# Testing Multifiber-to-Multifiber

JGR
optics

# Testing Multifiber-to-Multifiber

This document will outline how to do a bidirectional test of Multifiber-to-Multifiber DUTs using JGR's MS12001 system.

Both hybrid and non-hybrid cases will be explained.

In the examples shown, the DUT is a 12 fiber MTP-MTP cable.

# Testing Multifiber-to-Multifiber

Go to *Config > Connector* to create the connector type with pass/fail limits.

# Testing Multifiber-to-Multifiber

Go to *Config* > *DUT* to create the DUT.

Select *Multifiber-to-Multifiber* as the *Assembly Type*.

# Testing Multifiber-to-Multifiber

Setup a *Bidirectional* test with the multifiber DUT and click *Start*.

# Testing Multifiber-to-Multifiber

**Non-hybrid DUT**

Connect as below for the reference.



DA117
(MTP/MPO
detector adapter)

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

**12*FC/APC – MTP/PC
(MTJ)**
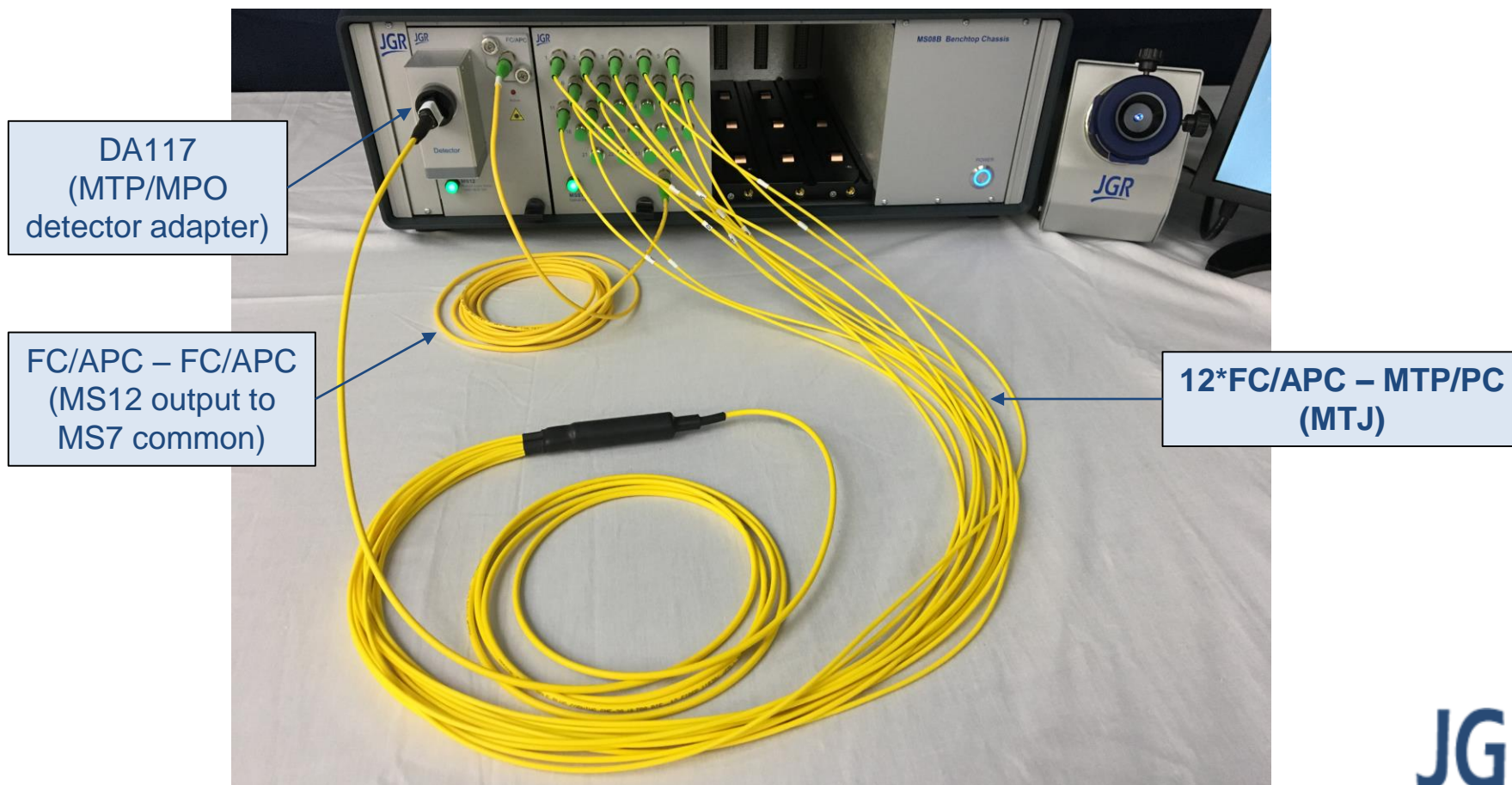
# Testing Multifiber-to-Multifiber

**Non-hybrid DUT**

Click *Start Single* to take a reference.
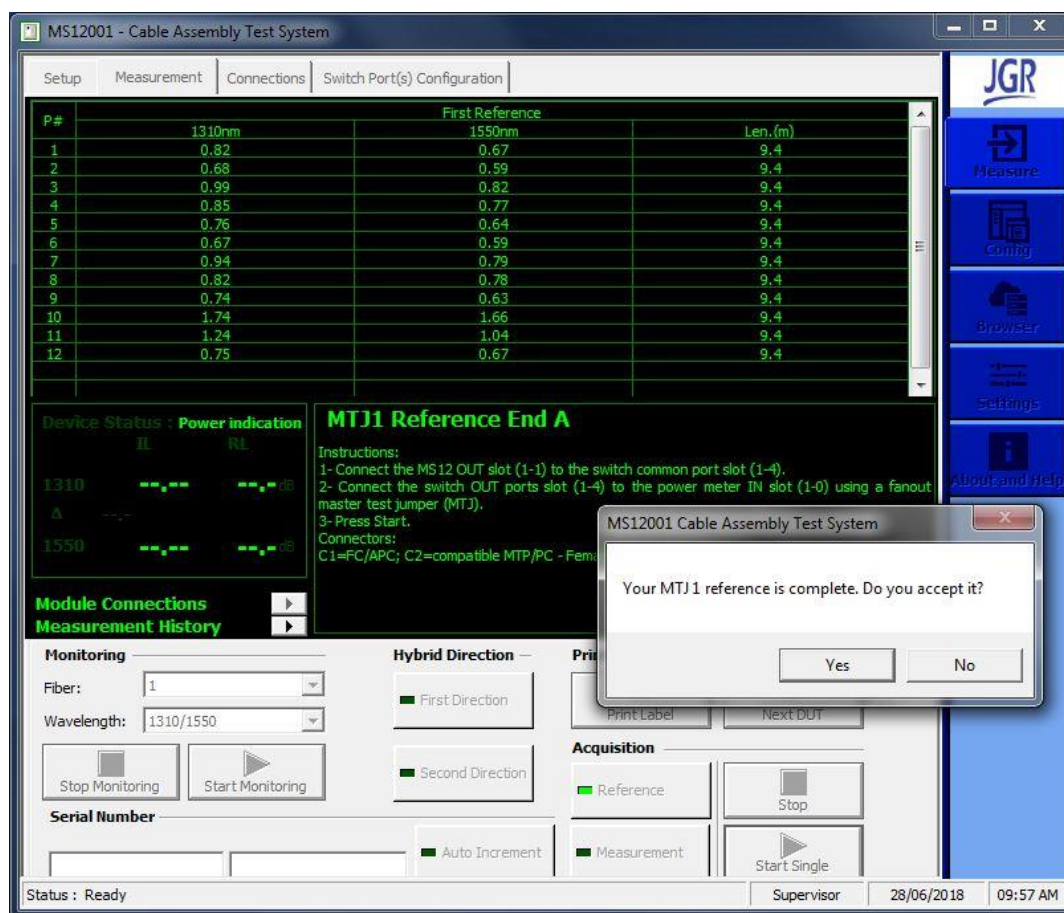
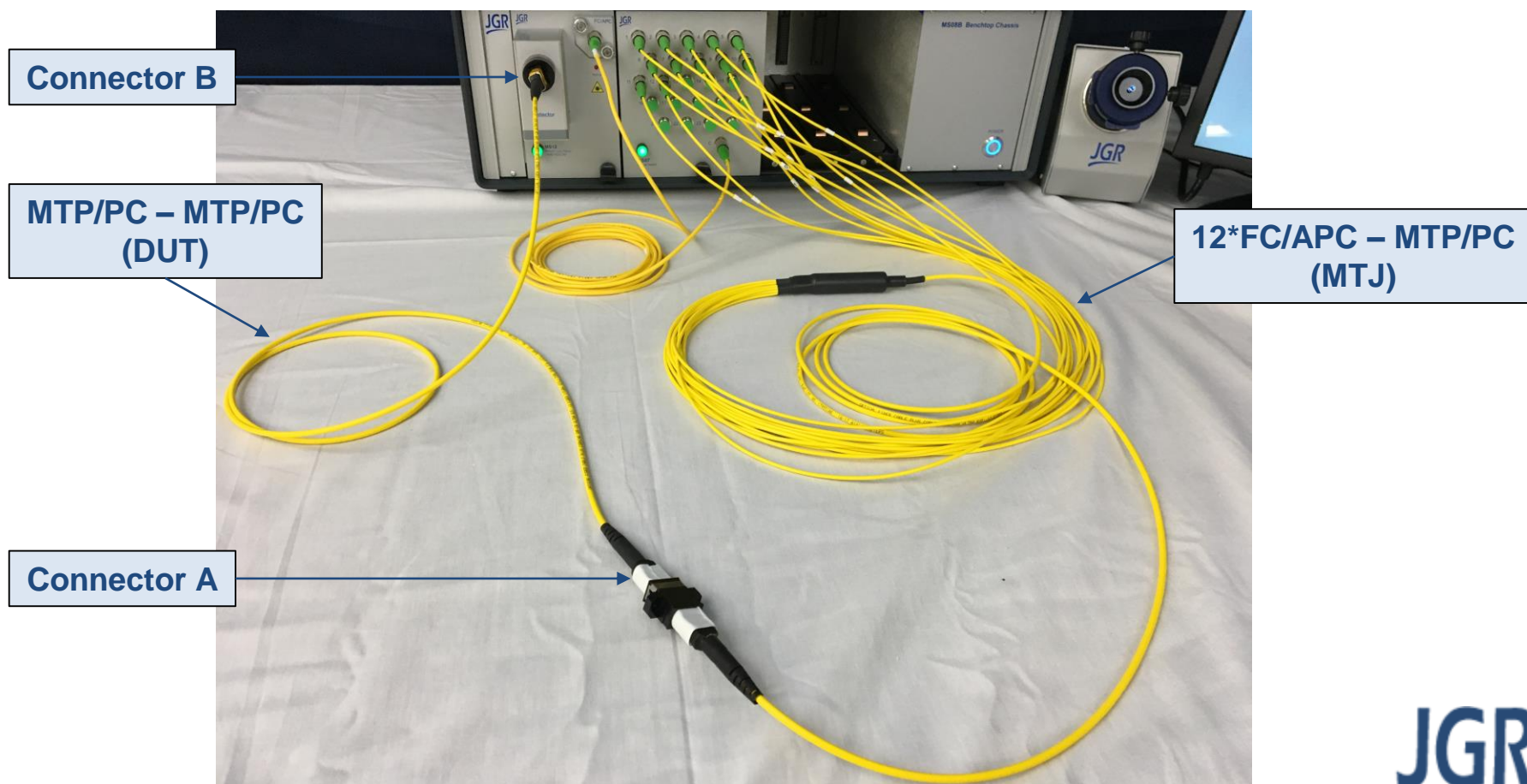# Testing Multifiber-to-Multifiber

