KI2400 / KI2800 Light Source Training Manual

Revision: 2
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KI2400/KI2800 Series Light Sources

Table of Content (TOC)

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1. General Features

- Up to 6 mixed LED, Laser & VFL sources

- Autotetes 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

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

Dust Cover

Display backlight

On/Off

USB port for power/battery charging

Remove Connector

Lanyard holder

Battery charge indicator

Menu

[F1]~[F4]

[-], [+]

Toggle Centre

Go back to TOC

3. Getting started

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3.1. Getting to know the light source model styles

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 λs (Left Port: Laser, Right Port: LED**)
    - Require warm up time
    - VisiTester option

    ** LED source is EF compliant for 50 μm MMF

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3.2. Selecting the appropriate Launch Test Cord

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

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).

Adaptor slot face out

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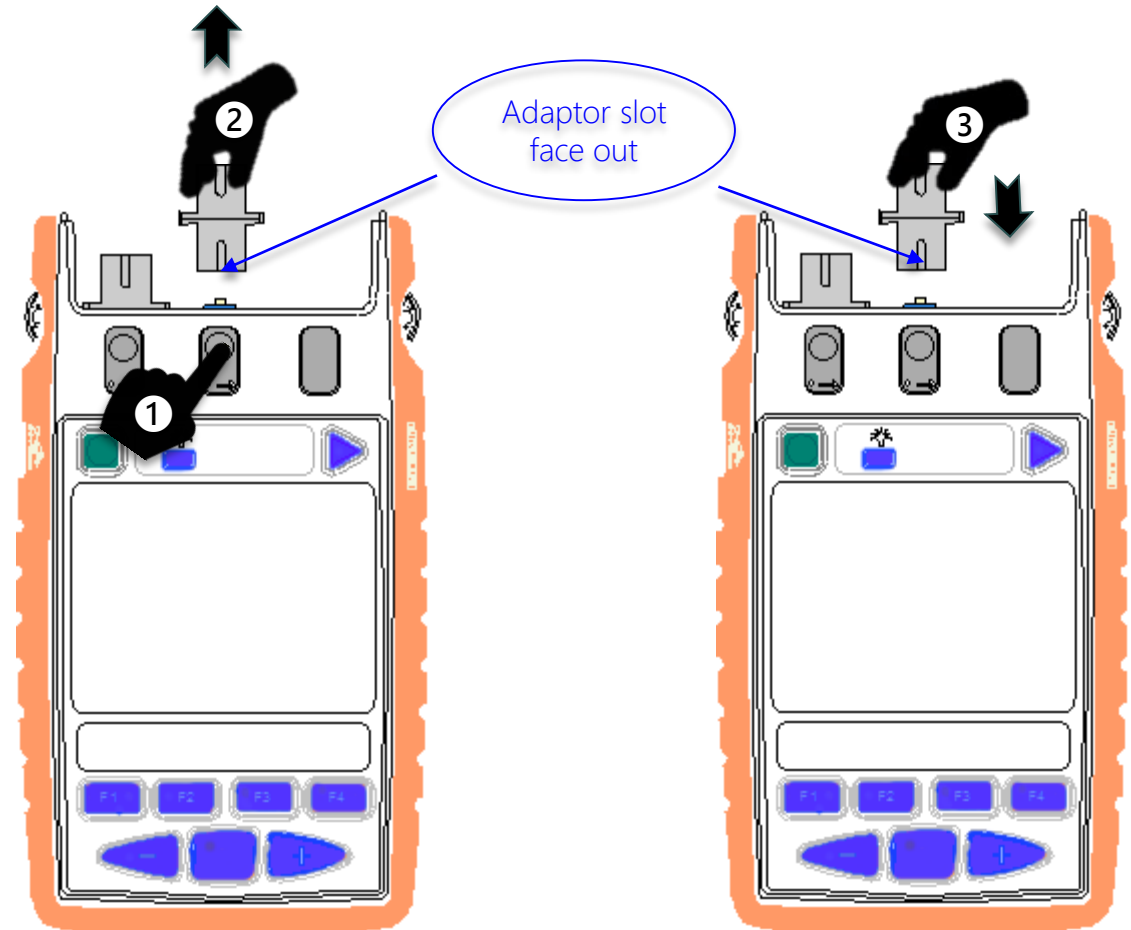
3.4. Install/uninstall batteries

To install or uninstall batteries in the battery compartment,

> ❶ Unclip Battery Compartment Cover at rear of instrument.
>
> ❷ 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.

