

JDSU 6000/6000A Platform

Scalable Test Platform designed for installation, commissioning,
maintenance and troubleshooting of fiber networks

User Manual

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About This Guide

The 6000/6000A Platform of JDSU 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” on page xviii
- “Assumptions” on page xviii
- “Technical assistance” on page xviii
- “Conventions” on page xix

Purpose and scope

The purpose of this guide is to help you successfully use the 6000/6000A Platform features and capabilities. This guide includes task-based instructions that describe how to install, configure, use, and troubleshoot the 6000/6000A Platform.

Additionally, this guide provides a complete description of JDSU'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 6000/6000A 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 need assistance or have questions related to the use of this product, call or e-mail JDSU's Technical Assistance Center for customer support.

Table 1 Technical assistance centers

Region	Phone Number	
Americas	866 228 3762	tac@jdsu.com
Telecom Products	World Wide: 301 353 1550	
Europe, Africa, and Mid-East	+49 (0) 7121 86 1345 (Europe)	hotline.europe@jdsu.com
	+33 (0) 1 30 81 50 60 (JDSU France)	support.france@jdsu.com
Asia and the Pacific	+852 2892 0990 (Hong Kong)	
Southeast Asia, Australia, and New Zealand	+86 10 6833 7477 (Beijing-China)	
All others	866 228 3762	tac@jdsu.com

During off-hours, you can request assistance by doing one of the following:

- leave a voice mail message at the Technical Assistance number in your region
- e-mail North American Technical Assistance Center, tac@jdsu.com, or European Technical Assistance Center, support.uk@jdsu.com
- submit your question using our online Technical Assistance Request form at www.jdsu.com.

Conventions

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

Table 2 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.
Code and output messages appear in this typeface.	All results okay
Text you must type exactly as shown appears in this type-face .	Type: a:\set.exe in the dialog box
Variables appear in this type-face .	Type the new hostname
Book references appear in this typeface .	Refer to <i>Newton's Telecom Dictionary</i>
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 3 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 4 Symbol conventions

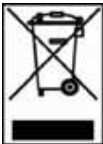
	This symbol represents a general hazard.
	This symbol represents a risk of electrical shock.
	NOTE This symbol represents a Note indicating related information or tip.
	This symbol, located on the equipment or its packaging indicates that the equipment must not be disposed of in a land-fill site or as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

Table 5 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.

6000/6000A Platform Overview

1

This chapter provides a general description of the 6000/6000A Platform.

Topics discussed in this chapter include the following:

- [“About the 6000/6000A Platform” on page 2](#)
- [“Main features” on page 2](#)
- [“Hard keys and indicators” on page 5](#)

About the 6000/6000A Platform

The functions and options available for the MTS/T-BERD 6000 and for the MTS/T-BERD 6000A are quite different.

The MTS/T-BERD 6000 is a physical layer test platform. It manages exclusively the fiber optic modules (OTDR LR, SRL, VSRE; PMD, CD...) which do not require high power management.

The MTS/T-BERD 6000A is a multiple layer test platform. It allows to manage Fiber Optics Modules, but also Multiple Services Application Modules (SDH/SONET, Ethernet and Triple Play).

For this reasons, both products are differently equipped: the MTS/T-BERD 6000A is equipped with high power battery pack, a touchscreen and a memory extension on standard, whereas those elements are optional with the MTS/T-BERD 6000.

Moreover, the MTS/T-BERD 6000A is equipped with additional fans compared to the MTS/T-BERD 6000.

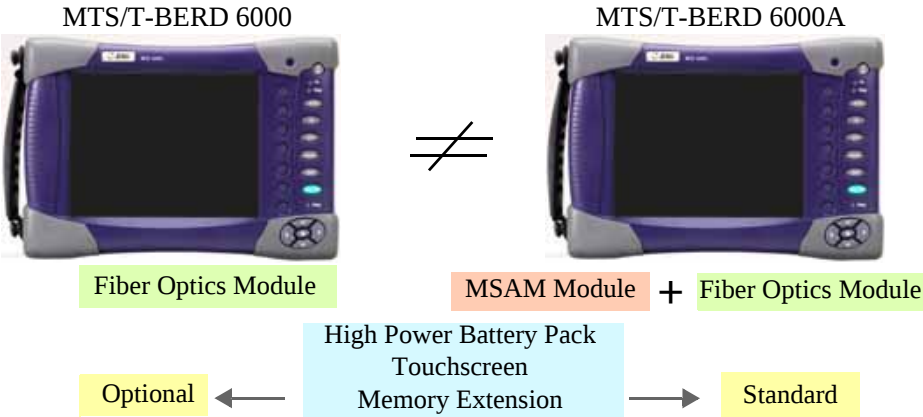


Fig. 1 Differences between 6000 & 6000A Platforms

Main features

The 6000/6000A Platform is equipped with the following elements:

- 8.4 inch TFT color screen, high visibility (optimized for outdoor use), which can be touchscreen (on option with the 6000 Base Unit, and on standard with the 6000A Base Unit)

- 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 19 V power supply and used to charge the battery.
- LED indicators for Charge, On status and Testing
- One Li-Ion battery (option)
- One high power Li-Ion battery (option, for the 6000A Platform)
- a module, interchangeable in the field: OTDR, OLP, OSA...
- Built-in Power Meter, VFL and/or Talkset (options)
- A hard disk (option)

With the 6000/6000A Platform, the user can:

- Open and/or transfer files to a PC via a USB memory stick, Blue-tooth (option) or WIFI (option)
- Generate pdf reports
- Open all user documentations included into the 6000/6000A Platform
- Update the 6000/6000A Platform firmware
- Remote the screen of the 6000/6000A Platform onto a PC and issue commands from the keyboard of the PC
- ...



Fig. 2 MTS/T-BERD 6000/6000A with module

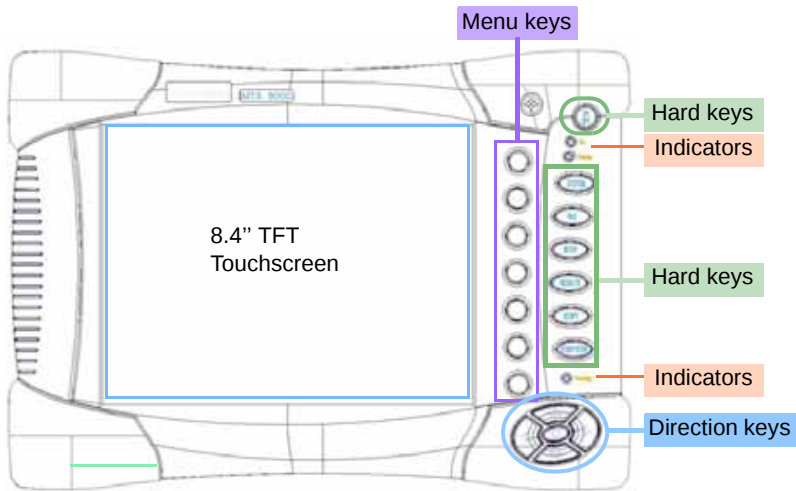


Fig. 3 6000/6000A Platform - Front Panel description

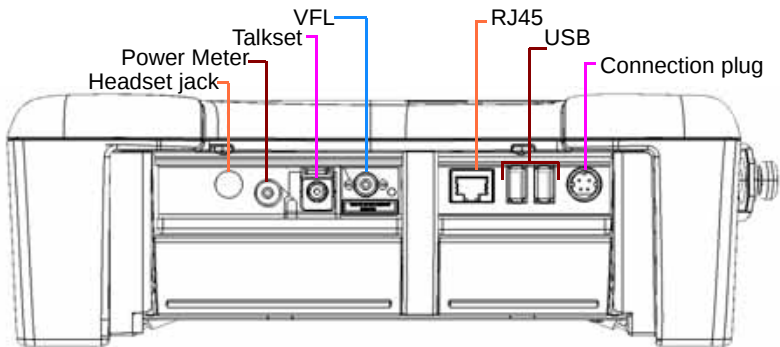


Fig. 4 6000/6000A Platform Connectors - Upper view

Hard keys and indicators

Front panel
hard keys



Fig. 5 Hard keys and Indicators

Table 6 Hard keys description

Hardkeys	Function
	Main on/off switch
	Gives access to: – selection of the different measurement or functions – the settings of the instrument – the help page

Table 6 Hard keys description

 FILE	Function
	This button calls up the file explorer. It allows to: – choose the storage medium: internal memory, USB memory key... – manage files; with facilities for classifying them in directories and sub-directories.
	This button calls up the measurement configuration menu. This menu depends on the function in use.
	This button calls up the results page (e.g. with OTDR module: reflectometry trace and table of results).
	This button is used to enter a sequence of commands and execute it
	Starts and stops the measurement.

NOTE

All these functions, except **SYSTEM**, depend on the modules used and the measurements made: refer to the user manuals of the corresponding modules of the 6000/6000A Platform.

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 6000/6000A Platform is equipped with three indicators, lit into a different color according to the status of the equipment.

Table 7 Indicators Status

On indicator		
	<i>Solid green</i>	The instrument is operating, either on battery or on an external power supply.

Table 7 Indicators Status



Blinking green

The instrument is switched off but connected to an external power source.

Charge indicator



Solid green

The instrument is connected to an external power source and the battery charge is in progress.

Testing indicator



Solid red

At least one function is in measurement phase (for example, the laser emission pilot for an OTDR measurement)

Safety information

2

This chapter gives the main information on the safety conditions when using the 6000/6000A Platform:

- [“Battery and AC/DC safety information” on page 10](#)
- [“Precautions relating to optical connections” on page 11](#)
- [“Laser Safety instructions” on page 11](#)

Battery and AC/DC safety information

- The Li-Ion 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 JDSU incorporate protection means.

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

If another adapter or battery is used, it may damage the 6000/6000A Platform itself.

Using the 6000/6000A Platform with a battery other than the one supplied by the manufacturer of the 6000/6000A 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.

Example of reference for the battery supplied with the equipment:

- MTS/T-BERD 6000: Li204SX
- MTS/T-BERD 6000A: Ni2040HD

Reference for the adapter for both Platforms: EA1050B-190 (60W max)

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 shock 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 6000/6000A Platform using the protective caps.

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:

- Talkset option: Class 1M.
- 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:

Ref. standard	EN 60825-1, Edition 1.2, 2001-08	FDA21CFR§1040.10
Class 1	CLASS 1 LASER PRODUCT	

Ref. standard	EN 60825-1, Edition 1.2, 2001-08	FDA21CFR§1040.10
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.

Starting up

3

This chapter describes the first steps to perform when using the 6000/6000A Platform.

The topics discussed in this chapter are as follows:

- [“Unpacking the instrument” on page 14](#)
- [“Installing and removing a plug-in unit in the 6000/6000A Platform” on page 14](#)
- [“Charging the battery” on page 16](#)
- [“Switching the 6000 / 6000A Platform on and off” on page 17](#)

Unpacking the instrument

- 1 Remove the 6000/6000A 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 JDSU agent.

The 6000/6000A Platform is delivered with the following accessories:

- a user manual
- a mains adapter used for mains operation of the instrument and battery charging.
- a soft carrying case (option)

NOTE

If the 6000/6000A Platform is delivered with an OSA-110M module, a specific hard case is delivered: E60HCASE-OSA.

Installing and removing a plug-in unit in the 6000/6000A Platform



The 6000/6000A Platform must be switched off and, if it is operating on the mains, its supply cable must be unplugged.

**Inserting a
plug-in unit into
the 6000/6000A
Platform**

- 1 Slide the plug-in into its slot.
 - 2 When the plug-in is fully home, press firmly on the screen-printed face of the plug-in while tightening the clamping screws.
- The screen-printed face of the plug-in must be flush with that of the 6000/6000A Platform.

Make sure that the two large captive screws of the plug-in are screwed fully home.



Fig. 6 Module installed into the 6000/6000A Platform

- Removing a plug-in**
- 1 Unscrew the two captive fixing screws of the plug-in completely (up to the stop).
 - 2 Carefully slide the plug-in out of its slot.

Choosing the position of the instrument on the work surface

Depending on the conditions of use of the 6000/6000A Platform, the instrument may be placed on a flat surface or held in the hand.

When used on a work surface, the 6000/6000A Platform should be supported on its stay, which can be set in either of two positions, depending on whether the user is standing or sitting.

To change the stay from “seated user” position to “standing user” position, press both sides to slide the stay towards the upper end of its groove, as shown in the drawings below.

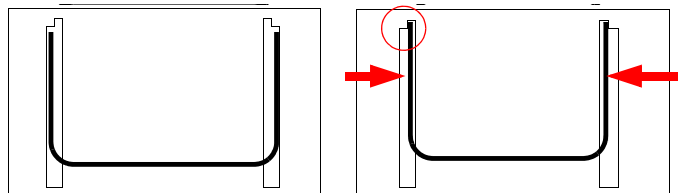


Fig. 7 Stay in positions for seated user and standing user

Fitting the carrying handle A handle can be fixed to the 6000/6000A Platform in order to transport the equipment easier. To fit the handle:

- 1 Tighten the handle screw to the attachment point provided for that purpose, on the left and right sides of the equipment.



Fig. 8 Fixing the handle

To detach the handle from the instrument, unscrew the handle screws.

Charging the battery

- Connecting the mains adapter
- 1

At the top of the 6000/6000A Platform (upper left-hand corner), lift up the power supply socket protector and plug in the mains adapter.

2

Connect the adapter to the mains.
The **On/Off** indicator starts to blink in green.



Use only the mains adapter supplied with the 6000 / 6000A Platform. The adapter for some other electronic device may appear to be identical, but entails a risk of damage to the 6000 / 6000A Platform.

- Charging the battery
- On connection to the mains:

–

if the user does not press **ON**, the battery will start the charge.

–

when the user presses the **ON** key, the instrument starts up and the battery will charge during use.

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

When the **Charge** indicator on the front panel 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 **80%**

Icon	Battery charge level
	From 100% to 70%
	From 70% to 40%
	From 40% to 10%
	From 10% to 0%

- When the level becomes too low, the instrument emits a beep to inform the user until it switches off automatically after saving the current configuration and measurement.
- The icon  is displayed on the upper banner to indicate the Platform is connected to mains and battery is fully charged (100%).
- If the icon is displayed  , this mean the Platform is connected to mains but battery charge is inferior to 100%.

Switching the 6000 / 6000A Platform on and off

Switching on the 6000 / 6000A 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 JDSU logo appears on the screen briefly, then an autotest 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 6000 / 6000A Platform

- While the 6000 / 6000A 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
6000 / 6000A
Platform** If the 6000 / 6000A Platform freezes, prolonged pressure (about 4 s.) on the **ON/OFF** key will reset the instrument

Configuring the 6000/6000A Platform

4

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 20](#)
- [“Defining the regional settings of the system” on page 21](#)
- [“Defining the screen parameters of the 6000/6000A Platform” on page 22](#)
- [“Defining the Automatic shutdown of the 6000/6000A Platform” on page 23](#)

Displaying the System Settings screen

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

- 1 Press the **SYSTEM** hard key to reach the **Home** page.

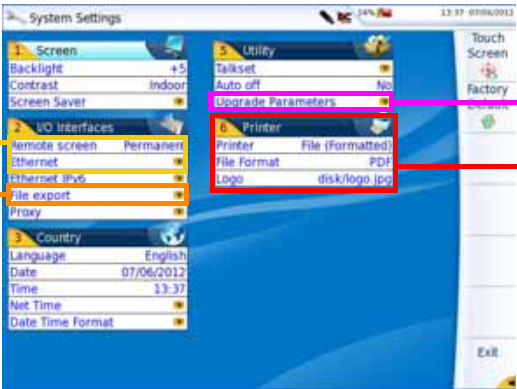


Fig. 9 Home page

- 2 Press the menu key **System Settings** to open the **System Settings** screen.



see "Transferring the 6000/6000A Platform" see "Sending files by mail" page 86



see "Installing a new version of the soft- see "Configuring the parameters of screenshots" page 87 and "Con-

Fig. 10 System Settings page

Defining the regional settings of the system

When the 6000/6000A Platform is delivered, it is automatically configured with the System Settings set by default in factory, especially the language and date/time (Language: English / Date format: dd/mm/yyyy / Time format: 24 hours clock).

To modify the regional parameters in the **System Settings** page:

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

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

or

Select Net Time parameter and configure date and time according to a network (see "[Net Time Synchronization](#)" on page 21).

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

Net Time Synchronization

This parameter allows to configure the date and time of the Platform 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 synchronisation is entered via its **IP 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 for a few seconds.

If **Dynamic** or **Static** mode is defined, the current **Date** and **Time** cannot be modified (parameters are greyed).



If the network configuration is modified, synchronization may be lost.

- **None:** the time is not synchronized according to a server. In this case, the user can reset date and time himself, using the fields **Date** and **Time**.

Defining the screen parameters of the 6000/6000A 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 6000/6000A 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 on page 20](#))
 - **Outdoor:** to be selected in order to optimize the readability of the screen for an outside use.



Fig. 11 Example of outdoor contrast

Screen Saver Click on **Screen Saver** if you wish to activate a screen saver to the equipment, to extend the life of the battery, in case the 6000/6000A Platform is not used for some time.

Instead of the normal screen, a small animated picture of the 6000/6000A 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 6000/6000A Platform

The automatic shutdown function switches off the 6000/6000A 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 6000/6000A Platform is available only on battery operation, to save the battery.

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

Chapter 4 Configuring the 6000/6000A Platform

Defining the Automatic shutdown of the 6000/6000A Platform

- 2** Choose a time after which the 6000/6000A Platform will be switched off automatically, if no action has been done for that period: **5, 10** or **30 minutes**.

Select **No** if the 6000/6000A Platform must not be switched off, even if there is inactivity on the equipment.

LTS (Loss Test Set)

5

A variety of LTS options are available when ordering. Option 80/PM consists of a power meter only. The other options in the 80XXTS/PM series combine optical telephone, power meter and one or more sources of various wavelengths. See references in ["References of options for the 6000/6000A Platform mainframe" page 134](#), for wavelengths of the sources in each option.

The topics discussed in this chapter are as follows:

- ["The principle of optical power and attenuation measurements" on page 26](#)
- ["Connection to the power meter and the source" on page 27](#)
- ["Configuring the LTS" on page 28](#)
- ["Display of results and commands" on page 31](#)
- ["Making a measurement" on page 33](#)
- ["Performing an ORL Manual measurement with the 6000 / 6000A Base Unit" page 34](#)
- ["Storing and reloading LTS/ORL results" on page 38](#)

The principle of optical power and attenuation measurements

Power measurements

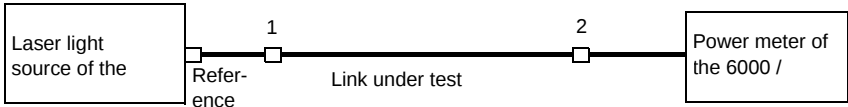
A power meter, is all that is needed to measure emitted or received power:

- to measure emitted power, connect the power meter directly to the output of the optical emitter;
- to measure the power at the input of an optical receiver, the power meter is connected to the end of the fiber, at the point where the optical receiver would be connected.

Attenuation measurements (optical link loss)

For measurement of the attenuation of power in a complete link or in elements such as sections of fiber, connections or optical components, a light source and a power meter are required.

This attenuation is usually deduced from the measurement of optical power at two points:



$$\text{Attenuation } A_{(\text{dB})} = P1_{(\text{dBm})} - P2_{(\text{dBm})}$$

To perform accurate measurements, the following conditions are vital

- Use one of the light sources of the LTS or a light source which is stable both in time and as a function of temperature.
- Make sure that all connections and fibers and the receiving cell are perfectly clean.
- Use a reference link between the laser source and the test subject. If several measurements are to be made under identical light injection conditions, this reference fiber must not be disconnected during the period while measurements are taking place.

Insertion loss method

- 1 The power meter is first connected to the laser source via the reference fiber: P1 is measured.
- 2 Then the fiber to be tested is inserted between the reference fiber and the power meter: P2 is measured.

The difference between P2 and P1 gives the attenuation of the fiber under test.

It is preferable to use the same type of connector at both ends of the fiber being tested, to ensure the same connection conditions for measuring P1 and P2.

Accuracy of measurements

- A high degree of accuracy is often required. It is then necessary to perform a preliminary calibration without the fiber under test to eliminate the losses due to connections as far as this is possible. To do this, use the «Reference Value» function.
- For measurements in the laboratory, where both ends of the fiber are on the same site, the repeatability of attenuation measurements is better than 0.1 dB. For measurements in the field, where the two ends are on different sites, variations from one measurement to another are of the order of ± 0.2 dB (using a relative measurement).

Connection to the power meter and the source



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.)

If the source option is present, the source connection is the same as that for the talkset.

Configuring the LTS

The LTS function is an option chosen at the time of order and incorporated into the 6000 / 6000A Base Unit in the factory.

