



KI2400 / KI2800 Light Source Training Manual

Revision 3

KI2400/KI2800 Series Light Sources



Table of Content (TOC)

- [1.](#) General Features
- [2.](#) KI2400/KI2800 series light source overview & keypad layout
- [3.](#) Getting started
 - [3.1](#) Getting to know the light source model styles
 - [3.2](#) Selecting the right Launch Test Cord
 - [3.3](#) Install/uninstall optical connector adaptor
 - [3.4](#) Install/uninstall batteries
 - [3.5](#) Enable/disable battery charging
 - [3.6](#) Switch on/off instrument
 - [3.7](#) Switch on/off LCD display backlight
- [4.](#) Instrument Menu Structure
- [5.](#) Instrument Operations
 - [5.1](#) Normal Autotest Operation Mode
 - [5.2](#) Limited Wavelength Autotest Operation Mode
 - [5.3](#) Manual Operation Mode
 - [5.4](#) Tone Operation Mode
- [6.](#) Instrument Setup
 - [6.1](#) Setting time/date of instrument
 - [6.2](#) Changing emitters' output power level
 - [6.3](#) Select/unselect a wavelength for Limited Wavelength Autotest operation
- [7.](#) Instrument Firmware
 - [7.1](#) Checking firmware version
 - [7.2](#) Firmware upgrade procedure
- [8.](#) Instrument Care

1. General Features

- Up to 6 mixed LED, Laser & VFL sources
- Autotest capability
- VisiTester option for easy active fiber channel identifications
- Test tones & multi fiber ID generations
- Industry standard interchangeable connector adaptors
- Large, backlit, sunlight readable LCD display
- KI 2400 series is ultra-stable with zero warm up
- External power charging via USB
- Long battery life (up to 90 hours)
- Single port for MM, Single port for SM
- Reconnection repeatability <0.1 dB
- Captive Dust Cap functions as tilt bail
- Encircled Flux compliant multimode LED sources

2. KI2400/KI2800 series light source overview & keypad layout



[Go back to TOC](#)

3. Getting started

[3.1.](#) Getting to know the light source model styles

[3.2.](#) Selecting the appropriate Launch Test Cord

[3.3.](#) Install/uninstall optical connector adaptor

[3.4.](#) Install/uninstall batteries

[3.5.](#) Enable/disable battery charging

[3.6.](#) Switching on/off instrument

[3.7.](#) Switching on/off LCD display backlight

3.1. Getting to know the light source model styles [\[Go back to Getting Started section\]](#)

There are two model styles:

- I. KI2400 Series - preferred by telcos & those requiring higher stability
 - Ultra Stable laser light source
 - Single port
 - Zero warm up

- II. KI2800 Series – general purpose
 - LED & Laser source options in same instrument
 - Up to 5 laser λ s (Left Port: Laser, Right Port: LED**)
 - Require warm up time
 - VisiTester option

** LED source is EF compliant for 50 μ m MMF

3.2. Selecting the appropriate Launch Test Cord [\[Go back to Getting Started section\]](#)

The light source is either PC or APC connector specific. This is determined when ordering the instrument, and can only be changed at the factory.

The optical connector housings of the light source types are coloured coded as below,

- SM APC type light source - **green** connector housing
- SM PC type light source - **blue** connector housing
- MM PC type light source - **beige** connector housing

To avoid damaging the instrument's connector tip, it is important to use a Test Cord (not supplied) with the correct connector type that matches with that on the instrument.

