# VIAVI

# 2000 Platform

**Handheld, modular Platform designed for the construction, turn-up and maintenance of fiber networks**

User Manual

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## Handheld, modular Platform designed for the construction, turn-up and maintenance of FTTx networks

User Manual

## Notice

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## Ordering information

This guide is a product of VIAVI's Technical Information Development Department, issued as part of the User Manual. The ordering number for a published guide is E2000M02.

# Product Regulatory Compliance

## California Proposition 65

California Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted in November 1986 with the aim of protecting individuals in the state of California and the state's drinking water and environment from excessive exposure to chemicals known to the state to cause cancer, birth defects or other reproductive harm.

For the VIAVI position statement on the use of Proposition 65 chemicals in VIAVI products, see the Hazardous Substance Control section of VIAVI's Standards and Policies web page.

## Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

•    Reorient or relocate the receiving antenna.
•    Increase the separation between the equipment and receiver.
•    Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
•    Consult the dealer or an experienced radio/TV technician for help.

## EU WEEE and Battery Directives

This product, and the batteries used to power the product, should not be disposed of as unsorted municipal waste and should be collected separately and disposed of according to your national regulations.

VIAVI has established a take-back processes in compliance with the EU Waste Electrical and Electronic Equipment (WEEE) Directive, 2012/19/EU, and the EU Battery Directive, 2006/66/EC.

Instructions for returning waste equipment and batteries to JDSU can be found in the WEEE section of VIAVI's Standards and Policies web page.

If you have questions concerning disposal of your equipment or batteries, contact VIAVI's WEEE Program  Management team at WEEE.EMEA@VIAVISolutions.com.

## EU REACH

Article 33 of EU REACH regulation (EC) No 1907/2006 requires article suppliers to provide information if a listed Substances of Very High Concern (SVHC) is present in an article above a certain threshold.

For information on the presence of REACH SVHCs in VIAVI products, see the Hazardous Substance Control section of VIAVI's Standards and Policies web page.

## EU CE Marking Directives (LV, EMC, RoHS, RE)

This product conforms with all applicable CE marking directives. Please see EU Declaration of Conformity for details.

# Contents

# About This Guide

The 2000 V2 Platform of VIAVI provides a handheld modular platform designed for the construction, turn-up and maintenance of fiber networks.

The topics discussed in this chapter are as follows:

# Purpose and scope

The purpose of this guide is to help you successfully use the 2000 V2 Platform features and capabilities. This guide includes task-based instructions that describe how to install, configure, use, and troubleshoot the 2000 V2 Platform.

Additionally, this guide provides a complete description of VIAVI's warranty, services, and repair information, including terms and conditions of the licensing agreement.

# Assumptions

This guide is intended for novice, intermediate, and experienced users who want to use the 2000 V2 Platform effectively and efficiently. We are assuming that you have basic computer and mouse/track ball experience and are familiar with basic telecommunication concepts and terminology.

# Technical assistance

If you require technical assistance, call 1-844-GO-VIAVI. For the latest TAC information, go to http://www.viavisolutions.com/en/services-and-support/support/technical-assistance.

# Conventions

This guide uses naming conventions and symbols, as described in the following tables.

**Table 1**    Typographical conventions

| Description | Example |
| --- | --- |
| User interface actions appear in this **typeface**. | On the Status bar, click **Start**. |
| Buttons or switches that you press on a unit appear in this **TYPEFACE**. | Press the **ON** switch. |

**Table 1**     Typographical conventions (Continued)

| Description | Example |
| --- | --- |
| Code and output messages appear in this `typeface`. | `All results okay` |
| Text you must type exactly as shown appears in this **`typeface`**. | Type: **`a:\set.exe`** in the dialog box |
| Variables appear in this *typeface*. | Type the new *hostname* |
| Book references appear in this *typeface*. | Refer to *Newton's Telecom Dictionary* |
| A vertical bar \| means "or": only one option can appear in a single command. | `platform [a\|b\|e]` |
| Square brackets [ ] indicate an optional argument. | `login [platform name]` |
| Slanted brackets < > group required arguments. | `<password>` |

**Table 2**     Keyboard and menu conventions

| Description | Example |
| --- | --- |
| A plus sign +  indicates simultaneous keystrokes. | Press **Ctrl+s** |
| A comma indicates consecutive key strokes. | Press **Alt+f,s** |
| A slanted bracket indicates choosing a submenu from menu. | On the menu bar, click **Start > Program Files**. |

**Table 3**     Symbol conventions



**This symbol represents a general hazard.**

**This symbol represents a risk of electrical shock.**

**NOTE**

This symbol represents a Note indicating related information or tip.
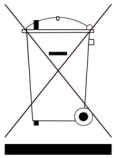
**This symbol, located on the equipment or its packaging indicates that the equipment must not be disposed of in a land-fill site or as municipal waste, and should be disposed of according to your national regulations.**

**Table 4**     Safety definitions

**WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**1**

# Safety information

This chapter gives the main information on the safety conditions when using the 2000 Platform:

- "Battery and AC/DC safety information" on page 2
- "Precautions relating to optical connections" on page 3
- "Laser Safety instructions" on page 3

# Battery and AC/DC safety information

- The Li-Polymer battery is designed for maximum safety.

In particular, each cell is provided with a safety valve to prevent excessive internal pressure in the event of overcharging or exposure to very high temperatures.

- Battery supplied by VIAVI incorporate protection means.

> ⚠️ Do not use any mains adaptor or battery other than those supplied with the instrument, or supplied by VIAVI as an option for this instrument.

If another adapter or battery is used, it may damage the 2000 Platform itself.
Using the 2000 Platform with a battery other than the one supplied by the manufacturer of the 2000 Platform may entail risks of fire or explosion.

The battery may explode, leak or catch fire:

- – if it is exposed to high temperature or fire
- – if it is opened or dismantled.
- If you do not intend to use the platform for several weeks, it is advisable to remove the battery in order to prolong its useful life, and to recharge it fully before using it again.
- In case of communication problems with the battery, informed to the user, the battery charging information is no more actualized.
  Restart the equipment to restore the communication with battery.

## Other basic safety precautions are as follows:
- Do not use AC/Adapter/Charger outdoors or in wet or damp locations
- Connect the AC/Adapter/Charger to the correct mains voltage, as indicated on the ratings label.
- Do not allow anything to rest on the power cord, and do not locate the product where people can walk on the power cord.
- Avoid using this product during an electrical storm. There may be a remote risk of electric chock from lightning.
- Do not use this product in the vicinity of a gas leak or in any explosive environment.
- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous, high voltage points and other hazards. Contact qualified service personnel for all service.

# Precautions relating to optical connections

- The normal operating life of an optical connector is usually of the order of a few hundred manipulations. It is then advisable to manipulate the optical connections of the Platform as rarely as possible.
- The proper operation of the instrument and its accuracy of measurement are dependent on the cleanliness of the environment and the optical connectors as well as the care taken in its manipulation.
- The optical connectors must therefore be clean and dust-free. If the optical connection is not being used, protect the connections of 2000 Platform using the protective caps.

As an example, the results of measurements made with connectors that have not been cleaned will display an error of the order of 10% for all measurements. This error is additional to other errors inherent in the measurement process and due, for example, to the quality of the fiber (circularity and concentricity), the means of connection (axis alignment, distance between fiber faces, quality of fiber faces) and propagation modes.

# Laser Safety instructions

The provisions contained in two standards define the safety procedures to be observed both by users and by manufacturers when utilizing laser products:

- EN 60825-1: 2001 - Safety of laser products – Part 1: Classification of products, requirements and user guidelines.
- FDA 21 CFR § 1040.10 - Performance standards for light-emitting products - Laser products.

Due to the range of possible wavelengths, power values and injection characteristics of a laser beam, the risks inherent in its usage vary. The laser classes form groups representing different safety thresholds.
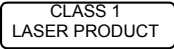
## Laser classes

Standards EN 60825-1, Edition 1.2, 2001-08 and FDA21CFR§1040.10:

- VFL option: Class 2.

# Warning labels for the laser classes

Due to the reduced dimensions of the optical modules, it is not possible to attach the required warning labels to them. In line with the provisions of Article 5.1 of the EN 60825-1 standard, the laser class identification labels are shown below:

| Standard Ref. | EN 60825-1, Edition 1.2, 2001-08 | FDA21CFR§1040.10 |
|---|---|---|
| Class 1 | CLASS 1 LASER PRODUCT | |
| Class 1M | LASER RADIATION DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 1M LASER PRODUCT | |
| Class 2 | LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT | CAUTION LASER RADIATION - DO NOT STARE INTO BEAM CLASS II LASER PRODUCT |

The user must take the necessary precautions concerning the optical output of the instrument and follow the manufacturer's instructions.

> **Measurements on optical fibers are difficult to execute and the precision of the results obtained depends largely on the precautions taken by the user.**

# 2

# 2000 Platform Overview

This chapter provides a general description of the 2000 Platform.

Topics discussed in this chapter include the following:

# Unpacking the instrument

**1** Remove the 2000 Platform and its accessories from the packing case.

**2** Check that the module and accessories ordered are all there.

If any part is missing or damaged please contact your local Viavi agent.

The 2000 Platform is delivered as standard with:

**Table 1** Elements delivered on standard with the 2000 Platform

| |
| --- |
| A Li-Polymer battery, set into the equipment and which must be charged before use |
| A mains adapter used for mains operation of the instrument and battery charging |
| 4 country adaptable plugs (Europe / UK / US / Australia) |
| A hands-free soft case for the 2000 Platform |
| A shoulder strap |

# About the 2000 Platform

The architecture of the 2000 Platform is made of one Platform, to which a module can be added to perform tests on fiber networks.

The modules that can be fitted to the 2000 Platform are interchangeable in the field and different kinds of module are usable:

- OTDR Modules
- PON Selective Power Meter (OLP)
- CWDM Analyzer Modules (C-OSA)

The 2000 Platform employs multi-tasking for the simultaneous performance of several operations:

- acquisitions
- modifications of parameters
- trace analysis
- report management

It also allows to use simultaneously several functions:

- Power Meter

- Scope
- OTDR measurements...

# Main features

The 2000 Platform is equipped with the following elements:

- A 5 inch TFT color touchscreen, high visibility
- RJ45 plug for Ethernet interface
- Two USB 2.0 host connectors for Microscope, USB memory stick, mouse, keyboard...
- An audio jack to connect a headset
- A connection socket for the mains adapter providing the 12 V power supply and used to charge the battery.
- LED indicators for Charge, On status and Test
- A Li-Polymer battery
- A module interchangeable in the field: OTDR, OLP, or C-OSA.
- Built-in Power Meter, VFL and/or Talkset (options)

With the 2000 Platform, the user can:

- Open and/or transfer files to a PC via a USB memory stick, USB cable or Bluetooth (option)
- Generate pdf reports
- Open all user documentations included into the 2000 Platform
- Update the 2000 Platform firmware
- Remote the screen of the 2000 Platform onto a PC and issue commands from the keyboard of the PC
- ...

**Fig. 1**      2000 Platform with module
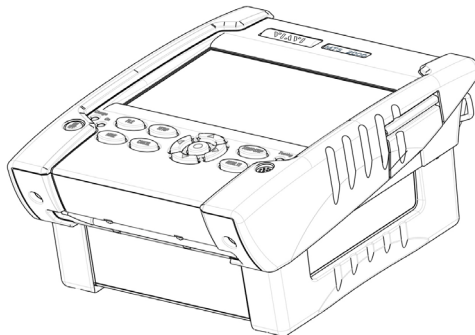


**Fig. 2**      2000 Platform: Front view



TFT 5" Color
Touchscreen

Indicators

Hard keys

Buzzer
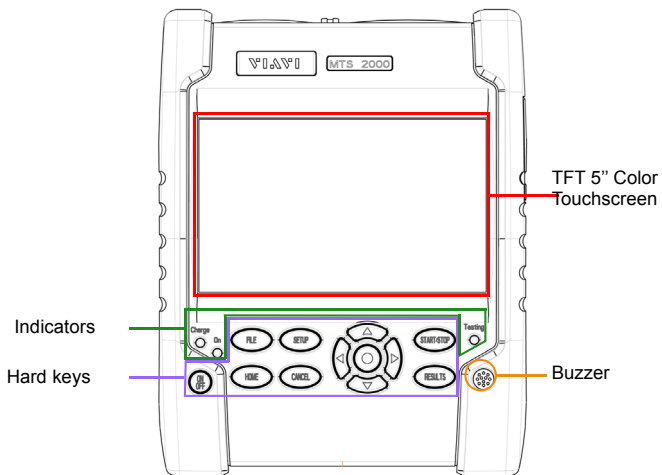
**Fig. 3**          2000 Platform: Connectors View



RJ45          USB host          Power Meter          VFL                                    AC/DC Input          Headset jack
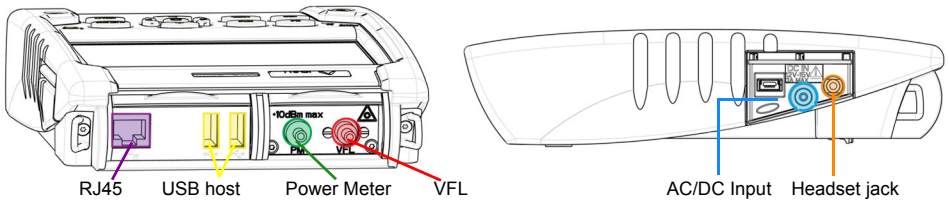
# Hard keys and Indicators

## Front panel hard keys

**Fig. 4**          Hard keys and Indicators



**Table 2**          Hard keys description

| Hard key | Function |
|---|---|
| ON OFF | Main on/off switch |
| FILE | This button calls up the file explorer. It allows to:<br>• choose the storage medium: internal memory, USB key.<br>• manage files; with facilities for classifying them in directories and sub-directories. |
| HOME | Gives access to:<br>• selection of the different measurement or functions<br>• the settings of the instrument<br>• the help page |

**Table 2**     Hard keys description

| Hard key | Function |
|---|---|
| SETUP | This button calls up the measurement configuration menu. This menu depends on the function in use. |
| CANCEL | This button allows to deselect a function or escape a menu |
| START/STOP | Starts and stops the measurement. |
| RESULTS | This button calls up the results page (e.g. with OTDR module: reflectometry trace and table of results). |

> **NOTE**
>
> All these functions, except **HOME**, depend on the modules used and the measurements made: refer to the user manuals of the corresponding modules of the 2000 Platform.

The 6 buttons are available clicking on the upper banner of the screen.

A key **Export** is also available, allowing to generate a screenshot of the current displayed screen, in pdf. It is saved in the `disk`.

**Figure 5**     Buttons on the upper banner

| Export | Home | File | Setup | Results | Start/Stop | Enter |

The direction keys have two principal functions:
– on the Results page, they are used to move the cursors or modify the zoom factor.
– on the set-up pages, they are used to scroll through the menus, the central button serving to select or confirm the parameter chosen.

# Front panel indicators

The 2000 Platform is equipped with three indicators, lit into a different color according to the status of the unit.

**Table 3**   Indicators Status

| **On indicator** | | |
|---|---|---|
|  | *Blinking green* | The instrument, though connected to an external power source, is switched off. |
|  | *Solid green* | The instrument is operating, either by battery or on an external power supply. |
| **Charge indicator** | | |
|  | *Solid green* | The instrument is connected to an external power source and the battery is fully charged. |
|  | *Solid red* | The instrument is connected to an external power source, and the battery is on charge. |
| **Testing indicator** | | |
|  | *Solid red* | At least one function is in measurement phase (for example, the laser emission pilot for an OTDR measurement) |

# Power Supply

The 2000 Platform may operate with

- the Li-Polymer battery, already set into the equipment on delivery.
- an AC adapter/charger, via a power cable on which has been set the correct country adaptable plug.

**Fig. 6**          Delivered elements for 2000 Platform supplying



Power supply plug

Interchangeable plugs

US adaptable       AUSTRALIA       EUROPE          UK
plug               adaptable plug  adaptable plug  adaptable plug

3
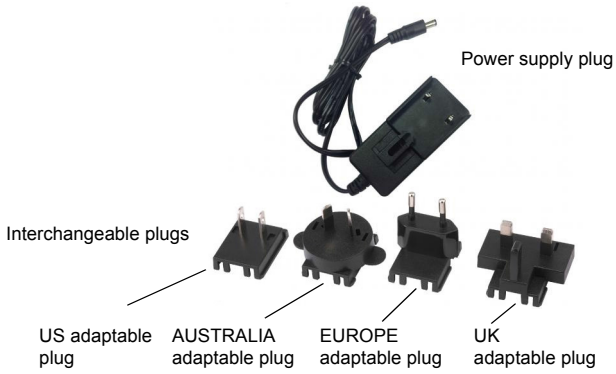
# Starting up

This chapter describes the first steps to perform when using the 2000 Platform.

The topics discussed in this chapter are as follows:

- "Fitting and removing a module" on page 14
- "Setting the adaptable plug to the mains adapter" on page 15
- "Charging the battery" on page 15
- "Switching the 2000 Platform on and off" on page 17
- "First start: configuring your regional settings" on page 18

# Fitting and removing a module

⚠️ **The 2000 Platform must be switched off, and if it is operating on the mains, its supply cable must be unplugged.**

## Fitting a module

**1** Turn the instrument face down on the work surface.

**2** Set the two notches on the module part **(1a)** into the two holes provided for that purpose on the Base **(1b)**.

**3** Make flush the 2 connections **(2a & 2b)**, on module and base.

**4** Once positioned, fix the module to the base screwing the 2 screws **(3a)** fixing the receptacle.

**Fig. 7** Fixing the module to the base
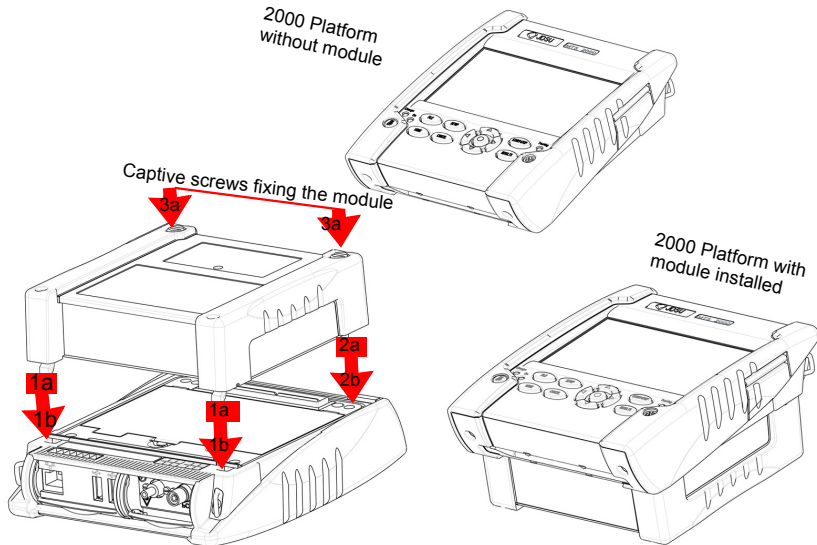
## Removing a module

**1**   Unscrew the two captive fixing screws of the module completely (up to the stop).

**2**   Remove the two slots of the module from their housing onto the base.

**3**   Carefully remove the module out of its slot.

# Setting the adaptable plug to the mains adapter

The 2000 Platform is supplied as standard with a mains adapter and 4 country adaptable plugs (Europe / UK / US / Australia).

To set the correct plug to the mains adapter:

**1**   Make flush the connector onto the mains adapter with the adaptable plug slots.

**2**   Push the adaptable plug until it stops.

> ⚠ **If the adapter plug is not correctly set onto the mains adapter, the connector may be damaged.**

# Charging the battery

> ⚠ **CAUTION**
> **Upon reception of the product, the battery of the 2000 Platform needs to be fully recharged, no later than 6 months after the date of calibration.**
>
> **If the product is unused for a long period, the battery needs also to be periodically fully recharged, with a period not longer than 12 months**

## Connecting the mains adapter

**1**   Set the appropriate adaptable plug to the power supply cable, according to your country (see ).

**2**   At the right side of the 2000 Platform, lift up the power supply socket protector and plug in the mains adapter.

**3**   Connect the adapter to the mains.

The **On** indicator lamp starts to blink in green.

> ⚠️ **Use only the mains adapter supplied with the 2000 Platform. The adapter for some other electronic device may appear to be identical, but entails a risk of damage to the 2000 Platform.**

# First use of the battery

At the delivery, the battery is already set into the Platform, but its charge level is not «recognized» by the equipment.

The icon 🔋 is displayed on the upper banner of the screen.

To get a valid indication of the battery, and be able to use correctly the Platform:

**1** Charge fully the battery

**2** Once fully charged, discharge the battery by keeping the Platform switched on, but not plugged to mains.

**3** The battery can then be charged, and the Platform used simultaneously.

# Charging the battery

On connection to the mains:

- if the user does not press **ON**, the battery will start the charge. In this case, the **Charge** indicator will be lit in red.
- when the user presses the **ON** key, the instrument starts up and the battery will charge during use (**Charge** indicator in solid red).

Once the battery is fully charged, the **Charge** indicator is lit in solid green.

When the **Charge** indicator is blinking red, this mean the power supply is not compatible with the battery used. Charge is disabled.

> ⚠️ **It is essential to wait until charging is complete to ensure maximum independent operating time, which may otherwise be considerably reduced.**

# Battery charge level display

When the battery is installed in the instrument, a battery icon is displayed in the top right-hand corner of the screen. Example: .

**Table 4**    Battery icons

| | |
|---|---|
| | The battery capacity is superior to 75% |
| | The battery capacity is set between 50% and 75% |
| | The battery capacity is set between 25% and 50% |
| | The battery capacity is inferior to 25% |
| | The battery capacity is unknown. Perform a full charge/discharge of the battery to get back to a valid indication.<br>This icon may appear if battery is changed or if the battery auto discharges at a very low level (example: if a Platform switches off as battery is empty, and the charge is not done during several months (= auto discharge)). |

- When the level becomes too low, the instrument emits a beep ton inform the user until it switches off automatically after saving the current configuration and measurement.

# Switching the 2000 Platform on and off

## Switching on the 2000 Platform

**1**    Press the **ON/OFF** key.

If the Platform is powered to mains, the battery will charge.

The **On** indicator pass from blinking to solid green.

The Viavi logo appears on the screen briefly, then an auto test is carried out.

The equipment is ready to be used once all the applications are installed.

> **NOTE**
>
> It is possible to switch over from battery to mains operation, or vice versa, without loss of data.

> **The module cannot be swapped when the unit is ON or AC powered**

> **In the event of an unexpected mains power cut, if there is no battery, the current results and configuration will not be saved. Next time the instrument is switched on, it will return to its initial configuration.**

# Switching off the 2000 Platform

While the 2000 Platform is operating, press the **ON/OFF** button to switch it off.

> **NOTE**
>
> When the instrument is switched off using the **ON/OFF** button, current results and configuration are saved. Next time the **ON/OFF** key is pressed, they are recalled.

# Resetting the 2000 Platform

If the 2000 Platform freezes, prolonged pressure (about 4 s.) on the **ON/OFF** key will reset the instrument.

# First start: configuring your regional settings

Once the 2000 Platform is switched on, the first screen displayed allows to configure the regional settings.

Those settings will be kept in memory and automatically applied on the instrument each time it is restarted.

**Fig. 8**          Regional Settings



**1**      Click on **Language** and select the language to be used for the equipment.

**2**      Click on **Date** and enter the current date, using the numeric keypad displayed using the menu key **Edit Number**.

**3**      Click on **Time** and enter the current time, using the numeric keypad displayed using the menu key **Edit Number**.

The date and time are displayed on the upper right side of the screen.

**4**      Click on **Date Time Format** and configure the following parameters:

–      **Date format**: select one of the option **dd/mm/yy** or **mm/dd/yy**.

