

View 950M User Manual

Revision 1.0

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1. GENERAL INFORMATION



1.1. DESCRIPTION

With the development of mobile communication technology, frequency bands supported by smart phones keep increasing. Accordingly, the number of antennas mounted on mobile phones is increasing as well. Most of the antennas in smart phones or mobile phones are mounted on the rear cover. If you attach an antenna from the antenna manufacturer to the case, you will measure only the VSWR after mounting the case because you already use the antenna that has been tested.

When producing one mobile phone antenna, usually 4 to 6 antennas are tested. Therefore, if you want to produce it, you have to do 2 ~ 3 tests if you test with 2 port network, 1 ~ 2 if you use 4 port network. There is, of course, a conventional bench-type 4-port network, but it has too much specs to use on the production line. In other words, in production lines that want to measure simple VSWRs quickly, it is somewhat less competitive to produce using expensive 4 port networks. As competition intensified in smart phones, production costs have been reduced, and demand for products optimized for mobile phone antenna production has increased.

Inno-Instrument's VIEW950M is the right product to meet the needs of this market, and can be expanded to six ports if additional options are added on the base 4 port. It is optimized for VSWR measurements and includes the necessary functions in the mobile phone production line, allowing you to quickly and easily reset the measurement conditions as needed.

1.1.1. KEY MEASUREMENTS

- High resolution VSWR Measurements
- Simultaneous sweep of 4 ports shortens measurement time
- Optimized Multi Target function
- Convenient Limit Setting Function
- Jig stabilization time setting function

1.1.2. KEY FEATURES

- Broadband Frequency Coverage : 5MHz to 6GHz
- Multi-Functions : VSWR, Return Loss
- Easy-To-Operate, Intuitive GUI
- 10.4" TFT color LCD, Touch Screen

- Ext. For Jig Supply. DC 24V Out
- Jig Interface (32Pin)
- 19 "rack mountable

1.2. THE LAYOUT OF VIEW900

Image 3 types. Front photo, Rear photo, Top photo





2. INSTRUMENT OVERVIEW



2.1. FRONT

The front of VIEW950M is shown below. There is a 10.4-inch LCD on the left and four N-type RF ports on the right. On the top right, there are two USB ports and a power button.



Items	Quantity	Explanatikon
LCD	1	- 10.4" TFT Color LCD (Touch Screen)
RF Port	4	- N-Type, 50Ω, Female
USB	2	- Type-A - USB 2.0, 500mA
Power Button	1	- One push on/off, Blue LED

2.2. REAR

The rear part is configured as shown below. The rear left has a FAN for heat dissipation and a terminal for grounding. On the right side, power and data related connectors are arranged.



Items	Quantity	Contents
FAN	1	- Operation when power is turned on by FAN for heat discharge
Ground	1	- Terminals for ground connection
GPIO	1	- 36 pin connector with interface for external jig connection
24VDC	1	- DC 24V power supply for external jig etc.
USB	2	- Type-A - USB 2.0, 480mA
Video Out	1	- RGB connector, Max 1920 X 1200@60Hz for LCD connection
Ethernet	1	- Ethernet terminal for external connection
3 pole AC terminal	1	- 3 pole power terminal for AC input on the device

2.3. SPECIFICATIONS

	Items	Specifications
Technical	Frequency Range	5MHz to 6GHz
	Number of Test Port	4 Port (Optional Max 6 Port)
	Measurements	VSWR, Return Loss
	Frequency Setting Resolution	10kHz
	VSWR Range	1 to 65
	Return Loss Range	+60dB to -60dB
	Resolution	0.01dB
	Max Input Level	+25dBm

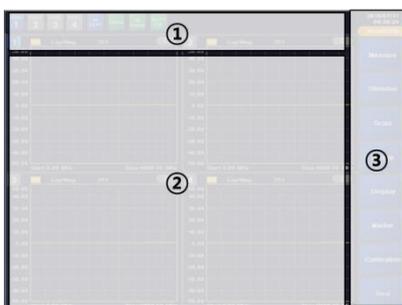
	Output RF Power	-4dBm
	Test Port	N Type Female, 50Ω
	Port VSWR	<1.5
	Number of Measurement Points	251, 501, 1001, 2001
	Marker	Max 6 (Multi Target & Peak/Valley Search)
	Scan Speed	0.6ms/point, All port scan at the same time
	Ant. Measurement Function	Multi Target to Limit line automation function Limit line function
	SCPI	SCPI function equipped
Immunity	On-Frequency	+5dBm
	On-Channel	+15dBm
General	Display	10.4" TFT Color LCD, 800 X 600, Touch Screen
	Memory	SSD (32Gbyte)
	Operating System	Windows 10
	Front Connector	USB 2.0, Type A 2 Port
	Rear Connector	10/100 Ethernet USB 2.0, Type A 2 Port 36-Pin Centronics, Female 15-pin D-Sub female; VGA(Up to 1920X1200 at 60Hz)
	Power Supply	AC 100 to 240V, 4.15A, 50/60Hz
	Power Output	DC 24V, Max 0.5A
	Sound	Buzzer, Resonant Frequency 2300Hz
	Dimension	445.2mm(W) X 197.2mm(H) X 325.8mm(D)
	Weight	About 11kg
	Operating Temperature	0°C to +50°C
	Storage Temperature	-40°C to +80°C (-40°F to +176°F)

3. MENU DESCRIPTIONS



3.1. MAIN WINDOW DESCRIPTION

When the equipment is turned on, the Main screen appears as shown below. Log / Mag measurement results of 4 ports are displayed by default. The screen can be roughly divided into three parts.



①	<ul style="list-style-type: none"> - Port Display Setting (Full & Multi) - Preset execution - Test alarm sound control
②	- Trace indicating area (Full & Multi)
③	- Side Menu area

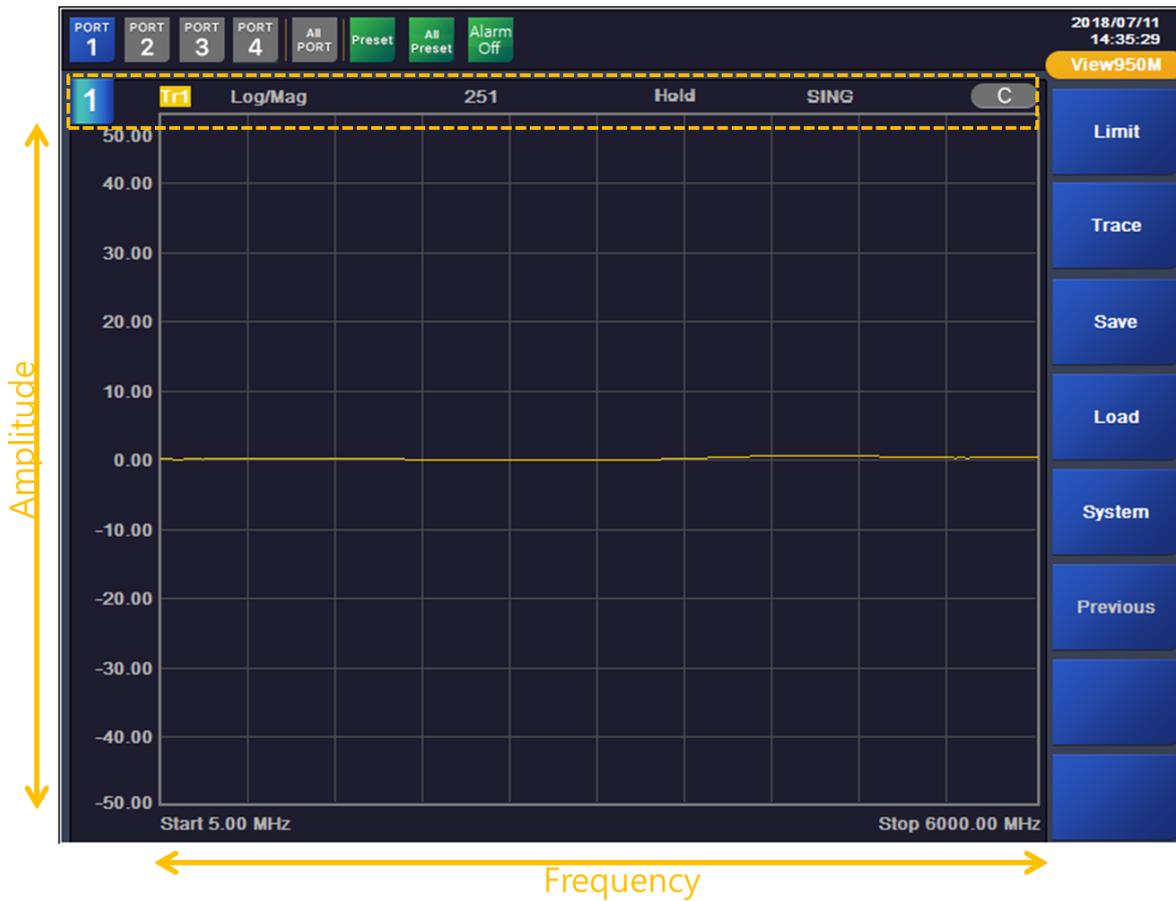
①	- Port Display setup (Full & Multi)	
Selected	Not	Explanation