To activate the function Power meter and / or Source:

- Press the **SYSTEM** button
- Use the direction keys to select the Power icon  or Source icon  and press the confirmation key : the icon in the frame will turn yellow.

The effect of this action will be to bring the power meter into use and / or to activate the source.

Configuring the measurement parameters of the power meter

The measurement parameters can be accessed with the **SETUP** key, once the icon is selected.



Fig. 13 Configuration of power measurement

- Wavelength Selecting wavelength:
- Auto: the wavelength of the input signal will be automatically detected and selected to perform the measurement:
 - 850, 980, 1300, 1310, 1420, 1450, 1480, 1490, 1510, 1550, 1625 or 1650 nm: measurement performed at specified wavelength
 - User: choice of wavelength on the next line in the menu.
- User choice (if the **User** option was selected in the **Wavelength** line) selection of the wavelength between 800 nm and 1650 nm, in 1 nm steps, using the numeric keypad, displayed via the **Edit Value** key.

Beep on modulation	Select if a sound must be emitted on modulation or not (Yes / No)
Unit	Unit of power displayed: - Watt, dBm for displaying absolute power - dB for displaying a result relative to a reference (link loss)
Reference level	Select the reference value for the wavelength selected. First choose the wavelength, then press the > key to access choice of the value (+XXX.XX), then confirm this value with the validation 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 by pressing the validation key  .

NOTE

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

Configuring the alarm parameters of the power meter

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.
Lower and upper thresholds :	Choice of lower and upper thresholds for each available wavelength, from -60 to +40 dBm.

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 the direction keys, increment the value of 10 dBm.

**Configuring
and displaying
the parameters
of the source**

On the **System** page, select the Source icon and press **RESULTS** hardkey.

The following page displays



Fig. 14 Configuration of the source

Laser Activation or shut-down of the laser (same function that the **START/STOP** button)

When the laser is **on**, the icon  is displayed.

The parameters of the source can be accessed directly on the result screen of the LTS module, by clicking on **Source Configuration** soft key.

Wavelength To change the wavelength when a multi-wavelength source is present (depending on option).

The wavelength value is displayed.

Mode To vary the mode of emission of the source. Possible modulation values are:

- 270 Hz
- 330 Hz
- 1 kHz
- 2 kHz
- Auto (the sources emit on determined frequencies to enable the power meter to detect the wavelength used automatically)
- TwinTest (cyclical emission on all available wavelengths for a few seconds on each wavelength), compatible with the JDSU OLP 5/6/15/16/18.
- CW (continuous emission)

The mode used is displayed, above the icon .

Source Reference This key allows to display two other soft keys:

Standard Ref: this key allows to perform a reference measurement in standard mode, to measure the insertion loss.

Jumper Ref: this key allows to perform a measurement in loopback mode using the power meter on Base-Unit and a Source on the OTDR Module onto this Base Unit (see user manual of the Module 8100 Series).

NOTE

The soft key **Jumper Ref** is not visible if both Power meter and Source are selected onto the Base-Unit. The power meter must be selected onto the Base-Unit, and the Source onto the OTDR Module to display/activate the soft key and to be able to perform a reference measurement in loopback mode.

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 one and the same fiber, the power meter displays a table of 9 results corresponding to the different possible wavelengths. 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 orders deletion of 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 not saved.



Fig. 15 Results and commands of the LTS

Commands of the power meter parameters

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

Keep Result Saves the result on the corresponding line of the table.

Clear Table Deletes all the results recorded in the table.

Pressing the **Power Config.** key allows to reach the following function:

Wavelength Allows to modify the wavelength to be applied with the Power meter.

Unit Allows to modify the unit of power displayed (dB, dBm, nW)

Zero Adjustment of the Zero value when the power meter's optical input is closed with a plug (a validation is required).

Click on **Exit** to go back to the **Results** page.

Pressing the **Pow. Reference** key allows to reach the following function:

Standard Reference Selects the current result as reference value to measure the attenuation of a link. This reference is displayed under the measurement result until a new reference value is chosen.

Jumper Reference This key can be pressed when a reference in loopback mode must be performed (see 8100 Module Series User Manual).



The soft key **Jumper Ref** is not visible if both **Power meter** and **Source** are selected onto the **Base-Unit**. The power meter must be selected onto the **Base-Unit**, and the **Source** onto the **OTDR Module** to display/activate the soft key and to be able to perform a reference measurement in loopback mode.

Making a measurement

The power meter is started up as soon as the **PowerMeter** function is activated in the **System** page.



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.

If a 6000 / 6000A Base Unit source is used, the **START/STOP** key or the **Laser on/Laser off** soft key must be used to start or stop emission of light.

Power measurement

- 1 Connect the light source to be tested to the rear connector (see ["Connection to the power meter and the source" page 27](#)).
- 2 In the **SETUP** menu, choose the units dBm, dB or Watts.
- 3 Press the **START/STOP** key to start the laser.
The result will appear in the results page and can be memorized in the table (see ["Table of results" page 31](#)).
- 4 Press the **START/STOP** key to stop the laser.

Optical link loss

Setting the zero value of the power meter

- 1 Fix the plug 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 keys and validate.



It is important to set the zero of the power meter before making any measurements where accuracy is required, as the noise from the germanium photodiode fluctuates over time and with variations in temperature.

**Carrying out the
reference
measurement**

- 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 LTS.
- 4 Press the **Power Reference > 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 ["Table of results" page 31](#)).



It is not possible to use the source at the same time than the **Talkset** option or the **Data Transfer**.

Performing an ORL Manual measurement with the 6000 / 6000A Base Unit

Using simultaneously the powermeter and talkset ports on the Base Unit allows to perform an ORL manual measurement.

In the **System** page, select the icon ORL



of the Base Unit.

**Establishing a
reference for an
ORL manual
measurement**

Two steps must be carried out to take a reference for an ORL manual measurement:

- 1 Power emitted reference
- 2 Zero ORL adjustment



Follow the order given above to take the reference. They are not two different processes but two steps necessary to establish a reference for an ORL measurement

- ORL Emitted power** 1 Once the ORL icon is selected, click on **RESULT** hardkey
The ORL page opens



Fig. 16 ORL page

- 2 Click on **Zero** key
The message Put caps on the powermeter port then confirm displays: click on **Yes** to validate and wait for the second message, Dark current calibration completed then hit on any key to continue the process.
- 3 Click on **ORL Power Emitted** key
- 4 Follow the instruction on the upper part of the screen: connect the jumper from the talkset port to the powermeter one.
- 5 Click on **Go**
- 6 The message Measurement in progress... is displayed.
- 7 Once completed, the results for ORL Power Emitted are displayed for each wavelength.

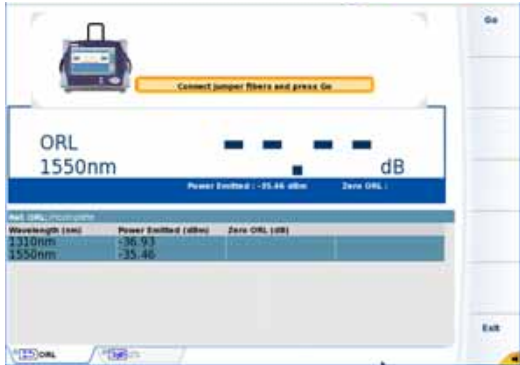


Fig. 17 Power Emitted result

- 8 Click on **Exit** to go back to the initial screen in order to perform the ORL Zero measurement
- Once the reference has been taken, the reference screen is updated for the wavelengths available.
- As the Zero measurement has not yet been done, the first line of the table displays the message Ref ORL: Incomplete.

ORL Zero adjustment Once the Power Emitted measurement has been carried out, the Zero adjustment can be performed:



ORL Zero cannot be performed on a bend insensitive fiber.

- 1 Click on **ORL Zero**
- 2 Follow the instructions displayed at the top of the screen: disconnect the jumper from the power meter port and wrap this jumper, still connected to the talkset port, around the mandrel (6 to 7 times).
- 3 Push the **Go** key
- 4 Once completed, the results displayed in the column Zero ORL.

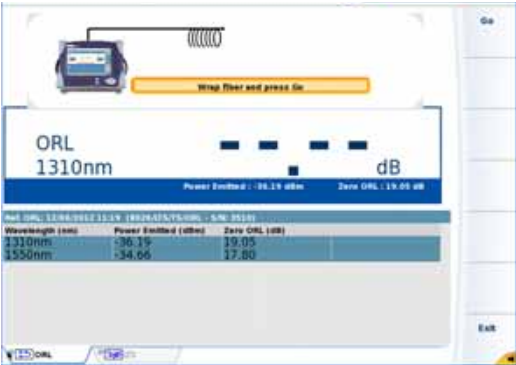


Fig. 18 Results table with ORL Power emitted and Zero ORL for each wavelength

Once the reference has been taken, the reference screen is updated for the wavelengths available. It indicates the type of reference used.



Once the two references are complete, the date as well as the type and serial number of the local instrument are displayed on the first line of the table.
If not, the message Ref ORL : Incomplete is displayed.

Measurement acquisition Before making an ORL manual measurement, check that:

- each end of the fiber is correctly connected to the module.
- the fiber and jumpers are in good condition.

To display the fiber measurement page, push the **START/STOP** key.



Fig. 19 ORL Manual Measurement

- Click on **Keep Results** to keep the result displayed in the table.
- Click on **Clear Table** to delete all the values kept.
- Click on **Wavelength** key to change the Wavelength to be applied.

Storing and reloading LTS/ORL results

File Setup Click on the button **FILE** to access the **File** setup. See the chapter «File management» in the user manual «8100 modules series» for a complete description of all parameters, options and the explorer.

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

- The first file is to be used with the 6000 / 6000A Base Unit and allows to retrieve all LTS/ORL measurement results. It is saved with the extension «.Lts» / «.orl».
- The second file is a ASCII file using tabulations to separate values. It is saved with the extension «.txt» and cannot be opened by the 6000 / 6000A Base Unit. It has been designed to be used with a spreadsheet program on a PC where it allows to retrieve all LTS/ ORL measurement results and format them in a nice customized table.

Loading results In order to load the results of a LTS/ORL measurement:

- 1 Select a file  with the extension «.Lts» in the file explorer (see the chapter «File management» in the user manual for «8100 modules series»)
- 2 Select a file  with the extension «.orl» in the file explorer (see the chapter «File management» in the user manual for «8100 modules series»)
- 3 Click on **Load** then **View trace(s)**.

The LTS / ORL tab is displayed with the loaded results in the table.

VFL (Visual Fault Locator), Talkset and Data Transfer

6

A variety of built-in optical options are available when ordering. See references in [Chapter 15 "Options and accessories"](#), for details.

The topics discussed in this chapter are as follows:

- ["Connection to the VFL and Talkset" on page 42](#)
- ["VFL Function" on page 42](#)
- ["Talkset / Datalink Function" on page 43](#)
- ["Remote screen function via Talkset" on page 45](#)

Connection to the VFL and Talkset



Fig. 20 VFL / Talkset connectors

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.).

VFL Function

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 metres 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 **SYSTEM** key and activate the VFL .

The icons   display on the upper banner of the screen.

The signal mode (1Hz or CW) of the VFL can be modified in the **System Settings** page, in **Utility > VFL Mode** parameter.

The selection of this function is compatible with another function (ex OTDR...).

Talkset / Datalink Function

The 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 6000/6000A Platform equipped with the Talkset option.

NOTE

It is possible to use the talkset of the 6000/6000A 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 6000/6000A Platform. Nevertheless, the data transfer speed will be slightly decreased.

Talkset configuration

The talkset configuration is set in the **System Settings** screen, in the **Utility > Talkset** menu (see "[Adjusting volume level](#)" page 44)

Connections

At each end of the fiber:

- 1 Connect the fiber to the Talkset port of the 6000/6000A Platform, either directly or through jumpers.

The Talkset connector is set with a FC adapter by default.

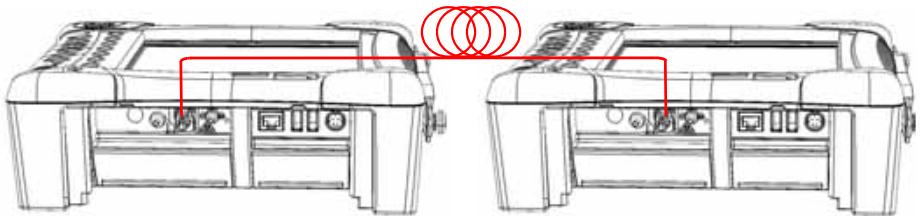


Fig. 21 Installation for Talkset use

- 2 A headset (with earphones and a microphone) supplied with the option may also be plugged into the 6000/6000A Audio jack.

NOTE

Data transfer uses the same fiber as the optical telephone

Establishing communication

On the caller 6000/6000A Platform, press the **SYSTEM** key, then validate the desired function:

- **Talkset**  (Optical Telephone): used to communicate via the fiber.
- **Datalink**  : used to transfer data along the fiber.

If the remote instrument is ready to receive (on standby), the Talkset 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 Talkset 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 6000/6000A Platform will be shown just like a disk and all file and directory features can be used from and to that disk.

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 6000/6000A Platform base. To activate the base loudspeaker and adjust the volume:

- 1 Press the **SYSTEM** key.
- 2 Press **System Settings** key to reach the **System Settings** page.
- 3 Under the **Utility** box, select **Talkset**.
- 4 Select the Conference mode: **Speaker and micro off / Speaker only / Speaker and micro on**
- 5 Under the **Volume** parameter, adjust the volume for speaker and micro (from 0 to 7).

Disconnection When communication is over, deactivate the **Talkset** function on one of the 6000/6000A Platform. This deactivation can be done by either 6000/6000A Platform.
Then, the fiber used for Talkset can be disconnected safely.

Remote screen function via Talkset

This enables an operator at one end of an optical link to take control over another 6000/6000A Platform connected at the other end, using the fiber.

NOTE

Each end of the optical link must be provided with a 6000/6000A Platform equipped with the Talkset option.

VNC configuration

Before it can be remote-controlled, the 6000/6000A Platform must be configured as explained in ["Remote Screen" on page 70](#).

Connections

At each end of the fiber (see [Figure 21 on page 43](#)): connect the fiber to the Talkset port of the 6000/6000A Platform, either directly or through jumpers.

Remote screen via VNC is done via the data transfer feature, and on the same fiber as the optical telephone.

Establishing communication

On the caller 6000/6000A Platform, press the **SYSTEM** button, then select and confirm the **Talkset** option:

- 1 If the remote instrument is ready to receive (on standby), the Data icon turns orange, beeps are emitted, and 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 Data icon does not change color and a message is emitted.
- 2 Click next on **Expert tools**, **Remote Display**, and on **Switch to remote screen**.

Your screen is now fully replaced by the distant screen, and everything you do on your 6000/6000A Platform is in fact done on the distant 6000/6000A Platform.

An icon  appears in the top banner of the 6000/6000A Platform.



A slight normal color degradation may be seen on the 6000/6000A Platform controlling a distant instrument.

End of a VNC session

In order to end a VNC session, you can:

- Return to the menu **Expert tools > Remote Display** and click on **Return to local screen**. (Recommended solution)
- Deactivate the data function on either 6000/6000A Platform connected.
- Set **Remote screen** to **off** (see [“Remote Screen” on page 70](#))
- 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.

Scope

7

The scope function is a hot-plug feature enabled directly when inserting a JDSU scope supplied as an accessory (see ["References of accessories" page 136](#)).

The topics discussed in this chapter are as follows:

- ["Scope feature" page 48](#)
- ["Installation of tips" page 48](#)
- ["Configuring the P5000i Scope" page 49](#)
- ["Starting up with the scope" page 53](#)
- ["Launching a test of the connector and fiber end-face" page 54](#)
- ["File menu" page 58](#)

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 is a portable handheld microscope 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 requires an FBPT inspection tip and is connected to the 6000/6000A Platform with a USB 2.0 connector.

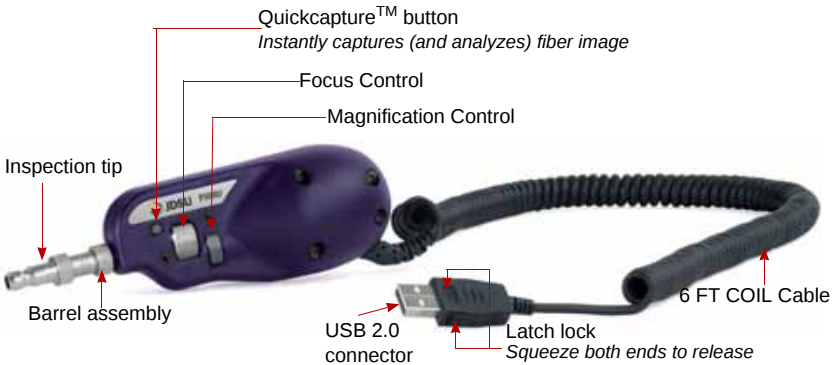


Fig. 22 P5000i Probe components



Before using the P5000/P5000i scope, make sure the Bluetooth option has not been activated, even once, after the start of the MTS/ T-BERD 6000/6000A. If it has been activated, stop and restart the equipment before using the P5000/P5000i Scope.

Installation of tips

The Pass/Fail analysis function on the 6000/6000A 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 (EDFScope5KI) but many others can be used.

Configuring the P5000i Scope

Scope connection

- 1 Plug in your JDSU scope into a USB port from the 6000/6000A Platform.
- 2 Push the button **SYSTEM**
- 3 Validate the **Scope** function
- 4 Connect probe with the fiber being inspected.



You may select this option while others are selected (e.g. OTDR).

Configuring the Scope

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



Fig. 23 P5000i Scope Setup

Test 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 ["Adding a new profile" page 52](#)).

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 48](#)):

- 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**).

File parameters The **File** menu allows to enter a file name for saving scope test results.

On the line **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...).

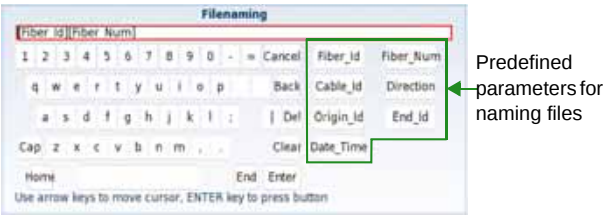


Fig. 24 Edition keypad for naming scope file

To add a logo to a report generated from test results, select **Logo** parameter and press right direction key to display the file explorer page and select the image which will be used as logo on the report page (see ["Generating a report" on page 58](#)).

Click on menu key **Load** to validate the selection. The screen returns to configuration page and displays the file path in the **Logo** parameter.

Fiber The **Fiber** box allows to configure the fiber plugged to the scope.

On the line **Fiber Id**, enter a name for the fiber using the edition menu displayed via the right direction key.

On the line **Fiber Number**, use the numeric keypad, which will display by clicking on the right arrow key, to enter the fiber number.

On the line **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.

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

- **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
- **Company**: Allows to enter the name of the company carrying out the test.
- **Operator**: Use the right arrow key to enter the name of the operator carrying out the test.

NOTE

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

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

Adding a new profile

Once the **Setup** screen of the scope is displayed, you can add a specific profile which will be used for the test.

The profile must be created via FiberChek2™, and stored on one storage media of the MTS/T-BERD 6000(A) (disk, or USB memory stick).

- 1 On the **Setup** screen, select **Profile** and press **Add** key.
- 2 On the explorer, select the file which will be used as profile (icon ; extension: .PRO)
- 3 Press **Load**.
Once loaded, the display goes back automatically to Setup screen.
- 4 Select the profile just loaded.

Removing a profile

- 1 In the **Profile** list, select the profile to be deleted.
- 2 Press **Remove** key., then **Exit**.

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 56).

