TS20
IC Management Tool
2.00
User Guide

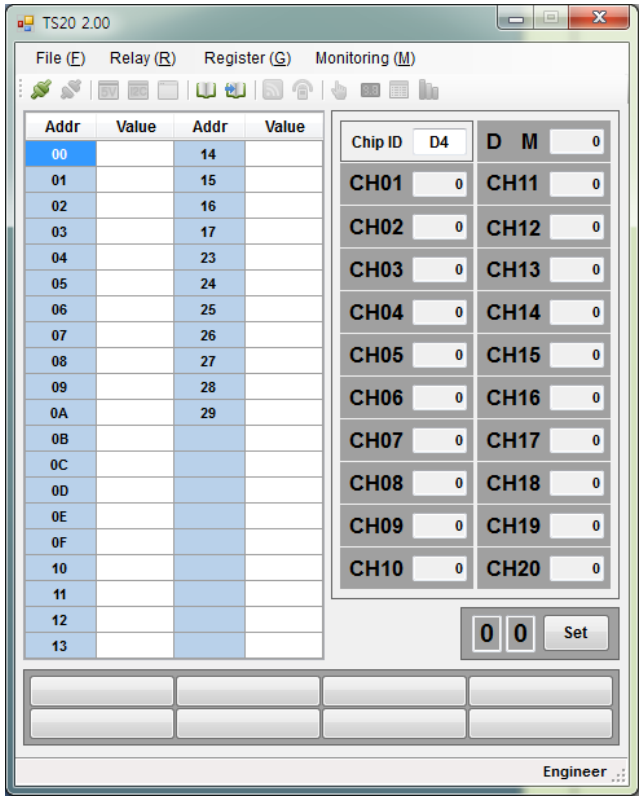
Rev.1.0

CONTENTS

1 Set up

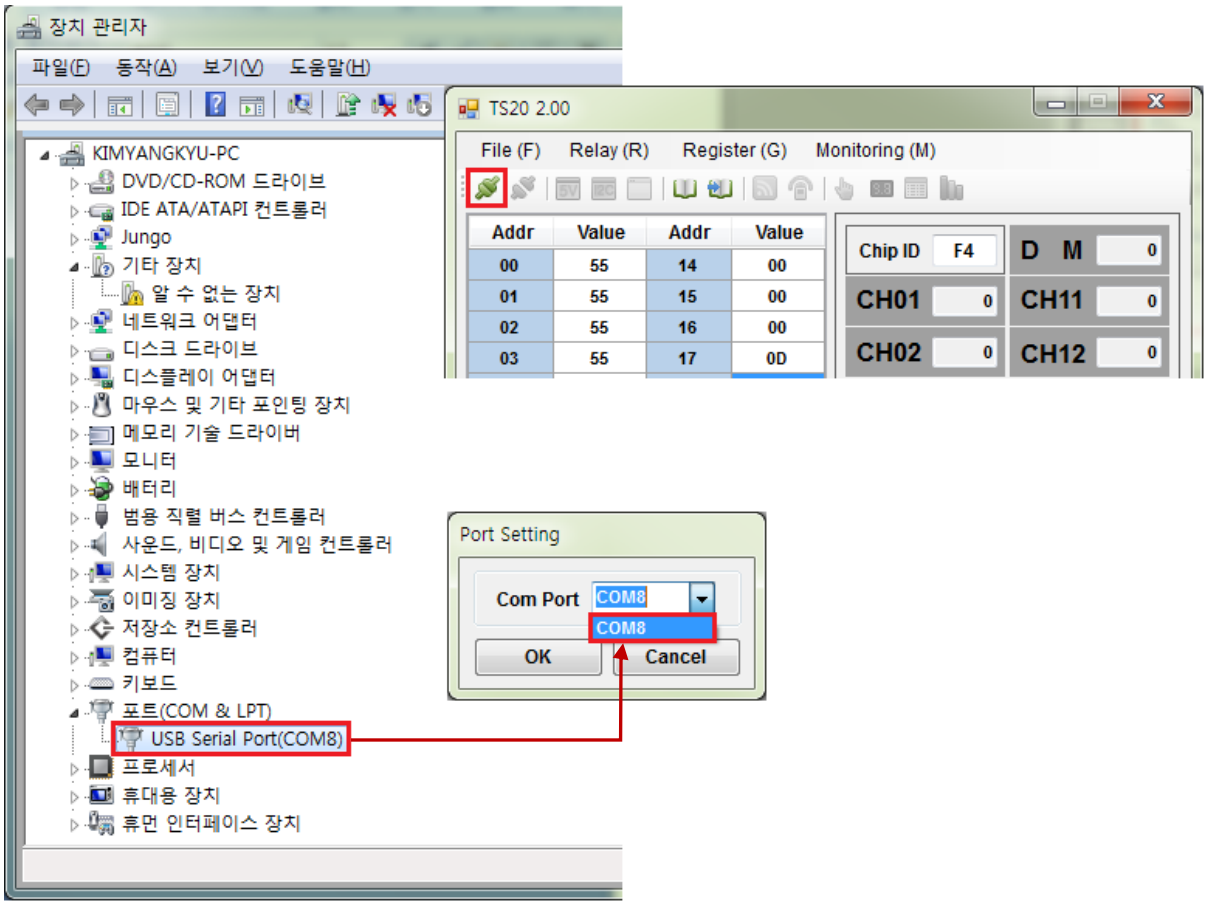
1.1 Start-up Screen

A start-up screen as shown in <Figure.1> is popped up by execution of **TS20_UI.exe** file.



<Figure.1>

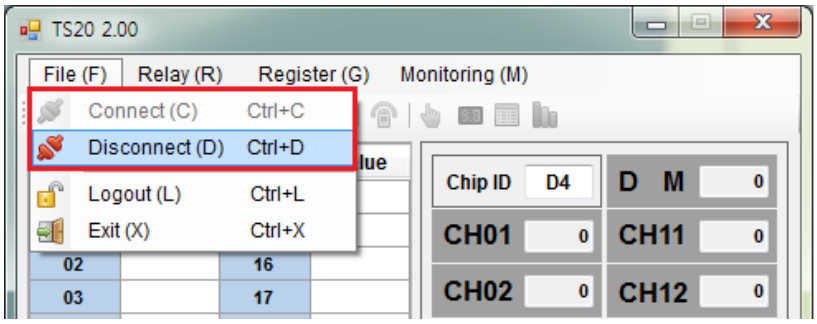
1.2 Connecting to Serial Port



<Figure.2>

- Turn on the power of JIG board after connecting to PC.
- Check the serial port number(COMx) on the Device Manager → Ports(COM&LPT) → USB Serial Port.
