Features:

- **Provides a multiple function USB powered product comprising a tuneable S-Band or L-Band PCM/FM and SOQPSK-TG Telemetry Receiver combined with a Bit Synchroniser and Decommutator**

- **The APK8767-4 can be operated as:**
  - **Combined Receiver, Bit Synchroniser and Decommutator**
  - **Receiver and Bit Synchroniser**
  - **Bit Synchroniser and Decommutator**
  - **Bit Synchroniser**
  - **PCM Decommutator**

- **Provides clock and data recovery from a received serial PCM data stream over a Bit Rate range extending from 15000 BPS to 20 MBPS and higher for SOQPSK modulation**

- **Receiver Frequency, Bit Rate and Frame Format set up through a USB 2 Port by a host PC**

- **Provides Decommutated data transfer to the host PC through the same USB 2 Port**

- **Powered from the Host PC through the USB2 port**

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

- **RS422 Data and Clock Inputs**

- **Buffered RS422 Data and Clock Outputs**

- **IRIG B Time Code Reader**

- **Stand alone Decommutator Option**

- **Supports IRIG 106 Frame Formats**

- **Supports SFID and FAC Frame Synchronisation strategies**

- **Set-Up information and Frame Format stored in non-volatile memory**

- **Supplied with GDSmate Set up, display, archiving and export software**

The Apollotek APK8767-4 is a Multi-Function PCM/FM and SOQPSK Telemetry Receiver, Bit Synchroniser and Decommutator. The APK8767-4 is one of a series of Apollotek unique USB products designed for Telemetry, PCM Flight Test Instrumentation system checkout, test and evaluation and Data Link applications. The Unit is packaged into an aerospace grade aluminium housing machined from solid to enable the unit to be used in both ground based and airborne applications.

The Receiver Frequency, Bit Rate, Loop Bandwidth, Tracking Range and Frame Format parameters 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 provided with the unit.

The APK8767-4 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.

Input Signal and Stream Lock status is provided on the unit by multicolour LED indicators. Status information is also provided to the host PC through the USB port.

The APK8767-4 can be operated as a combined Receiver, Bit Synchroniser and Decommutator and the unit can also be operated as a Bit Synchroniser, a combined Bit Synchroniser and Decommutator and just as a PCM Decommutator.

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 -85 dBm
Bit Sync Data Rates	15000 BPS to 10 MBPS for NRZ-L Codes. 4 MBPS to 23 MBPS for SOQPSK as standard
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	SMA RF Input. A simple Stub Test Antenna is provided
	BNC Input direct to Bit Synchroniser (+ 3V Max input amplitude)
	BNC input for IRIG B modulated Time Code Signal
	4 pin RS422 data and clock output connector for recovered data and clock. RS422 input connector for external clock and data with stand alone USB Decommutator option. (mating halves provided)
Loop Bandwidth	0.1% to >5% of bit rate (user programmable)
Tracking Range	Up to 10% (user programmable)
Bit Error Rate	Approaches 2 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, FPGA and PIC 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

Specifications are subject to change without notice