

# DWDM PASSIVE COMPONENT TEST SYSTEM

OPTIONAL FEATURE

## IQS-12004B-MPT

 R&D AND MANUFACTURING-OPTICAL



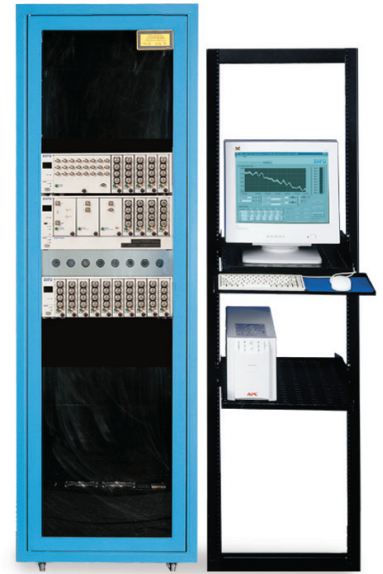
### MultiPath Testing Option

- Performs spectral IL, PDL and ORL measurements on multiple optical paths
- Integrates the IQS-12004B with an optical switch
- Ideal for testing multiple components
- Ideal for testing optical crossconnect (OXC) switches

## A Critical Step Forward in Passive Component Testing

EXFO has engineered the MultiPath Testing Option to provide accurate spectral characterization of IL, PDL and ORL. The IQS-12004B-MPT DWDM Passive Component Test System tests passive devices or components with multiple input/output ports. With a flexible software environment and the integration of a low-PDL optical switch, this option is ideal for Telcordia qualification of DWDM filters and branching devices. Use the MPT option for testing VOA arrays, photonic switches of all technologies and other devices with multiple input/output ports.

The IQS-12004B's MPT configuration has many important time-saving and performance-enhancing features that will get you up and running the day the system is delivered, while providing you with all the tools you need to efficiently custom design your own multiple-path testing application.



### KEY FEATURES

- Comes complete with powerful DLL controls
- Provides time-saving calibration and reference procedures
- Includes flexible EXFO MPT software, or you can quickly write your own
- Supports many different optical-switch configurations
- Maintains high-accuracy measurements
- Design or customize your own multiple-path testing application

### TYPICAL SYSTEM APPLICATIONS

#### Qualification testing of DWDM passive components

Ensure compliance with Telcordia and other international requirement standards.

#### Testing optical crossconnect (OXC) switches

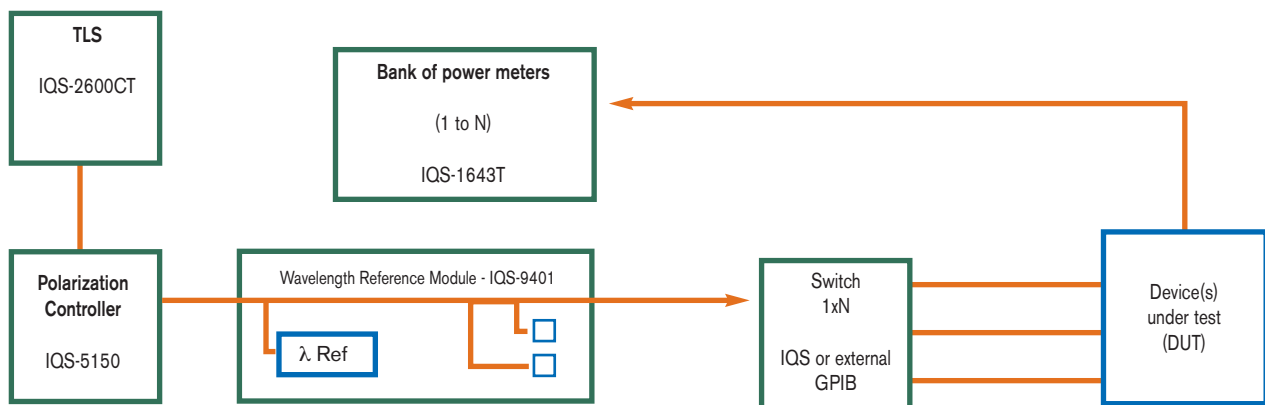
Over the C+L-bands for IL, PDL and ORL.

#### Testing arrayed components

Including VOAs and many other arrayed components being used more and more.

#### Testing multiplexers

For IL (and results calculated from IL, central wavelength, bandwidth and others) and PDL as well as directivity.



# MultiPath Testing (MPT) Advantages

## ACCURATE MEASUREMENTS

Benefit from the accurate, high-resolution IL, PDL and ORL characterization with the IQS-12004B-MPT. Take advantage of the MPT option that allows you to perform spectral measurements on multiple optical paths.

