

# The Intelligent Test System

IOS-500



Integrated test solutions for manufacturing, automation, optical qualification and R&D.



Fiber-optic test, measurement  
and monitoring instruments

**EXFO**

[www.valvelectronics.com](http://www.valvelectronics.com)

# Intelligent Test and Measurement for Optical Manufacturers

You've seen the demand for bandwidth rise, and rise again. You were there when DWDM shifted the paradigm. You know the quest for more system power never ends. And you are all too familiar with unforgiving deadlines and shrinking budgets. These are the challenges of today's optical world. Now learn about the solution.

EXFO, the company who introduced the modular concept to the optical test and measurement market, now brings you the next generation of modular optical test systems. Introducing the IQS-500 Intelligent Test System.

Achieve your objectives with this cutting-edge, fully flexible systems-based approach to optical test and measurement (T&M). The IQS-500 combines powerful features such as remote control and can run up to 100 modules. Known for offering the widest range of instruments on the market, EXFO is setting a new standard in T&M modular platforms.

Execute powerful data analysis and high-speed acquisitions with EXFO's IQS Manager software. This user-friendly software operates in the Windows 2000™ Professional operating system and efficiently handles all your test and measurement needs.

The IQS-500 Intelligent Test System is a scalable system that includes a modular platform, expansion units, remote control and a comprehensive software environment. This rugged hardware is readily adaptable to the most demanding optical T&M environments. The IQS-500 series is based on standard industrial PC architecture and provides all the connectivity standards and tools required for easy integration into your test environment.

Now, discover the IQS System, the ultimate optical T&M solution. For production, automation or R&D, the IQS-500 has the flexibility and compatibility to meet growing network demands.

## IQS Platforms

The IQS-500 Intelligent Test System is based on reliable, standard PC architecture using the best industrial motherboards available. The IQS-510P Control Unit is the heart of the Intelligent Test System. To answer growing test needs or larger system requirements, successive IQS-510E Expansion Units can be added.

The IQS-500 platforms are backward-compatible with the modules from the IQ-200 Optical Test System<sup>1</sup>.

### IQS-510P Control Unit

This core unit houses a Pentium III processor and offers PC peripherals to meet your needs for connectivity and remote control, including an Ethernet port and RS-232 port. An optional GPIB interface can also be added. With control of up to 9 IQS-510E Expansion Units, you can tailor this configuration to achieve maximum efficiency in your test system.

The IQS-510P is optimized for industrial use with 10 module slots. Add an optional 1U rack-mountable screen/keyboard combo to facilitate operation and save space.



### IQS-510E Expansion Unit

Expand your test and measurement system to as many as 100 modules by adding up to nine, 10-slot IQS-510E Expansion Units.



## Precise Testing from EXFO

For markets and customers in over 70 countries, EXFO provides precisely what the fiber-optic telecommunications industry needs to keep the Internet and high bandwidth growing. We provide industry-leading test, measurement and monitoring instruments to enable our customers to ramp up for speed, bandwidth and automation. With EXFO, you get solutions that are easy to deploy and easy to manage, delivering reliability and repeatability every step of the way.

<sup>1</sup>Some restrictions apply to certain modules. Contact EXFO for more information.

# IQS Operating System, Software and Services

Working under the Windows 2000™ Professional operating system, the IQS-500 Intelligent Test System offers you reliability, flexibility and an easy-to-use environment.

Manage your modules, configure your system, launch applications and analyze results, all with IQS Manager. The monitoring tool allows you to view all your instruments at once.

The Windows 2000™ operating system offer you many opportunities, such as handling your data locally with spreadsheet software or running your own applications using Visual Basic™, C++, LabVIEW™, LabWindows/CVI™ or other languages.

EXFO facilitates the integration of the Intelligent Test System into your testing solution by supplying LabVIEW™ drivers and COM interfaces. Control your system using local applications or through GPIB, RS-232 or Ethernet with these tools. EXFO provides you with all the gear necessary to develop applications to remotely control your instruments over the Ethernet using DCOM technologies.