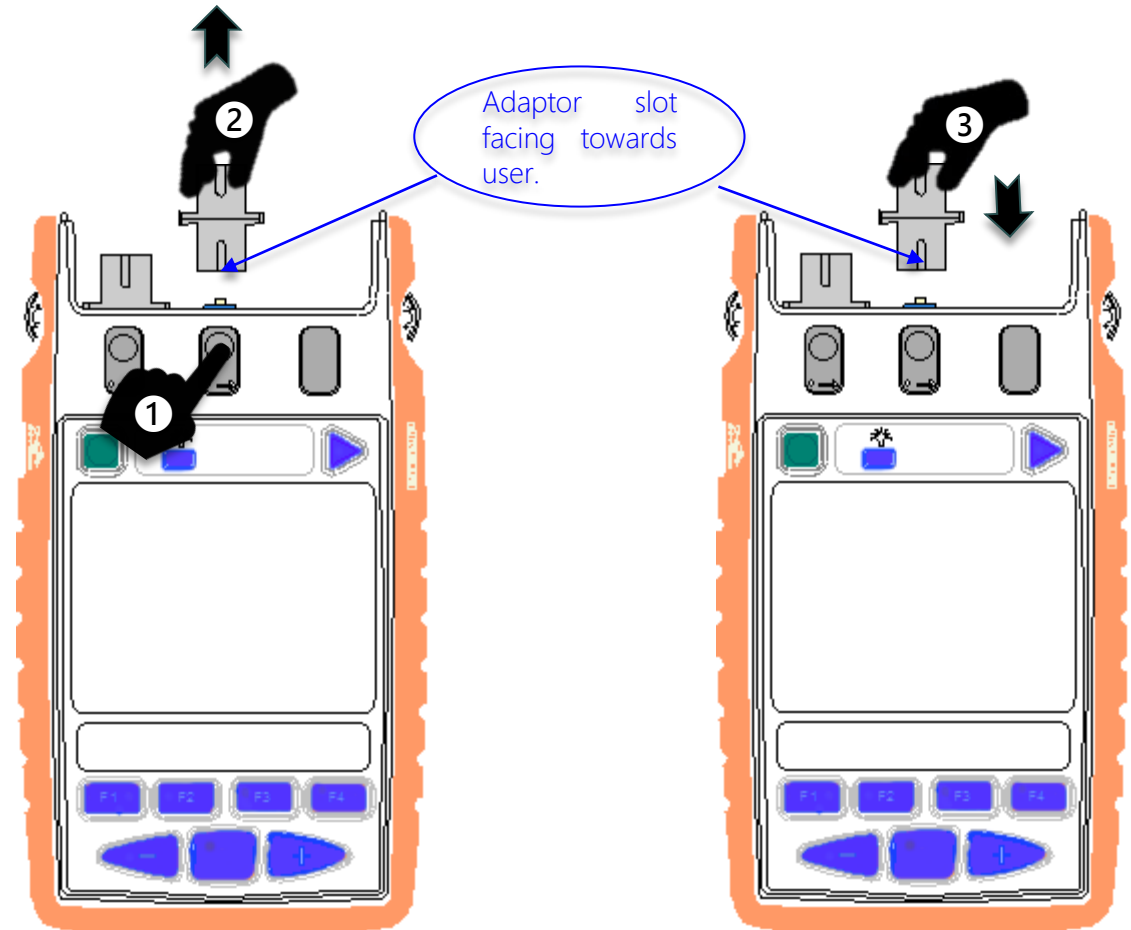
The instrument is supplied with SC/SC hybrid adaptor.



Choose to order other required adaptor types from Kingfisher's [website](#).

3.3. Install/uninstall optical connector adaptor [\[Go back to Getting Started section\]](#)

- ① Press and hold down Release Button with one hand to unlatch.
- ② Pull out existing adaptor with the other hand.
- ③ Push in a new adaptor until it latches on (a "click" will be felt).



[Click to go back to Getting Started](#)

[Go back to TOC](#)

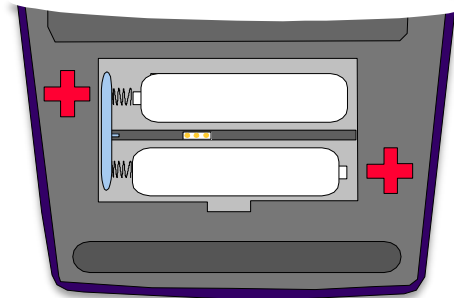
3.4. Install/uninstall batteries [\[Go back to Getting Started section\]](#)

To install or uninstall batteries in the battery compartment,

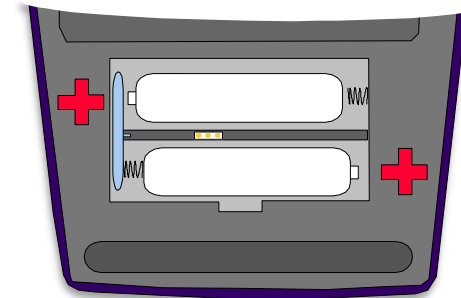
- 1 Unclip Battery Compartment Cover at rear of instrument.
- 2 Insert/remove batteries (take note of the battery +ve terminal spring orientation of different instrument models, see images below).

Note:

- Instrument's date/time setting holds for approx. 7 seconds during batteries change over.
- Use 2x Alkaline / Lithium AA cells or 2 x NiMH AA cells.
- Alkaline battery run time up approx. 90 hours in Autotest mode.