<div style="display:flex; justify-content:space-around;">
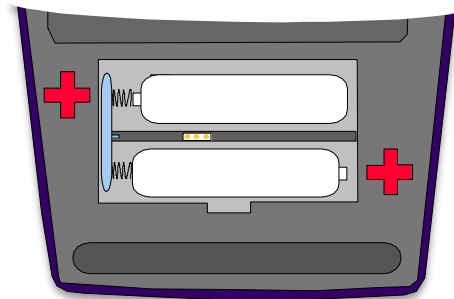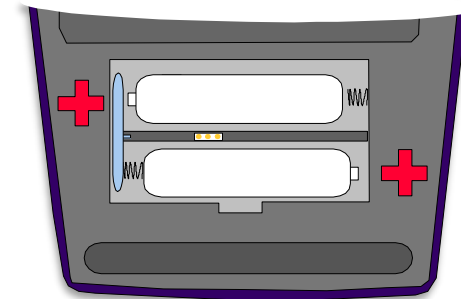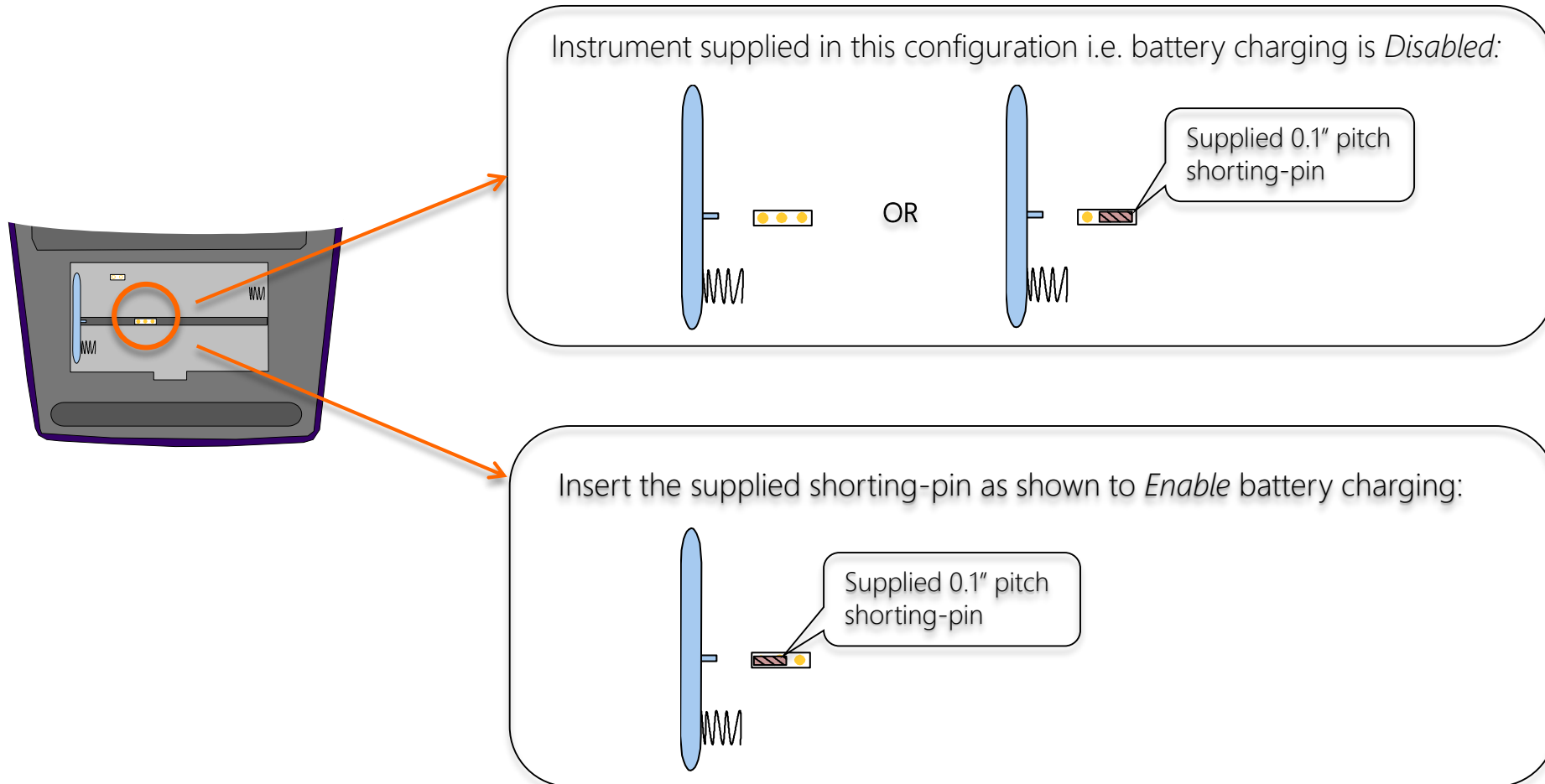
Earlier Models   Current Models