**Your system possibilities are now virtually unlimited.**



## IQS Test Modules

EXFO offers you by far the widest range of modules on the market. Mix and match modules to build a system that meets any test and measurement challenge.

- |             |                                |             |                              |
|-------------|--------------------------------|-------------|------------------------------|
| • IQS-1100  | Power Meter                    | • IQS-3200  | Return Loss Meter            |
| • IQS-1500  | Calibration Power Meter        | • IQS-3400B | PDL/OL Meter                 |
| • IQS-1600  | High Speed Power Meter         | • IQS-5100B | Polarization Controller      |
| • IQS-2100  | Light Source                   | • IQS-5250  | Optical Spectrum Analyzer    |
| • IQS-2300  | ASE Broadband Source           | • IQS-5320  | Multi-Wavelength Meter       |
| • IQS-2400  | WDM Laser Source               | • IQS-6100  | EDFA                         |
| • IQS-2600  | C-Band Tunable Laser Sources   | • IQS-9100  | Optical Switch               |
| • IQS-2600B | C+L-Band Tunable Laser Sources | • IQS-9600  | Utility Modules and Couplers |
| • IQS-3100  | Variable Attenuator            |             |                              |

# IQS Systems

EXFO offers a comprehensive line of IQS-12000-series optical test systems. These powerful, cost-effective units can run as autonomous testing solutions, or be integrated into a larger system. IQS provides easy control of this type of configuration with its user-friendly software.

## IQS-12004B DWDM Passive Component Test System

The IQS-12004B provides fast and accurate high-resolution characterization of dense WDM passive components. The system combines a sweeping tunable laser source, multichannel optical power meters, a wavelength reference module and an optional polarization state adjuster.

This testing solution introduces several performance and functional breakthroughs, such as single-pass C+L-band testing, reduced testing time and hands-free PDL measurement.

The IQS-12004B quickly, completely and automatically characterizes DWDM passive components for IL, flatness, central wavelength, bandwidth, crosstalk, PDL, ORL and more.

## IQS-12007A Multiwavelength Comb Controller

The IQS-12007A is a fully integrated system that enables total control of a bank of IQS-2400 WDM laser sources. This system can be used either as a turnkey solution, or as a subsystem for integration into more complex automated test equipment.

The IQS-12007A integrates an OSA and power meter for accurate feedback of both power distribution and total power. A variable attenuator allows for control of total power while maintaining good spectral uniformity across the C+L-bands. An optical switch between the OSA and the power meter minimizes error caused by connecting and disconnecting instruments. A polarization scrambler or depolarizer reduces change in optical path loss and detection due to the time-varying state of polarization for all highly polarized channels. The polarization scrambler and depolarizer provide more stable, repeatable comb power distributions over time.



# IQS-500 Intelligent Test System

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## Flexibility. Engineered.

At EXFO, our engineers strive to offer you the ultimate in flexibility. The IQS-500 Intelligent Test System was designed with that idea in mind. Our team created intelligent solutions for the problem of system growth.

### Desktop Configuration

The IQS-500 features a built-in Pentium III computer, so you can connect the easy-to-use 10-slot IQS-510P Control Unit directly to an external monitor, mouse and keyboard for a cost-effective system configuration.



IQS-510P

### High-Count System Configuration

Use one IQS-510P Control Unit and up to nine IQS-510E Expansion Units for maximum modularity. This configuration offers you substantial possibilities in terms of the number and variety of modules that can be integrated into the system.

Integrate up to 100 single slot modules, such as WDM laser sources or attenuators, into a single system at an affordable price.



# Remote Control: A World of Possibilities

In today's world of automation, connectivity and remote control are critical. The IQS-500 Intelligent Test System can be configured to allow optimal system performance.

## GPIB Configurations

Via the optional GPIB, use the IQS-510P either as a slave or master instrument in your network.

Use the GPIB slave configuration to integrate the IQS-500 Intelligent Test System with your existing GPIB network. One GPIB address enables you to control up to 100 modules using sub-addresses as stated in the IEEE-488.2 standard. Extend your system to suit your needs.

