## Features:

- **General purpose Bit Synchroniser with good performance in a small package**

- **USB Powered and Set-Up**

- **Provides clock and data recovery from perturbed serial PCM data for a Bit Rate range from 2000 BPS to approximately 10 MBPS**

- **Processes PCM Codes including RNRZ, NRZ and Bi-Ø codes**

- **Unique Apollotek signal recovery Analogue and Digital design implementation**

- **Programmable Bit Rate**

- **Programmable loop bandwidth**

- **Programmable Tracking Range**

- **The Bit Synchroniser is set up and monitored through the USB port using the Apollotek GDSmate Telemetry Environment Software Package**

- **Bit Synchroniser Lock Status LED display**

- **Standard Telemetry input and output interfaces and special electrical and optical interfaces are available including TTL and RS422 levels**

- **Compatible with the Apollotek USB Decommutator series**

- **This unit is not recommended if ultimate Eb/No signal recovery performance is required. Contact Apollotek for alternative very high performance rack mounting units**
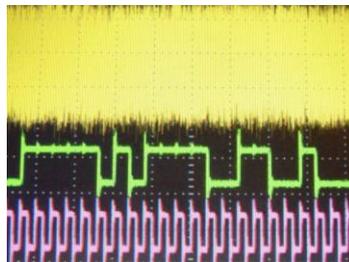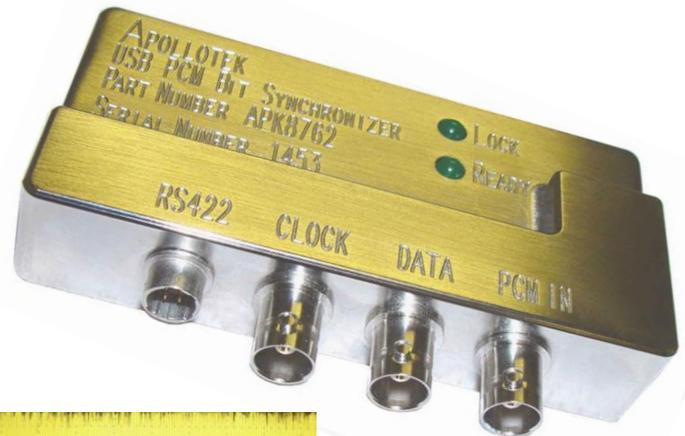
The Apollotek APK8762 Bit Synchroniser is part of the ApolloDas range of USB products which are designed for PCM Flight Test Instrumentation system checkout and test applications. The unit is supplied in an aerospace grade aluminium housing machined from solid which is rugged enough to be installed in an aircraft.

The APK8762 USB Bit Synchroniser uses proprietary Apollotek developed analogue and digital signal processing techniques to extract clock and synchronised data from a perturbed baseband serial PCM data stream.

The APK8762 takes power from the host PC USB Port and provides NRZ-L data and clock outputs at TTL through individual BNC connectors and at RS422 levels through a 4 pin circular connector.

The Data and Clock Outputs can be connected directly to an Apollotek USB PCM Decommutator or other similar functional devices.

Bit Synchroniser set-up and status monitoring is provided through the USB port under control of a Windows set-up utility provided with the unit or with the Apollotek GDSmate Telemetry Environment Software package supplied with products and systems which include a decommutator

BIT SYNCHRONISER SPECIFICATIONS

Electrical and Performance Specification

Data Rates	2000 bps to > 10 Mbps for NRZ and BIØ Codes
Input PCM Codes	NRZ-L/M/S
	BIØ-L/M/S
	DM-M/S
	RZ
	RNRZ-L
Input Signal Amplitude	0.4 V to 6 V (± 3 V peak-to-peak)
Input and Output Signal Connectors	BNC input and outputs. 4 pin RS422 data and clock output connector (mating half provided)
Loop Bandwidth Equivalence	0. 01% to 25% of bit rate (software programmable)
Tracking Range	Programmable and greater than 10%
Bit Error Rate	Nominally Within 3 dB of ideal performance curve
Output Data	TTL data and clock and RS422 data and clock on separate connectors

System Interface Specification

Interface Type	USB 2 Port. Backwards compatible with USB 1 ports
Power Requirements	Within USB Bus Port limits
Software	Set-Up and controlled using the Apollotek GDSmate Telemetry Environment Software package

Mechanical Specification

Overall Size	105 mm long by 55 mm wide and 21 mm high
Manufacturing Processes	Surface mount internal PCB technology
	Enclosure machined from solid aerospace grade aluminium to provide very rugged packaging

Operational Environmental Specification

Temperature	-10 ^{O} Centigrade to +70 ^{O} Centigrade
Humidity	0 to 90% non-condensing

Non-operating in appropriate packaging

Temperature	-25 ^{O} Centigrade to +90 ^{O} Centigrade