Testing a Fanout-to-Multifiber

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This document will outline how to test a Fanout-to-Multifiber using the unidirectional or bidirectional method.

Unidirectional

The advantage of unidirectional testing is speed. In a single pass, MS12001 will measure the RL of each connector and the total loss of both connectors:

- $IL_{TOTAL} = IL_A + IL_B$
- RL_A
- RL_B

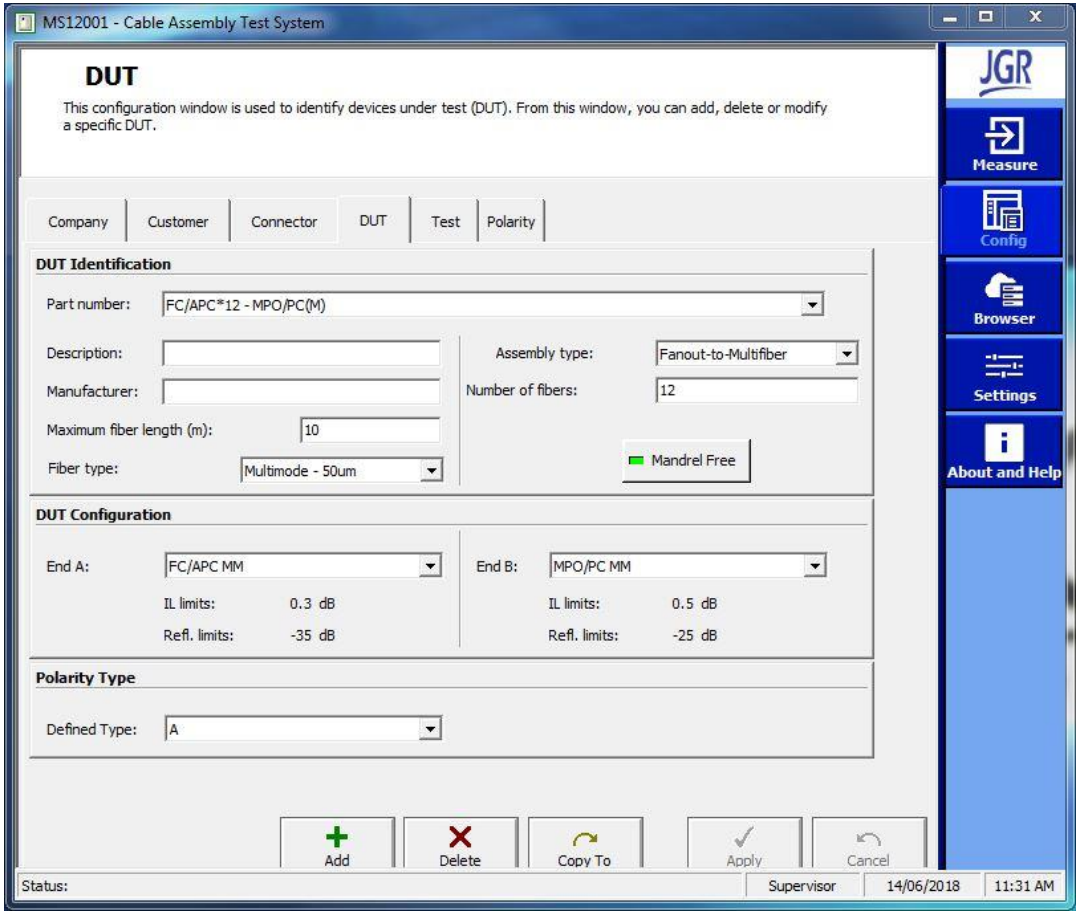
Bidirectional

With bidirectional testing, each side of the DUT is tested separately. The advantage is that the IL and RL of each connector is measured:

- IL_A
- IL_B
- RL_A
- RL_B

Testing a Fanout-to-Multifiber

Begin by configuring the DUT. In this example, the DUT is a multimode 12 fiber FC/APC – MPO/PC fanout-to-multifiber.

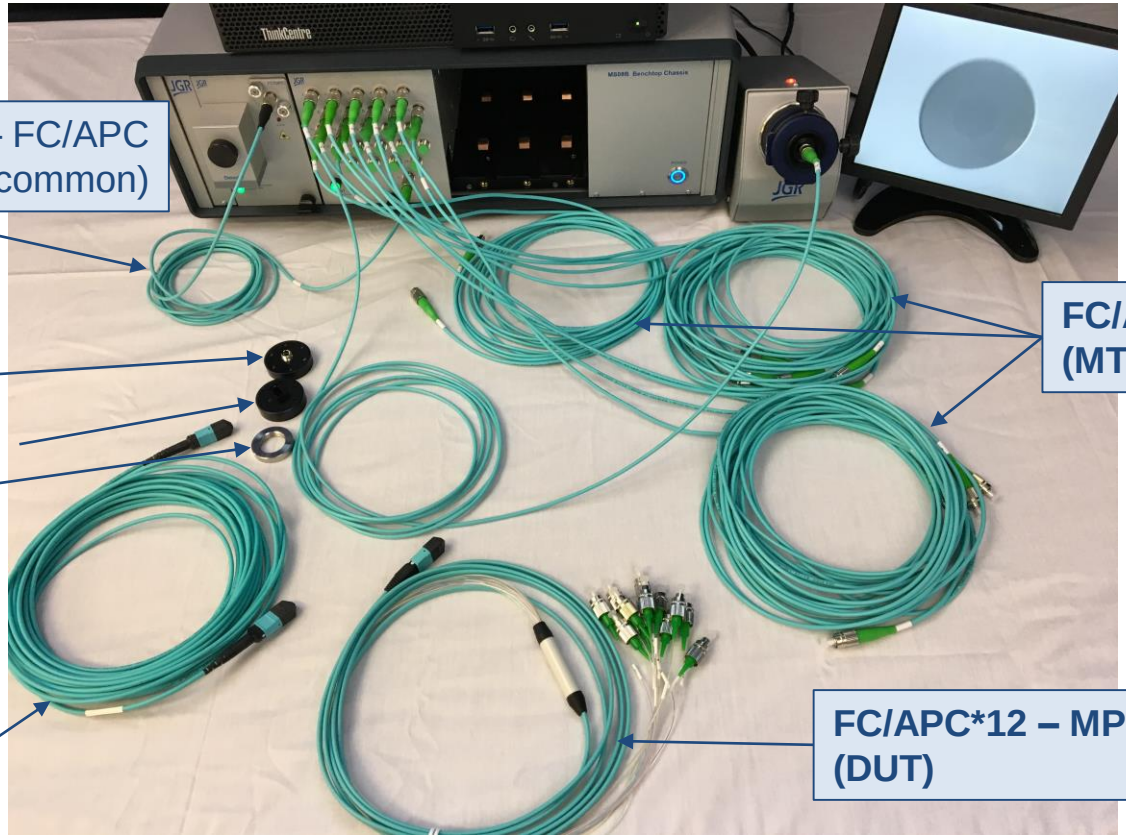


Testing a Fanout-to-Multifiber

Unidirectional Testing

Unidirectional testing will require the DUT to be tested between two master test jumpers:

- MTJ 1 = 12 simplex FC/APC – FC/APC jumpers
- MTJ 2 = 12-fiber MPO/PC – MPO/PC ribbon cable