Earlier Models

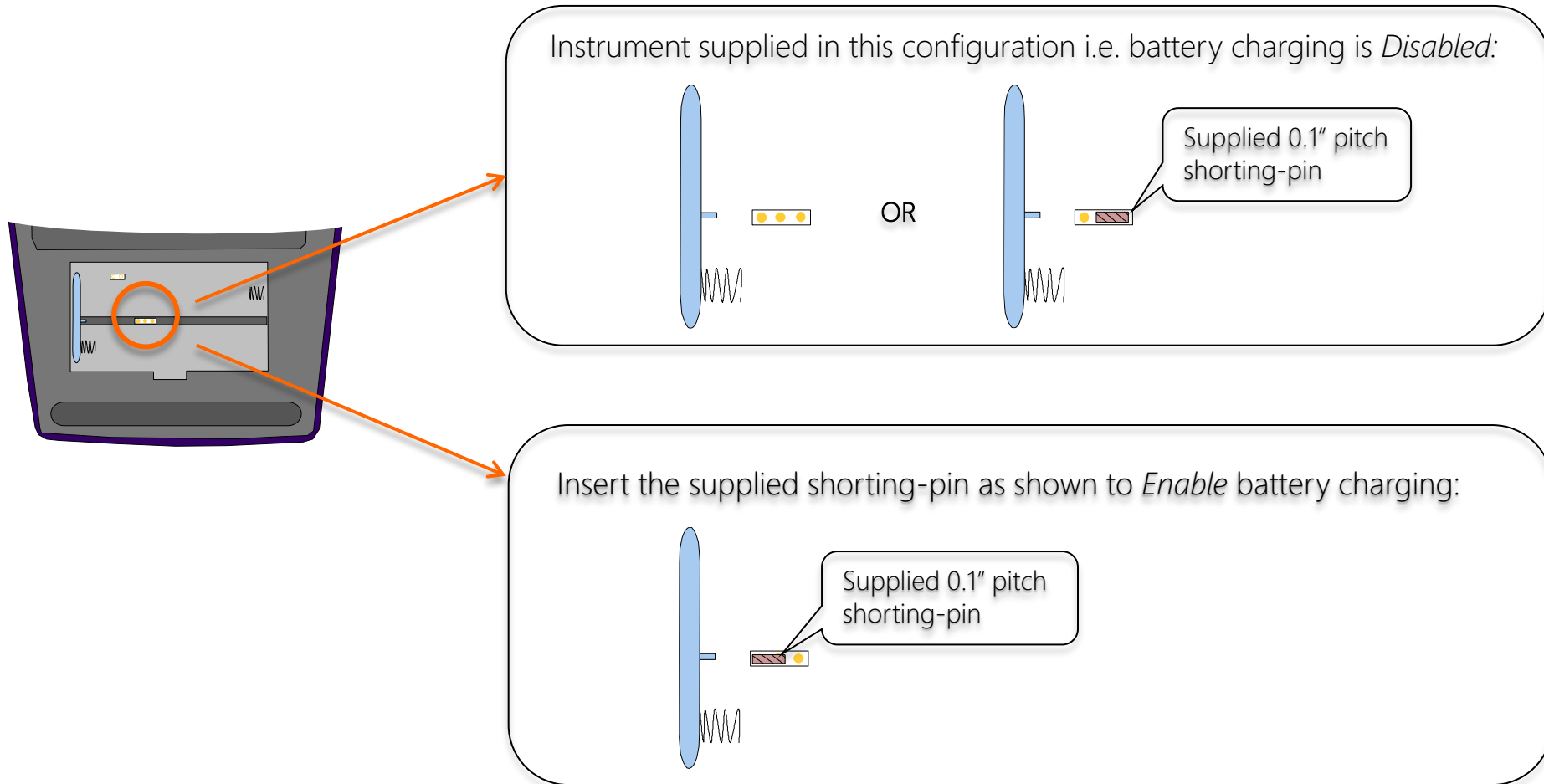


Current Models

Caution: Instrument comes with battery charging feature disabled. When using rechargeable battery, see next page for instructions to enable battery charging.

3.5. Enable/disable battery charging [\[Go back to Getting Started section\]](#)

To enable battery charging, the supplied 0.1" pitch shorting-pin must be properly installed in battery compartment.



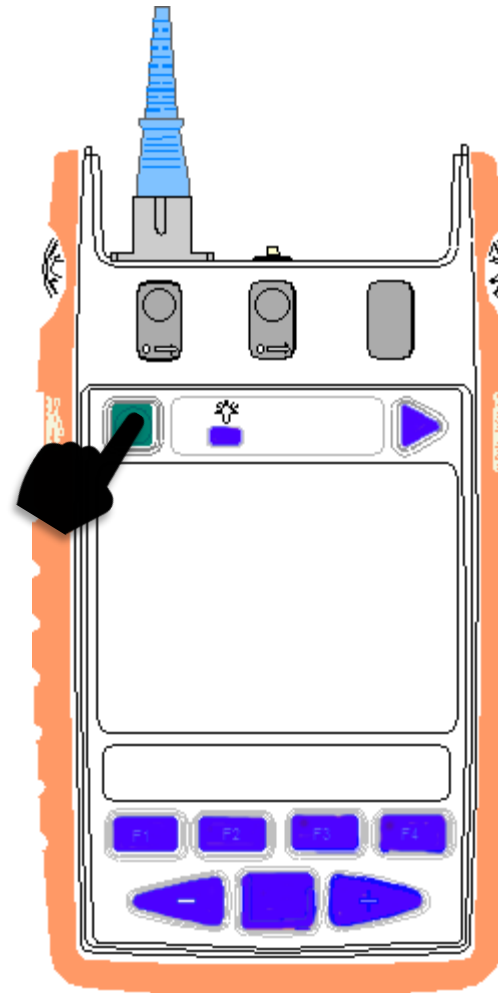
3.6. Switch on/off instrument [\[Go back to Getting Started section\]](#)

To switch on instrument,
press the green, **[On/Off]** button.