</div>

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

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3.5. Enable/disable battery charging

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

Instrument supplied in this configuration i.e. battery charging is *Disabled:*

OR

Supplied 0.1" pitch shorting-pin

Insert the supplied shorting-pin as shown to *Enable* battery charging:

Supplied 0.1" pitch shorting-pin

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3.6. Switch on/off instrument

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

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

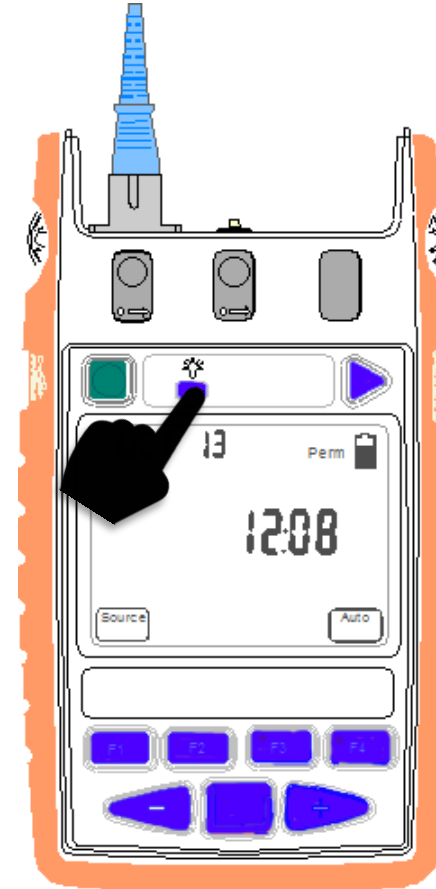**Note:** the instrument will switch off automatically 10 minutes after it was switched on.

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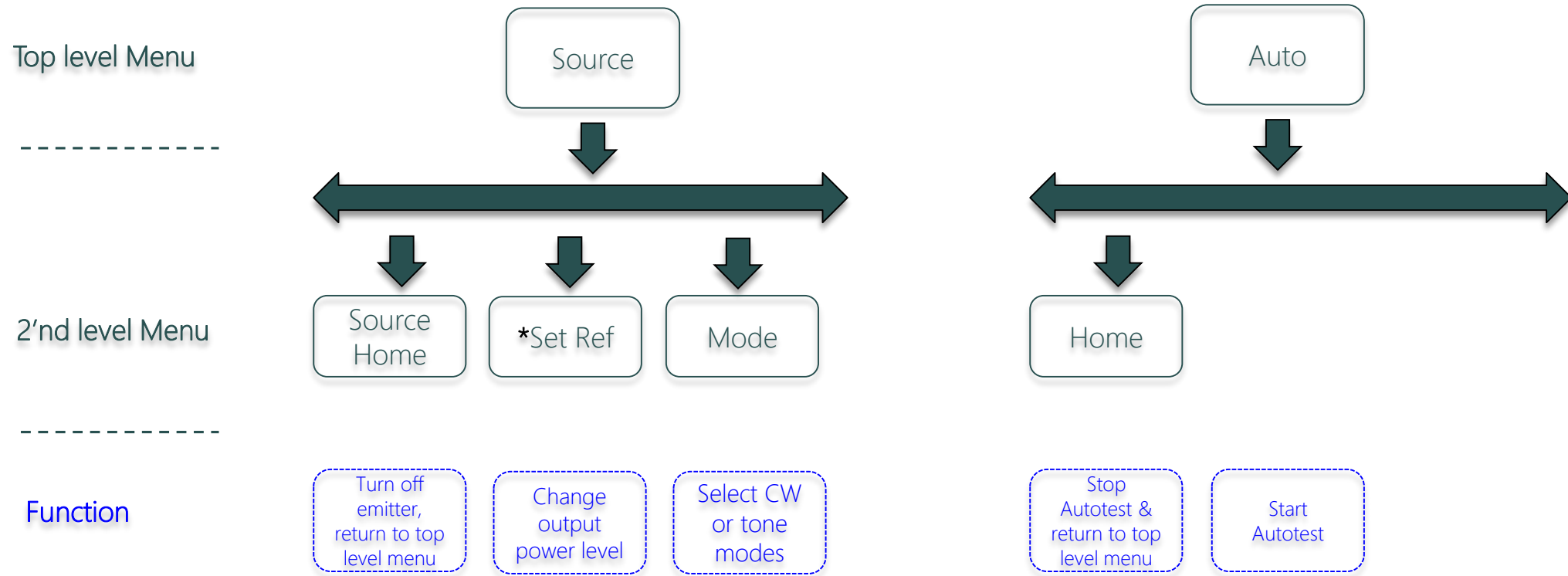'Perm' will display on the upper RHS of the LCD.