FC/UPC – FC/APC
(MS12 output to MS7 common)

Detector adapters:

MDA101 (FC)

MDA117 (MTP/MPO)

MDA-R05

FC/APC – FC/APC * 12 (MTJ 1)

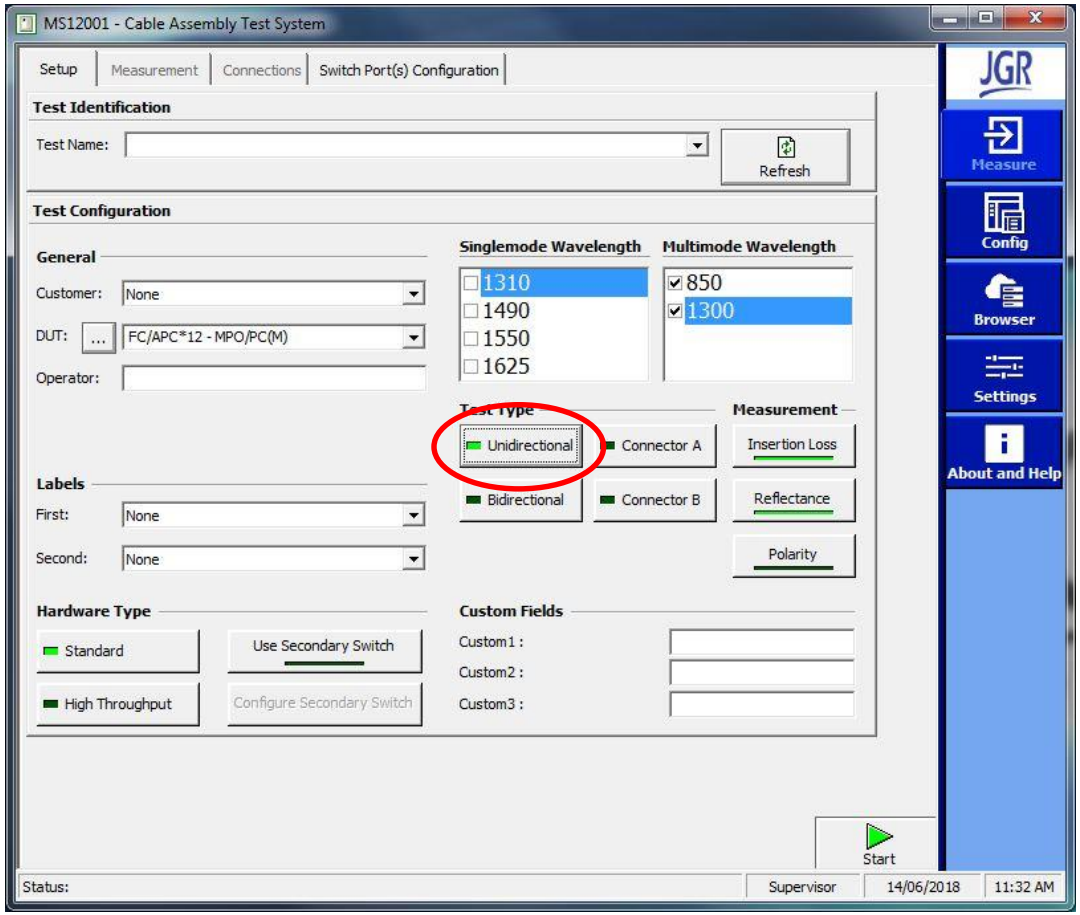
MPO/PC – MPO/PC (MTJ 2)

FC/APC*12 – MPO/PC (DUT)

Testing a Fanout-to-Multifiber

Unidirectional Testing

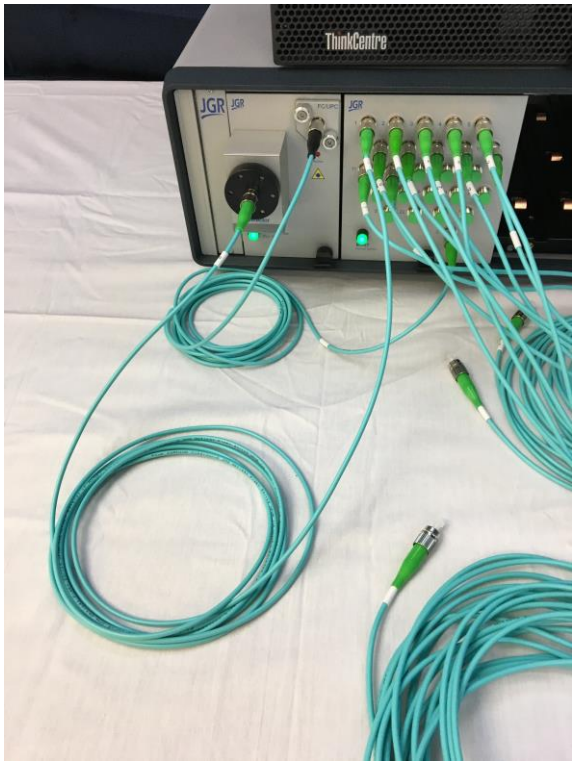
- Setup a unidirectional test type.

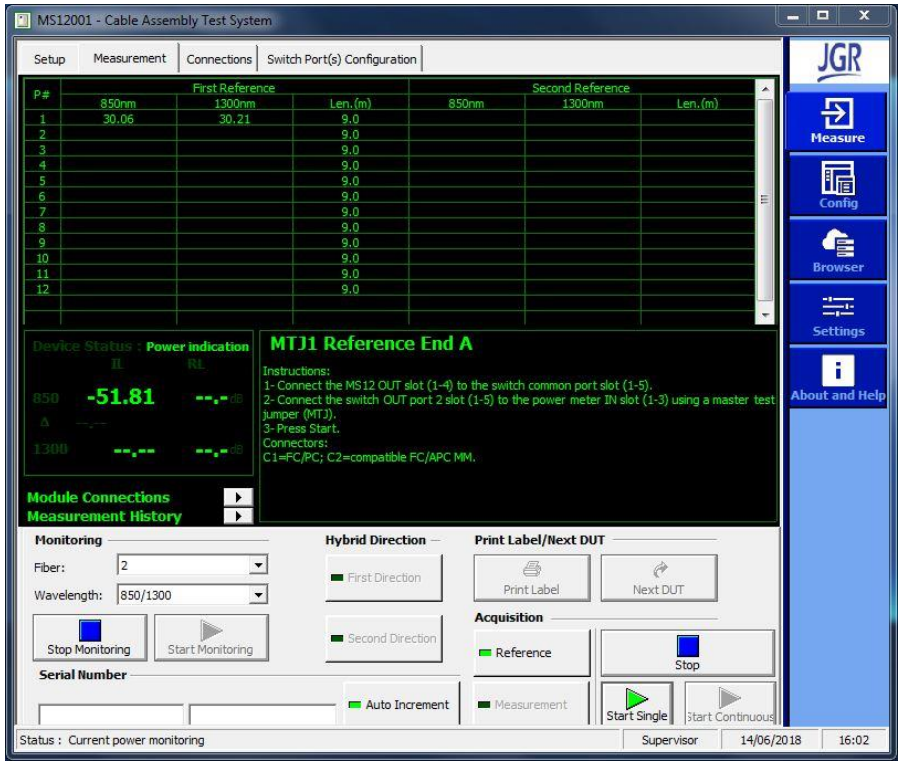


Testing a Fanout-to-Multifiber

Unidirectional Testing

- Reference each simplex FC/APC – FC/APC MTJ 1.

