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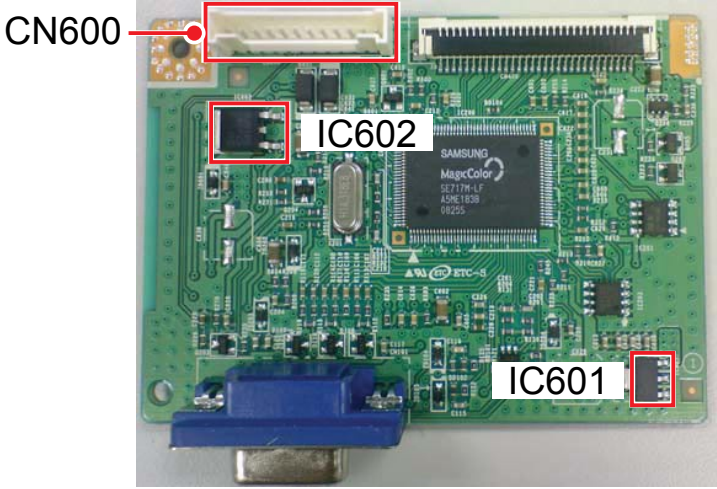
## 4. Troubleshooting

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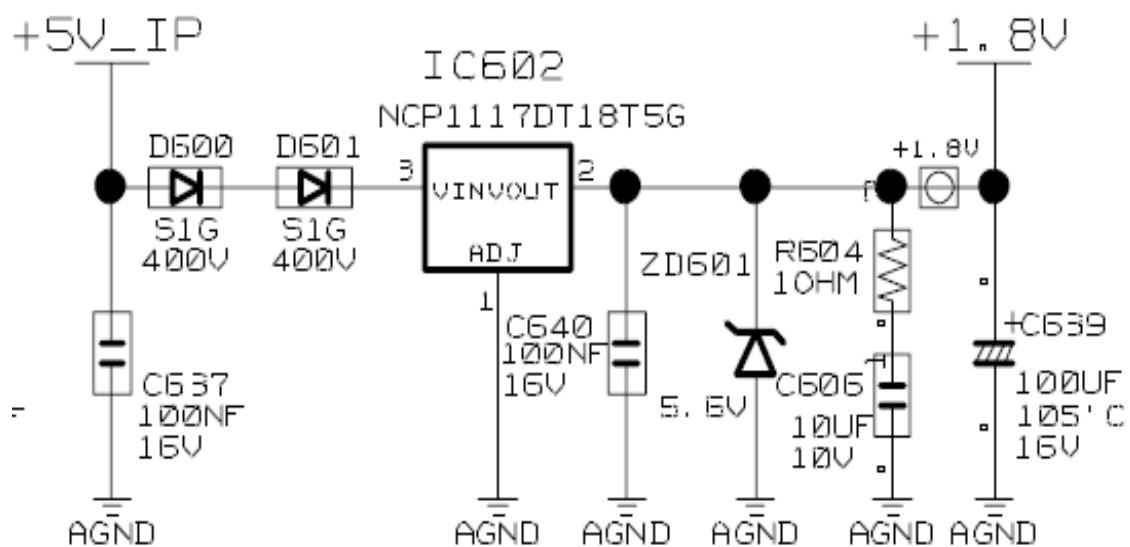
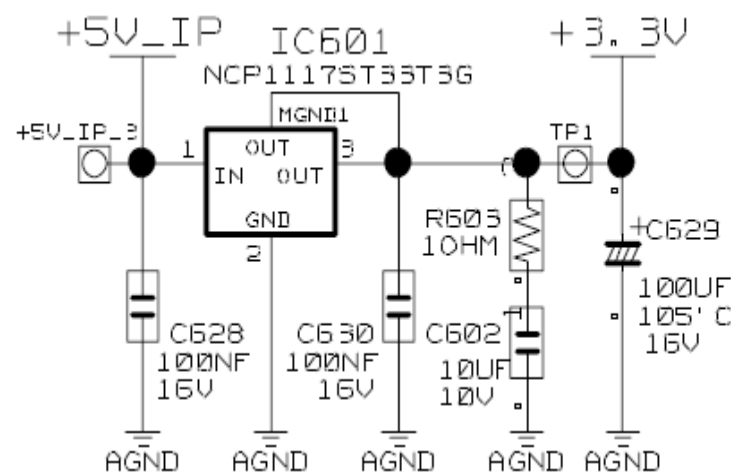
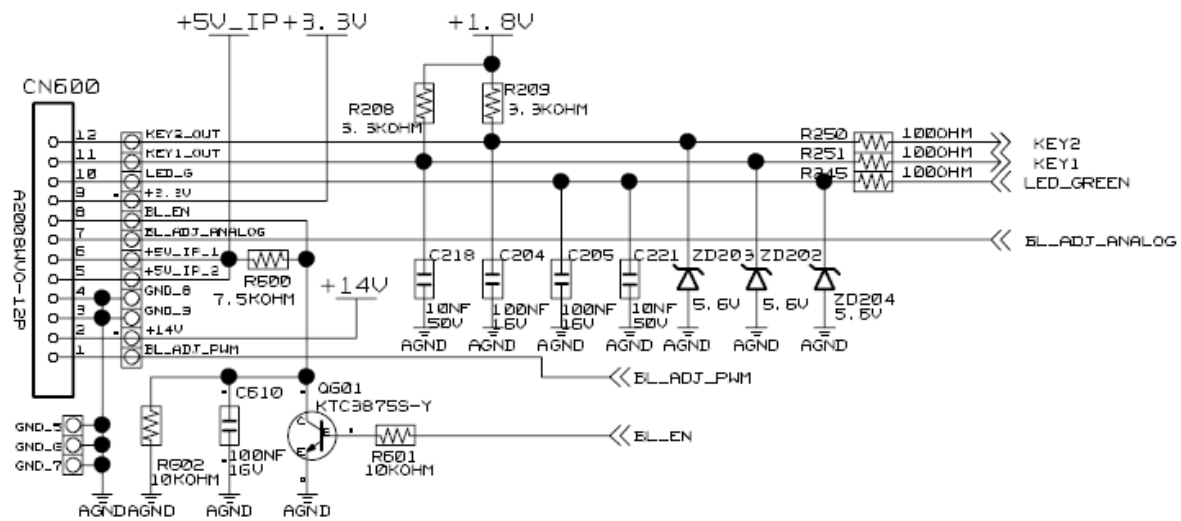
### 4-1. Troubleshooting