	selected	
		<ul style="list-style-type: none"> - If selected, trace screen of port 1 is displayed in full screen - 2, 3, and 4 ports display a non-select icon
		<ul style="list-style-type: none"> - If selected, trace screen of port 2 is displayed in full screen - 1, 3, and 4 ports display a non-select icon
		<ul style="list-style-type: none"> - If selected, Trace screen of port 3 is displayed in full screen. - 1, 2, and 4 ports display a non-select icon
		<ul style="list-style-type: none"> - If selected, Trace screen of port 4 is displayed in full screen. - 1, 2, and 3 ports display a non-select icon
		<ul style="list-style-type: none"> - If selected, Ports 1 to 4 display all traces on the screen. - Each port icon is colored blue (the rest gray) - If the port marked in blue is Active

① - Preset	
Icon	Explanation
	<ul style="list-style-type: none"> - Single port Preset execution - Preset is executed when clicking on the currently set active port
	<ul style="list-style-type: none"> - Execute all port Preset - Preset on all ports immediately when clicked

① - Test alarm sound control	
Icon	Explanation
	<ul style="list-style-type: none"> - Turn off the alarm sound depending on the results of test when failing

With all 4 ports displayed, you can switch the selected port to full screen. Switching between full screen and multi-screen can be done in two ways. One can be executed by using the Port Display setting button, and the other can be converted by double touching the LCD in the corresponding area. The figure below shows the switch of port 1 to full screen to explain '②-Trace display area'.



The horizontal axis of the Trace display area represents the Stimulus-Frequency, and the vertical axis represents the Scale-Amplitude. The yellow box at the top of the picture above shows the following expression.

② - Trace indicating area			
Expression		Other expressions	Explanation
1	↔	1	- Indicate selected and non-selected port
Tr1	↔	Tr2	- Indicate trace 1 and 2
Log/Mag	↔	VSWR	- Indicate setup measure
251	↔	501 1001 2001	- Indicate setup data point
Hold	↔	-	- Indicate Run / Hold - Indicate nothing in case of Run
SING	↔	-	- Indicate Cont. / Single - Indicate nothing in case of Cont.
C	↔	C	- Indicate Calibration On, Off

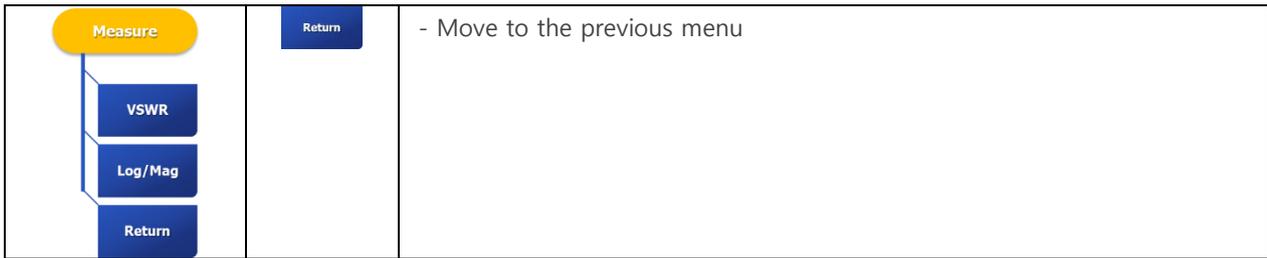
'③- Side Menu Area' contains menus to change the settings of each port. This is described in turn from Section 3.2. Below is the top menu of VIEW950M. If you click each corresponding menu, you can enter the submenu and change the condition of each port.

 <p>VIEW950M</p> <ul style="list-style-type: none"> Measure Stimulus Scale Sweep Display Marker Calibration Limit Trace Save Load System 	VIEW950M	<ul style="list-style-type: none"> - Display top menu - When clicked from other menu entry, go to upper menu
	Measure	- Enter Measure setup menu
	Stimulus	- Enter Stimulus setup menu
	Scale	- Enter Scale setup menu
	Sweep	- Enter Sweep setup menu
	Display	- Enter Display setup menu
	Marker	- Enter Marker setup menu
	Calibration	- Enter Calibration setup menu
	Limit	- Enter Limit setup menu
	Trace	- Enter Trace setup menu
	Save	- Enter Save setup menu
	Load	- Enter Load setup menu
	System	- Enter System setup/confirmation menu

3.2. MEASURE

VIEW950M can display measurement result in VSWR and Log / Mag (Return loss) form. Measure is a function to set the measurement type of the selected trace. When VSWR or Log / Mag is selected after selecting Trace, the type of trace is applied.

	Measure	<ul style="list-style-type: none"> - Display Measure menu - When clicked, move to upper menu (VIEW950M)
	VSWR	- Change Trace indication to VSWR form
	Log/Mag	- Change Trace indication to Log/Mag form

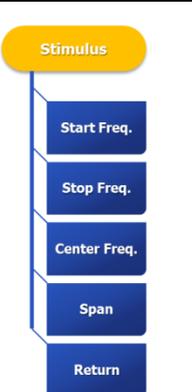


Measure setting confirmation can be checked by checking each Tr setting status at the top of each port trace chart. In the figure below, port 1 is set to VSWR, ports 2 to 4 are set to Log / Mag.



3.3. STIMULUS

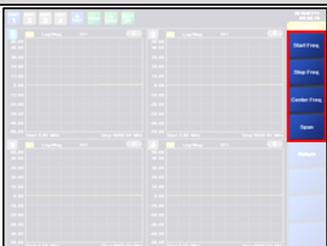
The operating frequency of each port can be changed in the Stimulus menu. The VIEW950M's Stimulus menu is organized as shown below.

	Stimulus	<ul style="list-style-type: none"> - Display Stimulus menu - Go to upper menu when clicked (VIEW950M)
	Start Freq.	- Change Start Freq. of selected port
	Stop Freq.	- Change Stop Freq. of selected port
	Center Freq.	- Change Center Freq. of selected port
	Span	- Change Span of selected port
	Return	- Move to the previous menu

Notice

- Range of frequency to be setup is as follows.
5MHz to 6GHz

3.3.1. STIMULUS CHANGE ORDER

1. Enter Stimulus			
			<ul style="list-style-type: none"> - Select Stimulus in VIEW950M menu - Enter the side menu, Stimulus
2. Select items → Select among Start Freq. / Stop Freq. / Center Freq. / Span			
			<ul style="list-style-type: none"> - Click the item you want to change - Input window appears - Composed of trace chart and input number of currently selected port
3. Enter setup values			

			<ul style="list-style-type: none"> - Click the item you want to change - Input window appears - Composed of trace chart and input number of currently selected port
4. Change port or item			
			<ul style="list-style-type: none"> - Enter a number in the input window - Check the input value in the upper right corner - Unit selection. Complete input - Simultaneous setting of all ports at 'All Port Apply' check

3.4. SCALE

The horizontal axis of each port trace chart represents the frequency and the vertical axis represents the amplitude. Scale includes a menu to change the vertical axis amplitude. The range that can be set depends on the Measure setting. For VSWR, you can set the range from 1 to 65. For Log / Mag, you can set it from -60dBm to + 60dBm. Scale menu configuration is shown below.

