

Features:

- Provides clock and data recovery from perturbed serial PCM data over a Bit Rate range from 10000 BPS to greater than 10 MBPS
- Includes a PCM Decommulator which transfers data to a host PC through a USB 2 Port
- Processes all PCM Codes including RNRZ, NRZ and Bi-Ø codes
- TTL and RS422 Data and Clock Inputs
- Buffered RS422 Data and Clock Outputs
- IRIG B Time Code Reader Option
- Wide operating temperature range
- Rugged Construction
- Powered from Host PC
- Lock and Status Indicators
- Supports IRIG 106 Frame Formats
- Software decodes embedded streams
- Supports SFID, FAC & FCC
- Supplied with single stream GDSmate software providing:
 - Raw Data Archiving to Disk
 - Graphical Data Displays
 - Tabular Data Displays
 - Engineering Unit Conversions
 - Post Processing Output Files



The Apollotek APK8763 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 incorporated into an aerospace grade aluminium housing machined from solid which is rugged enough to be installed in an aircraft.

The APK8763 USB Bit Synchroniser and Decommulator combines the functions of the APK8762 USB Bit Synchroniser unit and the APK8760 USB Decommulator into a single unit.

The APK8763 uses proprietary Apollotek developed analogue and digital signal processing techniques to extract clock and synchronised data from a perturbed baseband serial PCM data stream and to provide PCM Decommuration with data transfer to a host PC through a high speed serial USB port. The APK8763 unit also takes power from the host PC USB Port.

Bit Synchroniser initialisation and stream lock status monitoring is provided on the unit through LED displays and also through the USB port under control of the Apollotek GDSmate Telemetry Environment Software package.

RS422 Data and Clock Outputs are provided for connection to external decryption or other similar functional devices. The decrypted data can then be fed back to the unit through a second RS422 port.

BIT SYNCHRONISER and DECOMMUTATOR SPECIFICATIONS**Electrical and Performance Specification**

Data Rates	10000 bps to > 10 Mbps for NRZ-L Codes
Input PCM Codes	NRZ-L/M/S, RNRZ-L BIØ-L/M/S DM-M/S RZ
Input Signal Amplitude	0.4 V to 6 V (± 3 V peak-to-peak)
Input Signal Offset	Twice the peak-to-peak signal value (within a 10 V window)
Input and Output Signal Connectors	BNC inputs for PCM and IRIG B 4 pin RS422 data and clock input connector for decoded data and clock inputs (mating half provided). Can also be used as a stand alone USB Decommulator
Loop Bandwidth Equivalence	0. 01% to 15% of bit rate (software selectable)
Tracking Range	Up to 10% (depending on loop bandwidth selection)
Bit Error Rate	Approaching 1dB of ideal performance curve
Output Data	RS422 data and clock (for external decoding). Decoded data can also be connected back into the unit through the RS422 input connector (mating half provided). Decommuted IRIG 106 PCM data transferred to host PC through high speed USB port

System Interface Specification

Interface Type	USB 2 Bus. 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 (see separate data sheet)

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 ° Centigrade to +70 ° Centigrade
Humidity	0 to 90% non-condensing

Non-operating

Temperature	-25 ° Centigrade to +90 ° Centigrade
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