1. Set custom mode as follows before beginning a repair.
  - Resolution: 1360X768
  - H-frequency: 48 kHz
  - V-frequency: 60 Hz
2. If the screen is blank, check whether the power cord is connected correctly.
3. The circuits to check:
  - When the raster does not appear: The Function PCB, Main PCB, I/P PBA
  - When 5V is generated but a blank screen is displayed: Main PCB
  - When 5V is not generated: I/P PBA
4. "Press the MENU button and hold down the,  (Enter)" button for more than five (5) seconds to return the monitor to factory mode.

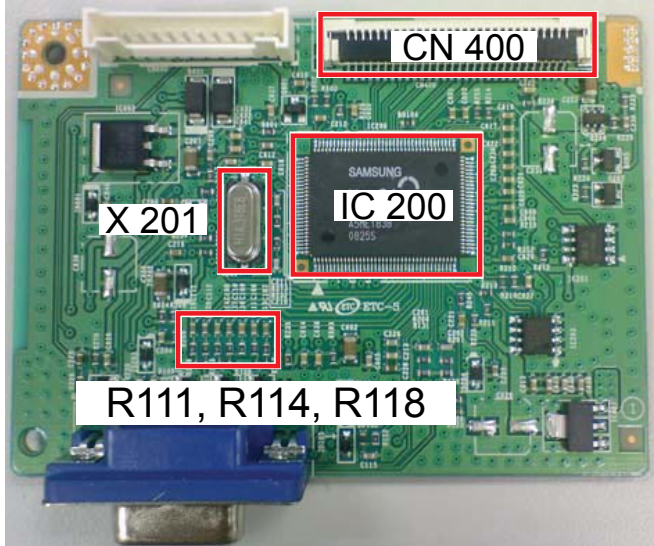
## 4-2. When the Power Does Not Turn On

Symptom	- When turning on the Power button after connecting the power cable, the LED at the front of the monitor does not operate.
Major checkpoints	<ul style="list-style-type: none"> <li>- When turning on the Power button after connecting the power cable, the LED at the front of the monitor does not operate.</li> <li>- Check the IP board power fuse and the IP board output power.</li> <li>- Check the connections for the IP board and the Main board inside the monitor.</li> <li>- Check the Main board power part and also check whether there is any abnormal output at any of the other output terminals.</li> </ul>
	
Diagnostics	<pre> graph TD     Q1[Is DC 5V measured at pins 5, 6 of the CN600 connector when pins 3, 4 are 0V?] -- Yes --&gt; A1[Check the connection status for the function assy.]     Q1 -- No --&gt; R1[Replace the IP board.]     Q1 -- Yes --&gt; Q2[Is DC 3.3V measured at pin 3 of IC601 when pin 1 is DC 5V?]     Q2 -- No --&gt; A2[Check the circuits related to IC601.]     Q2 -- Yes --&gt; Q3[Is DC 1.8V measured at pin 2 of IC602 when pin 3 is DC 5V?]     Q3 -- No --&gt; A3[Check the circuits related to IC602.]     Q3 -- Yes --&gt; R2[Check and replace the IP board.]           </pre>
Caution	Make sure to disconnect the power before working on the IP board.

