

R&D into Fast 40G and Ultra-fast 50G Devices for Next-Generation Communications

MP1821A/MP1822A

50G/56Gbit/s MUX/DEMUX

Internet Exchanges (IX) and ISPs require larger network capacities as more Internet users access more rich-content services over faster access networks such as DSL, LTE, WiMAX, FTTx, etc. To meet these needs, IEEE, ITU-T, and OIF are working to define issues and new standards for next-generation 40G and 100G networks. These new standards use WDM transmission equipment and phase-modulation technologies to curb symbol rate but further expansion of transmission capacity requires higher symbol rates.

The MP1821A 50G/56Gbit/s MUX and MP1822A 50G/56Gbit/s DEMUX supports operation frequencies up to 56 Gbit/s to meet these needs. Moreover, a full line of versatile functions and excellent performance for R&D into 40G fast next-generation devices, and ultra-fast 50G optical modules, supports customers with the perfect solution for bringing new products to market as early as possible.



MP1821A
50G/56Gbit/s MUX

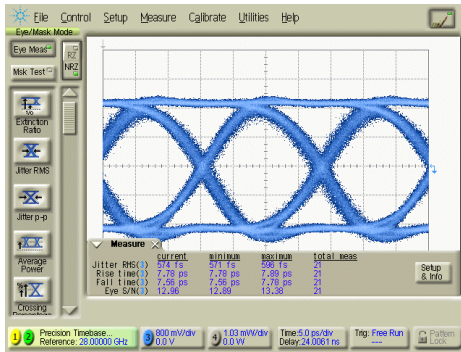


MP1822A
50G/56Gbit/s DEMUX

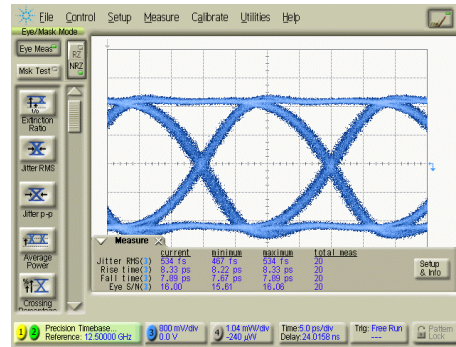
■ Key Features

- **Supports 56Gbit/s Max. Operation Frequency**
Anritsu provides the best measurement solutions for fundamental R&D in the 40G market and ultra-fast next-generation communications at more than 50G.
- **Compact Remote Head**
Shorter cables to the DUT keep signal quality high.
It supports direct evaluation of wafer on the probe station. Troubleshooting at the early R&D phase cuts repeat work and time to product rollout.
- **Sophisticated Waveform**
High-speed Tr/Tf and low-jitter waveforms are ideal for evaluating electronic devices. In addition, direct driving of modulators without an external amplifier supports high-quality measurement results.
 - 8 ps (20% to 80%) high-speed Tr/Tf time
 - Maximum 3.5 Vp-p high amplitude waveform
 - 4 psp-p low-jitter waveform
 - 30% to 70% wide crosspoint adjustment function
- **Automatic Measurement Function**
Eye Margin, Eye Diagram, Bathtub, Q, ISI Analysis and Capture functions are supported. A full range of versatile analysis functions help cut design verification times.
- **Pre-Code/De-code Functions**
40G DPSK/ODB modulation signals are generated to evaluate optical modulators using the pre-code function. Moreover, the de-code function performs logic evaluation of pre-code blocks.
- **Flexible Expandability**
The MP1800A supports operating frequencies from 0.1 to 28 Gbit/s. Moreover, combination with the MP1821A/22A expands supported speeds to 56 Gbit/s and minimizes R&D investment for next-generation technologies.

■ Typical Waveforms



56Gbit/s, 3.5Vp-p, PRBS31



50Gbit/s, 3.5Vp-p, PRBS31

■ Specifications

MP1821A 50G/56Gbit/s MUX

Item	Specification		
Operation Frequency	8 to 50 Gbit/s 8 to 56 Gbit/s (option-001 installed)		
External Clock Input	Number of Input: 1		
Data Output	MP1821A-010	MP1821A-011	MP1821A-013
Number of Output	2 (Data/xData)	2 (Data/xData)	2 (Data/xData)
Amplitude *	H: 0V, L: -0.4V	0.5 to 2.5 Vp-p/2 mV steps	0.5 to 3.5 Vp-p/2 mV steps
Offset *	-	-2 to +3.3 Voh/1 mV steps	-2 to +3.3 Voh/1 mV steps
Crosspoint *	-	30% to 70%/0.1% steps	30% to 70%/0.1% steps
Tf/Tf *	10 ps typ. (20% to 80%)	8 ps typ. (20% to 80%)	8 ps typ. (20% to 80%)
Total Jitter *	4 ps p-p typ.	4 ps p-p typ.	4 ps p-p typ.
Clock Output	Number of Output: 1		
1/2 Clock Output	Number of Output: 1		
1/4 Clock Output	Number of Output: 1		
1/4 Data Input	Number of Input:4 (Data1, Data2, Data3, Data4)		
Variable Data Delay	- 1000 to +1000 mUI/4 mUI steps (option-030 installed)		
USB Interface	USB 2.0 or 1.1 Type B x 1		
Dimension	70 mm (H), 100 mm (W), 140 mm (D) 90.9 mm (H), 100 mm (W), 140 mm (D) (option-030 installed)		

*: Values when using oscilloscope with residual jitter <200 fs (RMS) and sampling bandwidth >70 GHz

MP1822A 50G/56Gbit/s DEMUX

Item	Specification
Operation Frequency	8 to 50 Gbit/s 8 to 56 Gbit/s (option-001 installed)
External Clock Input	Number of Input: 1
Data Input	Number of Input: 2 (Data, xData)
Input Amplitude	0.2 to 0.5 Vp-p (Single-end)
1/4 Clock Output	Number of Output: 1
1/4 Data Input	Number of Output: 4 (Data1, Data2, Data3, Data4)
Variable Clock Delay	-1000 to +1000 mUI/4 mUI step (option-030 installed)
USB Interface	USB 2.0 or 1.1 Type B x 1
Dimension	70 mm (H), 100 mm (W), 140 mm (D) 90.9 mm (H), 100 mm (W), 140 mm (D) (option-030 installed)

See the MP1821A/22A catalog for detail information.