**Non-hybrid DUT**

Connect as below to measure the first connector.



Connector B

MTP/PC – MTP/PC (DUT)

12*FC/APC – MTP/PC (MTJ)

Connector A

# Testing Multifiber-to-Multifiber

**Non-hybrid DUT**

Click *Start Single* to measure the first connector.

# Testing Multifiber-to-Multifiber

**Non-hybrid DUT**

Flip the DUT around to measure the second connector.



Connector A

MTP/PC – MTP/PC (DUT)

12*FC/APC – MTP/PC (MTJ)
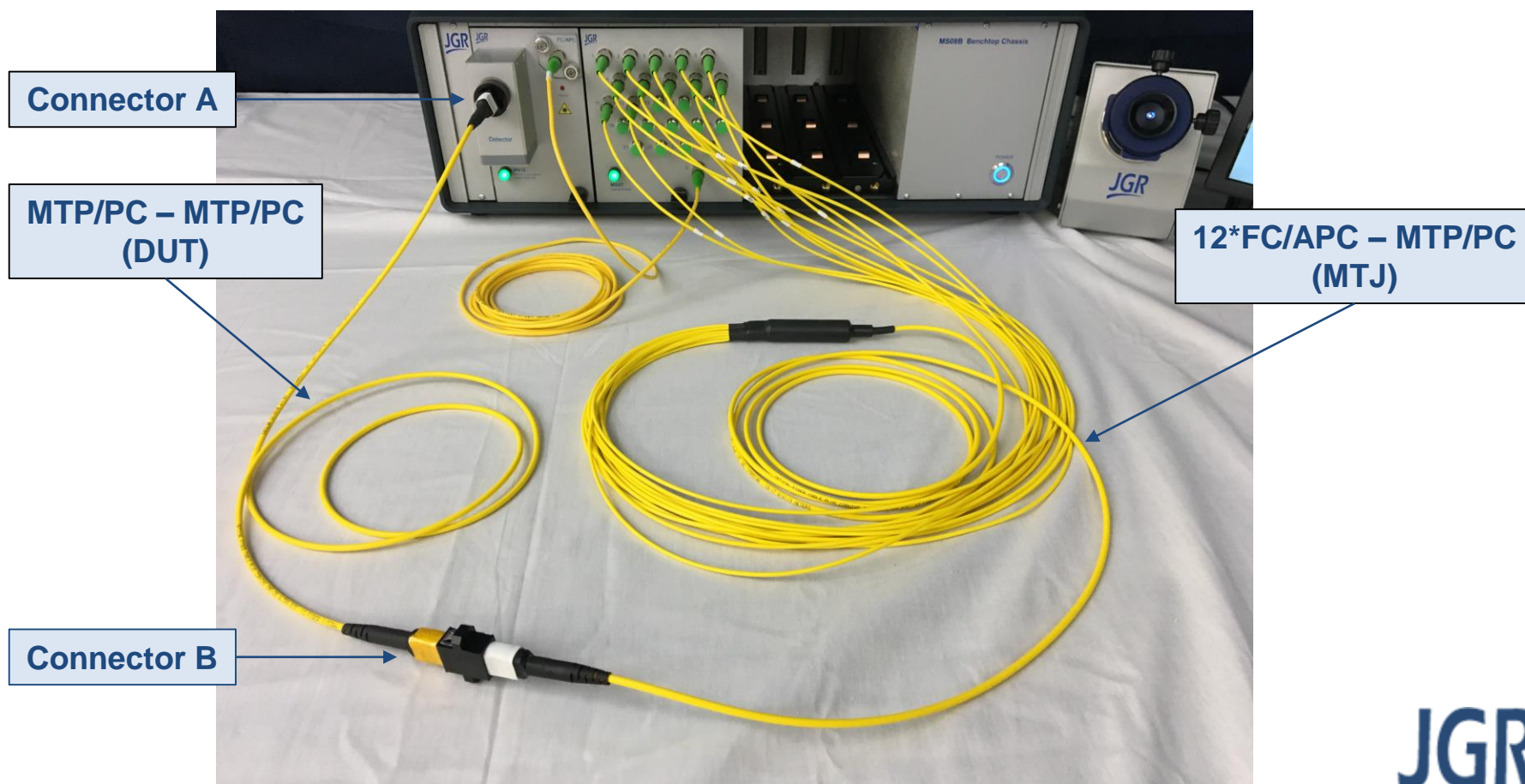
Connector B

# Testing Multifiber-to-Multifiber

**Non-hybrid DUT**

Click *Start Single* to measure the second connector. Enter a serial number and press *Next DUT* to save the results.

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

You will need 2 master test jumpers:
- MTJ 1 will connect to end A of your DUT
- MTJ 2 will connect to end B of your DUT

Each MTJ will have to be referenced separately.

If your switch channel count is double your DUT fiber count, you can speed up testing by assigning connector types to switch ports. The end of this document will cover this in more detail.

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Configure your DUT with different connectors for end A and B.

**Hybrid DUT**

Connect MTJ 1 for your end A reference.



DA117
(MTP/MPO
detector adapter)