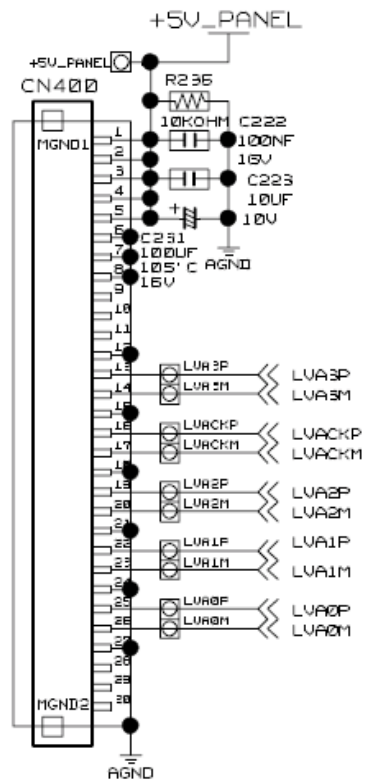
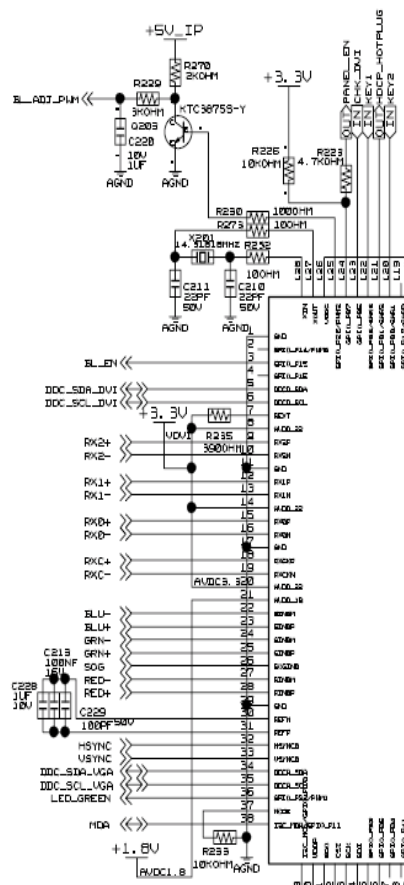
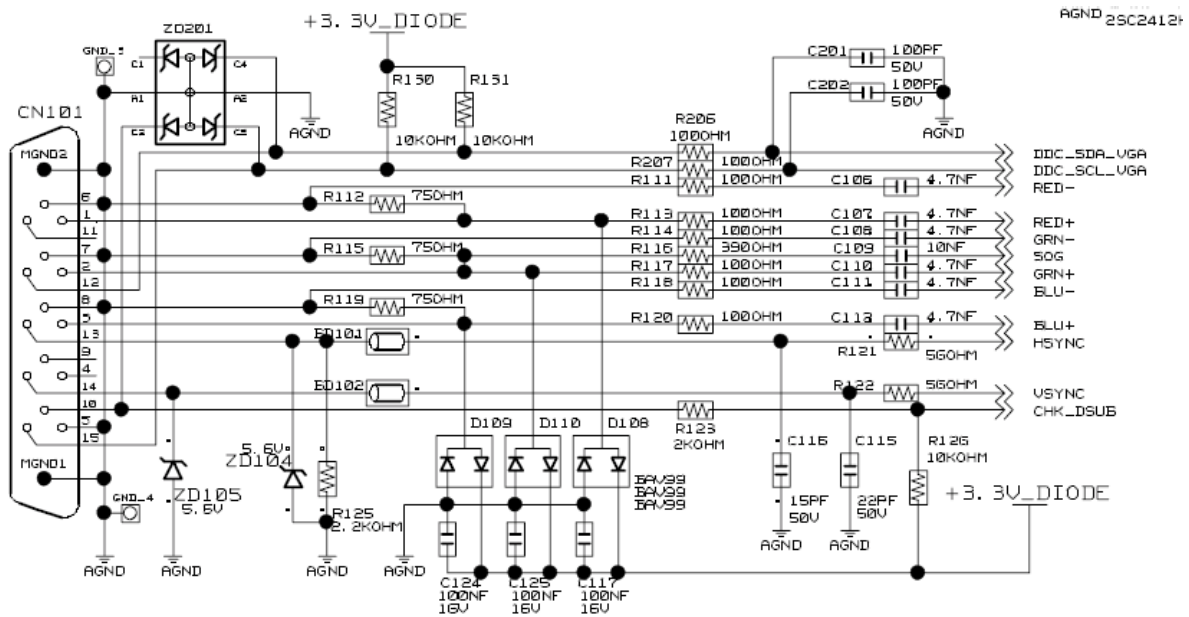
## 4-2-1. Circuit diagrams when the power does not turn on



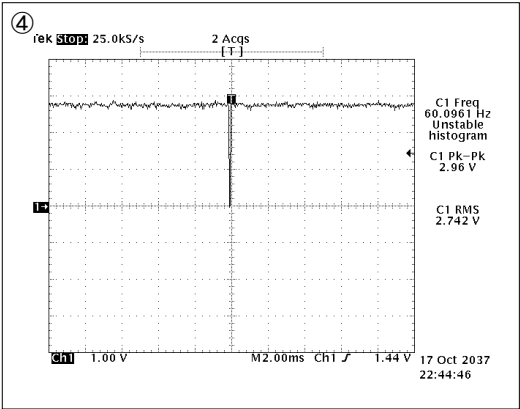
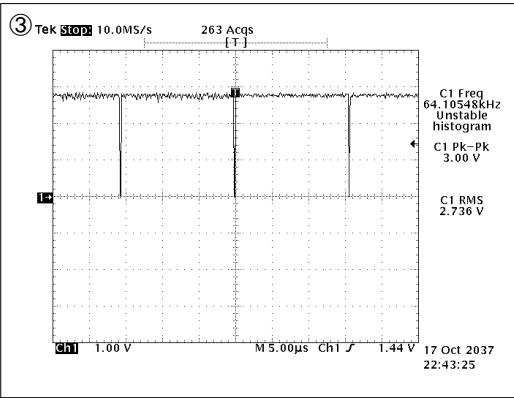
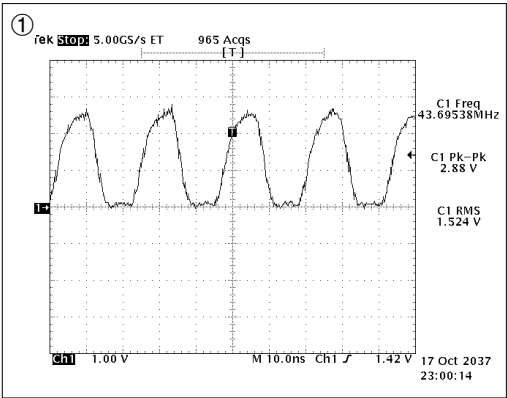
### 4-3. When the screen is blank (Analog)

