

Features:

- Provides a tuneable S-Band or L-Band Telemetry Receiver combined with a PCM Bit Synchroniser and Decommulator in one USB 2 product
- Provides clock and data recovery from a received serial PCM data stream over a Bit Rate range extending from 10000 BPS to greater than 10 MBPS
- Receiver Frequency, Bit Rate and Frame Format set up through a USB 2 Port by a host PC
- Provides data transfer to the host PC through the same USB 2 Port
- Powered from the Host PC through the USB2 port
- Processes all PCM Codes including RNRZ, NRZ and Bi-Ø codes
- RS422 Data and Clock Inputs
- Buffered RS422 Data and Clock Outputs
- IRIG B Time Code Reader
- Stand Alone Bit Synchroniser Option
- Stand alone Bit Synchroniser and Decommulator Option
- Stand alone Decommulator Option
- Frame Lock Indicator
- Supports IRIG 106 Frame Formats
- Frame Format stored in non-volatile memory
- Supports SFID, FAC & FCC
- Supplied with single stream GDSmate software providing:
 - Raw Data Archiving to Disk and Replay
 - Graphical and Tabular Data Displays
 - Engineering Unit Conversion
 - Common Format File Exports



Receiver, Bit Synchroniser and Decommulator Configuration

Multi-Function Configuration

The Apollotek APK8767 Telemetry Receiver, Bit Synchroniser and PCM Decommulator is one of the ApolloDas range of USB products designed for PCM Flight Test Instrumentation system checkout and test applications. The Unit is packaged into an aerospace grade aluminium housing machined from solid to enable the unit to be used in ground based and airborne applications.

The APK8767 USB Unit Receiver Frequency, Bit Rate, Loop Bandwidth, Tracking Range and Frame Format characteristics are set up through a USB 2 port connection to a host PC running the USB version of the Apollotek GDSmate Telemetry Environment Software package.

The APK8767 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 Decommutation with data transfer to a host PC through a high speed serial USB port. The APK8767 unit is powered through the host PC USB Port.

Initialisation and Stream Lock status is provided on the unit by multicolour LED indicators. Status indication is also provided by the USB version of GDSmate software supplied with the unit.

The APK8767 is available as a combined Receiver, Bit Synchroniser and Decommulator and it is also available in an alternative package format which also enables the unit to be operated as a Bit Synchroniser, a combined Bit Synchroniser and Decommulator and just as a Decommulator.

RECEIVER, BIT SYNCHRONISER and DECOMMUTATOR SPECIFICATIONS

Receiver Tuning Ranges:	Specify L-Band, S-Band, NATO E-Band. Up to 200 MHz software controlled tuning range
Receiver Sensitivity	Nominal -70 dBm
Bit Sync Data Rates	10000 BPS to 10 MBPS for NRZ-L Codes
Bit Sync Input PCM Codes	NRZ-L/M/S, RNRZ-L (2 ^{11,15,17,20,23}), BIØ-L/M/S
Decommutator Formats	Compatible with IRIG 106 Frame Format definitions
IRIG B Time Code Input	1 Volt rms modulated time code input into 600 Ohms impedance
Standard Input and Output Signal Connectors (BNC Data and Clock Output connector option is also available – specify at the time of ordering)	SMA RF Input. A low gain Stub Antenna is provided BNC input for IRIG B modulated Time Code Signal 4 pin RS422 data and clock output connector for recovered data and clock inputs. RS422 input connector for external clock and data with stand alone USB Decommutator option. (mating halves provided) BNC input for stand alone Bit Sync Option. Specify APK8767-3 to include stand alone options
Loop Bandwidth	0. 01% to >5% of bit rate (user programmable)
Tracking Range	>10% (user programmable)
Bit Error Rate	Approaches 1 dB of ideal performance curve below 10 MBPS
Output Data	Decommutated IRIG 106 PCM data is transferred to the host PC through the high speed USB port
Software	Supplied with single stream USB version of GDSmate to enable the host PC to set up the unit and to provide graphical data displays. Archiving, Replay and Ethernet networking is also supported

System Interface Specification

Interface Type	USB 2 Bus. Backwards compatible with USB 1 ports
Power Requirements	Within USB Bus Hub 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 35 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

Temperature	-25 ^o Centigrade to +90 ^o Centigrade
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