To switch off instrument:
press the green, **[On/Off]** button again.

Note: the instrument will switch off
automatically 10 minutes after it was
switched on.

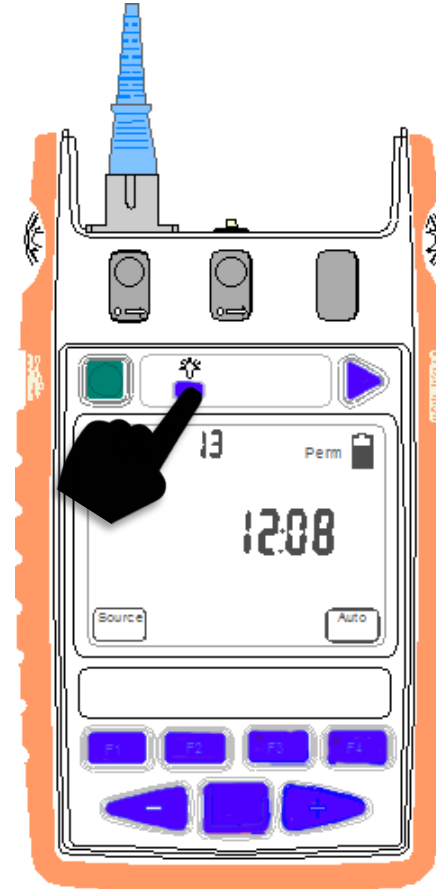
To defeat auto switch off function:
Press **[On/Off]** & hold for 3 seconds.
Instrument will beep twice.
'Perm' will display on the upper RHS of
the LCD.



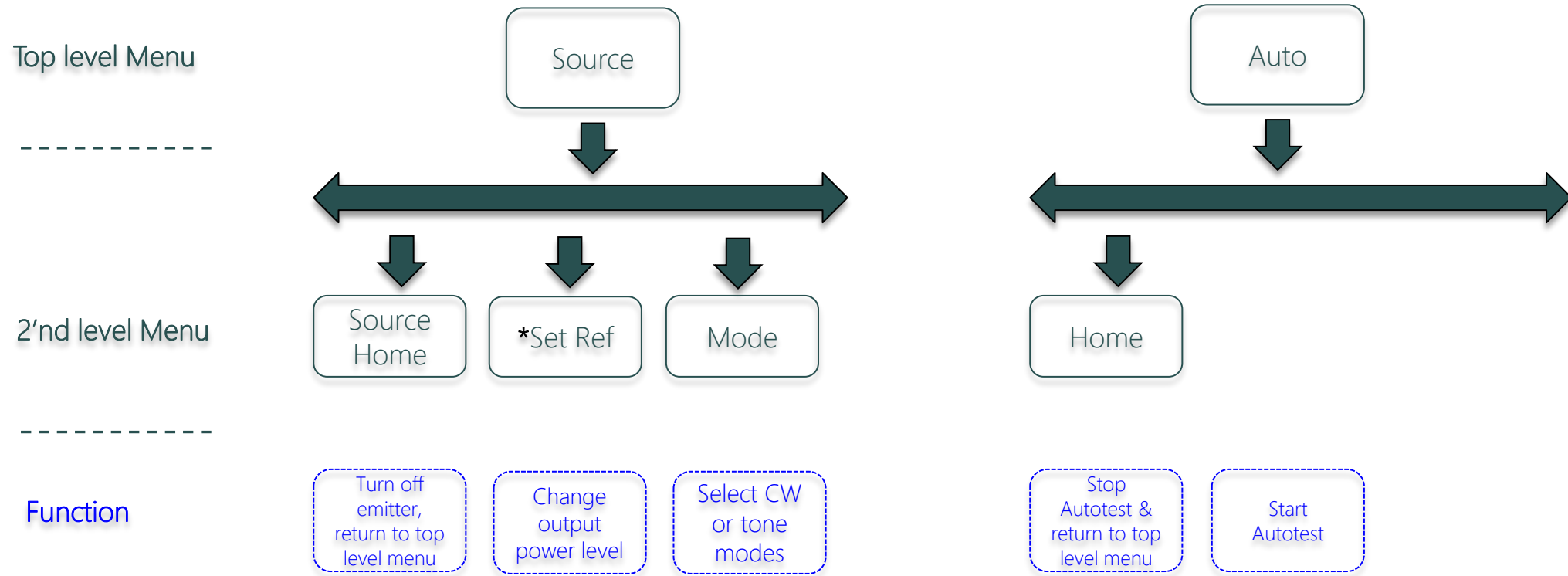
3.7. Switch on/off LCD display backlight [\[Go back to Getting Started section\]](#)

To switch on backlight of the display,
press button with the illumination symbol, 

To switch backlight off, press that button again.



