

C SERIES

SV7C-PAM3

12-Channel, PAM3 Bit Error Rate Tester



Highly Integrated BERT for GDDR7, USB4, and Other Interfaces

The SV7C-PAM3 is an ultra-portable bit error rate tester (BERT) for high-speed interfaces that operate with PAM3 signaling. Featuring 12 separate pattern generators with per-pin control over voltage, timing, and jitter, this product is ideal for receiver stress testing activities. Similarly, its native PAM3 error detectors enable loopback testing, long-term bit error rate testing, and PAM3 eye diagram analysis. Coupled with Introspect’s seamless, easy-to-use development environment, Pinetree, this tool enables product engineers with widely varying skill sets to efficiently work with and develop PAM3 products.

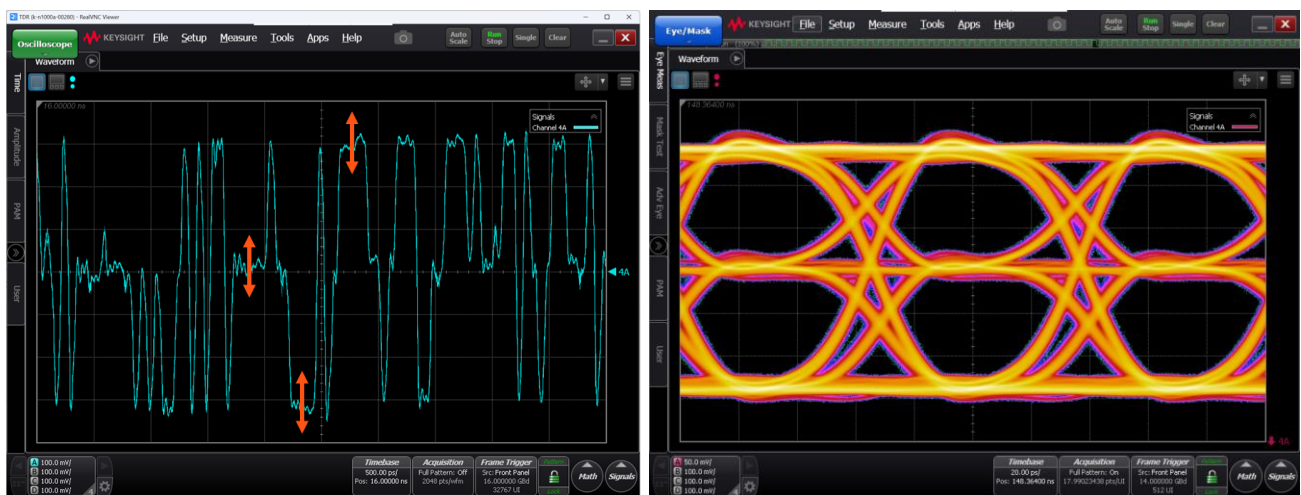
KEY FEATURES:

- **Data Rates:** Fully continuous data rate from 1 Msps to 40 Gbps with kbps resolution.
- **Signal Impairments:** Each pattern generator channel offers independent voltage, timing and jitter injection.
- **Pattern Generation:** Generate different PAM3 encoding schemes based on the specifications or generate your own encoding scheme.
- **Easy to Use:** Pinetree enables interactive operation or full automation.

KEY BENEFITS:

- **Parallel:** With increasing crosstalk issues, a truly parallel system allows for the most comprehensive “stress test” that is possible.
- **Protocol-aware:** Train the links and test them using the same product and without requiring special test modes.
- **Automated:** Scripting capability is ideal for debug tasks, firmware verification, and full-fledged production screening of devices and system modules.