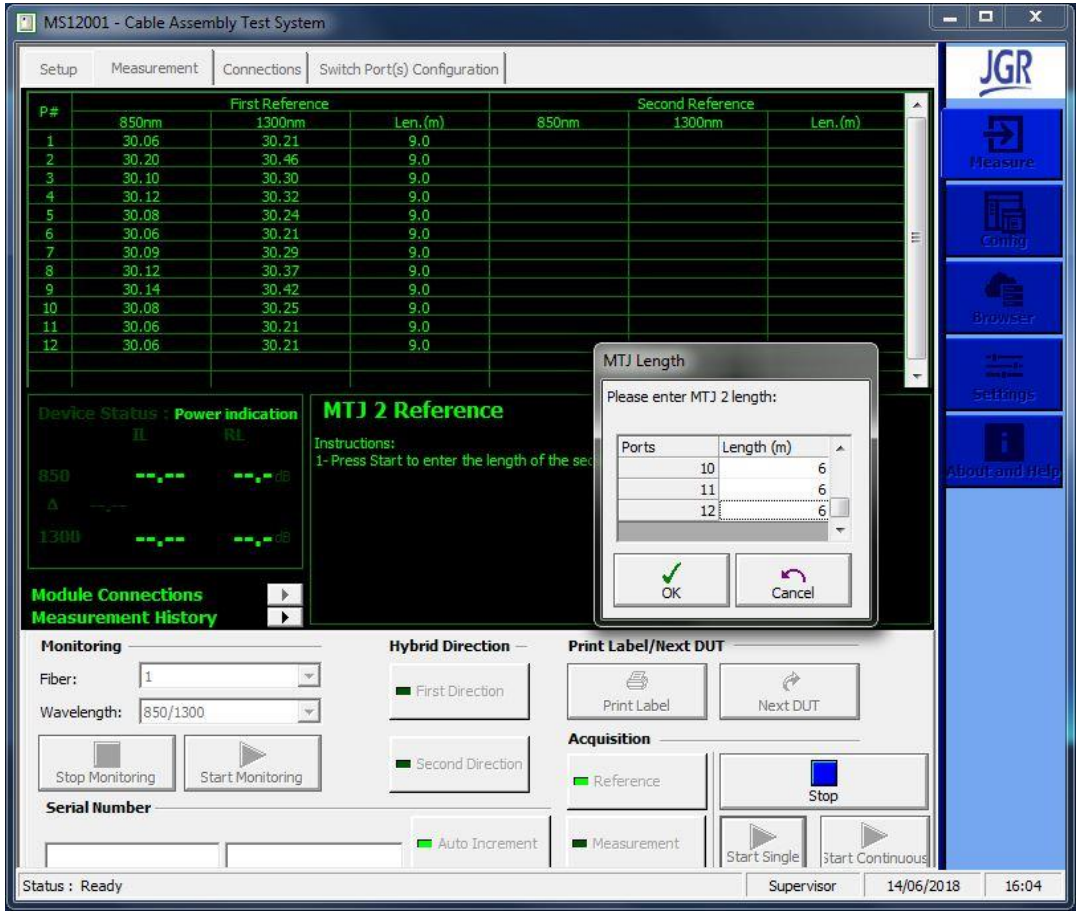




Testing a Fanout-to-Multifiber

Unidirectional Testing

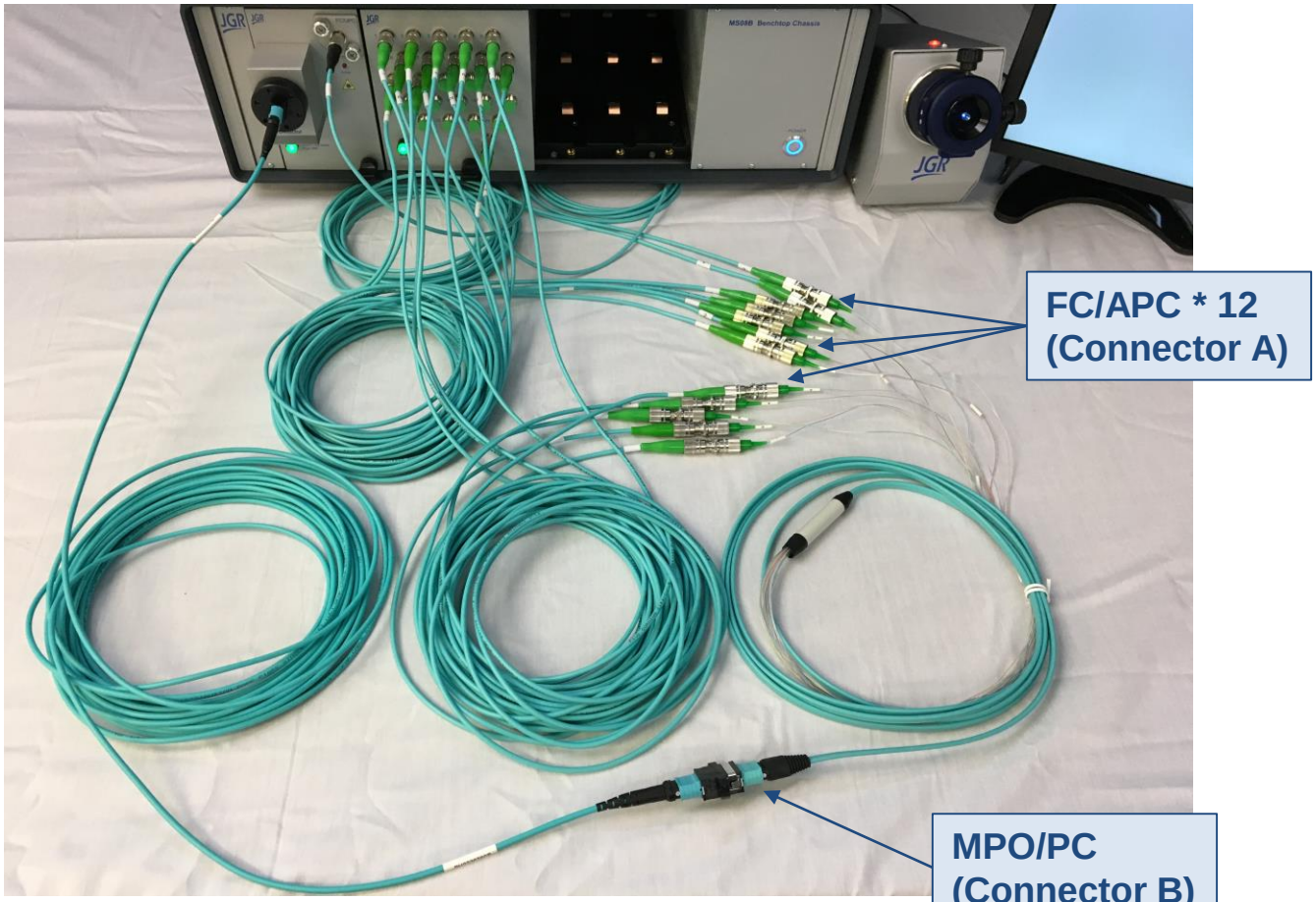
- The MTJ 2 reference only requires a length value. Since MTJ 1 and MTJ 2 cannot be connected together, enter the length manually.