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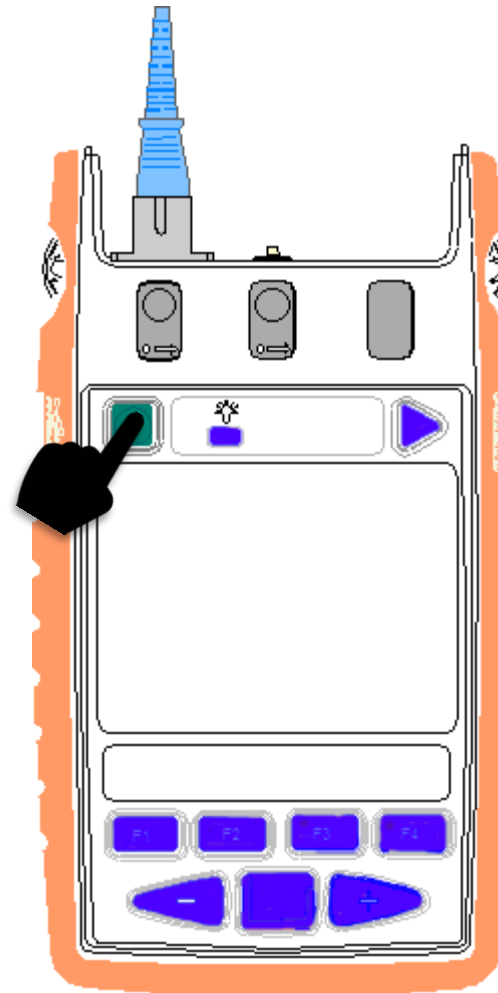
3.7. Switch on/off LCD display backlight

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

Top level Menu

Source

Auto

- - - - - - - - - - - -

2'nd level Menu

| Source Home | *Set Ref | Mode |

Home

- - - - - - - - - - - -

Function

| Turn off emitter, return to top level menu | Change output power level | Select CW or tone modes |

| Stop Autotest & return to top level menu | Start Autotest |

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

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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

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5.1. Normal Autotest Operation Mode:

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.3** 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

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

> Press [F4/Auto] (Fig. 1) to start Autotest for the wavelength group of 1300 nm and below **only**.

> Press & hold [-], then press [F4/Auto] (Fig. 2) to start Autotest for the wavelength group of 1310 nm and above.

To stop Autotest,

> Press [F1/Home].