–      **Time format**: select one of the option **24 hour clock** or **12 hour clock.**

**5**      Click on **Net Time** parameter to configure the date and time according to a network.

**Dynamic Mode**: the time is synchronized according to the local network.

The two lines **Server Name** are displayed but cannot be modified.

**Static Mode**: in this case, the time is synchronized to the network server which is defined in the two following parameters.

On the parameter **Address Type**, select if the address of the server which will be used for synchronization is entered via its I**P Address** or via the **Server Name**..

If **IP Address** is selected, enter one or two server addresses in the following parameters. During synchronization, the first address will always be used, but if a fail occurs, the second one will be used.

If **Server Name** is selected, enter the name of the server, and if necessary a name for second server. During synchronization, the first server name will always be used, but if a fail occurs, the second one will be used.

During synchronization the icon 🖥 displays on the upper banner between the date and time.

Once all parameters have been defined, press **Exit** menu key to return to **System Settings** page.

# 4

# Configuring the 2000 Platform

This chapter describes the operations for configuring the instrument.

The topics discussed in this chapter are as follows:

- "Displaying the System Settings screen" on page 22
- "Defining the screen parameters of the 2000 Platform" on page 23
- "Defining the Automatic shutdown of the 2000 Platform" on page 24

# Displaying the System Settings screen

To display the **System Settings** screen, you must:

**1**    Press the **HOME** hard key to reach the **Home** page.

**Fig. 9**    Home page



**2**    Activate the **Settings** icon [icon] to open the **System Settings** screen.

**Fig. 10**    System Settings page

see "Talkset and
Datalink Functions"
on page 45
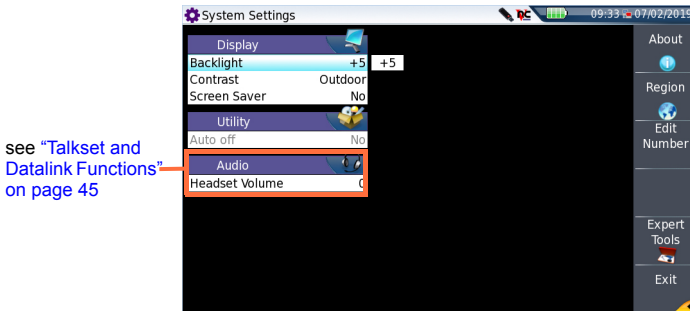


> **NOTE**
> If you are in the Regional Settings page, and you press **Exit**, then the **System Settings** page automatically displays.

# Defining the screen parameters of the 2000 Platform

In the **System Settings** page, the following parameters can be defined:

## Backlight

**1**   Click on **Backlight**

**2**   Define the backlight level of the screen, using the left and right direction keys, or clicking on **Edit Number** softkey and using the keypad displayed.

–   Min backlight level: -5

–   Max backlight level: +5

> ⚠️ **If the 2000 Platform is operating on battery, it is advisable to choose a minimum lighting level, acceptable for the user, to keep endurance as long as possible.**

## Contrast

**1**   Click on **Contrast**

**2**   Select the type of environment into which the instrument is used:

•   **Indoor**: to be selected when the instrument is used inside (see Figure 10)

•   **Outdoor**: to be selected in order to optimize the readability of the screen for an outside use.

**Fig. 11**     Example of indoor contrast
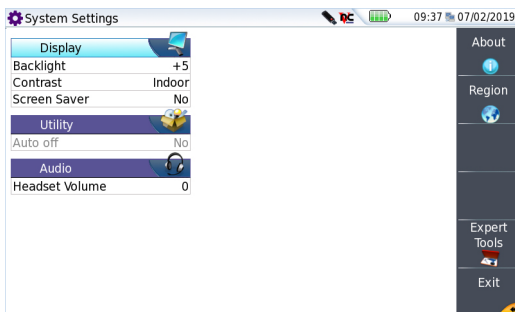
## Screen Saver

Click on **Screen Save** if you wish to activate a screen saver to the equipment, to extend the life of the battery, in case the 2000 Platform is not used for some time.

Instead of the normal screen, a small animated picture of the 2000 Platform is displayed on the blackened screen.

To configure the screen saver:

**1**    Click on **Delay** and select the time of inactivity before the screen saver starts: **60s**, **3 min**, **5 min**.
The parameter **No** deactivates the screen saver function.

# Defining the Automatic shutdown of the 2000 Platform

The automatic shutdown function switches off the 2000 Platform automatically if no operation has been performed and no key actuated for a period selected from this menu. Work in progress is automatically saved.

> ⚠️ **The function for automatically switching off the 2000 Platform is available only on battery operation, to save the battery.**

**1**    In the **Utility** box, click on **Auto off** parameter.

**2**    Choose a time after which the 2000 Platform will be switched off automatically, if no action has been done for that period: **5**, **10** or **30 minutes**.

Select **No** if the 2000 Platform must not be switched off, even if there is inactivity on the equipment.

# Power meter, VFL (Visual Fault

# Locator) & Talkset

A variety of built-in optical options are available when ordering. See references in Chapter 10 "Options and accessories", for details.

The topics discussed in this chapter are as follows:

# Connection to the power meter, VFL and Talkset

**Fig. 12**          Optical connectors
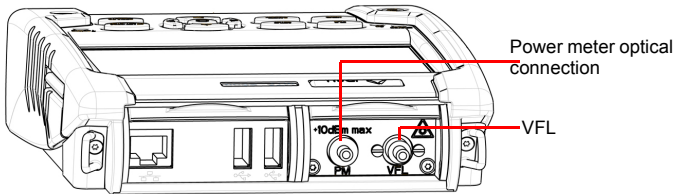


The type of optical connector used for the power meter is UPP (Universal Push Pull), which is compatible with all diameter 2.5 mm connectors (FC, SC, ST, DIN, E2000, etc.)

# Using the Power meter

The power meter function is an option chosen at the time of order and incorporated into the 2000 Platform in the factory.

To activate the function:

**1**    Press the **HOME** button

**2**    Activate the power meter icon of the Platform .
         The effect of this action will to be to bring the power meter into use and to display the Results page for Power Meter.

## Configuring the power meter

The configuration parameters can be accessed with the **SETUP** key.

**Fig. 13**        Configuration of power measurement
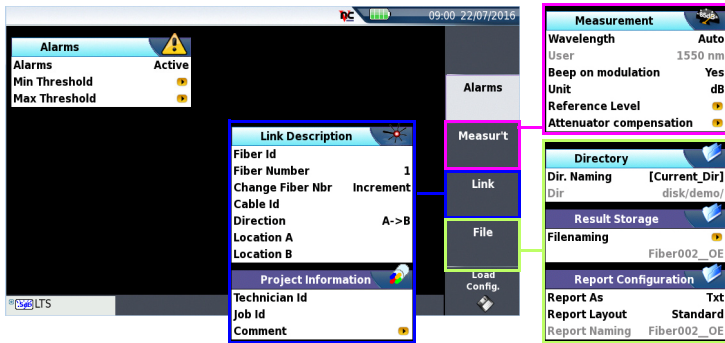


# Configuring the alarm parameters

**Alarm**                Activation of the Alarm function: any result below the lower threshold or above the upper threshold will be displayed in red on the Results page.

**Min and max thresholds**

Choice of lower and upper thresholds for each available wavelength, from -60 to +40 dBm (selected with the direction keys).

> **NOTE**
> To copy one value of the Lower or/and Upper threshold for all wavelengths, select the reference value and click on **Update for All Wavel.**.

> **NOTE**
> A continuous push on direction keys increments the value by 10 dBm.

# Configuring the Measurement parameters

In the **Setup** page, press **Measur't** soft key (if one parameter is selected in the current screen, press **Top Menu** soft key to display the right menu keys and click on **Measur't**)

| | |
|---|---|
| **Wavelength** | Select wavelength:<br>**Auto**: the wavelength of the input signal will be automatically detected and selected to perform the measurement:<br>**850**, **980**, **1300**, **1310**, **1420**, **1450**, **1480**, **1490**, **1510**, **1550**, **1578** or **1650 nm**: measurement performed at specified wavelength.<br>**User**: choice of wavelength on the next line |
| **User choice** | (if the **User** option was selected in the Lambda line) selection of the wavelength between 800 nm and 1650 nm, by means of the direction keys ◀ and ▶ (in 1 nm steps) or clicking on **Edit Value** to use the numeric keypad to enter a wavelength. |

> **NOTE**
>
> Using MP 60 or MP80 power meter, set manually to **Auto** the Lambda to automatically detect the wavelength: in results page, press **Power Config.** > **Wavelength** key multiple times until **Auto** is displayed.

| | |
|---|---|
| **Beep on modulation** | Select if a sound must be heard when a modulation occurs (**Yes** / **No**) |
| **Unit** | Unit of power displayed:<br>**Watt**, **dBm** for displaying absolute power<br>**dB** for displaying a result relative to a reference (link loss) |
| **Reference level** | If dB units were chosen in the previous line, selection of the reference value for the wavelength selected. Using the direction keys, first choose the wavelength, then press the > key to access choice of the value (+XXX.XX), then confirm this value with the **ENTER** key.This reference is also automatically available, in the **Results** page, using the **Set as Reference** key. |
| **Attenuator compensation** | |
| | Choice of level to be applied to the wavelength chosen for measurement to compensate for the loss due to the external attenuator (+XX.XX dB). First use the direction keys to choose the wavelength, then press ▶ to access choice of value, then confirm this value pressing **ENTER.** |

> **NOTE**
> To copy a Reference Level/Attenuator Compensator on all wavelengths,
> select the reference wavelength and click on **Update for All Wavel.**.

# Configuring the Link parameters

In the **Setup** page, press **Link** soft key (if one parameter is selected in the current
screen, press **Top Menu** soft key to display the right menu keys and click on **Link**).

> **NOTE**
> The softkey **Copy File/Link To all** is displayed when one parameter is
> selected in the Link or File Setup page and when the Powermeter function is
> active at the same time as another FO application (for example, OTDR
> Expert).
> It allows to apply the Link and File configuration parameters of the current
> applications to all the other active Fiber Optic applications (powermeter and
> source).

The information entered in the **Link Description** window concerns the editing and/or the
modifications of the cable and fiber parameters. When a trace is recalled without recall
of the configuration, the parameters of this trace will be present only in its signature.

## Link Description

## Fiber ID

Select the parameter **Fiber Id** and enter a name for the fiber, using the edition keypad.

## Fiber Number / Fiber Code[1]

The parameter **Fiber Number** becomes **Fiber Code** if, in the **Cable Structure** window,
the **Cable Content** parameter is defined on another parameter than **Fiber** (**Ribbon/
Fiber**, **Tube/Fiber** or **Tube/Ribbon/Fiber**). See page 33.

The fiber code corresponds to the fiber number if, in the **Cable Structure**, the parameter
**Color coding** is defined on **No**.

---

1.Fiber Code parameter is exclusively available if Super Expert license is installed into
the equipment

The fiber code corresponds to the fiber color if, in the **Cable Structure,** the parameter **Color coding** is defined on **Yes**.

Select the parameter **Fiber Number/Fiber Code** and modify the parameter using the left and right direction keys.

The fiber number can be automatically incremented/decremented at each new file save if it has been configured in following parameter.

> **NOTE**
>
> The Fiber Code and the fiber number concatenated with **Fiber Name** are interdependent: they are incremented or decremented at the same time. However, the fiber number remains a number only, while the fiber code is alphanumerical. Whether it includes a color code or not (see "Cable structure" page 31), it may be composed of one, two or three parts (see page 30).

**Table 5**     Example of incrementation of fiber code

| Fiber and cable parameters used in the example: Fiber Name: 'Fiberx' Cable Content: 'Tube/Fiber' Max Tube: 12 Max Fiber: 24 Coding used for the fiber and the tube: TIA | | | | |
|---|---|---|---|---|
| | **Fiber N** | | **Fiber N+1** | |
| **Color Code** | **Yes** | **No** | **Yes** | **No** |
| **<Fiber Name>** | Fiberx24 | Fiberx24 | Fiberx25 | Fiberx25 |
| **<Fiber Code>** | Bl/Aq- | 1/24 | Gold/Bl | 2/1 |

## Change Fiber Nbr

**Increment**      the fiber number is automatically incremented at each new file-save.

**Decrement**      the fiber number is automatically decremented at each new file-save

**User defined**      Use **Edit Number** softkey to enter the increment/decrement value for fiber number.

Note: to decrement the number, enter the sign «-» before the number. Example: -1.

Min: -999 / Max: 999 / Auto: 0

**No**             the Fiber number must not automatically modified.

## Extremities are different[2]

In some cases, it is interesting to save different information for the origin and the extremity of the cable.

If this option is validated, it is possible, after selecting the extremity to be edited in the **Cable Structure** menu, to modify the values specific to the cable (cable name, color coding, content of the coding), for each of these extremities. See "Cable structure" page 31)

To display/modify the data specific to the fiber (name and code), it is necessary to change direction temporarily. In the "O->E" direction, the information on the origin can be edited, and in the "E->O" direction, that on the extremity.

## Cable Id

This parameter allows to enter an identification of the cable, using the Edition menu.

## Direction

The direction shows if the acquisition has been made from the origin to the extremity (A->B) or from the extremity to the origin (B->A). Changing direction makes it possible, when different extremities are handled, to see the parameters of the fiber for the other extremity.

## Location A

The name of the Location A of the link may be entered here.

## Location B

The name of the Location B of the link may be entered here.
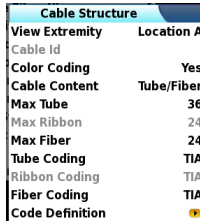
## Cable structure[3]

This line opens a sub-menu, all the parameters of which can be different for each extremity.

---

2.Available exclusively if Super Expert License is installed into the equipment
3.Available exclusively if Super Expert License is installed into the equipment

**Fig. 14**        Cable structure menu



> **NOTE**
>
> The **Cable Structure** window is specific to an extremity. Each struc-ture keeps its own parameters by default. Modifications made to the one are not automatically applied to the other. Thus, after the values relating to the origin have been modified, it is normal not to find these same values entered for the extremity.

**View extremity**    If extremities are declared as different (see "Extremities are different" page 31), this parameter allows to navigate between the Extremity and Origin parameters.

**Cable Id**          If the extremities are different, you can specify the cable identification for the origin and the extremity.

**Color Coding**      Choice of whether or not to apply a color coding to the fiber. This choice is made at link level, as all the fibers of a given link, for a given extremity, will be coded the same way. This choice modifies the result of the <Fiber Code> line. See "Fiber Number / Fiber Code" page 29.

**Cable content**    Shows how the color code is to be used (see figure "Cable structure menu" page 32):

– Fiber             Only the color code of the fiber is proposed (example: «Gold»)

– Ribbon/Fiber    The color code of the fiber is preceded by that of the ribbon, and separated by a '/' (example: 'Bl/Or')

– Tube/Fiber      The color code of the fiber is preceded by that of the tube, and separated by a '/' (example: 'Br/Or')

– Tube/Ribbon/Fiber

                 The color code of the fiber is preceded by that of the tube, then by that of the ribbon; the three being separated by a '/' (example: 'Br/Bl/Or'). See "Fiber Number / Fiber Code" page 29.

**Max tube**    Shows the maximum number of tubes in the cable for the extremity selected. This information influences the automatic coding of the fiber. See "Fiber Number / Fiber Code" page 29.

**Max ribbon**    Shows the maximum number of ribbons in the cable for the extremity selected. This information influences the automatic coding of the fiber. See "Fiber Number / Fiber Code" page 29.

**Max fiber**    Shows the maximum number of fibers in the cable for the extremity selected. This information influences the automatic coding of the fiber. See "Fiber Number / Fiber Code" page 29.

> **NOTE**
>
> Some parameters are not valid in the configuration selected. Thus, if no tube is selected in **Cable Content**, all the lines relating to the tube concept will be deactivated (grayed out in the menu).

**Tube Coding, Ribbon Coding, Fiber Coding**

                 The lines Tube Coding, Ribbon Coding and Fiber Coding enable selection of the color coding of the tube, the ribbon and the fiber from 5 different codes described below: TIA, USER 1, USER 2, USER 3 and USER 4.

**Code Definition**    The Code Definition line opens a sub-menu, with which the different color codes possible on the instrument can be displayed and modified.

Five different codes can be managed by the 2000 Platform, including a standard code. The standard code (TIA) may be displayed but it cannot be modified.

The other codes, called by default USER1, USER2, USER3 and USER4, can be entirely personalized.

- – Edited codeselects the code for display or modification.
- – Code nameto give a new name to the code selected, press the ▶ key, which calls up the edit menu.
- – View codesdisplays the color codes 1 to 12, 13 to 24 or 25 to 36.
- – Code 1...36use the arrow ▶ to modify the codes if necessary.

## Project information

### Technician Id

Use the arrow ▶ to enter the name of the operator carrying out the measurement.

### Job Id

Use the arrow ▶ to enter a description of the measurement to be performed.

### Comment

In contrast to the other data in this menu, the comment is specific to a fiber. This line is thus used to enter a new comment and not to display it. The comment appears at the top of the screen, with the other parameters of the fiber.
This comment will remain available for the next acquisition, unless it is deleted. It is also saved when a trace is saved with a comment.

## Configuring the File parameters

The File storage parameters must be also configured, in order to define how the results will be saved on to the 2000 Platform.

In the **Setup** page, press **File** soft key (if one parameter is selected in the current screen, press **Top Menu** soft key to display the right menu keys and click on **File**).

> **NOTE**
>
> The softkey **Copy File/Link To all** is displayed when one parameter is selected in the Link or File Setup page and when the Powermeter function is active at the same time as another FO application (for example, OTDR Expert).
>
> It allows to apply the Link and File configuration parameters of the current applications to all the other active Fiber Optic applications (powermeter and source).

## Directory Configuration

### Dir. Naming

Click on **Current Directory** menu key to select the directory currently selected in the explorer for files saving
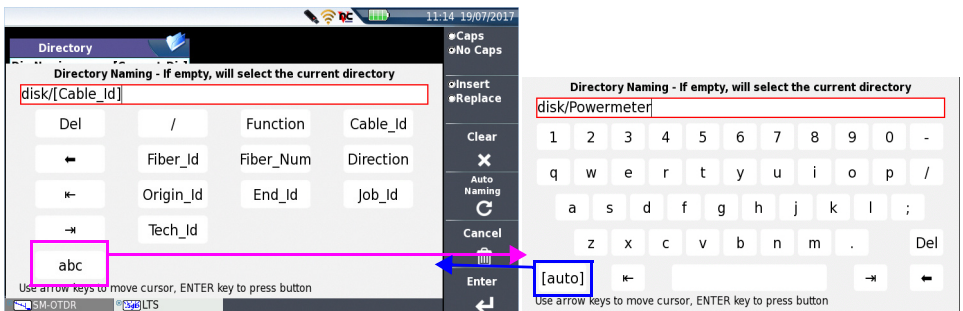
or

Use the arrow ▶ to enter the directory name and path:

In the edition keypad, select the pre-defined parameters available or, press **abc** key to enter a name manually for the directory. Then, press **Enter** to validate.

Example: `disk/Powermeter`

**Fig. 15** Directory - Edition keypad



or

Press **Auto Naming** to apply the name by default to the directory:

```
disk/[Cable_Id]
```

Press **Clear** and validate (**Enter** key) in order to define the `[Current directory]` selected as directory for saving measurements.

## Dir

This parameter cannot be configured, and display the directory selected by default into which the file(s) will be saved.
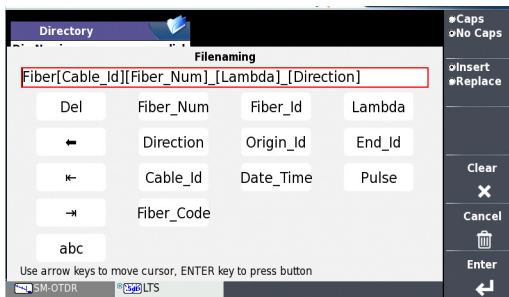
## Result Storage

## Filenaming

Select **Filenaming** parameter and press the right arrow key to modify the name of the file for the result trace.

In the edition keypad, select the pre-defined parameters available or, press **abc** key to enter a name manually for the file. Then, press **Enter** to validate.

**Fig. 16**        Filenaming - Edition keypad (auto)



or

Press **Default Filename** to apply the name by default to the file:

```
Fiber[Cable_Id][Fiber_Num]_[Lambda]_[Direction]
```

The name of the file is displayed in grey under **Filenaming** parameter

## Report Configuration

The powermeter results file can be saved with or without a report according to the configuration defined.

In the parameter **Rapport As**, select the format for the report which will be saved with the powermeter file:

| | |
|---|---|
| **No** | only the powermeter results are saved in a file with the extension.lts |
| **Txt** | the results are saved, with the extension «.lts» and a txt report file is also generated. |

If the text report is generated with the results file, the **Report Layout** parameters turns active:

Select the saving mode for the report:

| | |
|---|---|
| **Standard** | the report is saved in a standard txt file. |
| **Consolidated** | the report is saved in a text file, into which results are consolidated. |

If the selected parameter is **Consolidated**, the following parameter, **Report Naming**, turns active and allows to enter a name for the report file. If no name is defined, the file will automatically be saved with the name `Report_LTS`.

# Saving configuration in a file

Once File and Measurement parameters have been configured, those parameters can be kept in memory and saved in a configuration file.

This configuration file can then be recalled in order to be applied when powermeter measurements are performed.

To save parameters in a configuration file:

**1**   If necessary, press **SETUP** to return to **Setup** page.

**2**   Select one parameter in one of the setup page (acquisition, link..)

**3**   Press menu key `Save Config.` .
An edition keypad displays

**4**   Enter a name for the configuration file (max. 20 characters).

> **NOTE**
> Configuration file is saved by default in the directory **disk/config/LTS**.

**Fig. 17**        Save Configuration file - Edition keypad

Directory into
which file will be
saved
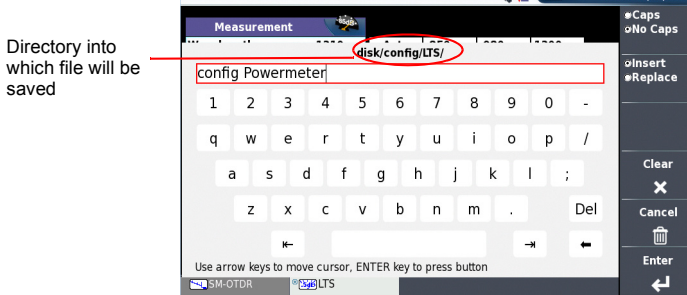


**5**    Press **Enter** to validate

A sound is emitted to indicate the file is saved.

The configuration file is saved with the extension .fo_cfg (icon 🖼 ) and can be recalled at any time from the **Explorer** page.

# Loading an existing LTS configuration

To load a configuration file previously created or available in the T-BERD/MTS/ Smar-tOTDR and apply parameters to new Powermeter tests:

## From the File Explorer page

**1**    Press **FILE** hard key

**2**    Select the configuration file desired.

**3**    Press **Load** > **Load Config.**

•      Press **SETUP** hard key to display the configuration parameters saved in the selected configuration file.

You can modify some acquisition or file storage parameters, and save them in a new configuration file (see "Saving configuration in a file" on page 37).

## From the Setup page

**1**    Select one header in either Setup page (Acquisition, Link, File...)

**2**    Press **Load Config.** menu key.

The file Explorer page displays

**3**    Select the configuration file desired

**4**    Press **Load Config.** to load the configuration file for measurements.

A sound is emitted to confirm the loading.

The **Setup** screen is displayed again.

> **NOTE**
> Most of the configuration files are available into the equipment, in `disk/config`.