Symptom	- Even though the LED power turns on, the screen is blank when connecting the VGA cable.
Major checkpoints	<ul style="list-style-type: none"> <li>- Even though the LED power turns on, the screen is blank when connecting the VGA cable.</li> <li>- Check the D-sub cable connections.</li> <li>- Check whether the LVDS cable is connected correctly to the panel.</li> <li>- Check whether the lamp connector of the panel is connected correctly to the IP board.</li> </ul>
	
Diagnostics	<pre> graph TD     A[Check the signal cables and their connections.] -- Yes --&gt; B{① Is X201 oscillating correctly?}     B -- No --&gt; C[Check and replace the circuits related to X201.]     B -- Yes --&gt; D{② Do the RGB inputs appear at R111, R114, and R118?}     D -- No --&gt; E[Check the R111, R114, and R118 input terminals.]     D -- Yes --&gt; F{Do the ③ Hsync and ④ Vsync waveforms appear at pins 32, 33 of IC200, respectively?}     F -- No --&gt; G[Check the circuits related to IC200.]     F -- Yes --&gt; H{Do output signals appear at pins 13 to 26 of CN400?}     H -- No --&gt; I[Check the circuits related to CN400.]     H -- Yes --&gt; J{Is DC 5V measured at pins 1 to 5 of the CN400?}     J -- No --&gt; K[Check the +5V_Panel signal and the BL_EN signal.]     J -- Yes --&gt; L[Check and replace the panel.]           </pre>
Caution	Make sure to disconnect the power before working on the IP board.


#### 4-3-1. When a blank screen is displayed (Analog)



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



## 4-4. Error Examples and Actions

Error Appearance	Symptoms and Actions	Remarks
	<p>Symptom: A full white screen is displayed regardless of the signals when turning on the monitor.</p> <p>Cause: This error occurs when only lamp power is supplied and the video signals are not input to the panel due to an LVDS cable connection error.</p> <p>Action: Replace the LVDS cable or connect the cable correctly so that the video signals can be supplied to the panel.</p>	<p>* A Full White pattern is a feature of a TN panel when no video signals are supplied.</p>

## 4-5. Adjustment

### 4-5-1. 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.

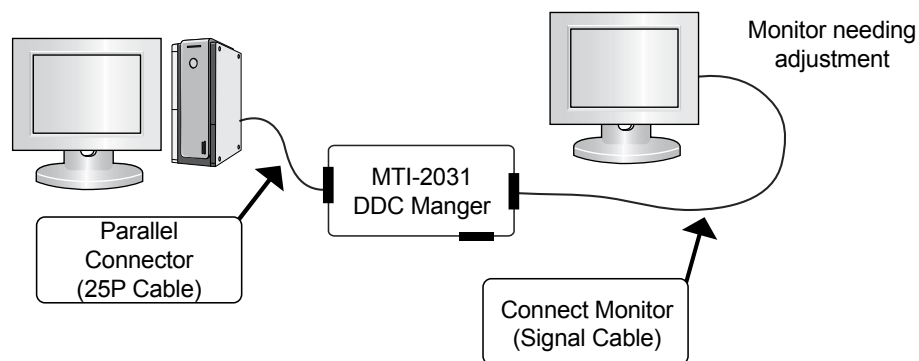
Exiting: Power OFF → Power ON

3. Basic Service Items to Perform after Replacing a Board

- 1) Check the PC color adjustment status.
- 2) Input DDC (input only ddc of Analog).
- 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 EDID 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.