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

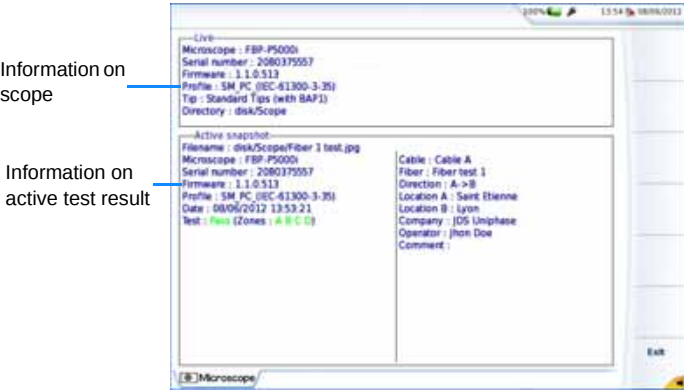


Fig. 25 About page

Starting up with the scope

Once the FiberScope icon is validated:

- 1 Press **RESULTS** hard key

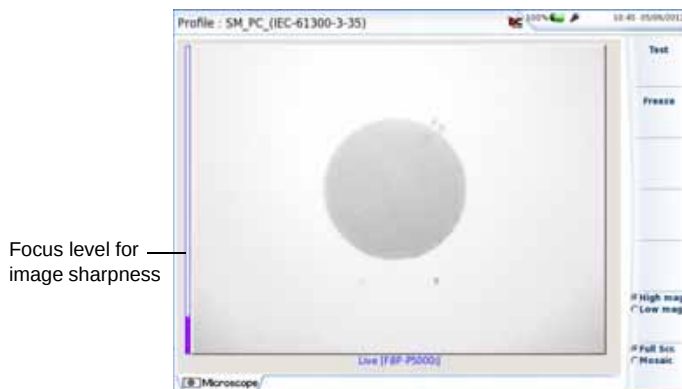


Fig. 26 Example of the result using the P5000i scope

Use the **Focus Control** button onto the P5000i scope (see [Figure 22 on page 48](#)) 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](#)" [page 58](#)). The result will be lost if the instrument is shut off, or if more than 3 pictures are frozen (see "[Mosaic Mode](#)" [page 56](#)).

NOTE

The button set on the lead, or the QuickCapture™ on the P5000 allows to freeze the picture, and to launch a test (according to configuration in Setup page - see "[Configuring the Scope](#)" on [page 49](#)).

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 P5000i (see [Figure 22 on page 48](#)).

Camera mode

If you are in **Freeze** mode, or in **Mosaic** mode, with a picture selected (see ["Mosaic Mode" on page 56](#)), 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 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 the Pass/Fail criteria, refer to ["Configuring the Scope" on page 49](#).

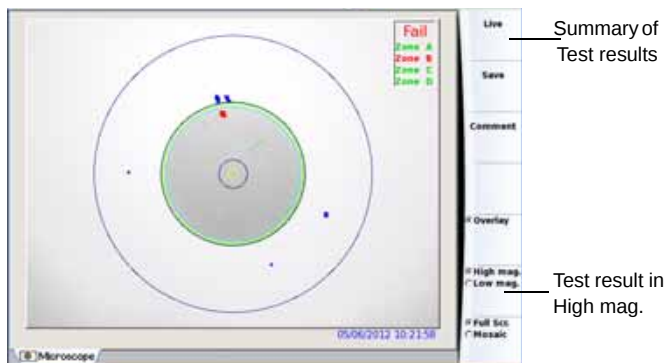
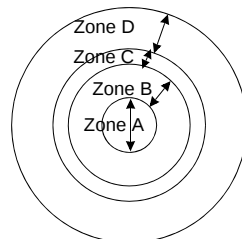


Fig. 27 Test results

A summary of test results is displayed on the right, upper part of the screen.

- Zone A: represents the Core zone: it is the area surrounding the core
- Zone B: represents the Cladding zone. It surrounds the majority of the fiber cladding.
- Zone C: represents the **Epoxy** ring.
- Zone D: represents the Ferrule/Contact zone: it identifies a portion of the ferrule near and around the fiber



NOTE

To return to a Live Camera image, press **Live** key; or press **Full Scr./Mosaic** key to view both live image and test result.

In **Mosaic** mode (see "[Mosaic Mode](#)" page 56), 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 unselected, the zones and defaults are not graphically identified.

This function is also available in Mosaic Mode (see "[Mosaic Mode](#)" on page 56).

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.

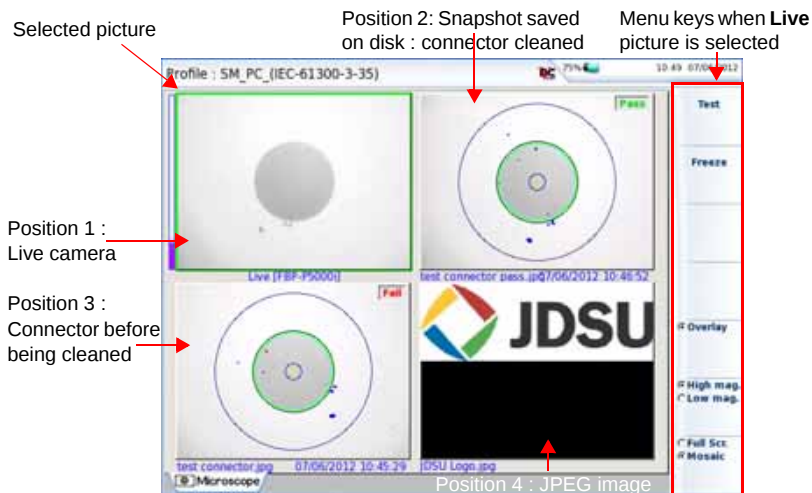


Fig. 28 Mosaic mode

- You may select one of the pictures by clicking on it.

The selected picture is framed in green.

The toolbar on the right varies according to which picture is selected (camera, or static scope 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 54)

Freeze	Allows to freeze the live image and to save it later on the disk. Once this key is pressed, the freeze image is automatically set on Position 2.
---------------	--

Overlay	Allows to display/hide the limits of each zone and the detected defaults on image from a scope test result (see “Overlay” on page 55).
----------------	---



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

High mag./Low mag. Allows to switch all the images from high to low magnification and vice-versa. This key is not available with jpg files other than those resulting from scope application.

Picture selected: Image

Save Allows to save the selected picture in the directory Scope, in the disk of the Platform. 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.

Comment Allows to add a comment to the selected picture (see [“High Mag. / Low Mag.” on page 54](#))

Overlay Allows to display or hide the limits of each zone and the defaults on image from a test result (see [“Overlay” on page 55](#)). This key does not work on jpg image which do not result from scope application.

High mag./Low mag. Allows to switch all the images from high to low magnification and vice-versa. This key is not available with jpg files other than those resulting from scope application.



Adding a comment

A 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 Select **Load**.
- 3 Select the JPEG file to be loaded via the Explorer

4 Click on **Load >Confirm Load**

Recognized pictures are images resulting from the Scope option and saved on disk via the 6000/6000A Platform.



Some pictures resulting from the Scope option may appear nevertheless 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 56](#)).

File menu

Saving the test result in a jpg file

Once the test has been performed, and the result is displayed on the 6000/6000A Platform screen:

- 1 Press **FILE** key
- 2 Click on **Save** key to save a jpg file of the test result on the disk of the 6000/6000A Platform.
- 3 On the edition keypad, enter the name of the jpg file
- 4 Press **Enter** to validate.

The file is automatically saved on the disk, in the directory **Scope** (icon .

Generating a report

- 1 Check the correct test result is selected (framed in green in mosaic mode).
- 2 Press the **FILE** button, then the **Report** key
- 3 On the edition keypad, enter the name of the pdf file and press **ENTER**.

The report generation is completed once the icon  is no more displayed on the upper banner.

NOTE

The pdf report will be saved on the disk, in the directory **Scope**.

Display of the report

Once the report has been generated:

- 1 Press **FILE** hard key
- 2 On the right menu keys, press **Load** soft key.
- 3 In the **File Explorer**, select the pdf report just created.
- 4 Press **Load > Confirm Load**.

Logo, company & parameters selected in the Setup page (see ["Link Description"](#) on page 51)

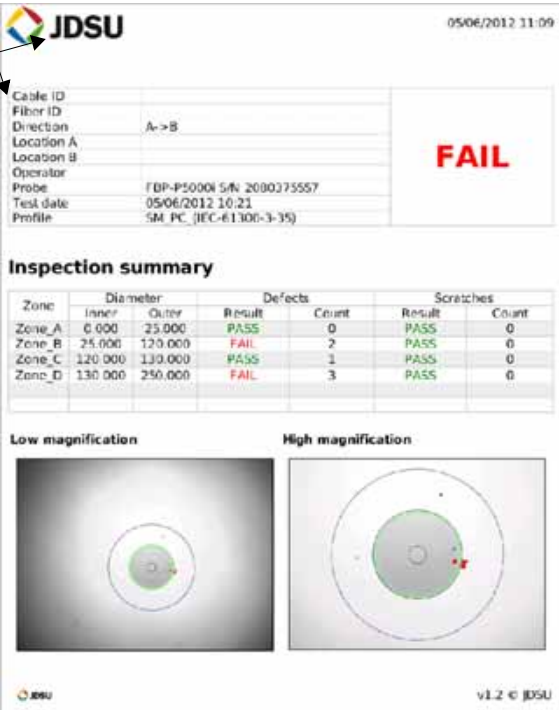


Fig. 29 PDF report

Applications

8

Several desktop applications are provided to you, thanks to the integration of free software released under the free licences (GPL, LGPL, BSB or other). Their purpose is to bring more functionality to the 6000/6000A Platform. JDSU **doesn't provide any warranty or support regarding these free software.**

To access desktop applications, press the button **SYSTEM**, and the soft key **App's**.

The topics discussed in this chapter are as follows:

- "PDF viewer" page 62
- "Web browser" page 63
- "Calculator" page 66
- "File Explorer" page 67

PDF viewer

Opening a PDF document

The simplest way to open a pdf file is to press **FILE**. Select **Explorer**, look for your file and then select **Load >Confirm Load** to load the corresponding file. The file opens automatically in the PDF viewer.

Another way used to open a pdf document is to press **SYSTEM > App's** and select the PDF Reader icon.

The PDF Reader opens but without document. To open a PDF document, click on the icon  , or press **FILE** hard key, and select a document in the file explorer dialog box.

Interacting with a PDF document

Once your document is open, you may browse through different pages very quickly, zoom to a particular level, rotate the page... All these features are available via buttons on the screen.

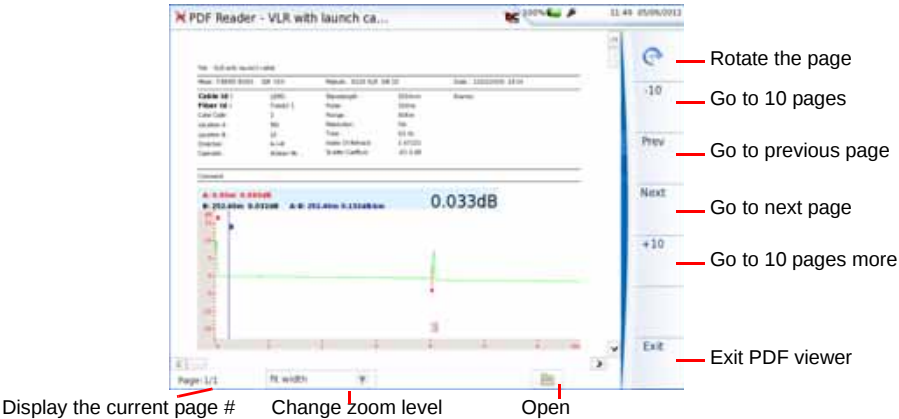


Fig. 30 PDF Viewer Graphical User Interface

NOTE

You may scroll in all directions using the direction keys of the 6000/6000A Platform or of an external keyboard, or by dragging the scroll bars with touchscreen or mouse.

Web browser

Configuring the Web access

- Before using the Web Browser onto the 6000/6000A Platform, check/modify the proxy configuration in the System Settings page:
- 1 On the **Home** page, press **System Settings** menu key
 - 2 Select **Use proxy** parameter in the **I/O Interfaces** box
 - If **Manual** is selected, enter the **Proxy Address** using the edition keypad
 - If **Auto** is selected, enter the **Pac Address** using the edition keypad.

Starting the web browser

To access this application, on the **Home** page click on the soft key **App's**. In the **Application** screen, activate **Web Browser** icon



The web browser is launched.

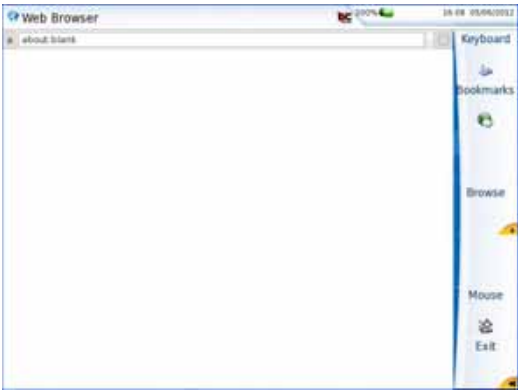


Fig. 31 Web Browser page

Opening an internet page

Once the Web Browser is displayed, you must enter the internet address.

- 1 Set the cursor in the address bar:
 - a Use the mouse connected via USB port on the 6000/6000A Platform or the mouse of the PC if the screen is deported via VNC application on the PC.
 - b Click on the softkey **Mouse** so that it becomes



This allows to move the cursor toward the address bar, and to turn to cursor.

- 2
- Once the cursor set onto the address bar, enter the address:

a

Using a keyboard connected to the 6000/6000A Platform USB port or the keyboard of the PC with a deport of the screen via VNC, enter the entire address of the site to be opened.

b

If none keyboard is available, click on **Keyboard**  to display the virtual keyboard and enter the address:
click directly on characters if the platform is equipped with a touchscreen.
or
Use the arrow keys (with **Mouse** key ) to reach the keyboard and enter the text
- 3
- Push **Enter** to validate.

The page opens

If an error message is displayed in place of the internet page, verify the address you typed, or check the Web configuration (see "[Configuring the Web access](#)" page 63).

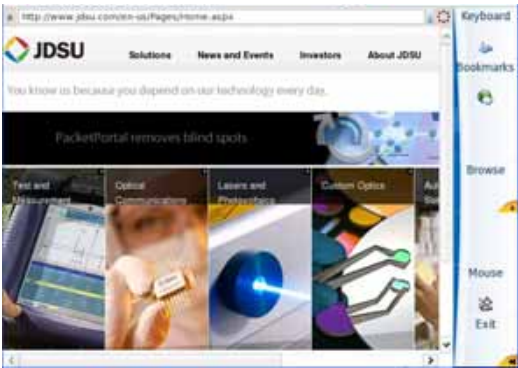


Fig. 32 Internet page opened with the Web Browser

Navigation into
the Web
Browser

Once the Web Browser is open, push the key  to display on the right of the screen, the buttons used to navigate.

Icon	Definition
	Go to the previous or next page loaded

Icon	Definition
	Refresh the actual page
	Exit the Navigation menu

Using the bookmarks Once a page is opened, you can apply it a bookmark, in order to get a shortcut toward this page.

Creating bookmarks Once the internet page for which a bookmark must be created is opened:

- 1 Click on  to open the dialog box for bookmarks creation.
New toolbar is available on the right of the screen.
- 2 Click on the menu key **Add**  to add a bookmark for the page displayed
- 3 Click on the menu key **Edit**  to edit the bookmark, and modify if necessary the name of the bookmark. Click on **Ok** to confirm the modification or **Cancel** to cancel the modifications.

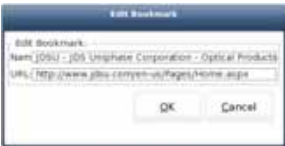


Fig. 33 Bookmark edition

- Click on  to open the page of the bookmark selected in the list
- Click on  to delete the selected bookmark from the list
- Click on  to exit the bookmark menu and go back to the Web Browser page.

Opening a PDF document PDF documents may be opened and read within the Web browser.

- 1 When you click on a link toward a PDF file, a dialog box during loading is displayed.
- 2 Once loading is completed, click on **Ok** to open the pdf file.

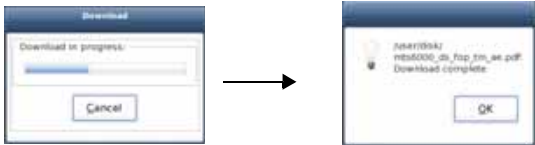


Fig. 34 Downloading a pdf file

NOTE

The web browser will open a PDF document, not a URL including a PDF file.
The PDF is also automatically saved on the **disk** of the 6000/6000A Platform.

Leaving the web browser

Depending on how long you want to leave the web browser and on your connection mode, you may:

- Leave the web browser running and switch to another task. To do this, click on the **SYSTEM** button.
To go back, you must select again the **Web Browser** in the **App's** menu:
 - The icon is valid 
 - The application will reopen much faster, and all your environment will be the same (last current page, possibilities to go back...)
- Quit the application using the **Web browser** application menu: click on the key .

Calculator

A calculator can be displayed and used onto the 6000/6000A Platform.

- 1 In the **Home** page, press the **App's** key
- 2 In the **Application** screen, select the icon **Calculator**.
The icon is framed in white
- 3 Press  to validate the selection and open the Calculator



Fig. 35 Calculator

Press  to exit the Calculator and go back to the Application page.

Press **SYSTEM** button to go back to the **Home** page, and keep the **Calculator** application active.

File Explorer

This key allows to directly open the 6000/6000A Platform explorer, where all the files are stored (traces, pdf files ...).

The explanation about the explorer are available in ["File management" page 77](#).

Transferring the 6000/6000A Platform Interface

9

The 6000/6000A 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.

Topics described in this chapter are as follows:

- [“Establishing connection” on page 70](#)
- [“Transferring the Interface” on page 73](#)
- [“Virtual control buttons bar” on page 74](#)
- [“Equivalence between the keyboard and 6000/6000A Platform” on page 74](#)

Establishing connection

The connection between 6000/6000A Platform and the PC can be done directly, or via a local network.

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).

Connecting the 6000/6000A Platform and the PC

- 1 Connect the 6000/6000A Platform to the PC via an Ethernet cable, using the RJ45 connectors set on both equipments.



Fig. 36 Connection 6000/6000A Platform and PC

- 2 Check the network connection on the PC is set in **Dynamic** mode.

NOTE

The transfer of interface can be done via Wifi , using the IP address once WIFI connection is established (see [Chapter 12 "WIFI Option" on page 109](#)).

It can also be transferred via Bluetooth, on a laptop PC equipped with Bluetooth (see [Chapter 13 "Bluetooth option" on page 117](#)).

Configuring the 6000/6000A Platform

- 1 In the **Home** page, press **System Settings** menu key.
- 2 In the **System Settings** page, in the **I/O Interfaces** box, configure the following parameters:

Remote Screen

Remote screen = **Session** or **Permanent** must be confirmed in both cases, in the Interface E/S window.

No	the screen cannot be remote on to a PC or on to another 6000/6000A Platform.
Session Mode	the Remote screen function is inactive once the 6000/6000A Platform is switched off.
Permanent Mode	the Remote screen function is still active when the 6000/6000A Platform is switched off and restarted.
Permanent with password	same function as the Permanent mode, with an access to the equipment via VNC protected by a password: 42000

The password to access VNC can be modified:

- 1 Click on the menu key **Change password**.
- 2 Enter the current password in the Edition keypad and press **Enter** to validate.
- 3 Enter the new password and press **Enter** to validate.

Ethernet > Mode

Parameters of the local Ethernet network to which the 6000/6000A 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 6000/6000A 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
– Domain name	name of the local network to which the 6000/6000A Platform is connected.
Dynamic	in this mode, which requires a DHCP server, the 6000/6000A 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

1.Domain Name Server

6000/6000A Platform tries to establish a connection to obtain an address from a DHCP server. If for any reason, this process fails, the 6000/6000A Platform reverses to static IP address mode with User1 IP address.

NOTE

Once the 6000/6000A Platform is connected to the network, the icon  displays for few seconds and indicates the connection is working.

Ethernet IPv6 > Mode

The Ethernet IPV6 parameters must be configured to get Ethernet access in accordance with the IPV6 standards.

- 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.
 - Link: automatically displays the address of the link (cannot be modified)
 - IP IP address of the 6000/6000A Platform
 - GW IP address of the machine enabling access outside the sub-network.
 - DNS IP address of the machine providing the IP address on the basis of the name
- Auto** in this mode, the 6000/6000A Platform requests an IP address from the server which will be allocated automatically.

If **Auto** is selected, the parameters **Link**, **IP**, **GW** and **DNS** are automatically defined and cannot be modified.

Off The Ethernet IPV6 connection is not activated.

Proxy > Use proxy

- 1 Select **No** if no proxy is used.
- 2 If **Manual** has been selected, enter the **Proxy Address**.



Fig. 37 Example of proxy configuration

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

- Note the IP Address displayed in the System Settings page.

Note the 6000/6000A
Platform IP Address

Ethernet		Config 1	Config 2	Config 3
Mode	Dynamic			
IP Address	10.33.16.169	Config 4	Dynamic	
IP Mask	255.255.252.0			
IP Gateway	10.33.19.254			
DNES	10.49.2.132			
Domain Name	ds.jdsu.net			

Fig. 38 Example of configuration for Ethernet

- Wait about 10 seconds the connection is established.

The 6000/6000A Platform Interface can now be transferred onto the PC, or the internal memory/USB key contents can be transferred on PC.

Transferring the Interface

Once the connection is established between the 6000/6000A Platform and the PC, proceed as follow:

- Open Internet Explorer on the PC.
- Considering 10.33.16.169 is the IP Address of the 6000/6000A Platform (as shown [Figure 38 on page 73](#)), enter the following address in the Internet Explorer window:

`http://10.33.16.169:5800`

- Press **Enter** to validate.