Testing a Fanout-to-Multifiber

Unidirectional Testing

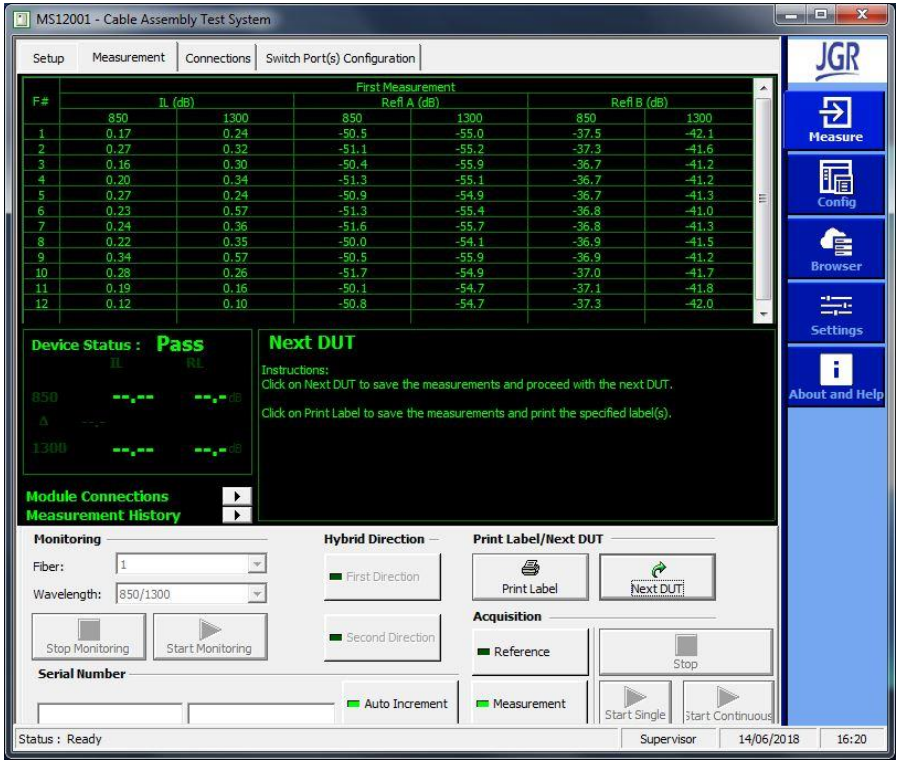
- Connect the DUT between MTJ 1 and MTJ 2.



Testing a Fanout-to-Multifiber

Unidirectional Testing

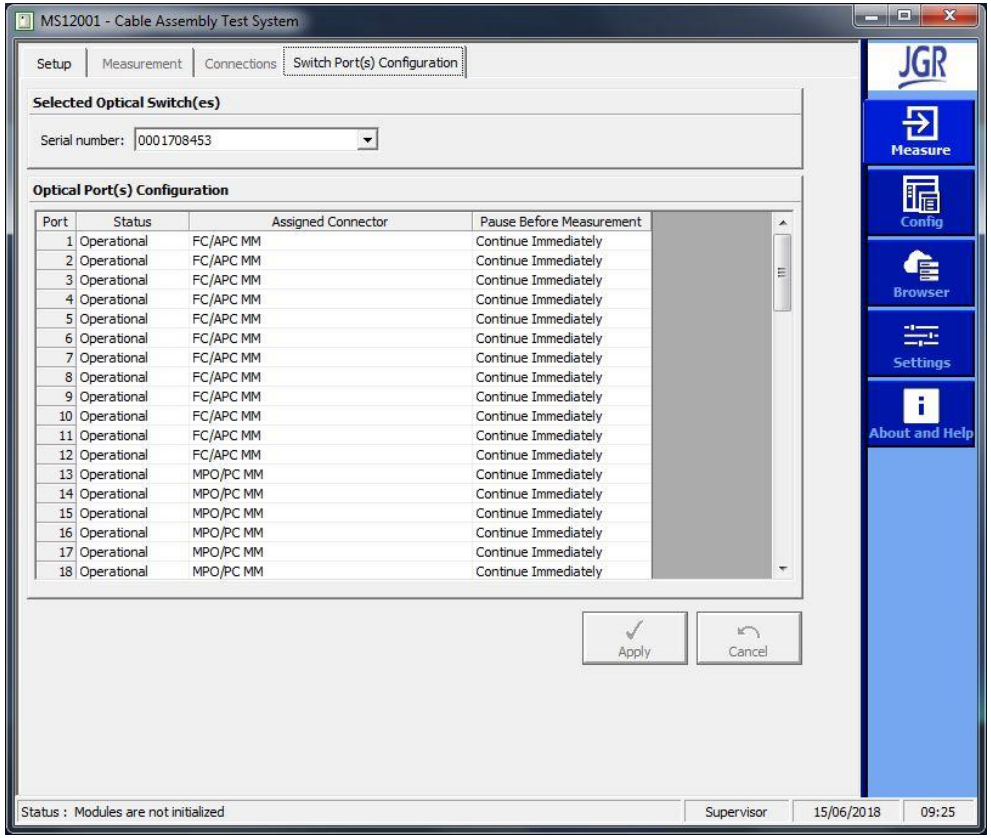
- Click *Start Single* to test the DUT
- In a single pass, MS12001 will measure IL_{TOTAL}, RL_A and RL_B
- Enter a serial number and click *Next DUT* to save the results and move on to the next DUT



Testing a Fanout-to-Multifiber

Bidirectional Testing

- By using a switch with twice as many ports as the DUT, both MTJs can be connected to the switch at the same time.
- Go to *Switch Port(s) Configuration* to assign the connectors to the appropriate ports.