- Select a port number on “Port Setting” window and click “OK” button.

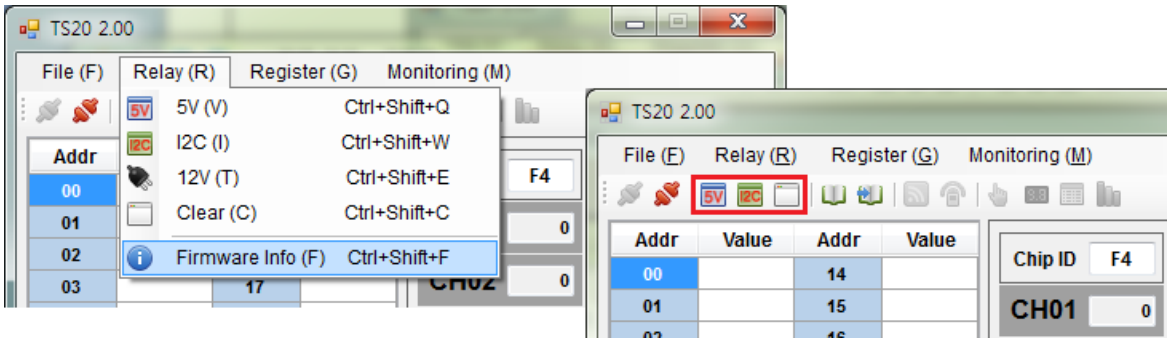
"Connect" and "Disconnect" menu can be used in order to connect and disconnect to serial port.



<Figure.3>

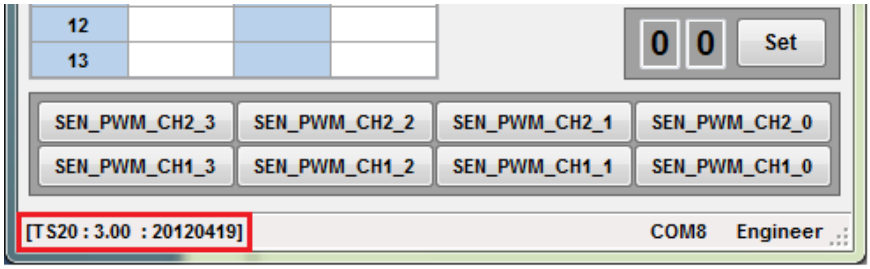
2 Basic Functions

2.1 Relay



<Figure.4>

- 5V : Supplies or cuts off 5V power.
- I2C : Enables or disables I2C communication line.
- 12V : Supplies or cuts off 12V power.
- Clear : Cuts off 5V and 12V power with disabling I2C line .
- Firmware Information : Displays firmware information of connected TS20 IC.