	<table border="1"> <tr> <td>Scale</td> <td>Top</td> <td>Bottom</td> <td>Auto Scale</td> <td>Full Scale</td> <td>Return</td> </tr> </table>	Scale	Top	Bottom	Auto Scale	Full Scale	Return	<table border="1"> <tr> <td>- Indicate Scale menu</td> <td>- Move to top menu if clicked (VIEW950M)</td> </tr> <tr> <td>- Change max value of Display Amplitude of selected port</td> <td>- Change the min value of Display Amplitude of selected port</td> </tr> <tr> <td>- Change Display Amplitude of selected port to appropriate range</td> <td>- Change Display Amplitude to Full Scale of selected port</td> </tr> <tr> <td>- Move to the previous menu</td> <td></td> </tr> </table>	- Indicate Scale menu	- Move to top menu if clicked (VIEW950M)	- Change max value of Display Amplitude of selected port	- Change the min value of Display Amplitude of selected port	- Change Display Amplitude of selected port to appropriate range	- Change Display Amplitude to Full Scale of selected port	- Move to the previous menu	
Scale	Top	Bottom	Auto Scale	Full Scale	Return											
- Indicate Scale menu	- Move to top menu if clicked (VIEW950M)															
- Change max value of Display Amplitude of selected port	- Change the min value of Display Amplitude of selected port															
- Change Display Amplitude of selected port to appropriate range	- Change Display Amplitude to Full Scale of selected port															
- Move to the previous menu																

Notice

- Amplitude range that can be set is as follows. (When selecting Full Scale, set to the range below)
 VSWR : 1~65
 Log/Mag : +60dB ~ -60dB
- The Top value cannot be less than the Bottom, and the Bottom value cannot be greater than the Top.

3.4.1. SCALE CHANGE ORDER

1. Enter Scale		
	→	
		<ul style="list-style-type: none"> - VIEW950M Scale selection in menu state - Enter the side menu Scale
2. Select Top / Bottom		
	→	
		<ul style="list-style-type: none"> - Click Top / Bottom item - Change settings in the input window - Port, setting after changing item
3. Auto Scale		
	→	
		<ul style="list-style-type: none"> - Auto Scale Select the port to execute - Click the Auto Scale button - Scale automatically applied to the appropriate level
4. Full Scale		
	→	
		<ul style="list-style-type: none"> - Full Scale Select Port to Run - Click the Full Scale button - Scale Full Range

3.5. SWEEP

In general, the equipment continuously sweeps. However, it is also necessary to sweep once at the test time according to the necessity of the antenna test. This allows you to set the VIEW950M's measurement continuity and points related items. The sweep is configured as shown below.

	Sweep	<ul style="list-style-type: none"> - Display Sweep menu - If clicked, move to upper menu (VIEW950M)
	Data Point 251	<ul style="list-style-type: none"> - Data Point Setting - Select 1 of 251/501/1001/2001
	Run Hold	<ul style="list-style-type: none"> - Sweep Run or Hold setting function - 'Hold' display at the top of each trace chart
	Sweep Type Cont. Single	<ul style="list-style-type: none"> - Sweep Continuous or Single setting function - Single 'SING' display on top of each trace chart
	All Ports On Off	<ul style="list-style-type: none"> - Run / Hold, Cont./Single setting according to All Port setting - Off: Individual port setting, On: All port setting
	INT EXT	<ul style="list-style-type: none"> - External Trigger setting function - INT> internal normal operation - EXT -> operation according to external signal
	Ext. Delay 200 ms	<ul style="list-style-type: none"> - When 'EXT' is set, delay time until measurement is set - External measurement environment stabilization time setting function - 0 / 100ms / 150ms / 200ms / 250ms / 300ms
	Return	<ul style="list-style-type: none"> - Move to the previous menu
	Return	
	Return	

3.5.1. EXTERNAL TRIGGER SETUP

1. External Trigger setup	
	<ul style="list-style-type: none"> - Click 'INT EXT' button to switch to EXT - After switching to EXT, press Ext. Delay is activated and switch to Single setting
2. External Delay setup	

- External jig stabilization time setting
- Must be determined by test

3. External Trigger sign flow

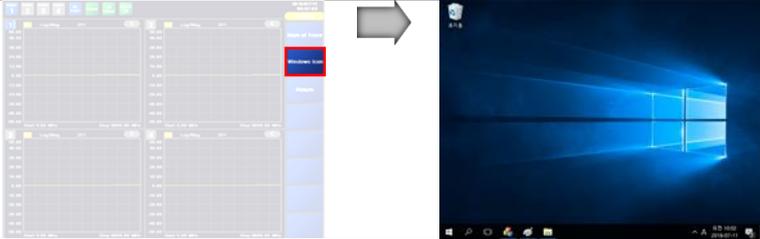
- Click the Start button on the external Jig
- 36 GPIO Ext. Trigger signal transmitted to VIEW950M

3.6. DISPLAY

The display includes the number of traces and the ability to go to Windows. VIEW950M supports 2 items (VSWR, Log / Mag) and 2 traces. The display menu is shown below.

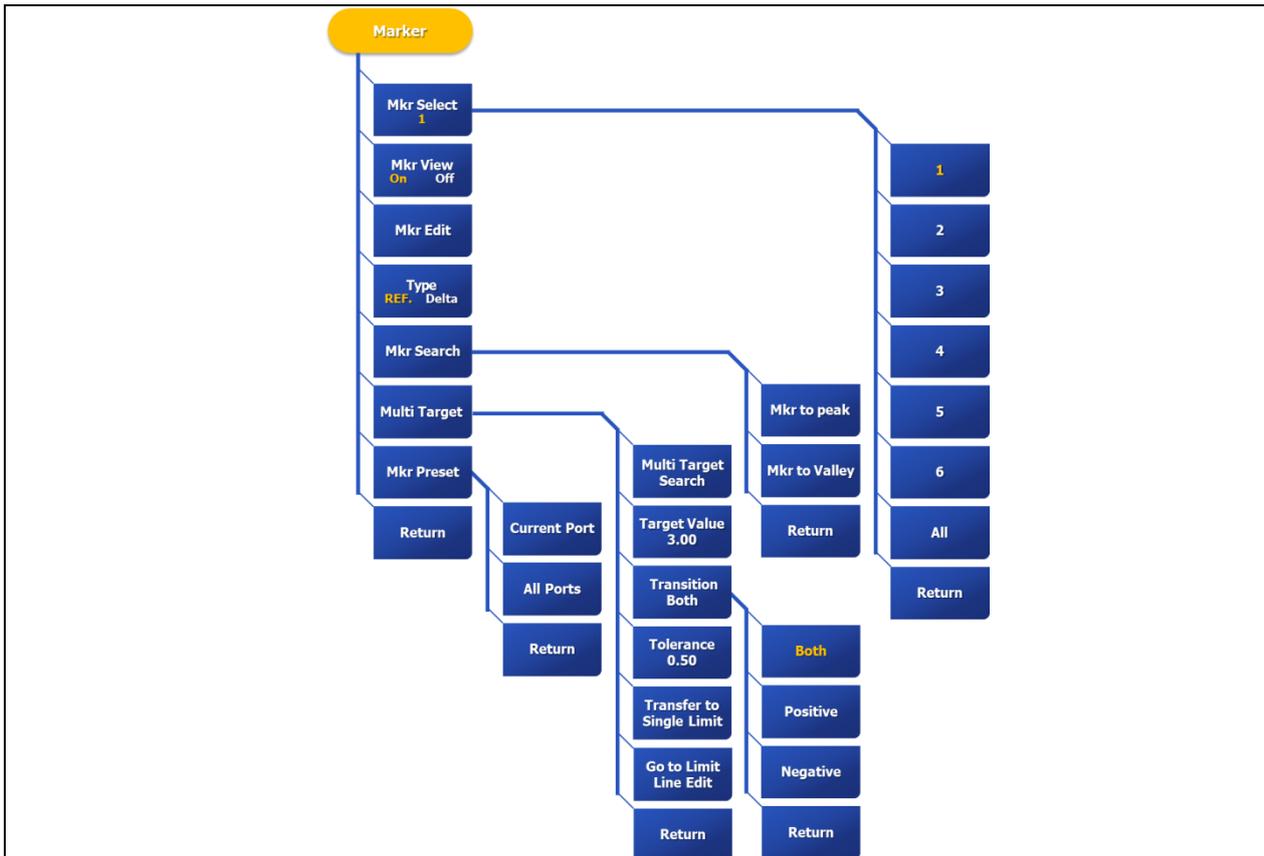
		<ul style="list-style-type: none"> - Display menu display - When clicked, move to upper menu (VIEW950M)
		<ul style="list-style-type: none"> - Set Trace 1 or 2 - Tr1 yellow, Tr2 green
		<ul style="list-style-type: none"> - Minimize the program and display the Windows desktop
		<ul style="list-style-type: none"> - Move to the previous menu