4. Instrument Menu Structure



*The menu is only available for SM (1310 nm & above) light source

5. Instrument Operations

The light source can be operated in the modes below.

5.1. Normal Autotest Operation Mode:

- Automatically toggle all available wavelengths.
- Preferred mode for loss testing as testing time is greatly reduced.
- Minimises error as meter always displays the correct wavelength.

5.2. Limited Wavelength Autotest Operation Mode:

- To speed up testing, and simplify reporting, it may be preferable to manually select a smaller number of active Autotest wavelengths.

5.3. Manual Operation Mode:

- Single wavelength operation
- Preferred mode for level monitoring.

5.4. Tone Operation Mode:

- Send test tone or send FibreID tone

5.1. Normal Autotest Operation Mode: [\[Go back to Instrument Operations section\]](#)

A. To start Autotest for light source with 1 to 4 wavelengths,

At top level menu, press **[F4/Auto]** (Fig. 1).

- All **available** wavelengths will be displayed one at a time in sequence. See Fig.4 on the right for an example with 2 active wavelengths.
- Emitters of the respective wavelengths turn on and emit powers at the preprogrammed max levels, in the sequence as displayed. See [section 6.2](#) for instructions to change output power level of emitter.



Fig. 1



Fig. 2



Fig. 3

B. To start Autotest for light source with 5 or more wavelengths,

Press and hold **[-]**, then press **[F4/Auto]** (Fig. 2) to start test for only **SM** wavelengths (e.g., 1310, 1490, 1550, 1625 nm).

Press & hold **[+]**, then press **[F4/Auto]** (Fig. 3) to start Autotest for only **MM** wavelength (e.g., 850, 1300 nm).

C. To stop Autotest,

Press **[F1/Home]**.

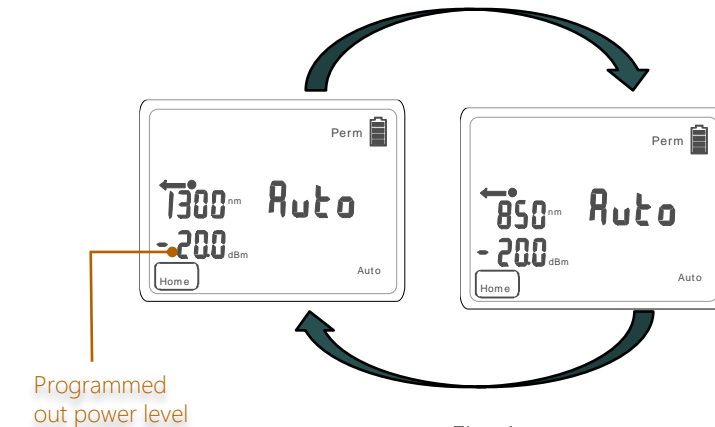


Fig. 4

5.2. Limited Wavelength Autotest Operation Mode: [\[Go back to Instrument Operations section\]](#)

Autotest in this mode only operates with a smaller number of selected active wavelengths.

To start Autotest in this mode:

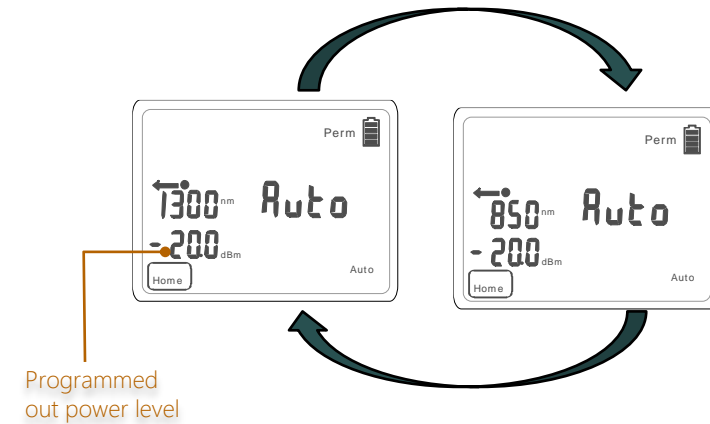
At top level menu, press & hold **[Toggle Centre]** then press **[F4/Auto]**.



- In this mode, only the selected (active) wavelengths will be shown during the operation. See figure on the right for an example with 2 active wavelengths.

See [section 6.3](#) for instructions to;

- check status of a wavelength for Limited Wavelength Autotest mode.
- select/unselect a wavelengths for Limited Wavelength Autotest mode.
- Emitters of the active wavelengths will turn on and, emit powers at the preprogrammed level in the sequence as displayed. See [section 6.2](#) for instructions to change output power level of emitter.



To stop Autotest in this mode:

Press **[F1 / Home]**.

5.3. Manual Operation Mode: [\[Go back to Instrument Operations section\]](#)

① At top level menu, press **[F1/Source]** to turn on emitter.