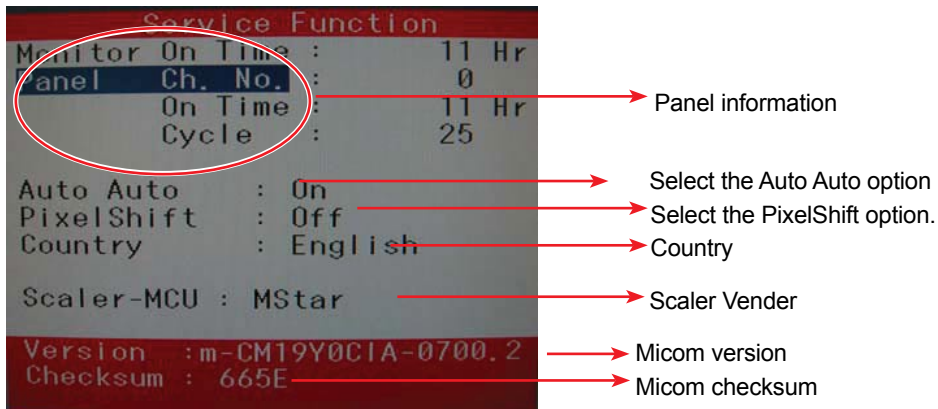




## 4-5-2. Service Function Specifications

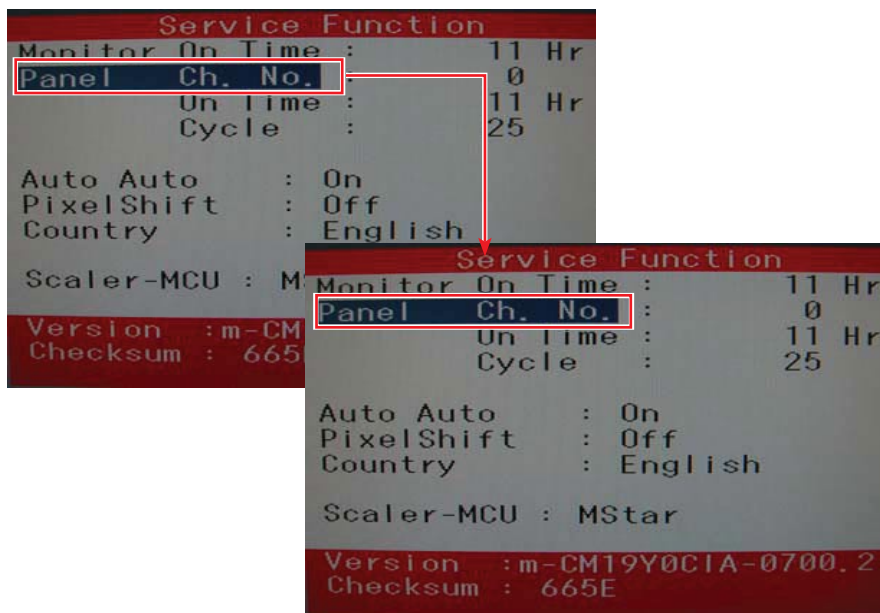
### ■ Checking the Code Version

1. Check the MCU code version and checksum after entering SVC Mode.
2. Entering SVC Mode
  - Adjust the Brightness and Contrast values to 0.
  - Hold down the Enter button for five (5) seconds.
  - The SVC Function OSD is displayed.
  - To exit the SVC Function, turn the power off.
3. Safe Mode
  - When the input signal is higher than the supported frequency of the product, safe mode gives users some time (one minute) to change the video card settings to the Recommended Mode settings.



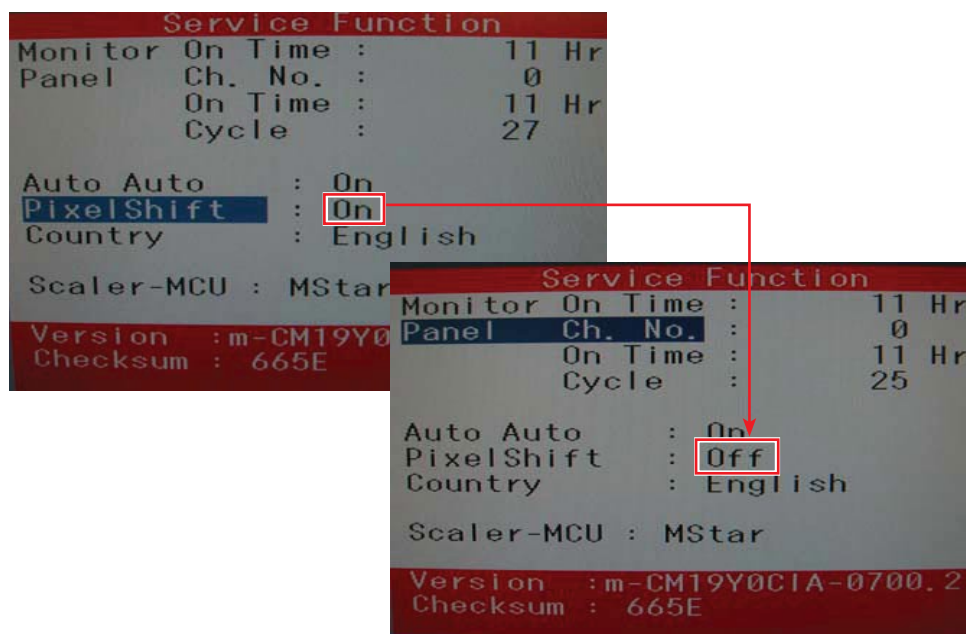
### ■ Service Mode (Moving around)