**Fig. 18**    Loading a configuration file
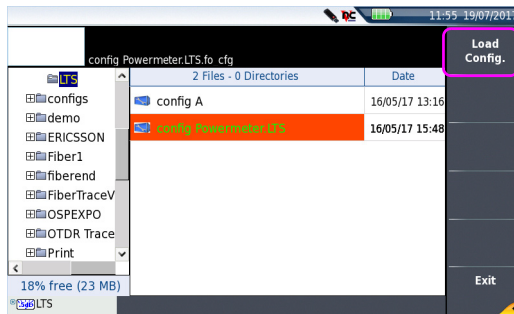


# Display of results and commands

The results page called up by the **RESULTS** button**,** gives the information relating to the measurement in progress, results previously saved and the commands available for measurement and saving.

## Result of the measurement in progress

The power measured by the power meter is displayed in large characters, in the units selected in the **SETUP** menu, together with:

•    the mode of transmission of the signal measured: continuous (CW) or modulated to a frequency of 270Hz, 330Hz, 1KHz, or 2KHz.

•    the wavelength of the signal measured.

• the reference level expressed in dB.
• the level of Attenuation Compensation.

## Table of results

For each fiber being tested, the power meter displays a table of 9 results corresponding to the different possible wavelengths. The first 4 results are displayed on the screen; to scroll through the other results, use the direction key ▼. The table shows the power measured in dBm, the relative power (in dB) and the reference level in dBm (if units = dB), together with the mode.

• A measurement result is displayed in the table when the **Keep Result** softkey is pressed.
• The **Clear Table** softkey deletes all the results displayed in the table.
• If the Alarm function has been activated, any result that exceeds the selected thresholds appears in red in the table. Otherwise, results are shown in the table in green.
• When the instrument is switched off, results present in the table are kept.

**Fig. 19**     Results and commands of the power meter



## Commands of the power meter parameters

When the Powermeter function is selected, the following softkeys are available on the results page:

The different configuration buttons are displayed:

- • **Wavelength**        selection of the wavelength
- • **Unit**        choice of the unit
- • **Zero**        Adjustment of the Zero value when the power meter's optical input is closed with a plug or cap (a validation is required).

On the results page, the following actions are available:

- • **Standard Reference**

    Selects the current result as reference value to measure the insertion of a link. This reference is displayed under the measurement result until a new reference is performed.
- • **Keep Result**        Keeps the result on the corresponding line of the table.
- • **Clear Table**        Deletes all the results displayed in the table.

If the Source function is selected (either on this Platform / base Unit or on an OTDR module), the Power meter results page is different:

- • The choice of **Wavelength**, **Unit** and **Zero** menu keys are accessible via the menu key **Power Config**.

# Performing a measurement

The power meter is started up as soon as the function  is activated in the **HOME** menu.

> ⚠️  Power measurement is automatically updated in consequence. The value «<-60 dB» is displayed when the laser is switched off and if the source output is looped on to the power meter input.

## Power measurement

**1**   Connect the light source to be tested to the rear connector (see "Connection to the power meter, VFL and Talkset" page 26).

**2**   In the **SETUP** menu, choose the units dBm, dB or Watts.

**3**   Press the **START/STOP** key to start the measurement**.**

The result will appear in the results page and can be memorized in the table (see "Table of results" page 40).

**4**   Press the **START/STOP** key to stop the measurement.

# Optical link loss

## Setting the zero value of the power meter

⚠️ It is important to set the zero of the power meter before performing any low power level measurement, when accuracy is critical, as the noise from the photodiode may fluctuate over time and with temperature.

**1** Fix the plug or cap over the optical input of the power meter so that no light can reach the photodiode of the power meter. If the zero adjustment is made without this plug, an error message may be displayed, as the photodiode will detect too much light.

**2** In the **Results** page, press the **Powermeter Config.** > **Zero** soft key and validate.

## Carrying out the reference measurement (1-jumper reference)

**1** Fix the adapter corresponding to the jumper to the optical connector of the power meter.

**2** Connect the jumper between the input of the power meter and the output of the source.

**3** Configure the same wavelength on the source and the power meter.
The power measured is displayed in the results page of the power meter.

**4** Press the **Standard Ref** soft key to save the result displayed as reference value.

## Measurements on the fiber under test

After defining the reference value, proceed as follows to make the measurement:

**1** Fix the jumpers and connectors needed to connect the fiber to be tested between the source output and the power meter input.

**2** In the set-up menu, select dB units.

**3** The power displayed in the Power Meter window corresponds to the optical loss of the link tested. It can be displayed in the table (see ).

## Combo Powermeter/OTDR

If the ExpertOTDR mode is activated at the same time as the Powermeter, a menu key
**Combo PM/OTDR** is displayed in the powermeter page.
It allows to launch an OTDR acquisition on the same port as the powermeter, clicking on
**Yes** in the dialog box displayed.

> ⚠️ **CAUTION**
>
> Only the following OTDR modules  used in combination with the powerme-
> ter, have the Combo PM/OTDR function; E4136RMAx, E4136RMPx,
> E4136RMP, Exx1xRMAx et Exx1xRMPx

**Fig. 20**        Combo Powermeter / OTDR
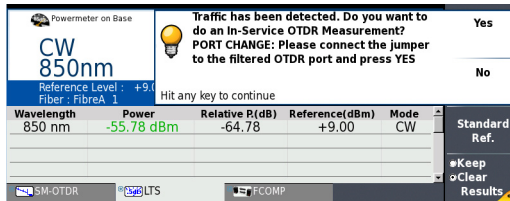


# VFL Function

## VFL connector

The type of optical connector used for the VFL source is UPP (Universal Push Pull),
which is compatible with all diameter 2.5 mm connectors (FC, SC, ST, DIN, E2000, etc.)

See to visualize the VFL connector.

## Visual Fault Locator function (VFL)

This function is used to emit a red light signal of frequency 1 Hz or in continuous mode
into a fiber to detect any defects in the dead zone of the reflectometer, or to identify it.
This function is suitable for short fibers (length < 5 km) or the first few meters of a long
fiber.

> **NOTE**
>
> Identification is facilitated by the blinking of light in the fiber.

To emit a light signal into a fiber:

**1**    Connect the fiber to the VFL port on the connectors panel.

**2**    Press the **HOME** key and activate the VFL .
The icons  display on the upper banner of the screen.

The signal mode of the VFL can be modified in the **System Settings** page, in **Utility** >
**VFL Mode** parameter.

> **NOTE**
>
> Press **CANCEL** button on the Platform to deactivate the VFL.

# Storing and reloading results

## Storing results

In order to save the results of a measurement, click on **FILE** and select **Store trace**. Two
files are being saved:

- The first file is used with the 2000 Platform and allows to retrieve all measure-
  ment results. It is saved with the extension «.Lts».
- The second file is a ASCII file using tabulations to separate values. It is saved
  with the extension «.txt» and can be opened by the 2000 Platform. It has been
  designed to be used with a spreadsheet program on a PC where it allows to
  retrieve all measurement results and format them in a nice customized table.

## Loading results

In order to load the results of a measurement, select a file  with the extension «.Lts»
in the file explorer (see the chapter «File management» in the user manual for «2100
modules series»), click on **Load**.

The LTS tab is displayed with the loaded results in the table

# Talkset and Datalink Functions

The Talkset option enables two operators at opposite ends of an optical link:

- To communicate along the fiber.
- To transfer data along the fiber.

Each end of the optical link must be provided with a 2000 Platform equipped with the Talkset option.

> **NOTE**
> It is possible to use the Talkset of the 2000 Platform and to carry out measurements at the same time, on a different fiber.

> **NOTE**
> It is possible to use the Data transfer feature while using the optical telephone of the 2000 Platform. Nevertheless, the data transfer speed will be slightly decreased.

## Talkset configuration

The talkset configuration is set in the **System Settings** screen, in the **Channel** box (see "Adjusting volume level" on page 48)

## Connections

At each end of the fiber:

**1** Connect the fiber to the Talkset port of the 2000 Platform, either directly or through jumpers.

> **NOTE**
> The Talkset option is delivered with a FC adapter mounted on standard on the talkset connector.
> In addition to the FC adapter, a SC adapter is also delivered with the Talkset option.

> ⚠️ **Viavi recommends you to use the following connections:**
> - PC Fiber Connection (APC is not recommended)
> - SC or FC connection (UPP is supplied but not recommended)

**Fig. 21**        Installation for Talkset use
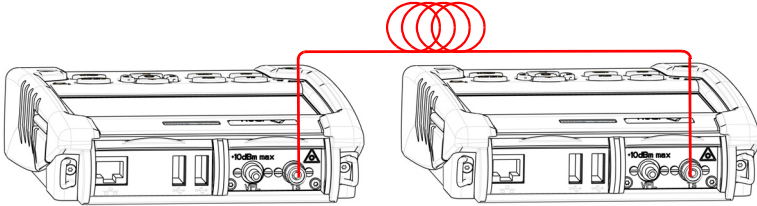


**2**    A headset (with earphones and a microphone) supplied with the option may also be plugged into the 2000 Audio jack.

> ▷ **NOTE**
> Data transfer uses the same fiber as the optical telephone

# Establishing communication

On the caller 2000 Platform, press the **HOME** button, then validate the **desired function:**

- **Talkset** 🎧 (Optical Telephone): used to communicate via the fiber.

- **Datalink** 🔗 : used to transfer data, perform OEO measurements or remote screen using the fiber.

If the remote instrument is ready to receive (on standby), the Talkset/Datalink icon turns yellow, beeps are emitted, and

- the icon 🎧 appears at the top of the screen: telephone communication can now take place.
- the icon 📠 appears at the top of the screen: data transfer can now take place.

If the remote instrument is not ready to receive, the icon does not change color and a message is emitted.

> **NOTE**
> The talkset icon is displayed on the top banner as long as communication remains established, letting the user know that the connection is working. When communication is established, the headset is automatically enabled if plugged in. However, the loud speaker must be correctly configured in the setup menu to work accordingly

> **NOTE**
> Data transfer varies according to the type of application you use. For Fiber Optics for example, you can use the explorer. The distant 2000 Platform will be shown just like a disk and all file and directory features can be used from and to that disk.

# Remote screen function via Optical Datalink

This enables an operator at one end of an optical link to take control over another 2000 Platform connected at the other end, using the fiber.

> **NOTE**
> Each end of the optical link must be provided with a 2000 Platform equipped with the Talkset option.

## Establishing communication

**1** On the caller 2000 Platform, press the **HOME** button, then select and confirm the **Optical Datalink** option:

   – If the remote instrument is ready to receive (on standby), the **Optical Datalink** icon turns yellow, beeps are emitted, and the icon appears at the top of the screen: data transfer, remote screen or oeo measurements can now take place.

   – If the remote instrument is not ready to receive, the **Optical Datalink** icon does not change color and a message is emitted.

**2** Click next on **Connectivity**

**3** In the connectivity screen, click on **Switch to remote screen**.

Your screen is now fully replaced by the distant screen, and everything you do on your 2000 Platform is in fact done on the distant 2000 Platform.

An icon appears in the top banner of the 2000 Platform.

> ⚠️ **A slight normal color degradation may be seen on the 2000 Platform controlling a distant instrument.**

## Adjusting volume level

The sound is transmitted to the earphones of the headset and, if this function has been activated, to the speaker in the 2000 Platform. To activate the base loudspeaker and adjust the volume:

**1**    Press the **HOME** key.

**2**    Validate **Settings** icon to reach the **System Settings** page.

**3**    Under the **Audio** box, adjust **Headset Volume** (from 0 to 100).

## End of a VNC session

In order to end a VNC session, you can:

**1**    Return to the **Connectivity** page and click on **Return to local screen**. (Recommended solution)

    or

    Deactivate the **Optical Datalink** function on either 2000 Platform connected.

    A short sound is emitted to indicate the disconnection is done, and the icon **Optical Datalink** turns inactive

**2**    Disconnect the fiber

> ▷ **NOTE**
> The VNC icon in the top banner of the screen lets you know at all times whether you are in a VNC session or not.

# Disconnection

When communication is over:

**1**    Deactivate the **Talkset/Datalink** function on one of the 2000 Platform.

This deactivation can be done by either 2000 Platform.Then, the fiber used can be disconnected safely.

6

# Scope

The scope function is a hot-plug feature enabled directly when inserting a Viavi scope supplied as an accessory (see "References of accessories" on page 133):

The topics discussed in this chapter are as follows:

# Scope feature

## Overview

This feature enables you to verify that your optical connectors are in perfect shape and very clean condition.

The P5000i Digital Probe Microscope and the FiberChek Probe are portable handheld microscopes used to view and inspect both the bulkhead (female) and patch cord (male) sides of fiber connectors as well as other optical devices, such as transceivers.

The P5000i and the FiberChek require an FBPT inspection tip.

The P5000i is connected to the 2000 Platform with a USB 2.0 connector.

The FiberChek is connected to the 2000 Platform with a mini-USB connector or via WIFI.

**Fig. 22**     P5000i Probe components



Quickcapture^TM button
Instantly captures (and analyzes) fiber image

Focus Control

Magnification Control

Inspection tip

Barrel assembly

USB 2.0 connector

Latch lock
Squeeze both ends to release

6 FT COIL Cable
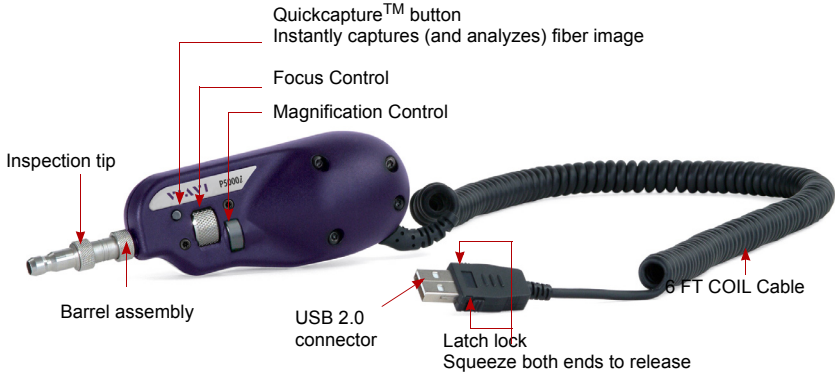
⚠ **Before using the P5000i scope, make sure the Bluetooth option has not been activated, even once, after the start of the MTS/ T-BERD 2000. If it has been activated, stop and restart the equipment before using the P5000i Scope.**

**Fig. 23**          FiberChek Probe components



QuickcaptureᵀᴹM button:
- Adjust automatically the
image quality (auto-focus)
- Instantly captures (and
analyzes) fiber image

Magnification
Control

Focus Control

Inspection tip

Barrel assembly

QuickcaptureᵀᴹM button:
- Adjust automatically the
image quality (auto-focus)
- Instantly captures (and
analyzes) fiber image
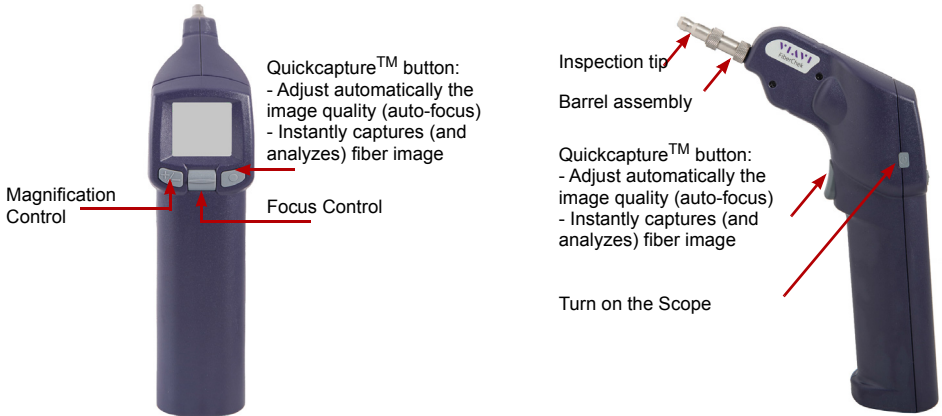
Turn on the Scope

> ⚠️ **Buttons on FiberChek Pro Scope can also be used to navigate onto the screen of the equipment if it is used alone, without being connected to a Platform (see the FiberChek user manual).**

# Installation of tips

The Pass/Fail analysis function on the 2000 Platform can only be used with certain inspection tips mounted on the P5000i.

Seven tips, patchcords and bulkheads types, are delivered with the Videoscope Kit (ESDFSCOPE5Ki) but many others can be used.

# Configuring the Scope

## P5000i Scope connection

**1**    Plug in your VIAVI scope into a USB port from the 2000 Platform.

**2**    Push the button **HOME**.

**3**    Validate the **Scope** function .

**4**    Connect probe with the fiber being inspected.

You may select this option while other options are already selected (e.g. OTDR).

# FiberChek Scope connection

## WIFI Connection

**1**    Turn on the scope.

**2**    Make sure the WIFI connection is activated onto the Scope (see FiberChek User manual).

**3**    On 2000 Platform, press the **HOME** button.

**4**    Click on **Connectivity** > **Wireless**.

**5**    Perform a scan to detect the Scope and establish the connection with the Platform (see "Configuring the WIFI access" on page 77).

**Fig. 24**        Microscope FiberChek detected via WIFI
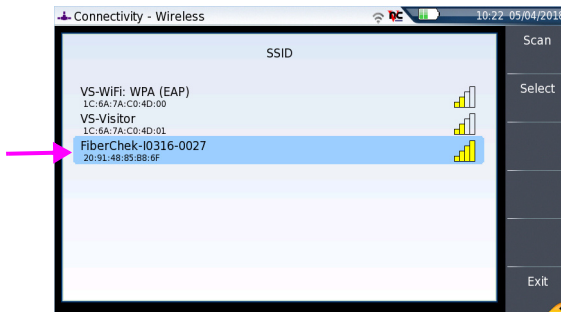


**6**    Once connection is established, return to the **Home** page.

**7**    Validate the icon **Microscope** .

You may select this option while other options are already selected (e.g. OTDR).

## USB Connection

**1** Link the scope to the 2000 Platform using a mini-USB cable.

**Fig. 25** WIFI connection of the FiberChek Scope to the 2000 Platform



**2** Turn on the scope.

**3** On the 2000 Platform, press the **HOME** button.

**4** Validate the **Fiber Microscope** icon .

You may select this option while other options are already selected (e.g. OTDR).

# Configuring the Scope

**1** Press **SETUP** key to configure the test.
The following screen displays:

**Fig. 26**        P5000i Scope Setup
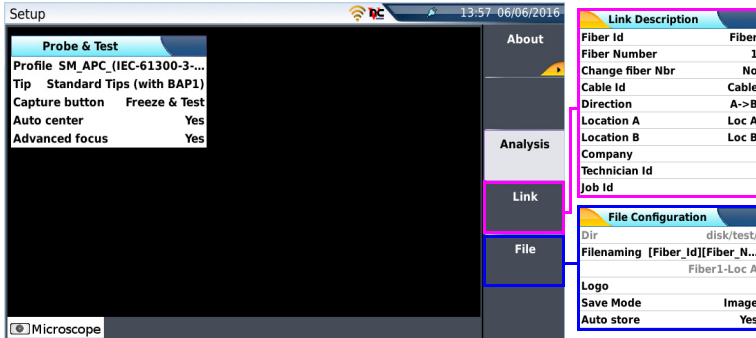


# Analysis

## Profile

On the line **Profile**, select the Profile which will be used for the test of fiber connector:

- SM_UPC: Pass/Fail criteria for single-mode UPC connectors from IEC 61300-3-35 standard.
- SM_APC: Pass/Fail criteria for single-mode APC connectors from IEC 61300-3-35 standard.
- SM_PC: Pass/Fail criteria for single-mode PC connectors from IEC 61300-3-35 standard.
- MM_: Pass/Fail criteria for multimode connectors from IEC 61300-3-35 standard.

Profiles contain the analysis parameters by which PASS/FAIL criteria are determined.

Once the line is selected, you can also add a new profile, clicking on the **Add** Button (see "Managing scope profiles" on page 60).

## Tip

On the line **Tip**, select the tip set onto the scope to connect fiber for inspection.

## Capture button

This parameter allows to select the action of the Quick Capture button onto the Scope (see Figure 22 on page 52):

- **Freeze & Test**     pressing the button will automatically perform a test of fiber and freeze the result
- **Freeze image**     pressing the button onto the Scope will automatically freeze the live image.

## Auto Center

This parameter allows to select if the scope image must be centered on screen (select **Yes**) or not (select **No**).

## Advanced focus (focus meter)

This parameter allows to define if the advanced focus must be used (**Yes**) or not (**No**).

> ⚠️ **CAUTION**
> This parameter is not available with the FiberChek scope as the function is available by default.
> Press the Quick Capture button to apply the auto-focus onto the image (see Figure 23 on page 53).

The advanced focus displays a Red / Yellow / Green bar graph to indicate the focus level and the image sharpness.

# Link

In the **Setup** page, press **Link** softkey (if one parameter is selected in the current screen, press **Top Menu** soft key to display the right menu keys and click on **Link**).

The information entered in the Link window concerns the editing and/or the modifications of the cable and fiber parameters.

- **Fiber Id**     Use the edition keypad, which will display by clicking on the right arrow key, to enter a specific name for the fiber.
- **Fiber Number**     Use the numeric keypad, which will display by clicking on the right arrow key, to enter the fiber number.
- **Change fiber Nbr**     Select if the fiber number must be modified after each results saving:

**No**: the fiber number is not modified at each saving

**Increment**; the fiber number is automatically incremented at each results saving

**Decrement**: the fiber number is automatically decremented at each results saving.

**User Defined:** Use the menu key **Edit Number** to enter the value for incrementation / decrementation of the fiber number.

Note: to decrement the number, enter the sign «-» before the number. Example: -1.

Min: -999 / Max: 999 / Auto: 0

- **Cable Id**       This parameter allows to enter an identification of the cable, using the Edition menu.

- **Direction**      The direction shows if the acquisition has been made from the origin to the extremity (A->B) or from the extremity to the origin (B->A). Changing direction makes it possible, when different extremities are handled, to see the parameters of the fiber for the other extremity.

- **Location A**     The name of the Location A of the link may be entered.
- **Location B**     The name of the Location B of the link may be entered.
- **Company**        Enter the name of the company carrying out the test.
- **Technician Id**  Enter the name of the operator carrying out the test.
- **Job Id**         This line is used to enter a description of the job in progress.

> **NOTE**
> All parameters of the Link Description box will appear in the pdf report or jpg file generated from a test results page.

## File

In the **Setup** page, press **File** softkey (if one parameter is selected in the current screen, press **Top Menu** soft key to display the right menu keys and click on **File**).

The File box allows to configure the saving of scope results.

### Dir. Naming

Click on **Current Directory** menu key to select the directory currently selected in the explorer for files saving

or

Use the arrow ▶ to enter the directory name and path:

In the edition keypad, select the pre-defined parameters available or, press **abc** key to enter a name manually for the directory. Then, press **Enter** to validate.

Example: `disk/Scope results`

**Fig. 27** Directory - Edition keypad
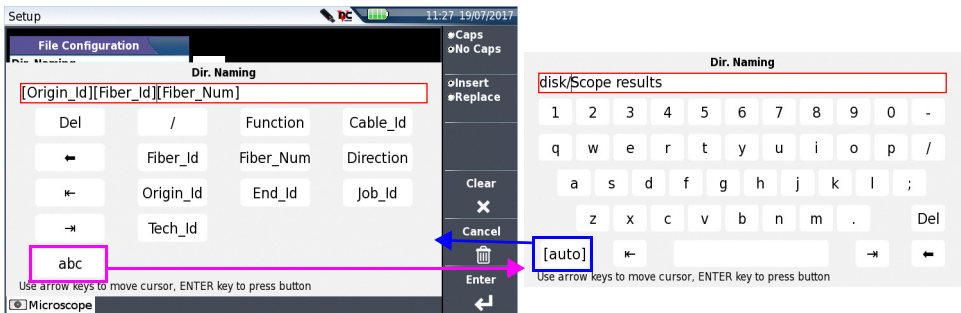


Press **Clear** and validate (**Enter** key) in order to define the `[Current directory]` selected as directory for saving measurements.

