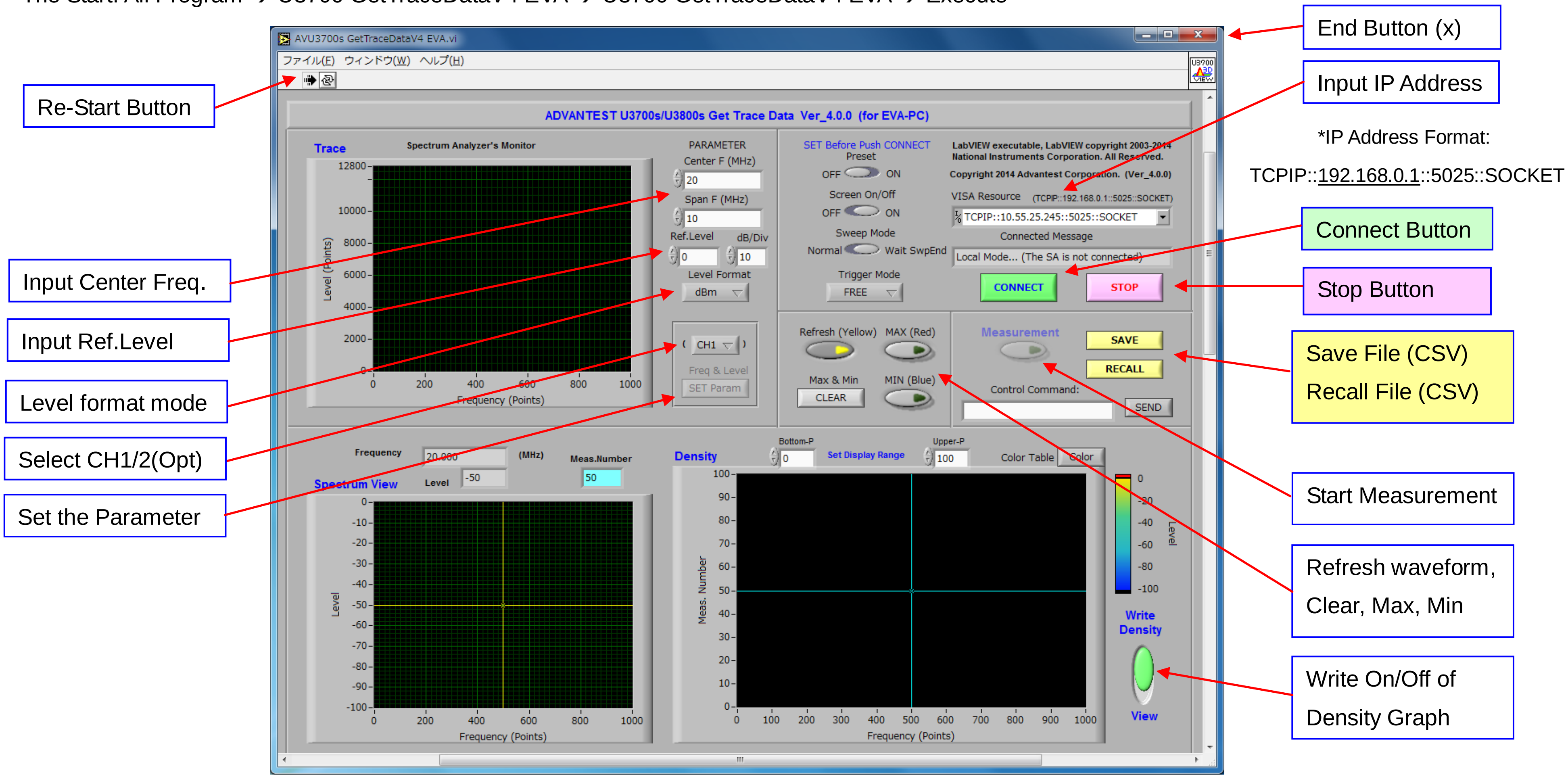
## U3700/U3800 Spectrum Analyzer (SA) GetTraceDataV4 Manual