3.6.1. NUM OF TRACE & WINDOWS ICON

1. Num of Trace setup	
	<ul style="list-style-type: none"> - Select the port where you want to add Trace - Select 2 for 'Num of Trace' - Tr2 indication of port 1 - Tr2: Green Trace
2. Windows Icon setup	
	<ul style="list-style-type: none"> - Run Windows Icon - Minimize the program - Windows desktop display

3.7. MARKER

Up to 6 markers can be set. After selecting marker to set, it can be displayed on the screen through View setting. Normal and Delta markers are supported. The movement of the marker can be moved from the touch state to dragging, or the Edit frequency can be input directly. Multi Target function is supported, and Single Limit Line can be set conveniently. Marker menu of VIEW950M is as follows.



Marker			- Marker menu display - When clicked, move to upper menu (VIEW950M)	
Mkr Select 1			- Marker selection function - Select 1 to 6 individually or select all with 'All'	
Mkr View On/Off			- On or Off control of marker selected in 'Mkr Select'	
Mkr Edit			- Marker position setting - Moving the marker to the position where the frequency is directly input	
Type REF/Delta			- Marker type set to Normal or Delta - REF. Is Normal type, Delta is Ref. Show relative to location	
Mkr Search	Mkr to peak		- Marker movement->Marker movement with the largest value of the measured value	
	Mkr to Valley		- Marker movement->Marker move to the smallest value of the measured value	
Multi Target	Multi Target Search		- Set Multi Target. Up to 6 settings from left	
	Target Value 3.00		- Set Amplitude Value for Multi Target	
	Transition Both	Both		- Search the target value with positive and negative pair
		Positive		- Search the point passing with target value from top to the bottom of trace
		Negative		- Search the point passing through target value from top to the bottom of trace
Tolerance 0.50		- Transmit (Target value ± Tolerance) with limit line transmitting function		

	Transfer to Single Limit		- Transmit multi target data to single limit line
	Go to Limit Line Edit		- Available to edit single limit line edit screen display
Mkr Preset	Current Port		- Initialize marker setup on the currently selected port
	All Ports		- Initialize market setup on all the ports

Notice

- Before 'Multi Target Search', 'Transfer to Single Limit'
- Before 'Transfer to Single Limit', 'Go to Limit Line Edit'
- 'Go to Limit Line Edit' setting, 'Close' switch to Marker menu state

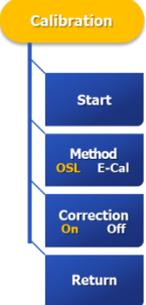
3.7.1. MARKER SETUP & MOVING

1. Select Marker		
	→	
		<ul style="list-style-type: none"> - Select marker number to set in the Marker Select submenu - Select ALL when setting all at once
2. Setup Marker View		
	→	
		<ul style="list-style-type: none"> - Change Mkr View setting to On - Marker is set in Trace of selected Port
3. Move Marker – Use Mkr Edit		
	→	
		<ul style="list-style-type: none"> - Click on Mkr Edit - Directly input the position of the selected marker with the numeric key - Select another marker and set the position
4. Move Marker – Move Touch		



3.8. CALIBRATION

Calibration shall be done to eliminate errors in various environments of equipment. The calibration method supports two methods, one using the mechanical calibration kit - Open, Short, Load and one using its electrical calibration kit. After selecting the calibration method, press 'Start' to proceed with calibration. The menu of VIEW950M Calibration is as below.

		<ul style="list-style-type: none"> - Display Calibration menu - When clicked, move to upper menu (VIEW950M)
		<ul style="list-style-type: none"> - Enter Calibration progress mode
		<ul style="list-style-type: none"> - Select Calibration kit types (OSL or Electronic Calibration kit)
		<ul style="list-style-type: none"> - Cancel application of Calibration
		<ul style="list-style-type: none"> - Move to the previous menu

Notice

- Calibration procedures are referred in '4.1 Calibration Procedure'

3.9. LIMIT

The VIEW950M is a production-specific device that measures VSWR, and the Limit Line function is important. In the Limit menu, you can set the main criteria for selecting good products and defects in the production process. It supports Max, Min, and Single settings, and can change settings for each screen display. The Limit menu is configured as shown below.

	Limit	- Display Limit menu - When clicked, move to upper menu (VIEW950M)
	Limit Test On/Off	- Limit Test progress setup (On or Off)
	Limit Line On/Off	- Limit Line screen display setup (On or Off)
	Edit Limit Line	- Limit Line edit
	Limit Alarm On/Off	- Setup alarm if failing limit test (On or Off)
	Fail Sign On/Off	- Indicate Limit Test results on the screen (Pass or Fail)
	Limit Preset	- Limit Line setup initialization (Active Port or All Port)
	Return	- Move to the previous menu

3.9.1. LIMIT DISPLAY ACCORDING TO EACH MENU SETTING

The display according to each menu setting of the Limit menu is as follows.

Limit – Limit Test		
Off	On - Pass	On - Fail
<ul style="list-style-type: none"> - Not perform Pass / Fail test according to condition when limit test off 	<ul style="list-style-type: none"> - Test according to condition - Release text output in green as shown in the picture above if it passes 	<ul style="list-style-type: none"> - Proceed test from conditions - Release text in red color if failing the test as above - Failed areas in trace are changed to red color

Limit – Limit Line

Off



On



- - When limit line is off, only trace is output.
- - Limit line is not displayed

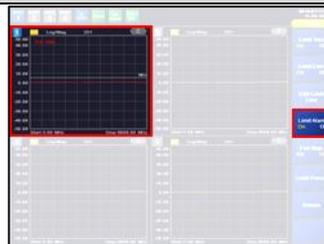
- Indicate trace and limit line in case of limit line on

Limit – Limit Line Edit



- Limit line setting in Limit line edit
- Limit type can be Max, Min, Single available

Limit – Limit Alarm



- Buzzer Sound output according to Pass, Fail result
- Sound output in case of Fail
- Silent when Pass

Limit – Fail Sign



- When fail signal is turned on, red color fail indication
- Fail sign is displayed if any of the 4 ports fails

Limit – Preset – Current Port

- Initial port selection
- Select Limit Preset-Current Port
- Confirmation window pop up
- Click confirm
- Port 2 for initialization
- Initialize relevant port (2)

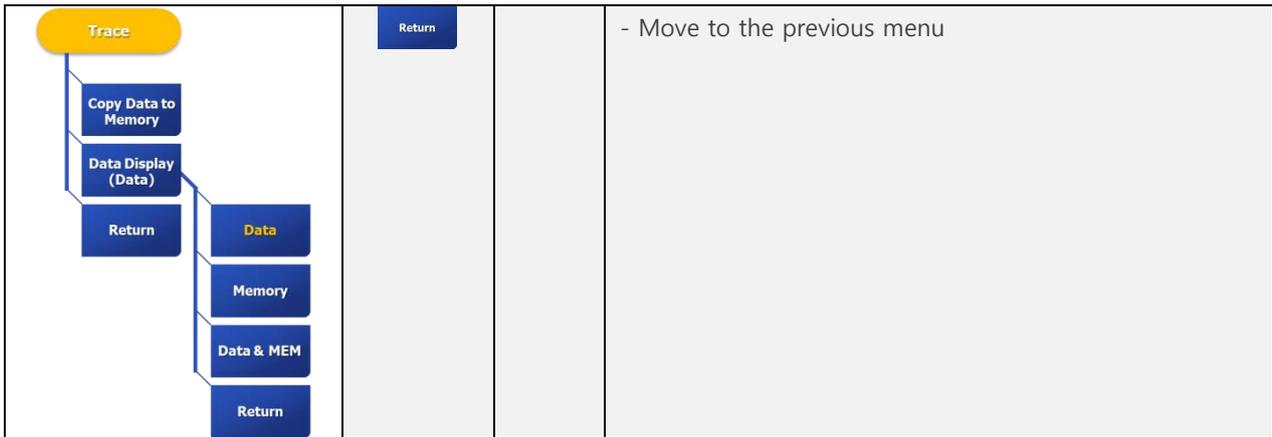
Limit – Preset – All Ports

- Select Limit Preset-All Ports
- Confirmation window pop up
- Click confirm
- Initialize all the ports

3.10. TRACE

Trace stores the current data and compares it with the next measurement result. That is, the reference measurement result and the like can be stored in the memory, and can be compared with the current measurement result (the measurement condition is changed). You can also set the display of the current measurement trace and the trace stored in the memory. The Trace menu is configured as shown below.