1. Press the + button to move to other items.



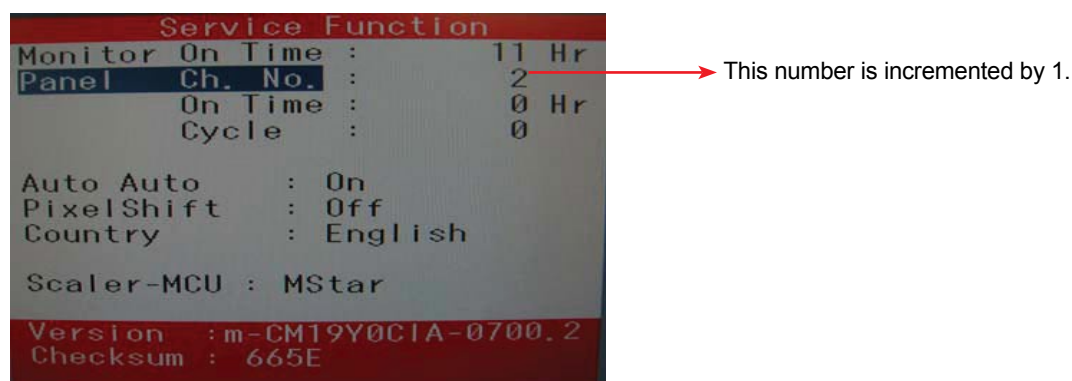
#### 4. Troubleshooting

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

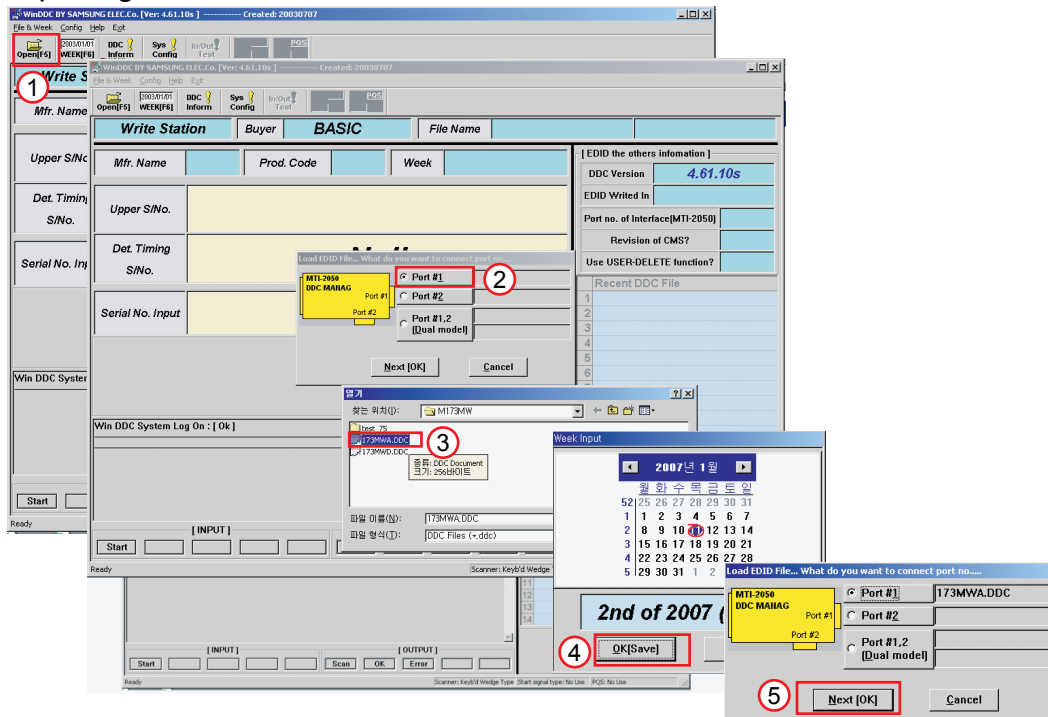


#### ■ When replacing the panel

After replacing the panel, move to the Panel item and hold down the Menu button for five (5) seconds. The Ch. No is incremented by 1 and then both the On Time and Cycle are set to 0.