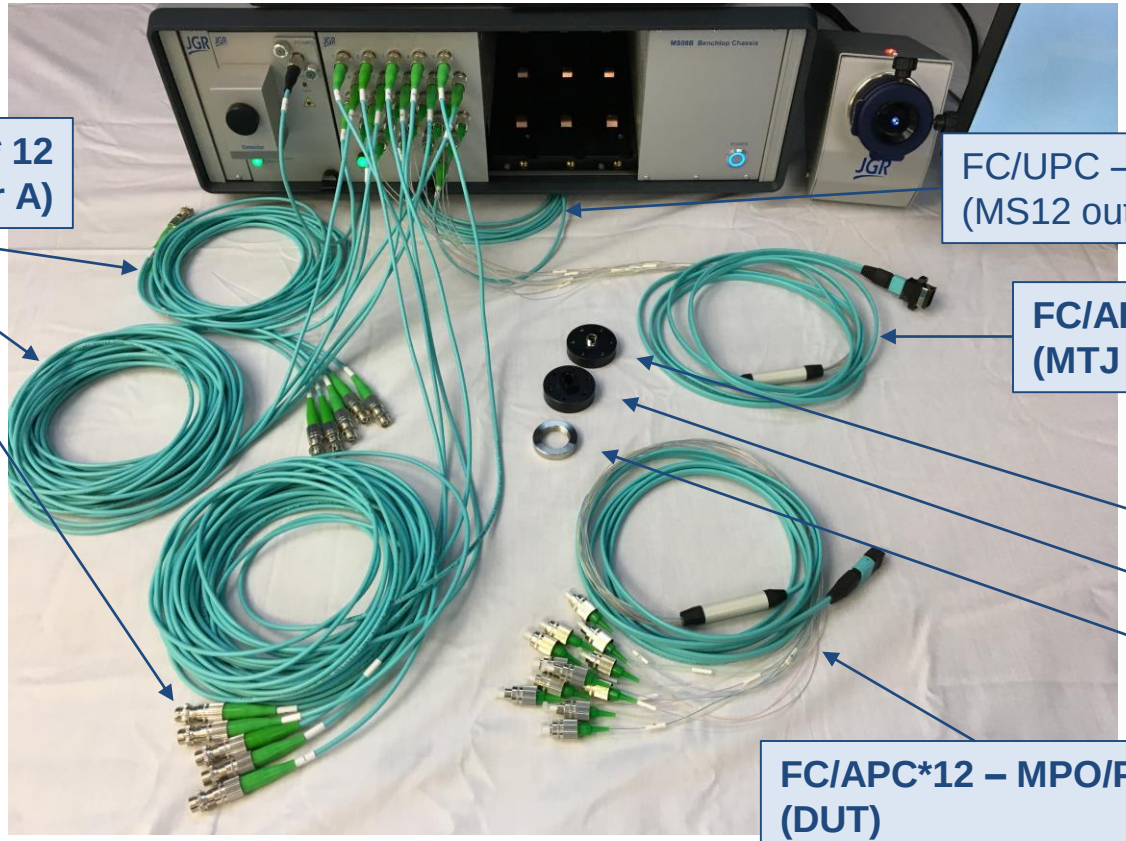


Testing a Fanout-to-Multifiber

Bidirectional Testing

Bidirectional testing will require master test jumpers to match each end of the DUT

- MTJ for Connector A = 12 simplex FC/APC – FC/APC jumpers
- MTJ for Connector B = 12-fiber FC/APC – MPO/PC fanout



FC/APC – FC/APC * 12 (MTJ Connector A)

FC/UPC – FC/APC (MS12 output to MS7 common)

FC/APC*12 – MPO/PC (MTJ Connector B)

Detector adapters:

MDA101 (FC)

MDA117 (MTP/MPO)

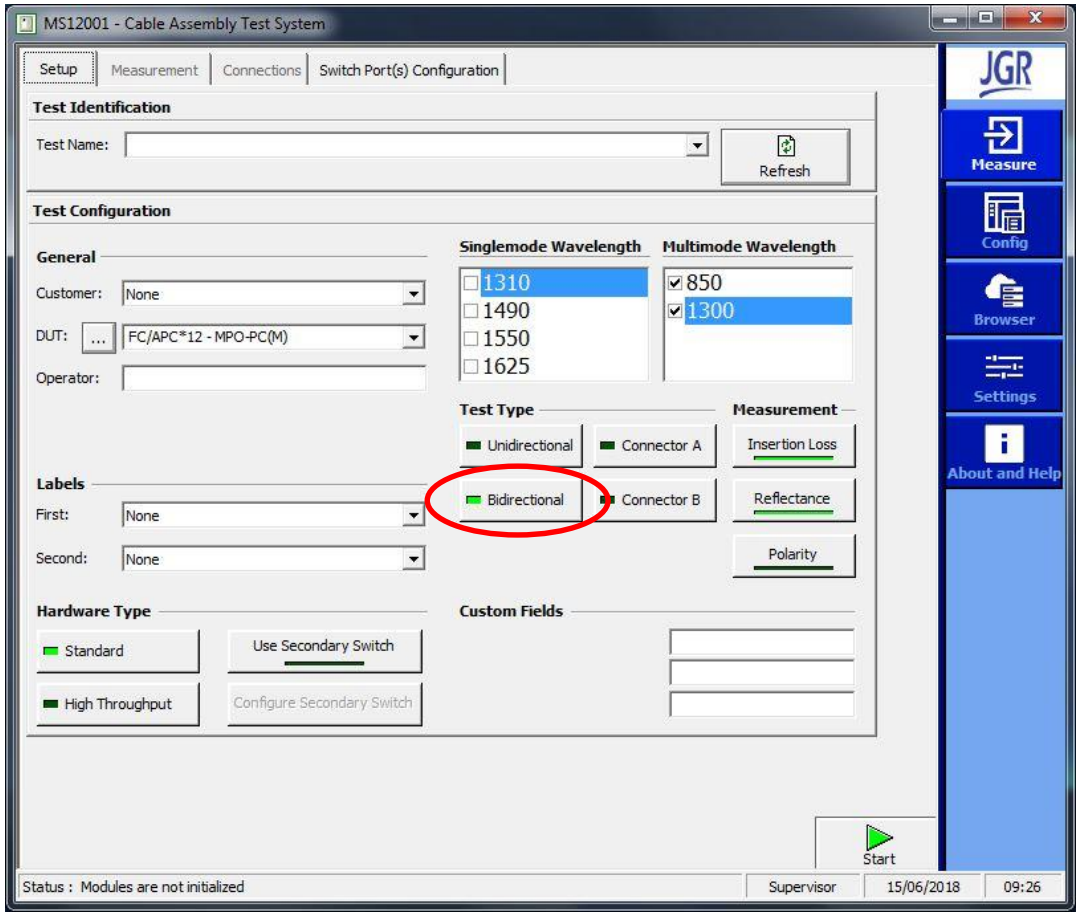
MDA-R05

FC/APC*12 – MPO/PC (DUT)