Putting a new lab together? Want to get the most out of your instruments, especially the IQS-500? Why not use the IQS-500 to control your GPIB network? The unique PC-based architecture and Windows 2000™ Professional operating system provide all the latitude you need to do so. Run any of your applications using C++, Visual Basic™, LabVIEW™, or others, directly on the Intelligent Test System.

GPIB configurations are in conformity with the IEEE-488 standard.

## Ethernet

Now EXFO gives you all the tools you need to develop a test solution using Ethernet. The standard Ethernet connection allows you to connect to your LAN, using DCOM objects and LabVIEW™ DataSocket for all your programming applications.

## RS-232 Configuration

If you need to control a single instrument or just the IQS-500, opt for the simplicity of the RS-232 configuration.

## The Power Is in Your Hands

- Industrial motherboard Pentium III processor
- 10/100Base-T Ethernet for remote control or LAN connection
- Up to 512 MB SDRAM
- Two USB ports
- Internal 3.5 in, 1.44 MB floppy drive
- Internal CD-ROM for easy software upgrades and optional CD-RW available.
- Serial and parallel ports
- External monitor, keyboard and mouse ports
- 19-inch rack mountable
- Windows 2000™ Professional operating system
- IQS Manager Software
- LabVIEW™ drivers, COM/DCOM objects

## Specifications

IQS-510P		IQS-510E	
CPU	Industrial Pentium III, 866 MHz, 256 Mb memory	Interface	EXFO bus II input/output
Software	Window 2000™ Professionel IQS Manager	Power	100-240 VAC, 50/60 Hz
Interfaces	10/100 Base-T Ethernet Serial RS-232 Parallel port External monitor port	Dimensions	43.9 cm x 13.3 cm x 49.5 cm (17 1/4 in x 5 1/4 in x 19 1/2 in)
	2 USB ports External keyboard/mouse EXFO bus II output	Weight	12.8 kg (28.3 lb)
Storage	Internal 20 GB hard drive (minimum) Internal 3.5 in 1.44 MB floppy drive Internal CD-ROM optional	Temperature	
Power	100-240 VAC, 50/60 Hz	Operating	0 °C to 40 °C (32 °F to 104 °F)
Dimensions	43.9 cm x 17.7 cm x 49.5 cm (17 1/4 in x 7 in x 19 1/2 in)	Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Weight	16.6 kg (36.7 lb)	Relative humidity	0 % to 80 % non-condensing at 40 °C
Temperature			
Operating	0 °C to 40 °C (32 °F to 104 °F)		
Storage	-40 °C to 70 °C (-40 °F to 158 °F)		
Relative humidity	0 % to 80 % non-condensing at 40 °C		

## Ordering Information

### IQS-510P-XX

#### Options:

- 01 Carrying case for one IQS-500 platform
- I3 GPIB Master/Slave card
- RK4 Rackmounting brackets for IQS-510P (kit of 2)
- N10 256 MB of RAM (standard)
- N12 512 MB of RAM (Additional 256 MB)
- K2 Keyboard and mouse
- G1 CD-ROM (standard)
- G2 CD Writer (replaces the standard CD-ROM).

#### Accessories

- |   |   |
|---|---|
| GP-3000 Carrying case for one IQS-500 platform                                      | GP-130 GPIB cable (6ft./2m)             |
| GP-3001 Carrying case for 10 IQS modules  | GP-215 PS/2 Keyboard                    |
| GP-3002 Kit including one of each of the above carrying cases (GP-3000 and GP-3001) | GP-3006 PS/2 Mouse                      |
| GP-3002 GPIB Master/Slave card  | GP-3005 LCD/Keyboard/Touchpad 1U Drawer |
|   | GP-3004 IQS Blank Plate                 |

### IQS-510E

- 01 Carrying case for one IQS-500 platform
- RK3 Rackmounting brackets for IQS-510E (kit of 2)
- E0 EXFO BUS II - 1' cable
- E3 EXFO BUS II - 2.5' cable
- E4 EXFO BUS II - 5' cable

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