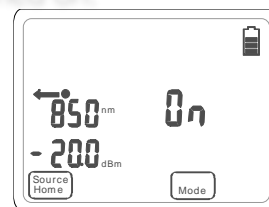
- The default wavelength will be displayed.
- The emitter of the default wavelength turns on with the preprogrammed max output power level. To change output power level, see [section 6.2](#).



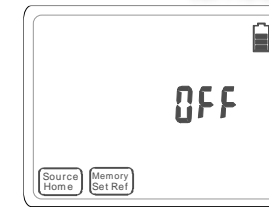
② Press **[- or +]** repeatedly to select other wavelengths or turn off emitter in the sequence shown below.



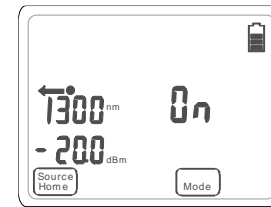
Emitter of 850nm is turned on.



All emitter are turned off.



Emitter of 1300 nm is turned on.



Alternate way of turning off emitters:
Press **[F1/Source Home]**.

Go back to TOC

5.4. Tone Operation Mode: [\[Go back to Instrument Operations section\]](#)

To work with Tone mode at a wavelength,

① At top level menu, press **[F1/Source]** to turn on an emitter.



② Select the desired wavelength by pressing **[- or +]**.

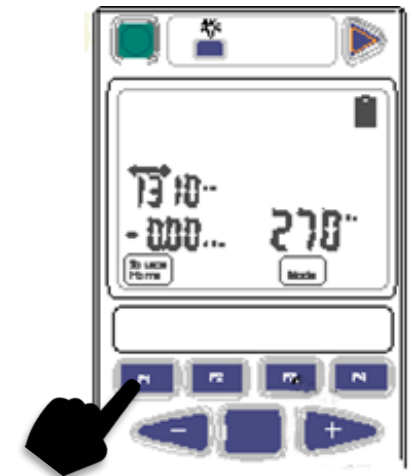


③ Press **[F3/Mode]** to go into Tone mode.



The first of the 15 available test tones is displayed. To change to other tones, see next page.

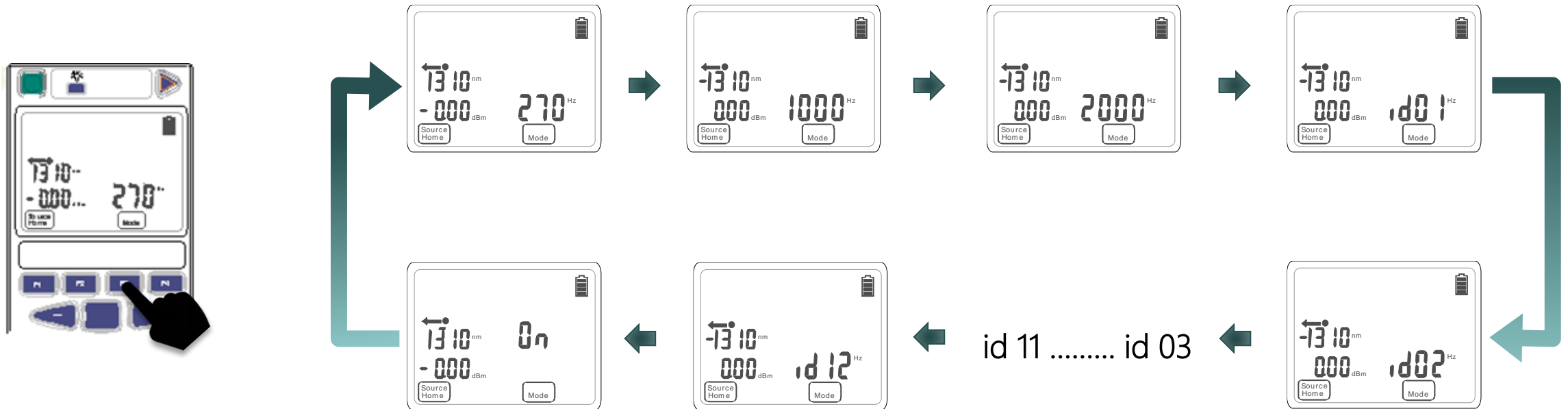
To exit Tone mode & return to top level menu, press **[F1/ Source Home]**.



5.4. Tone Operation Mode (continue): [\[Go back to Instrument Operations section\]](#)

In Tone mode, to select from 1 of the 15 available test/FiberID tones, 270, 1000, 2000, id01, id02...id12,

Press **[F1/Source]** repeatedly to scroll to the desired test tone in the sequence shown below.