Ver.4.0: Dec/07/2014

ADVANTEST

1. The installation: Execute the setup.exe in directory Installer. (Operating conditions: Windows VISTA/7 and Microsoft network, etc.)
2. Driver: NI_VISA made by the National Instruments is necessary. When the PC has not the driver,

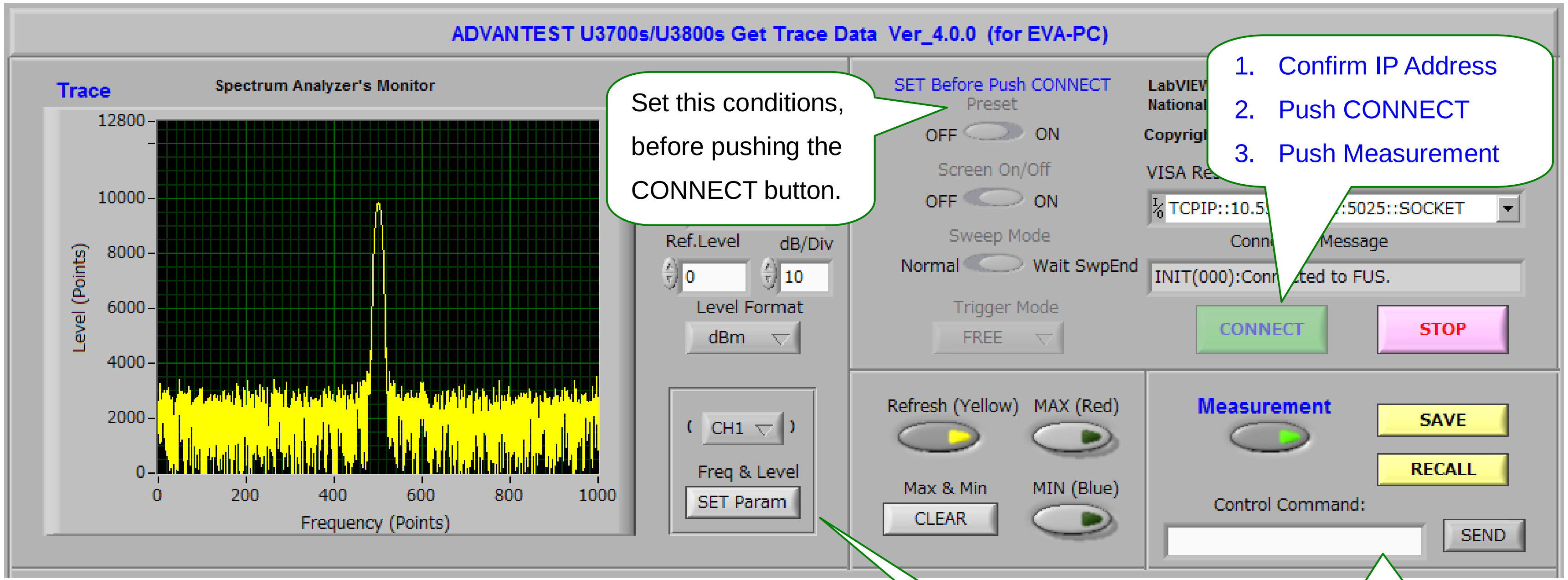
   Please install the driver from the home page of NI or an attached driver. (There are for XP/2000 or VISTA/7)
3. The Start: All Program → U3700 GetTraceDataV4 EVA → U3700 GetTraceDataV4 EVA → Execute




4. Confirm the IP address of SA, and input it to the IP address column of the menu. And push the CONNECT button. (when connect SA only)

5. The Stop and the Re-start: It stops with the END button. Re-start: Push an upper right “=>” button and push the CONNECT button.

6. There is an explanation in figure of this manual. And when HELP is turned on with software, and the mouse is applied, the explanation is displayed.




(1) Four following items are set at the same time as CONNECT. After CONNECT, it is not possible to set it. The Control Command function is used when there is necessary.