Programmed out power level
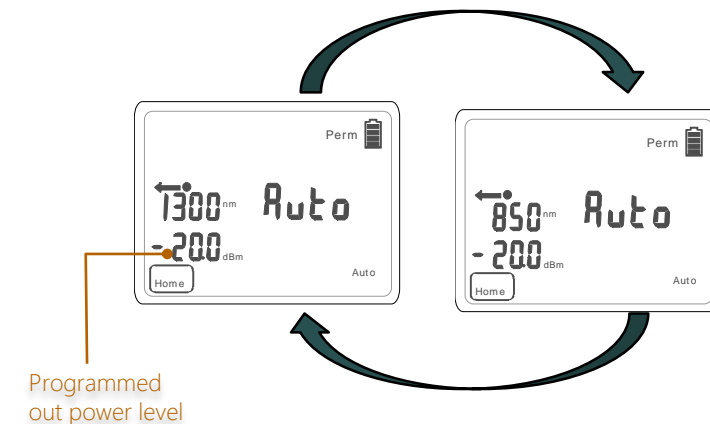
Fig. 3

5.2. Limited Wavelength Autotest Operation Mode:

To start Limited wavelength Autotest,

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

Programmed
out power level

- Only the **active** wavelengths will be displayed one at a time in sequence. See figure on the right for an example with 2 active wavelengths.

  See section 6.3 for instructions;
  - to deactivate/activate wavelengths for Limited wavelength Autotest operation.
  - to check wavelength status for Limited wavelength Autotest operation.

- Emitters of the respective wavelength 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,

Press[F1/Home].

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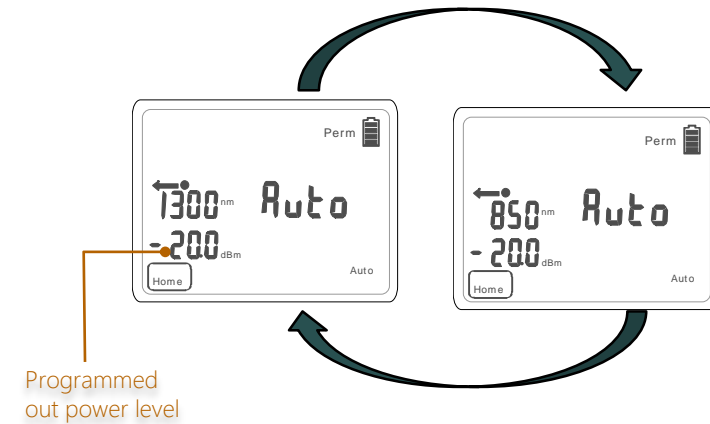
5.3. Manual Operation Mode:

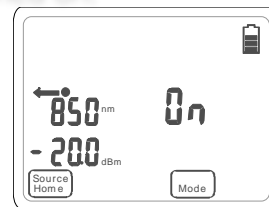① At top level menu, press [F1/Source] to turn on emitter.

- 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.
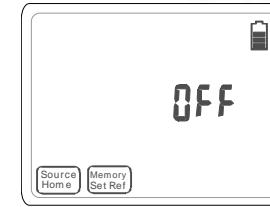
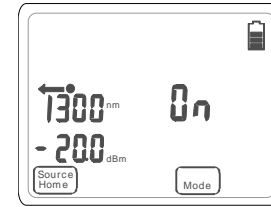② Press [- or+] repeatedly to select other wavelengths or turn off emitter in the sequence shown below.
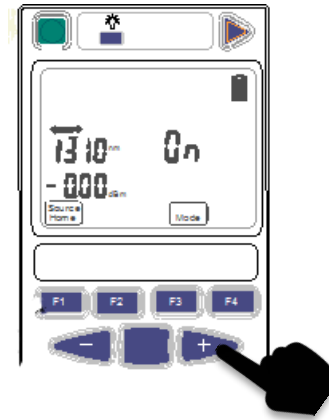
Emitter of 850nm is turned on.

All emitter are turned off.

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

Emitter of 1300 nm is turned on.

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5.4. Tone Operation Mode:

To work with Tone mode at a wavelength,

① At top level menu, press [F1/Source] to turn on a emitter.
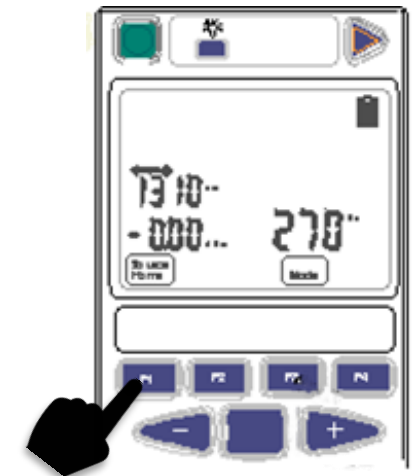
② Select the desired wavelength by pressing [- or+].