Testing a Fanout-to-Multifiber

Bidirectional Testing

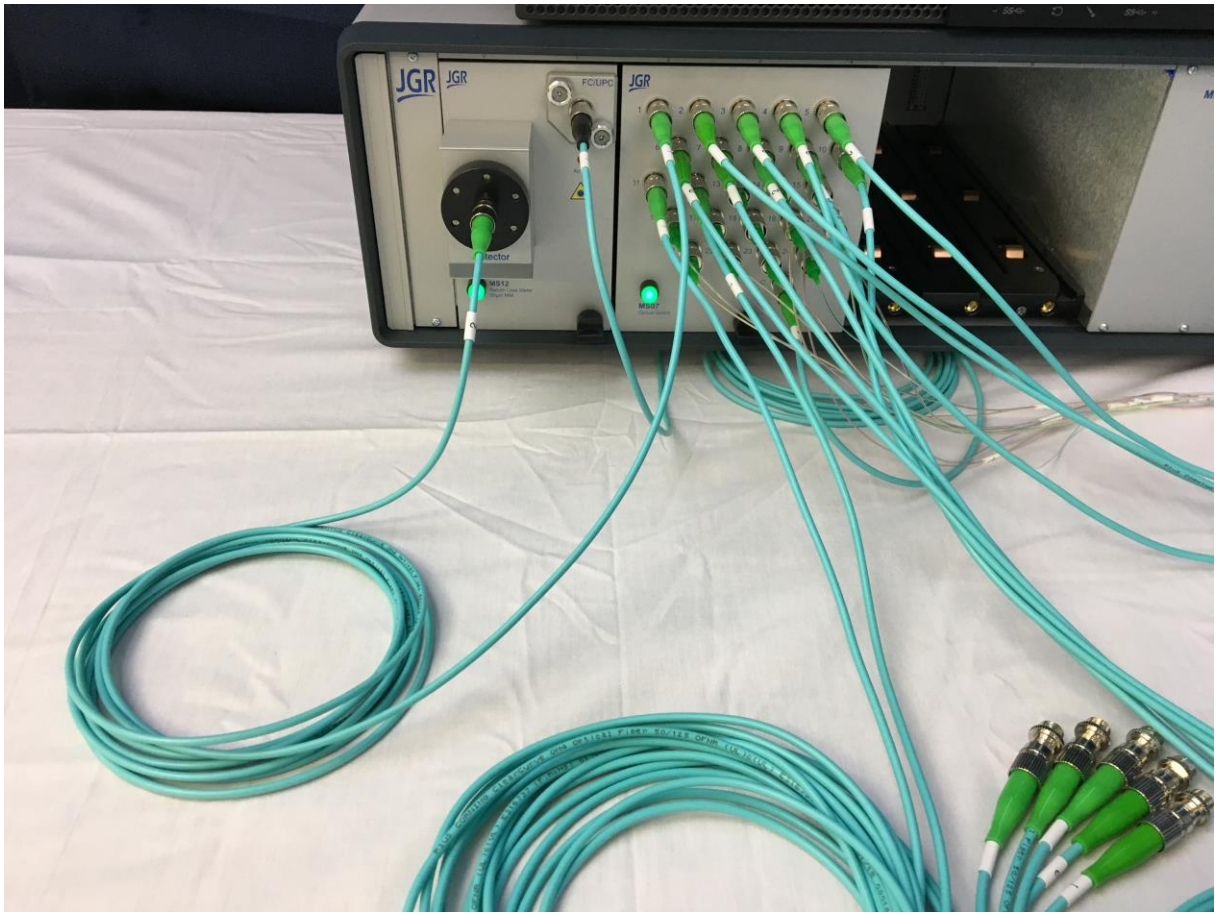
- Setup a bidirectional test type.



Testing a Fanout-to-Multifiber

Bidirectional Testing

- Reference each MTJ for the first direction.

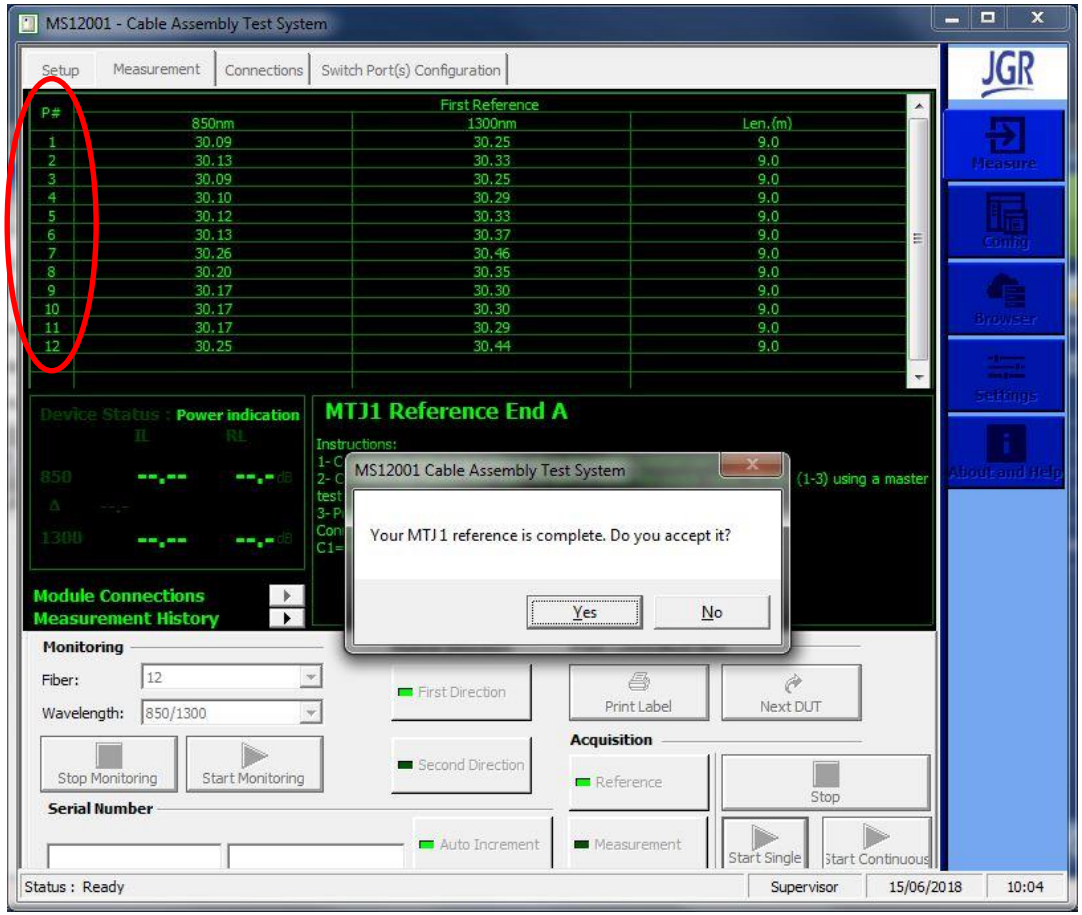


Testing a Fanout-to-Multifiber

Bidirectional Testing

- Reference each MTJ for the first direction.