*Preset: Spectrum Analyzer’s instrument preset ON/OFF

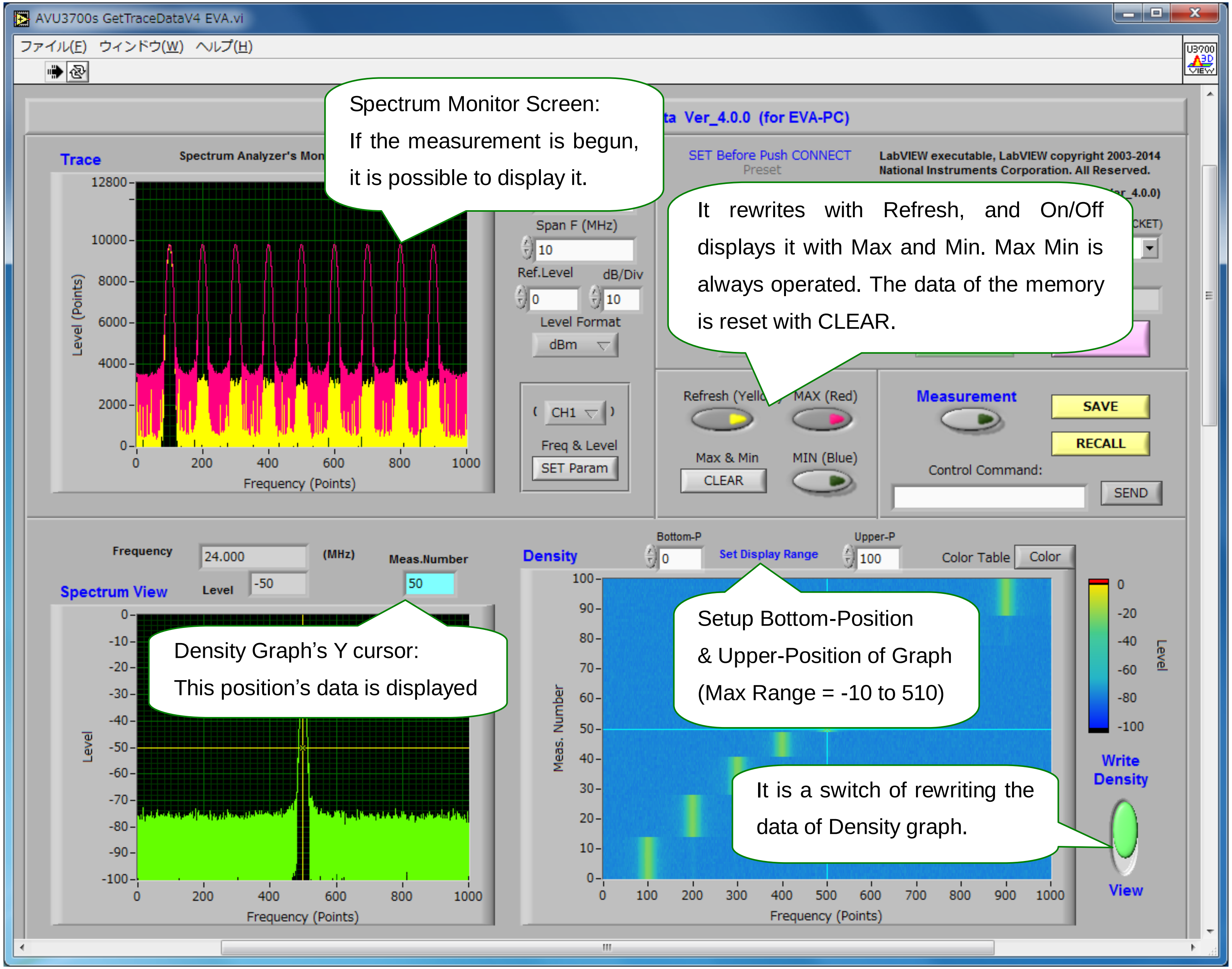
*Screen On/Off: Spectrum Analyzer’s screen display ON/OFF