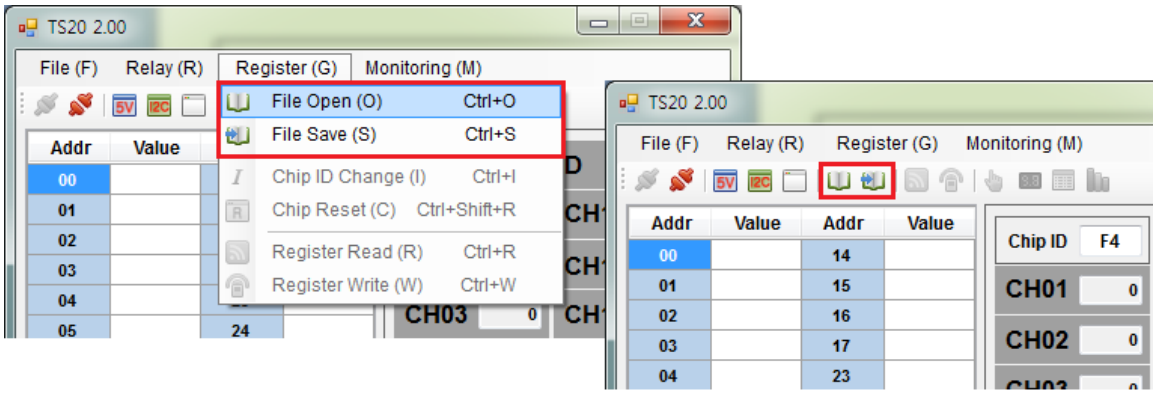


Target IC	TS20	Version	3.00	Release Date	2012. 4. 19.

<Figure.5>

2.2 Register

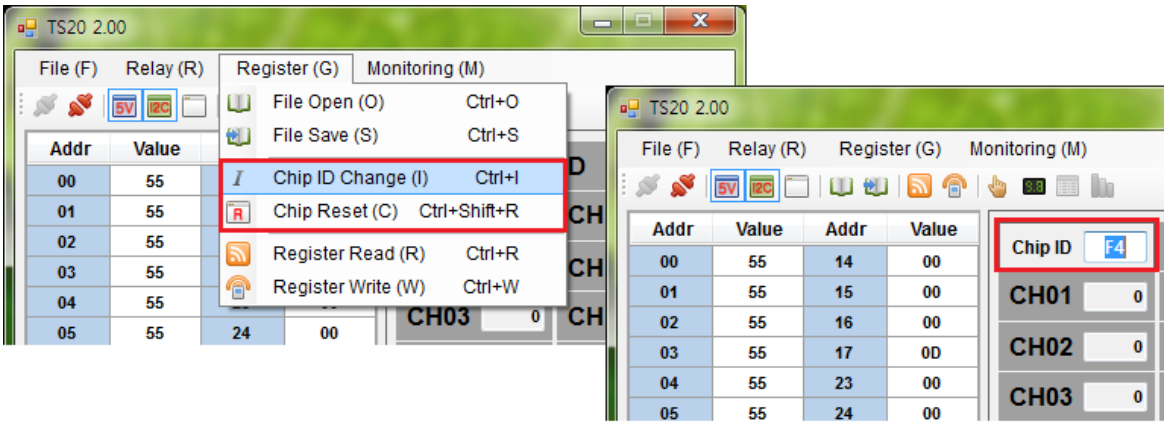
2.2.1 File Open & Save



<Figure.6>

- "File Open" menu loads register values saved in a text file and display them on current window.
- "File Save" menu saves the register values displayed on the window as a text file(.txt)