	Trace		<ul style="list-style-type: none"> - Display Trace menu - Go to upper menu when clicked (VIEW950M)
	Copy Data to Memory		<ul style="list-style-type: none"> - Save the current measurement result to Trace Memory
	Data Display (Data)	Data	<ul style="list-style-type: none"> - Indicate only the measured results in trace
		Memory	<ul style="list-style-type: none"> - Indicate only the trace saved in the trace memory
		Data & MEM	<ul style="list-style-type: none"> - Indicate all the traces saved in memory and measured traces



3.10.1. TRACE – DATA & MEM DISPLAY

1. Copy Data to Memory		
		<ul style="list-style-type: none"> - Select port and Tr - Perform Copy Data to Memory
2. Data & Mem setup		
		<ul style="list-style-type: none"> - Select Data&Mem in data display - Indicate both data trace and memory trace on the screen

3.11. SAVE

VIEW950M stores three types of data.

- Save Config -> Stimulus, Scale, etc.
- Save Trace -> Save Trace data
- Save Screen -> Capture screen and save as picture file

Each storage menu supports 6 slot type storage and file type storage. File type storage supports internal storage and USB memory storage. In case of internal, it can be saved only in designated folder. The menu of VIEW950M Save is as shown below, and the saving screen appears when each menu is clicked.

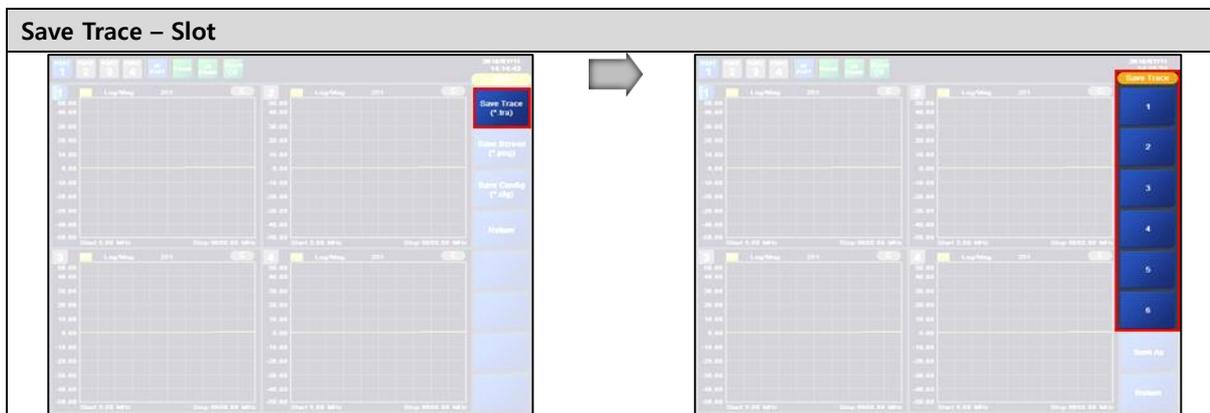
Save	Save	<ul style="list-style-type: none"> - - Display Save menu - - When clicked, move to upper menu (VIEW950M)
Save Trace (*.tra)	Save Trace (*.tra)	- Save Trace data
Save Screen (*.png)	Save Screen (*.png)	- Save Screen capture
Save Config (*.cfg)	Save Config (*.cfg)	- Save equipment configuration
Return	Return	- Move to the previous menu

Notice

- Not available to change the path when saving internal, and create / VIEW950M folder in USB upper directory when saving USB and save
- Rename saved file is supported by Load

3.11.1. SLOT SAVE

If clicking 'Save Trace', 'Save Screen', or 'Save Config' from the Save menu, the side menu changes as below.





Slot storage is a function to store in 1 ~ 6 without any need to set a separate name. Up to 6 Config, Screen and Trace can be supported. When loading, press the slot number of the item to load the saved item.

Notice

- Slot assignments can be confusing over time or when used by multiple people.
- If requiring saving for a long time, it is recommended to save it as a file using 'Save As'.

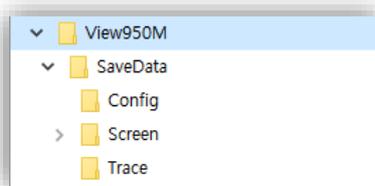
3.11.2. SAVE FILE TYPE

If requiring saving or copying a file for a long time, you can save it as a file using 'Save As' menu. A separate Save Window appears for saving the file type, and it is possible to set the file name and the storage medium. Save As As soon as you enter the screen, the on-screen keyboard appears and you can set the file name using the on-screen keyboard.

Save Trace - Save As



If saving to internal memory, you can save to the specified path only. If saving to USB memory, create ' / VIEW950M / SaveData' folder and select ' / VIEW950M / SaveData / Trace' / VIEW950M / SaveData / Screen After creating ' / VIEW950M / SaveData / Config 'folder, files are saved in each folder.



Notice

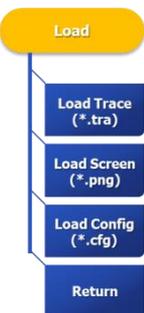
- It is not necessary to use another folder to move USB stored files, but when loading, there should be files in the specified path.
- Files not saved in '/ VIEW950M / SaveData / Trace', '/ VIEW950M / SaveData / Screen', '/ VIEW950M / SaveData / Config' can not be loaded. (Can be loaded after moving to the folder)

3.12. LOAD

Load serves as a function of loading each file stored in '3.11 Save'. Like save, it supports both slot method and file method.

- Load Config -> Apply information saved in Save Config to equipment
- Load Trace -> Save Trace data is saved as load
- Load Screen -> Load saved file with Save Screen

Load menu is as follows, and six lots and save as menu appear when entering each menu.

		<ul style="list-style-type: none"> - Display Load menu - When clicked, move to upper menu (VIEW950M)
		- Load saved Trace data
		- Load saved Screen capture
		- Load saved equipment configuration
		- Move to the previous menu

3.12.1. SLOT LOAD

Slot Load is a function to load a slot saved by Slot Save. That is, 'Save Trace', 'Save Screen' and 'Save Config' load each file stored in 1 ~ 6

Load Trace – Slot	
Load Screen – Slot	
Load Config – Slot	

3.12.2. FILE LOAD

If clicking the load below each load menu, load window appears.

