

# Multiple Application Platform

## MAP-200



MAP-230 (top) and MAP-280 (bottom) mainframes

### Key Features

- Available in three mainframe configurations
- GPIB- and LXI-compliant (Ethernet)
- Optional 10.4-inch touch screen display module with integrated keypad and scroll wheel
- DVI port for external display
- USB device ports for external keyboard and mouse
- Hot-swappable module (module can be inserted or removed without powering down)
- Field replaceable controller/power supply module
- Compatible with current MAP modules

### Applications

- Enables transceiver and transponder testing
- Permits comprehensive passive and active component, laser, and amplifier testing
- Facilitates 10 G and 40 G system and subsystem testing

### Compliance

- Optical source modules, when installed in the MAP Mainframe, meet the requirements of standard IEC 60825-1(2002) and comply with CFR 1040.10 except deviations per Laser Notice No. 50, July 2001 Key Feature Number 4
- CSA/UL/IEC 61010-1
- LXI Class C compliant

The JDSU Multiple Application Platform (MAP-200) is an optical test and measurement platform optimized for cost-effective development and manufacturing of optical transmission network elements. Today's rapidly changing optical market requires investment in productivity-enhancing technologies and tools, making the MAP-200 scalable test platform the right tool needed in even the most stringent environments.

Based on the previous-generation Multiple Application Platform (MAP), the MAP-200 builds on the differentiation of offering the broadest portfolio of modules in the densest and most configurable platform. The MAP-200 is optimized for test applications in lab and manufacturing environments ranging from insertion loss testing to dispersion penalty testing (see Table 1).

#### Passives

- Insertion Loss
- Polarization Dependent Loss
- Return Loss

#### Lasers and Amplifiers

- Gain Flatness
- Output Power
- Transient Response
- Spectral Width
- Side Mode Suppression Ratio
- Wavelength
- NF and OSNR

#### Optical Transport

- Stress Receiver Compliance
- Jitter Testing
- Sensitivity
- Dispersion Penalty
- SMSR
- Receiver Overload
- Eye Mask/Extinction Ratio
- OSNR Sensitivity

Table 1 List of MAP-200 applications by technology

### Multiple MAP-200 Mainframe Configurations

The MAP-200 mainframes are offered in three configurations for optimal adaptability within test sets: a three-slot configuration and a 19-inch rack, eight-slot configuration with either front- or rear-facing orientation for optimal fiber routing. All three configurations are 3 RU high. The MAP-200 mainframes come standard with hardware required for bench-top use including rubber-accented feet located at the corners for optimal stability and vibration isolation. Investment protection is maximized by use of a simple transition kit, which allows insertion of previously field-deployed MAP modules in the MAP-200 mainframe. Furthermore, the MAP-200 provides additional cost savings by letting users share the modules within a mainframe.

### High-Performance MAP-200 Modules

The MAP-200 portfolio of modules include 16 types of high-performance modules including signal conditioning and switching, sources and amplification, and power meters.

**MAP Power Meters** provide high absolute power measurement accuracy over a broad power and wavelength range. They support a broad combination of fiber types and connectivity option optimized for datacom and telecom applications.

**MAP Amplifiers** are designed to meet the broadest optical signal amplification applications. They are available at various saturated output power, gain flattened or nongain flattened, C-band, L-band, and with low noise figure.

**MAP Attenuators** provide the highest performance optical power control solution. The attenuators offer the lowest insertion loss, highest input power capability, low polarization dependent loss (PDL), high dynamic range, and ultra-flat attenuation over wavelength.

**MAP Tunable Filters** provide the lowest loss and narrowest bandwidth filter with the highest input power capability in the industry.

**MAP Switches** are the most configurable optical signal routing solutions in their class. MAP Switches are available in configurations including low channel count matrix (2x2) and single input to multiple outputs ranging from 2 to 50. In the 1x2 and 2x2 format, the modules are available with up to eight switches per single slot module.

**MAP Sources** are ideal sources for applications requiring a stable stimulus for parametric measurements. The sources are available at key telecom wavelengths, with broad or narrow spectral bandwidth, or with tunable spectrum.

Other functions available in the MAP-200 include a variable backreflector, polarization controller, RF switch, and utility modules.