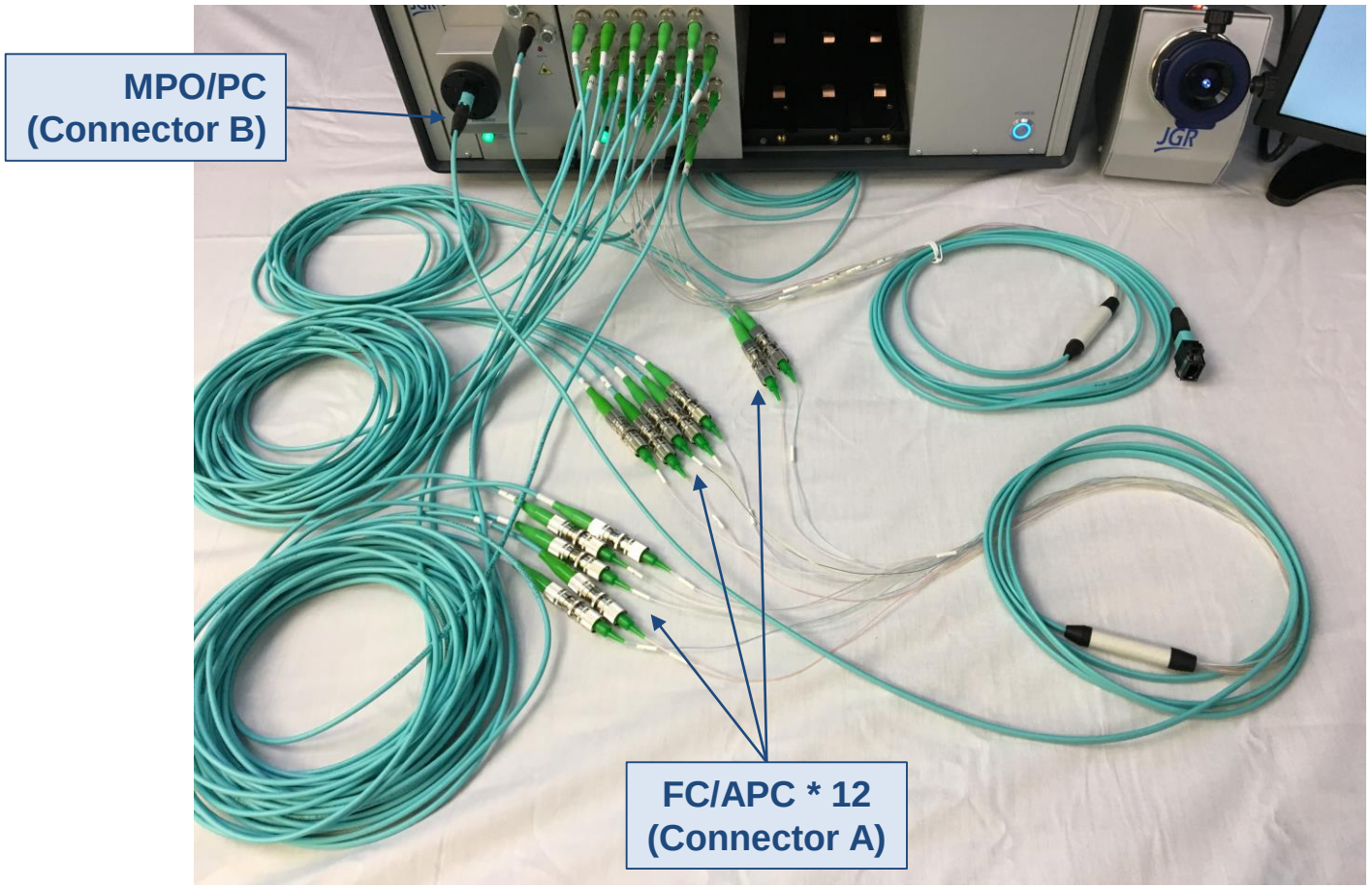
Ports 1-12 were assigned to FC/APC



Testing a Fanout-to-Multifiber

Bidirectional Testing

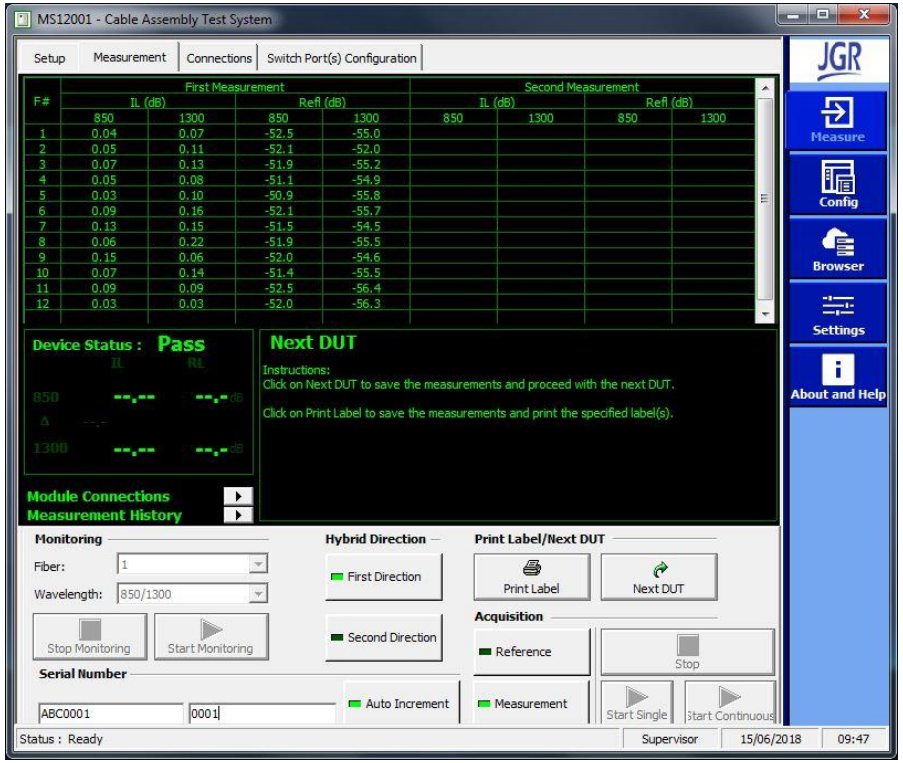
- Connect the DUT to measure in the first direction



Testing a Fanout-to-Multifiber

Bidirectional Testing

- Click *Start Single* to measure Connector A.
- Enter a serial number and click *Next DUT* to save the results and move on to the next DUT.
- When you wish to measure Connector B, click *Second Direction*.
- You can test Connector A of many DUTs before doing this. The results will be saved together in the database for the same serial number.



Note: when pressing *Second Direction*, a prompt will warn you that you will lose your reference for end A.

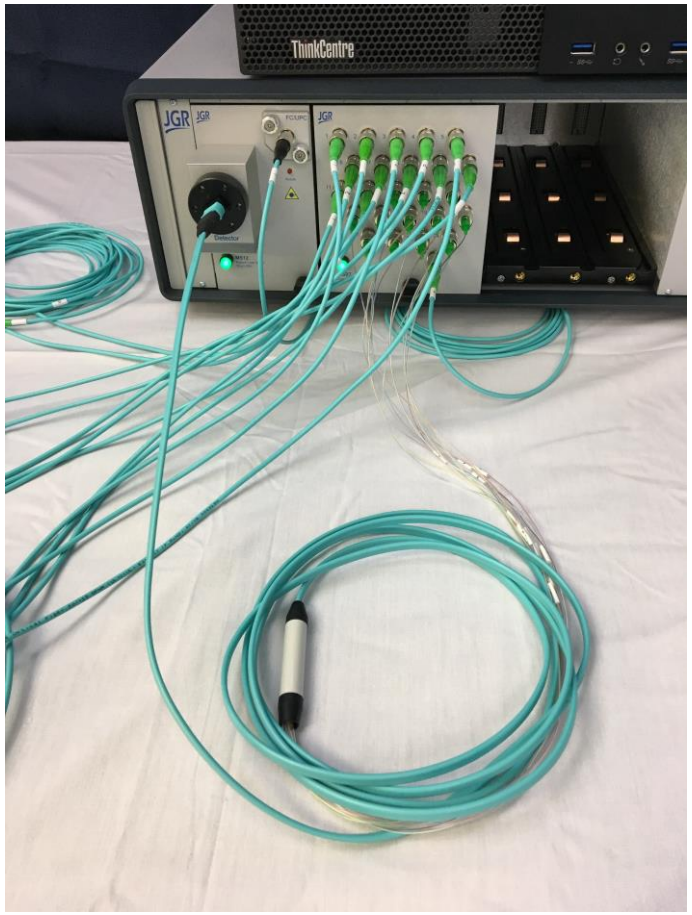
If you do not disconnect your MTJ you can save your first reference by going into *Settings* > *Measurement Options* > *Require New Reference* and selecting *No*.

This is only possible if the switch has twice as many ports as the number of fibers of the DUT.

