## Features:

- **USB Powered Digital to Analogue Converter module providing eight user programmable digital to analogue output channels**

- **Standard resolution of up to 16 bits per word**

- **Low output impedance**

- **Compatible with the Apollotek range of USB PCM signal recovery modules**

- **Optional PCM Decommutator which accepts data and clock from a bit synchronised serial NRZ-L PCM stream (Specify APK87610-D)**

- **Compatible with the Apollotek GDSmate Telemetry Environment Software package**

- **Parameters to be converted can be selected through the GDS Frame Map display and can be allocated to a specific analogue output**

- **Standard ± 2.5 Volt output voltage range for full scale input**

- **Optional programmable low pass filter module can be integrated into the unit**

- **The Optional internal PCM Decommutator processes NRZ-L data and clock as standard. Additional Options for accepting other PCM Codes including RNRZ, and Bi-Ø codes**

- **The Optional internal PCM Decommutator accepts LVTTL RS422 Data and Clock Inputs as standard**

- **Supports SFID and FCC Frame Formats**

- **Wide operating temperature range**

- **Rugged Construction**

- **Supports IRIG 106 Frame Formats**

- **Frame Format stored in non-volatile memory**
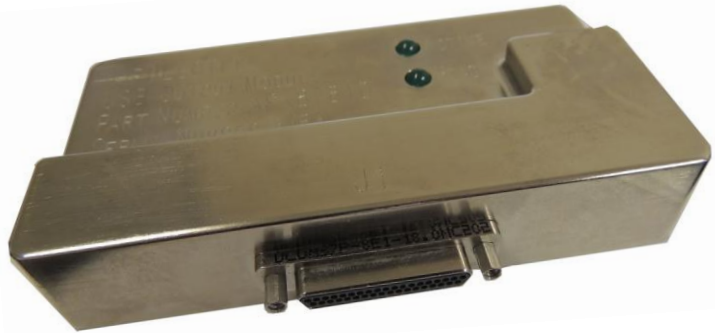
The Apollotek APK87610 is an 8 Channel Analogue to Digital Converter module which is one of the Apollotek range of USB powered and interfaced products which are designed for PCM Flight Test Instrumentation system checkout and test and evaluation applications.

The APK87610 Unit is assembled into an aerospace grade aluminium housing machined from solid which is rugged enough to be installed in an aircraft.

The APK87610 utilises proprietary Apollotek developed analogue and digital signal processing techniques to provide programmable Digital to Analogue conversion of user selected parameters extracted from the PCM Frame using GDSmate software or with the optional internal Decommutator

The APK87610 unit also takes power through the host PC USB Port.

The APK87610 is generally intended for use with the Apollotek range of USB Receivers, Bit Synchronisers and Decommutators. Options are available to enable the unit to interface to other external IRIG-106 compatible devices.

The eight analogue outputs are optimised for driving chart recorders and similar Data display devices.

The analogue outputs are available through a microminiature D-Type connector mounted on the opposite side of the unit to the input connectors.

An optional eight channel user programmable low pass filter option can be attached to the standard APK87610 module.

DIGITAL TO ANALOGUE CONVERTER MODULE SPECIFICATION

Electrical and Performance Specification

Number of Analogue Outputs	Eight single ended voltage outputs as standard
Output Signal Amplitude	± 2.5 V Output for a full scale word value. Other output voltage options are available
Input and Output Signal Connections	USB 2 buffered parameter data download from Apollotek GDSmate software as standard
	BNC inputs for LVTTL PCM Data and Clock inputs with Decommutator Option
	RS-422 inputs for PCM Data and Clock inputs on circular 4-pin HiRose connector with Decommutator Option
Standard Frequency Response	10 KHz per channel for direct PCM input. Lower maximum frequency range for USB Download from GDSmate
Programmable Filter Option	Programmable low pass filter cut-off frequency up to 10 KHz for each channel. Cut-off frequencies for each channel must be binary related
Analogue Channel Output Impedance	Nominal 1 Ohm

System Interface Specification

Interface Type	USB 2 Bus
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
	Increased height when Decommutator Option or Low Pass Filter Option is specified
Manufacturing Processes	Surface mount and BGA internal PCB assembly technology
	Enclosure machined from solid aerospace grade aluminium to provide very rugged packaging

Operational Environmental Specification

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

Non-operating

Temperature	-25 $^{\circ}$ Centigrade to +90 $^{\circ}$ Centigrade

Specifications are subject to change without notice