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

12*FC/APC – MTP/PC
(MTJ 1)
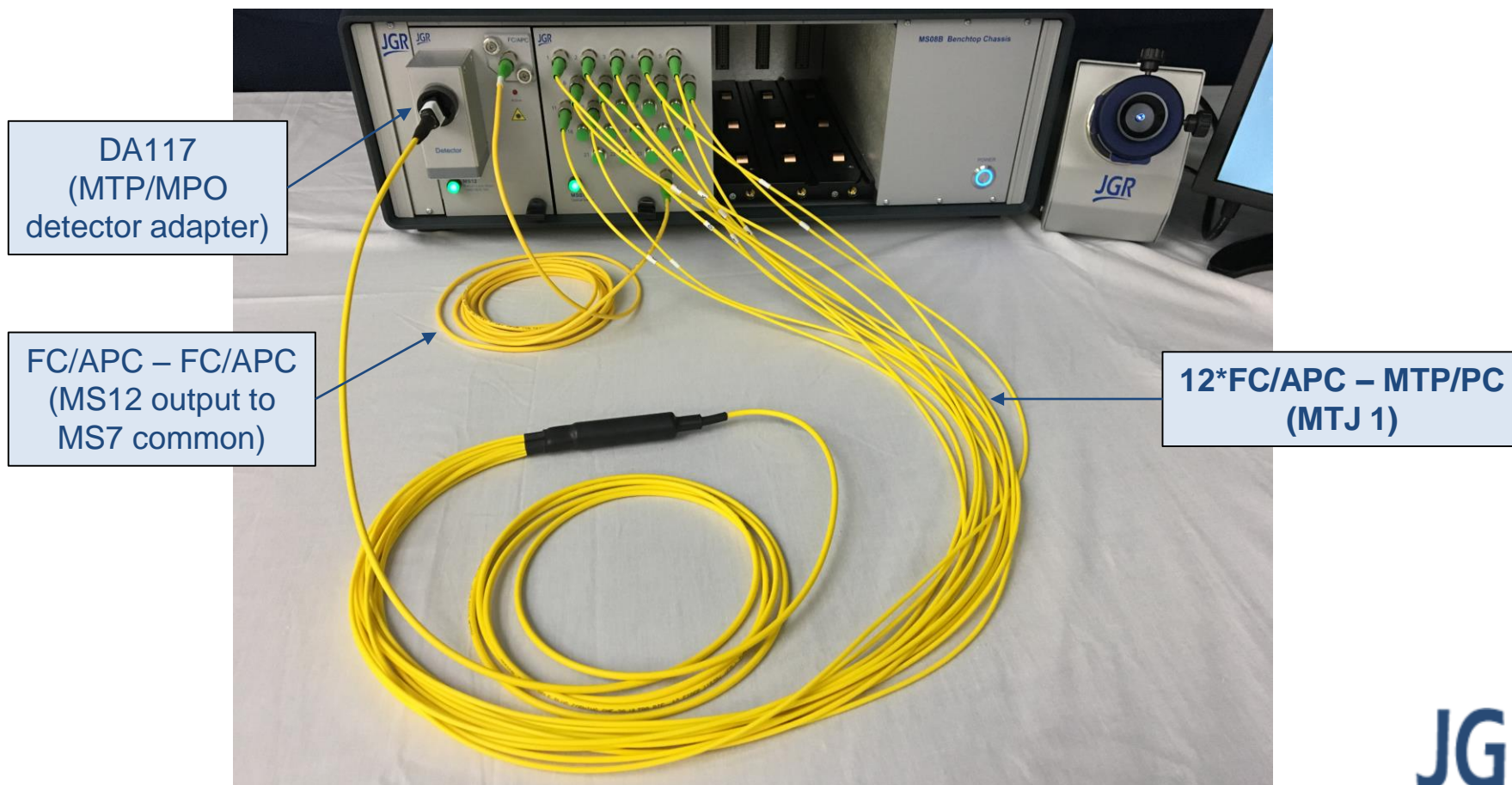
# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Click *Start Single* to take your first reference.

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Connect your DUT to measure end A.



Connector B

MTP/PC – MTP/APC
(DUT)

12*FC/APC – MTP/PC
(MTJ 1)

Connector A

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Click *Start Single* to measure the first connector. Enter a serial number and press *Next DUT* to measure the next DUT.

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Keep measuring end A of all your DUTs until you are done. After the last one, click *Next DUT* then *Second Direction* to measure end B.