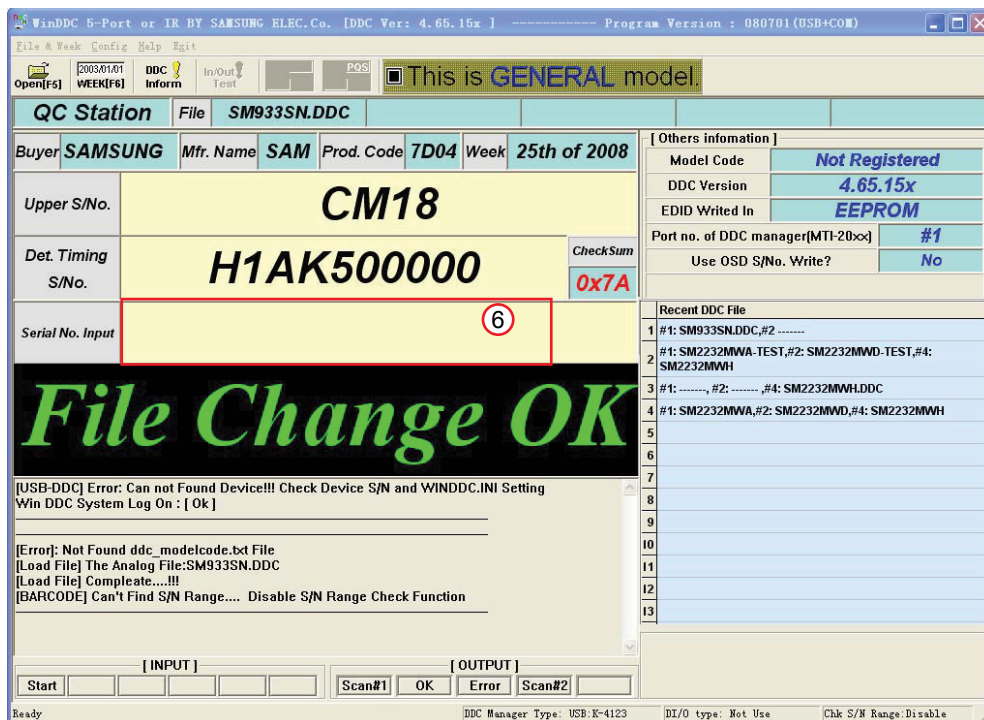


## Inputting the DDC Data



Use the DDC Manager MTI-2050 version or later.

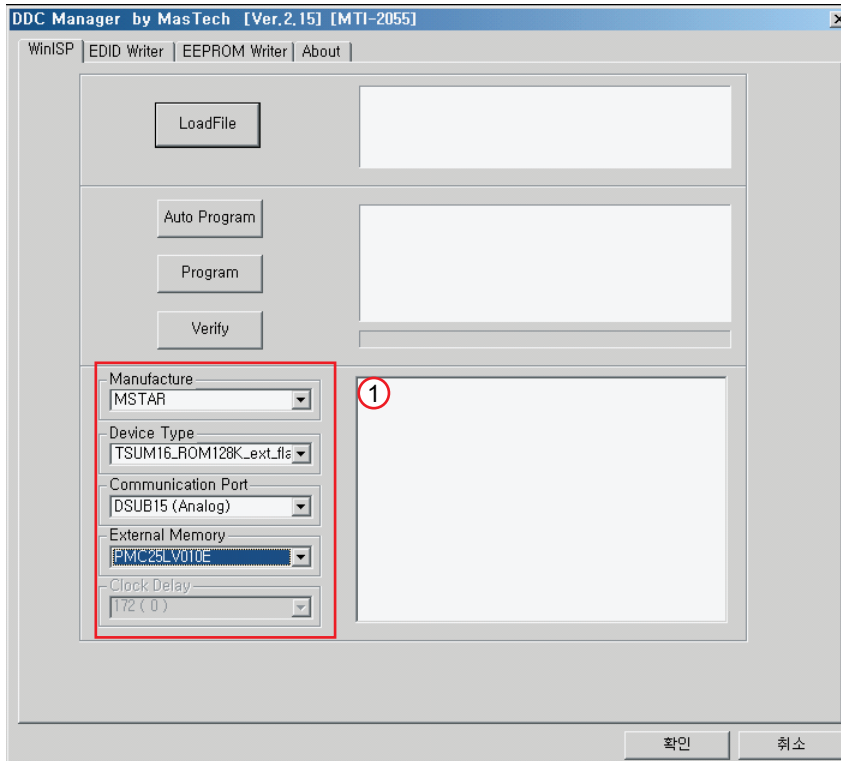
- 1) Click the Open [F5] icon.
- 2) Select a port.
- 3) Open a DDC file.
- 4) Select a date and click the OK [Save] button.
- 5) Click the Next [OK] button.



- 6) Enter the serial number and then press the Enter button

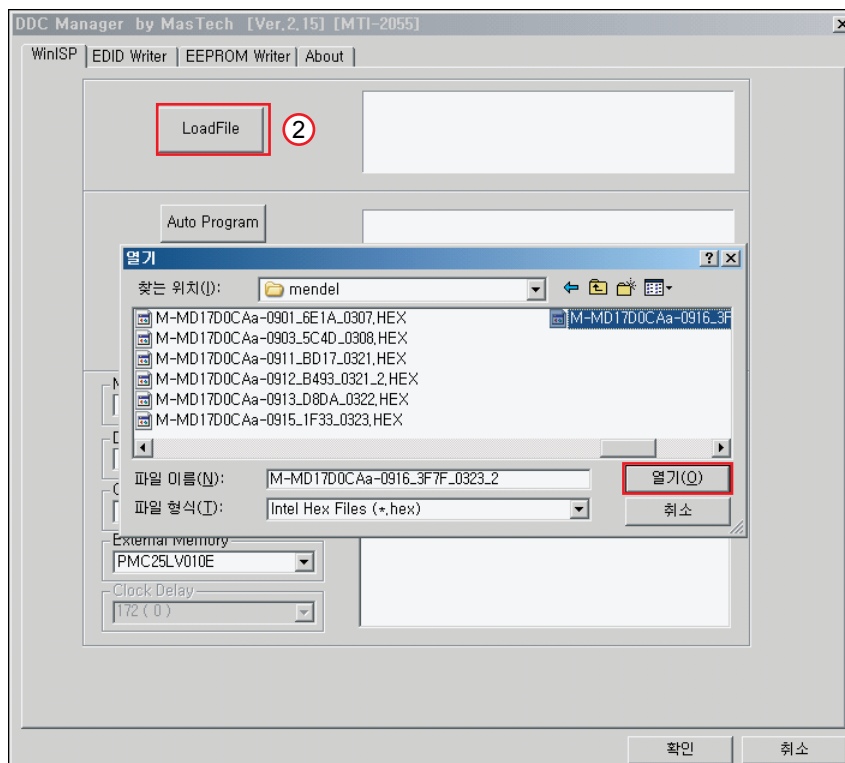
※ When inputting digital data after inputting analog data, repeat steps 2 to 5.

