CS260 Contractor Series OTDR
Quick Reference Guide
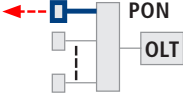
Functional Keys

KEY	NAME	KEY FUNCTION
ⓞ	Power	Press and hold (~1 second) to turn the CS260 on or off.
✳	VFL	Visual Fault Locator (red laser): ON - Press and hold (~1 second) LED will flash. ON - Press and hold (~2 seconds) LED will be solid. OFF - Press and hold (~1 second) LED should be OFF.
☰	Menu	Press to access the Main Menu.
⇦ ⇨	Left & Right Tab keys	Press to display the next/previous available Menu Tab or Test View Tab.
▲▼ ◀▶	Arrow (Navigation) keys	The arrow keys provide several functions: • Main Menu: these keys are used to navigate menus and change setup parameters. • Trace Page: in the Zoom mode, these keys are used to adjust zoom. In the Move mode, Left and Right keys are used to move cursors.
⦿	Select (A/B)	This key provides several functions: • Main Menu: press to display a submenu (if available). • Trace Page: press to toggle the active cursor between A and B.
⤺	Back	Press once to return to the previous page. Press one or more times, depending on which menu or editor submenu is displayed, to return to the Main Menu.
✓	Test	Press to start or stop a test.
⎘	Save	Provides several functions: save the currently displayed test results; set current folder; set current file name; review results.
F1	Soft keys (under display)	The label shown in the display above each soft key (F1, F2 or F3) indicates the current function for that key. Press to select the indicated function.

CS260 Test Modes

OTDR Modes

TEST MODE	NETWORK BEING TESTED	APPLICATIONS	SETUP
FTTx – In Service Test <u>to</u> splitter or <u>through</u> splitter (CS260-10 only)	**PON** **OLT**	PON power meter Customer fiber fault location (fiber may be live or dark)	Auto
FTTx – PON Construction (CS260-10 only)	**PON**	End-to-end length & loss Splitter loss Feeder fiber fault location	Semi-Auto
Full Auto	**Metro Access**	Fault location End-to-end length and loss Connector loss and reflection Splice loss	Auto
Real Time	Any	Short range fault location First connector check Fusion splice check Mechanical splice tuning	Semi-Auto
Expert	Any	Advanced point-to-point and FTTx PON testing for experienced OTDR users	Manual or Semi-auto

CS260 Main Menu Display Features

Main Menu Page (CS260-10 model shown**)**

Page header

Main Menu tabs

Time-of-Day

Highlighted tab indicates the currently displayed Menu Page

Battery charge status icon

- 100%

- <100%

- < 10%

CS260-10 Only

The currently highlighted Menu option

Press [Files] to open saved files

Press [Trace] to display the last OTDR trace viewed

Main Menu   03:40
Mode   Settings   About

- FTTx - In Service
- FTTx - PON Construction
- Full Auto
- Real Time
- Expert

Press ✔ to start
Files   USB   Trace

Press [USB] to transfer saved results and download software upgrades (OTDR is connected to a PC)

Running OTDR Tests & Viewing Results

To Start a Test

- Press ✔ - Test key.

Note: After an OTDR test is started, it may take several seconds for the first results to appear and depending on setup, tens of seconds or even several minutes for tests to complete.

To Stop a Test

- Press ✔ - Test key. If pressed before trace appears, it will stop the test and display the setup menu. If pressed after trace appears, it will stop the test, generate the event table and show the partially completed trace.

- Press the ⬅ Back key. The CS260 stops the test and displays the setup menu.

Test Settings: General OTDR Test Modes

Setup Parameter	General-Purpose OTDR Test Mode		
	Full Auto	**Real Time**	**Expert**
Wavelength	CS260-10: Wavelength is fixed at 1625 nm and cannot be changed. CS260-20: Select wavelength(s) to test (1310 only, 1550 only, or 1310 and 1550).		
Auto Setup	N/A (not applicable)	**[Off]:** User sets all parameters manually. **[By Range]:** User sets **[Range]** & **[Resolution]**; **[Pulse width]** & **[Averaging]** selected automatically.	
Range	N/A: automatic	User sets OTDR scan range.	
Pulse width	N/A: automatic, based on auto-detected range	Automatic if **[Auto Setup]** parameter is set to **[By Range]** option. User-set if **[Auto Setup]** parameter is set to option **[Off]**.	
Averaging		N/A: 1 second updates	Automatic if **[Auto Setup]** is set to **[By Range]**. User-set if **[Auto Setup]** is set to **[Off]**.
Resolution	N/A: automatic	User-set **[High]** or **[Normal]**.	