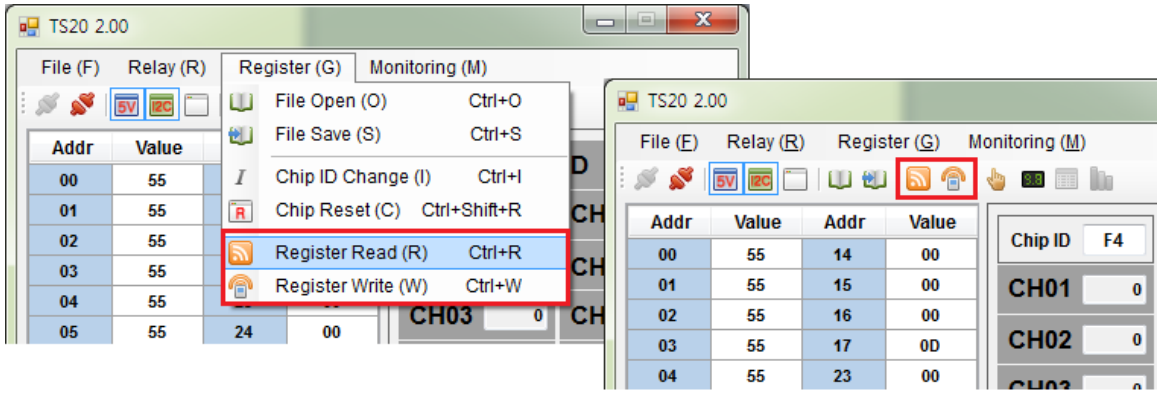
2.2.2 Chip ID Change & Chip Reset



<Figure.7>

- Chip ID can be changed by writing new ID value with enter key in “Chip ID” textbox or “Relay” → “Chip ID Change” on the menu bar.
- TS20 IC reset is available by using “Relay” → “Chip Reset” on the menu bar.

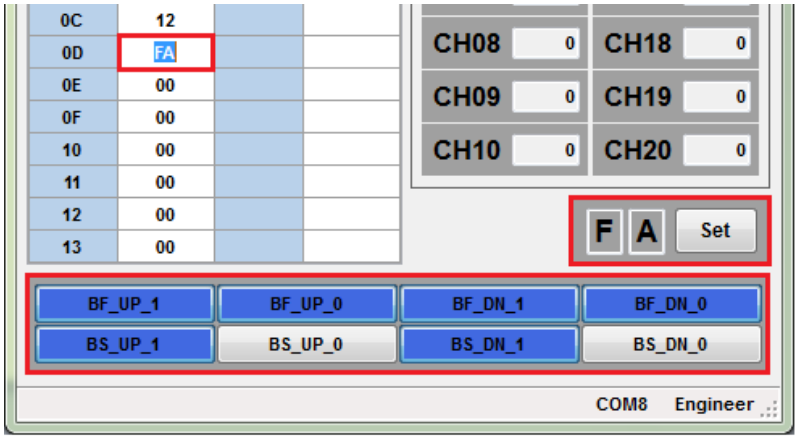
2.2.3 Register Read & Write



<Figure.8>

- “Register Read” menu displays register data read from connected TS20 IC through I2C communication on the window.
- “Register Write” menu writes register data displayed on the window to registers of connected TS20 IC.

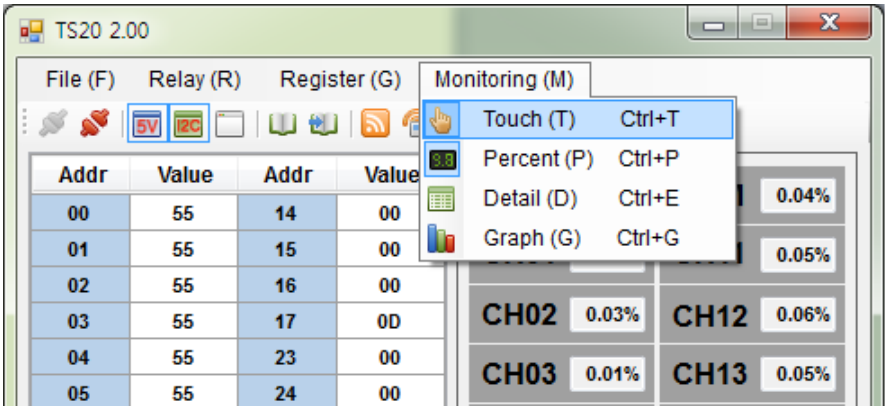
  ※ 5V and I2C relays must be turned on before execution of “Register Read & Write”.
- Data values can be changed by following three methods. Please refer to <Figure.9>.
  - Double-click an address or a value to be changed and enter new value.
  - Click “Set” button after entering data value you want in register data display/input area adjoining the “Set” button.
  - Make a value you want using buttons(located lower part of the window) that are displaying bit name and click “Set” button.