*Sweep Mode: Get Trace mode: Normal= Get trace with interval 50ms/ Wait SwpEnd = Get Trace after Sweep End

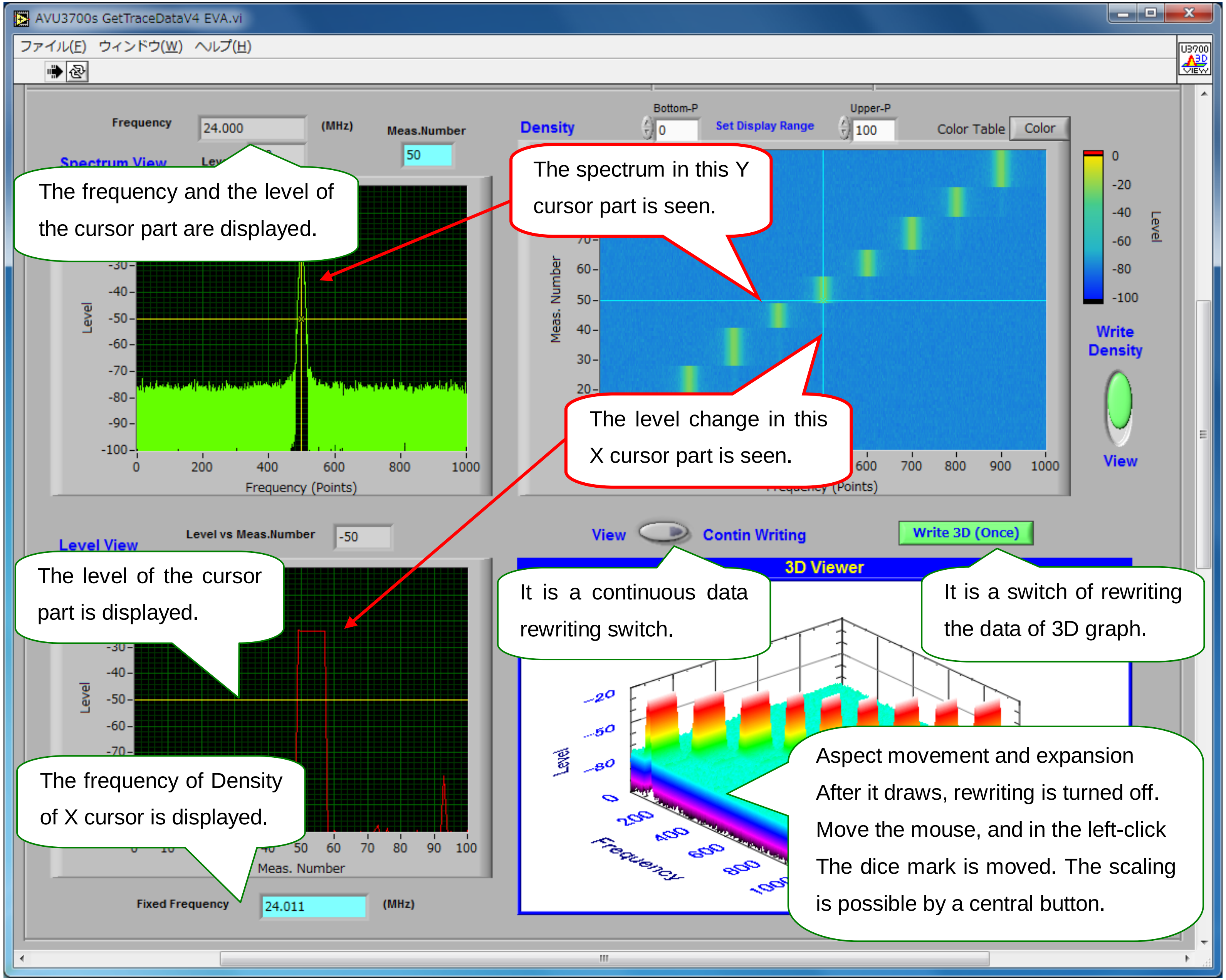
*Trigger Mode: Sweep trigger mode

(2) Level Format: Set dBm, dBuV, Points mode: If case the dBm and dBuV, Units/ Ref.Level/ dB/Div are set to Spectrum Analyzer. If case the Points, Units/ Ref.Level/ dB/Div are not set to Spectrum Analyzer.

