



GIGASYNC

ENABLING GIGABIT ETHERNET NETWORK SYNCHRONIZATION ...

FEI, with a 40-year legacy in precision oscillator technologies and more than 15 years of experience designing and manufacturing SSU's for major international carriers, has created a Synchronization device of unprecedented.

- ◆ Reliability
- ◆ Durability
- ◆ Survivability
- ◆ Adaptability
- ◆ Cost efficiency



Features

The GIGASYNC allows the insertion *AND* extraction of a precise timing signal into a Gigabit Ethernet data link. Timing is transported in the data stream and transparent to packet traffic, allowing a high quality timing reference to be sent via Ethernet for use as a timing reference at the destination. This technology and process is patented by FTR&D.

Since timing is transported in the physical layer, the quality of the timing reference is equivalent to timing transported in SDH. Timing transport is not affected by variations in the data load or any factors related to network topology. The recovered timing is compliant with ITU-T G.823 (03/2000) section 6.1 for jitter and section 6.2.3 for wander.

Figure 0 shows the typical configuration using GIGASYNC to insert and extract timing on a GbE transport link.

The network administrator will use two SFP modules (MSA compliant) to transport timing on the GbE link—one for timing insertion at link 1 and the other for extraction at link 2.

The GIGASYNC provides ITU-T G.703 compliant synchronization interfaces—2 BNC, one RJ-45, and one female sub-D9.



Figure 0 : Insertion and extraction of a synchronisation rythm on a Gigabit Ethernet link



GIGASYNC PRODUCT SPECIFICATIONS

Transparency to physical cuts of Gigabit Ethernet links

The Gigasync has two operational modes to manage interruptions or cuts on gigabit ethernet links.

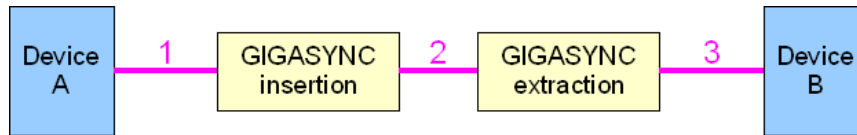


Figure 1: GbE links and Gigasync boxes between two GbE devices

In normal mode, absence of activity on a link is simply reported by a red LED, the other link shows normal status. A physical cut of links 1 or 2 in figure 1 is not seen by *device B*. A physical cut of links 2 or 3 is not seen by *device A*. Transparent mode allows any interruption or cut to be detected on both sides.

In this mode, any cut of a link with Gigasync timing transport will issue an alarm on both ends. A cut link shall then lead to cut of all the links.

Applications

- UMTS Node B synchronization.
- TDM circuit emulation over GbE.

Gigabit Ethernet Interfaces

- Link 1 and Link 2 intended to receive two SFP modules (MSA compliant) selected by the user.

Remote Management

- Remote management via Telnet or SSH.

Alarms Relay

- Two alarms relays (major and minor alarms) are available

Power Supply

- - 48 V DC in front panel
- or 110 V or 220 V AC in rear panel

Synchronization Interfaces

- The Gigasync has 2 BNC, one RJ45 female and one female sub D9 connectors G703 compliant intended to accept synchronization inputs/outputs.
- According to the selected configuration, in the insertion/extraction mode, one of the following input/output is respectively available:

Input	Output
2,048 MHz, 75 Ω on BNC	2,048 MHz, 75 Ω on BNC
2,048 MHz, 120 Ω on RJ 45	2,048 MHz, 120 Ω on RJ 45
2,048 MHz, 120 Ω on sub D9	2,048 MHz, 120 Ω on sub D9
2,048 Mb/s, 120 Ω on RJ 45	2,048 Mb/s, 75 Ω on BNC
2,048 Mb/s, 120 Ω on sub D9	2,048 Mb/s, 120 Ω on RJ 45
1,544 Mb/s, 100 Ω on RJ 45	2,048 Mb/s, 120 Ω on sub D9
1,544 Mb/s, 100 Ω on sub D9	1,544 Mb/s, 100 Ω on RJ 45
	1,544 Mb/s, 100 Ω on sub D9

Environment

- Operating temperature : 0 to 50°C
- Humidity : 5 to 95 %
- Dimensions : H = 44,5 mm (1U), w = 485 mm, D = 225 mm