Go back to TOC

6. Instrument Setup:

[6.1.](#) Setting time/date of instrument

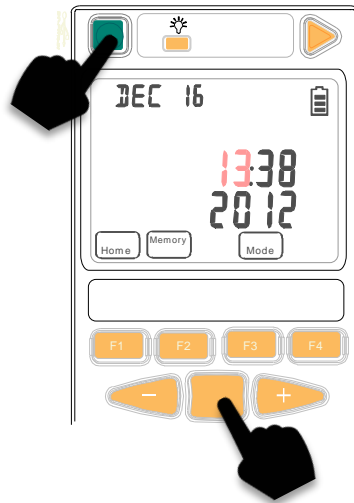
[6.2.](#) Changing emitter's output power level

[6.3.](#) Select/unselect a wavelengths for Limited Wavelength Autotest Operation

6.1. Setting date/time of instrument: [\[Go back to Instrument Setup section\]](#)

- ① To enter time/date setting mode:

When instrument is OFF, press and hold **[On/Off]** & **[Toggle Centre]** at the same time.
Release **[On/Off]** as soon as the date/time setting display comes on.



- ② To select date/time item for setting:

Press **[Toggle Centre]** or **[F3]**.
The selected item will blink.



The sequence for date/time setting:
Hour > Minute > Month > Date > Year

- ③ To modify selected time/date item:

Press **[-]** or **[+]**.

- ④ To save settings:

Press **[F2/Memory]**.

OR

- ④ To exit without saving:

Press **[F1/Home]**.

6.2. Changing emitters' output power level: [\[Go back to Instrument Setup section\]](#) [\[Go back to Normal Autotest Operation Mode section\]](#) [\[Go back to Limited Wavelength Autotest Operation Mode section\]](#) [\[Go back to Manual Operation Mode section\]](#)

To adjust output power level of an emitter,

Press and hold **[F2/Set Ref]**, then press **[- or +]**.

- The output level can be adjusted 7dB below the preprogrammed max value.
- While adjusting output level, holding down **[- or +]** speeds up the level decrement or increment.

To quickly reset output power to the preprogrammed max level, Press and hold **[F2/Set Ref]**, then press **[Toggle Centre]**.

Adjustable preprogrammed max power level for 1310 nm.



Note:

Only output power for light sources with single mode (1310 nm & above) emitters are adjustable.



6.3. Select/unselect A Wavelengths For Limited Wavelength Autotest operation

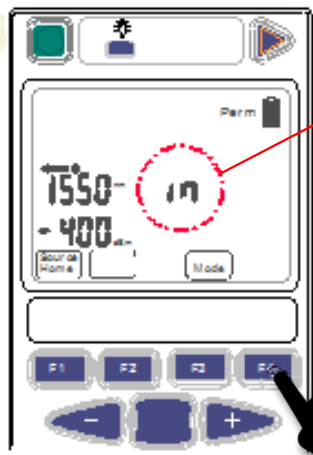
[\[Go back to Instrument Setup section\]](#) [\[Go back to Limited Wavelength Autotest Operation Mode section\]](#)

To check status, select or unselect a wavelength for Limited Wavelength Autotest,

Press **[F1]** at top level menu to enter Source mode and choose a wavelength using **[- or+]**.

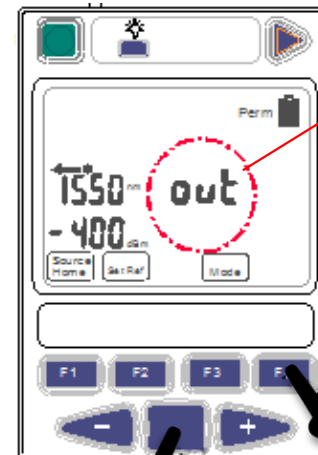


To check status of the wavelength, press & hold **[F4]**.



In this example, "in" indicates 1550 nm has been selected for the operation.

To unselect (exclude it from Limited Wavelength Autotest) a wavelength, press and hold down **[F4]**, then press **[Toggle Centre]**.



"out" indicates 1550 nm is now unselected (excluded from) for the operation.



Note:

- The wavelength select/unselect settings retained after instrument is switched off.
- The unselected wavelength will still show as an active wavelength in Normal Autotest Operations.

Go back to TOC

7. Instrument Firmware

The KI2000 series Firmware can be end-user upgraded.

To update Firmware:

- Instrument Firmware must be r0.12 or higher.
- KI2000 USB device driver software must be installed.