Range: When setting manually, select **[Range]**, which is at least 20% longer than the fiber under test.

Pulse width [Pulse]: Select wider pulse widths to obtain cleaner traces (less noisy). Select narrower pulse widths to detect events which are close together (better resolution).

Averaging Time [Averaging]: Longer averaging times produce cleaner traces.

Resolution: [High] resolution provides close data spacing for more precise event location and better detection of closely spaced events. **[Normal]** resolution uses more filtering to provide a cleaner trace, but with lower resolution.

4

Test Settings: FTTx PON OTDR Test Mode (CS260-10 Only)

Setup Parameter	FTTx PON OTDR Test Mode (CS260-10 Only)	
	In Service	**PON Construction**
Wavelength	Wavelength is fixed at 1625 nm and cannot be changed.	
Range	Not applicable: automatic.	User sets OTDR scan range.
Test	If set to **[Customer Fiber Only]**, tests only to splitter. If set to **[Through Splitter]**, tests customer and feeder fiber.	Not applicable: always tests to user-set range.
PON	Not applicable if **[Test]** parameter is set to **[Customer Fiber Only]** option. If **[Test]** is set to **[Through Splitter]**, user sets PON split ratio.	User sets PON split ratio.

Range: When setting manually, select **[Range]**, which is at least 20% longer than the fiber under test.

Pulse width [Pulse]: If testing through splitter, pulse width is set automatically based on **[Range]** and **[PON]** split ratio. If testing customer drop fiber only (In Service), automatically set based on range to splitter.

When testing through a splitter, user can force a wider pulse width to improve trace quality by selecting a longer **[Range]** or higher **[PON]** split ratio.

Averaging Time: Also set automatically.

Resolution: Since PONs are usually short, resolution is always set to high (close data spacing) for more precise event location.

OTDR Mode: Trace Page Features

Trace Page displays OTDR trace, A/B cursors, Loss, Distance, and max reflectance between A and B cursors

Event Table displays OTDR event measurements

Summary Page displays end-to-end link measurements

File name (cable name + fiber number), or "New Trace" if file has not been saved

Test Wavelengths (RED is current)
CS260-10 (1625 only)
CS260-20 (1310/1550)

Information Page displays OTDR setup parameters, launch and receive cable data, and event thresholds

Grid units display dB/div on vertical axis and distance/div on horizontal axis

C001-001
1310 1550
13.1 dB, 510 m /div

| A | -0.0434 | B | 1.6698 | A→B | 1.7132 | km |
| Reflectance | | | -51.403 | Loss | 1.044 | dB |

| Wave | ☐ Zoom | Rezoom |

A and B cursors

Fiber under test
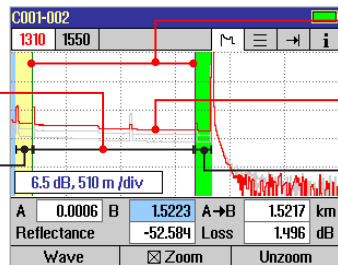
Trace graph (RED is current)

Launch cable (if present)

Receive cable (if present)

C001-002
1310 1550
6.5 dB, 510 m /div

| A | 0.0006 | B | 1.5223 | A→B | 1.5217 | km |
| Reflectance | | | -52.584 | Loss | 1.496 | dB |

| Wave | ☒ Zoom | Unzoom |

Soft key labels
(see next page for details)

OTDR Mode: Trace Page Features

A cursor location

B cursor location (active cursor is highlighted)

Distance between A and B cursor

Maximum Reflectance between A and B cursor

2-point Loss between A and B cursor

C001-002

| 1310 | 1550 |

6.5 dB, 510 m /div

| A | 0.0006 | B | 1.5223 | A→B | 1.5217 | km |
| Reflectance | | | -52.584 | Loss | 1.496 | dB |

| Wave | ⊠ Zoom | Unzoom |

For multi-wavelength tests, press to toggle active trace

Press to toggle Zoom and Move mode. In Move mode, the key label will be displayed as [☐ Zoom]. In Zoom mode, the key label will be displayed as [x Zoom]

Press to Unzoom or Rezoom

Navigation Keys

Zoom mode

Vertical Zoom (✚)

A/B cursor select

Horizontal Zoom (━)

Horizontal Zoom (✚)

Vertical Zoom (━)

Move mode

A/B cursor select

Move active cursor
Left
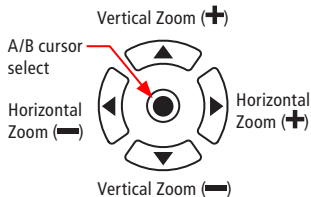
Move active cursor
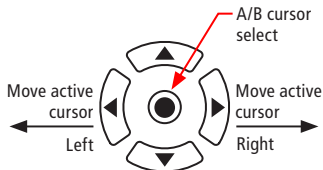Right

Note: Zoom expands/shrinks the trace around the currently active cursor.