(3) The example of the measurement screen is shown on the following page. When the graph is not seen, it displays it by the scroll.



AVU3700s GetTraceDataV4 EVA.vi
ファイル(F) ウィンドウ(W) ヘルプ(H)
Spectrum Monitor Screen:
If the measurement is begun, it is possible to display it.
It rewrites with Refresh, and On/Off displays it with Max and Min. Max Min is always operated. The data of the memory is reset with CLEAR.
Density Graph's Y cursor:
This position's data is displayed
Setup Bottom-Position & Upper-Position of Graph (Max Range = -10 to 510)
It is a switch of rewriting the data of Density graph.
Trace
Spectrum View
Density
Measurement
SAVE
RECALL
CLEAR
SEND
Write Density
View
Frequency (Points)



AVU3700s GetTraceDataV4 EVA.vi
ファイル(F) ウィンドウ(W) ヘルプ(H)
Frequency
24.000
(MHz)
Meas.Number
50
Spectrum View
The frequency and the level of the cursor part are displayed.
Density
Bottom-P
0
Set Display Range
Upper-P
100
Color Table
Color
The spectrum in this Y cursor part is seen.
The level change in this X cursor part is seen.
Level
Write Density
View
Frequency (Points)
Meas. Number
Level View
Level vs Meas.Number
-50
The level of the cursor part is displayed.
View
Contin Writing
Write 3D (Once)
3D Viewer
It is a continuous data rewriting switch.
It is a switch of rewriting the data of 3D graph.
The frequency of Density of X cursor is displayed.
Aspect movement and expansion
After it draws, rewriting is turned off.
Move the mouse, and in the left-click
The dice mark is moved. The scaling
is possible by a central button.
Frequency
Fixed Frequency
24.011
(MHz)

## ７． Explanation of graphs

■ Trace: The waveform data of trace A of SA is displayed. (Monitor of connected SA)
The Start-Stop of rewriting can be done by the Refresh key. (The operation of Max and Min is Start-Stop, too)
Max and Min data of the waveform can be displayed. (Operate it though it is not displayed)
The clearness of Max and Min operation data pushes a clear button when it is necessary.

■ Spectrum View: The spectrum in Y cursor part in the Density graph is displayed.
The spectrum that changes by moving Y cursor at time can be observed.