The screen of the 6000/6000A Platform appears offset on your PC.



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

Fig. 39 VNC window

You can use keyboard mouse of the PC to control the 6000/6000A Platform (see [“Equivalence between the keyboard and 6000/6000A Platform”](#) on page 74).

NOTE

Once Remote screen is accessible via VNC, the icon  displays on the upper banner of the screen until the connection is cut or the 6000/6000A Platform is switched off.

When two or more users are using remote screen function onto the same Platform, the icon is .

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 6000/6000A 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 height than the date and time.



Fig. 40 Virtual control buttons bar

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 6000/6000A Platform.

Equivalence between the keyboard and 6000/6000A Platform

The PC keyboard can replaced all the buttons and keys of the 6000/6000A Platform except the **ON/OFF** button:

- The menu keys to the right of the screen are replaced by the function keys **F1** to **F7**.
- 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 6000/6000A Platform.

Function on the 6000/6000A Platform	External keyboard
HOME	Ctrl + H
SYSTEM SETTINGS	F12
SET-UP	Ctrl + U
FILE	Ctrl + F
RESULTS	Ctrl + R
START/STOP	Ctrl + S
EXPORT ^a	Ctrl + P
◀ ▶ ▲ ▼	← ↑ → ↓
Menu keys 1 to 7 (from top to bottom)	F1 → F7
ABOUT	F11
Save and quit (Exit)	Entrée/Enter
Quit without saving (Abort)	Escape/Echap.

- a. The Export function is available onto the Platform pressing simultaneously the left and right arrow keys.

NOTE

Those equivalences are also valid with a keyboard directly connected to the 6000/6000A Platform via one USB port.

Chapter 9 Transferring the 6000/6000A Platform Interface
Equivalence between the keyboard and 6000/6000A Platform

File management

10

The files management with the 6000/6000A Platform can be performed, whether a module is set onto the equipment or not.

The topics discussed in this chapter are as follows:

- [“File Explorer Overview” on page 78](#)
- [“Directories and Files selections” on page 78](#)
- [“Directories & Files editing functions” on page 79](#)
- [“Working with directories and files from the explorer” on page 80](#)
- [“Creating a screenshot” on page 87](#)
- [“Creating a report” on page 89](#)
- [“Merging pdf or txt files” on page 91](#)
- [“Storage media” on page 92](#)

File Explorer Overview

To reach the File Explorer page

- 1 On the **Home** page, press **App's** softkey.
- 2 Validate the **File Explorer** icon.

The File Explorer page appears.

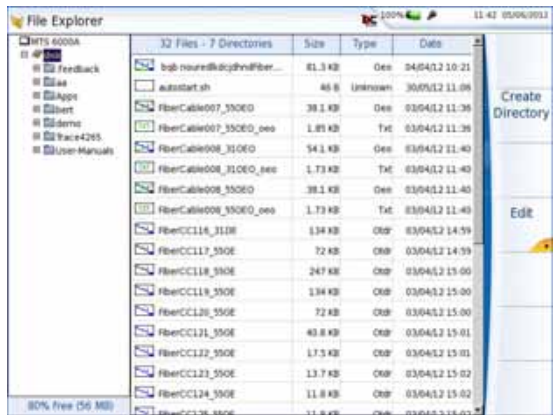


Fig. 41 File Explorer page

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
The selected directory is underlined in blue
- 2 Press validation hard key  , to display the sub-directories if any.



Fig. 42 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.

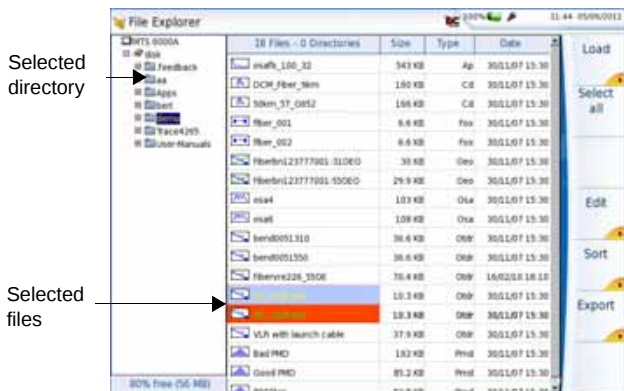


Fig. 43 Example of files selection

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 ["Directories and Files selections" on page 78](#)).
- 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 78](#)).
- 2 Press **Edit > Rename Directory** or **Rename File**.
The Edition keypad displays.



Fig. 44 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 78](#)).
- 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 and 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 If you want 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**, then **Confirm Load** menu keys.



Several FO files of the same type (example: all otldr) cannot be opened at the same time using the Explorer function of the Application page; only the last one selected will open. It can be opened exclusively if the corresponding module is set and activated and if File explorer is opened using the FILE button of the Platform).

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 6000/6000A Platform, the types are symbolized by icons. E.g.

Icon	Type of FO file
	OTDR file (.SOR extension)
	Multi OTDR file (.MSOR extension)
	OEO file (.OEO extension)
	OSA file (.OSA extension)
	PMD file (.PMD extension)
	CD OTDR file (.CD extension)
	AP file (.AP extension)
	ODM file (.OCD extension)
	ORL file (.ORL extension)

Icon	Type of FO file
	Power Meter file (.LTS extension)

Icon	Type of file
	PDF File (.PDF extension)
	PNG file (.PNG extension)
	XML file (.XML extension)
	JPEG / JPG file (.JPEG extension)
	HTML file (.HTML extension)
	Text file (.TXT extension)
	License file (.LIC extension)
	CSV file (.CSV extension)



With the 6000/6000A Platform, you can open and load any kind of Fiber Optic files (OTDR, OSA, PON, LTS...) even if the corresponding module is not installed.

Sorting files If at least one file is selected, the key **Sort** allows to access to a sub-menu allowing to sort the files 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:** by clicking once on this key, 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 6000/6000A Platform displays files in an ascending order (the file type A to file type W). By clicking again, the 6000/6000A Platform displays the files in opposite order.
- **Sort by date:** clicking once on this key; the 6000/6000A 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

Transferring files to/from a PC with a FTP server

It is possible, from a PC, to access the internal memory of the 6000/6000A Platform or to the USB memory stick connected to the Platform by means of the FTP server of the 6000/6000A Platform.

- Direct connection** 1 Connect directly the 6000/6000A Platform to the PC with an Ethernet cable, using the RJ45 connectors on each equipment.

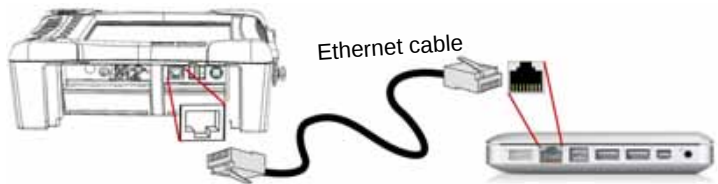


Fig. 45 Ethernet Connection 6000/6000A Platform <-> PC

- 2 Make sure the network configuration onto the PC is set to the **Dynamic** mode:
- Click on **Start > Control Panel**.
 - Double click on **Network Connection**.
 - Double click on **Local Area Connection**.
 - In the dialog box, click on **Properties**.
 - Check the parameter **Internet Protocol (TCP/IP)** is selected (●) and click once on it (underlined in blue)
 - Click on **Properties** button.
 - On the tab **General**, check the parameter **Obtain an IP address automatically** is selected (●); if not, click to select it.

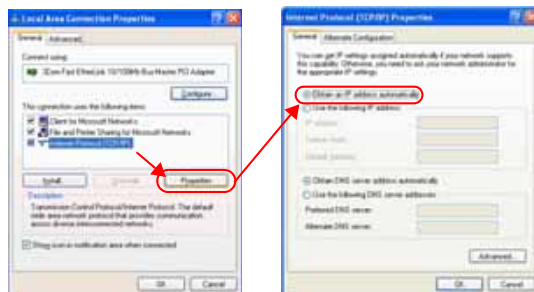


Fig. 46 Internet Protocol

- h Click on **Ok** and close all the dialog boxes opened onto the PC.
- 3 On the 6000/6000A Platform, in the **System Setup** page, under **I/O interface > Ethernet**, select **Dynamic**.

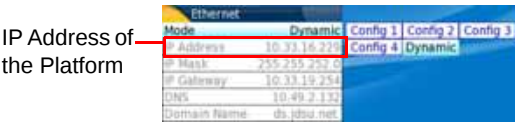


Fig. 47 System Setup > Ethernet: Dynamic mode

- 4 Note the IP Address and wait for about ten seconds while the connection is established.

Connection via a local network

- 1 **On the PC:** find the IP address and the mask of the PC's sub-network:
- With Windows 98 or Millenium: Select **Start > Execute**, then enter winipcfg and click on **OK**.
 - With Windows NT, 2000, XP or Vista: select **Start > Programs > Accessories > Dos Prompt**, type ipconfig", then **Enter**.
Note the IP address and the mask of the PC's sub-network.
- 2 Plug the RJ 45 connector of the 6000/6000A Platform into a hub or Ethernet switch with an Ethernet cable (see [Figure 45 on page 83](#)).
- 3 **On the 6000/6000A Platform:**
In the system set-up menu, under **I/O interfaces > Ethernet**, select **Config 1** (or **2 / 3 / 4**) on the line **Mode**, then enter the **IP address**, the **IP mask** of the PC and the **IP gateway** previously noted ([step 1](#)).
or
use **Dynamic** attribution mode (DHCP). In this case, the address of the 6000/6000A Platform (10 . 33 . 16 . 229 in the example) is displayed but cannot be modified.
- 4 Wait for about ten seconds while the connection is established.
- 5 On the PC, make sure that the connection is operational by selecting **Start > Execute...** and typing ping followed by the address of the 6000/6000A Platform.

Accessing the internal memory of the 6000/6000A Platform

FTP access is obtained through the user account «mts6000» (password: acterna).

- 1 Make the 6000/6000A Platform / PC connection as described [Figure 45 on page 83](#) or connect Platform to WIFI (see [Chapter 12 "WIFI Option" on page 109](#)).
- 2 On the PC, use an FTP client, and access to internal memory via an internet explorer (I.E, Mozilla Firefox...) or Windows Explorer.
- 3 In the address bar, type the following address (10.33.16.229, being the IP address of the 6000/6000A Platform defined when the connection was configured;

`ftp://mts6000:acterna@10.33.16.229/disk/`

This allows to access to internal memory.

`ftp://mts6000:acterna@10.33.16.229/usbflash/`

This allows to access to the contents of the USB memory stick connected to the 6000/6000A Platform.



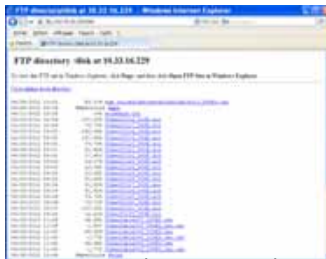
If you use Internet Explorer 7, the following address must be entered:

`ftp://mts6000:acterna@10.33.16.229/acterna/user/disk` or
`ftp://mts6000:acterna@10.33.16.229/acterna/user/usb-flash`

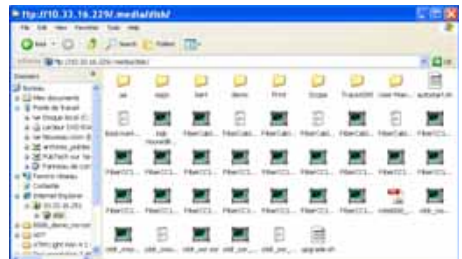
- 4 If an identification is required, enter:

- User name: mts6000
- Password: acterna

The PC then displays the contents of the internal memory or of the USB memory stick from the 6000/6000A Platform.



Internal memory open via Internet Explorer



Internal memory open via Windows Explorer

Fig. 48 Internal memory of the 6000/6000A Platform

- 5 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.

Sending files by mail The 6000/6000A Platform can send files (traces or others) via e-mail, from the Explorer.

Configuring the sending of files by e-mail Before sending files by e-mail, the unit must be configured:

- 1 On the **Home** page, press **System Settings** menu key
- 2 In the **I/O Interfaces** box, select **File Export** parameter.
- 3 Configure the following parameters;

Send Mail Choose **Ethernet** if you wish to use the sending mail function.

Sender Mode **Auto** or **Manual**.

In **Auto** mode, you will not have the possibility to reply to the mail sent.

In **Manual** mode, the reply will be sent to the address entered in the line From. Use the button ► to enter into an edition window.



If **Sender Mode** is set to **Auto**, any reply to an e-mail sent by the 6000/6000A Platform will be lost.

Relay Mode **Auto** or **Manual**.

If the e-mail sending is performed via a SMTP network, select the **Manual** Relay mode and indicate the SMTP server address in the field **Mail Relay**, using the edition window.

In **Auto** mode, the sending of e-mail is performed automatically.

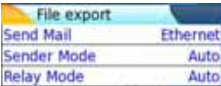


Fig. 49 File Export parameters

Sending files from the Explorer

- 1 Press **SYSTEM** hard key
- 2 Press **App's** menu key and validate **File Explorer** icon
- 3 In the **Explorer** page, select the file(s) to be sent.
- 4 Click on **Export > Send by mail** .
The editor is displayed



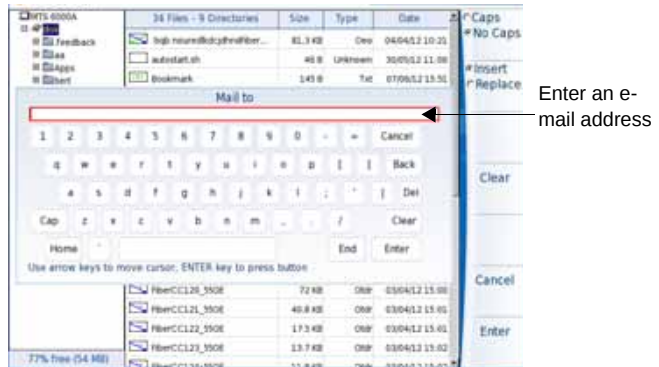


Fig. 50 Enter e-mail address

- 5 You will have to fill in the two following fields:
 - **Mail To:** in the edition window, enter the name of the recipient and press **Enter** to validate.
 - **Subject:** enter the subject of the mail or a comment if necessary. By default, the name of the mail is «Result + sending date».

NOTE

If at least one function is selected in the **System** page (yellow icon), this two parameters «**Mail to**» and «**Subject**» can be configured by default in the **Setup** page > **File Export** (see 8100 Module Manual)

- 6 Click on **Enter**

Once the mail has been sent, the following message is displayed: **Mail Sent**. Click on any key to follow.

Creating a screenshot

You can create captures of what is displayed on the screen, directly from the 6000/6000A Platform.

Configuring the parameters of screenshots

To configure the screenshot and choose the format of the generated file:

- 1 On the **Home** page, press **System Settings** key to reach the **System Settings** page.
- 2 In the **Printer** box, on the line **Printer**, select **File (Screen)**

Choosing this option, you can save the displayed screen in JPG, PNG or PDF format, exactly as it is displayed on the screen.
Therefore, if you make a zoom on the trace for example, the file will only show the zoom section.

- 3 On the line **File format**, select if the exported file will be a **JPG, PNG** or **PDF** file.

Taking a screenshot Once the screenshot parameters are configured:

- 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 left and right direction keys
or
Click on the upper banner of the screen, and click on **Print** in the control buttons bar displayed for few seconds.
The icon  displays until the end of process.
- 4 Press the **FILE** key to find the JPG, PNG or PDF file in the Explorer
For trace results, the file is saved in the same directory than the file used for screenshot.
For other page open and used for a screenshot, the file is saved in the directory **Print**, into the disk.

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/minut/second).jpg/png/pdf*

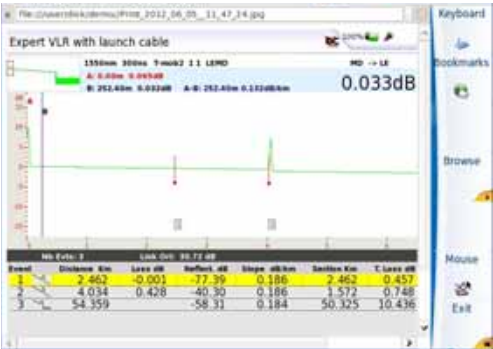


Fig. 51 Example of screenshot, open in the Web Browser of the 6000/6000A Platform

Creating a report

Once the results page of a function is opened (example: OTDR trace, Power Meter results...), it can be exported in a report, using the 6000/6000A Platform.

Configuring the report

To configure the report and choose the format of the report file:

- 1 On the Home page, press **System Settings** key to reach the **System Settings** page.
- 2 In the **Printer** box, on the line **Printer**, select **File (Formatted)**.
Choosing this option, you can save the open file in a JPG, PNG or PDF file report, exactly as if the file was printed on paper.
Therefore, if the file is too large for one A4 page, several JPG, PNG or PDF files will be created.
- 3 On the line **File format**, select if the report file will be a **JPG, PNG or PDF** file.
- 4 To display a Logo on the upper right of the report pages, click on **Logo** line and select the Logo to be displayed on the upper right of the page:
 - a Press ► to open the edition keypad
 - b Enter the path of the logo file (example: disk/jdsu logo.jpg)
 - c Press  to validate.



Fig. 52 Example of Report configuration

Creating the report

- 1 Open the file to be saved in a report in JPG, PNG or PDF format
- 2 If necessary, make the modifications on the file/trace (see user manual of the 8100 OTDR Modules for OTDR trace files).
- 3 Set the trace view as wished.
For OTDR traces
 - if the function is set to the **Trace** mode (**Trace** is selected on the menu key **Trace/Summary**), the JPG/PNG/PDF file will contain the header and the trace (in one page).

- If the function is set to **Table** mode, the JPG/PNG/PDF file will contain the header, the trace and the entire results table (several pages may be required)
- If the function is set to **Summary** mode (**Summary** is selected on the menu key **Trace/Summary**), the JPG/PNG/PDF file will contain the header and the summary page, with either the Bend table or the Alarm Table according to the selected item with the menu key.

This view is only available with OTDR traces.

- 4 Press simultaneously left and right direction keys
or

Click on the upper banner of the screen, and click on **Print** in the control buttons bar displayed for few seconds.

The icon  displays until the end of process.

- 5 Press the **FILE** key to find the JPG, PNG or PDF file in the Explorer
The files are saved in the same directory than the trace file used for report.

Name of the report If a trace has been saved in a report file, the name of the JPG/PNG/PDF file is as follow:

- *name of the stored trace_date (year/month/day)_time (hour/minute/second).jpg/png/pdf*

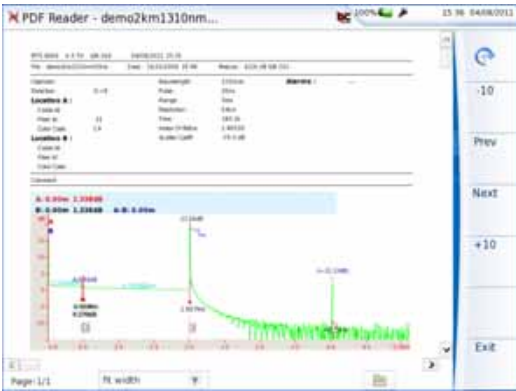


Fig. 53 Example of report (in pdf)

Storage media

For saving or recalling data, the 6000/6000A 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 6000/6000A Platform

The 6000/6000A Platform is delivered with an internal memory , which maximum capacity is of 256 Mo for the 6000 Platform and 1 Go for the 6000A Platforms (with a minimum of about 32 Mo are available for data storage).

The 6000/6000A Platform can also be delivered with a extended memory, available on option, which maximum capacity is of 1GB for the 6000 Platform and 2GB for the 6000A Platform.

External USB storage media

The 6000/6000A 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 three 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 6000/6000A 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 Press 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 USB port.

NOTE

The USB memory stick can also be removed using the **Expert Tools** > **Media Utilities** menu, accessible via the **Home** page.

See [Chapter 16 "Maintenance and Troubleshooting" on page 139](#) 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
harddisk	Internal harddisk (option)
usbflash	USB memory stick
bluetooth-inbox	Bluetooth storage media (option) ^a

- a. The files stored in bluetooth-inbox are lost when the Platform is switched off.

Smart Access Anywhere

11

The 6000/6000A Platform can be accessible to any network test locations, using a specific function: **Smart Access Anywhere**.

This function allows one distant user, on a PC, to transfer the Platform Interface and work on 6000/6000A Platform or to access the internal memory / USB memory stick contents on the PC and perform files transfer from T-BERD/MTS to PC and vice-versa.

This feature does not need any licence code if the user wants assistance from a JDSU person located within the JDSU 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").