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

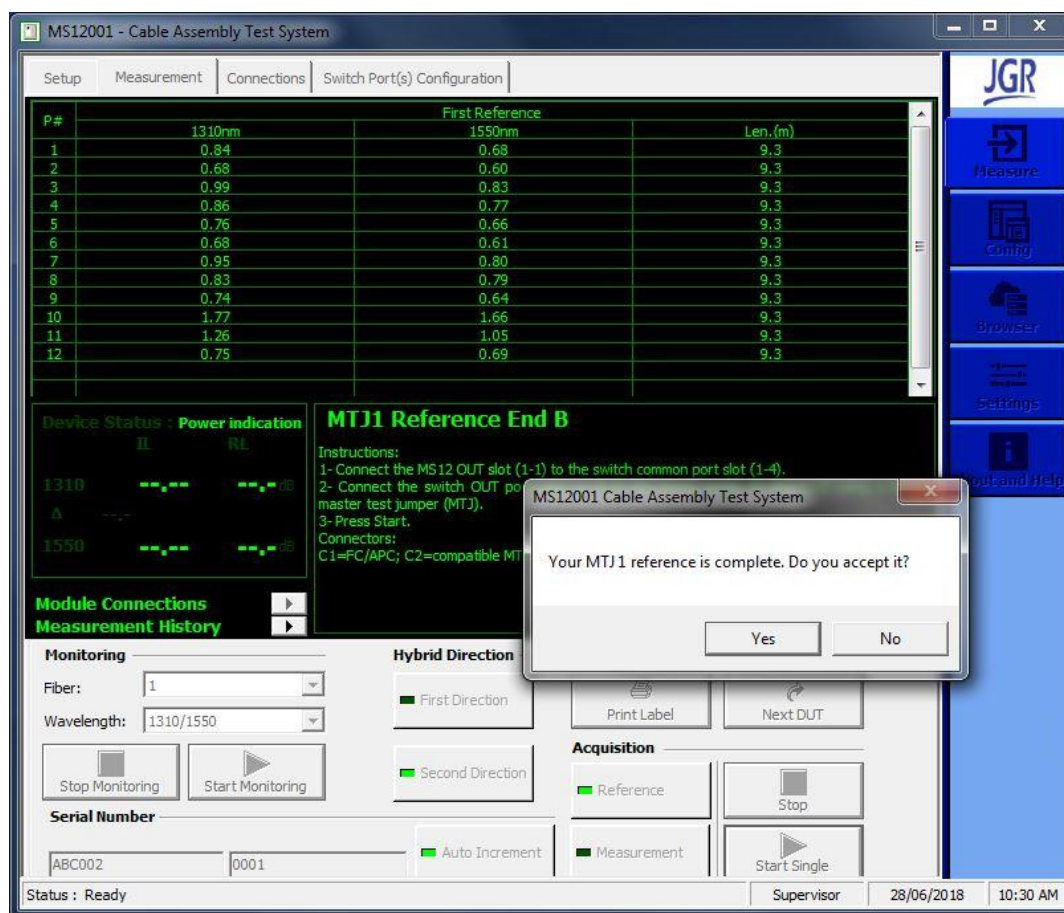Connect MTJ 2 for your second reference.
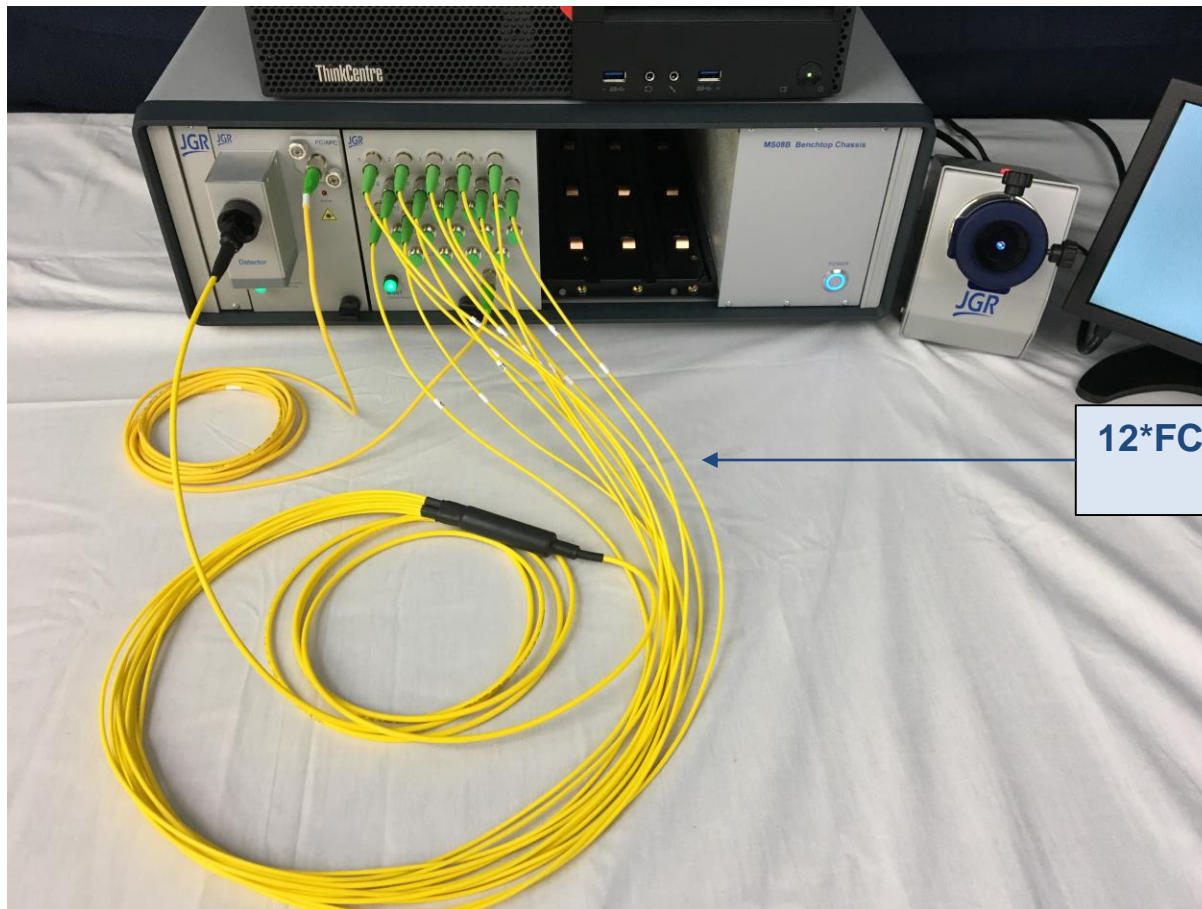