## Dir

This parameter cannot be configured, and display the directory selected/created by default into which the file(s) will be saved.

## Filenaming

Use the edition keypad, which will display by clicking on the right arrow key, to enter a specific name for the file. You can enter manually a name and/or use pre-defined parameters (Fiber Id, Cable Id, Locations...).

In the edition keypad, select the pre-defined parameters available or, press **abc** key to enter a name manually for the file. Then, press **Enter** to validate.

**Fig. 28**          Filenaming - Edition keypad (auto)



or
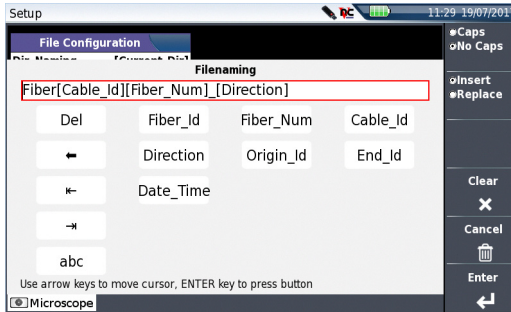
Press **Default Filename** to apply the automatic name to the file:
`Fiber[Cable_Id][Fiber_Num]_[Direction]`

Below **Filenaming,** the name of the file is displayed.

## Logo

Click on right arrow key and select in the Explorer a JPG file which will represent the Logo displayed on the upper left part of the report

## Save mode

Select if the test results must be saved only in an **Image**, only in a pdf **Report** or in an image + a pdf report (**Image + Report**).

## Auto Store

Select **Yes** if the saving must be done automatically after a test, or **No** if the saving must not be done automatically.

Press **Exit** to return to the Results screen of the scope.

# Managing scope profiles

Once the Setup screen of the scope is displayed, you can:

- Select / unselect a profile from the list, which will be available / unavailable in the Setup screen.
- Add a profile to the existing ones.

## Defining the profiles available on the Setup screen

Once in the Setup page of the Scope application:

**1** Select the Profile parameter to open the sub-menu

**2** In the right menu keys, press **Manage**.

**3** From the Profiles list, click on one profile (in video reversed) and press **Select** / **Unselect** menu keys to add or remove this profile to/from the sub-menu of the Setup screen

or

Directly click on the check box of the profile to select/deselect it.

**4** Press **Top Menu** softkey to go back to **Setup** page.

The changes are applied at selection.

**Fig. 29** List of profiles available
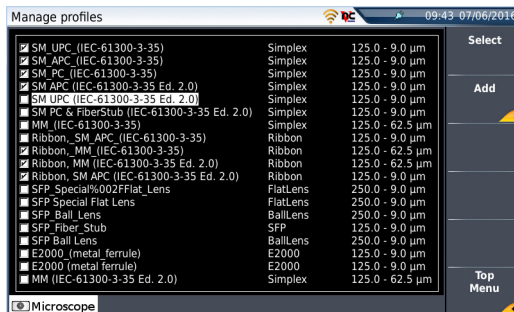


## Importing a profile to the Scope application

The profile must be created via FiberChekPro™, and stored on one storage media of the 2000 Platform (disk, or USB memory stick).

**1** On the Setup screen, select **Profile** and press **Manage**.

**2** From the Profile list, press **Add** menu key.

3    On the explorer, select the file which will be used as profile (icon  ; extension: .PRO)

4    Press **Load**.

Once loaded, the display goes back automatically to **Manage Profile** screen.

5    Select the profile just loaded.

6    Press **Top Menu** to return to Setup screen and select the profile just added.

# About page

On the **Setup** screen, the softkey **About**, on the right of the screen, allows to display information on scope and current test result displayed (in Full Screen mode or mosaic mode - see "Mosaic Mode" on page 66).

1    Press **About** softkey to display a page as the following one:

**Fig. 30**      P5000i Scope: About page



Information on scope used

Information on active snapshot
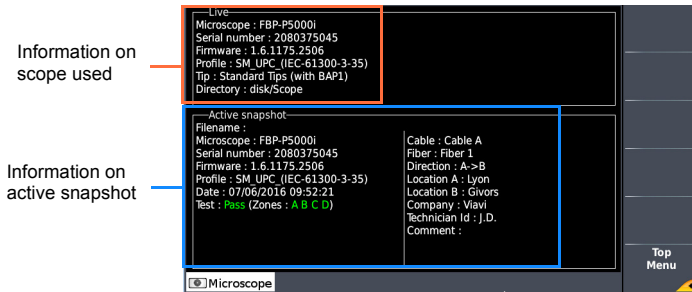
# Starting up with the scope

Once the Fiber Scope icon is validated:

1    Press **RESULTS** hard key

**Fig. 31** Example of the result using the P5000i scope



Sharpness level
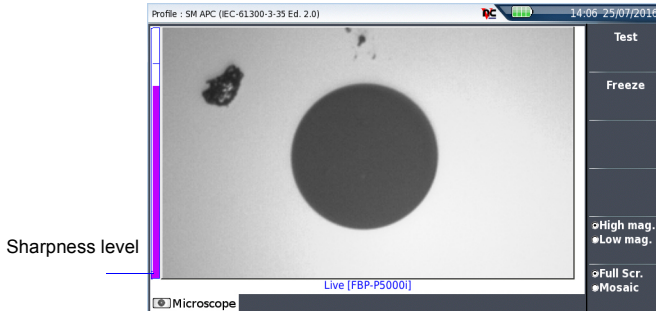
Use the **Focus Control** button onto the scope (see Figure 22 on page 52 and Figure 23 on page 53) to adjust the image quality and sharpness.

> **NOTE**
> To switch from Scope page to FO results page and vice-versa, press the **RESULTS** hard key for about 2 seconds (a beep is emitted).

# Freeze mode

Once the image is acceptable, you may freeze the picture. This feature allows to store in memory the resulting picture.

> ⚠ **Freezing a scope result does not store the picture in a file (see "File menu" on page 68). The result will be lost if the instrument is shut off, or if more than 3 pictures are frozen (see "Mosaic Mode" on page 66)**

> **NOTE**
> The button set on the lead, or the QuickCapture™ on the scope allows to freeze the picture and/or to perform a test (according to the configuration in Setup page - see "Configuring the Scope" on page 53).

# High Mag. / Low Mag.

The **High Mag./Low Mag.** menu key allows to switch the display from High to Low magnification and vice-versa.

This function is also available pressing the button directly on the scope (see Figure 22 on page 52 and Figure 23 on page 53).

# Live mode

If you are in Freeze mode, or in Mosaic mode, with a picture selected (see "Mosaic Mode" on page 66), press **Camera** menu key to return to live camera picture.

> ⚠️ **Use the focus control to adjust the focus of the image**

# Launching a test of the connector and fiber end-face

## Launching a test of the connector and fiber end-face

Once the display is correctly adjusted (magnification, sharpness...), a test of fiber connector can be launched.
To launch the test:

**1** Press **Test** key or **Quickcapture™** button to launch the test of plugged fiber connector.

The test is completed:

– once the Led **Testing** is no more lit in red
– once the icon ⏳ is no more displayed on the upper banner
– once a screen as the following one displays:

> ▷ **NOTE**
> To configure Pass/Fail criteria, see "Configuring the Scope" page 55.

**Fig. 32** Test results

Profile selected in the Setup page



Summary of Test results

Test result in High mag.
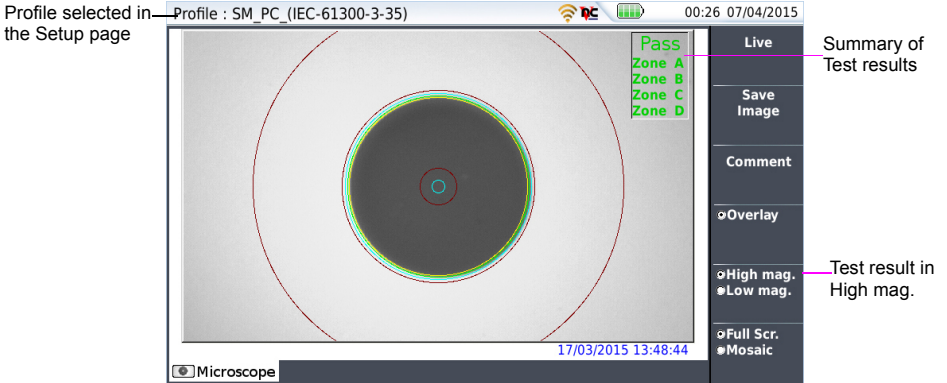
A summary of test results is displayed on the right, upper part of the screen.

- Zone A: **Core** zone: it is the area surrounding the core
- Zone B: **Cladding** zone. It surrounds the majority of the fiber cladding.
- Zone C: **Epoxy** ring.
- Zone D: **Ferrule/Contact** zone: it identifies a portion of the ferrule near and around the fiber
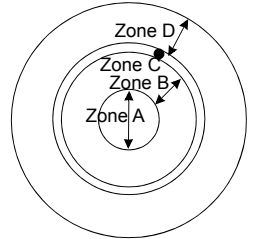
> **NOTE**
>
> To return to a Live Camera image, press the **Camera** key; or press the **Full Screen/Mosaic** key view both the live image and a test result simultaneously.
>
> In **Mosaic** mode (see "Mosaic Mode" page 66), the result of the test only displays Pass or Fail information; the status of each zone is displayed only in full screen mode.

# Overlay

The **Overlay** key allows, when selected, to display the limits of each zone and to display with colors the defaults on the image.

When the key is deselected, the zones and defaults are not graphically identified.

This function is also available in Mosaic Mode (see "Mosaic Mode" on page 66).

# Mosaic Mode

It is possible to display only one picture in full screen (640 * 390 pixels) or up to four pictures (320*180 pixels each, including the live camera picture) in mosaic mode. Use the key **Full scr./Mosaic** to switch from one mode to another.

**Fig. 33** Mosaic mode
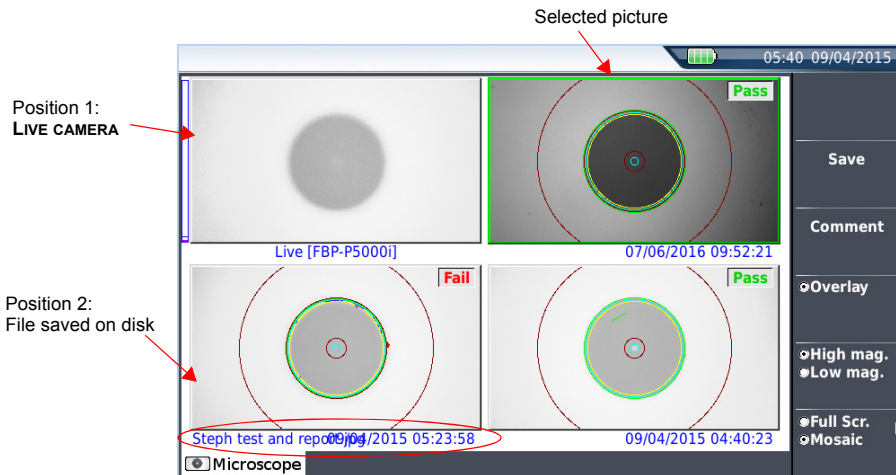


• You may select one of the pictures by clicking on it.
The selected picture is framed in green.

The tool bar on the right varies according to which picture is selected (camera, or static picture):

## Picture selected: Live

| | | |
|---|---|---|
| • | **Test** | Allows to launch a (new) test of the connector (see "Launching a test of the connector and fiber end-face" on page 64) |
| • | **Freeze** | The live picture from the camera is frozen but does not replace the live picture at position 1. The new snapshot is placed at the |

second position, and all existing pictures are pushed to the
next position.

⚠️ If all positions were taken, the picture that was once at the fourth position is
unloaded from memory. Frozen pictures and snapshots are lost, unless they
were saved on the internal memory.

- **High mag./Low mag.**

    allows to modify the live display from high to low magnification
    and vice-versa

## Picture selected: Image

- **Comment**     allows to add a comment to the selected picture (see "Adding a
    comment" on page 67)
- **Save**     allows to save the selected picture in the directory Scope, in
    the disk of the Platfom. Press **Save** key, enter a name for the
    jpg file and validate. This key is not available with jpg files other
    than those resulting from scope application.
- **Overlay**     allows to display or hide the limits of each zone and the
    defaults on image from a test result (see "Overlay" on
    page 65).
- **High mag./Low mag.**

    allows to switch all the images from scope test results from
    high to low magnification and vice-versa.

## Adding a comment

The key **Comment** allows you to enter/modify a comment to your picture if necessary.
This comment appears at the bottom left of the picture.

The right bottom of the frozen picture also contains the date of the acquisition (where the
picture was frozen).

▷ **NOTE**
Both the comment and the date will be saved with the picture.

# Loading a picture

It is possible to retrieve and load a picture stored in the Scope directory and display it in
the Scope page.

1   Press the **FILE** button.

2   Press **Explorer**.

3   Select the JPEG file to be loaded via the Explorer

4   Click on **Load**

Recognized pictures are images resulting from the Scope option and saved on disk via the 2000 Platform.

⚠️ **Some pictures resulting from the Scope option may appear neverthe-less unrecognized, if they have been stored with a different Scope application, or if the JPG file has been opened and modified under another JPG editor.**

Even though the JPG editor of the Scope function has been designed to display Scope pictures in black & white, it is also possible to open any JPG valid file and display in color the corresponding picture. That picture is enlarged or shrunk to the size of the display (full screen or mosaic, see."Mosaic Mode" page 66).

# File menu

## Saving the test result in a jpg file and / or in a report

Once the test has been performed, and the result is displayed on the 2000 Platform screen:

1   Click on **Save Image** soft key to save a jpg file and / or a pdf report of the test result on the disk of the 2000 Platform.

2   On the edition keypad, enter the name of the file(s)

3   Press **Enter** to validate.
    The file is automatically saved on the disk, in the directory **Scope** (icon [⚫] for jpg file, icon [pdf] for report).
    The jpg file includes pass/fail and setup information which is used for combo report with OTDR (see OTDR User Manual)

## Display of the report

Once the report has been generated:

**1** Press **FILE** hard key.

**2** In the **File Explorer**, select the pdf report just created.

**3** Press **Load**.

**Fig. 34** PDF report of Scope test result
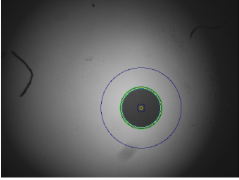
Parameters selected in the Setup page (see "Configuring the Scope" on page 55)

7
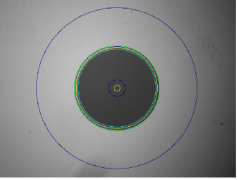
# Connectivity

This chapter describes the different ways to access to the 2000 Platform interface or content using different connection modes.

Topics described in this chapter are as follows:

-
-
-

# Establishing connection

## Via Bluetooth

The Bluetooth interface allows interface and file transfers.

It is an option that must be installed at the factory.

> ⚠️ **The product is approved in accordance to R&TTE directive concerning transmitter module marked by CE0678. It is manufactured by MITSUMI and it is an OEM product.**
>
> **This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device contains FCC-ID: POOWML-C40.**

### Installing the Bluetooth option onto the 2000 Platform

The Bluetooth option is delivered on a USB dongle to be connected to the bottom part of the 2000 Platform.

To install the Bluetooth option onto the equipment:

**1** Switch off the 2000 Platform and, if necessary, unplug it from mains.

**2** Remove the cover on the underside of the Platform, unscrewing the two screws.

**3** Insert the Bluetooth into the connector.

**Fig. 35** Bluetooth set into the Platform

**4** Screw back the cover onto the Platform

**5** Restart the 2000 Platform, pressing **ON** button.
The Bluetooth option can be launched.

# Pairing the Platform with a device

**1** On the **Home** page, press **Connectivity** key

**2** Under **Connectivity** page, select **Bluetooth**
The following screen displays

**Fig. 36** Bluetooth disabled
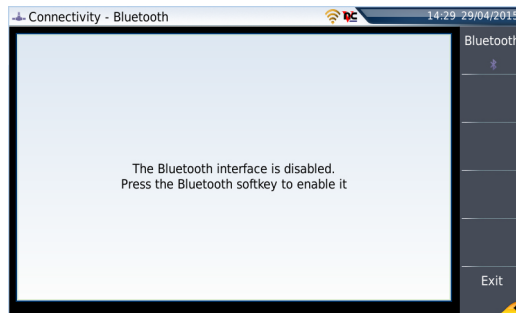


**3** Press the menu key **Bluetooth** to enable the Bluetooth interface**.**
The icon ✱ is displayed on the upper banner of the screen
The Paired Bluetooth Devices screen appears

**4** Press the **Become Pairable** soft key to wait for another device to initiate the connection to the 2000 Platform.
A screen as the following one displays:

**Fig. 37**        Waiting for pairing
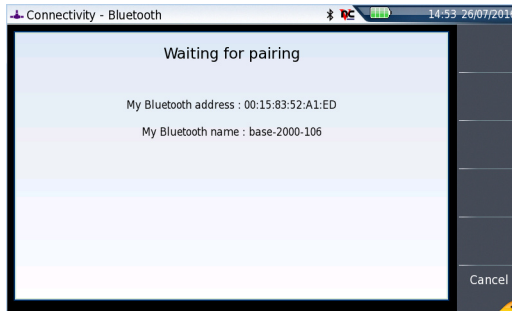


**5**     Activate Bluetooth on the equipment which need to be paired with the Platform

**6**     If you are asked to, validate a pairing code on the equipment.

**7**     In this case, validate the pairing code on both equipments.
Both equipment are now paired:

**Fig. 38**        Platform paired with one equipment
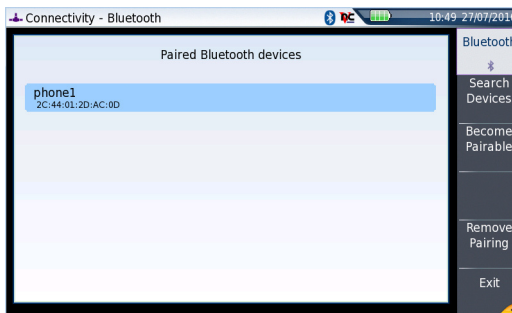


The icon has a blue background when paired with a device 🔵, versus no background when not paired 🔵 .

# Searching new devices to be paired with the Platform

**1** If the desired device is not displayed on the screen, or if no devices are detected, press the **Search Devices** soft key.

The 2000 Platform is searching for the devices which could be used via Bluetooth with the equipment.

⚠️ **REMINDER**
You may need to activate bluetooth on the other device to allow pairing.

A bargraph is displayed during research ▮▮▮▮▮▮          .

Once the research is completed, a list of the available devices is displayed, with the level of detection of the 2000 Platform

**Fig. 39**      List of devices found
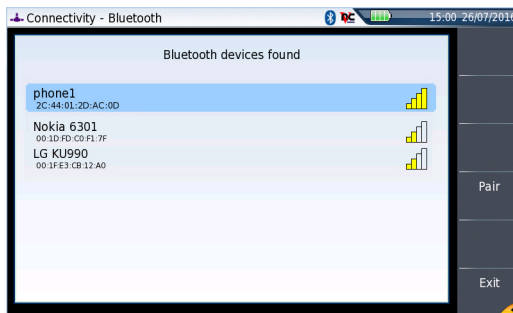


**a** Select the device to be paired with the Platform

It will be underlined in blue.

**b** Push the **Pair** key to connect the device to the Platform

**2** If prompted, enter a pairing code. The code must be identical on the 2000 Platform and the device.

**3** Once the bluetooth device and the Platform are paired, a screen is displayed with the description of the device (see Figure 38 on page 74).

The icon has a blue background when paired with a device 🔵, versus no background when not paired ✳.

You can now go to the file explorer and transfer files from the 2000 Platform toward the bluetooth device and vice versa (see "Transferring files via Bluetooth" on page 103).

## Removing the Pairing

To remove the pairing between the two equipments

**1**    From the Home page, press **Connectivity > Bluetooth**.

**2**    Push the **Remove pairing** key

The icon on the upper banner of the screen becomes 🕸 showing the Platform is no more connected to a bluetooth device, but the Bluetooth option is still active.

To deactivate the bluetooth onto the Platform, press **Bluetooth** menu key to disable the interface.

# Via Wifi

The WIFI application is available on option with the 2000 Platform, ref E20WIFI.

## Installation of the WIFI option in the Platform

The WIFI option is delivered on a USB dongle to be connected to the 2000 Platform.

To install the WIFI option onto the Platform:

**1**    Switch off the 2000 Platform and, if necessary, unplug it from mains.

**2**    Remove the cover on the underside of the Platform, unscrewing the two screws.

**3**    Insert the WIFI USB dongle into the connector.

**Fig. 40**        WIFI USB set into the Platform



**4**    Screw back the cover onto the Platform.
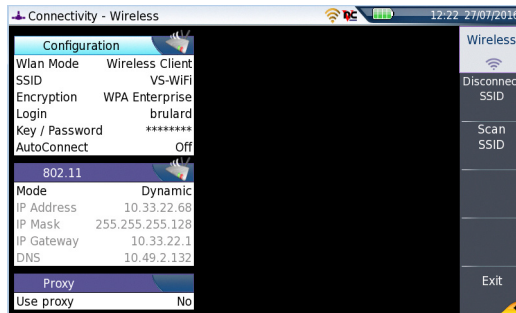
# Configuring the WIFI access

**1** Restart the 2000 Platform, pressing **O**N button.

**2** On the **Home** page, press **Connectivity** .
The **Connectivity** page opens.

**3** In the new page, select the **WIFI** icon .
The WIFI **Setup** screen displays.

**4** Press **Wireless** menu key to enable the Wifi interface.
The icon is displayed on the upper banner.

**Fig. 41** WIFI Setup screen



Once the Setup screen is displayed, configure the WIFI connection:

**5** Press **Scan SSID** menu key to scan for Service Set Identifiers (SSIDs) in the area.

**6** Wait for the list of SSIDs to be displayed.

**Fig. 42**      List of SSIDs found



**7**    Select the desired network to connect to.

**8**    Press **Select** menu key to validated the connection.

The display goes back to Setup screen.

The **SSID** parameter is automatically configured with the one selected.

**9**    In **Encryption** parameter, select the type of encryption wished: **None**, **WEP Static**, **WPA Personal**, **WPA Enterprise**.

**10**   According to encryption type selected, enter **Login** (if any needed) and **Key/ Password**.

> **NOTE**
> Login and Password are kept in memory, even if the WIFI is deactivated or the 2000 Platform switch off and restarted.

**11**   In the **AutoConnect** parameter, select if the connection to SSID selected must be done automatically (**On**) or not (**Off**).

## Connection to SSID

Once configuration is valid, connect the 2000 Platform to the Wireless network:

**1**    In the Setup screen, press **Connect SSID** menu key.

or

If **AutoConnect** is defined to **On**, the connection is launched automatically.

Once association of Platform with SSID is established, the icon   becomes   to indicate the connection is active.

# Configuring the WIFI mode to which the Platform is connected

To work on WIFI with the Platform, configure the **802.11** parameter on the WIFI Setup screen.

**1**    Select the mode of connection:

- **Config 1 to 4**     static mode enabling input of the configuration of 4 sites. If this parameter is selected, the following parameters must be entered:

  - Site Name     the user can enter the name of the site in the Edit menu.
  - IP Address     IP address of the 2000 Platform
  - IP Mask     address of the mask of the sub-network
  - IP Gateway     IP address of the machine enabling access outside the sub-network.
  - DNS     (Domain Name Server) IP address of the machine providing the IP address on the basis of the name
  - Domain name     name of the local network to which the 2000 Platform is connected.

