

Option 31 - Sync-E TAP



With the introduction of Sync-E, it is of utmost importance to determine whether the clock, which is sent to NodeBs or MSANs, is within the quality requirements in terms of stability. Therefore Sync-E requires wander measurements during commissioning, installation and troubleshooting. The combination of the PENDULUM WM-11 Wandermeter and the new option 31 Sync-E TAP forms the perfect solution for these challenges and allows direct TIE, MTIE and TDEV clock quality measurements of optical Gigabit lines.

Overview

The Sync-E TAP extracts the 125MHz Ethernet clock from an optical Gigabit signal. This 125MHz output signal is 100% synchronized to line signal and can be passed to the Pendulum WM-11 Wandermeter for TIE, MTIE and TDEV analysis and comparison against ITU-T Recommendations. Note that the WM-11 has to be upgraded with option 32/UPG (extended frequency range upgrade).

Network Link

The Sync-E TAP is a fully passive and transparent (data and clock) network device; connected Ethernet traffic is not influenced at all. Thus the original optical Gigabit Ethernet traffic is protected and safe, even if the TAP loses power. Moreover, it features 100% throughput and zero delay.

The network link can be either Multimode (850/1300nm) or Single-mode (1310/1550nm) and features LC Duplex connectors.

Clock Outputs

The Sync-E TAP features two separate 75 Ohm BNC-f clock outputs. These outputs (A and B) deliver 125MHz signals which are 100% synchronized to the optical Gigabit Ethernet signal.

Output A delivers a 125MHz signal which is 100% synchronized to the Gigabit Ethernet Signal from side A while output B delivers a 125MHz signal that is synchronized to the Ethernet signal coming from side B.

Robust design

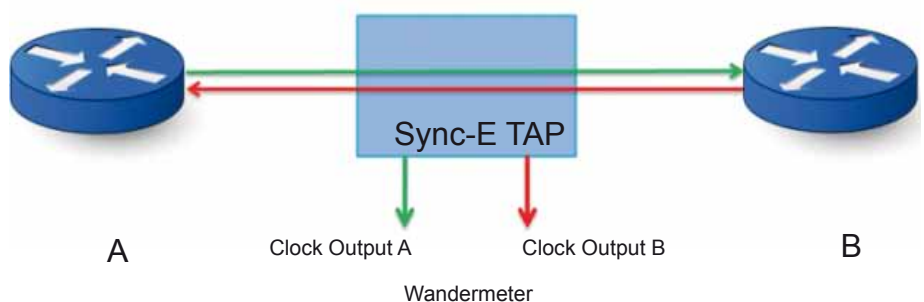
The Sync-E TAP is delivered in a rugged cabinet with precise connector labeling and LEDs indicating the link status on the front panel.

Portable or Rackmount

The Sync-E TAP can either be delivered as portable version or as 19" rackmount version. The 19" rackmount version is able to hold up to three Sync-E TAPs.

Live or Terminated Mode

The Sync-E TAP can be used on a live link inserted between two routers or switches. Beside that it can also be used as end equipment terminating the line.



Sync-E TAP Technical Specifications



Technical Specifications

Network Link	Link Type	1000B-SX (Gigabit Multimode) or 1000B-LX (Gigabit Singlemode)
	Number of Links	1 full duplex
	Insertion Loss	typ. 1,5dB for Singlemode and 3,5dB for Multimode
	Traffic Transparency	100% transparent - no influence to link traffic
	Delay	zero delay
	Connectors	Duplex LC-UPC
Clock Outputs	Number of outputs	2
	Signal Type	125MHz derived from Gigabit Ethernet Signal
	Output Level	typ. 1Vpp
	Connectors	BNC-f
	Impedance	75 Ohm
General	Power	5VDC via AC/DC Adapter, 3W
	Weight	450g
	Size	112,5mm (W) x 29,7mm (H) x 190,0mm (D)
	Operating Temperature	0 to 50°C
	Storage Temperature	-20 to 70°C

Ordering Information

Model Nr.	Description
Option 31/01	Cubro Mini 1GE Sync TAP; 1 Link (duplex); Network Link: 1000B-LX 1310nm SM, LC; 2 x BNC-f Output for Clock
Option 31/02	Cubro Mini 1GE Sync TAP; 1 Link (duplex); Network Link: 1000B-SX 850nm MM, LC; 2 x BNC-f Output for Clock
Option 31/09	19" Frame for up to 3 units
Option 32/UPG	Factory upgrade of existing WM-11 with extended frequency range 1-pps to 125MHz

Specifications subject to change without prior notice
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