12*FC/APC – MTP/APC
(MTJ 2)

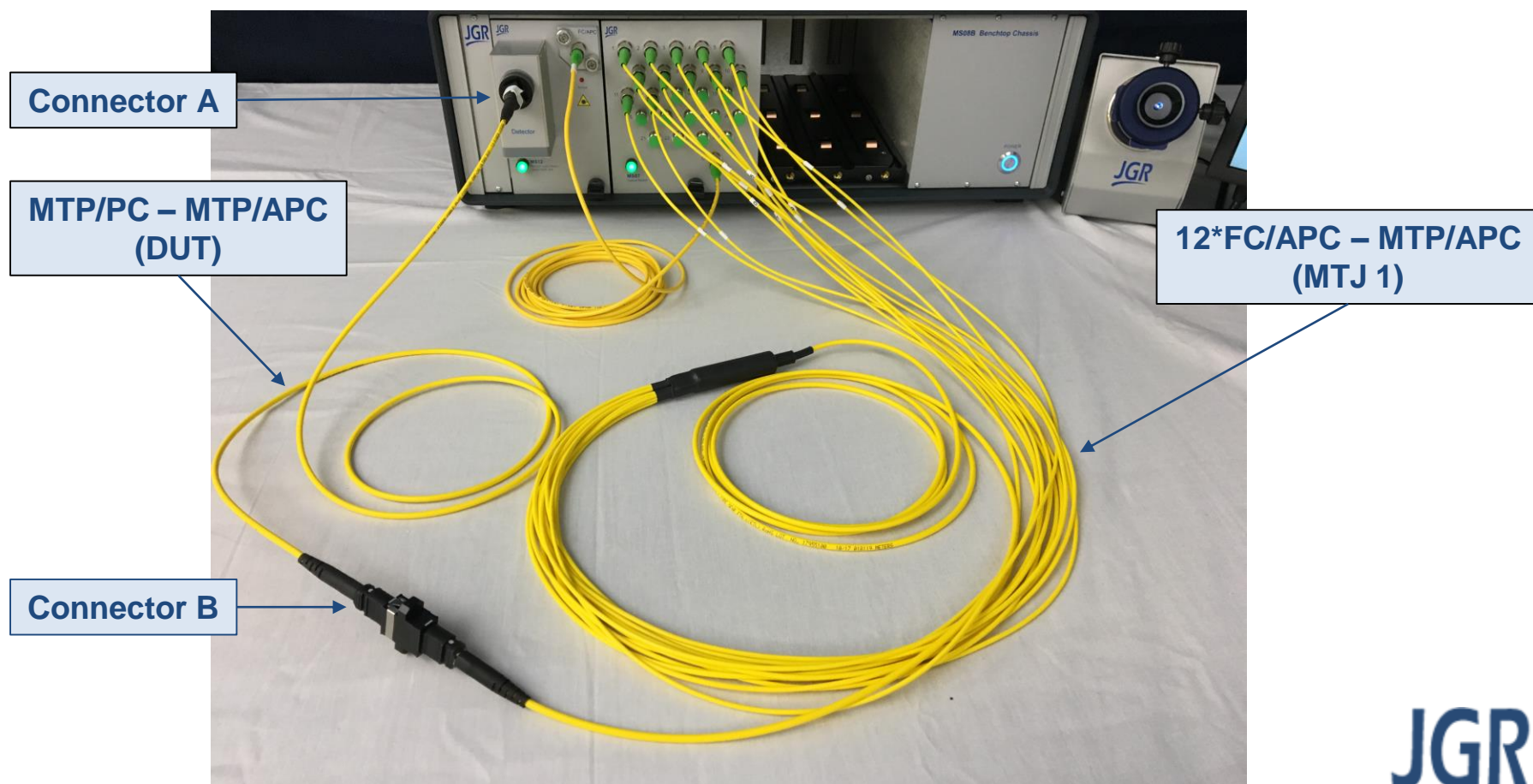# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Click *Start Single* to take your end B reference.