- **Dynamic**     in this mode, which requires a DHCP server, the 2000 Platform requests an IP address from this server which will be allocated dynamically if dynamic host configuration is activated on the local network.
  After selecting this mode or after power-on, the 2000 Platform tries to establish a connection to obtain an address from a DHCP server. If for any reason, this process fails, the 2000 Platform reverses to static IP address mode with User1 IP address.

Note the IP address of the Platform, to be able to remote screen on PC or to transfer files.

**Fig. 43**    WIFI connection in Dynamic mode

Note IP
Address



2    Configure the **Proxy** dialog box:

In the **Use proxy** parameter

– Select **No** if no proxy is used.

– Select **Manual** to enter manually the **Proxy address**

– Select **Auto** and enter the **Pac address**.

# Creating a network from the 2000 Platform

A WIFI network can be created from the 2000 Platform, in order to associate it to a Smartphone or Tablet.

1    From the **Home** page, press **Connectivity** > **Wireless 802.11**.

2    On the **Setup** screen, select the Wlan Mode for WIFI connection: **Ad-hoc (IBSS)** or **AP Master.**

3    Press **Create Network** menu key and wait for the network creation.

The network creation on platform is completed once the dialog box is no more displayed.

4    On the Smart device, open the Wifi setup age.

5    Check the Platform has been detected (SSID identifier displayed in the list of WIFI networks found)

6    Click on this SSID and follow the instruction on your Smart Device to link it to the Platform.

# Via Ethernet

The connection between 2000 Platform and the PC can be done directly, or via a local network.
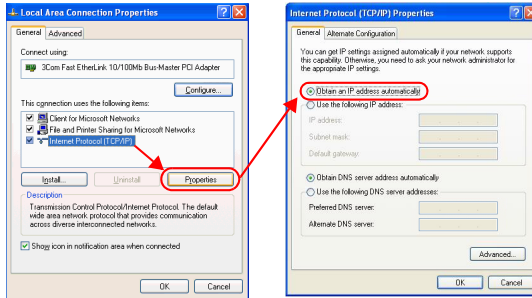
# Connecting the 2000 Platform and the PC

**1**    Connect the 2000 Platform to the PC via an Ethernet cable..

**Fig. 44**        Connection 2000 Platform and PC
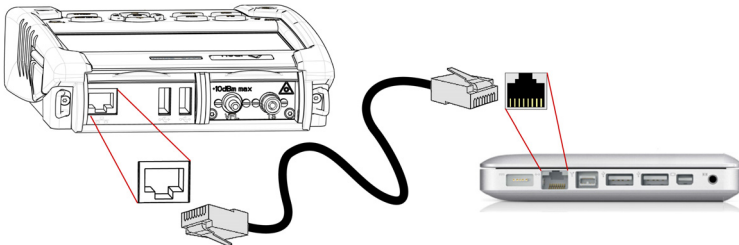


**2**    Make sure the network configuration onto the PC is set to the **Dynamic** mode:

   **a**    Click on **Start** > **Control Panel**.

   **b**    Double click on **Network Connection**.

   **c**    Double click on **Local Area Connection**.

   **d**    In the dialog box, click on **Properties**.

   **e**    Check the parameter **Internet Protocol (TCP/IP)** is selected (◉) and click once on it (underlined in blue).

   **f**    Click on **Properties** button.

   **g**    On the tab **General**, check the parameter **Obtain an IP address automatically** is selected (◉); if not, click to select it.

**Fig. 45**          Internet Protocol



> **h**       Click on **Ok** and close all the dialog boxes opened onto the PC.

# Configuring the 2000 Platform via Ethernet

**1**     In the **Home** page, validate the **Connectivity** icon.

**2**     In the connectivity page, validate the **Ethernet** icon

**3**     In the **I/O Interfaces** box, configure the following parameters:

## Ethernet > Mode

Parameters of the local Ethernet network to which the 2000 Platform is connected:

- **Config 1 to 4**       static mode enabling input of the configuration of 4 sites. If this
  parameter is selected, the following parameters must be
  entered:
  - Site Name      the user can enter the name of the site in the Edit menu.
  - IP Address     IP address of the 2000 Platform
  - IP Mask        address of the mask of the sub-network
  - IP Gateway     IP address of the machine enabling access outside the sub-
    network.
  - DNS[1]         IP address of the machine providing the IP address on the basis
    of the name

---

1.Domain Name Server

– Domain name     name of the local network to which the 2000 Platform is
                  connected.

- **Dynamic**          in this mode, which requires a DHCP server, the 2000 Platform
                       requests an IP address from this server which will be allocated
                       dynamically if dynamic host configuration is activated on the
                       local network.
                       After selecting this mode or after power-on, the 2000 Platform
                       tries to establish a connection to obtain an address from a
                       DHCP server. If for any reason, this process fails, the 2000
                       Platform reverses to static IP address mode with User1 IP
                       address.

> **NOTE**
> Once the 2000 Platform is connected to the network, the icon ⊞ indicates
> the connection is working.

## Proxy > Use proxy

**1**     Select **No** if no proxy is used.

**2**     If **Manual** has been selected, enter the **Proxy Address**.

**3**     If **Auto** has been selected, enter the **Pac Address**.

**Fig. 46**          Example of configuration for I/O Interfaces box

Note the 2000 Platform IP
Address



| Ethernet | |
|---|---|
| Mode | Dynamic |
| IP Address | 10.33.17.235 |
| IP Mask | 255.255.252.0 |
| IP Gateway | 10.33.19.254 |
| DNS | 10.49.2.132 |
| Domain Name | ds.jdsu.net. |
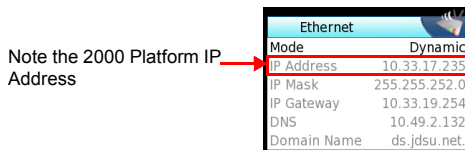
**4**     Note the IP Address.

**5**     Wait about 10 seconds the connection is established.

The 2000 Platform Interface can now be transferred onto the PC, or the internal memory
or USB key contents can be transferred on PC.

# Via Cloud Storage

## Principle and prerequisites of the Cloud Storage

The Cloud storage defined the outsourcing of data on distant servers, which avoid the data storage on a local workstation.

The cloud storage onto a 2000 Platform allows to transfer the files from the Platform toward a distant server and vice-versa.

Before configuring the Cloud Storage on Platform, you must first create an account on a Cloud Platform on internet.

The Cloud storage function onto the 2000 Platform works exclusively with sites using the WebDav technology such as CloudSafe (https://secure.cloudsafe.com/pages/index.html) or Box (https://www.box.com/pricing/).

Once account is created, with WevDav configuration, you get the following information for connection:

– URL
– Login Name
– Login Password

## Configuring and connecting to Cloud Storage on the 2000 Platform

### Configuring the 2000 Platform

Once an account has been created on the Cloud site, configure the 2000 Platform before establishing the connection:

> ⚠️ **Before configuring the Cloud Storage, make sure the configuration for Ethernet parameters and Proxy parameters are correctly configured.**
> See "Ethernet > Mode" on page 82 and "Proxy > Use proxy" on page 83.

**1** On the **Home** page, press **Connectivity**.

**2** In the **Connectivity** windows, press **Cloud/File Storage**  .
   A new page opens

**3**  In the **Url** parameter, enter the URL define for the Cloud server created on internet

**4**  In the **User** parameter, enter your Login created on your account

**5**  In the **Key / Password**, enter the password attributed by the Cloud server.

**Fig. 47**    Example of configuration



Configuration on Cloud server
(example with CloudSafe)

Configuration on 2000 Platform
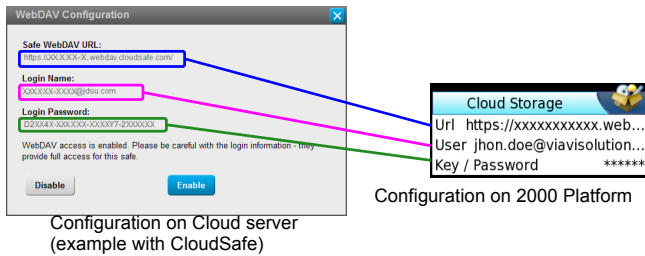
## Connecting Cloud Storage

Once configuration has been established on the 2000 Platform, it is ready to be connected with Cloud server:

**1**  Select one parameter of the Cloud Storage window on 2000 Platform

**2**  Press **Connect Cloud Storage** menu key .
The connection launches
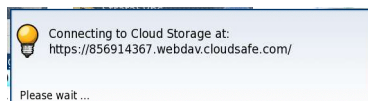


**3**  Once connection is established, a message displays in the window
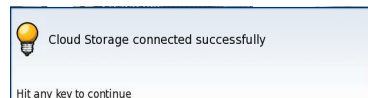


**4**  Press any key to continue, and start files transfer.

The icon        is displayed on the upper banner as long as the connection is active.

### Disconnecting from Cloud storage

To disconnect the 2000 Platform from Cloud storage:

**1**    Press **HOME** hard key.

**2**    Press **Connectivity** > **Cloud/File storage**.

**3**    Select a parameter of the **Cloud Storage** window.

**4**    Press **Disconnect Cloud Storage** menu key.

# Remote Control

## Smart Access Anywhere

The 2000 Platform can be accessible to any network test locations, using a specific func-
tion: **Smart Access Anywhere**.

This function allows one distant user, on a PC, to transfer the Platform Interface and
work on 2000 Platform or to access the internal memory / USB memory stick contents
on the PC and perform files transfer from 2000 Platform to PC and vice-versa.

This feature does not need any licence code if the user wants assistance from a Viavi
person located within the Viavi network.

This feature requires a licence code into the unit if the user wants any other assistance/
support ("company A" willing to be remotely controlled by "company A or B").

The license **SAA-2K-L2** is used for SmartAccessAnywhere using Ethernet, wifi hostpot
connection, or USB / Wifi connection through 3G smartphone

The 2000 Platform can be used in combination with a PC in order to transfer the Platform
Interface onto a PC, or to access the internal memory or USB memory stick contents on
the PC.

### Connection modes

Different kinds of connection are available to access to a distant 2000 Platform.

According to the connection type used, specific requirements are mandatory.

## Ethernet or WIFI connection

**1**  Using the Ethernet connection, no specific requirement is needed. The platform is directly connected to Internet via an Ethernet Cable.

**Fig. 48**      Ethernet connection
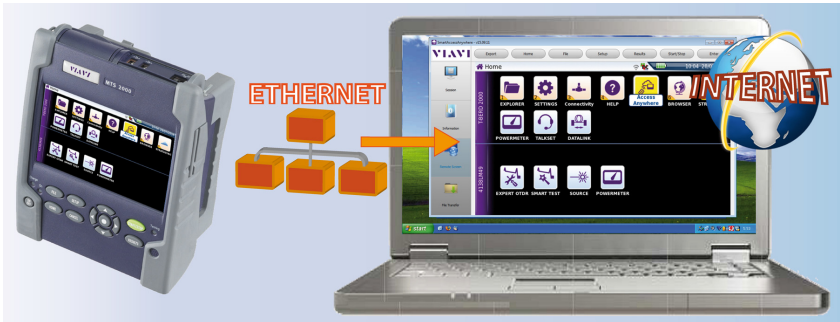


**2**  The WIFI connection can be used to access to 2000 Platform from any location. This connection is available exclusively if the **WIFI option is installed onto the** 2000 Platform which will be seen remotely.

**Fig. 49**      WIFI connection

## USB/WIFI connection via Smartphone (Tethering)

To access to a 2000 Platform remotely, the connection between the unit and the Viavi application can be established via a USB cable or WIFI, and through a Smartphone, having Internet Sharing capability via USB or WIFI.

**1** To establish connection between 2000 Platform and Smartphone using USB, connect the USB cable on 2000 Platform and on Smartphone connector.

**Fig. 50** USB connection through Smartphone



**2** To establish connection between the 2000 Platform and Smartphone using WIFI, the **WIFI option must be installed onto the** 2000 Platform.

**Fig. 51** WIFI connection through Smartphone

# Pre-requisite for using the Smart Access Anywhere Application

To access to a 2000 Platform from any locations, specific requirements are mandatory:

- a license installed on 2000 Platform which will be accessible from any locations.
- an Ethernet connection (the Platform must have an IP address - see "Ethernet > Mode" on page 82) and, if the network uses a proxy, this proxy must be configured (see "Proxy > Use proxy" on page 83).
- the Viavi application, downloaded for free at the address «`http://smartaccess.updatemyunit.net`».
- port 22 (SSH) or 443 (HTTS) output opened
- according to connection mode selected:
  - the WIFI option installed on 2000 Platform
  - a USB cable to connect 2000 Platform with Smartphone
  - a Smartphone from given list and having appropriate basic subscription for internet connection sharing

# Downloading the Viavi application on PC

The Viavi application **Smart Access Anywhere** must be downloaded on the PC which will be connected to the 2000 Platform remotely.

> **NOTE**
> It is not necessary to have administrator privileges to install the Viavi application on PC. This application is just saved on PC.

**1** On PC, open an internet explorer and type the following address: `http://smartaccess.updatemyunit.net`

**2** Click on the link **SmartAccessAnywhere_Vxx.xx.xx.zip**

**3** Select **Save** in the dialog box.

**4** Open the directory into which has been save the zip file and unzip files into a directory

**5** Open the directory and double click on **SmartAccessAnywhere.exe**
The Smart Access Anywhere application opens:

**Fig. 52**         Smart Access Anywhere: Connection page

Enter Access Code
(see step 3 on page 92)



If the software version is not the last one available, a message displays, on the upper part of the screen to indicate the latest version available can be downloaded at the address: http://smartaccess.updatemyunit.net.

**Fig. 53**         Warning message of a new version available
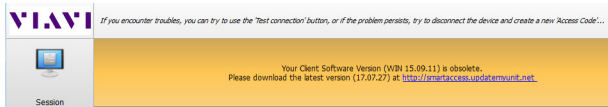


# Downloading the Viavi application on Tablet/ Smartphone

The Viavi application **Smart Access Anywhere** can be downloaded on a Smartphone or tablet which will be connected to the 2000 Platform remotely.

> **NOTE**
>
> It is not necessary to have administrator privileges to install the Viavi application. This application is just saved on the smartphone or tablet.

**1** On Smart device, open an internet explorer page and type the following address: `http://smartaccess.updatemyunit.net`

**2** Click on the link **SmartAccessAnywhere_Vxx.xx.xx.apk**

The downloading starts.

Some security messages can be displayed.

**3** Follow the process on the Smart device to confirm the installation of the application on the instrument.

**4** Once the installation is completed, the icon appears on Tablet/Smartphone.

**5** Click on the icon to launch the SmartAccess Anywhere application.

# Launching the SmartAccess Anywhere application

Once connection is configured, the SmartAccess Anywhere application can be launched

## On 2000 Platform

**1** On the **Home** page, select the **SmartAccess** icon 

As soon as the icon is selected, the 2000 Platform begin to connect to SmartAccessAnywhere Server.

**2** Once connection is established with the server, the 2000 Platform displays a message with the code to be used to access to the equipment remotely.

**Fig. 54**          Access code displayed
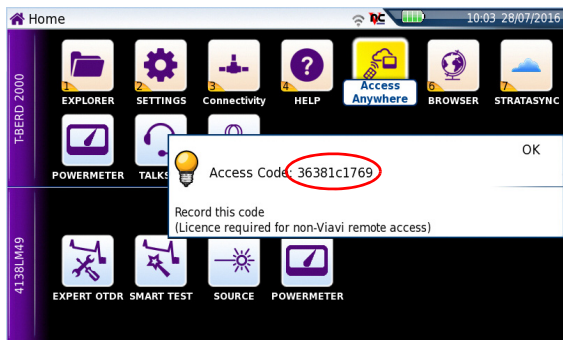


**3**     Note this access code and transfer it to the distant user, who will access the unit remotely.

**4**     Press **OK** to hide the message.

## On the distant PC

**1**     On the PC of the distant user, once the application is launched, enter the Access Number on the upper part of the screen.

**2**     Click on **Connect** to validate  ✔ Connect
         The following screen displays:

**Fig. 55** Smart Access Anywhere: Home page



Information on
connection
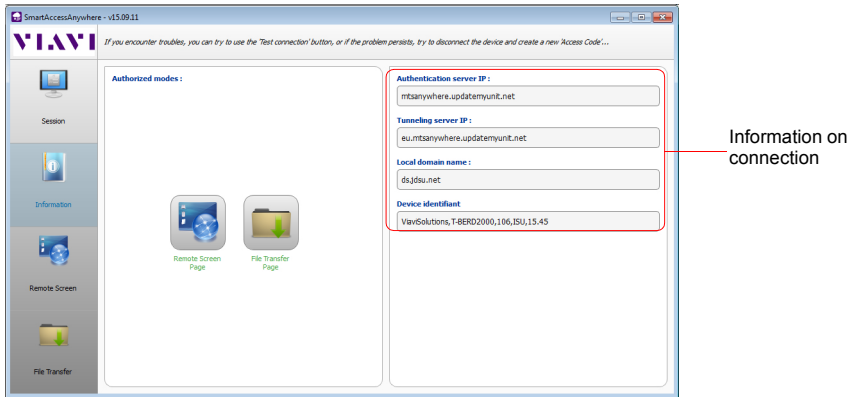
> ⚠️ **After remote upgrade or reboot, please wait for more than 2 minutes before re-starting the link between the PC and the unit with SmartAccessAnywhere.**

# Using Remote screen and File Transfer applications

Once the Introduction page is displayed, the user can work on distant 2000 Platform:

- transfer the interface to work on the unit (perform acquisition, configure the equipment...)
- transfer files from the equipment toward the PC, and vice-versa.

## Transferring the interface onto the PC/Smartphone/Tablet

To display the remote 2000 Platform onto the PC:

**1** On the Introduction page, click on
or
On the left menu, click on

The current screen of the 2000 Platform displays:

**Fig. 56**          Smart Access Anywhere: Remote screen

Virtual control buttons bar
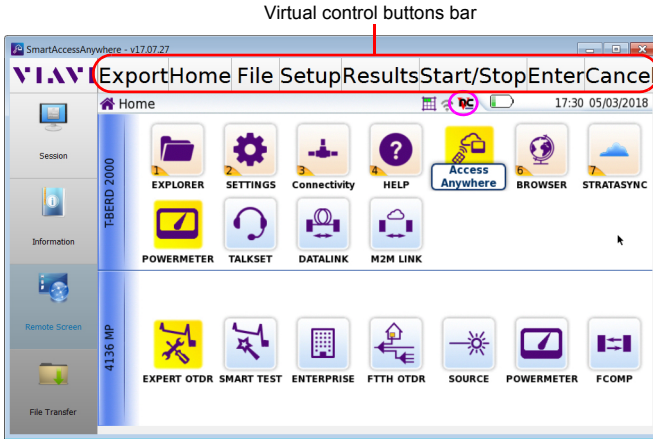


The VNC icon  on the upper banner of the unit indicates the remote screen is active.

**2**   On the upper part of the screen, the virtual control buttons bar is permanently displayed and allows to emulate hard keys.

You may click on any of these buttons to obtain exactly the same results than using the hard keys on the front panel of the 2000 Platform.

**3**   You can use keyboard mouse of the PC to control the 2000 Platform (see "Equivalence between the keyboard and 2000 Platform" on page 109).

## Transferring files

To work on files (onto PC and onto unit):

**1**   On the Introduction page, click on .
or
On the left menu, click on .

The file Explorer on PC and the one of the 2000 Platform displays:

**Fig. 57**        File Transfer page



PC
Directories and files

2000 Platform
Storage media available
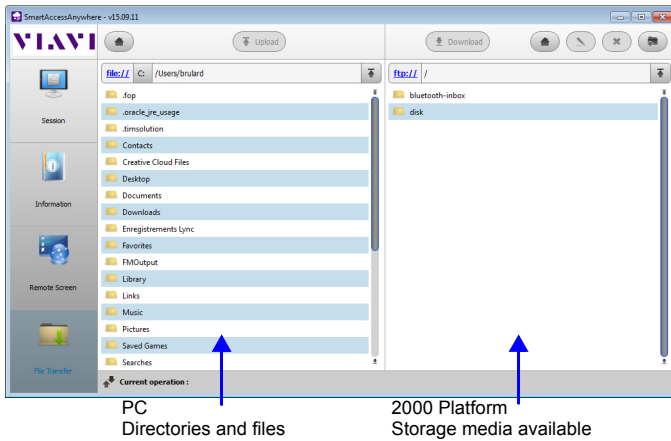
**2**    Double-click on one directory/storage media to display the contents (directories / sub-directories / files)

## Navigation buttons

| | |
|---|---|
| 🏠 | Return to the Home directory |
| click C: → C: D: E: Z: | Select the PC drive in the list |
| ⏫ | Access to parent directory |
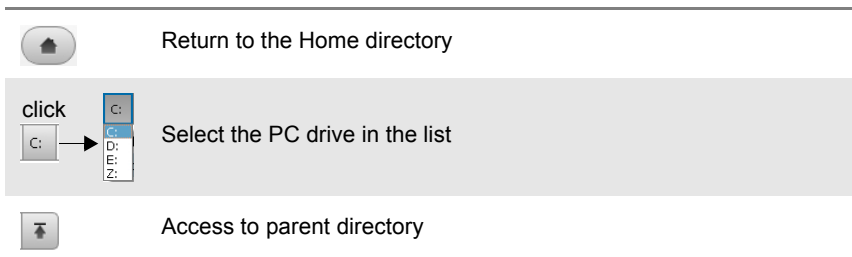
## Transferring files from PC to 2000 Platform

**1**    On the 2000 Platform explorer, select the storage media, and if wished the (sub-)directory into which file will be transferred.

**2**    On the PC file explorer, select the file to be transferred

**3** Click on the button **Upload** [⤒ Upload] .

At the bottom of the screen, a new banner displays with information on file transfer:

**Fig. 58** Information on file transfer



| | |
|---|---|
| 1: location of the uploaded file on PC | 3: level of transferred data |
| 2: location of the file on 2000 Platform once transfer is completed | 4: bar graph of the transfer in progress |
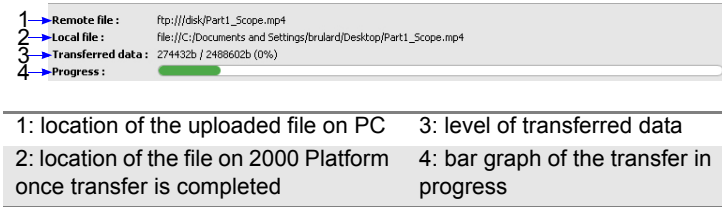
> ⚠️ **Only one file can be uploaded from PC to 2000 Platform at the same time.**

Once transfer is completed, the banner disappears and the transferred file is underlined in blue on 2000 Platform explorer.

## Transferring files from 2000 Platform to PC

**1** On the PC explorer, select the storage media, and if wished the (sub-)directory into which file will be transferred.

**2** On the file explorer of the 2000 Platform, select the file to be transferred.

**3** Click on the button **Download** [⤓ Download] .

A dialog box open, allowing to modify the location on PC of the file.

**4** Select the directory into which file will be saved.

**5** Press **Save** to start the transfer

Under both file explorers, a new banner displays with information on file transfer (see Figure 57 on page 95).

Once transfer is completed, the banner disappears and the transferred file is underlined in blue on PC explorer.

# Working with files and directories on 2000 Platform

## Renaming file or directory

**1** Select a file/directory stored on the 2000 Platform hard disk or USB key.

**2** Click on (  ) .

**3** In the new dialog box opened, enter a new name for the file/
directory, **keeping the file extension**.

**4** Press **OK** to validate.
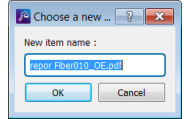
## Deleting file

**1** Select a file stored on the T-BERD/MTS-2000 hard disk or USB key.

**2** Click on ( ✖ ) .

**3** In the new dialog box opened, press **Yes** to confirm
the deletion (or **No** to keep the file).
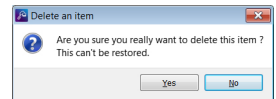
## Creating a new directory

**1** Select the storage and, if wished, the directory into which the new directory will be
stored.

**2** Click on ( 🖥 ) .

**3** In the new dialog box opened, enter a name for the new
directory (*newdir* is given by default).

**4** Press **OK** to validate.

The new directory is automatically created at the
location selected.
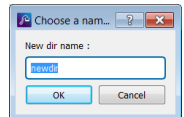
# Connection information and settings

## Displaying session information

At any time during application use, the information about the session in progress can be
displayed.