<Figure.9>

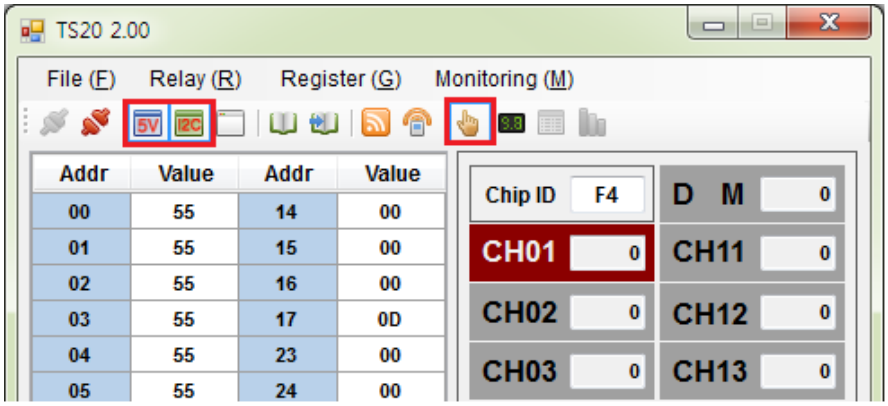
3 Monitoring

Touch, Percent, Detail and Graph information can be displayed using “Monitoring” menu.



<Figure.10>

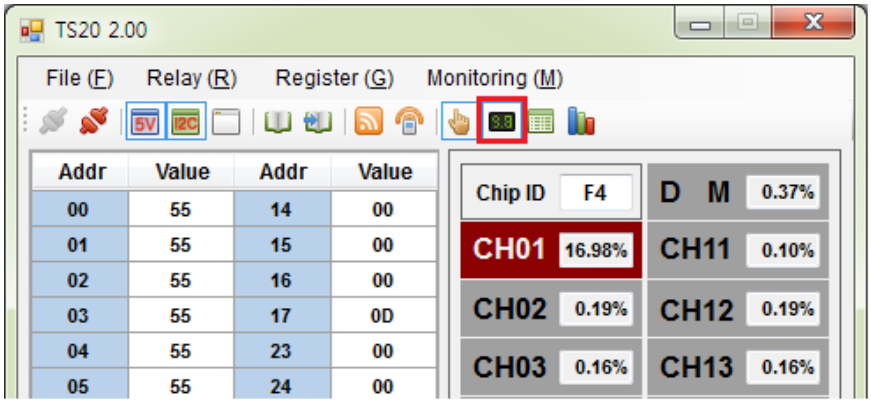
3.1 Touch Operation



<Figure.11>

I2C communication is enabled when finger-shaped "Touch" button is clicked after turning on 5V and I2C relays. After clicking finger-shaped "Touch" button, touched channel can be found out as the color of the channel is changed to dark red as shown in <Figure.12>.

3.2 Touch & Percent



<Figure.12>

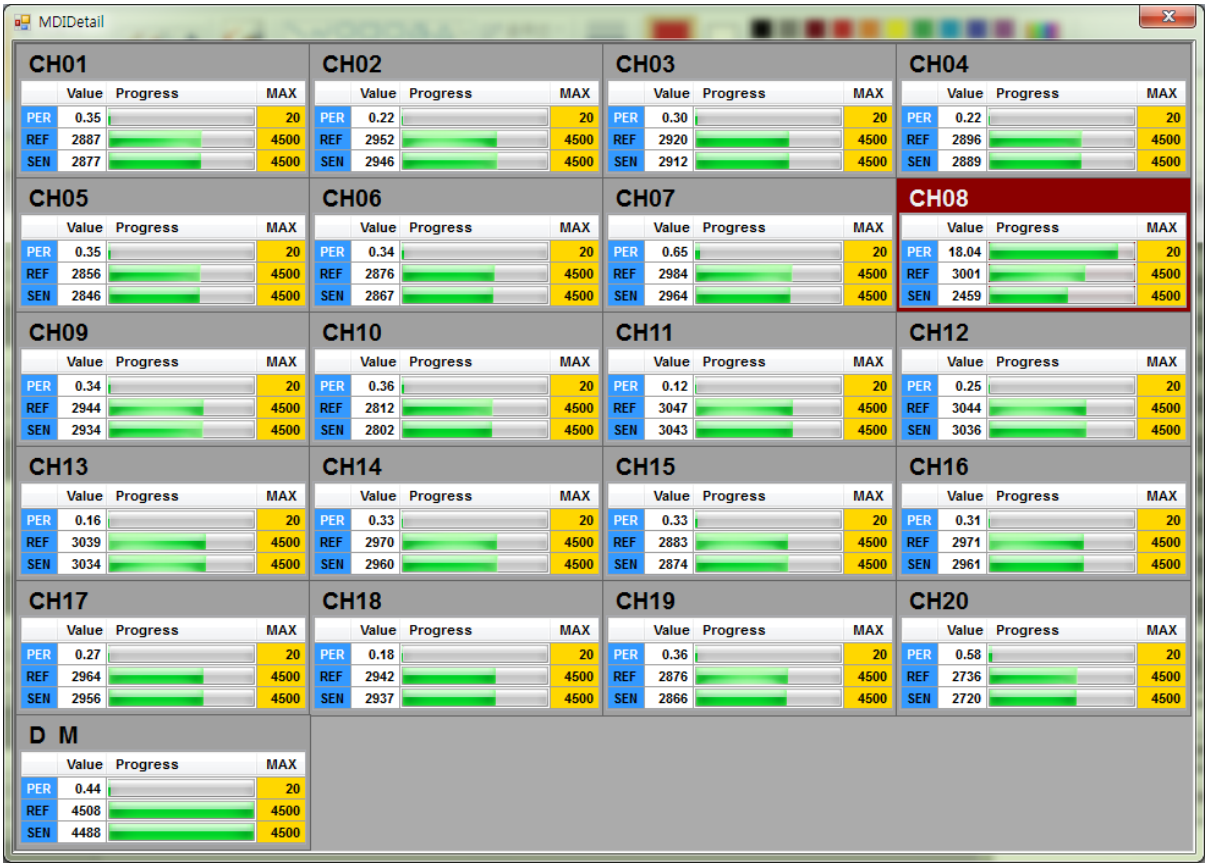
After clicking "Percent" button, touch percent of each channel is displayed with a status of touch.

