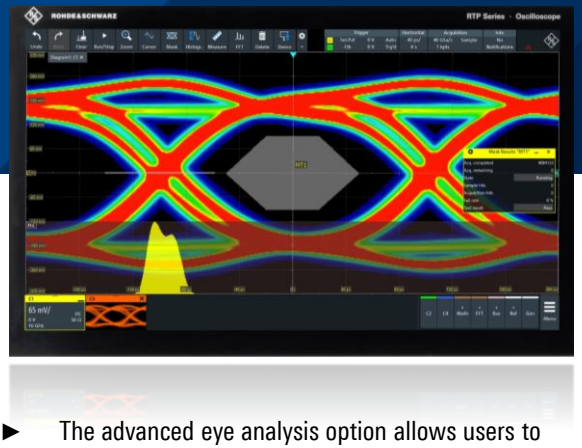
ROHDE&SCHWARZ
Make ideas real

R&S®RTP-K136/137 8/16 GBPS ADVANCED EYE ANALYSIS

Get your results faster.



- The advanced eye analysis option allows users to generate eye diagrams quickly and offers comprehensive tools for in-depth analysis
- For serial data interfaces with embedded clock signals, it features user-configurable clock data recovery that is built into the R&S®RTP oscilloscope trigger hardware

The perfect choice for

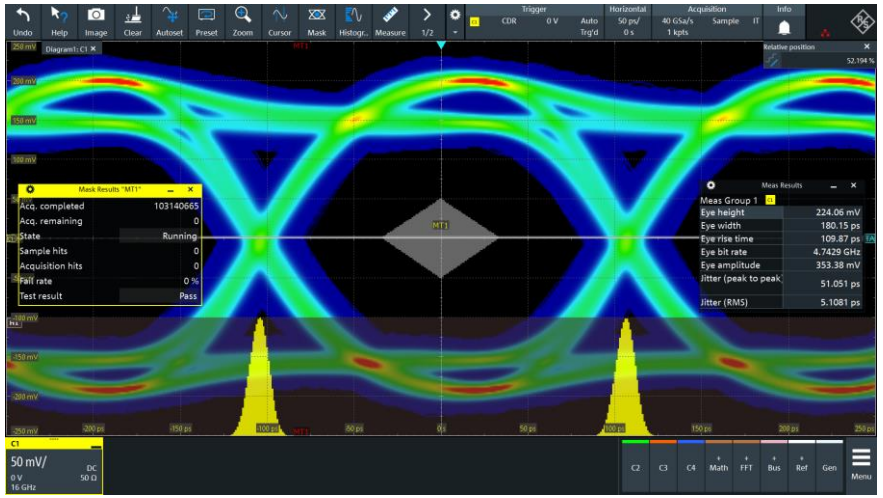
- High speed interface characterization
- System design debugging
- Eye diagram measurements
- Mask and histogram testing

Key specifications	Hardware clock data recovery (HW-CDR)
Nominal bit rate	21 kbps to 8/16 Gbps
Bandwidth	1/500 to 1/3000 of the nominal bit rate
Source	Analog channels, differential channels
Display	Display recovered clock as a math signal
Others	Combinable with real-time deembedding

Your benefit	Features
Continuously running clock data recovery as part of trigger hardware	► User-configurable nominal bit rate and tracking bandwidth ► Selectable serial standards for configuration ► Automated bit rate estimation
Live eye diagram for long-term monitoring and detection of rare faults and interferers	► > 400 000 unit intervals/s ► Continuously trigger and display overlay of individual bits ► Apply hardware accelerated masks and histograms
From quick insights to in-depth results	► Three steps to an eye diagram (select source, select serial standard, set state to “ON”) ► Use gates, qualifying signals and bit pattern filters to focus analysis ► Eye stripe function to navigate between mask test violations and coupled zoom to investigate details ► Choose from 18 automated eye measurements ► Select a mask from a standard mask library

Scan or click for more information

Live eye diagram – fast, continuous acquisition and overlay of single bits

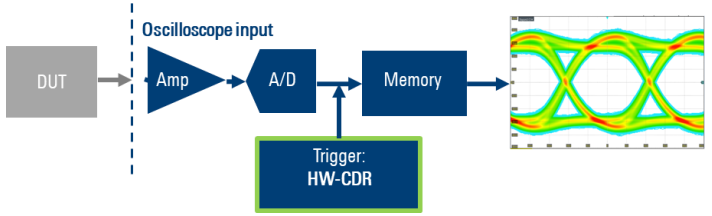


Test configuration for 5 Gbps data signal: CDR trigger; 50 ps/div horizontal scaling to acquire one bit at a time.

Fastest signal integrity debugging

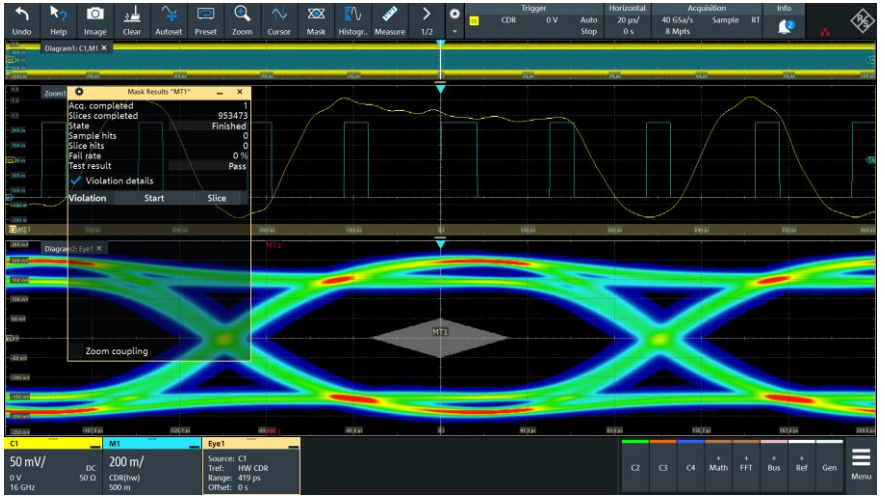
- Fast glance on jitter and noise due to > 400 000 unit intervals/s
- Detects rare interferers, e.g. crosstalk between adjacent components
- Allows long-term monitoring over hours and days
- Use masks and histograms

HW-CDR as part of the R&S®RTP oscilloscope trigger system



The integrated CDR triggers data bits based on the signal's embedded clock timing

Advanced eye diagram – acquisition of bit stream and overlay of HW-CDR sliced bits



Test configuration for a 5 Gbps data signal: CDR trigger; 20 µs/div horizontal scaling to acquire 1 million sequential bits.

In-depth signal integrity characterization

- Analyze the data eye based on the bitstream length defined in interface standards, e.g. USB 3.2 Gen1: 1 mil. UIs
- Characterization of transmitter output (TX) and signal path, e.g. data dependent jitter and noise
- Display and perform further analysis on HW-CDR signal (math signal)
- Advanced configuration of eye diagram (display, gate, bit pattern, etc.)
- Eye stripe function to navigate between mask test violations in the coupled zoom
- Apply automated eye measurements

Ordering details	
Description	**Item**
16 GHz high-performance oscilloscope	R&S®RTP164B
8 Gbps advanced eye analysis option	R&S®RTP-K136
16 Gbps advanced eye analysis option	R&S®RTP-K137

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