**1** Press **Session** menu key on left of the screen .
A screen as the following one displays:

**Fig. 59** Session page
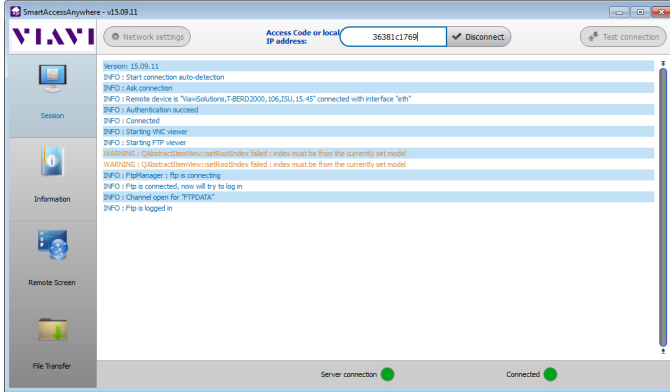


This page gives information on connection «in real time».
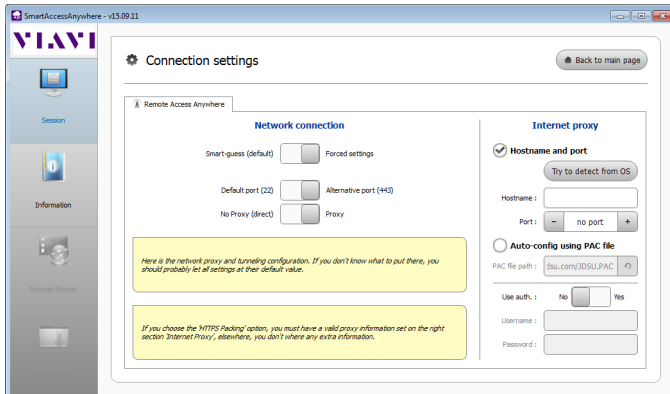
## Modifying connection settings

To modify the settings for connection to internet:

**1** Press **Session** menu key on left of the screen .

**2** Disconnect from application pressing .

**3** On the session screen (see Figure 59 on page 98), press button .
The following screen displays:

**Fig. 60** Connection settings



By default, the connection is defined to **Smart-guess (default)**.



**4** To modify the current parameters, select **Forced settings**.
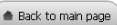


The parameters for Port configurations turn automatically active.

**5** Modify, if necessary, the port used: **Default port (22)** is selected by default

**6** Select **Alternative port (443)** if necessary

**7** If the parameter **Alternative port (443)** is selected, you can defined if the proxy is used or not in the following parameter.

The **Internet proxy** configuration is available exclusively if the port selected is **Alternative port (443)** and if the **Proxy** is selected..

⚠️ **It is recommended to configure parameters of connection with your local network administrator, if the default parameters need to be modified.**

**8** Once configuration is completed, press ( 🏠 Back to main page ) .
The **Home** page displays (see Figure 55 on page 93).

## Testing connection

Before entering the Access code to activate the application, the connection to internet can be tested from displayed screen.

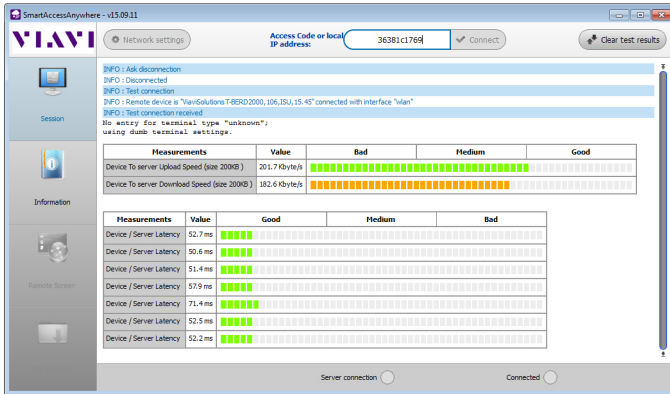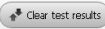**1** Open the Smart Access Anywhere application on PC

**2** Press [ ⚫ Test connection ] button

The test is automatically launched

**3** Press [ 🔍 See full logs ... ] to display logs in real time.

Once completed, the results for connection display:

**Fig. 61** Test results



The screen displays, in two different tables:

• the Upload and Download speed (in Kbyte/s) from Device to server.
• the Latency between Device and server (in ms).

**1** Press [ ⚫ Clear test results ] to delete the current table, and retest connection if wished.

**2** If connection is valid, enter the access code and establish connection (see "Launching the SmartAccess Anywhere application" on page 91 - "On the distant PC" on page 92).

# M2M Link option

If the option SmartAccess Anywhere is available on the Platform, the function M2M Link is also available [M2M Link].

This option allows to transfer data, perform OEO measurements or remote screen between two 2000 Platforms using the Ethernet network.

## Establishing connection between two 2000 Platforms

To make two platforms communicate via Ethernet, specific conditions and actions are required.

Before establishing the connection:

- An Internet connection must be established, with any kind of connection; Ethernet, WIFI...
- The distant Platform must be connected to Smart Access function (see "Launching the SmartAccess Anywhere application" on page 91).
- The SmartAccess code of the distant platform must be known by the operator on local one.
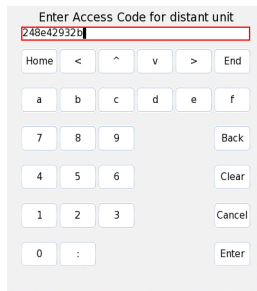
To establish the connection:

**1** Validate the **M2M Link** icon on local Platform [M2M Link].
A numeric keypad automatically displays.

**2** Enter the access code for the distant platform in the numeric keypad.

**Fig. 62** Entering the Access Code

**3** Press **Enter** to validate.

Wait for the connection to be established.

Once connection is valid:

– a message displays on local Platform and on distant platform to confirm the connection.

– the **M2M Link** function turns active on distant Platform.

– the icon 🔒 displays on the upper banner, on each Platform.

Both platforms are ready to exchange data, perform OEO measurements or remote screen.

## Remote screen function via M2M Link

This enables an operator at one end to take control over another 2000 Platform connected at the other end, using the Ethernet network.

## VNC configuration

Before it can be remote-controlled, the 2000 Platform must be configured as explained in "Configuring the 2000 Platform via Ethernet" on page 82.

## Establishing communication

**1** On the caller 2000 Platform, press the **HOME** button, then select and confirm the **M2M** option:

– If the remote instrument is ready to receive (on standby), the **M2M Link** icon turns yellow, and the icon 🔒 appears at the top of the screen: data transfer, remote screen or oeo measurements can now take place.

– If the remote instrument is not ready to receive, the **M2M Link** icon does not change color and a message is emitted.

**2** Click next on **Connectivity**.

**3** In the connectivity screen, click on **Switch to remote screen**.

Your screen is now fully replaced by the distant screen, and everything you do on your 2000 Platform is in fact done on the distant 2000 Platform.

An icon 🔴 appears in the top banner of the 2000 Platform.

> ⚠️ **A slight normal color degradation may be seen on the 2000 Platform controlling a distant instrument.**

### End of a VNC session

In order to end a VNC session, you can:

**1**    Return to the **Connectivity** page and click on **Return to local screen**. (Recommended solution)

or

Deactivate the **M2M Link** function on either 2000 Platform connected.

A dialog box displays, asking the confirmation of the disconnection.

Press **Yes** to stop the connection between the 2 Platforms.

> **NOTE**
>
> The VNC icon in the top banner of the screen lets you know at all times whether you are in a VNC session or not.

### Data Transfer between two Platforms

Once the connection is established between the 2 Platforms via **M2M Link** option, the files can be transfered from the master Platform to the slave one.

**1**    Open the **File Explorer** on the distant Platform

**2**    Select on the local disk or harddisk or USB key, the file(s) or directory to be imported in the local platform

**3**    Select the **Slavedisk**

**4**    Select if necessary a directory

**5**    Press **Edit** > **Copy** to copy the file(s)/directory on the Platform.

## Data Transfer

The 2000 Platform enables to transfer files, from or toward the product using Wifi, Bluetooth or Ethernet connection.

## Transferring files via Bluetooth

Once the connection has been established with a bluetooth device:

**1**    On the **Home** page, press **File Explorer** key to go in the File Explorer.

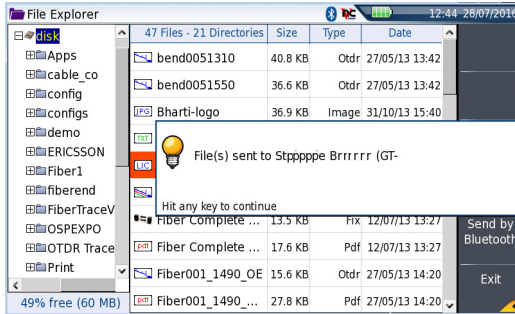**2**    Select the file(s) to be transferred from the Platform toward the PC.

**3**    Push **Export** > **Send by Bluetooth** menu keys [Send by Bluetooth].

A confirmation message displays once the transfer is completed.

**Fig. 63**        Confirmation of files sending



You can also transfer file(s) from the bluetooth device toward the Platform.

In this case, the files received will be stored in a storage media created automatically on the Platform: *bluetooth-inbox*.

> ⚠ **WARNING**
> **The files stored in bluetooth-inbox will be lost once the 2000 Platform is switched off. Copy/Paste the files to keep toward another storage media (disk, usb key...).**

# Transferring files to/from a PC via WIFI or Ethernet

Once connection is established between the Platform and the PC:

**1**    On the PC, use an FTP client, and access to internal memory via an internet explorer (I.E, Mozilla Firefox...) or Windows Explorer.

**2**    In the address bar, type the following address (`10.33.16.229` being the IP address of the 2000 Platform defined when the connection was configured):
`ftp://mts2000:JDSU@10.33.22.68/disk/`
This allows to access to internal memory.

`ftp://mts2000:JDSU@10.33.22.68/usbflash/`
This allows to access to the contents of the USB memory stick connected to the 2000 Platform.

> ⚠️ If you use Internet Explorer 7, the following address must be entered:
> `ftp://mts2000:JDSU@10.33.22.68/acterna/user/disk` or `ftp://mts2000:JDSU@10.33.22.68/acterna/user/usbflash`

**3** If an identification is required, enter:

– User name: mts2000

– Password: JDSU

The PC then displays the contents of the internal memory or of the USB memory stick from the 2000 Platform.

**Fig. 64** Internal memory of the 2000 Platform
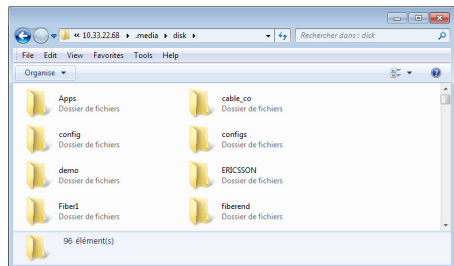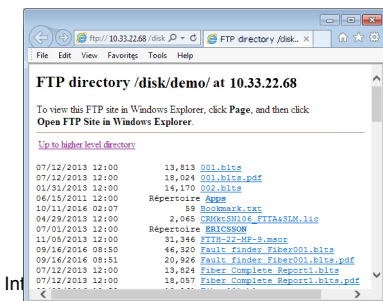


Internal memory open via Windows Explorer

**4** If internal memory of the Platform is accessible via Internet Explorer (or any other explorer), right click on one file and click on **Save target as...** to transfer file onto the PC.

If internal memory of the Platform is accessible via Windows Explorer, select one / several files and click on **Copy**, then click on **Paste** on PC to transfer file(s).

## Transferring files using Cloud Storage

Once connection between 2000 Platform and cloud storage server is successfully established (see "Configuring and connecting to Cloud Storage on the 2000 Platform" on page 84), the files can be transferred from one Platform to the other.

**1** Press **HOME** hard key.

**2** Press **Explorer** on the **Home** page
In the **Explorer** page, a new storage media is available: **cloud-storage.**

> ⚠️ **The cloud-storage media is not available when File Explorer is opened from a FO application.**

**3** Transfer the files from the disk or USB memory stick of the 2000 Platform toward the cloud storage or vice-versa:

   **a** Select the file(s) to be transferred

   **b** Press the **Edit** > **Copy** or **Cut** menu keys

   **c** Select the storage media (and the directory) into which files must be copied.

   **d** Press **Paste** menu key

**Fig. 65** File Explorer with cloud storage
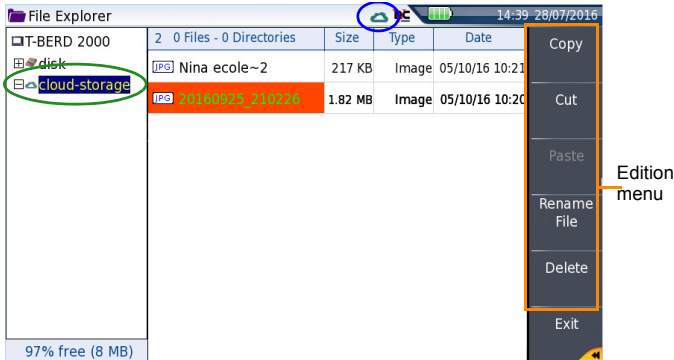


> ⚠️ **The cloud storage is automatically disconnected once the 2000 Platform is switched off. Reconnect from the System Settings page of the 2000 Platform after the Platform restart.**

# VNC

The 2000 Platform can be used in combination with a PC in order to transfer the Platform Interface onto a PC, or to access the internal memory or USB memory stick contents on the PC.

The transfer of the interface can be done using a VNC window on PC.

⚠️ **For an intensive use of the deport screen or when it is used via a WAN network, it is strongly recommended to use a dedicated VNC client. The VNC clients recommended are Tight VNC (V 1.2.9 or later) and Real VNC (V 4.1.1 or later).**

## Transferring the interface on a PC via WIFI or Ethernet

Once the connection is established between the 2000 Platform and the PC, proceed as follow:

**1**    Open Internet Explorer on the PC.

**2**    Considering `10.33.22.68` is the IP Address of the 2000 Platform (as shown ), enter the following address in the Internet Explorer window:

`http://10.33.22.68:5800`

**3**    Press **Enter** to validate.

The screen of the 2000 Platform appears offset on your PC.

**Fig. 66**     VNC window

Click to install TightVNC
software on your PC (not
mandatory)
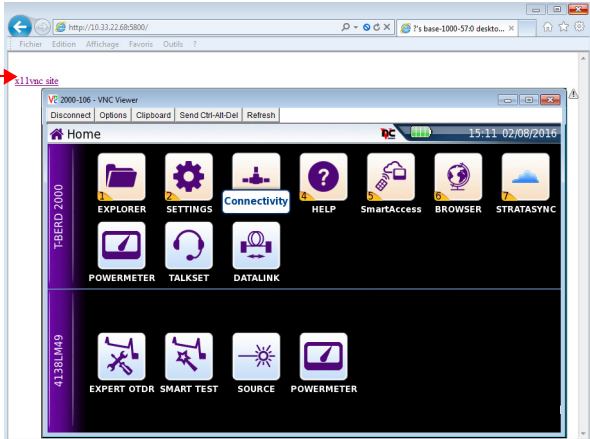


See "Virtual control buttons bar" on page 108 and "Equivalence between the keyboard
and 2000 Platform" on page 109 to get information on the deported screen use.

> **NOTE**
> Once Remote screen is accessible via VNC, the icon [icon] displays on the
> upper banner of the screen until the connection is cut or the 2000 Platform is
> switched off.

# Virtual control buttons bar

It is possible to emulate hard keys with Virtual Control buttons. This virtual control
buttons bar is especially useful when the 2000 Platform screen is exported on a remote
PC.

To display those buttons, click once on the top of the screen in the status bar, at the same
location as date and time.

Export   Home   File   Setup   Results   Start/Stop   Enter

The virtual control buttons bar is displayed during a few seconds. You may click on any of these buttons to obtain exactly the same results than using the hard keys on the front panel of the 2000 Platform.

# Equivalence between the keyboard and 2000 Platform

The PC keyboard can replaced all the buttons and keys of the 2000 Platform except the ON/OFF button**:**

- The menu keys to the right of the screen are replaced by the function keys **F1** to **F6**.
- The buttons below the screen are equivalent to **Ctrl +** a letter (see table below).
- The direction keys have the same function on the external keyboard and on the 2000 Platform.

| Function on the 2000 Platform | External keyboard |
|---|---|
| HOME | Ctrl + H |
| SET-UP | Ctrl + U |
| FILE | Ctrl + F |
| RESULTS | Ctrl + R |
| START/STOP | Ctrl + S |
| EXPORT | Ctrl + P[a] |
| REBOOT the instrument | Ctrl + Q |
| ◀ ▲ ▶ ▼ | ← ↑ → ↓ |
| Menu keys 1 to 6 (from top to bottom) | F1 → F6 |
| Validate a selection | Entrée/Enter |
| Deselect a function on the Home page | Escape/Echap. |

a. The Export function is available directly on the 2000 Platform pushing simultaneously the left and right arrow keys.

> **NOTE**
> Those equivalences are also valid with a keyboard directly connected to the 2000 Platform via one USB port.

# Stratasync

## Principle and prerequisites of the Stratasync

Stratasync is a new solution that provides network operators with an agile and centralized way to manage and analyze data from thousands of deployed Viavi test instruments directly from the cloud.

StrataSync is a hosted, cloud-based software application that provides Viavi instrument asset, configuration, and test-date management.

StrataSync improves technician and instrument efficiency.

StrataSync allows to:

• Manages and tracks test instruments

• Collects and analyzes results from the entire network

• Informs and trains the workforce

**Fig. 67**     Principle of the Stratasync application
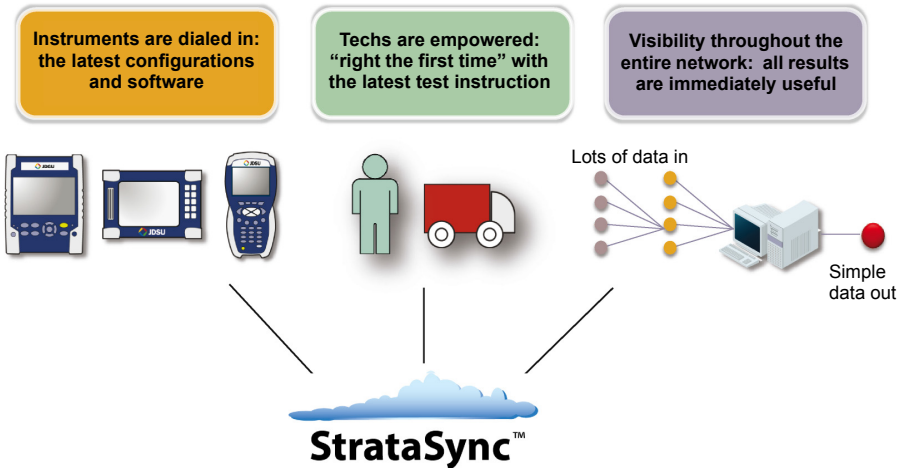
### Pre-requisites for using the Stratasync with the 2000 Platform

The user must have subscribed to Stratasync, and by consequence, he must have acquired an **account Identifier** and a **password**.

The Ethernet and Proxy parameters must have been correctly configured in the System Settings page of the 2000 Platform (see "Ethernet > Mode" on page 82 and "Proxy > Use proxy" on page 83).

# Configuring and synchronizing the 2000 Platform
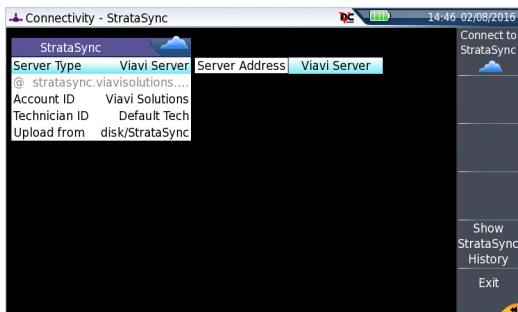
The 2000 Platform can be configured to be synchronized with the Stratasync.

**1**    On the **Home** page, press **Connectivity**.

**2**    Check the configuration of the **Ethernet** and **Proxy** parameters (see "Configuring the 2000 Platform via Ethernet" on page 82

**3**    In the **Connectivity** windows, press **Stratasync**   .

**4**    Configure the Stratasync parameters:

    **a**    In the **Server Type** parameter, the **Viavi Server** is selected by default and it is recommended to keep this parameter.
However, the user can select if necessary the **Server Name** parameter and enter the name in the following parameter.

    **b**    In the **Account ID** parameter, enter the same identifier as the one used to access to Stratasync.

    **c**    The **Technician ID** parameter is automatically fulfilled after synchronization (if it has been defined by the administrator of the Stratasync)

    **d**    To upload the files from a directory onto the 2000 Platform toward Stratasync, select the parameter **Upload from** and press right arrow key to enter the directory path (example: `disk/Stratasync`). The directory Stratasync is defined by default.

**Fig. 68**      Stratasync configuration



# Connecting the 2000 Platform to Stratasync

Once 2000 Platform is configured in the **Stratasync setup** page:

**1**   In **Home** page, press Stratasync icon [icon].

The synchronization with Stratasync starts.

The icon [icon] displays on the upper banner of the 2000 Platform during synchronization.

Once the icon is no more displayed, this mean that the synchronization is completed.

**2**   For the first synchronization only, a message displays on the 2000 Platform to indicate the addition of the equipment in Stratasync.

**Fig. 69**        First synchronization - Message on 2000 Platform
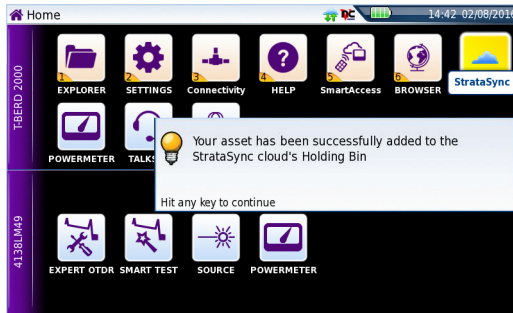


The 2000 Platform is now available in Stratasync.

8

# File management

The files management with the 2000 Platform can be performed, whether a module is set onto the 2000 Platform or not.

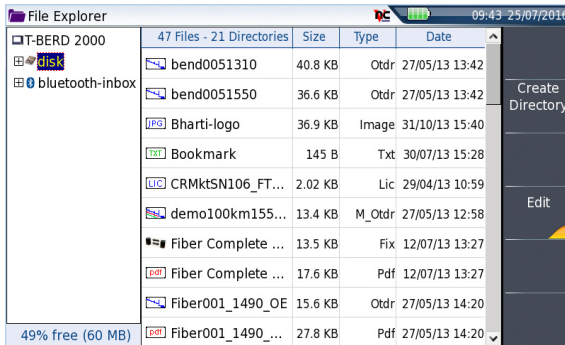The topics discussed in this chapter are as follows:

# File Explorer Overview

To reach the File Explorer page

• On the **Home** page, select the **Explorer** icon .
The File Explorer page appears.