## MULTIPATH REFERENCING AND NORMALIZING

When designing a multipath spectral measurement system, much work goes into referencing and normalizing the optical paths. The IQS-12004B-MPT has greatly simplified the multipath referencing procedure without compromising performance.

## IQS AND EXTERNAL SWITCHES

The IQS-12004B-MPT supports EXFO 1xN low-PDL switches and most other switches on the market today. For switch configurations with 32 channels or less, IQS-9100 series optical switch modules can be used in the IQS-510E Expansion Unit. External switches are controlled by a GPIB interface.

## TEMPERATURE-CONTROLLED RACK

For optimum performance when long-term switch repeatability is critical, mount the IQS-12004B-MPT in the temperature-controlled rack. This optional rack maintains instruments at a constant temperature and avoids drift due to the temperature sensitivity of the switch.

## STRAIGHTFORWARD SOFTWARE

The IQS-12004B-MPT comes with a number of useful software development tools designed to save you time and effort.

## LABVIEW™ SOFTWARE

The sample application can be used as is, and includes the source code and a complete library of VIs for customization and/or for new application development.

## DLL/COM CONTROL

This includes the functions necessary for multiple-path reference, switch control (both for IQS and external switches) and results interpretation.

## SIMULATION MODE

The system can be initialized in Simulation mode, keeping your development costs down to a minimum and freeing up valuable hardware.

## COMPLETE DOCUMENTATION

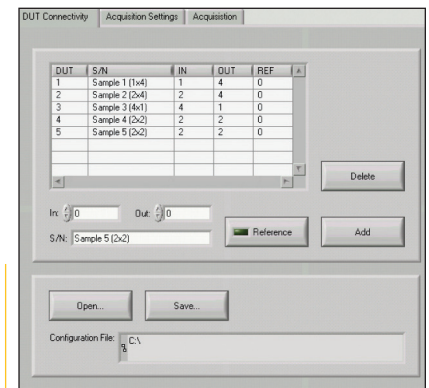
The system comes with guidelines for application development and detailed descriptions of all functions and features.

## INSTALLATION

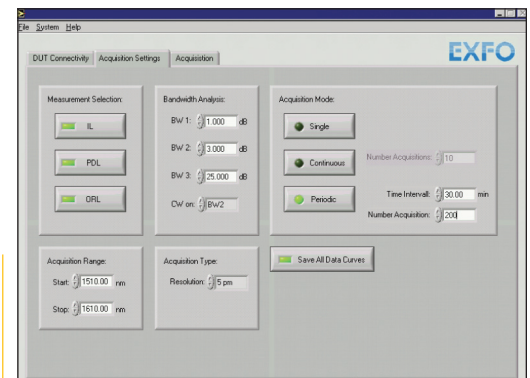
A qualified EXFO installation engineer will install and provide on-site training for the IQS-12004B-MPT.

## COMPATIBILITY

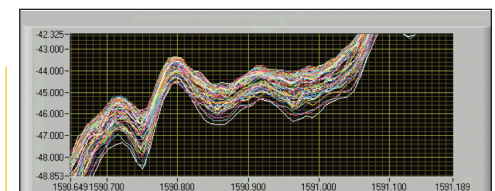
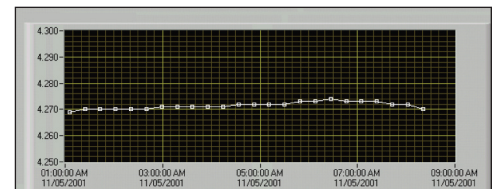
The IQS-12004B-MPT is now available for the new, powerful IQS-510P Intelligent Test System. This test configuration provides efficient testing of multiple input/output setups. The IQS-510P comes with a Pentium III processor and PC peripherals, as well as Ethernet and RS-232 ports for first-class connectivity and remote control. It is also available with a GPIB interface. For high-channel-count testing, add up to 9 expansion units.



Test single or multiple components in any combination. Mix components with different numbers of inputs and outputs.



Select the acquisition mode (single, continuous or periodic test), choose the type of measurement (IL, PDL and/or ORL), and configure analysis and search parameters in one single screen.



Configure the graphical display to show measurement traces (IL/ORL/PDL) or to show interpreted results (Ic, IL, BW, flatness, PDL, ORL, crosstalk). Configure the display to show the current trace or multiple traces.

