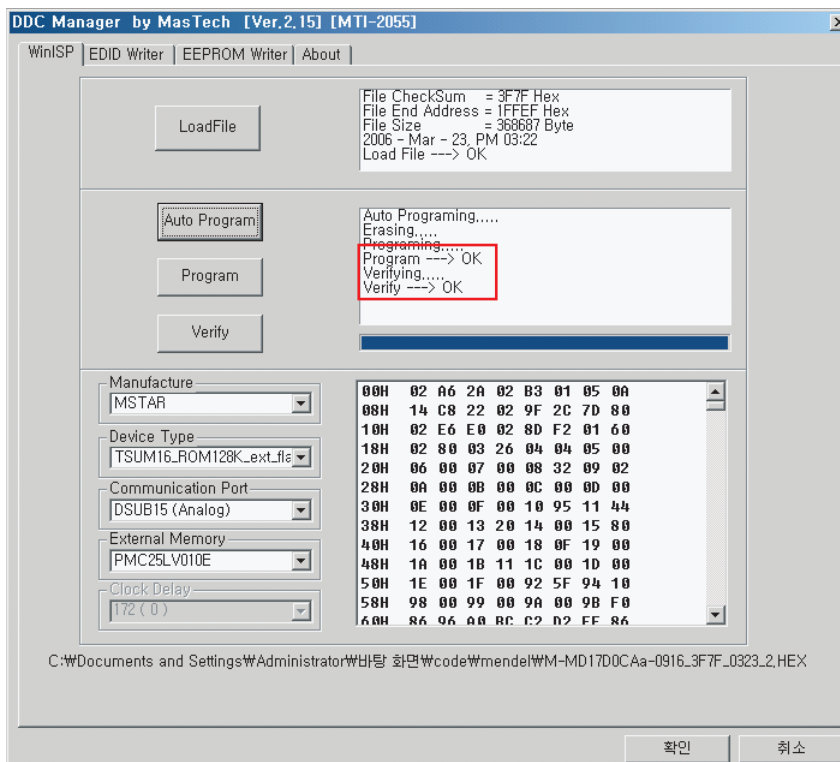


2) After click the 'LoadFile' button , choose MCU code.

4. Troubleshooting



3) 'Auto Program' button choice.



4) After the Program and Verify completed, execute hard power off/on.