**Fig. 70** File Explorer page



# Directories and Files selections

## Directory selection
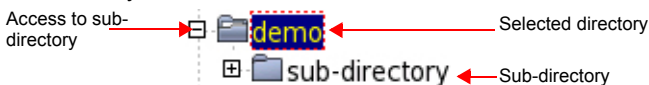
To select a directory from the explorer page:

**1** Press on the directory that must be selected on the left of the screen.
The list of files the directory contains displays on the right side of the screen
The selected directory is underlined in blue

**2** Click on the arrow at the left of the directory name, or press validation hard key
, to display the sub-directories if any.

**Fig. 71** Directory selection

# Files selection

To select one or several files from the explorer page:

**1** Press on files that must be selected.

or

To select a list of files using the keys of the Platform:

**a** Select and validate the first file of the list (underlined in red)

**b** Set the cursor on the last file of the list (underlined in blue)

**c** Maintain the right direction key ▶ pushed until all the files are selected.

or

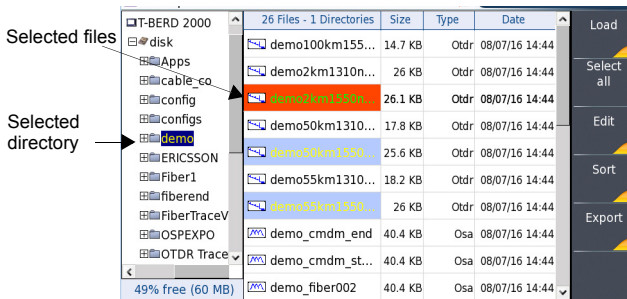Click on **Select all** menu key to select all files into the directory.

> **NOTE**
> The last selected file is underlined in red and the previous one(s) selected is/
> are underlined in blue.

**Fig. 72**      Example of files selection



# Directories & Files editing functions

## Copy/Cut & Paste files/directories

To copy (cut) one or several files, or one directory, and paste them in another place:

**1** Select the directory / the file(s) (see ).

2    Press **Edit** menu key

3    Press **Copy** to keep the directory / file(s) to their initial location.
     or
     Press **Cut** to delete the directory / file(s) from their initial location

4    On the left of the screen, select the directory; or select the new storage media.

5    Click on **Paste** menu key.

# Renaming a directory / file

1    Select the directory / file to be renamed (see "Directories and Files selections" on page 116).

2    Press **Edit** > **Rename Directory** or **Rename File.**
     The Edition keypad displays.

**Fig. 73**    Edition keypad for renaming file
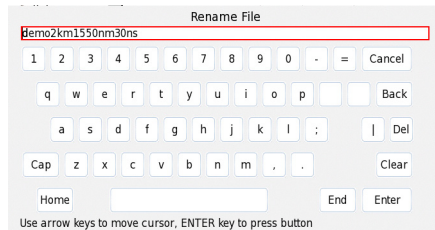


3    Press **Clear** if you wish to delete the entire name

4    Enter a new name for the directory / file.

5    Click on **Enter** to validate the new name.

# Deleting a directory / file

1    Select the directory or file(s) to be deleted (see "Directories and Files selections" on page 116).

2    Press **Edit** > **Delete.**
     A confirmation dialog box displays.

3    Press **Yes** to delete the selected directory or file(s).
     Press **No** to cancel the deletion.

# Working with directories / files from the explorer

## Creating a directory

To create a new directory from the explorer page:

**1** Check the cursor is set on the left of the screen

**2** Select the storage media into which the directory must be created

**3** To create a sub-directory, select the directory into which it must be created.

**4** Press the right menu key **Create Directory**.
The edition keypad displays

**5** Enter a name for this directory

**6** Press **Enter** key to validate the new directory

## Opening files

Once a file is selected, press **Load** menu key.

> ⚠️ **Opening several files at the same time can be done exclusively with trace files (example: all OTDR trace files if a reference trace has been defined). Other type of files (PDF, TXT...) must be open one by one.**
>
> **If different types of files have been selected in the Explorer, only the last one selected will open.**

### File Types

For files recognized by the 2000 Platform, the types are symbolized by icons. E.g.

| Icon | Type of FO file |
|------|-----------------|
|  | OTDR file (.SOR extension) |
|  | Multi OTDR file (.MSOR extension) |
|  | OSA file (.OSA extension) |
|  | Power Meter file (.LTS extension) |

| Icon | Type of file |
|------|-------------|
| 🌐 | HTML file (.HTML extension) |
| pdf | PDF File (.PDF extension) |
| TXT | Text file (.TXT extension) |
| LIC | License file (.LIC extension) |
| CSV | CSV file (.CSV extension) |
| JPG | JPEG / JPG file (.JPEG extension) |
| PNG | PNG file (.PNG extension) |
| XML | XML file (.XML extension) |

⚠️ **With the 2000 Platform, you can open and load any kind of FO files (OTDR, OSA, PON, LTS) even if the corresponding module is not set into the Platform.**

## Sorting files

Wether files are selected or not, the key **Sort** allows to access to a sub-menu allowing to sort the file according to pre-defined parameters:

- **Sort by name**: the files display in an ascending order (from A to Z). If you click once again on the key, the files display in a descending order (from Z to A).
- **Sort by size**: the files display from the smallest to the heaviest one. Clicking a second time allows to sort the files in opposite order.
- **Sort by type**: clicking once on this key; the 2000 Platform displays files in an ascending order (the file type A to file type W). By clicking again, the 2000 Platform displays the files in opposite order.
- **Sort by date**: clicking once on this key; the 2000 Platform displays files from the more recent to the less one. By clicking again on key, the Platform displays files from the older to the more recent one.

▷ **NOTE**
You can also sort files clicking on the column titles in the files list

# Creating a screenshot

You can create captures of the displayed screen, directly from the 2000 Platform, in a pdf file.

## Taking a screenshot

**1**  Reach the display which will be saved as a screenshot in a file.

**2**  If necessary, make modifications on this display (example: zoom on trace...)

**3**  Press simultaneously the left and right arrow keys ◀ ▶ for about 5 seconds
or
Click on the upper banner of the screen and, in the virtual control buttons bar, press **Export** key
The icon 🖨 displays until the end of process.

**4**  Press the **FILE** key to find the PDF file in the Explorer.
For trace results, the file is saved in the same directory than the file used for screenshot, or in the last directory selected.
For other page open and used for a screenshot, the file is saved in the directory **Print** into the disk.

**Fig. 74**     Example of screenshot, open in the PDF Reader of the 2000 Platform



## Name of the screenshots files

The screenshot is saved in a file, which is automatically named as follow:

•  *Print_date (year/month/day)_time (hour/minute/second).jpg/png/pdf*

# Merging pdf or txt files

In the Explorer page, two <u>pdf or txt</u> files or more, generated via the results traces can be merged in one pdf file.

- The pdf files that can be merged are those generated via the **Fast Report** key on trace results page or via the **Export** key on the upper banner (or left and right arrow keys) (see "Merging pdf or txt files" on page 122)
- The txt files that can be merged are those saved with the results trace (see OTDR Modules User Manual: E2100M02).

**1** In the Explorer, select the two or more pdf or txt files generated

**2** Press **Export > Merge** menu keys.

**Fig. 75** Files selection and Merge key
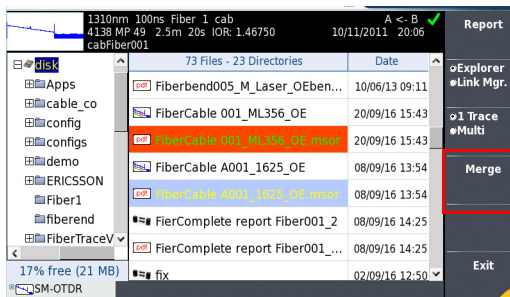


The icon is displayed during merging process.

After a few seconds, the files are merged in one pdf/txt file, which name by default is: *merged_year_month_date__hour_min_sec*.pdf/txt

The file is automatically saved in the same directory as the one where files have been selected.

It gathers all results from pdf/txt files selected (and traces for pdf file), in one single pdf file of several pages (1 results screen per page, if the results table does not exceed one page).

> **NOTE**
>
> Once merged file is saved, it can be renamed in the Explorer (see "Renaming a directory / file" on page 118).

# Storage media

For saving or recalling data, the 2000 Platform offers a wide choice of media, both built-in and external.

Free space on selected media is clearly displayed at the bottom of the left panel.

## Storage media built into the 2000 Platform

The 2000 Platform is delivered with an internal memory, which maximum capacity is of 1GB (with a minimum of about 128 Mb are available for data storage).

## External USB storage media

The 2000 Platform is equipped with 2 USB ports as standard. One of these can be used to connect an external storage medium, in particular a USB memory stick.

> **NOTE**
> Although two USB ports are present, it is not possible to use simultaneously more than one external USB storage medium.

### USB memory stick connection

**1**  Insert the USB memory stick in one of the 2000 Platform's USB port.

A sound is emitted to confirm the successful insertion and recognition of a USB memory stick.

Then, the icon  is displayed in the upper banner to inform the user the USB stick is ready to be used.

> **When a file is moved in the explorer of the Platform, the end of the move on the screen does not mean that writing of data into the memory is complete. Some data may still be in a writing process if the storage unit is removed prematurely.**

### USB memory stick disconnection

**1**  Before disconnecting the USB memory stick, always select a storage device different from usbflash (select disk for example) in the explorer.

**2** Make sure you no longer have any running applications using the usbflash storage media.

**3** The user must push the **EJECT USB** key, available in **File Explorer**.

The icon becomes     to indicate it can be removed safely. In this state, the USB stick cannot be used anymore

The USB memory stick can then be disconnected from the Platform USB port.

> **NOTE**
>
> The USB memory stick can also be removed using the **Expert Tools** > **Media Utilities** menu, accessible via the **System Settings** page.

See Chapter 11 "Maintenance & Troubleshooting" if any problem occurs with the USB memory stick

# Abbreviations for storage media

The abbreviations used in the explorer for the different storage media are:

| Abbreviation | Storage medium |
|---|---|
| disk | Internal flash memory |
| usbflash | USB memory stick |
| bluetooth-inbox | Bluetooth storage media (option)[a] |
| cloud-storage | Cloud storage media available on PC |
| slavedisk | Slavedisk of the Platform connected to this one via M2M Link or Datalink |

a. The files stored in bluetooth-inbox are lost when the Platform is switched off.

9

# Technical specifications

This chapter contains the technical specifications of the 2000 Platform mainframe.

The topics discussed in this chapter are as follows:

# Display specifications

## Screen

- Backlight hgh visibility color touchscreen
- Size: 5 inches
- Resolution: 800 x 480 pixels

## Memory

- Standard memory: internal memory, with a capacity of 8GB (with a minimum of about 900 Mb are available for data storage).

## Input/Output

- two USB 2.0 host ports.
- one RJ 45 connector for Ethernet interface 10/100/1G
- built-in buzzer

## Power supply

### Battery

The instrument can be supplied with one Li-Polymer battery.

#### Endurance of the 2000 Platform with battery

Measurement conditions:

- – at +25 °C,
- – at full battery capacity (4.5 Ah),
- – 2000 Platform equipped with one OTDR LA module

## Endurance

| | Endurance |
|---|---|
| **Conditions of use** | **Li-Polymer battery** |
| According to Telcordia GR-196-CORE recommendation: Normal conditions, with normal backlight, 3 acquisition of 30 seconds per quarter of hour, auto off | up to 9h30 |
| Under continuous acquisition, with high screen backlight: - with an OTDR QUAD Module - with an OTDR LA Module | Up to 3h15 Up to 4h00 |

### Battery charging time

If the battery is completely discharged, the time taken to recharge is:

| Conditions of use | Charging Time |
|---|---|
| The instrument is not in use (**Charge** indicator solid red) | approximately 4.5 hours |
| The instrument is used during charging (**On** indicator lit in fix green, **Charge** indicator lit in solid red) | about 10 hours |

# Mains adapters

| | Standard Mains Adapter |
|---|---|
| **Input** | 100-240 V, 50-60 Hz |
| **Output** | 12V DC    2.5 A max |
| **Compliance** | EN 60950 |

Supply or Power assigned in AC and in DC: 25 W

# Dimensions - Weight

|  | Weight | |
|---|---|---|
| 2000 Platform without options, battery nor module | 692 g | 1.52 lbs |
| 2000 Platform with a Li-Polymer battery and one OTDR LM Module | 1.21 kg | 2.67 lbs |
| Li-Polymer battery | 172 g | 0.37 lbs |
| VFL/PWM option | 30 g | 0.066 lbs |

|  | Dimensions (mm) (H X W X D) Bumpers included | Dimensions (mm) (H X W X D) W/o bumpers |
|---|---|---|
| Without module | 175 x 138 x 41 | 169 x 134 x 39 |
| With 1 module | 175 x 138 x 80 | 169 x 134 x 72 |

# Environment

## Temperature

| • | Operating temperature range | -20°C to +50°C (-4°F to +122°F) |
|---|---|---|
| • | Operation including all options (guaranteed specifications) | 0° to +40°C (+32°F to +104°F) |
| • | Storage | -20°C to +60°C (-4°F to +140°F) |

## Humidity
- 5 to 95% without condensation

## EMI/ESD
- CE class B Compliant (EN61326-1)
- FCC 47-1 Part 15 Compliant

# Drop test

In accordance with the Telcordia GR-196-CORE recommendations, the 2000 Platform resists the following test:

- 6 impacts dropped from a height of 1m on a pinwood floor of 5 cm thickness (1 impact on each of its 6 sides, with power off).

# Shocks

The 2000 Platform resists the following test:

- 3 shocks per axis along each of the 3 axes, with power off.
- Impacts of 15g, 1/2 sine, duration 11 ms, at 10 second intervals.

# Bumps

The 2000 Platform resists the following test:

- 1,000 bumps per axis along each of the 3 axes, with power off.
- Jolts of 15g, 1/2 sine, duration 6 ms, at 1 second intervals.

# Vibration

The 2000 Platform resists the following vibration tests:

- Complete test comprising 6 cycles along each of the x, y and z axes.
- One cycle of 5 to 200 Hz and back to 5 Hz with a sweep duration of one minute/octave.
- 3 mm amplitude displacement test, for the range 5 Hz to 15 Hz.
- 3g acceleration test for the range 16 Hz to 200 Hz.

# Flammability

The 2000 Platform housing (in ABS, type V0) does not propagate fire.

# Characteristics of the options

## Power meter

Specifications given for 25°C, after 20 minutes stabilization time and after zero setting.

- Wavelength range: 800 to 1650 nm in steps of 1 nm
- Calibrated wavelengths: 850 / 1310 / 1490 / 1550 / 1625 / 1650 nm[1]
- Accuracy at calibrated wavelengths: ± 0.2 dB (at -30 dBm)
- Input power range: -60 dBm to +10 dBm
- Maximum resolution: 0.01 dB / 0.01nW
- Measurement range:+5 to -50 dBm (+5 to -45 dBm from 800 to 1250 nm)
- Linearity within the measurement range: ± 0.2 dB

## Talkset

- Dynamic range: typically 32 dB at 25°C with a FC adapter (use a FC/PC connection exclusively).
- Laser, typical wavelength 1625 nm, class 1 (EN60825 and FDA21 CFR Part 1040.10 standards)

## VFL

- Wavelength: 650 nm
- Length of fiber: up to 5 km
- Class 2 laser (standards EN60825-1 and FDA21 CFR Part 1040.10).

## Bluetooth and WIFI

- WIFI: standard IEEE802.11 b/g/n
- Bluetooth V4.0 Compliant

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1.Specifications guaranteed to the calibrated wavelengths, except for 1650 nm

10

# Options and accessories

This chapter shows the references of the options and accessories of the 2000 Platform.

The topics discussed in this chapter are as follows:

# References of options for the 2000 Platform[2]

| Base Unit references | Reference |
|---|---|
| MTS-2000 Handheld Platform with touchscreen | EM2000HVT |
| T-BERD 2000 Handheld Platform with touchscreen | ETB2000HVT |

| Power Meter / VFL / Talkset options | Reference |
|---|---|
| Optical Power Meter option for 2000 Platform | E20PM |
| Power Meter and VFL option for 2000 Platform | E20PMVFL |
| Power Meter and Talkset option for 2000 Platform | E20TSPM |
| VFL option with UPP 2.5mm connector for 2000 Platform | E20VFL |

| WIFI / Bluetooth options | Reference |
|---|---|
| WIFI option for 2000 Platform | E20WIFI |
| Bluetooth option for 2000 Platform | E20BLUE |

| Mains options | Reference |
|---|---|
| Cigarette lighter adapter for 2000/4000 Platform | E40LIGHTER |
| Additional AC Adapter/Charger for 2000 Platform. Includes adaptable plugs (Europe, US, UK, Australia) | E20PWMC |

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2.These options must be ordered together with the instrument.

| Smart Access Anywhere | References |
|---|---|
| Smart Access Anywhere for 2000 Platform -L2: Remote coaching and file transfer for T-BERD/MTS 2000 using Ethernet, WIFI and selected Smart-phone (via USB or WIFI) | SAA-L2 |

| FTTA-SLM (Software license) | References |
|---|---|
| FTTA-SLM OTDR function for T-BERD/MTS-2000 | EFTTASLM |
| FTTA-SLM OTDR upgrade option for T-BERD/MTS-2000 | EFTTASLM-UPG |

| FTTH SLM (Software license) | References |
|---|---|
| FTTH-SLM OTDR option for T-BERD/MTS-2000 | EFTTHSLM |
| FTTH-SLM OTDR Upgrade for T-BERD/MTS-2000 | EFTTHSLM-UPG |

| Enterprise-SLM (Software license) | References |
|---|---|
| Enterprise-SLM OTDR option for T-BERD/MTS-2000 | ENTERPRISESLM |
| Enterprise-SLM OTDR Upgrade for T-BERD/MTS-2000 | ENTERPRISESLM-UPG |

# References of accessories

| Battery | Reference |
|---|---|
| Replaceable Li-Polymer battery (see "Changing the battery" on page 155) | E20LIPO |

| Scope | Reference |
|---|---|
| Digital Videoscope kit including FBP-P5000i probe (USB2.0) in a small soft case, and 7 tips in a box (FC, SC, SC-APC, LC, U25M, U25MA & U12M) | ESDFSCOPE5Ki |

| Carrying Cases | References |
|---|---|
| Hard carrying case for the MTS/T-BERD 2000 and various accessories | E20HCASE1 |

| Carrying Cases | References |
|---|---|
| Large Soft Case for MTS/T-BERD 2000/4000 Platform | E40SCASE1 |

| Stylus | References |
|---|---|
| Stylus for capacitive touchscreen | EHVT-STYLUS |

# References of manuals

| User manual for 2000 Platform | Reference |
|---|---|
| Printed User manual for 2000 Platform (French) | E2000M01 |
| Printed User manual for 2000 Platform (English) | E2000M02 |
| Printed User manual for 2000 Platform (German) | E2000M03 |

**NOTE**

The User Manuals for MTS/T-BERD 2000 (Platform & Modules) are available in pdf format, into the unit.

The printed versions of the manuals are available on option, in French, English and German.

# References of result processing software[3]

|  | References |
|---|---|
| Optical Fiber Trace software | EOFS100 |
| Optical Fiber Trace software (5 licences) | EOFS1005L |
| Optical Fiber Trace software (site licence) | EOFS100SL |
| FiberTrace software - update | EOFS100UP |

3.Free software updates on the Web (but without user manual)

| | References |
|---|---|
| Optical Fiber Cable software | EOFS200 |
| Optical Fiber Cable software (5 licences) | EOFS2005L |
| Optical Fiber Cable software (site licence) | EOFS200SL |

**11**

# Maintenance & Troubleshooting

This chapter describes how to maintain your unit and identify and correct problems related to the 2000 Platform.

The topics discussed in this chapter are as follows:

# Maintenance procedure

**Maintenance work on this instrument must only be undertaken by qualified personnel using suitable equipment.**

In most cases, it is advisable to contact the nearest Viavi Service Centre, which will undertake the appropriate troubleshooting and repair work.

The performance and technical complexity of the 2000 Platform class this instrument in a new generation of equipment, for which Viavi has laid down a maintenance policy based on the principle of standard module replacement.

In implementation of this policy, we have set up powerful card troubleshooting test resources in our factories and a rapid dispatch system operating between our factories and branches.

Only by this procedure can the high quality of the instrument continue to be ensured after repair work. This procedure also has the advantage of reducing repair costs and time.

In the interests of quality and efficiency, we strongly recommend adoption of the following procedure in the event of a fault, before any other steps are taken:

- Verify that the instrument is plugged in.
- Check the connections of any peripheral equipment to the Platform.
- If a fault is detected, or in case of doubt, it is advisable to contact the nearest Viavi Service Centre, which will undertake the appropriate repair work.

## Cleaning

### Cleaning plates and housings

The front and rear plates and the housings may become tarnished with handling. To clean them, use only a rag moistened with soapy water.

Never use any product containing acetone, trichlorethylene, benzine or alcohol, as these will attack the printed markings.

### Cleaning the screen

To clean the screen, use an antistatic product.

## Cleaning the optical cable connector

• Use a non-fluffy type of paper, such as Joseph paper, soaked in isopropylic alcohol.
• Pay particular attention to the polished face of the fiber, rubbing it in a direction perpendicular to the axis of the fiber.

## Cleaning the optical connections of the 2000 Platform

• Squirt a highly volatile solvent (such as isopropylic alcohol) into the connector.
• Blow out the connector using a clean dry air supply from an aerosol can fitted with an extension.

> **NOTE**
> If your module has a universal connector, unscrew its adaptor to access the ferule.

# Accessing to the 2000 Platform information

On the 2000 Platform, some screens allows to display information on different elements of the equipment.

To display the information on the 2000 Platform

**1** On the **Home** page, validate **Settings** icon to reach the **System Settings** page.

**2** On the right menu keys, press **About** to display the presentation screen of the 2000 Platform.

## General page

The **General** page is displayed by default, and allows to display the presentation screen, with all the information concerning the software versions, the hardware options and the module installed.

**Fig. 76**          General page
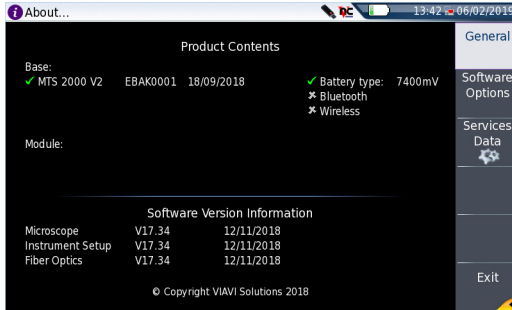


This page shows:

- The software version information
- The product contents: base, optical options, battery type, touchscreen used, module installed and date of calibration for options.
  The options set into the 2000 Platform are marked with a green tick.

# Software options page

This page allows to visualize the software options available on the 2000 Platform.

**1**     Once on the **About** screen, press **Software Options** menu key to display the list of software options available on your 2000 Platform.

**Fig. 77**          Software Options page
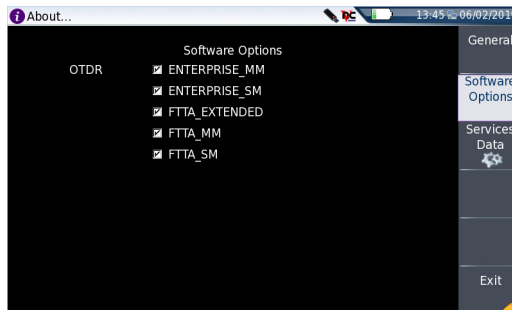
## Services Data page

This page allows to display information about the elements inside the 2000 Platform (CPU, Memory, hardware revision, screen reference...).

**1** Once on the **About** screen, press **Services Data** menu key to display the list of elements contained on your 2000 Platform.