Multiple licences are available:

- **Licence 1** (reference **SAA-6K-L1**): for SmartAccessAnywhere using Ethernet or Wifi hotspot connection
- **Licence 2** (reference **SAA-6K-L2**): for SmartAccessAnywhere using Ethernet, wifi hotspot connection, or USB / Wifi connection through 3G smartphone
- ["Connection modes" page 96](#)
- ["Pre-requisite for using the Smart Access Anywhere Application" page 98](#)
- ["Downloading the JDSU application on PC" page 98](#)
- ["Launching the SmartAccess Anywhere application" page 99](#)
- ["Using Remote screen and File Transfer applications" page 101](#)
- ["Connection information and settings" page 105](#)

Connection modes

Different kinds of connection are available to access to a distant 6000/6000A 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 6000/6000A Platform is directly connected to Internet via an Ethernet Cable.



Fig. 55 Ethernet connection

- 2 The WIFI connection can be used to access to 6000/6000A Platform from any location. This connection is available exclusively if the **WIFI option is installed onto the T-BERD/MTS-6000** which will be seen remotely.



Fig. 56 WIFI connection

USB/WIFI connection through 3G Smartphone

To access to a Platform remotely, the connection between the unit and the JDSU application can be established via a USB cable or WIFI, and through a 3G Smartphone, having Internet Sharing capability via USB or WIFI.

- 1 To establish connection between 6000/6000A Platform and Smartphone using USB, connect the USB cable on 6000/6000A Platform and on 3G Smartphone connector.



Fig. 57 USB connection through 3G Smartphone

- 2 To establish connection between 6000/6000A Platform and 3G Smartphone using WIFI, the **WIFI option must be installed onto the 6000/6000A Platform.**



Fig. 58 WIFI connection through 3G Smartphone



The smartphone which have been fully qualified are HTC Desire and Samsung Galaxy Ace models.

Pre-requisite for using the Smart Access Anywhere Application

To access to a 6000/6000A Platform from any locations, specific requirements are mandatory:

- a licence installed on Platform which will be accessible from any locations.
- an Ethernet connection (the Platform must have an IP address - see ["Ethernet > Mode" on page 71](#)) and, if the network uses a proxy, this proxy must be configured (see ["Proxy > Use proxy" on page 72](#)).
- the JDSU application, downloaded for free at the address [«http://smartaccess.updatemyunit.net»](http://smartaccess.updatemyunit.net).
- port 22 (SSH) or 443 (HTTPS) output opened
- according to connection mode selected:
 - the WIFI option installed on 6000/6000A Platform
 - a USB cable to connect Platform with 3G Smartphone
 - a 3G Smartphone from given list and having appropriate basic subscription for internet connection sharing

Downloading the JDSU application on PC

The JDSU application **Smart Access Anywhere** must be downloaded on the PC which will be connected to the 6000/6000A Platform remotely.

NOTE

It is not necessary to have administrator privileges to install the JDSU 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.
Once download is completed, the internet explorer can be closed.
- 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:

Enter Access Code (see [step 1 on page 100](#))



Fig. 59 Smart Access Anywhere: Connection page

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. 60 Warning message of a new version available

Launching the SmartAccess Anywhere application

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

On 6000/6000A Platform

- 1 On the **Home** page, press **Expert Tools**
- 2 Press **Access Anywhere** menu key



The connection to SmartAccessAnywhere Server is in progress.

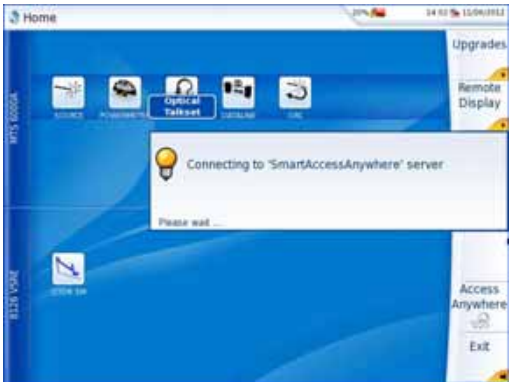


Fig. 61 Connection to SmartAccessAnywhere Server in progress

- 3 Once connection is established with the server, the 6000/6000A Platform displays a message with the code to be used to access to the equipment remotely.



Fig. 62 Access code displayed

- 4 Note this access code and transfer it to the distant user, who will access the unit remotely.
- 5 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 
- The following screen displays:



Fig. 63 Smart Access Anywhere: Home page



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 6000/6000A 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

To display the remote 6000/6000A Platform onto the PC:

- 1 On the Introduction page, click on 

or

On the left menu, click on 

The current screen of the 6000/6000A Platform displays:



Fig. 64 Smart Access Anywhere: Remote screen

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

- 2 Click on the upper banner of the 6000/6000A Platform screen to access to the virtual control buttons bar, which 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 6000/6000A Platform.

- 3 You can use keyboard mouse of the PC to control the 6000/6000A Platform.

Equivalence between the keyboard and 6000/6000A Platform

The PC keyboard can replaced all the buttons and keys of the 6000/6000A Platform except the **ON/OFF** button:

- The menu keys to the right of the screen are replaced by the function keys **F1** to **F7**.
- 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 6000/6000A Platform.

Function on the 6000/6000A Platform	External keyboard
HOME	Ctrl + H

Function on the 6000/6000A Platform	External keyboard
SYSTEM SETTINGS	F12
SET-UP	Ctrl + U
FILE	Ctrl + F
RESULTS	Ctrl + R
START/STOP	Ctrl + S
EXPORT	Ctrl + P ^a
◀ ▶ ▶ ▼	← ↑ → ↓
Menu keys 1 to 7 (from top to bottom)	F1 → F7
ABOUT	F11
Save and quit (Exit)	Enter
Quit without saving (Abort)	Escape

- a. The Export function is available directly on the 6000/6000A Platform pushing simultaneously the left and right arrow keys.

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 Platform displays:

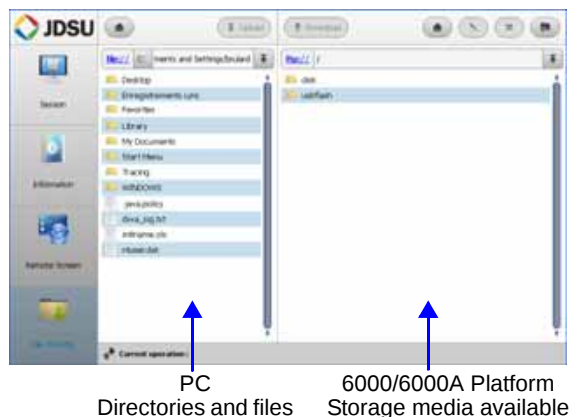
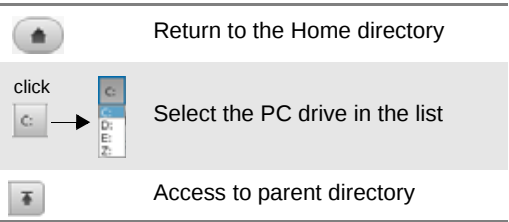


Fig. 65 File Transfer page

- 2 Double-click on one directory/storage media to display the contents (directories / sub-directories / files)

Navigation buttons



Transferring files from PC to 6000/6000A Platform

- 1 On the 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** .
At the bottom of the screen, a new banner displays with information on file transfer:

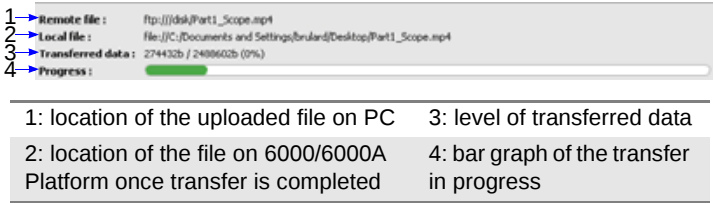


Fig. 66 Information on file transfer

NOTE
Only one file can be uploaded from PC to Platform at the same time.

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

Transferring files from 6000/6000A 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 Platform, select the file to be transferred.
- 3 Click on the button **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 66 on page 104](#)).

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

Working with files and directories on 6000/6000A Platform

- 1 Select a file/directory stored on the 6000/6000A 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 Platform 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
- 2 A screen as the following one displays:

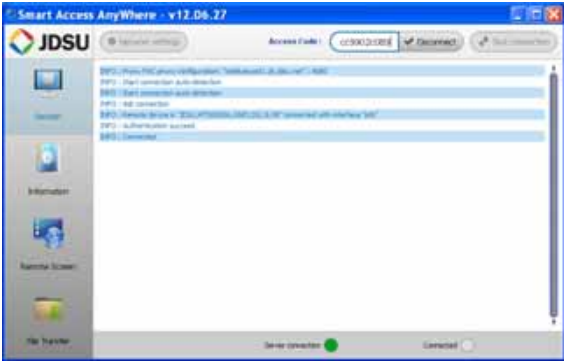
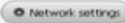


Fig. 67 Session page

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 67 on page 106](#)), press button 

The following screen displays:



Fig. 68 Connection settings

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

Smart-guess (default) ☒ Forced settings

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



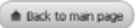
The parameters for Port and HTTPS configurations turn automatically active.

- 5 Modify, if necessary, the parameters for **SSI tunnel port** and/or **Internet proxy**.

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



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

- 6 Once configuration is completed, press .

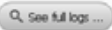
The Home page displays (see [Figure 63 on page 101](#)).

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  button

The test is automatically launched

- 3 Press  to display logs in real time

Once completed, the results for connection display:

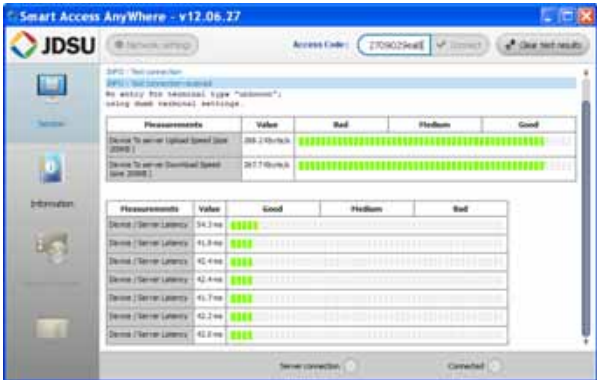


Fig. 69 Test results

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).
- 4 Press  to delete the current table, and retest connection if wished.
 - 5 If connection is valid, enter the access code and establish connection (see [“Launching the SmartAccess Anywhere application”](#) - [“On the distant PC”](#) on page 100).

WIFI Option

12

The WIFI application is available on option with the 6000/6000A Platform, via a external USB key: ref E60EWIFI.

The topics discussed in this chapter are as follows:

- ["Installation of the WIFI option in the Platform" page 110](#)
- ["Connection to SSID" page 111](#)
- ["Configuring the WIFI mode to which the Platform is connected" page 112](#)
- ["Transferring the 6000/6000A Platform interface via WIFI on a PC" page 114](#)
- ["Transferring files to/from a PC via WIFI" page 115](#)

Installation of the WIFI option in the Platform

The WIFI option is delivered on a USB key to be connected directly to one of the USB port of the 6000/6000A Platform.

- 1 Plug the WIFI USB key to one of the USB port of the Platform
A beep is emitted.
A new icon displays on the upper banner 
- 2 Press **SYSTEM** hard key to reach the **Home** page.
A new menu key is displayed on the right of the screen 
- 3 Press the menu key to display the WIFI **Setup** screen.



Fig. 70 WIFI Setup screen

Configuring the WIFI access

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

- 1 In the Configuration box, check the parameter **802.11** is set to **Enable**.
If the parameter is defined to **Disable**, the WIFI application is deactivated, and the icon  is no more displayed on the upper banner.
- 2 Press **Scan SSID** menu key to scan for Service Set Identifiers (SSIDs) in the area.
- 3 Wait for the list of SSIDs to be displayed.

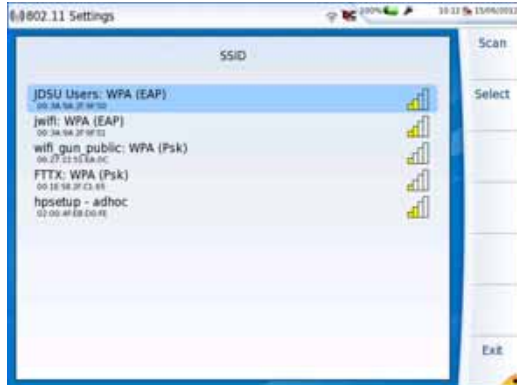


Fig. 71 List of SSIDs found

- 4 Select the desired network to connect to.
- 5 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.
- 6 In **Encryption** parameter, select the type of encryption wished: **None**, **WEP Static**, **WPA Personal**, **WPA Enterprise**.
- 7 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 6000/6000A Platform switch off and restarted.e

- 8 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 6000/6000A 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** or **802.11 IPV6** parameters on the Setup screen.

1 If **802.11** box is chosen, 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 6000/6000A 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 6000/6000A Platform is connected.

Dynamic in this mode, which requires a DHCP server, the 6000/6000A 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 6000/6000A Platform tries to establish a connection to obtain an address from a DHCP server. If for any reason, this process fails, the 6000/6000A 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.

Note IP Address



Fig. 72 WIFI connection in Dynamic mode

In **802.11 IPv6** mode, the following parameters (**Link**, **IP**, **GW** and **DNS**) are automatically defined and cannot be modified

1 The **802.11 IPv6** box is to be used if connection must be in conformance with the IPV6 standards. 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 are available:
– Site Name	the user can enter the name of the site in the Edit menu.
– Link	automatically displays the link name (cannot be modified)
– IP	IP address of the Platform
– GW	IP address of the machine enabling access outside the sub-network.
– DNS	IP address of the machine providing the IP address on the basis of the name

Dynamic in this mode, which requires a DHCP server, the 6000/6000A 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 6000/6000A Platform tries to establish a connection to obtain an address from a DHCP server. If for any reason, this process fails, the 6000/6000A Platform reverses to static IP address mode with User1 IP address.

If **Dynamic** mode is selected, then the following parameters (**Link** / **IP** / **GW** / **DNS**) are automatically configured and cannot be modified (greyed).



Fig. 73 WIFI connection in Dynamic mode with IPV6

Transferring the 6000/6000A Platform interface via WIFI on a PC

Once the IP address is displayed in the configuration screen.

- 1 On the PC connected to WIFI with the Platform, open Internet Explorer.
- 2 Considering 10.33.16.229 is the IP Address of the 6000/6000A Platform (as shown [Figure 72 on page 112](#)), enter the following address in the Internet Explorer window:

`http://10.33.16.229:5800`

- 3 Press **Enter** to validate.

The screen of the 6000/6000A Platform appears offset on your PC.

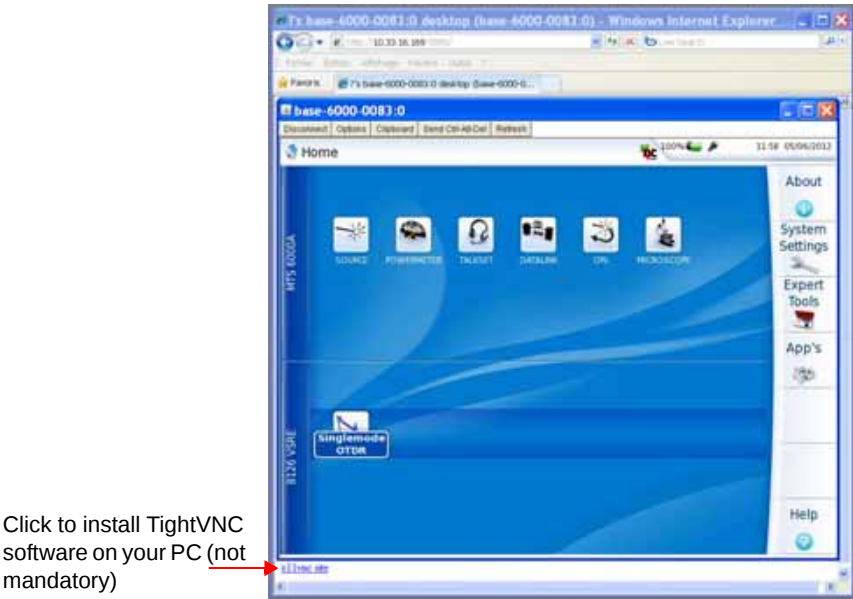


Fig. 74 VNC window

See “[Virtual control buttons bar](#)” on page 74 and “[Equivalence between the keyboard and 6000/6000A Platform](#)” on page 74 to get information on the deported screen use.

Transferring files to/from a PC via WIFI

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 6000/6000A Platform defined when the connection was configured):

`ftp://mts6000:acterna@10.33.16.229/disk/`
This allows to access to internal memory.

`ftp://mts6000:acterna@10.33.16.229/usbflash/`
This allows to access to the contents of the USB memory stick connected to the 6000/6000A Platform.



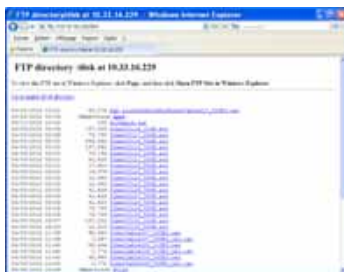
If you use Internet Explorer 7, the following address must be entered:

`ftp://mts6000:acterna@10.33.16.229/acterna/user/disk` or
`ftp://mts6000:acterna@10.33.16.229/acterna/user/usbflash`

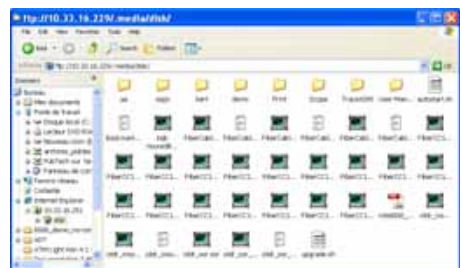
- 3 If an identification is required, enter:

- User name: mts6000
- Password: acterna

The PC then displays the contents of the internal memory or of the USB memory stick from the 6000/6000A Platform.



Internal memory open via Internet Explorer



Internal memory open via Windows Explorer

Fig. 75 Internal memory of the 6000/6000A Platform

- 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.

Chapter 12 WIFI Option

Transferring files to/from a PC via WIFI

Bluetooth option

13

The Bluetooth interface allows file transfers.

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

The topics discussed in this chapter are as follows:

- ["Setting up a Bluetooth connection" on page 118](#)
- ["Transferring files via Bluetooth" on page 121](#)
- ["Transferring the Platform interface on a laptop PC via Bluetooth" on page 122](#)
- ["Removing the Pairing" on page 124](#)



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.

Setting up a Bluetooth connection

The Bluetooth option allows file transfers between the 6000/6000A Platform and another device

- 1 On the **Home** page, press **System Settings** key
- 2 Under **I/O interfaces**, select **Bluetooth > Enable**
The icon  is displayed on the upper banner of the screen
- 3 Push the **Bluetooth Pairing** key 
The Paired Bluetooth screen appears
- 4 Press the **Become Pairable** soft key to wait for another device to initiate the connection to the 6000/6000A Platform.

A screen as the following one displays:

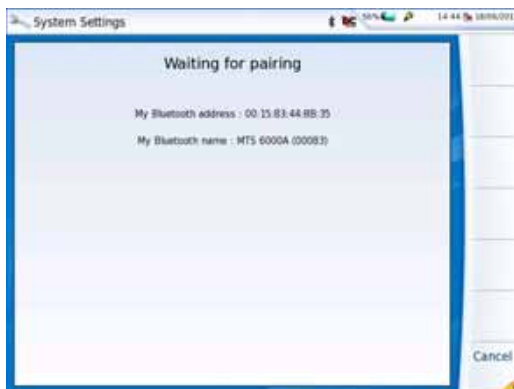


Fig. 76 Waiting for pairing

- 5 Activate Bluetooth on the equipment which need to be paired with the Platform
- 6 If you are asked to, enter a pairing code on the equipment.
- 7 In this case, once the pairing code is validated on the equipment, enter the same pairing code on the Platform to validate the connection:



Fig. 77 Enter Pairing code

- 8 Press **Enter** to validate.
Both equipment are now paired:

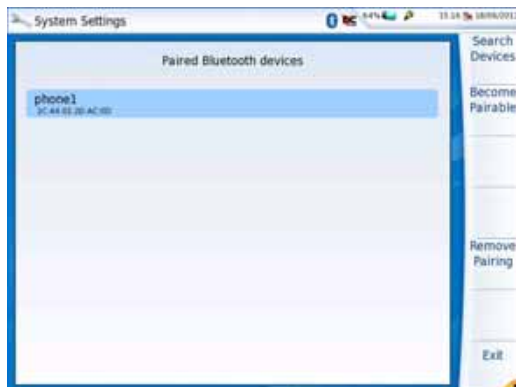


Fig. 78 Platform paired with one equipment

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

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

The 6000/6000A 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 baragraph is displayed during research 
Once the research is completed, a list of the available devices is displayed, with the level of detection of the 6000/6000A Platform 

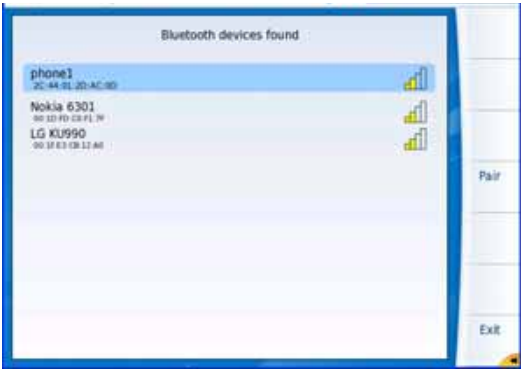


Fig. 79 List of devices found

- a Using the direction keys ▲ and ▼ or touchscreen, 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
- 1 If prompted, enter a pairing code. The code must be identical on the 6000 and the device.
 - 2 Once the bluetooth device and the Platform are paired, a screen is displayed with the description of the device (see [Figure 78 on page 119](#)).
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 6000/6000A Platform toward the bluetooth device and vice versa (see [“Transferring files via Bluetooth” on page 121](#)) or transfer the Platform interface on VNC via Bluetooth (see [“Transferring the Platform interface on a laptop PC via Bluetooth” on page 122](#)).