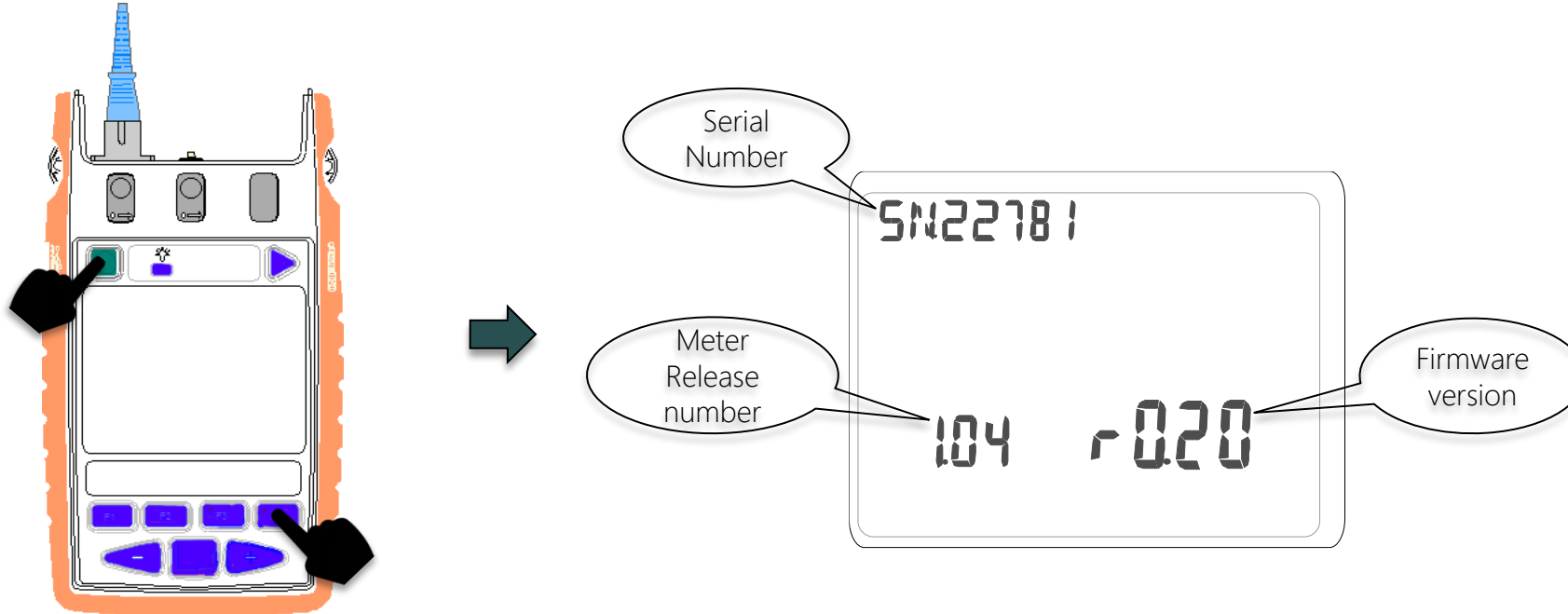
[7.1. Checking Firmware Version](#)

[7.2. Firmware Upgrading Procedure](#)

7.1. Checking firmware version [\[Go back to Instrument Firmware section\]](#)

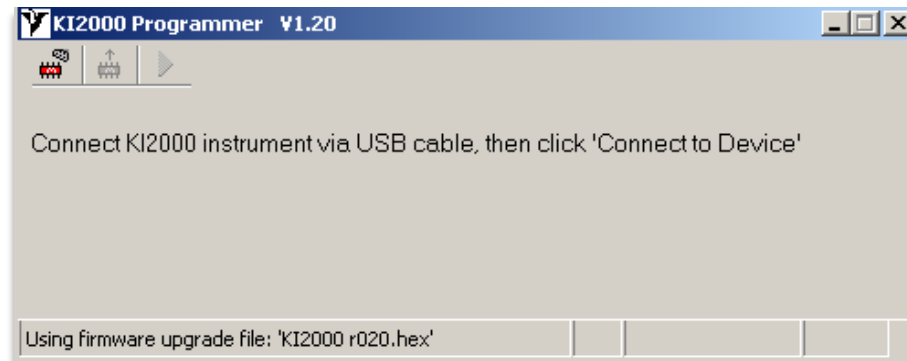
The instrument firmware version can be checked during instrument switch-on.

When instrument is off, hold down **[F4]** and **[On/Off]** at the same time:
The instrument will switch on, and serial number and firmware version is displayed whilst **[F4]** is held.



7.2. Firmware upgrade procedure [\[Go back to Instrument Firmware section\]](#)

- 1 Download and extract the Firmware Update program from Kingfisher web site.
- 2 Connect instrument to computer.
- 3 Run Firmware Update program (*KI2000 programmer vx.xx.exe*) downloadable free from [Kingfisher website](#).
- 4 Follow procedures as detailed in the Firmware Update instruction in PDF (*KI2000 Programming Instructions*).



8. Instrument care

- Keep the instrument in a carry case during storage and transport
- Use only high-quality batteries.
- For prolonged storage remove batteries.
- The instrument is resistant to normal dust and moisture; however, it is not waterproof.
- If moisture gets into the instrument, remove batteries & dry it out carefully before using it again.
- Where possible, keep instrument away from strong sunlight.
- Clean the instrument case using Isopropyl-alcohol (IPA) or other non-solvent cleaning agents.
- DO NOT use Acetone or other active solvents.

Application Notes

Comprehensive selection available at

<https://www.kingfisherfiber.com/Application-Notes.aspx>

Go back to TOC



Thank you for your attention

Prepared by: TO Ng

Date prepared: 2 May 2024

@kingfisherfiber kingfisherfiber.com



Go back to