OTDR Mode: Event Table Page Features

Event Table is optionally generated if testing in the Full Auto or Expert test mode.
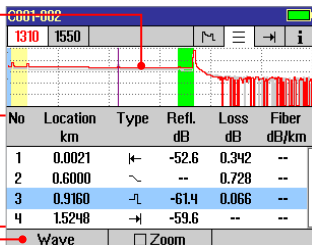
1. In the FTTx - In Service and FTTx - PON Construction modes (CS260-10 only), [Events] are set to [Auto] by default.

2. To enable Event Table generation, set Events to [Auto] in the Event setup tab.

Trace Graph

Event Table displays:
[Number] of each event, event [Location] in user selected units, event [Type], [Reflectance] and [Loss] in (dB) and loss/distance (dB/km)

**For multiple-wavelength tests, press to toggle the wavelength and display event table for that wavelength**

No	Location km	Type	Refl. dB	Loss dB	Fiber dB/km
1	0.0021	⊦─	-52.6	0.342	--
2	0.6000	⌐	--	0.728	--
3	0.9160	⊥	-61.4	0.066	--
4	1.5248	─⊣	-59.6	--	--

OTDR Mode: Summary Page Features

Summary page displays:
trace graph, fiber under test [Length] in user selected units, [Loss] and [ORL] in (dB)

For multiple-wavelength tests, press to toggle the wavelength and display [Length], [Loss] and [ORL] test results for that wavelength

Length: 1.5226 km

Loss 1.447 dB
ORL 51.8 dB
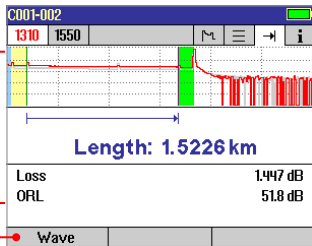
# OTDR Mode: Information Page Features

The information page displays how the test was created.

• Use ▲▼ keys to highlight the desired setup parameter.

• Use ◄► keys to change the highlighted setup parameter (except [Event Thresholds…] parameter). You may change these parameters to correct locations in the Event Table after the test is complete

• When done, press [Recalc Events] to recalculate the Event Table.

• Press ● key to display submenu **(A)**
• Use ▲▼ keys to highlight the desired parameter
• Use ◄► keys to change the highlighted parameter
• When done, press [Recalc Events] to recalculate the Event Table

C001-002

| 1310 | 1550 |

| | | ℳ | ≡ | ⇥ | i |

Launch Cable	0.1500 km
Receive Cable	0.1500 km
Group Index of Refraction	1.46770
Backscatter Coefficient	-79.6 dB
Event Thresholds...	

Mode	Expert	Pulse Width	100 ns
Range	3.00 km	Time	30 sec
		Averages	4016

| Wave | Recalc Events | |

These fields show the current setup conditions

For multiple-wavelength tests, press to toggle the wavelength and display setup conditions for that wavelength

(A)

Event Thresholds

Group	User
End Loss (dB)	3.0
Event Loss (dB)	0.05
Event Reflectance (dB)	-60.0

File Manager System

The CS260 File Manager system consists of four pages:

PAGE NAME	DESCRIPTION AND FUNCTION
Jobs	Lists the Jobs (folders) stored in the CS260 internal memory. Use to open or delete the highlighted job folder.
Cables	Lists the Cables (folders) in the currently open Job folder. Use to open or delete the highlighted cable folder.
Results	Lists the OTDR trace (.SOR) files in the currently open Cable folder. Use to open (view) or delete the highlighted results file.
Save As	Lists the current job, the current cable, and the fiber number that will be used the next time a group of traces is saved. Use to save the 'new' results created by the most recent test, or the results most recently opened (recalled from memory).