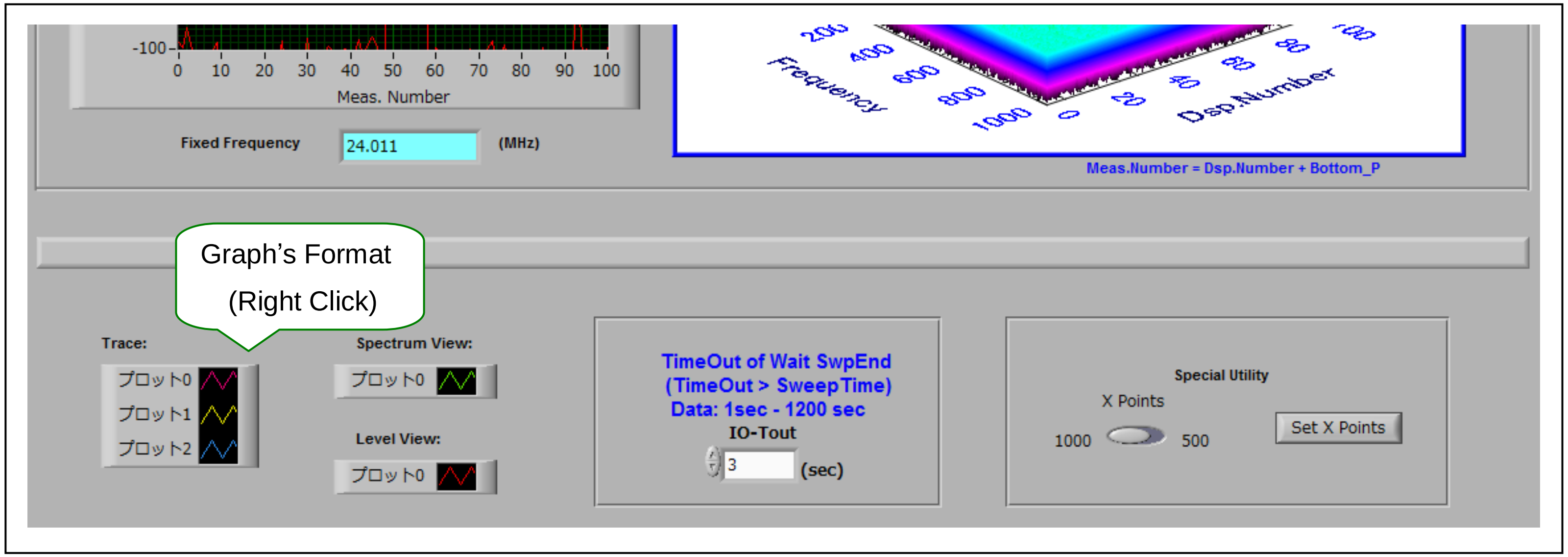
■ Level View: The level change in X cursor part in the Density graph is displayed.
The level that changes by moving X cursor at time can be observed.

■ Density: The signal intensity of the spectrum is displayed by the color. The time-varying is displayed by the Y axis.
In this graph, there are X cursor and Y cursor, and the data of the part there is displayed in another graph.
Y cursor is Spectrum View. The spectrum at the time that is can be observed.
X cursor is Level View. The level change in the frequency that is can be observed with the time base.
Each cursor can be moved with the mouse.
As for the data of this graph, rewriting is begun with Write Density switch ON.
As for the data of this graph, the save and the recall can be done.
*) Max Data Memory: 501 steps; (Old Version: 145 steps)

■3D Graph: Waveform data can be observed by 3D Graph. It somewhat takes time for the operation.
Please do rewriting the shape of waves that wants to be observed only once with the Write 3D key.
A continuous rewriting turns on the Contin[uous] Writing key.
Moreover, the aspect angle and the size are changeable because of the mouse.

8． Menu of change of number of points of frequency axle

The number of points of frequency axles (graph x axis) is 1001 basically points. However, there is a menu that can convert the display into 501 points.
Caution: Please use SA by 1001 points. Only the display becomes 501 points.  (Example: Use it when CSV files are 501 points)
It moves by the scroll bar like seeing the lower side in 3D graph.
1000 or 500 is selected with X Points. Afterwards, the Set X Points key is pushed. (Do not operate only by setting X Points)




9． About Save/ Recall

The measurement data in all graphs can be preserved by the Save function. Moreover, all graphs are displayed from data that does the recall in the Recall function. (If the recall is done, Measurement, Refresh and Write Density are turned off)
Because the file format is CSV, a recallable file can be made by suiting to the file format shown on the following page and making the file.
Therefore, the waveform data acquired with other software and devices can be observed in 3D graph. Moreover, when the recall is done, the Line-1 comment line of the file is displayed in the Connected Message column. (It is possible to use it to confirm the file)

# Format of CSV File

**COLUMN:** A B C D — Column SH, SI, SJ = Spectrum Analyzer's Monitor Graph

**Trace(1), Trace(2), Trace(3), Trace(n),** → **Trace(501), Max, Write, Min**

**LINE:**

1. **Comment:**
2. **Comment:**
3. **Center Frequency**
4. **Span Frequency**
5. **Ref. Level**
6. **dB/ Division**
7. **Comment:**
8. **Level Format Data**
9. **Comment:**
10. **Data (1), Trace(1)**
11. **Data (2), Trace(1)**
12. **Data (3), Trace(1)**