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

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

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

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5.4. Tone Operation Mode (continue):

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.

id 11 .... id 03

6.   Instrument Setup:
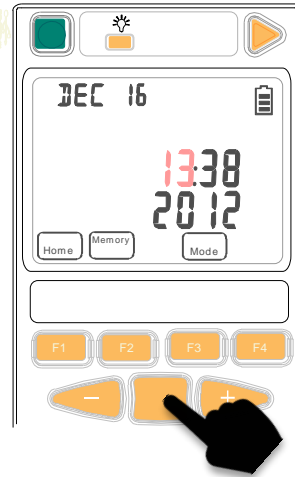
6.1. Setting date/time of instrument:

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.
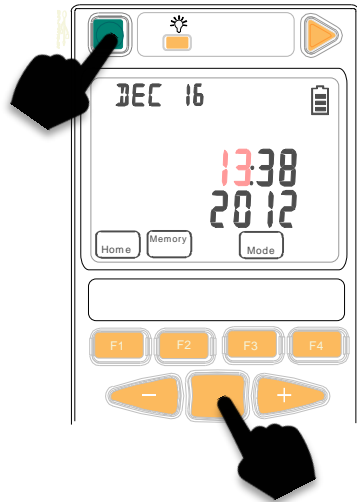
② To select date/time item for setting:

Press [Toggle Centre] or [F3].

The selected item will blink.

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].

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

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6.2. Changing emitters' output power level:

To adjust output power level of a turned on emitter,

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

- The output level can be adjusted 7dB below the preprogramed max value.

- While adjusting output level, holding down **[- or+]** speeds up the level decrement or increment.

To quickly reset output power to the preprogramed max level,

Press and hold **[F2/Set Ref]**,

then press **[Toggle Centre]**.

Adjustable preprogramed max power level for 1310 nm.

Note:

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

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6.3. Activating / deactivating wavelengths for Limited Wavelength Autotest operation
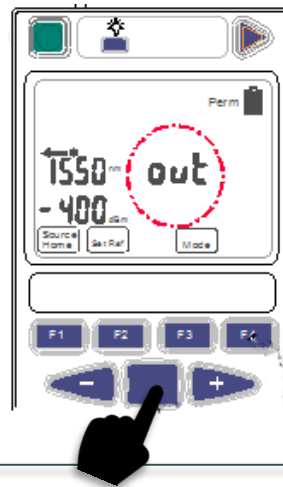
To deactivate/activate wavelength when emitter is turned on,

Select a wavelength, press & hold **[Toggle Centre]**, then press **[F4]** to deactivate the wavelength.

Whilst **[Toggle Centre]** is being hold, the status "out" is displayed indicating that the selected wavelength is deactivated, see red circle in the figure below.

Press press **[F4]** now will toggle the wavelength status back to "in" (activated).

To check status of a turned on emitter/wavelength, press & hold **[F4]**.
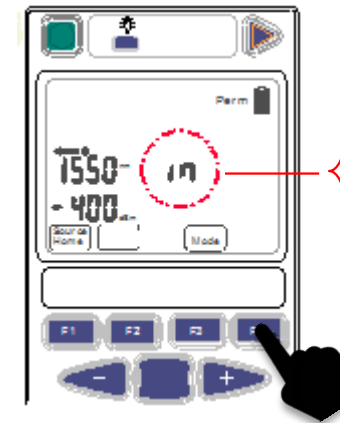
"out" indicates wavelength/emitter is deactivated.

"in" indicates wavelength/emitter is activated.

Note:
- The wavelength deactivation/activation settings retained after instrument is switched off.
- The emitter of a deactivated wavelength is still active in Manual or Normal Autotest operations.

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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

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7.1. Checking firmware version

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

When instrument if 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.