Transferring files via Bluetooth

Once the connection has been established with a bluetooth device:

- 1 Press the **HOME** key and then press the **System Settings** soft key.
- 2 Use the down arrow ▼ or touchscreen to move to the **I/O Interfaces** settings and then to **File export**.
- 3 In the Send Mail parameter, select **Bluetooth** and then exit the menu.

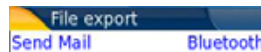


Fig. 80 Configuration of files sending by Bluetooth

- 4 On the **Home** page, press **App's** menu key and select **File Explorer** icon to go in the File Explorer.
- 5 Select the file(s) to be transferred from the Platform toward the PC.
- 6 Push **Export > Send by Bluetooth** menu keys

A confirmation message displays once the transfer is completed.

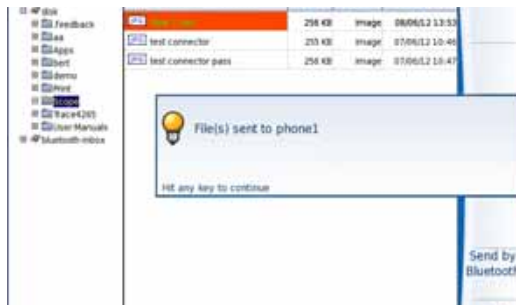


Fig. 81 Confirmation of files sending

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*.



Fig. 82 Confirmation of file receiving



WARNING

The files stored in bluetooth-inbox will be lost once the 6000/6000A Platform is switched off. Copy/Paste the files to keep toward another storage media (disk, usb key..).

Transferring the Platform interface on a laptop PC via Bluetooth

If the 6000/6000A Platform is paired with a laptop equipped with Bluetooth, the interface can be transferred on this PC in order to work on the unit from the laptop PC.

To remote the screen

- 1 Install the JDSU Remote Operation application on the laptop PC:
 - a Download the application
 - b Double click to launch it and follow the instruction for installationThe application is available on PC, in **Start > All Programs > JDSU > Remote Operation**.
- 2 Pair the 6000/6000A Platform with laptop PC via Bluetooth (see ["Setting up a Bluetooth connection" on page 118](#)).
- 3 Once pairing is active, open the Remote Operation application on laptop PC.

A new window opens, and scanning is automatically launched to find the equipment paired with laptop PC.
- 4 Once scanning is completed, the 6000/6000A Platform displays the list of detected equipment.

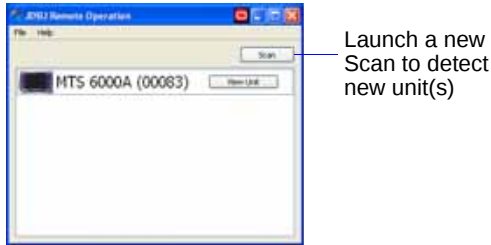


Fig. 83 6000/6000A Platform detected via Bluetooth on PC

- 1 Click on **View Unit** button to remote the screen on PC.
The current screen of the 6000/6000A Platform displays on a new window on the PC.
In the small window next to VNC window (see [Figure 83 on page 123](#)), the button **View Unit** becomes **Stop Viewing**.

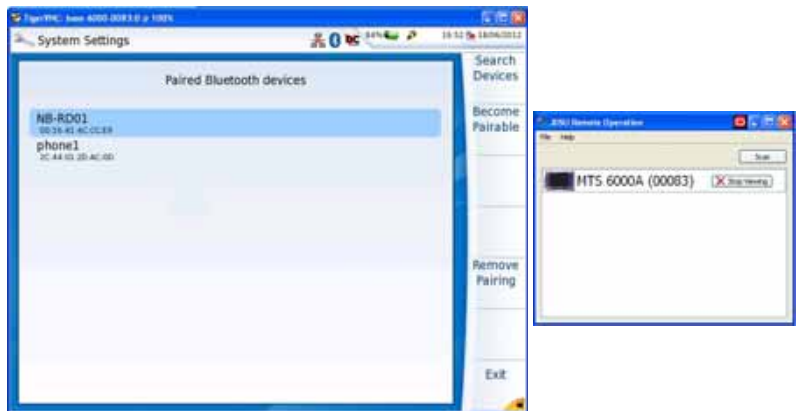


Fig. 84 Remote screen on PC

See “Virtual control buttons bar” on page 74 and “Equivalence between the keyboard and 6000/6000A Platform” on page 74 to get information on use of PC to work on 6000/6000A Platform.

Closing the remote screen and the application

To stop using the remote screen on PC:

- 1 In the small window available with the VNC window (see [Figure 84 on page 123](#)) click on **Stop Viewing** button.
The VNC window closes.

At any time, the remote screen can be displayed back clicking on View Unit button.

- 2 To close the application, click on **File** > **Exit** in the window.

Removing the Pairing

- 1 To remove the pairing between the two equipments, in the **System Settings** page, push the **Bluetooth Pairing** key
- 2 In the screen displayed, 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, go in the **System Settings** page, and under **I/O Interfaces**, select **Disable** on the **Bluetooth** parameter.

Technical specifications

14

This chapter contains the technical specifications of the 6000 / 6000A Base Unit.

The topics discussed in this chapter are as follows:

- [“Display” on page 126](#)
- [“Memory” on page 126](#)
- [“Input/Output” on page 126](#)
- [“Power supply” on page 126](#)
- [“Dimensions - Weight” on page 127](#)
- [“Environment” on page 128](#)
- [“Characteristics of the options” on page 129](#)

Display

- Screen**
- Back-light color screen
 - Size: 8.4 inch
 - Resolution: 800 x 600 pixels
 - Standard: high visibility screen, non-tactile with the 6000 Base Unit .
 - High visibility touchscreen on option with the 6000 Base Unit and on standard in the 6000A Base Unit.

Memory

- Standard memory: internal memory, minimum capacity 256 Mbytes with the 6000 Base Unit and 1Gb with the 6000A Base Unit (of which 32 Mbytes are available for data storage).
 - Internal extended memory, minimum capacity 1 Gbytes on option with the 6000 Base Unit, and up to 2Gbytes on standard in the 6000A Base Unit.

Input/Output

- two USB 1.1 Master ports, for printer, mouse, keyboard, memory stick, optical microscope, etc.
- one RJ 45 connector for Ethernet interface 10/100 Mbit/s.
- built-in microphone and loudspeaker.

Power supply

- Battery** The instrument is supplied with one Lithium Ion battery: a standard Lithium Ion battery with the 6000 Base Unit (delivered on option), and a high power Lithium Ion battery with the 6000A Base Unit (delivered on standard):
- Reference for the MTS/T-BERD 6000: Li204SX/ DC 11.1V / 6.6Ah
 - Reference for the MTS/T-BERD 6000A: Ni2040HD / DC 10.8V / 7.2Ah

Endurance of the 6000 / 6000A Base Unit with one standard lithium ion battery (ref Li204SX)

Measurement conditions:

- at +25 °C,
- at nominal capacity (6 Ah),
- 6000 / 6000A Base Unit equipped with an OTDR plug-in, type SR.

Endurance

- Test carried out in accordance with Telcordia GR-196-CORE recommendations: lighter backlight for the screen, (3 acquisitions of 30s per 15 minutes and auto-off): up to 11 hours.

With continuous acquisition:

- up to 5 hours with normal screen lighting.
- up to 3.5 hours with strong screen lighting.

Mains adapters

	Standard Mains Adapter	
Input	100-240 V, 50-60 Hz	
Output		
– MTS / T-BERD 6000 (power supply 60 W)	19 V continuous,	3,16 A max
– MTS / T-BERD 6000A (power supply 90 W)	19 V continuous,	4.73 A max
Compliance	EN 60950	

Dimensions - Weight

Dimension

- with bumpers: L x H x W = 290 x 205 x 99 mm (11.41 x 8.07 x 3.89 inches)

- without bumpers: L x H x W = 285 x 189 x 95 mm (11,22 x 7,44 x 3.3,74 inches)

Weight

- 6000 Base-Unit
 - 2.4 kg (5.3 lbs) without battery nor module.
 - 3.4 kg (7.5 lbs) with battery nor module.
- 6000A Base-Unit
 - 2.465 kg (5.43 lbs) without battery nor module.
 - 3.330 kg (7.34 lbs) with battery nor module.

Environment

- Temperature**
- Operation on mains supply, excluding options:
-20°C to +50°C.
 - Operation including all options (guaranteed specifications):
0° to +40° C
 - Storage: -20°C to +60°C

- Humidity**
- 5 to 95% without condensation

- EMI/ESD**
- MTS/T-BERD 6000 with power supply 60 W: CE class B Compliant
 - MTS/T-BERD 6000 with power supply 90 W: CE class A Compliant
 - MTS/T-BERD 6000A with power supply 90 W: CE Class A Compliant
 - MTS/T-BERD 6000 and MTS/T-BERD 6000A: FCC 47-1 Part 15 Compliant



Class A product: in a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

- Drop test**
- In accordance with the Telcordia GR-196-CORE recommendations, the 6000 / 6000A Base Unit resists the following test:
- 6 impacts dropped from a height of 76 cm (1 impact on each of its 6 sides, with power off).

- Shocks**
- The 6000 / 6000A Base Unit 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 6000 / 6000A Base Unit resists the following test:

- 1,000 jolts 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 6000 / 6000A Base Unit 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 housing of the 6000 / 6000A Base Unit (in ABS, type V0) does not propagate fire.

Characteristics of the options

Power meter of the LTS option 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 / 1550 nm
- Accuracy at calibrated wavelengths: ± 0.2 dB (at -30 dBm)
- Input power range: +10 dBm to -60 dBm
- Maximum resolution: 0.01 dB / 0.01n W
- Measurement range: +5 to -50 dBm (-45 dBm from 800 to 1250 nm)
- Linearity within the measurement range: ± 0.2 dB

Talkset

- Dynamic range: typically 45 dB at 25°C.
- Jack socket for headset
- Laser, typical wavelength 1550 nm, class 1 (EN60825 and FDA21 CFR Part 1040.10)

Laser sources of the LTS option

- Class 1M
- Wavelength laser at 25°C:
 - 1310 ± 30 nm
 - 1550 ± 30 nm
 - 1625 ± 10 nm
- Spectral bandwidth: 5 nm RMS maximum

Output level

- -3.5 dBm
- modulated mean level -6.5 dBm
- Stability²:
 - ± 0.02 dB, short term (15 minutes) for temperature differences of ± 0.3° K
 - ± 0.2 dB, long term (8 hours) for temperature differences of ± 3° K

Emission mode

- Continuous signal (CW)
- Signal including lambda information for the power meter (Auto-λ).
- Modulated signal to identify the fiber (at 270, 330, 1k or 2kHz).
- Wavelengths activated one after the other (TwinTest mode).

Manual ORL

- Selectable wavelength: 1310 / 1550 nm
- Display range: 0 dB to 60 dB
- Measurement range: 0 dB to 45 dB
- Measurement uncertainty (typical value): +/- 1 dB (5 dB to 40 dB)
- Display Resolution: 0,01 dB

VFL

- Wavelength: 635 nm +/- 15 nm
- Length of fiber: up to 5 km
- Class 2 laser (standards EN60825 and FDA21 CFR Part 1040.10).

²The specifications concerning accuracy and stability do not become valid until 20 minutes after switching on, and are only valid with a proper fiber connection.

- Bluetooth and**
- WIFI**
 - WIFI: standard IEEE802.11n
 - Bluetooth Option
 - Class 2
 - Range: up to 20 meters
 - Bluetooth V2.1 + EDR

Options and accessories

15

This chapter shows the references of the options and accessories of the 6000/6000A Platform.

The topics discussed in this chapter are as follows:

- [“References of options for the 6000/6000A Platform mainframe” on page 134](#)
- [“References of scopes and associated accessories” on page 136](#)
- [“References of accessories” on page 136](#)

References of options for the 6000/6000A Platform mainframe³

Options	References
6000 Base Unit with high visibility screen and battery.	EM6000 /ETB6000 (US)
6000 Base Unit with high visibility touchscreen and battery	EM6000T / ETB6000T (US)
6000A Base Unit	EM6000AT / ETB6000AT (US)

Memory options	References
6000 Base-Unit Internal extended memory, min. cap.1 Gbytes	E60EXTMEM

Adapter/Charger for cigar lighter	References
High Power mains adapter/charger for cigar lighter	E80lighter

Mains options for MTS/T-BERD 6000 ^a	References
Mains adapter/charger (USA)	E80PWUS
Mains adapter/charger (UK)	E80PWUK
Mains adapter/charger (Europe)	E80PWE
Mains adapter/charger (Australia)	E80PWAU
Mains adapter/charger (Swiss)	E80PWCH
Mains adapter/charger (Denmark)	E80PWDK
Mains adapter/charger (Israel)	E80PWL
Mains adapter/charger (Inda/ZA)	E80PWIN
Mains adapter/charger (Italy)	E80PWIT
Mains adapter/charger (Japan)	E80PWJP

a. Additional adapters/chargers can be ordered as accessories.

Mains options for MTS/T-BERD 6000A ^a	References
Standard additional AC/DC adapter/charger (US)	E90WPWUS
Standard additional AC/DC adapter/charger (Europe)	E90WPWE
Standard additional AC/DC adapter/charger (UK)	E90WPWUK
Standard additional AC/DC adapter/charger (Aust.)	E90WPWAU
Standard additional AC/DC adapter/charger (Swiss)	E90WPWCH
Standard additional AC/DC adapter/charger (Denmark)	E90WPWDK

3. These options must be ordered together with the instrument.

Mains options for MTS/T-BERD 6000A ^a	References
Standard additional AC/DC adapter/charger (Israel)	E90WPWL
Standard additional AC/DC adapter/charger (India/ZA)	E90WPWIN
Standard additional AC/DC adapter/charger (Italy)	E90WPWIT
Standard additional AC/DC adapter/charger (Japan)	E90WPWJP

Talkset ^a/ LTS (Light source and/or Power meter) options	References
Talkset	E80TS
Power meter with UPP 2.5 mm connector	E80PM
Talk set + LTS source 1310/1550 + powermeter	E8026LTSTS
Talk set + LTS source 1550/1625 + powermeter	E8029LTSTS
Talk set + LTS source 1310/1550/1625 + powermeter	E8036LTSTS
Talk set + LTS source 1550 + powermeter	E8025LS/PM
Combined LTS and ORL 1310/1550nm with Talk Set	E8026LTSTSORL
VFL with UPP connector	E80VFL
Universal connectors for Talkset ^b	Reference
Universal PC connector with FC adapter	EUNIPCFC
Universal PC connector with SC adapter	EUNIPCSC
Universal PC connector with ST adapter	EUNIPCST
Universal PC connector with DIN adapter	EUNIPCDIN
Universal APC connector with FC adapter	EUNIAPCFC
Universal APC connector with SC adapter	EUNIAPCSC
Universal APC connector with ST adapter	EUNIAPCST
Universal APC connector with DIN adapter	EUNIAPCDIN
Extra adapter for talkset ^c	Reference
Universal FC adapter	EUFCAD
Universal SC adapter	EUSCAD
Universal ST adapter	EUSTAD
Universal DIN adapter	EUDINAD

- a. Type of connector to be specified on order
b. At least one connector must be chosen
c. Interchangeable in the field

Connector for VFL and power meter	References
Universal push/pull connector/adapter, 2.5 mm fiber	EUPP2.5

WIFI and Bluetooth options	References
External USB WIFI option	E60EWIFI
External USB Bluetooth option	E60EBLUE

Smart Access Anywhere	References
Smart Access Anywhere for 6000 Platform - L1: Remote coaching and file transfer for T-BERD/MTS-6000 using Ethernet or WIFI hotspot connection	SAA-6K-L1
Smart Access Anywhere for 6000 Platform - L2: Remote coaching and file transfer for T-BERD/MTS-6000 using Ethernet, WIFI and selected 3g Smartphone (via USB or WIFI)	SAA-6K-L2

References of scopes and associated accessories

Scope	Reference
Digital Videoscope kit including FBP-P5000 probe (USB2.0) in a small soft case, and 7 tips in a box (FC, SC, SC-APC, LC, U25M, U25MA & U12M)	EDFSCOPE5K
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)	EDFSCOPE5Ki
Quick Capture Video Microscope, 200x/400x with USB converter, includes FC, SC, SC-APC, LC, U25M, U25MA & U12M tips, and one soft case	EFSCOPE400
Carrying case for fiber microscope and accessories	EOCIS-SC1

References of accessories

Soft and hard carrying cases	Reference
Soft carrying case for 6000/6000A Platform	ESCASE4
Soft carrying case for 6000 Base Unit with strap	ESCASE5
Soft carrying case for 6000A Base Unit with strap	ESCASE6
Hard carrying case for T-BERD/MTS-6000 Platform and T-BERD/MTS-6000A Platform	EHCASE6 ^a
Hard case for T-BERD/MTS-6000/6000A with OSA configuration	E60HCASE-OSA

a. Cannot be used with an OSA-110M

Keyboard/Mouse	
USB mouse	E80mouse
Compact USB keyboard for 6000/6000A platforms with 2x USB ports	EMINIKEYB
USB QWERTY keyboard	E80keyB

User manual for 6000/6000A Platform platform	Reference
User manual for 6000/6000A Platform platform (French)	E6000M01
User manual for 6000/6000A Platform platform (English)	E6000M02
User manual for 6000/6000A Platform platform (German)	E6000M03

NOTE

The User Manuals for MTS/T-BERD 6000/ 6000A (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.

Maintenance and Troubleshooting

16

This chapter describes how to maintain your unit and identify and correct problems related to the 6000/6000A Platform.

The topics discussed in this chapter are as follows:

- [“Maintenance procedure” on page 140](#)
- [“Recycling Information” on page 154](#)
- [“Troubleshooting” on page 154](#)
- [“General information on warranty” on page 158](#)

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 JDSU Service Centre, which will undertake the appropriate troubleshooting and repair work.

The performance and technical complexity of the 6000/6000A Platform class this instrument in a new generation of equipment, for which JDSU 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 6000/6000A Platform.
- If a fault is detected, or in case of doubt, it is advisable to contact the nearest JDSU 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, trichloro-ethylene, 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-linting type of paper, such as Joseph paper, soaked in isopropyl 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 6000/6000A Platform**
- Squirt a highly volatile solvent (such as isopropyl 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 ferrule.

Accessing to the 6000/6000A Platform information

On the 6000/6000A Platform, some screens allow to display information on different elements of the equipment.

To display the information on the 6000/6000A Platform

- 1 On the **Home** page, press **About** to display the presentation screen of the 6000/6000A Platform.

General page

The **General** page is displayed by default, and displays the presentation screen, with all the information concerning the software versions, the hardware options and the module installed.



Fig. 85 General page

This page shows:

- The software version information
- The product contents: base, optical options, battery type, module installed and date of calibration for options concerned.
The options set into the 6000/6000A Platform are marked with a green tick.

Software options page This page allows to visualize the software options available on the 6000/6000A Platform.

Services Data page This page allows to display information about the elements inside the 6000/6000A 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 6000/6000A Platform.



Fig. 86 Services Data page

Accessing to the 6000/6000A Platform documentation All documents necessary for the 6000/6000A Platform use are directly available onto the equipment.

To display the list of documents available for 6000/6000A Platform use:

- 1 Validate the **Help** icon on the **Home** page.
- 2 In the new page, click one link to display the corresponding document: User manual, Getting Started Manual, Quick Card...