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Figure 1 Keypad/display module

### Elaborate Local Interface and Friendly Graphical User Interface

To view the graphical user interface (GUI) and for local control, the MAP-200 mainframes are compatible with standard universal serial bus (USB) keyboards, USB mice, and digital video interface (DVI) monitors. For added convenience and flexibility, JDSU offers an optional purpose-built keypad/display module (MAP-200KD), shown in Figure 1, that provides full local control capabilities. The MAP-200KD features a scroll wheel, seven soft keys, five navigation buttons, plus seven pre-assigned buttons to navigate the GUI. Touch capability and user-friendly controls come standard for operation with the touch of a finger or with the supplied stylus. Located at the back of the MAP-200KD module is an industry-standard mounting hole compatible with commercially available display mounts or the purpose-built MAP-200 Keypad Display 19-inch rack-mount kit (MAP-200A09). Alternatively, the GUI can be accessed in a PC environment via a virtual network connection (VNC) client.

When in use with the MAP-230 mainframe, shown in Figure 2b, the MAP-200KD module can be mounted to the top face of it. Pop-out feet located on the mainframe lets users position the combined unit in a front-facing manner to ensure optimal viewing and interaction with the unit.



Figure 2a



Figure 2b

Figures 2a and 2b Suggested MAP-230 and MAP-200KD implementation. Figure 2a shows the MAP-200KD mounted on the MAP-230, an optimal configuration for applications requiring high interactivity with the GUI. Figure 2b shows the MAP-200KD next to the MAP-280, a configuration that is optimal for applications requiring high interactivity with the device under test (DUT) and the MAP-200 modules, as well as monitoring via the GUI.

### Extensive Input/Output Interfaces

The MAP-200 is a USB-, General Purpose Interface Bus- (GPIB-), and Ethernet-enabled device that supports the latest test equipment interface standard, local area network (LAN) extension interface for instrumentation (LXI). LXI is the Ethernet-based successor to GPIB. The LXI standard defines devices using open-standard for system inter-device communication.

All mainframe configurations include:

- GPIB, Ethernet, and USB device ports for remote communication
- 4 USB host ports for installing peripheral devices, including USB drives, a mouse, and a keyboard
- LXI-compliant Trigger Bus connections
- Ethernet reset button
- Laser interlock key in the front and remote interlock connector in the rear
- LXI-compliant light emitting diodes (LEDs) on the front panel
- DVI connector for external monitor

### Standard Compliant Automation Drivers

MAP-200 is supplied with Interchangeable Virtual Instrument (IVI) drivers, which are intuitive and optimized for ease of use with popular Application Development Environments such as LabVIEW, Visual C++, Visual Basic, and LabWindows™. These drivers provide full control of the modules and provide drop-in instrument programming capabilities, allowing test programmers to focus on test-level functions and sequences rather than the details required to communicate with the specific modules in the MAP system. The IVI drivers come with a built-in simulator that lets Automation Developers capture system configurations so they can perform most of their development off line, freeing hardware for other purposes. These features make test automation development and debugging fast and easy.

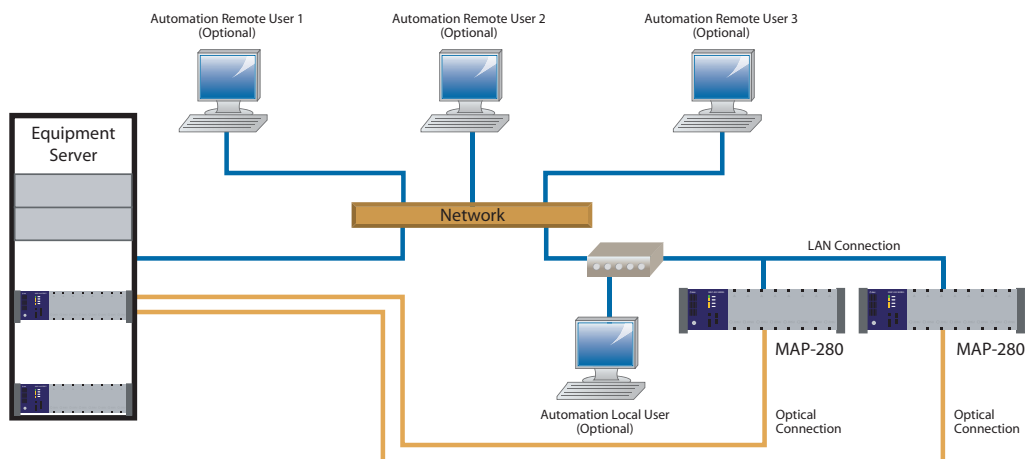


Figure 3 MAP implementation within a shared resource environment

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**Mainframe Specifications**