n. **Data (n), Trace(1)**

1010. **Data (1001), Trace(1)**

| | A | B | C | D | E | F | SE | SF | SG | SH | SI | SJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ADVANTEST Trace Viewer: 20131112113128 | | | | | | | | | | | |
| 2 | ***** Data: CF: SP: Ref: dB/Div ***** | | | | | | | | | | | |
| 3 | 17 | | | | | | | | | | | |
| 4 | 10 | | | | | | | | | | | |
| 5 | 0 | | | | | | | | | | | |
| 6 | 10 | | | | | | | | | | | |
| 7 | ***** Level Format: dBm=0 : dBuV=1 : Points=2 ***** | | | | | | | | | | | |
| 8 | 0 | | | | | | | | | | | |
| 9 | ***** Data: Line (N Points) 0-1000: Column (N Times) 0-144 *** | | | | | | | | | | | |
| 10 | -79.0469 | -80.6563 | -81.7422 | -82.9688 | -79.3516 | -82.9375 | -74.375 | -75.1328 | -76.2813 | 3536 | 2387 | 1585 |
| 11 | -100.375 | -99.4844 | -101.328 | -99.8359 | -95.1719 | -98.0859 | -101.039 | -100.414 | -103.43 | 3544 | 281 | -1280 |
| 12 | -77.9688 | -81.1719 | -80.4844 | -79.7656 | -81.5469 | -79.0234 | -76.1641 | -77.5703 | -74.6719 | 3511 | 2667 | 1763 |
| 13 | -83.9844 | -98.4922 | -100.117 | -98.2188 | -98.3672 | -101.086 | -101.227 | -104.883 | -104.688 | 3267 | 1666 | -1280 |
| 14 | -83.4219 | -81.1797 | -80.875 | -80.5078 | -81.0625 | -84.4844 | -75.8594 | -76.9766 | -76.6719 | 3446 | 2824 | 1476 |
| 15 | -93.5469 | -96.6094 | -102.344 | -99.8516 | -97.8672 | -100.039 | -103.969 | -103.719 | -106.477 | 3462 | 287 | -1280 |
| 1002 | -80.6094 | -81.25 | -82.0781 | -80.6094 | -81.8984 | -78.3125 | -75.1016 | -77.5313 | -75.8281 | 3545 | 2294 | 1605 |
| 1003 | -97.5156 | -96.3984 | -97.0078 | -98.9844 | -99.8125 | -101.586 | -99.9922 | -104.883 | -102.172 | 3357 | 1135 | -1280 |
| 1004 | -81.9453 | -79.6797 | -79.125 | -81.0078 | -80.8516 | -80.875 | -76.5625 | -75.8984 | -75.2031 | 3511 | 2534 | 1680 |
| 1005 | -108.961 | -99.2422 | -101.313 | -101.141 | -97.6875 | -101.508 | -110 | -108.703 | -105.516 | 3496 | 943 | -1280 |
| 1006 | -79.75 | -80.375 | -80.2422 | -79.2344 | -79.7656 | -81.5703 | -76.9141 | -76.7891 | -77.3203 | 3537 | 2442 | 1514 |
| 1007 | -99.3594 | -101.117 | -99.8281 | -103.43 | -100.016 | -98.2031 | -103.742 | -97.8125 | -95.8594 | 3325 | 1030 | -1280 |
| 1008 | -78.9375 | -79.125 | -81.5469 | -79.1484 | -80.0625 | -80.7734 | -75.6172 | -77.5313 | -73.7578 | 3582 | 2401 | 1383 |
| 1009 | -104.031 | -107.281 | -97.5313 | -99.8516 | -102.953 | -106.883 | -103.57 | -102.773 | -98.3125 | 3520 | 0 | -1280 |
| 1010 | -79.5313 | -81.125 | -79.5703 | -79.8438 | -79.9844 | -80.8672 | -76.6641 | -75.7266 | -78.8828 | 3594 | 2113 | 1476 |
| 1011 | | | | | | | | | | | | |
| 1012 | | | | | | | | | | | | |

**Trace(1)**