Fig. 87 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 6000/6000A 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

For the T-BERD®/MTS-6000(A) with part number inferior to 10000:

- 2 On the JDSU web site (<http://www.jdsu.com>), open the page of the product concerned

MTS-6000 (A) Compact Optical Test Platform
or
T-BERD-6000(A)® Compact Network Test Platform

- 3 Click on the tab **Downloads**.
- 4 Click on the link *6000/6000A Firmware Installation Instructions*

NOTE

You can directly enter the internet address **<http://www.update-myunit.net>**, which will give access to the installation portals for all T-BERD/MTS from JDSU, and click on the link **T-BERD®/MTS-6000 Platform < 10 000**.

A new page opens, displaying the instructions to install the firmware and several links.

- 5 Click on the link «To begin downloading the .zip file click here» to load the archive.
- 6 In the new dialog box displayed, click on **Save** to save the zip file on the PC.
- 7 Once completed, connect the USB memory stick to the PC and follow the instructions chapter "[Installation from a USB memory stick](#)" on page 146, from [step 2](#).

For the T-BERD®/MTS-6000(A) with part number superior to 10000:

- 1 In Internet Explorer, enter the address: **<http://www.update-myunit.net>**
- 2 Click on the link: «T-BERD®/MTS-6000 and 6000A Platform with SN >= 10000»
- 3 Click on the icon  or on the exe file to load the archive.
- 4 In the new dialog box displayed, click on **Save** to save the exe file on the PC.
- 5 Once completed, connect the USB memory stick to the PC and follow the instructions chapter "[Installation from a USB memory stick](#)" on page 146, from [step 2](#).

Installation from JDSU Server

The update can be performed directly onto the equipment, using the JDSU server.

- 1 Connect the 6000/6000A Platform to a PC via an Ethernet link.
- 2 On the **Home** page, press **Settings** key to open the **System Settings** page.
- 3 In **I/O Interfaces**, on the line **Ethernet**, select **Mode: Dynamic**.

- 4 In the **Upgrade Server** box:
 - On the line **Address Type**, select **JDSU Server**
The address **6k.updatemyunit.net** is automatically displayed.
- 5 Select if the new release for 6000/6000A Platform must be automatically detected (**Enable**) or not (**Disable**). See [“Checking new upgrade on JDSU Server” on page 148](#).



Fig. 88 Configuration of the JDSU Server

- 6 In the **I/O Interfaces** box:
 - On the line **Use proxy**, select **No**, **Manual** or **Auto** whether a proxy is used or not.
- 7 Press menu key **Exit** to return to **Home** page.
- 8 Press, in succession the menu keys: **Expert Tools > Upgrades > Software Upgrade > Upgrade via Ethernet**.
The message **Verify IP address of PC server** appears.
- 9 Click on **Continue**.

The list of the software versions available on the PC is displayed next to the versions installed on the 6000/6000A Platform.

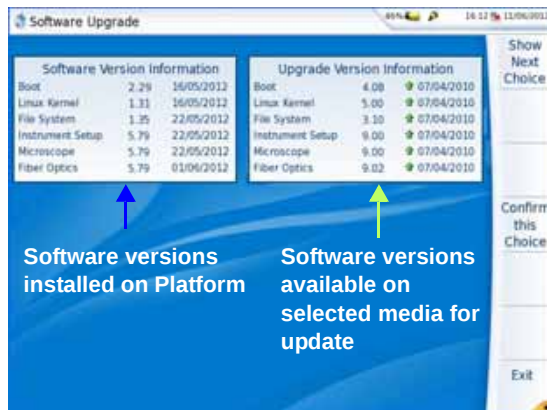


Fig. 89 List of software versions (current and new)

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 6000/6000A Platform to a PC via an Ethernet link.
- 2 On the **Home** page, press **System Settings** key to open the **System Settings** page.
- 3 In **I/O Interfaces**, on the line **Ethernet**, select **Mode: Dynamic**.
- 4 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)
- 5 In the **I/O Interfaces** box:
 - On the line **Use proxy**, select **No**, **Manual** or **Auto** whether a proxy is used or not.
- 6 Press, in succession, **Expert Tools > Upgrades > 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 6000/6000A Platform (see [Figure 89 on page 145](#)).

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 6000/6000A Platform" on page 155](#)).

- 1 Once formatted, disconnect the USB memory stick from the 6000/6000A 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 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 143](#)).
- 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.

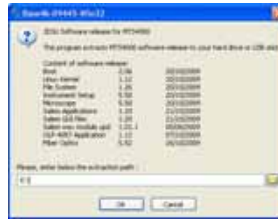


Fig. 90 List of software update

- 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.

- Press the **SYSTEM** button, then successively **Expert Tools > Upgrades > Software Upgrade > Upgrade from USB**.
The message Are you sure? is displayed
- Click on **Confirm**.
The list of the software versions available on the USB stick is displayed next to the versions installed on the 6000/6000A Platform (see [Figure 89 on page 145](#)).

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 6000/6000A Platform (see [Figure 89 on page 145](#)), 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 6000/6000A Platform is automatically rebooted. Upgrading takes several minutes. Finally, the 6000/6000A 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 JDSU
Server**

If the JDSU Server is selected for upgrade (see [Figure 88 on page 145](#)), the parameter **Check new release** can be defined to automatically inform user of a new upgrade available for Platform.

- 1 In the **System Settings** screen, select **Upgrade parameters**
- 2 Check the **Address Type** is set to **JDSU 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.

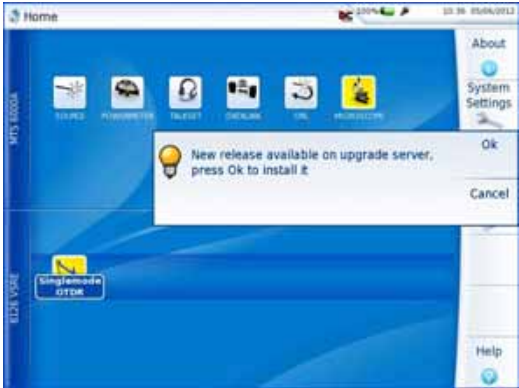


Fig. 91 Checking new release

- 4 Press **Ok** to display the list of software versions available (see [Figure 89 on page 145](#)) and follow instructions "[Launching the upgrade](#)" on page 147.

Upgrading from the boot

This method is used to make a complete reinstallation of the software versions.

- 1 Turn off the 6000/6000A 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 6000/6000A Platform.
- 5 A menu is displayed, 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 6000/6000A Platform will automatically turns on and display the **Home** page.

Install Option

This page allows to import the licence to get a software option.

```
JDSU Software Options License file for FTTE PLATFORM  
# This license file contains your license.  
  
# Starting from #, blank lines, small header lines, and say  
# other lines not starting with a JDSU keyword are comments that  
# licenses reader ignores.  
  
# Except as noted, please do not modify lines starting with keywords,  
#  
-----  
# This file should be loaded onto your FTTE product in order  
# to activate your software options.  
# -----  
#  
# To do so,  
# First copy this file onto a USB stick.  
# Then, starting from the Home screen (press "Home" to go to this screen) :  
# Press the following keys:  
#   'Expect Tools'          -> 'Upgrade'  
#                           -> 'Install Option'    -> 'Import License'  
#  
# You should then select this file from the File Explorer window and press  
# 'Load'.  
# followed by 'Confirm'.  
#  
# The challenge codes contained in this file will then be loaded automatically  
# and your  
# software options will be installed.  
#  
# At the end of this sequence you will be asked to reboot the unit.  
#  
# You may also enter these challenge codes manually, if you wish.  
#  
# -----  
#  
# Validation date : 2008-10-13 16:09:14  
# Generation date : October 22, 2008, 14:18:03  
# Challenge Codes  
# AAALIA-AAANVWYFRECKMWT(IJZFPPFQZKSAAGLWGLXMBAB)  
FTTEPUBLIC
```

Fig. 92 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 6000/6000A Platform.



It is strongly recommended to perform the installation using the importation of Licence via a USB memory stick.

- Enter Manually the Licence**
- 1 In the **Home** page, click on **Expert Tools > Upgrades > Install Option > Enter Challenge**
The edition keypad is displayed
 - 2 Enter the challenge code of the option, set at the bottom of the file (see [Figure 92 on page 150](#)).

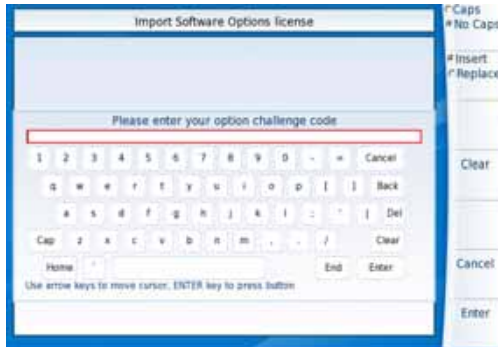


Fig. 93 Enter the Licence code



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.

- 3 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 . Confirm the reboot to restart the Platform.

Import the license from the USB memory stick

- 1 In the **Home** page, press the **System Settings** menu key.
- 2 In the **System Settings** page, press **Expert Tools > Upgrades > 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. 94 License imported

- 6 At the end of this sequence you will be asked to reboot the unit to apply the modifications, pushing the key .
- 7 **Confirm** the reboot

**Locking the
6000/6000A
Platform**

The 6000/6000A Platform can be locked at any time:

- 1 In the **Home** page, press **Expert Tools > Instrument Lock Out**
- 2 Confirm the 6000/6000A Platform locking by clicking on **Confirm** (or use the **Cancel** key to cancel the process).
The numeric keypad is displayed
- 3 Enter the password to lock the instrument: **42000**.



Fig. 95 Password

- 4 Click on **Enter**

The 6000/6000A Platform locking screen is displayed.



Fig. 96 Locking screen

Click on the **Notepad Message** key to add a message using the text edition.

Unlocking the 6000/6000A 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 JDSU. However, for any sub-assembly upon which work has been carried out otherwise than by JDSU Service Centers, the cost of a replacement sub-assembly will be invoiced.

Recycling Information

JDSU 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. It 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 16).
Nothing happens on screen, whatever is the action done (menu key or hard key pressed...)	- The Platform must be rebooted. See “Resetting the 6000 / 6000A Platform” on page 18 .
You are using the 6000/6000A 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 6000/ 6000A Platform” on page 23 . - Check the battery charge level. See “Charging the battery” on page 16 .
The battery refuses to charge (the Battery indicator does not go on when the instrument is connected to the mains and is not operating).	- There is no battery in the instrument. - The temperature level of the equipment does not allow the battery charging for safety reasons. Wait the equipment cools down. - The battery needs to be changed. See “Changing the battery” on page 156 .
When using the touchscreen, nothing happens	- The touchscreen needs to be calibrate. See “Touchscreen calibration” on page 156

Troubleshooting	Solution
Error message when USB has been disconnected	- The USB disconnection has not been done properly (see “USB memory stick disconnection” on page 92) - 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 “USB memory stick disconnection” on page 92). - The USB memory stick is not detected by the 6000/6000A Platform: use another memory stick, or another storage media; or transfer data via USB cable (see “Transferring files to/from a PC with a FTP server” on page 83).
Error message when upgrade via Ethernet is confirmed	- Check the Server Name is correctly entered (see “Installation from another server” on page 146)
Error message when upgrade via USB key is confirmed	Check the USB key is correctly connected (see “USB memory stick connection” on page 92)
Error message when unlocking the instrument	- The password is not the correct one (see “Locking the 6000/6000A Platform” on page 152).

Formatting the USB memory stick onto the 6000/6000A Platform

If the USB icon  is displayed on the upper banner of the screen, when a USB memory stick is connected to the 6000/6000A Platform, this may mean 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 6000/6000A Platform.
- 2 In the **Home** page, press successively **Expert tools > Media utilities > Usbflash Format**.
- 3 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/harddisk

To delete all the disk contents of the 6000/6000A Platform:

- 1 On the Home page, press **Expert Tools > Media Utilities**,

- 2 Select **Erase Disk/Erase Harddisk** to delete all the disk contents into the 6000/6000A Platform.

A confirmation must be validated before the deletion.

Touchscreen calibration

If you meet problems when using the touchscreen (example: pressing on an icon does not work correctly...) a calibration can be performed on the 6000/6000A Platform touchscreen.

To calibrate the touchscreen, proceed as follows:

- 1 In the **Home** page, press **System Settings** menu key.
- 2 In the **System Settings** page, press menu key **Touch Screen**.
A blue slightly smaller screen appears, displaying a little target on the left hand corner.
- 3 Click on this target (preferably with the stylus for touchscreen).
- 4 A new target appears then and again, for a total of 4 times, in order to click on all corners of the screen.

If all the targets are not correctly touched, the touchscreen cannot be used. Otherwise, the touchscreen may be used directly.



Fig. 97 Touchscreen calibration

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

Removing the damaged battery

To access the battery of the 6000/6000A Platform, proceed as follows

- 1 Switch off the 6000/6000A Platform and disconnect the mains supply.
- 2 Turn the instrument face down on the work surface.

- 3 Slacken the screws located at the bottom of the instrument using a coin, and unscrew them
- 4 Remove the cover of the battery pack.

The battery can then be removed, taking care not to damage the connectors into which it is plugged.

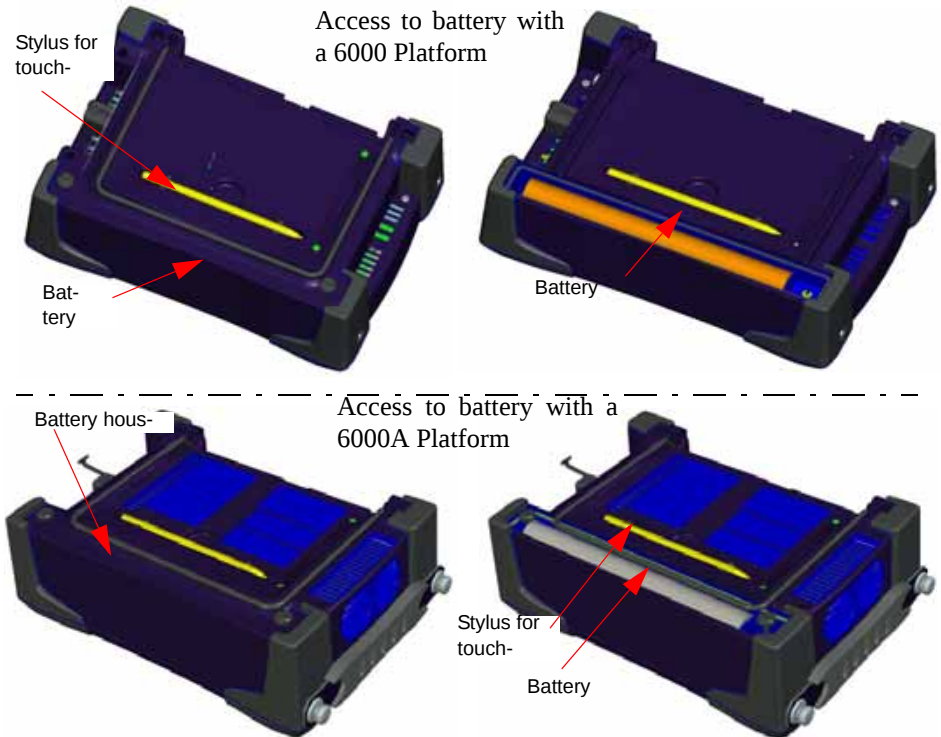


Fig. 98 Battery seatings

Setting a new battery

- 1 Set the new battery into the housing provided for that purpose, taking care not to damage the connector. Press gently but firmly to make sure it is correctly set.
- 2 Put back the battery cover and lock the screws.

General information on warranty

The warranties described herein shall apply to all commercially available JDSU products. Any additional or different warranties shall apply only if agreed to by JDSU in writing. These warranties are not transferable without the express written consent of JDSU.

Hardware Warranty

JDSU 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 JDSU Customer Service Representative, or at our web site www.jdsu.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.

JDSU '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. JDSU 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 JDSU without JDSU'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.

JDSU 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 JDSU for repair or replacement shall be borne by customer until delivery to JDSU.

Upon delivery of such product, JDSU 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 JDSU for repair or replacement. JDSU shall pay all transportation costs associated with returning repaired or replaced product to customer.

Warranty disclaimer For hardware and/or services furnished by JDSU, the foregoing warranties are in lieu of all other warranties and conditions, express or implied. JDSU 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 JDSU be liable for any indirect or consequential damages related to breach of this warranty.

Calibration Recommended

A

The following appendix provides recommended calibration period for the MTS/T-BERD 6000 and MTS/T-BERD 6000A.

Recommended Calibration Period

Mainframe equipped with Power Meter option	12 months
Mainframe equipped with Laser Source option	12 months
Mainframe used with Reflectometer module	12 months
Mainframe used with Fiber Characterization module (CD / PMD / AP)	12 months
Mainframe used with MSAM module (MTS/T-BERD 6000A only)	36 months

The calibration interval shall be regarded as a recommendation.
The real definition of the calibration interval should be made by the user.
The type of application and the environmental conditions should be taken into account.

Due date of the calibration certificate shall be calculated accordingly by the user.

USB printers supported by the 6000/6000A Base Unit

B

This appendix gives a list of printers that can be connected to the MTS/T-BERD 6000 via a USB port.

Topics discussed in this chapter are as follow:

- [“Selecting a printer connected to the 6000 6000/6000A Platform” on page 164](#)
- [“List of printers’ manufacturers and models available with the 6000/6000A Platform” on page 165](#)

Selecting a printer connected to the 6000 6000/6000A Platform

In the **Home** page:

- 1 Click on **System Settings**
- 2 Use direction keys or touchscreen to reach the **Printer** box
- 3 In the parameter **Printer**, select **USB** or **USB (Landscape)**.
- 4 In the **Manufacturer** line, select the printer manufacturer in the list.
- 5 In the **Model** parameter, select the printer model that is connected to the MTS/T-BERD 6000/6000A.
- 6 In the parameter **Ascii Mode**, select **Graphic** or **Text** according to the printer configuration. Some printers do not recognize the ASCII mode, so that you must select Graphic to print files from the Web Browser.
- 7 On the last line, select the **Logo** to be displayed on the upper right of the page: press ► to enter the path of the logo file in the edition keypad. Press **Enter** to validate

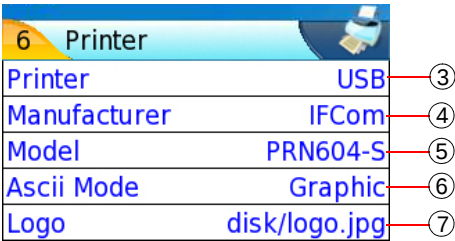


Fig. 99 Example of a USB Printer configuration

List of printers' manufacturers and models available with the 6000/6000A Platform

APOLLO

Apollo P-2100

Apollo P-2150

Apollo P-2200

Apollo P-2250

Apollo P-2500

Apollo P-2550

Apollo P-2600

Apollo P-2650

APPLE

Apple Color StyleWriter 4100

Apple Color StyleWriter 4500

Apple Color StyleWriter 6500

Apple LaserWriter Select 360

BROTHER

Brother DCP-1200

Brother HL-1040

Brother HL-1050

Brother HL-1060

Brother HL-1070

Brother HL-10h

Brother HL-10V

Brother HL-1240

Brother HL-1250

Brother HL-1260

Brother HL-1270N

Brother HL-1440

Brother HL-1660e

Brother HL-2060

Brother HL-4Ve

Brother HL-630

Brother HL-660

Brother HL-760

Brother HL-960

Brother MFC-6550MC

Brother MFC-8300

Brother MFC-9500

Brother MFC-9600

CANON

Canon BJ-30

Canon BJC-1000

Canon BJC-2000

Canon BJC-2010

Canon BJC-210

Canon BJC-2100

Canon BJC-2110

Canon BJC-240

Canon BJC-250

Canon BJC-3000

Canon BJC-4000

Canon BJC-4300

Canon BJC-4400

Canon BJC-50

Canon BJC-55

Canon BJC-6000

Canon BJC-6100

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

Canon BJC-6200	Canon MULTIPASS MP780
Canon BJC-6500	Canon MULTIPASS MP790
Canon BJC-7000	Canon MULTIPASS MP830
Canon BJC-7100	Canon PIXMA iP2000
Canon BJC-80	Canon PIXMA iP3000
Canon BJC-8200	Canon PIXMA iP3100
Canon BJC-85	Canon PIXMA iP4000
Canon CP-10	Canon PIXMA iP4100
Canon CP-100	Canon PIXMA iP4200
Canon CP-200	Canon PIXMA iP4300
Canon CP-220	Canon PIXMA iP5000
Canon CP-300	Canon PIXMA iP5200
Canon CP-330	Canon PIXMA iP6700
Canon GP 335	Canon PIXUS iP3100
Canon i560	Canon PIXUS iP4100
Canon i850	Canon S100
Canon i860	Canon S200
Canon i865	Canon S300
Canon imageRunner 330s	Canon S400
Canon LBP-1000	Canon S450
Canon LBP-1260	Canon S4500
Canon LBP-1760	Canon S500
Canon LBP-430	Canon S600
Canon LBP-4sx	Canon S630
Canon MULTIPASS MP150	Canon S800
Canon MULTIPASS MP500	Canon SELPHY-CP-400
Canon MULTIPASS MP700	Canon SELPHY-CP-500
Canon MULTIPASS MP730	Canon SELPHY-CP-510
Canon MULTIPASS MP750	Canon SELPHY-CP-600
Canon MULTIPASS MP760	Canon SELPHY-CP-710
Canon MULTIPASS MP770	CITIZEN