Load Trace – Load

Trace	File Name	Size	Date
Trace	1	411 KB	2018-07-06 10:19
Screen	CAL-ON	603 KB	2018-07-06 16:51
Config	imsi	411 KB	2018-07-06 16:32

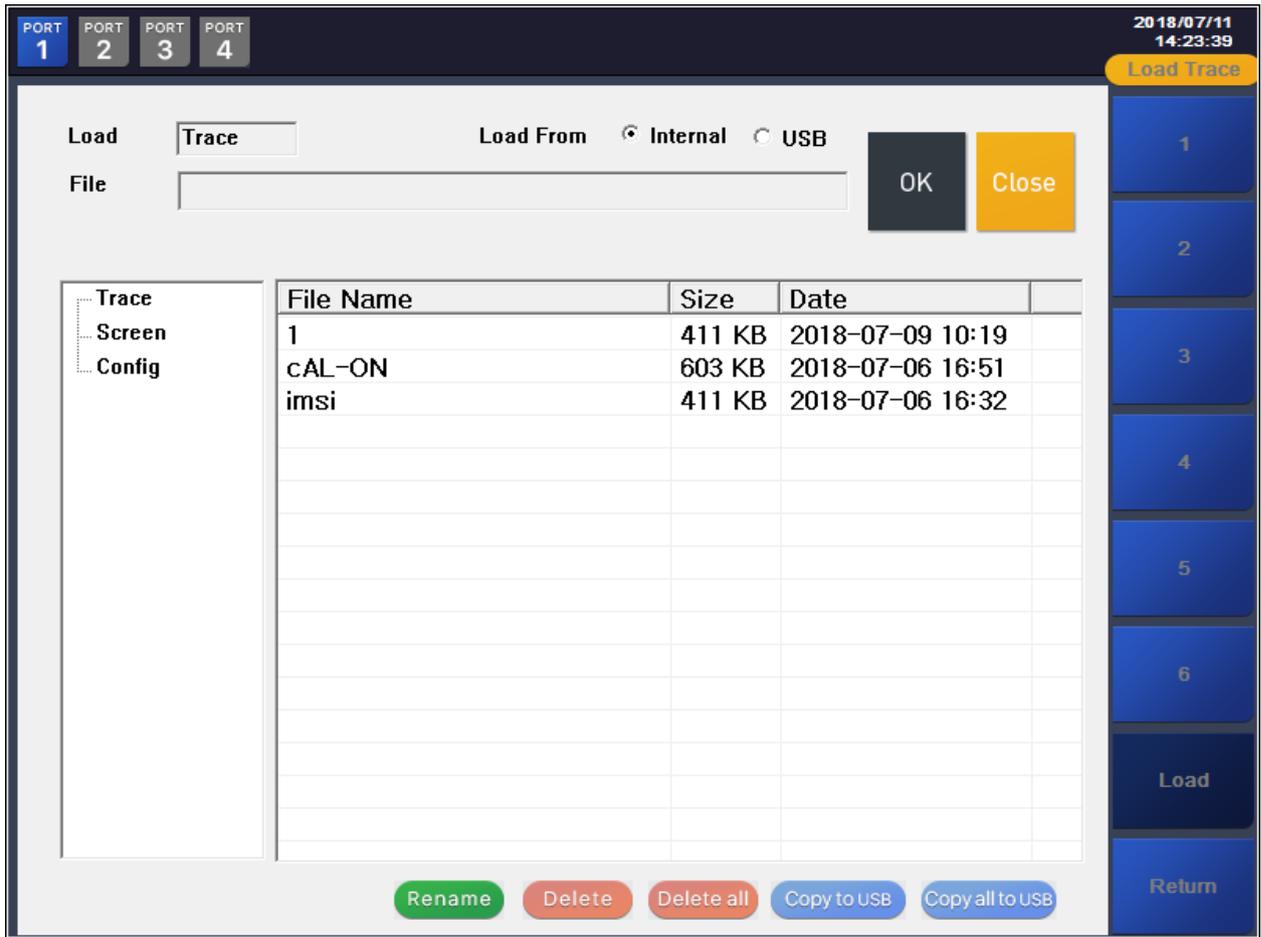
Load Screen – Load

Trace	File Name	Size	Date
Screen	TEST1	94 KB	2018-07-03 14:07

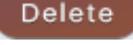
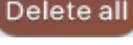
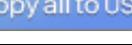
Load Config – Load

Trace	File Name	Size	Date
Screen	ecal-4calon	539 KB	2018-07-10 19:14
Config	osl-4calon.cfg	347 KB	2018-07-10 19:03
Config	osl	347 KB	2018-07-10 16:53

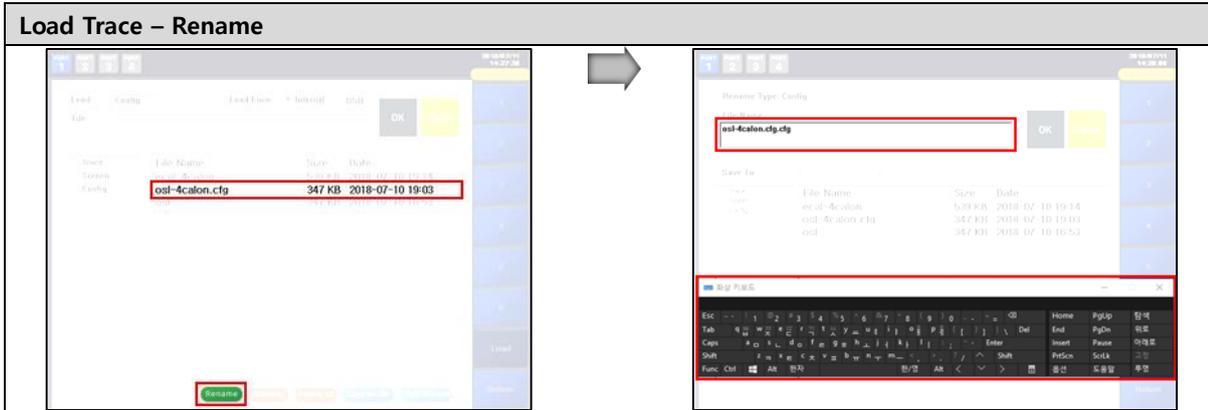
Load Window is as follows.



Select Internal or USB memory as the load method and select the file shown in the file list window below. When the file is selected, the name of the selected file is specified in the 'File' field and 'OK' is loaded. Rename, Delete, etc. at the bottom operate as below with File Management function.

Normal	Active	Explanation
		- Change the name of selected files. Virtual keyboard appears
		- Delete selected files
		- Delete all the files on the list window
		- Copy USB of selected file
		- Copy all the files on the list window to USB

After selecting a file, Rename will display the virtual keypad as shown below.



3.13. SYSTEM

System menu allows you to set basic information such as information and language of equipment. The system menu of VIEW950M is composed as shown below.

	System	<ul style="list-style-type: none"> - Display system menu - When clicked, move to upper menu (VIEW950M)
	Language	- Select language (English, Chinese etc.)
	LAN	- IP setup for Ethernet communication
	Upgrade	- SW Upgrade function
	Information	- Indicate equipment information
	Return	- Move to the previous menu

3.13.1. LAN SETUP

The VIEW950M can communicate externally using the Ethernet port on the rear panel. This allows SCPI support and equipment control. For this operation, you have to set the communication IP. You can set the IP of the device through the LAN setting below.



3.13.2. UPGRADE

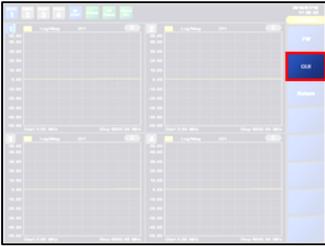
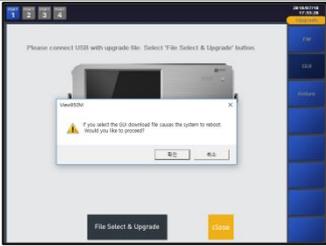
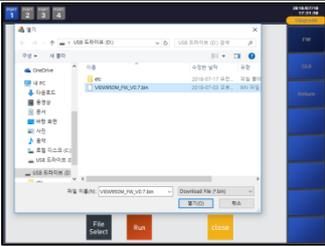
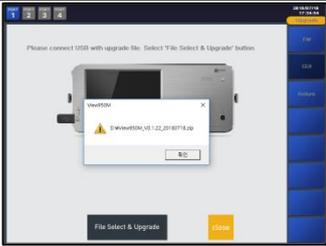
Upgrade supports both FW (Firmware) and GUI. Each upgrade procedure is as follows.'