3.3 Details and Graph

If both relays are turned on and "Touch" and "Percent" monitoring functions are enabled, "Detail" and "Graph" functions are enabled.

<Figure.13>

3.3.1 Details

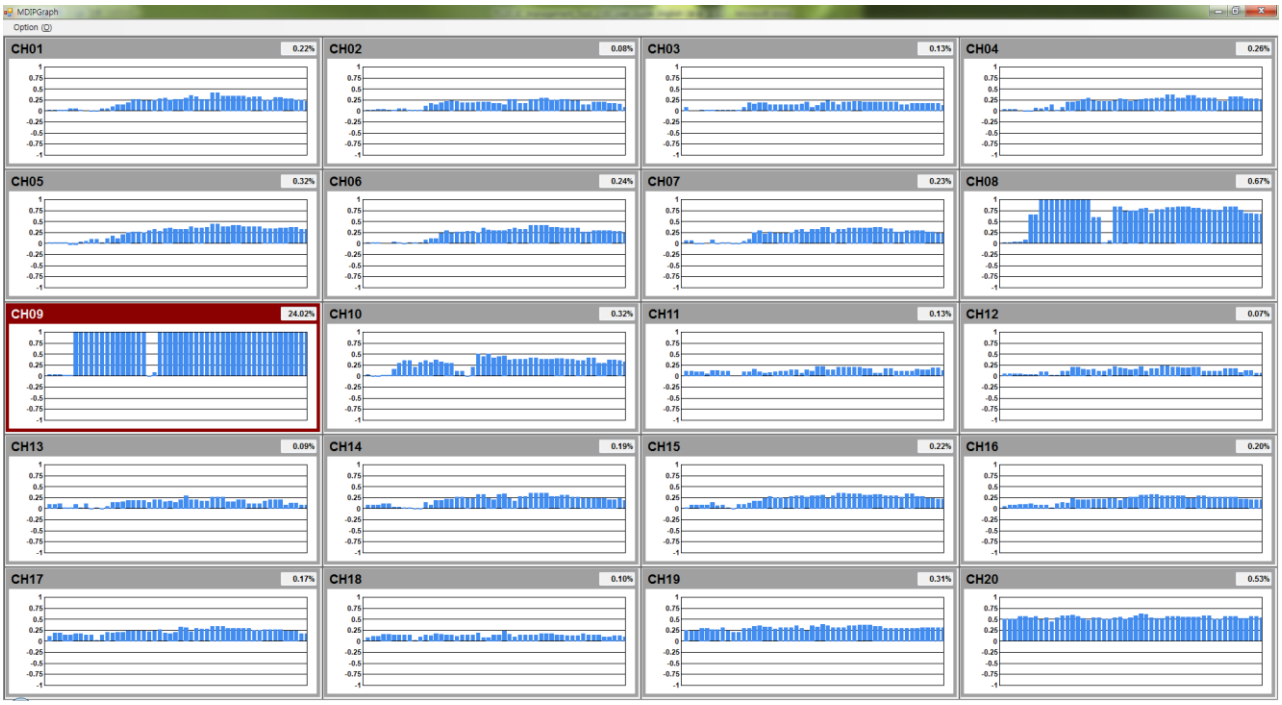


<Figure.14>

Using “Detail” menu, we can check touch percent, reference count and sensing count information. If there is a touch at one of those channels, color of the channel is changed to dark red.