## ■ Inputting the MCU Data

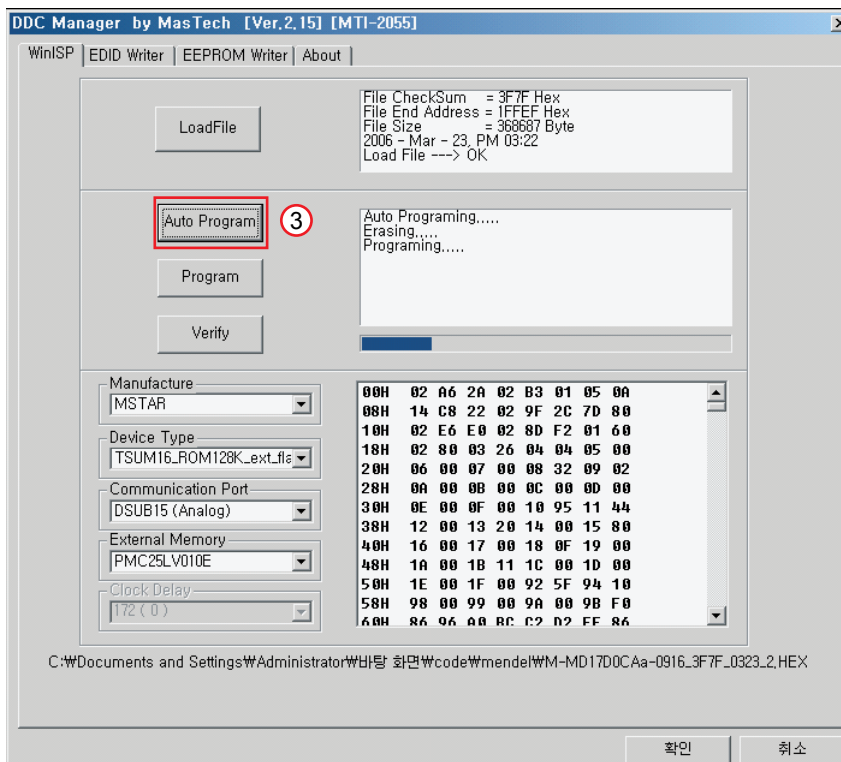


1) Check the following options.

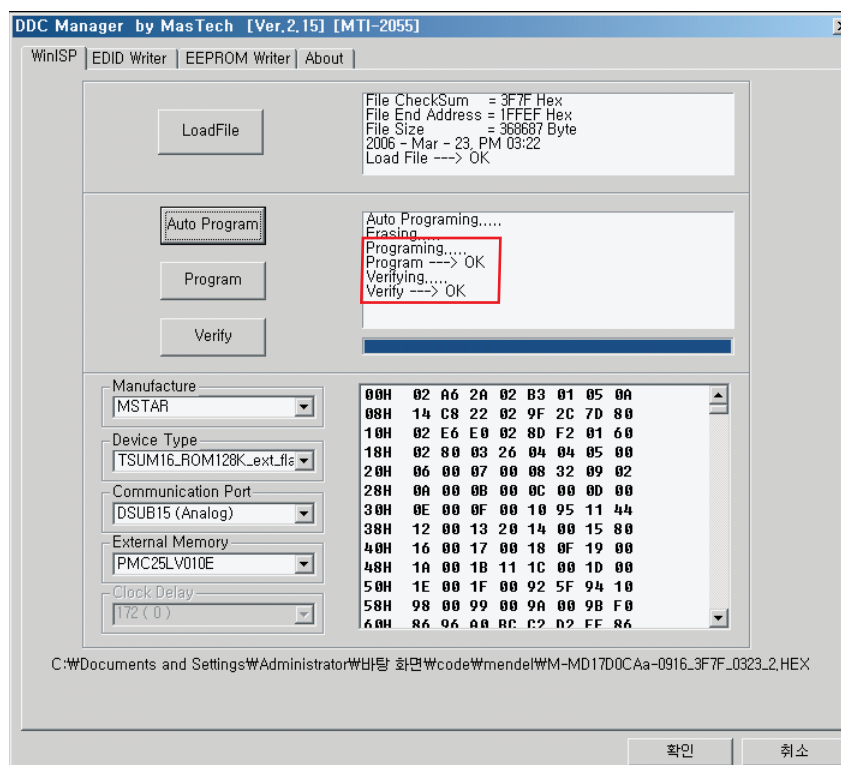
- Manufacture: MSTAR
- Device Type: TSUM16\_ROM128K\_ext\_flash
- Communication Port: DSUB15 (Analog)
- External Memory: PMC25LV010E



2) Click the LoadFile button, select an MCU code file, and then click the Open [O] button.



3) Click the Auto Program button.



4) When programming and verification are complete, hard power the monitor off and then on again.

**Memo**

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