Parameter	MAP-230	MAP-280	MAP-280R
Capacity	3 modules	8 modules	8 modules
Controller		Power PC architecture	
CPU		Linux	
Operating System		200 MB user flash storage	
Internal Storage			
Interfaces		USB, GPIB, Ethernet 10/100/1000Base-T	
Remote interface		Mouse, keyboard, memory stick	
USB device compability		External MAP-200KD (optional) or standard DVI monitor	
Display			
Ports		2 rear and 2 front	
USB host ports		1 front	
USB device ports		1 rear	
LAN		1 rear	
GPIB		1 rear	
DVI video		1 rear	
LXI triggers		25-pin Micro-D connectors	
Automation		IVI-compliant	
Driver type		LabVIEW, LabWindows, Visual C++, Visual Basic	
Driver compatibility		Multi-user sharing support	
Accessibility			
Electrical and Safety		100 to 125V AC/200 to 240V AC, 50/60 Hz, Auto-switching (field-replaceable as part of the power supply controller module)	
Power		200 VA	
Power consumption		Key located in front	
Local interlock		Terminals located in rear	
Remote interlock			
Mechanical and Environment			
Rack-mount kit	Optional	Included	Included
Dimensions (W x H x D) <sup>1</sup>	29.2 x 14.9 x 42.0 cm (11.5 x 5.9 x 16.6 in)	49.6 x 14.9 x 42.0 cm (19.6 x 5.9 x 16.6 in)	49.6 x 14.9 x 42.0 cm (19.6 x 5.9 x 16.6 in)
Weight	5.9 kg (13 lb)	6.8 kg (15 lb)	6.8 kg (15 lb)
Operating temperature		0 to 50°C	
Storage temperature		-30 to 60°C	
Humidity		<80% RH, 0 to 40°C non-condensing	

1. Dimensions include bench-top mounting hardware

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**MAP-200KD Display Specifications**

<b>Parameter</b>	<b>Specification</b>
Display dimensions (H x W)	10.4-inch color screen
Resolution	800 x 600 resolution
Power	Supplied from mainframe via MAP-200A01 Keypad/Display Cable Harness Kit
Weight	1.8 kg (4 lb)

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**Ordering Information**

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at [customer.service@jdsu.com](mailto:customer.service@jdsu.com).

<b>Product Code</b>	<b>Description</b>
<b>Mainframes (Required)</b>	
MAP-280	MAP-200 8-slot mainframe
MAP-280R	MAP-200 8-slot mainframe factory reversed configuration
MAP-230	MAP-200 3-slot mainframe
<b>Power Cords (Required)</b>	
CORD-AU	Australian power cord
CORD-EU	European power cord
CORD-JP	Japan power cord
CORD-UK	United Kingdom power cord
CORD-US	United States power cord
<b>Accessories (Optional)</b>	
MAP-200KD	MAP-200 stand-alone keypad/display module
MAP-200A01	MAP-200KD keypad/display cable harness kit
MAP-200A03	MAP-280 8-slot mainframe 19-inch rack-mount kit
MAP-200A05	MAP-200 adaptor kit for single width MAP modules (requires one kit per device)
MAP-200A05D	MAP-200 adaptor kit for double width MAP modules (requires one kit per device)
MAP-200A09	MAP-200KD keypad/display module rack-mount kit
MAP-200A10	MAP-200 3-slot mainframe 19-inch rack-mount kit
<b>Replacement/Spare Parts (Optional)</b>	
MAP-200A02	MAP-200 controller for MAP-280 and MAP-230
MAP-200A02R	MAP-200 controller for MAP-280R
MAP-200A04	MAP-200 safety interlock key
MAP-200A06	MAP-200 blanking plates (kit of 3)
MAP-200A07	MAP-200 stylus
MAP-200A08	MAP-230 3-slot mainframe flip-up feet
MAP-200A11	MAP-200 detachable side panels for bench-top use
MAP-200A12	MAP-200 handles for detachable side panels

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