**Fig. 78** Services Data page
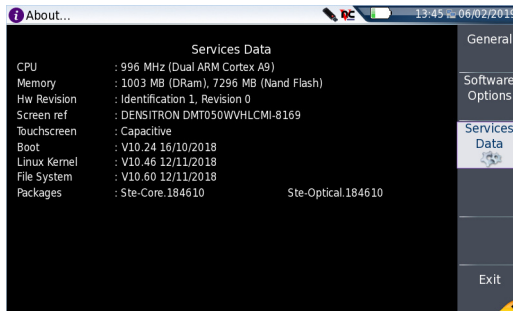


# Accessing to the 2000 Platform documentation

All documents necessary for the 2000 Platform use are directly available onto the equipment.

To display the list of documents available for 2000 Platform use:

**1** Validate the **Help** icon on the **Home** page.

**2** In the page, click one link to display the corresponding document: User manual, Getting Started Manual, Quick Card...

**Fig. 79**        Help page
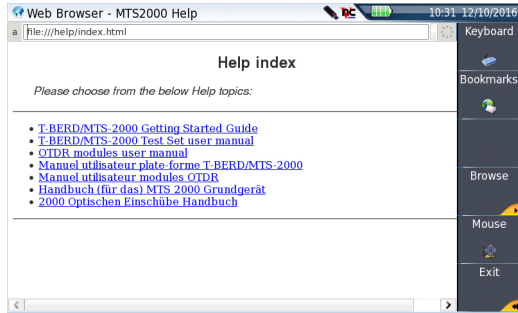


# Installing a new version of the software

> ⚠️ When a new software version is loaded, there is a risk of re-initialization of the internal memory. Before installing the new software, it is therefore advisable to save the results in the memory, using the **Save** function called up by the **FILE** button.

> ⚠️ Do not interrupt the installation process, as this could damage the instrument.
>
> To avoid any interruption of the installation procedure, the 2000 Platform must be operating on the mains: if the procedure is started while operating on battery, a message indicates that the instrument must be connected to the mains.

## Downloading from Internet

When the software is obtained from the Internet, it must be saved on a storage medium before the software upgrade of the product can be carried out. To do this:

**1** Open Internet Explorer

**2** Enter the internet address `http://www.updatemyunit.net`, which will give access to the installation portals for all T-BERD/MTS from VIAVI.

**3** Click on the link **T-BERD®/MTS-2000 Platform**

A new page opens, displaying the current version available and several links.

**4**    According to your region, click on the one of the following icon to download the archive.

   Download from European server

   Download from North American server

   Download from Singapore server

**5**    In the new dialog box displayed, click on **Save** to save the exe file on the PC.

**6**    Once completed, connect the USB memory stick to the PC and follow the instructions chapter "Installation from a USB memory stick" on page 145, from step 2.

# Installation from Viavi Server

The update can be performed directly onto the equipment, using the Viavi server.

**1**    Connect the 2000 Platform to a PC via an Ethernet cable or via WIFI.

**2**    Check on the **Ethernet** or **WIFI** setup page that the connection mode is defined to Automatic (**Home** > **Connectivity** > **Ethernet/WIFI** > **Mode**: **Dynamic**).

**3**    On the **Home** page, press **Connectivity** icon [Connectivity] .

**4**    Press **Upgrade** icon [Upgrade] .

**5**    In the **Upgrade Server** box:

   –    On the line **Address Type**, select **Viavi Server**

       The address **2k.updatemyunit.net** is automatically displayed.

**6**    Select if the new release for 2000 Platform must be automatically detected (**Enable**) or not (**Disable**). See "Checking new upgrade on Viavi Server" on page 147.

**Fig. 80**    Configuration of the Viavi Server
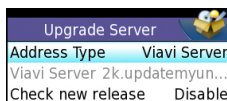


**7**    Press **Software Upgrade > Upgrade via Ethernet**.
The message `Verify IP address of PC server` appears.

**8**    Click on **Continue**.

The list of the software versions available on the PC is displayed next to the versions installed on the 2000 Platform.

**Fig. 81**        List of software versions (current and new)
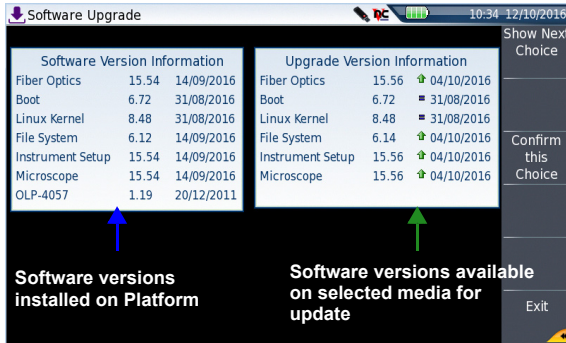


**Installation from another server**

Before starting the software upgrade via Ethernet, make sure the IP address of the PC server.

The update can be performed directly onto the equipment, using an http address.

**1**     Connect the 2000 Platform to a PC via an Ethernet link or via WIFI.

**2**     Check on the **Ethernet** or **WIFI** setup page that the connection mode is defined to Automatic (**Home** > **Connectivity** > **Ethernet** / **WIFI** > **Mode**: **Dynamic**).

**3**     On the **Home** page, press **Connectivity** icon        .

**4**     Press **Upgrade** icon        .

**5**     In the **Upgrade Server** box:

  –   On the line **Address Type**, select **Server Name** or **IP Address**.

  –   Enter the Server Name (if **Server Name** has been previously selected) or the Server Address (if **IP Address** has been previously selected)

**6**     Press **Software Upgrade > Upgrade via Ethernet**.

        The message `Verify IP address of PC server` appears.

**7**     Click on **Continue**.

The list of the software versions available on the PC is displayed next to the versions installed on the 2000 Platform (see Figure 81 on page 144).

# Installation from a USB memory stick

You must be equipped with a USB memory stick with a minimum capacity of 128 Mo.

Before installing the upgrade, you must format the USB memory stick (see "Formatting the USB memory stick onto the 2000 Platform" on page 155).

**1** Once formatted, disconnect the USB memory stick from the 2000 Platform using the key **Eject USB** in the **Media Utilities** page.

> ⚠️ As for any media formatting, please note that all data present on the USB memory stick will be irremediably lost.

**2** Connect the USB memory stick to the PC

**3** Unzip the upgrade files on the PC and transfer it to the USB memory stick:

**a** Download and save on your PC the.exe upgrade file that you can get from the web (see "Downloading from Internet" on page 142).

**b** Once the transfer is completed, double click on the.exe file: A window will appear. Check that the folder is correct i.e. the USB memory stick driver is appearing in the line at the bottom of the dialog box then press OK. If not, click on the icon 📁 in order to select the right USB drive.

**Fig. 82** List of software update
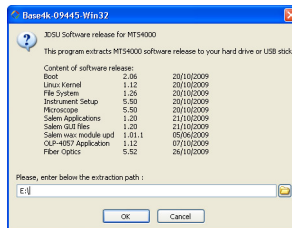


**c** Press **OK** and wait for the end of loading.

**4** Then remove the USB memory stick, using the appropriate procedure, from your PC

**5**    Insert the memory stick into one of the USB ports on the Platform.

> **NOTE**
> A bip is emitted each time the USB memory stick is inserted or removed from
> the USB port.

**6**    On the **Home** page, press **Connectivity** icon       .

**7**    Press **Upgrade** icon       .

**8**    Press **Software Upgrade > Upgrade from USB**..

The message Are you sure? is displayed

**9**    Click on **Confirm**.

The list of the software versions available on the USB stick is displayed next to
the versions installed on the 2000 Platform (see Figure 81 on page 144).

## Launching the upgrade

Whatever is the method selected for upgrade (Server, USB key...) and once the list of
the software versions available is displayed next to the versions installed on the 2000
Platform (see Figure 81 on page 144), follow these instructions to launch the upgrade:

**1**    Click on **Show Prev choice** or **Show Next Choice** to display the previous and
next versions available.

**2**    Click on **Confirm this Choice** to start the upgrade of the selected software(s).
or
Click on **Confirm All Choices** to upgrade all versions.

> **NOTE**
> The software versions list does not always appear (cf previous versions) as
> well as the **Previous / Next Choice** buttons and the **Confirm/Continue** key.
> In this case, the upgrading starts automatically.

Upgrading begins. The 2000 Platform is automatically rebooted. Upgrading takes
several minutes. Finally, the 2000 Platform is automatically restarted.

⚠️ **During the upgrade, the Testing indicator is lit in red. Do not push any button or remove the USB memory stick while the indicator is lit. The USB stick can be removed if necessary once the Testing indicator is off.**

# Checking new upgrade on Viavi Server

If the Viavi Server is selected for upgrade (see Figure 80 on page 143), the parameter **Check new release** can be defined to automatically inform user of a new upgrade available for Platform.

**1** In the **Connectivity** screen, select **Upgrade** icon.

**2** Check the **Address Type** is set to **Viavi Server**.

**3** Define the parameter **Check new release** to **Enable**.

If the parameter is set to **Enable**, a message displays, at any time, when one update is available on server.

**Fig. 83** Checking new release
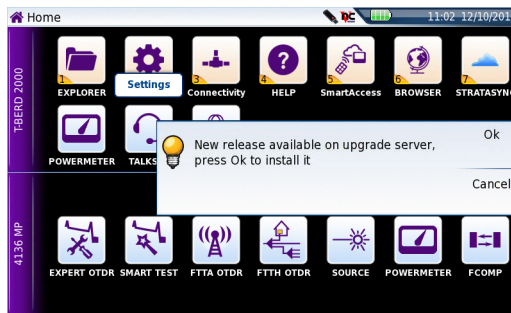


**4** Press **Ok** to display the list of software versions available (see Figure 81 on page 144) and follow instructions "Launching the upgrade" on page 146.

# Upgrading from the boot

This method is used to make a complete reinstallation of the software versions.

**1** Turn off the 2000 Platform using the **ON/OFF** button, keeping the equipment connected to the mains.

**2** Insert the USB stick onto which the software versions are stored into one of the USB port of the Platform

**3** Press simultaneously **SETUP + START/STOP** buttons

**4** Maintaining the two buttons pressed, press **ON** button to start the 2000 Platform.

**5** A menu displays, then the screen allows to select **Upgrade from USB**

After a few seconds, a new page displays indicating that to continue the reboot, the validation key must be pressed.

Press the hard key ● .

The reboot starts automatically.

> ⚠ **The Testing indicator will be lit in red during upgrade. Do not push any key or remove the USB memory stick until the lit turns off.**

Once the upgrade is completed, the 2000 Platform will automatically turns on and display the **Home** page.

# Install Software License

This page allows to import the license to get a software option.

**Fig. 84**       Example of a License file (.lic)



To import the license, you can either enter manually the licence code, given in the license file, (.lic file) or import this file with a USB memory stick connected to the 2000 Platform.

> ⚠ **It is strongly recommended to perform the installation using the importation of License via a USB memory stick.**

# Enter Manually the License

**1**   In the **Home** page, click on **Settings** icon.

**2**   Click on **Expert Tools** > **Install Option** > **Enter Challenge**
    The edition keypad is displayed

**3**   Enter the challenge code of the option, set at the bottom of the file (see Figure 84 on page 149),

**Fig. 85**        Enter the License code
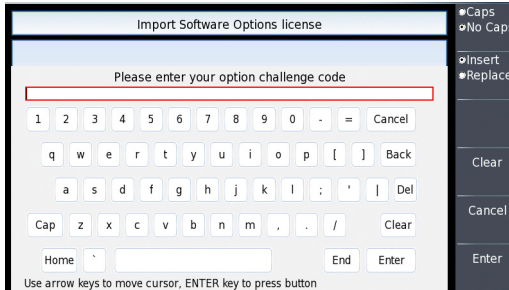


> ⚠️ **The license file can be opened via a word processing software such as Word...**
>
> **The challenge code must be entered exactly as it is in the .lic file, paying attention to the lower-case and upper-case letters etc.**

**4**    Press the **Enter** key to validate the code

Your software options will be installed

At the end of this sequence you will be asked to reboot the unit to apply the modifications, pushing the key ▢ Reboot ▢. Confirm the reboot to restart the Platform.

# Import the license from the USB memory stick

> ⚠️ **CAUTION**
>
> Any file linked to the license file (.lic) must be saved at the root of the USB key.

**1**    In the **Home** page, select the **Settings** icon

**2**    In the **System Settings page**, press **Expert Tools** > **Install Option** > **Import License**.

If the USB memory stick is not already connected to the Platform, a message asking the memory stick insertion is displayed. Confirm it once the stick is connected.

**3**    In the File Explorer, select the USB stick, then the license file (.lic) to be imported,

**4** Click on **Load** > **Confirm**

**5** The challenge codes contained in this file will then be loaded automatically and your software options will be installed.

**Fig. 86** License imported
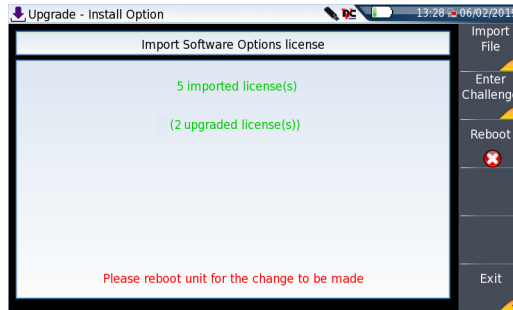


**6** At the end of this sequence you will be asked to reboot the unit to apply the modifications, pushing the key Reboot .

**7** Confirm the reboot

# Locking the 2000 Platform

The 2000 Platform can be locked at any time:

**1** In the **HOME** page, click on **Settings** icon to open the **System Settings** page.

**2** Click on **Expert Tools** > **Instrument Lock**

**3** Confirm the 2000 Platform locking by clicking on **Confirm** (or use the **Cancel** key to cancel the process).
The numeric keypad is displayed

**4** Enter the password to lock the instrument: `42000` with the numeric keypad displayed.

**Fig. 87**        Password
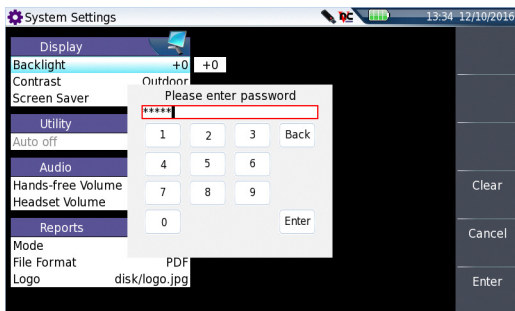


**5**    Click on **Enter**

The 2000 Platform locking screen is displayed.

**Fig. 88**        Locking screen
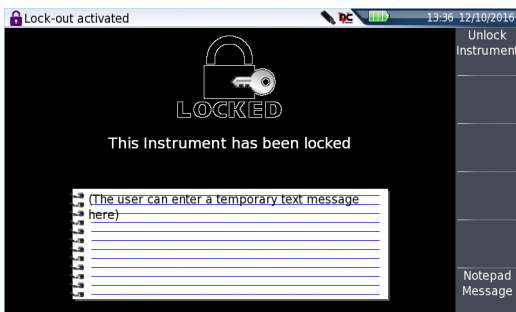


Click on the **Notepad Message** key to add a message using the text edition.

## Unlocking the 2000 Platform

**1**    Once the locking screen is displayed, click on the key **Unlock Instrument**.

**2**    Press confirm to confirm the Platform must be unlocked.

**3**    Enter the password **42000** using the numeric keypad displayed and validate.

The screen automatically displays the **HOME** page.

# Returning an instrument

When returning an instrument, it is essential to indicate the following minimum information:

- the type and serial number of the instrument (on the identification label) and the configuration code (under the bar code)
- a description of the fault found on the instrument.

The returned instrument will then be repaired and calibrated.

# Guarantee conditions

Any repair operation supervening within the guarantee period of the instrument will be carried out at the expense of Viavi. However, for any sub-assembly upon which work has been carried out otherwise than by Viavi Service Centers, the cost of a replacement sub-assembly will be invoiced.

# Recycling Information

Viavi recommends that customers dispose of their instruments and peripherals in an environmentally sound manner. Potential methods include reuse of parts or whole products and recycling of products components, and/or materials.
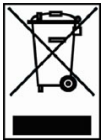
### Waste Electrical and electronic Equipment (WEEE) Directive

In the European Union, this label indicates that this product should not be disposed of with household waste. Il should be deposited at an appropriate facility to enable recovery and recycling.

# Troubleshooting

## Interpreting alarms

| Troubleshooting | Solution |
|---|---|
| Nothing happens when the **ON/OFF** key is pressed. | - Make sure that the battery is present or charged; or the mains adapter is properly connected (see "Connecting the mains adapter" on page 15). |
| Nothing happens on screen, whatever is the action done (menu key or hard key pressed...) | - The Platform must be rebooted.<br>See "Resetting the 2000 Platform" on page 18. |
| You are using the 2000 Platform in the ordinary way when it suddenly switches off. | - Check the instrument is not configured to Auto off. See "Defining the Automatic shutdown of the 2000 Platform" on page 24).<br>- Check the battery charge level. See "Charging the battery" on page 15. |
| The battery refuses to charge (the **Charge** indicator does not go on when the instrument is connected to the mains and is not operating). | - There is no battery in the instrument.<br>- The temperature level of the equipment does not allow the battery charging for safety reasons. Wait the equipment cools down.<br>- The battery needs to be changed.<br>See "Changing the battery" on page 155. |
| Error message when USB has been disconnected | - The USB disconnection has not been done properly (see "USB memory stick disconnection" on page 123)<br>- The data transfer was not completed when USB key was disconnected. |
| No beep is emitted when the USB memory stick is connected | - A previous USB memory stick has not been properly disconnected (see page 123).<br>- The USB memory stick is not detected by the 2000 Platform: use another memory stick, or another storage media. |
| Error message when upgrade via Ethernet is confirmed | - Check the Server Name is correctly entered (see "Installation from another server" on page 144) |
| Error message when upgrade via USB key is confirmed | Check the USB key is correctly connected (see "USB memory stick connection" on page 123) |
| Error message when unlocking the instrument | - The password is not the correct one (see "Locking the 2000 Platform" on page 151). |

# Formatting the USB memory stick onto the 2000 Platform

If the USB icon ![icon] is displayed on the upper banner of the screen, when a USB memory stick is connected to the 2000 Platform, this may means the memory stick must be formatted.

If the stick needs to be formatted, proceed as follows:

**1** Insert the memory stick into one of the USB port on the top of the 2000 Platform.

**2** Press the **HOME** button

**3** Validate the **Settings** icon to open the **System Settings** page.

**4** On the right menu keys, successively select **Expert tools** > **Media utilities** > **Usbflash Format.**

**5** Confirm your choice to actually format the USB memory stick.

> ⚠️ **As for any media formatting, please note that all data present on the USB memory stick will be irremediably lost.**

# Erase disk

To delete all the disk contents of the 2000 Platform:

**1** On the Home page, Press twice the **Settings** icon to open the **System Settings** page

**2** Press **Expert Tools** > **Media Utilities**,

**3** Select **Erase Disk** to delete all the disk contents into the 2000 Platform.
A confirmation must be validated before the deletion.

# Changing the battery

If you meet problems during the Platform functioning, or if the battery does not charge anymore when plugged, this may require the battery to be replaced.

> ⚠️ **CAUTION**
> **Battery is not interchangeable in the field. It must be replaced exclusively for maintenance purpose.**

# Accessing to the damaged battery

To access the battery of the 2000 Platform, proceed as follows:

**1**   Switch off the instrument and disconnect the mains supply.

**2**   Turn the instrument face down on the work surface.

**3**   If any, remove the module installed (see "Removing a module" on page 15).

**4**   Remove the battery door.

**5**   Pull the battery connector from its housing, to disconnect it from the base, taking care not to damage the connector into which it is plugged.

**Fig. 89**      Battery location



Battery door
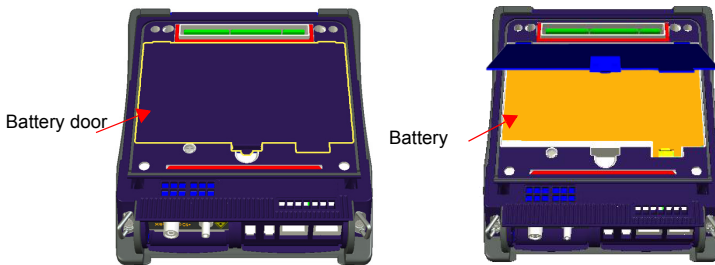
Battery

⚠️ **Date and Time parameters will be lost when battery is disconnected.**

# Installing a new battery

**1**   Set the battery into the Platform

**2**   Connect the new battery in the connector of the 2000 Platform, in the right way using the location notch.

**Fig. 90**    Setting a new battery
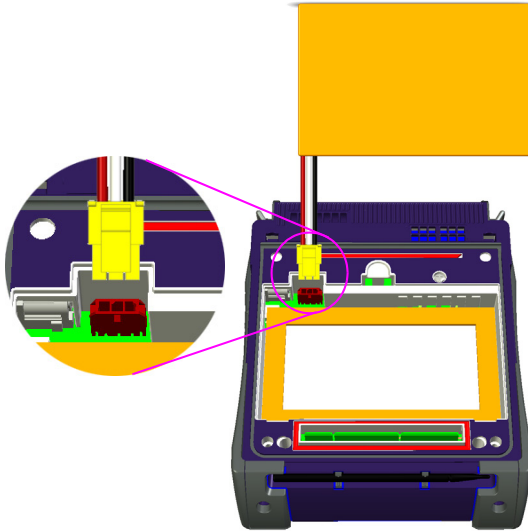


> ⚠️ **When putting a battery back into its seating, make sure that its connector engages correctly with the one of the base and that the door is correctly closed.**

Contact Viavi local Sales Service to get a new battery.

> ⚠️ **Do not use any battery other than the one supplied with the instrument, or supplied by Viavi.**

# General information on warranty

The warranties described herein shall apply to all commercially available Viavi products. Any additional or different warranties shall apply only if agreed to by Viavi in writing. These warranties are not transferable without the express written consent of Viavi.

# Hardware Warranty

Viavi warrants that Hardware Product sold to customer shall, under normal use and service, be free from defects in materials and workmanship. Information regarding the specific warranty period for this product can be obtained by contacting your local Viavi Customer Service Representative, or at our web site **www.viavisolutions.com**. If installation services have been ordered, the warranty period shall begin on the earlier of (1) completion of installation, or (2) thirty (30) days after shipment to customer. If Installation Services have not been ordered, the warranty period shall begin upon shipment to Customer. Hereafter these periods of time shall be collectively referred to as the Initial Warranty Period.

Viavi 's obligation and customer's sole remedy under this Hardware Warranty is limited to the repair or replacement, at Acterna's option, of the defective product. Viavi shall have no obligation to remedy any such defect if it can be shown: (a) that the Product was altered, repaired, or reworked by any party other than Viavi without Viavi's written consent; (b) that such defects were the result of customer's improper storage, mishandling, abuse, or misuse of Product; (c) that such defects were the result of customer's use of Product in conjunction with equipment electronically or mechanically incompatible or of an inferior quality; or (d) that the defect was the result of damage by fire, explosion, power failure, or any act of nature.

Viavi performed repairs shall be warranted from defective material and workmanship for a period of ninety (90) days, or until the end of the Initial Warranty Period, whichever is longer. Risk of loss or damage to Product returned to Viavi for repair or replacement shall be borne by customer until delivery to Viavi.

Upon delivery of such product, Viavi shall assume the risk of loss or damage until that time that the product being repaired or replaced is returned and delivered to customer. Customer shall pay all transportation costs for equipment or software shipped to Viavi for repair or replacement. Viavi shall pay all transportation costs associated with returning repaired or replaced product to customer.

# Warranty disclaimer

For hardware and/or services furnished by Viavi, the foregoing warranties are in lieu of all other warrantees and conditions, express or implied. Viavi specifically disclaims all other warranties, either express or implied, on any hardware, documentation or services including but not limited to warranties relating to quality, performance, noninfringement, merchantability or fitness for a particular purpose, as well as those arising from any course of dealing, usage or trade practice. under no circumstances will Viavi be liable for any indirect or consequential damages related to breach of this warranty.

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