### SPECIFICATIONS <sup>a</sup>

Loss measurement uncertainty <sup>b, c, e</sup>	± 0.06 dB
Loss measurement repeatability <sup>b, c, f</sup>	± 0.04 dB
PDL uncertainty <sup>b, d, e</sup>	± (0.05 dB + 5 % of DUT PDL)
PDL repeatability <sup>b, d, f</sup>	± (0.025 dB + 3 % of DUT PDL)
ORL uncertainty <sup>b, e, g</sup>	± 1 dB (0 dB to 45 dB)
	± 2 dB (45 dB to 50 dB)
ORL repeatability <sup>b, c, f</sup>	± 0.3 dB (0 dB to 45 dB)
ORL range <sup>b</sup>	0 dB to 55 dB
Operating temperature	Any stable temperature at ± 1 °C in the 20 °C to 30 °C range
All other specifications	Please refer to IQS-12004B spec sheet

### STANDARD ACCESSORIES

User guide, installation software CD and interconnecting patchcords

### OPTIONAL ACCESSORIES

Switch module with launch fibers  
Rackmount kit  
Video monitor

### NOTES

- All specifications are typical, after 60-minute warmup and testing a low loss components using the recommended EXFO accessories and EXFO low PDL switch.
- Using a semi-rigid patchcord between the IQS-9401 and the switch.
- Valid for spectrally uniform component. Does not include uncertainties due to connector or connector adapter.
- Valid for spectrally uniform component terminated with a non-angled connector. Does not include uncertainties due to connector or connector adapter.
- For first 100 cycles, within 100 hours after calibration and reference.
- For 100 consecutive cycles within 100 hours.
- Calibrated using a UPC connector with 14.7 dB of return loss.

### ORDERING INFORMATION

#### IQS-12004B-MM-MM-PP-MM-MM-XX-YY-ZZ

**MM:** Source option  
S2 = IQS-2600CT-89  
S3 = External source option

**MM:** Polarization option  
00 = None  
P1 = PDL option

**PP:** Number of expansion units  
10E = 1 additional IQS-510E expansion unit  
20E = 2 additional IQS-510E expansion units

**MM:** Number of channels  
04 = 4 channels  
08 = 8 channels  
12 = 12 channels  
16 = 16 channels  
XX = multiples of 4 up to 80

For more channels, call factory.

**ZZ:** Rackmount kit  
00 = Rackmount not required  
RMK3 = Temperature-controlled rack (include RK option for IQ-206)

**YY:** Switch model

00	Without	0 slot	1 patchcord
1-02	1x2 switch	1 slot	2 patchcords
1-04	1x4 switch	1 slot	4 patchcords
1-08	1x8 switch	2 slots	8 patchcords
1-12	1x12 switch	2 slots	12 patchcords
1-16	1x16 switch	3 slots	16 patchcords
1-24	1x24 switch	5 slots	24 patchcords
1-32	1x32 switch	5 slots	32 patchcords

**XX:** MultiPath Testing (MPT) Option  
00 = Option not required  
01 = EXFO switch and MPT software  
02 = External switch and MPT software

**MM:** GPIB/slave/master  
00 = None  
I3 = GPIB slave/master option



#### Rugged Handheld Solutions

- |                 |                                      |
|-----------------|--------------------------------------|
| <b>OPTICAL</b>  | <b>COPPER ACCESS</b>                 |
| - OTDRs         | - ADSL/ADSL2+, SHDSL, VDSL test sets |
| - OLTSs         | - VoIP and IPTV test sets            |
| - Power meters  | - Ethernet test sets                 |
| - Light sources | - POTS test sets                     |
| - Talk sets     |                                      |



#### Platform-Based Solutions

- |                        |                                 |                                             |
|------------------------|---------------------------------|---------------------------------------------|
| <b>OPTICAL FIBER</b>   | <b>DWDM TEST SYSTEMS</b>        | <b>TRANSPORT AND DATACOM</b>                |
| - OTDRs                | - OSAs                          | - Next Generation SONET/SDH and OTN testers |
| - OLTSs                | - PMD analyzers                 | - SONET/DSn (DS0 to OC-192) testers         |
| - ORL meters           | - Chromatic dispersion analyzer | - SDH/PDH (64 kb/s to STM-64) testers       |
| - Variable attenuators |                                 | - T1/T3, E1 testers                         |
|                        |                                 | - 10/100M and Gigabit Ethernet testers      |
|                        |                                 | - Fibre Channel testers                     |
|                        |                                 | - 10 Gigabit Ethernet testers               |

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at [www.EXFO.com](http://www.EXFO.com).

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EXFO is certified ISO 9001 and attests to the quality of these products. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. All of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit [www.EXFO.com/recycle](http://www.EXFO.com/recycle). However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor. For the most recent version of this spec sheet, please go to the EXFO website at <http://www.EXFO.com/specs>. In case of discrepancy, the Web version takes precedence over any printed literature.