Typical Application: Pattern Generator Eye Performance at 28 Gbps PAM3

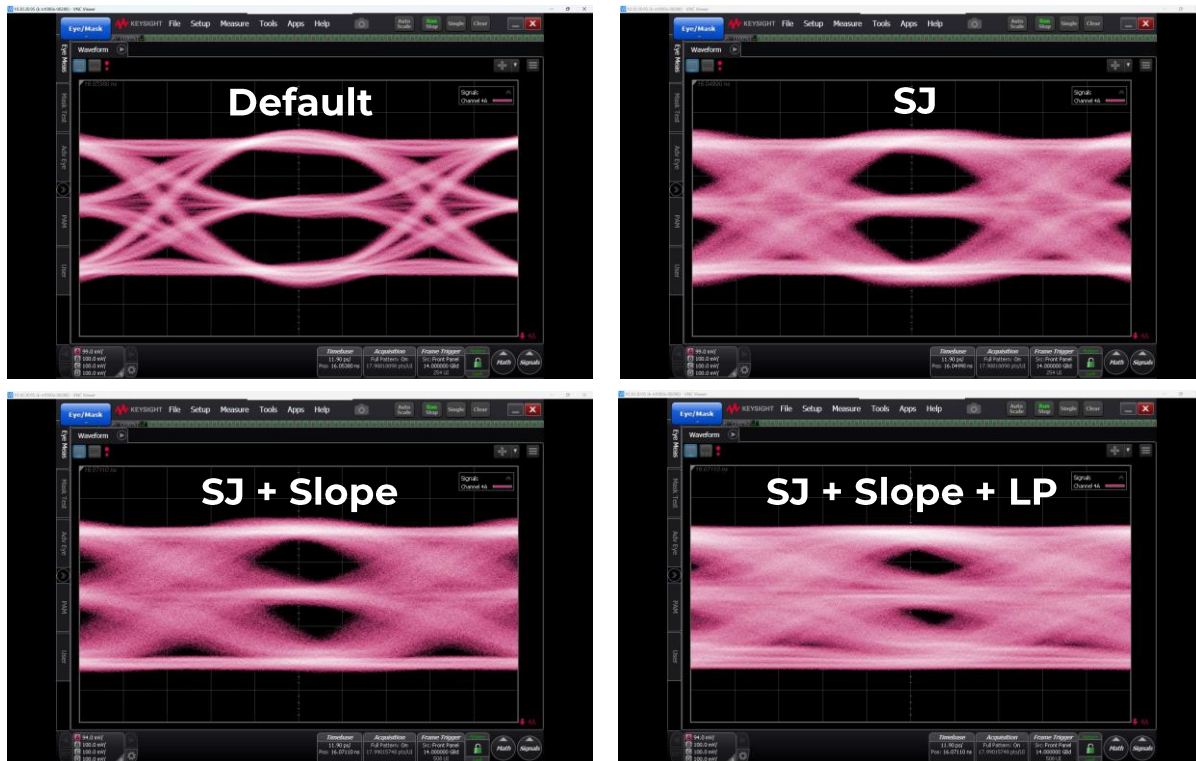


Waveforms from an SV7C-PAM3 output connected to a 50 GHz oscilloscope.

Hardware Features

PARAMETER	VALUE	UNITS	DESCRIPTION
Number of Channels	12		Each channel is independently controlled
Target PAM3 Data Rate	40	Gbps	Supports GDDR7 and USB4 Gen 2
Tx Phase Setting Resolution	1	ps	Per-pin phase control
Rx Phase Setting Resolution	1.5	ps	Per-pin phase control
Voltage Range	0 – 1.2	V	Per-pin voltage control
Tx Voltage Setting Resolution	10	mV	Enables sensitivity testing
Rx Voltage Resolution	10	mV	Enables eye diagram testing
Tx Slope Control	5	Settings	Enables changing rise time from fast to slow
Tx De-Emphasis	2	Taps	Up to ~12 dB of EQ for long channels

Receiver Stressed Eye Impairment Generation Examples



Signal eye of the SV7C-PAM3 BERT with different kinds of impairments selected through Pinetree.