Serial Number

SN22781

Meter Release number

Firmware version

104   r020

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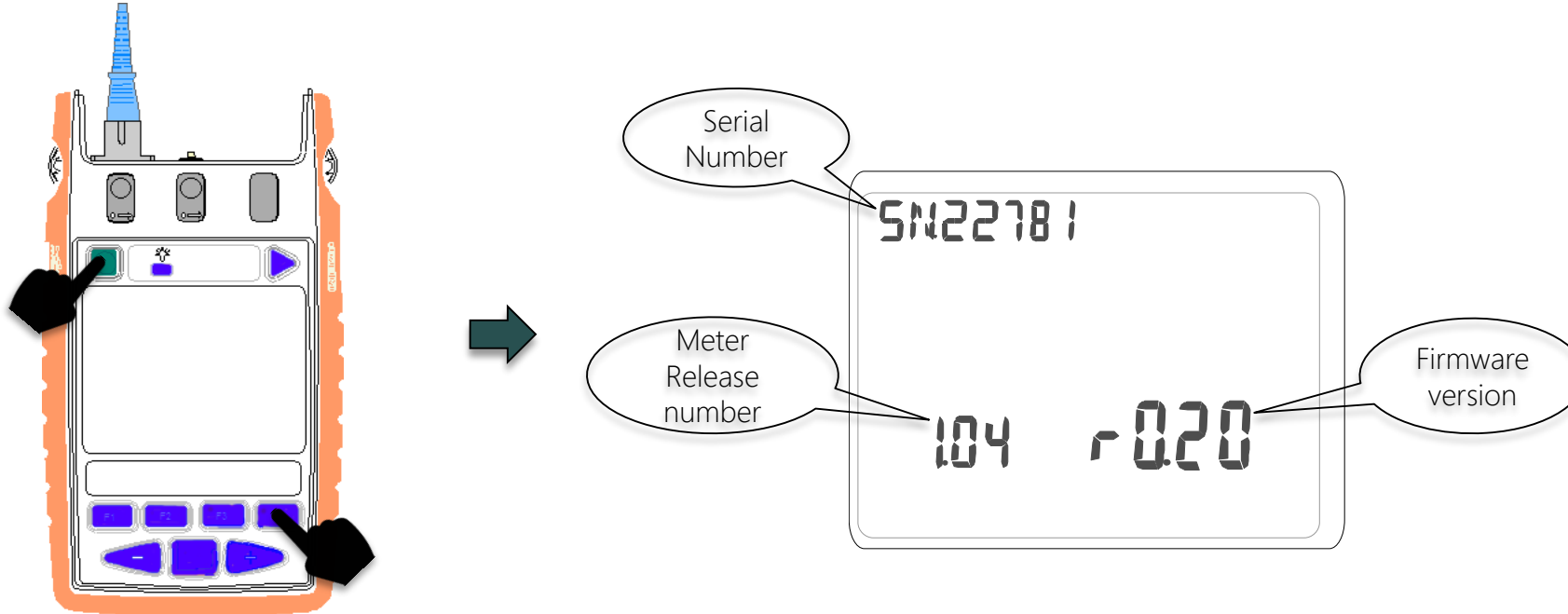
7.2. Firmware upgrade procedure

❶ Download and extract the Firmware Update program from Kingfisher web site.

❷ Connect instrument to computer.

❸ Run Firmware Update program (*KI2000 programmer vx.xx.exe) downloadable free from* Kingfisher website.

❹ Follow procedures as detailed in the Firmware Update instruction in PDF (*KI2000 Programming Instructions).*
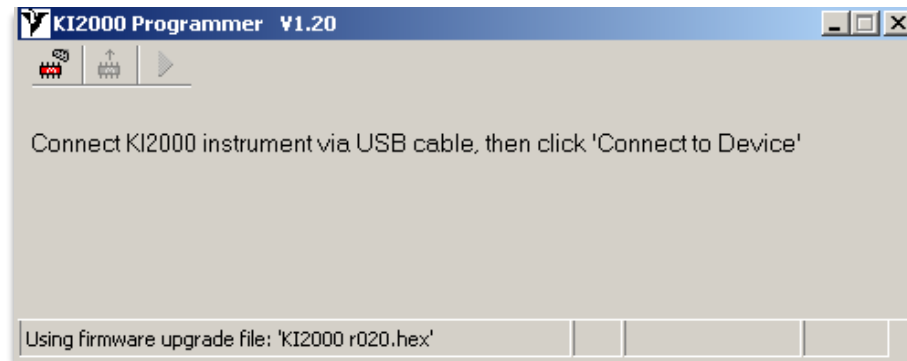
8. Instrument care

- 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.

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Application Notes

Comprehensive selection available at

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

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Questions and Comments

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Thank you for your attention

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