1. FW Upgrade – FW Upgrade Mode

- Select FW from Upgrade menu
- FW Upgrade screen display

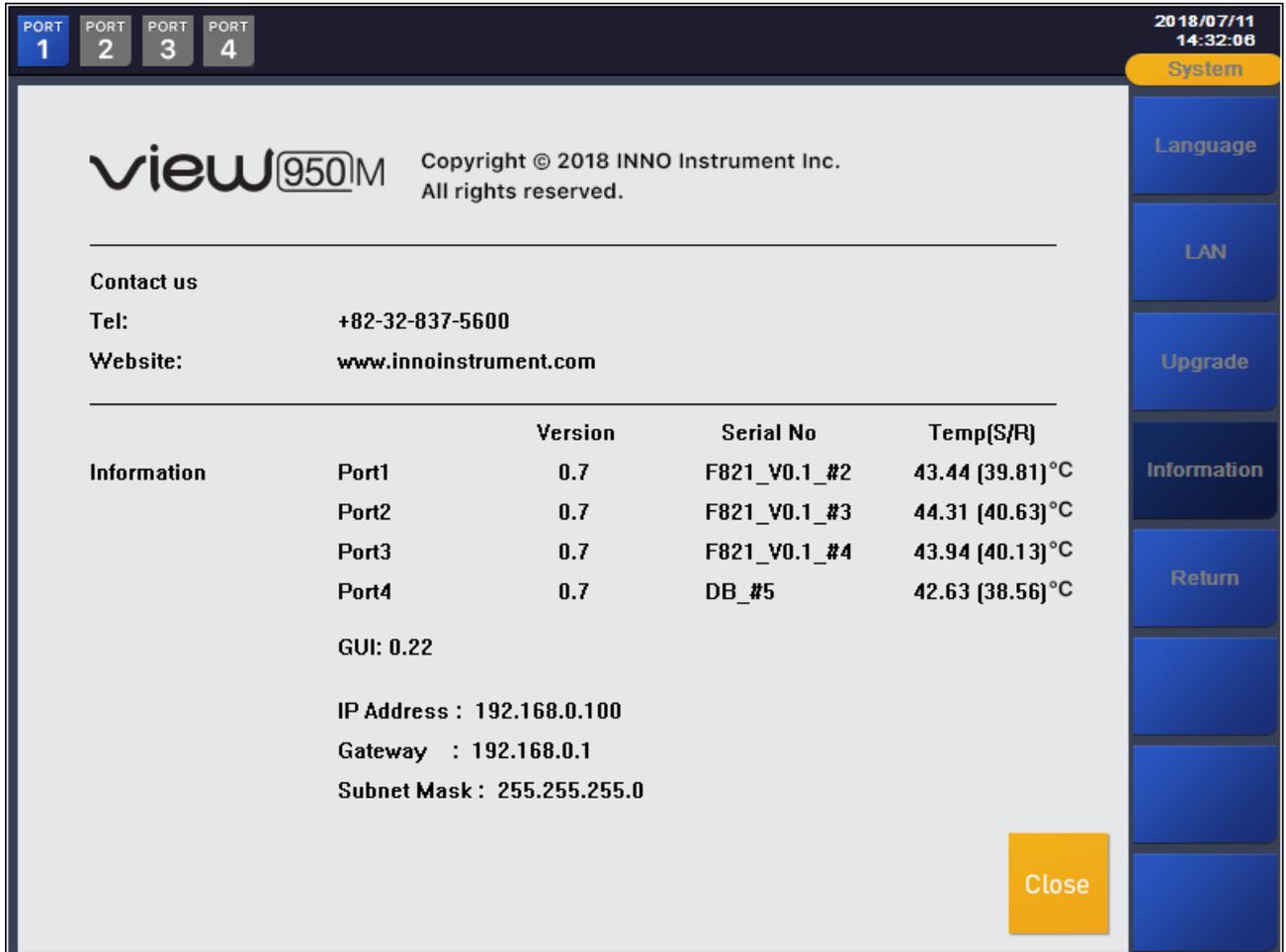
2. FW Upgrade – FW 선택

- Click the File Select button at the bottom of Upgrade screen
- Open a navigation window to select files
- Select and open the file
- FW Upgrade after reboot

1. GUI Upgrade – GUI Upgrade Mode			
			<ul style="list-style-type: none"> - Select GUI from Upgrade menu - GUI Upgrade screen display
2. GUI Upgrade – GUI Upgrade warning			
			<ul style="list-style-type: none"> - Click the File Select & Upgrade button at the bottom of Upgrade screen - Warning window pop up - Click OK
3. GUI Upgrade – GUI file & Upgrade			
			<ul style="list-style-type: none"> - If you click OK in the above warning window, a search window will appear for you to select a file. - After selecting a file and clicking Open, a file name confirmation window will appear. - Press OK to reboot & Upgrade

3.13.3. INFORMATION

If selecting System> Information, information window will appear as below to check the basic information of the device.



2018/07/11 14:32:08

System

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Contact us
 Tel: +82-32-837-5600
 Website: www.innoinstrument.com

		Version	Serial No	Temp(S/R)
Information	Port1	0.7	F821_V0.1_#2	43.44 [39.81]°C
	Port2	0.7	F821_V0.1_#3	44.31 [40.63]°C
	Port3	0.7	F821_V0.1_#4	43.94 [40.13]°C
	Port4	0.7	DB_#5	42.63 [38.56]°C

GUI: 0.22

IP Address : 192.168.0.100
 Gateway : 192.168.0.1
 Subnet Mask : 255.255.255.0

Close

System
 Language
 LAN
 Upgrade
 Information
 Return

4. TEST METHOD



4.1. CALIBRATION PROCEDURE

The VIEW950M supports two types of calibration. It is an E-Cal method using an OSL method and an Electronic Calibration Kit using a mechanical calibration kit. The procedure for the VIEW950M differs according to the two methods. Calibration Proceed as follows.

1. Setup equipment including Stimulus, Scale	
<ul style="list-style-type: none"> - When changing some setting parameters, you have to perform calibration again. - Therefore, before proceeding with the calibration, check the frequency setting of each port. 	
2. Select Calibration Method – OSL or E-Cal	
	<ul style="list-style-type: none"> - Select 'OSL' when performing calibration with mechanical calibration kit. - Select 'E-Cal' when performing calibration with Electronic Calibration kit - After selecting, click 'Start' button.
<p><OSL Start screen></p>	<p><E-Cal Start screen></p>

Notice

- In case of E-Cal, if USB of VIEW950 and E-Cal is not connected, Calibration Window can not enter.

4.1.1. OSL CALIBRATION

1. OSL – Open Calibration



- After selecting the OSL method, click the 'Start' button and a calibration window will appear asking you to connect 'Open' to the selected port as shown on the left.
- Connect Open to the selected port of the mechanical calibration kit.
- After connecting Open to the port, click the Open Icon as shown on the left.
- Click to open calibration as below.



< Connection >



< Progress >



< Completion >

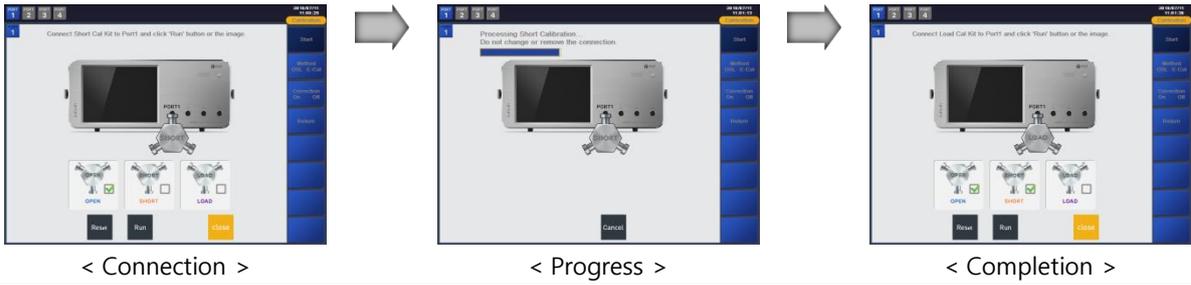
2. OSL – Short Calibration



- When Open is completed, a screen for connection of Short is displayed.
- Remove Open and connect Short.



- After connecting short to the port, click the Short Icon as shown on the left.
- After clicking, short calibration will proceed as below.



< Connection >

< Progress >

< Completion >

3. OSL – Load Calibration



- When the short calibration is completed, the screen switches to the Load connection.
- Remove the short cal kit connected to the real port and connect the load.
- After connecting the load cal-kit to the port, click the Load Icon as shown on the left.
- Load calibration is performed as below.