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

Connect your DUT to measure end B.



Connector A

MTP/PC – MTP/APC (DUT)

12*FC/APC – MTP/APC (MTJ 1)

Connector B

# Testing Multifiber-to-Multifiber

**Hybrid DUT**

MS12001 will display the previous test results of end A for each serial number. Click *Start Single* to measure end B of all your DUTs then *Next DUT* to save and move on to the next.

# Testing Multifiber-to-Multifiber

**Switch Port(s) Configuration**

You can assign connector types to your switch ports to leave different MTJs connected.
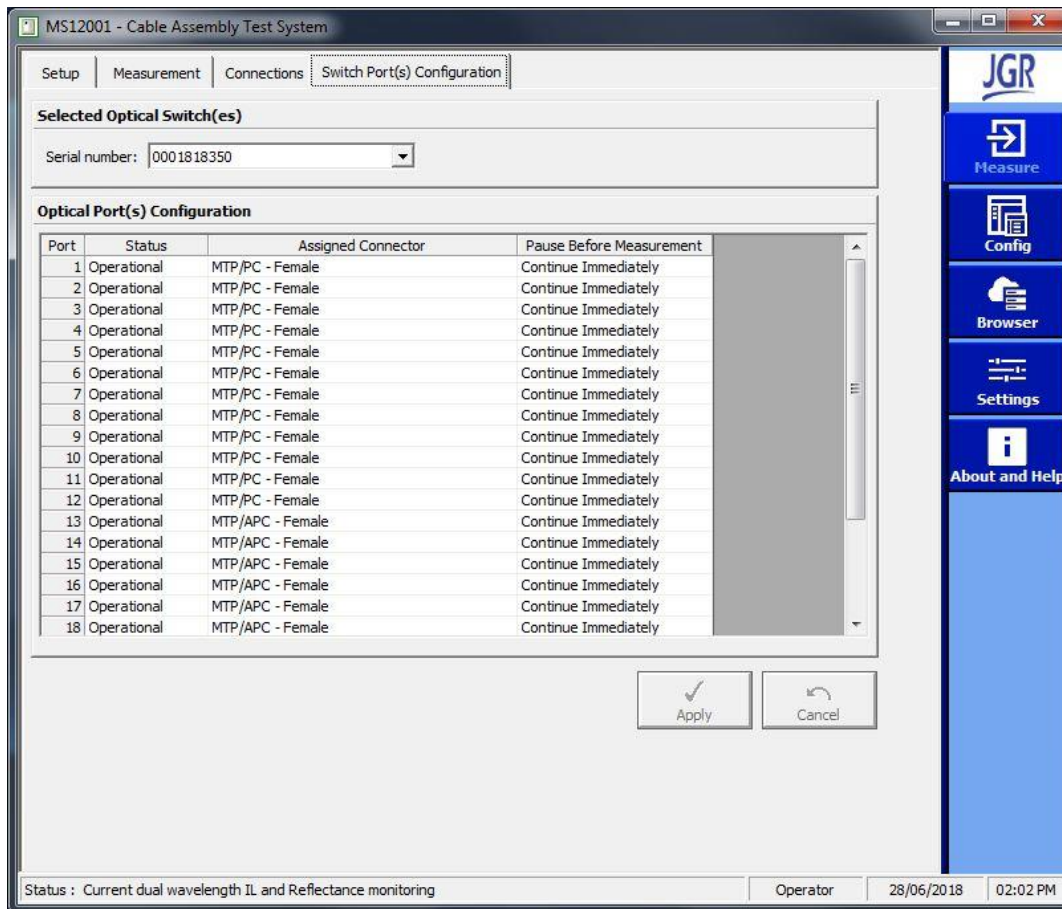


When doing the reference or measurements, the software will go to the appropriate port.

Here, when testing end A, the switch will go to channels 1-12.

When testing end B, the switch will go to channels 13-24.

# Testing Multifiber-to-Multifiber

**Switch Port(s) Configuration**

To speed up testing select *Settings > Measurement Options > Require New Reference > No.*



Note: if you disconnect your MTJ, you MUST redo the reference.

It is advisable to redo the reference at least once a day.