File Manager - Jobs Page

List of saved
Jobs (folders)

Highlighted Job
folder

This field shows X/Y:
X = number of the
highlighted job
Y = total number of
jobs in CS260 memory

Free space
(internal memory)

Press to display the
Save As page

Press to open the
highlighted Job
(which becomes the
current job) and see
a list of the cables
stored in this job

Press to delete the highlighted Job folder

Saving Test Results

File Manager - Cables Page

Select (▲ ..) to return to Jobs page

List of saved Cables (folders)

Highlighted Cable folder

File Manager

📁 END100-END200-C001
📁 END100-END200-C002
📁 END100-END200-C003
📁 END100-END200-C004

Free space (internal memory)

This field shows X/Y:
X = number of the highlighted cable
Y = total number of cables in the current job

3/4   **99%**

Job: QRGDATABASE0
Cable:

Save As   Delete   Open

Press to display the Save As page

Press to delete the highlighted Cable folder

Press to open the highlighted cable (which becomes the current cable) and see a list of trace (.SOR) files stored for this cable

File Manager - Results Page

List of saved results (OTDR .SOR files)

Select (▲ ..) to return to Cables page

File Manager

↑..
📄 END100-END200_001_S13
📄 END100-END200_001_S15
📄 END100-END200_001_S16
📄 END100-END200_002_S13
📄 END100-END200_002_S15
📄 END100-END200_002_S16

Highlighted trace

Free space (internal memory)

This field shows X/Y:
X = number of the highlighted results file
Y = total number of results files in the current cable

3/6   **99%**

Job: QRGDATABASE0
Cable: END100-END200-C001

Save As   Delete   Open

Press to display the Save As page

Press to delete the highlighted trace results file

Press to open the highlighted trace result. Opening the selected trace file will open traces for all wavelengths having the same fiber number.

Saving Test Results

File Manager - Save As Page

Currently highlighted character

CS260 location: End 1 or End 2

Fiber number auto-increments or set by the user

Press to view current Job/Cable page

Job name

Route (made up of the two end names)

Cable name

Previous and Next field

Press to save test results

Press to return to the Main Menu

| Save As	
Job:	JOB000000002
End1:	END100
End2:	END200
OTDR@End:	1
Cable:	C001
Fiber:	001

Files   Cancel   Save

Saving Results

1   Once a test is complete, press the Save key ⬚ to display the [Save As] page.
2   Perform the following steps to save to an existing Job/Cable folder or save to a new folder:

EXISTING FOLDER	NEW FOLDER

• Press the [Save] soft key to save test results with the currently displayed Job, Route, Cable and Fiber number.	• Use ⬅ ➡ keys to select the previous / next field to edit.
	• Use ◀▶ keys to highlight any character position within the Job/End1/End2/ Cable name fields and Fiber number field.
	• Use ▲▼ keys to change the highlighted character.
	  - If the Job/End1/End2/Cable name and Fiber number are edited to a name and number that already exists in the current folder, then pressing the [Save] key will cause the CS260 to display "Overwrite file?".
	
	  - If the Job/End1/End2/Cable name is edited to a new name, then pressing the [Save] key will cause the CS260 to create a new folder of this name. Note: This is the only way to create new folders!
	• When done, press the [Save] soft key.

FTTx PON Power Meter (CS260-10 only)

In the FTTx – In Service mode, available only in the CS260-10, the first page displays received FTTx PON power at 1490 and 1550 nm. On dark or live fibers, users can test only at 1625 nm.
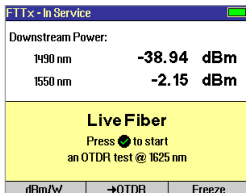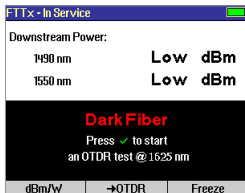
Transferring Files to a PC

To transfer files from your CS260 to a PC using a USB cable, perform the following:

1. Connect your CS260 to a PC using the supplied type A to Mini USB cable. Make sure the mini-plug is fully seated in your CS260.

2. Press the [USB] soft key on the CS260's Main Menu.

3. From your PC desktop, open My Computer. A new removable drive named [CS (X:)] will appear, where 'X:' is the drive letter assigned to your CS260 by the PC.

4. Under [CS (X:)] you should see two folders: [RESULTS] and [SOFTWARE].

5. Copy the [RESULTS] folder to your PC.

6. Under [RESULTS] you will see: [TRACES]. Under [TRACES] you will see all of the folders containing OTDR traces.

Note: Before removing the USB cable connecting your CS260 to your PC, or pressing the [Cancel] soft key on the USB page, left click the Safely Remove Hardware icon in the Start bar of your PC, then left click the Safely remove USB mass storage device – Drive (X:) message, where 'X' is the drive letter assigned to your CS260.

For detailed operating instructions, refer to the CS260 User's Guide (available on supplied CD and **www.AFLglobal.com**).

Thank you for choosing NOYES Test and Inspection

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