Testing a Fanout-to-Multifiber

Bidirectional Testing

- Reference the MTJ for the second direction

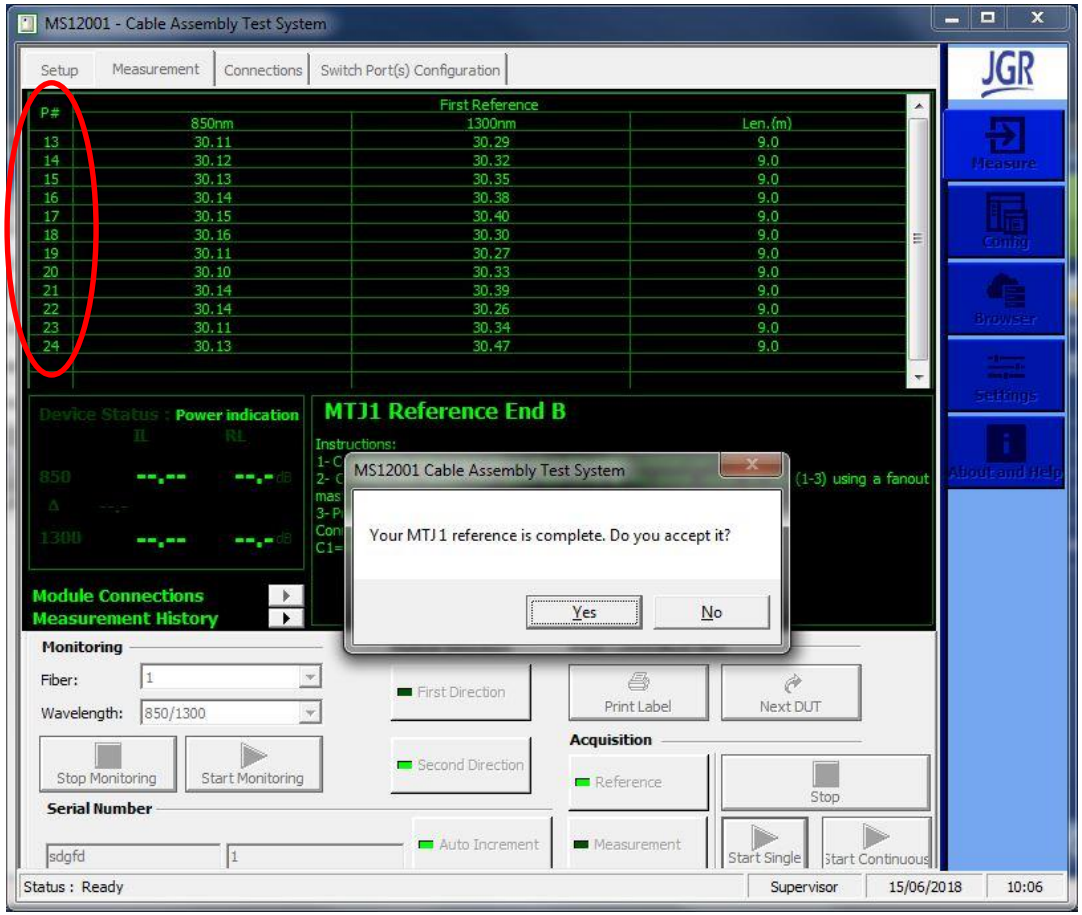


Testing a Fanout-to-Multifiber

Bidirectional Testing

- Reference the MTJ for the second direction

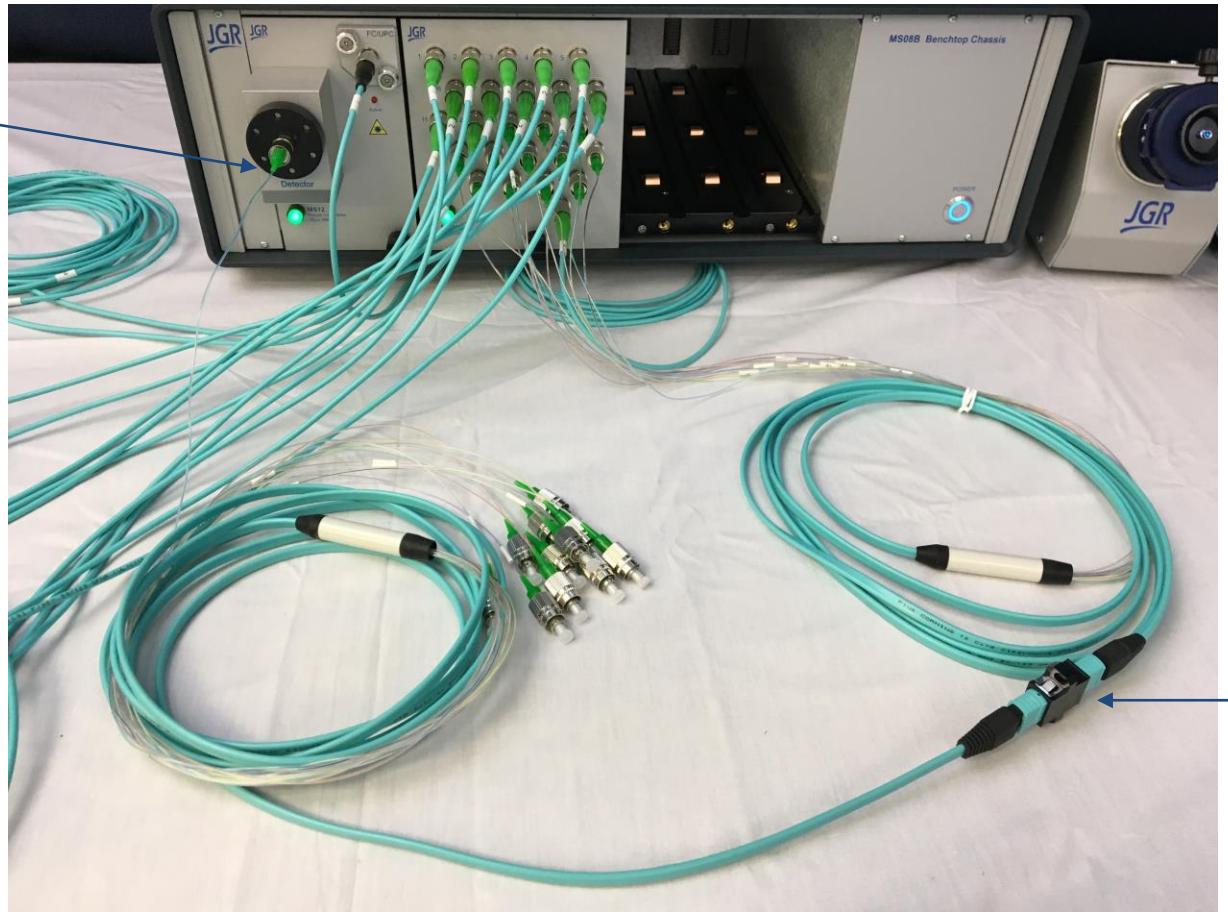
Ports 13-24 were assigned to MPO/PC



Testing a Fanout-to-Multifiber

Bidirectional Testing

- Connect the DUT to measure in the second direction



Testing a Fanout-to-Multifiber

Bidirectional Testing

- The results for Connector A of the corresponding serial number are displayed.
- Click *Start Single* to measure Connector B.
- Click *Next DUT* to save the results and move on to the next DUT.