

Optical Shuffle Polarity Testing

How do you Find Flaws in Optical Systems with Multiple Signal Pathways?

As the demand for more information in smaller form factors increases, optical shuffles emerge as a method for maximizing the efficiency of an optical network. Their ability to route signals in many different directions increases the complexity of testing these systems. All possible signal routes must be evaluated for proper signal transmission and quality. Any misrouted fibers in patchcords can cause downtime in networks and identifying those errors early in the production process can reduce the cost of labor required to re-terminate those cables.

Verify Polarity and Signal Quality with the OP415 Polarity Analyzer

OptoTest's Polarity Analyzer, the OP415, has 24 individual sources and detectors that can all be controlled independently. This means that no matter what the mapping on the cable is, the OP415 will be able to characterize it. The unit was designed with the modern fiber production line in mind; it analyzes both single mode and multimode cables with the same accuracy and speed.

Additionally, OP415s can be controlled by USB, via DLLs provided by OptoTest or in our OPL-Max multifiber testing platform. Controlling the OP415 using software allows the operator to integrate polarity testing into the same test procedure as their existing ILRL tests and have the results save in the same location and print on the same test report.



Specifications

Individual Detector Count	24	
Laser Sources, Red Visible Light	24	
Optical Interface	Source: SM MTP APC male	Receive: MM MTP APC male
Internal Fiber v	Source: 9/125µm	Receive: 62.5/125µm
Laser Wavelength	650nm	
Output Power (Typical)	1.0 mW	
Power Supply	+9VDC 5A	
Data Interface	USB 2.0	
Dimensions	8.5" x 3.5" x 10"	
Test Time (24f)	< 1.5s	

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A Scalable and Flexible Test Solution

Each unit has 24 channels of sources and detectors and up to 16 units may be connected at once, allowing for up to 384 channels of simultaneous polarity testing. The ability to control multiple OP415s through software makes it adaptable to fluctuating fiber counts and allows the platform to adapt as your needs change.

With multiple OP415s, polarity verification of complicated mappings across numerous MTP connectors, such as with shuffles and distribution cassettes, becomes a quick and simple process with a traceable test result. When the shuffle system has more fibers than there are sources to light them, pause steps in the software will allow the operator to make the necessary connections to step through all combinations.

Setup: Single mode MTP IL/RL Map Verify 1M

Data Dir: MTP12-12

Data File: S541261ALS

Sequence: Single Mode MTP IL_map24.xls

Done

Map	Src Pin	Rcv Pin	Src Label	Rcv Label
1	1	12	Pin 1	Pin 12
2	2	11	Pin 2	Pin 11
3	3	10	Pin 3	Pin 10
4	4	9	Pin 4	Pin 9
5	5	8	Pin 5	Pin 8
6	6	7	Pin 6	Pin 7
7	7	6	Pin 7	Pin 6
8	8	5	Pin 8	Pin 5

#	Termination	Source	Source Ch	WLA	WLB	OPM	OPM CH	Wav Type	Ref WLA	Ref WLB	dBm WLA	dBm WLB	dBm WLA	dBm WLB	Direction	Pass/Fail	Result	HE SRC	HE OP	
1	Measure							Map Type 112	0.00	0.00										
2								Pause	0.00	0.00										
3	PinA-1	RL1	1	1310	1550	OPMRL1	1	IL and RL(1)	-0.27	-1.10					50.92	51.73	0	FC-LPC	1	1
4	PinA-2	RL1	2	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.77	51.48	0	FC-LPC	1	1
5	PinA-3	RL1	3	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.76	51.47	0	FC-LPC	1	1
6	PinA-4	RL1	4	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.84	51.53	0	FC-LPC	1	1
7	PinA-5	RL1	5	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.80	51.48	0	FC-LPC	1	1
8	PinA-6	RL1	6	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.72	51.38	0	FC-LPC	1	1
9	PinA-7	RL1	7	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.84	51.54	0	FC-LPC	1	1
10	PinA-8	RL1	8	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.81	51.26	0	FC-LPC	1	1
11	PinA-9	RL1	9	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.81	51.50	0	FC-LPC	1	1
12	PinA-10	RL1	10	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.85	51.54	0	FC-LPC	1	1
13	PinA-11	RL1	11	1310	1550	OPMRL1	1	IL and RL	-0.27	-1.10					50.85	51.52	0	FC-LPC	1	1

Contact Us

To learn more about the OP415 Polarity Analyzer and schedule a free demonstration, contact our [Sales Team](#).

Let OptoTest help you with the right test solution: sales@optotest.com | 1.805.987.1700