Appendix B USB printers supported by the 6000/6000A Base Unit
List of printers' manufacturers and models available with the 6000/6000A Platform

Citizen ProJet II
COMPAQ
Compaq IJ1200
DEC
DEC 1800
DEC LN17
EPSON
Epson ActionLaser 1100
Epson ActionLaser II
Epson AcuLaser C2000
Epson AcuLaser C2000PS
Epson AcuLaser C8500
Epson AcuLaser C8500PS
Epson AcuLaser C8600
Epson AcuLaser C8600PS
Epson CL 700
Epson CL 750
Epson CL 760
Epson E 100
Epson E 150
Epson E 200
Epson EM 900C
Epson EM 930C
Epson EPL-5200
Epson EPL-5200+
Epson EPL-5700
Epson EPL-5700PS
Epson EPL-5800
Epson EPL-5800PS
Epson EPL-5900
Epson EPL-5900PS

Epson EPL-6100
Epson EPL-6100PS
Epson EPL-7100
Epson MC 10000
Epson MC 2000
Epson MC 5000
Epson MC 7000
Epson MC 9000
Epson MJ 5100C
Epson MJ 6000C
Epson MJ 8000C
Epson MJ 930C
Epson PictureMate
Epson PictureMate Deluxe
Epson PM 10000
Epson PM 2000C
Epson PM 2200C
Epson PM 3000C
Epson PM 3300C
Epson PM 3500C
Epson PM 3700C
Epson PM 4000PX
Epson PM 5000C
Epson PM 7000C
Epson PM 700C
Epson PM 730C
Epson PM 740C
Epson PM 750C
Epson PM 760C
Epson PM 770C
Epson PM 780C

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

Epson PM 790PT	Epson PX G900
Epson PM 800C	Epson PX G920
Epson PM 850PT	Epson PX V500
Epson PM 870C	Epson PX V600
Epson PM 880C	Epson PX V630
Epson PM 9000C	Epson Stylus C20
Epson PM 930C	Epson Stylus C20SX
Epson PM 940C	Epson Stylus C20UX
Epson PM 950C	Epson Stylus C40
Epson PM 970C	Epson Stylus C40SX
Epson PM 980C	Epson Stylus C40UX
Epson PM A650	Epson Stylus C41
Epson PM A750	Epson Stylus C41SX
Epson PM A890	Epson Stylus C41UX
Epson PM A900	Epson Stylus C42
Epson PM A950	Epson Stylus C42SX
Epson PM D1000	Epson Stylus C42UX
Epson PM D600	Epson Stylus C43
Epson PM D750	Epson Stylus C43SX
Epson PM D770	Epson Stylus C43UX
Epson PM D800	Epson Stylus C44
Epson PM G700	Epson Stylus C44SX
Epson PM G720	Epson Stylus C44UX
Epson PM G730	Epson Stylus C45
Epson PM G800	Epson Stylus C46
Epson PM G820	Epson Stylus C48
Epson PX 5500	Epson Stylus C50
Epson PX 7000	Epson Stylus C60
Epson PX 9000	Epson Stylus C61
Epson PX A650	Epson Stylus C62
Epson PX G5000	Epson Stylus C63

Appendix B USB printers supported by the 6000/6000A Base Unit
List of printers' manufacturers and models available with the 6000/6000A Platform

Epson Stylus C64
Epson Stylus C65
Epson Stylus C66
Epson Stylus C68
Epson Stylus C70
Epson Stylus C80
Epson Stylus C82
Epson Stylus C83
Epson Stylus C84
Epson Stylus C85
Epson Stylus C86
Epson Stylus C88
Epson Stylus Color
Epson Stylus Color 1160
Epson Stylus Color 1500
Epson Stylus Color 1520
Epson Stylus Color 3000
Epson Stylus Color 400
Epson Stylus Color 440
Epson Stylus Color 460
Epson Stylus Color 480
Epson Stylus Color 500
Epson Stylus Color 580
Epson Stylus Color 600
Epson Stylus Color 640
Epson Stylus Color 660
Epson Stylus Color 670
Epson Stylus Color 680
Epson Stylus Color 740
Epson Stylus Color 760
Epson Stylus Color 777

Epson Stylus Color 8 3
Epson Stylus Color 800
Epson Stylus Color 850
Epson Stylus Color 860
Epson Stylus Color 880
Epson Stylus Color 900
Epson Stylus Color 980
Epson Stylus Color I
Epson Stylus Color II
Epson Stylus Color IIs
Epson Stylus Color PRO
Epson Stylus CX1500
Epson Stylus CX3100
Epson Stylus CX3200
Epson Stylus CX3500
Epson Stylus CX3600
Epson Stylus CX3650
Epson Stylus CX3700
Epson Stylus CX3800
Epson Stylus CX3805
Epson Stylus CX3810
Epson Stylus CX4100
Epson Stylus CX4200
Epson Stylus CX4500
Epson Stylus CX4600
Epson Stylus CX4700
Epson Stylus CX4800
Epson Stylus CX5000
Epson Stylus CX5000F
Epson Stylus CX5100
Epson Stylus CX5200

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

Epson Stylus CX5300	Epson Stylus Photo 750
Epson Stylus CX5400	Epson Stylus Photo 780
Epson Stylus CX5700	Epson Stylus Photo 785
Epson Stylus CX5800	Epson Stylus Photo 790
Epson Stylus CX6000	Epson Stylus Photo 810
Epson Stylus CX6300	Epson Stylus Photo 820
Epson Stylus CX6400	Epson Stylus Photo 825
Epson Stylus CX6500	Epson Stylus Photo 830
Epson Stylus CX6600	Epson Stylus Photo 830U
Epson Stylus CX7000F	Epson Stylus Photo 870
Epson Stylus CX7700	Epson Stylus Photo 875
Epson Stylus CX7800	Epson Stylus Photo 890
Epson Stylus CX8300	Epson Stylus Photo 895
Epson Stylus CX8400	Epson Stylus Photo 900
Epson Stylus D68	Epson Stylus Photo 915
Epson Stylus D88	Epson Stylus Photo 925
Epson Stylus DX3800	Epson Stylus Photo 935
Epson Stylus DX3850	Epson Stylus Photo 950
Epson Stylus DX4200	Epson Stylus Photo 960
Epson Stylus DX4250	Epson Stylus Photo EX
Epson Stylus DX4800	Epson Stylus Photo EX3
Epson Stylus Photo	Epson Stylus Photo R1800
Epson Stylus Photo 1200	Epson Stylus Photo R200
Epson Stylus Photo 1270	Epson Stylus Photo R210
Epson Stylus Photo 1280	Epson Stylus Photo R220
Epson Stylus Photo 1290	Epson Stylus Photo R2400
Epson Stylus Photo 2000P	Epson Stylus Photo R300
Epson Stylus Photo 2100	Epson Stylus Photo R310
Epson Stylus Photo 2200	Epson Stylus Photo R320
Epson Stylus Photo 700	Epson Stylus Photo R340
Epson Stylus Photo 720	Epson Stylus Photo R800

Epson Stylus Photo RX400

Epson Stylus Photo RX420

Epson Stylus Photo RX425

Epson Stylus Photo RX430

Epson Stylus Photo RX500

Epson Stylus Photo RX510

Epson Stylus Photo RX600

Epson Stylus Photo RX620

Epson Stylus Photo RX630

Epson Stylus Photo RX700

Epson Stylus Pro 10000

Epson Stylus Pro 5000

Epson Stylus Pro 5500

Epson Stylus Pro 7000

Epson Stylus Pro 7500

Epson Stylus Pro 7600

Epson Stylus Pro 9000

Epson Stylus Pro 9500

Epson Stylus Pro 9600

Epson Stylus Pro XL

Epson Stylus Scan 2000

Epson Stylus Scan 2500

FUJIFILM

Fujifilm FinePix-NX-500

Fujifilm Printpix-CX-400

Fujifilm Printpix-CX-550

FUJITSU

Fujitsu PrintPartner 10V

Fujitsu PrintPartner 16DV

Fujitsu PrintPartner 20W

Fujitsu PrintPartner 8000

GENERIC

Generic PCL 4 Printer

Generic PCL 5 Printer

Generic PCL 5c Printer

Generic PCL 5e Printer

Generic PCL 6/PCL XL Printer

HP

HP Business Inkjet 2200

HP Business Inkjet 2230

HP Business Inkjet 2250

HP Business Inkjet 2250TN

HP Business Inkjet 2280

HP Color Inkjet Printer CP1160

HP Color Inkjet Printer CP1700

HP Color LaserJet 2500

HP Color LaserJet 4500

HP Color LaserJet 4550

HP Color LaserJet 4600

HP Color LaserJet 5

HP Color LaserJet 5000

HP Color LaserJet 5500

HP Color LaserJet 8550GN

HP DesignJet 230

HP DesignJet 2500CP

HP DesignJet 250C

HP DesignJet 3500CP

HP DesignJet 430

HP DesignJet 450C

HP DesignJet 455CA

HP DesignJet 488CA

HP DesignJet 700

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

HP DesignJet 750C	HP DeskJet 600
HP DesignJet 750C Plus	HP DeskJet 600C
HP DesignJet ColorPro CAD	HP DeskJet 610C
HP DeskJet 1100C	HP DeskJet 610CL
HP DeskJet 1120C	HP DeskJet 6122
HP DeskJet 1125C	HP DeskJet 6127
HP DeskJet 1200C	HP DeskJet 612C
HP DeskJet 1220C	HP DeskJet 640C
HP DeskJet 1600C	HP DeskJet 648C
HP DeskJet 1600CM	HP DeskJet 660C
HP DeskJet 2000	HP DeskJet 670C
HP DeskJet 2500	HP DeskJet 670TV
HP DeskJet 2500CM	HP DeskJet 672C
HP DeskJet 340C	HP DeskJet 680C
HP DeskJet 3810	HP DeskJet 682C
HP DeskJet 3816	HP DeskJet 690C
HP DeskJet 3820	HP DeskJet 692C
HP DeskJet 3822	HP DeskJet 693C
HP DeskJet 400	HP DeskJet 694C
HP DeskJet 420C	HP DeskJet 695C
HP DeskJet 450	HP DeskJet 697C
HP DeskJet 500	HP DeskJet 810C
HP DeskJet 500C	HP DeskJet 812C
HP DeskJet 505J Plus	HP DeskJet 815C
HP DeskJet 510	HP DeskJet 816C
HP DeskJet 520	HP DeskJet 825C
HP DeskJet 540C	HP DeskJet 830C
HP DeskJet 550C	HP DeskJet 832C
HP DeskJet 5550	HP DeskJet 840C
HP DeskJet 5551	HP DeskJet 841C
HP DeskJet 560C	HP DeskJet 842C

Appendix B USB printers supported by the 6000/6000A Base Unit
List of printers' manufacturers and models available with the 6000/6000A Platform

HP DeskJet 843C
HP DeskJet 845C
HP DeskJet 850C
HP DeskJet 855C
HP DeskJet 870C
HP DeskJet 880C
HP DeskJet 882C
HP DeskJet 890C
HP DeskJet 895C
HP DeskJet 916C
HP DeskJet 920C
HP DeskJet 9300
HP DeskJet 930C
HP DeskJet 932C
HP DeskJet 933C
HP DeskJet 934C
HP DeskJet 935C
HP DeskJet 940C
HP DeskJet 948C
HP DeskJet 950C
HP DeskJet 952C
HP DeskJet 955C
HP DeskJet 957C
HP DeskJet 959C
HP DeskJet 960C
HP DeskJet 970C
HP DeskJet 975C
HP DeskJet 980C
HP DeskJet 990C
HP DeskJet 995C
HP e-printer e20

HP LaserJet 1010
HP LaserJet 1012
HP LaserJet 1015
HP LaserJet 1100
HP LaserJet 1100A
HP LaserJet 1150
HP LaserJet 1200
HP LaserJet 1220
HP LaserJet 1300
HP LaserJet 2
HP LaserJet 2100
HP LaserJet 2100M
HP LaserJet 2200
HP LaserJet 2300
HP LaserJet 2D
HP LaserJet 2P
HP LaserJet 2P Plus
HP LaserJet 3
HP LaserJet 3200
HP LaserJet 3200m
HP LaserJet 3200se
HP LaserJet 3300 MFP
HP LaserJet 3310 MFP
HP LaserJet 3320 MFP
HP LaserJet 3320N MFP
HP LaserJet 3330 MFP
HP LaserJet 3D
HP LaserJet 3P w/ PCL5
HP LaserJet 3P w/PS
HP LaserJet 4
HP LaserJet 4 Plus

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

HP LaserJet 4000	HP OfficeJet 330
HP LaserJet 4050	HP OfficeJet 350
HP LaserJet 4100	HP OfficeJet 500
HP LaserJet 4200	HP OfficeJet 5105
HP LaserJet 4300	HP OfficeJet 5110
HP LaserJet 4L	HP OfficeJet 5110xi
HP LaserJet 4M	HP OfficeJet 520
HP LaserJet 4ML	HP OfficeJet 570
HP LaserJet 4P	HP OfficeJet 580
HP LaserJet 4Si	HP OfficeJet 590
HP LaserJet 4V	HP OfficeJet 600
HP LaserJet 5	HP OfficeJet 610
HP LaserJet 5000	HP OfficeJet 6105
HP LaserJet 5100	HP OfficeJet 6110
HP LaserJet 5L	HP OfficeJet 625
HP LaserJet 5M	HP OfficeJet 630
HP LaserJet 5MP	HP OfficeJet 635
HP LaserJet 5P	HP OfficeJet 700
HP LaserJet 5Si	HP OfficeJet 710
HP LaserJet 6	HP OfficeJet 7110
HP LaserJet 6L	HP OfficeJet 7130
HP LaserJet 6MP	HP OfficeJet 7140
HP LaserJet 6P	HP OfficeJet 720
HP LaserJet 8000	HP OfficeJet 725
HP LaserJet 8100	HP OfficeJet D125
HP LaserJet 8150	HP OfficeJet D135
HP LaserJet 9000	HP OfficeJet D145
HP Mopier 240	HP OfficeJet D155
HP Mopier 320	HP OfficeJet G55
HP OfficeJet	HP OfficeJet G85
HP OfficeJet 300	HP OfficeJet G95

Appendix B USB printers supported by the 6000/6000A Base Unit
List of printers' manufacturers and models available with the 6000/6000A Platform

HP OfficeJet K60
HP OfficeJet K60xi
HP OfficeJet K80
HP OfficeJet K80xi
HP OfficeJet LX
HP OfficeJet Pro 1150C
HP OfficeJet Pro 1170C
HP OfficeJet Pro 1175C
HP OfficeJet R40
HP OfficeJet R45
HP OfficeJet R60
HP OfficeJet R65
HP OfficeJet R80
HP OfficeJet T45
HP OfficeJet T65
HP OfficeJet V40
HP OfficeJet V40xi
HP PhotoSmart 7150
HP PhotoSmart 7345
HP PhotoSmart 7350
HP PhotoSmart 7550
HP PhotoSmart P100
HP PhotoSmart P1000
HP PhotoSmart P1100
HP PhotoSmart P1115
HP PhotoSmart P1215
HP PhotoSmart P1218
HP PhotoSmart P130
HP PhotoSmart P1315
HP PhotoSmart P230
HP PSC 2110

HP PSC 2150
HP PSC 2210
HP PSC 370
HP PSC 380
HP PSC 500
HP PSC 750
HP PSC 950
HP PSC 950xi
IBM
IBM 4019
IBM 4029 030 LaserPrinter 10
IBM 4312
IBM Infoprint 12
IBM Page Printer 3112
IFCOM
IFCom PRN604-S
INFOTEC
Infotec 4651 MF
KODAK
Kodak Easyshare-Printer-Dock
KYOCERA
Kyocera F-1010
Kyocera FS-1000
Kyocera FS-1000+
Kyocera FS-1010
Kyocera FS-1050
Kyocera FS-1200
Kyocera FS-1600
Kyocera FS-1600+
Kyocera FS-1700

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

Kyocera FS-1700+	Kyocera KM-3530
Kyocera FS-1750	Kyocera KM-4230
Kyocera FS-1800	Kyocera KM-4530
Kyocera FS-1800+	Kyocera KM-5230
Kyocera FS-1900	Kyocera KM-5530
Kyocera FS-3500	Kyocera KM-6230
Kyocera FS-3600	LEXMARK
Kyocera FS-3600+	Lexmark 4076
Kyocera FS-3700	Lexmark Optra E
Kyocera FS-3700+	Lexmark Optra E+
Kyocera FS-3750	Lexmark Optra E220
Kyocera FS-3800	Lexmark Valuedriver 300
Kyocera FS-5800C	Lexmark X73
Kyocera FS-5900C	Lexmark Z42
Kyocera FS-600	Lexmark Z43
Kyocera FS-600 - KPDL-2	Lexmark Z52
Kyocera FS-6500	Lexmark Z53
Kyocera FS-6500+	MINOLTA
Kyocera FS-6700	Minolta PagePro 1100
Kyocera FS-680	Minolta PagePro 6
Kyocera FS-7000	Minolta PagePro 6e
Kyocera FS-7000+	Minolta PagePro 6ex
Kyocera FS-800	Minolta PagePro 8
Kyocera FS-8000C	Minolta PagePro 8L
Kyocera FS-9000	NEC
Kyocera FS-9100DN	NEC SuperScript 1260
Kyocera FS-9500DN	NEC SuperScript 1400
Kyocera KM-1530	NEC SuperScript 1800
Kyocera KM-1810	NEC SuperScript 660i
Kyocera KM-2030	NEC SuperScript 860
Kyocera KM-2530	NEC SuperScript 870

OKIDATA

Okidata Okipage 10e

Okidata Okipage 10ex

Okidata Okipage 14ex

Okidata Okipage 6e

Okidata Okipage 6ex

Okidata Okipage 8p

Okidata OL400

Okidata OL400e

Okidata OL400ex

Okidata OL410e

Okidata OL600e

Okidata OL610e/S

Okidata OL800

Okidata OL810ex

Okidata Super 6e

OLIVETTI

Olivetti JP350S

Olivetti PG 306

OLYMPUS

Olympus P-10

Olympus P-11

Olympus P-200

Olympus P-300

Olympus P-300E

Olympus P-300U

Olympus P-330E

Olympus P-330NE

Olympus P-400

Olympus P-440

Olympus P-S100

PANASONIC

Panasonic KX-P4410

Panasonic KX-P4450

Panasonic KX-P6150

Panasonic KX-P6500

PCPI

PCPI 1030

POSTSCRIPT

PostScript Level 1

PostScript Level 2

RAVEN

Raven LP-410

RICOH

Ricoh Aficio 220

Ricoh Aficio 401

Ricoh Aficio 700

SAMSUNG

Samsung ML-4600

Samsung ML-5000a

Samsung ML-6000

Samsung ML-6100

Samsung ML-7000

Samsung ML-7000N

Samsung ML-7000P

Samsung ML-7050

Samsung ML-85

Samsung QL-5100A

Samsung QL-6050

SEIKO

Appendix B USB printers supported by the 6000/6000A Base Unit

List of printers' manufacturers and models available with the 6000/6000A Platform

Seiko DPU-S445

Seiko MPU-L465

Seiko SpeedJET 200

SHARP

Sharp AR-161

SONY

Sony DPP-EX5

Sony DPP-EX7

Sony IJP-V100

Sony UP-DP10

Sony UP-DR100

Sony UP-DR150

STAR

Star LaserPrinter 8

Star LS-04

TALLY

Tally MT908

XEROX

Xerox Able 1406

Xerox Document Centre 400

Xerox DocuPrint 4508

Xerox DocuPrint C20

Xerox DocuPrint N4512

Xerox DocuPrint N4512PS

Xerox DocuPrint P12

Xerox DocuPrint P1202

Xerox DocuPrint P8e

Xerox WorkCentre M118

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Test and Measurement Regional Sales

North America

Toll Free: 1 800 638 2049

Tel: +1 240 404 2999

Fax: +1 240 404 2195

Latin America

Tel: +55 11 5503 3800

Fax: +55 11 5505 1598

Asia Pacific

Tel: +852 2892 0990

Fax: +852 2892 0770

EMEA

Tel: +49 7121 86 2222

Fax: +49 7121 86 1222

www.jdsu.com

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