< Connection >

< Progress >

< Completion >

4. Current Port Calibration completion



- After completing Open, Short, and Load, the corresponding icon on the screen will change to , and the 'Apply' button will appear on the bottom button array.
- Click the 'Apply' button to apply the actual calibration.



- Press 'Apply' to display the message 'Port 1 is in the Cal On state.'
- At the same time, the Apply button disappears from the lower button array.

5. Proceed Calibration on the entire ports

- Proceed OSL calibration in the same manner with the rest of the ports



< Complete port 2 >



< Complete port 3 >



< Complete port 4 >



- After completing the port calibration, click the Close button to switch to the measurement screen.
- Calibration icon of each port is changed to green

4.1.2. E-CAL CALIBRATION

1. Proceed E-Cal – 1 port



- Connect USB port of E-Cal to USB port of VIEW950M as shown on the left
- Connect the RF port of E-Cal to port 1 of VIEW950M
- Click the 'Run' button at the bottom



- Identify required information
- Open -> Short -> Load Calibration automatically proceed
- After calibration is completed, verify test

- When verification is finished, 'Port 1 is in the Cal On state'
- E-Cal progress by changing the upper left port of the screen

2. Proceed E-Cal – 2 port



< Run port 2 >

< Proceed port 2 >

< Complete port 2 >

3. Proceed E-Cal – 3 port



< Run port 3 >

< Proceed port 3 >

< Complete port 3 >

4. Proceed E-Cal – 4 port



<Run port 4>
<Proceed port 4>
<Complete port 4>

5. Complete E-Cal on all ports



- End E-Cal for all ports or E-Cal for the desired port, then click the Close button in the E-Cal Window.
- Calibration icon of each port is changed to green .

4.2. MULTI TARGET TO SINGLE LIMIT PROCEDURE

The VIEW950M is designed for the antenna production process, and VSWR of each band is measured in most antenna manufacturing process to judge the quality of the product. If the frequency is within a certain range, it is not in good condition. If the VSWR value is less than the predetermined value, it is defective. If the VSWR value is less than the predetermined value, it is processed as non-conforming product.

4.2.1. MULTI TARGET IMPLEMENTATION PROCEDURE

Because it is important to shorten the production time, Multi Target is an efficient and easy function to set target value and find frequency by VSWR.

Multi Target runs as follows. :

1. Enter Multi Target	
	<ul style="list-style-type: none"> - Select multi-target in the marker
2. Target Value setup	
	<ul style="list-style-type: none"> - Setup value to be found in the target value entering window - Close
3. Multi Target Search	
	<ul style="list-style-type: none"> - If closing the input window after setting Target Value, - Clicking Multi Target Search button will execute search based on the clicked point

There are three ways to find Multi Target Search according to the transition setting. The differences are as follows.

Multi Target – Transition		
Both	Positive	Negative
		
<ul style="list-style-type: none"> - Negative & Positive one pair search - When the trace is valley type or mountain type, it displays three valleys or mountains through which the target value passes. 	<ul style="list-style-type: none"> - Display marker at the point where the flow of the trace passing the target value goes up - Displays 6 pieces sequentially from the left 	<ul style="list-style-type: none"> - Display marker at the point where the flow of traces passing target value goes down - Displays 6 pieces sequentially from the left

4.2.2. MULTI TARGET TO SINGLE LIMIT

The VIEW950M can easily set the data found in Multi Target to single limit line. Below is how to set Multi Target data to Single limit.

1. Multi Target Search	
	<ul style="list-style-type: none"> - Target value setting to set - Perform Multi Target - Confirm activation of "Transfer to Single Limit"
2. Tolerance setup	
	<ul style="list-style-type: none"> - Single Limit Amplitude Low, High Range Setting - In other words, it is (Target Value ± Tolerance)

3. Transfer to Single Limit







- Click the Transfer to Single Limit button
- An alert window confirming transmission is generated and clicked
- After transmission, enable 'Go to Limit Line Edit'

4. Go to Limit Line Edit







- Perform Go to Limit Line Edit
- The Limit edit window appears, and the points that you have searched for in the list with multi target are automatically list-up
- Edit the points required for measurement

5. Setup related to limit in the limit menu

5. WARRANTY INFORMATION



We, INNO INSTRUMENT INC. are pleased to submit Certificate of Warranty for the Products.

1) Warranty Policy

- **We, INNO Instrument Inc., do hereby warrant our View950M products, be free from defects due to defective materials or workmanship for a period of 3 years from the date of shipment.**
- **We, INNO Instrument Inc., do hereby warrant our View950M related accessories such as Battery, V95M, V96, V95S, V96S and AC adapter, be free from defects due to defective materials or workmanship for a period of 1 year from the date of shipment.**

During the warranty period, INNO Instrument Inc. will, at its option, repair or replace parts or products that prove to be defective.

- **We, INNO Instrument Inc., are responsible for freighting(receiving and sending) the equipment that prove to be defective and all related customs, taxes, tariffs, insurance, etc. for a period of 1 year from the date of shipment.**
- **In cases caused by user's carelessness or after a period of 1 year from the date of shipment, the owner is responsible for freighting (receiving and sending) the equipment and all related customs, taxes, tariffs, insurance, etc.**

INNO instrument Inc. will return the equipment by the same method (i.e., Air, Express, Surface) as the equipment was sent to INNO instrument Inc. All equipment returned for warranty repair must have a valid RMA number issued prior to return and be marked clearly on the return packaging. INNO Instrument Inc. strongly recommends all equipment to be returned in its original packaging.

2) Limitation of Warranty

The obligation for INNO Instrument Inc. under this warranty is limited to repair or replacement of defective parts, and the return shipment to the buyer of the repaired or replaced parts or products.

The warranty does not cover damage caused by misuse or abuse; accident; the attachment of any unauthorized accessory; alteration to the product; improper installation; unauthorized repairs or modifications; improper use of electrical/power supply; loss of power; dropped product; malfunction or damage of an operating part from failure to provide manufacturer's recommended maintenance; transportation damage or loss; theft; neglect; vandalism; or environmental conditions; or any other conditions whatsoever that are beyond the control of INNO Instrument Inc.. The warranty does not apply to any product or parts thereof where the serial number of product or any parts has been altered, defaced, or removed.

A fixed charge established for each product will be imposed for all equipment returned for warranty repair, where INNO Instrument Inc. cannot identify the cause of reported failure.

3) Disclaimers and Exclusions

The warranty described hereinabove shall be IN LIEU of any other warranty, express or implied. Except as set out hereinabove, there are NO other warranties and any statutory or implied warranty of MERCHANTABILITY or fitness for a particular purpose is EXCLUDED from this transaction and shall not apply.

The purchaser agrees that his sole and exclusive remedy against INNO Instrument Inc. shall be for the repair or replacement of defective parts as provided hereinabove. The purchaser agrees that NO OTHER REMEDY (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available to him. The sole purpose of the stipulated exclusive remedy provided for herein, shall be to provide the purchaser with repair and replacement of defective parts in the manner provided hereinabove.

The purchaser acknowledges that no oral-statements purporting to be warranties, representations, or guarantees of any product from INNO Instrument Inc. have been made by INNO Instrument Inc. or its dealer which in any way expands, alters or modifies the terms of the warranty set out herein. Any such statements do not constitute warranties, shall not be relied on by the purchaser, and are not part of the contract of sale. This writing constitutes a complete and exclusive statement of the terms of any warranty, express or implied, of INNO Instrument Inc.

There is NO WARRANTY for any defective part of a INNO Instrument product which has been removed from its original installation site or which arises from mishandling, neglect, fire, flood, lightning, corrosive atmosphere, improper installation of the product, unauthorized modification of the product, improper fuel supply to the product, or the failure of the purchaser to properly install the product as is set out in the installation instructions.

Signed for and on behalf of
INNO Instrument, Inc.

INNO INSTRUMENT., INC.
E-2206, Songdo Smartvalley Knowledge Industry Center 30,
Songdomirae-ro, Yeonsu-gu, Incheon, Republic of Korea

Name / Department

INNO Instrument Inc.

www.innoinstrument.com



You dream,
WE DESIGN

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Printed in Korea www.innoinstrument.com