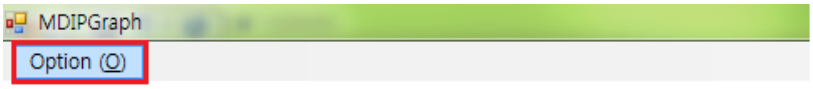
3.3.2 Graph

Windows as below are shown when “Graph” button is clicked.

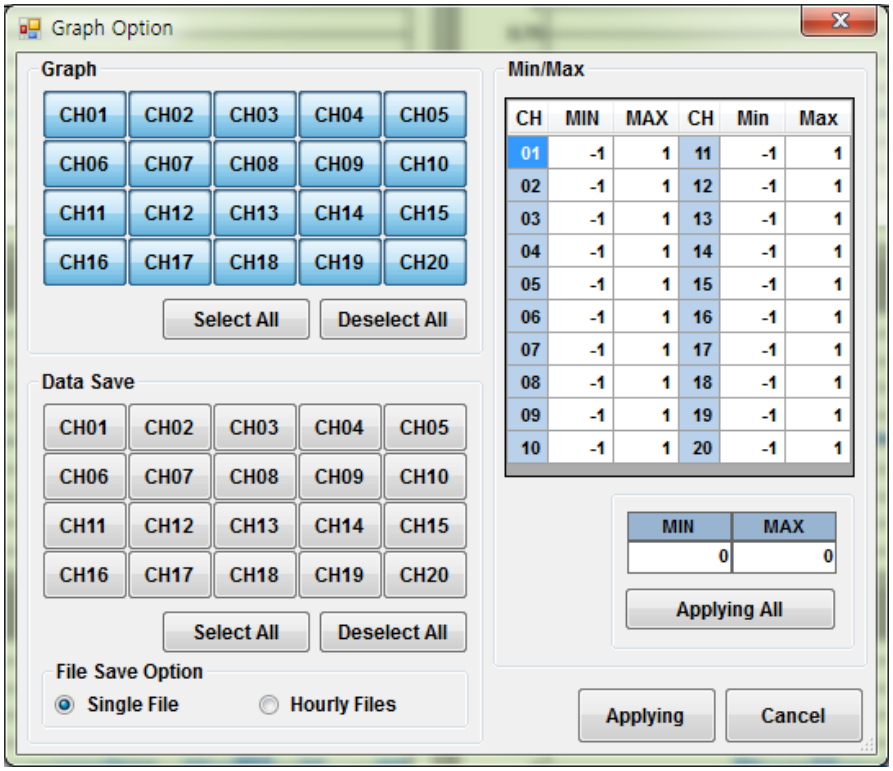


<Figure.15>

Graph Options



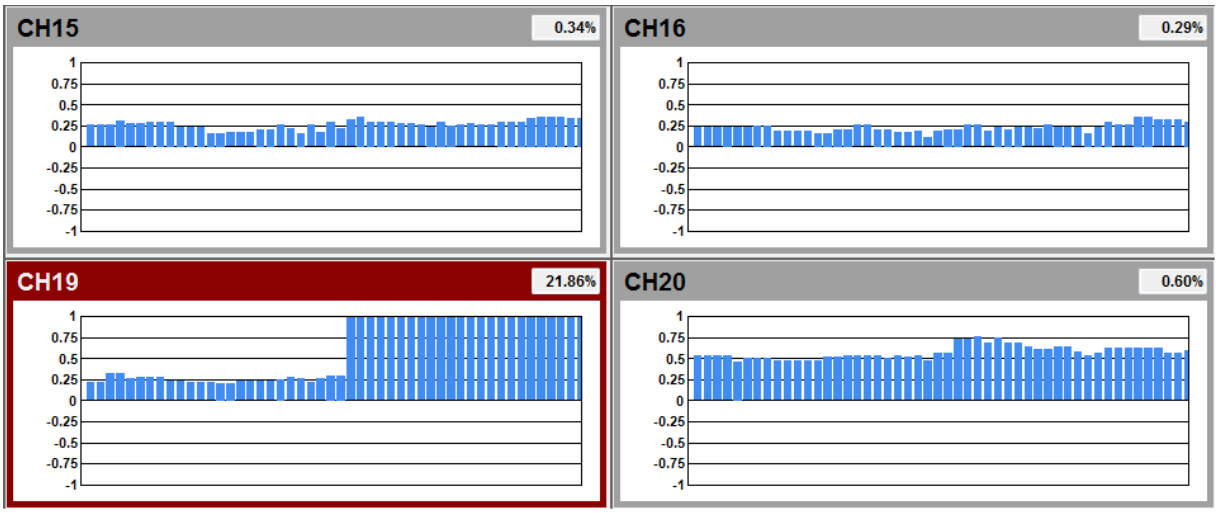
"Option" window used for setting graph is popped-up when "Option" menu in "MDIGraph" window is clicked.



<Figure.16>

- **Graph**: Selects or deselects channels you want to check or all channels.
- **Data Save**: Selects or deselects channels you want to save or all channels.
- **File Save Option**: Selects single file or hourly files saving option.
- **Min / Max**: Changes minimum or/and maximum range of graph.

Change of Graph

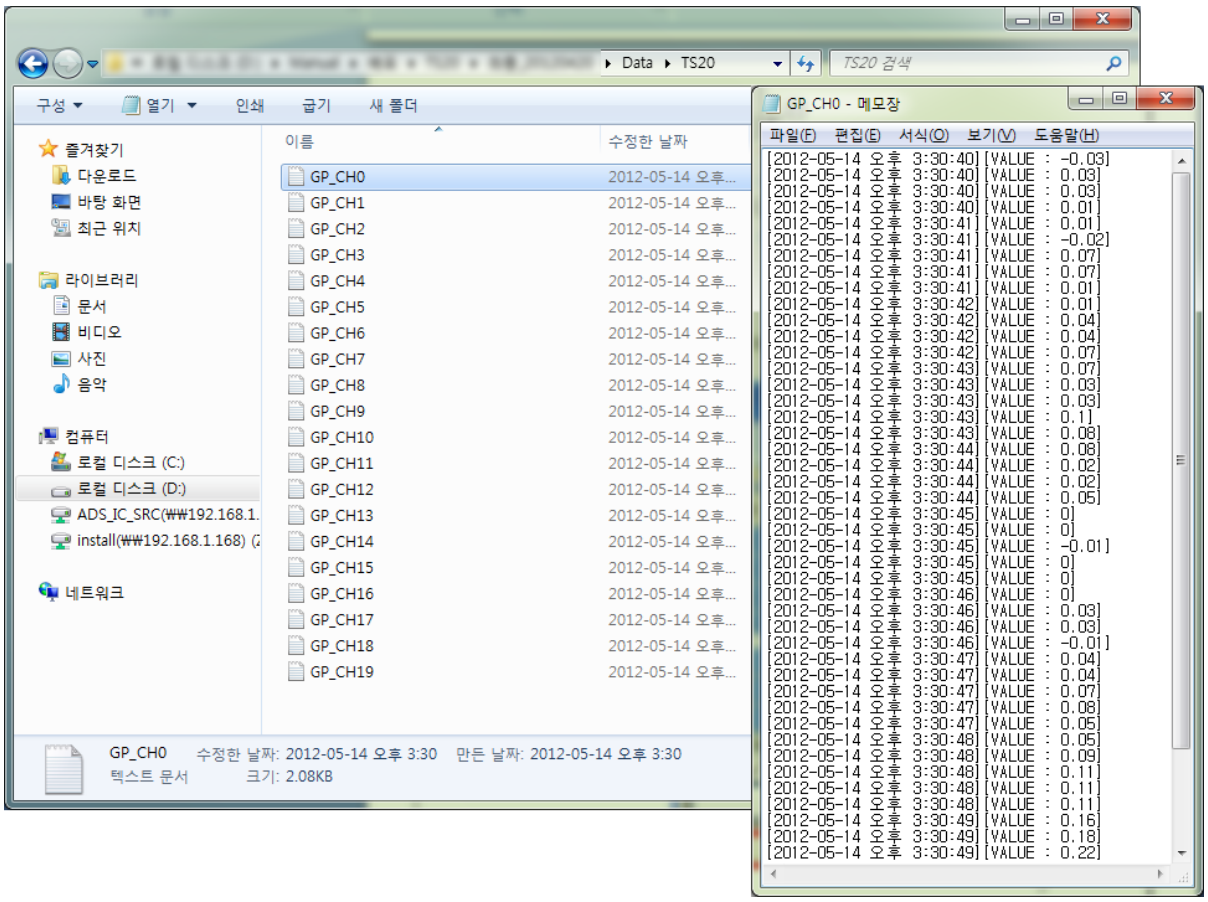


<Figure.17>

- Count value of each channel is shown in real time.
- X-axis indicates time in second and Y-axis indicates count value.
- If there is a touch at one of those channels, color of the channel is changed to dark red.

Saving Data

Using “Data Save” menu in “Graph Option” window, rate of change can be saved as a text file in “Data” directory under execution file directory shown in <Figure.18>.



<Figure.18>