

USB Simulator and Transmitter Features:

- USB Interface to a host PC for set up and power
- PCM Simulation to > 10 MBPS
- Large on-board Flash Memory
- Very Long Frame Capability with low frequency Dynamics
- Complex Sub-Frame Capability
- Super-Commutation
- Sub-Commutation
- Embedded Stream Generation
- Generates Programmable Dynamic Parameters including:
 - Sine, Square, Ramp and Step
 - Fixed Word Value
 - Common Word Value
 - TTL Data and Clock Outputs
- Nominal 10 mW RF Transmitter output frequency modulated with the Simulated PCM Bitstream. SOQPSK Modulation Option
- Customer specified L-Band, S-Band, NATO E-Band or 400 MHz band programmable transmitter centre frequency
- Includes a rechargeable Battery Pack for autonomous operation when programmed. Recharges through USB port



The Apollotek Model APK8768-B combines the features of the Apollotek APK8764 USB PCM Simulator with a low power RF Transmitter module and a rechargeable battery pack. This PCM Simulator unit is set up and powered through a USB Port connection to a host PC and it provides a high performance programmable PCM Simulator with programmable low power transmitter centre frequency to provide a portable radio telemetry link and groundstation test capability.

As well as being capable of operating at high data rates, the APK8768-B is also designed to simulate low frequency parameter simulation within large and complex frame formats.

The APK8768-B provides outputs of PCM Data and Clock at TTL levels through BNC connectors.

The RF transmission is through an SMA connector and the supplied stub antenna.

The TTL Clock Output BNC port can also be programmed to provide a Bit Clock, Frame Clock or Sub-Frame Clock.

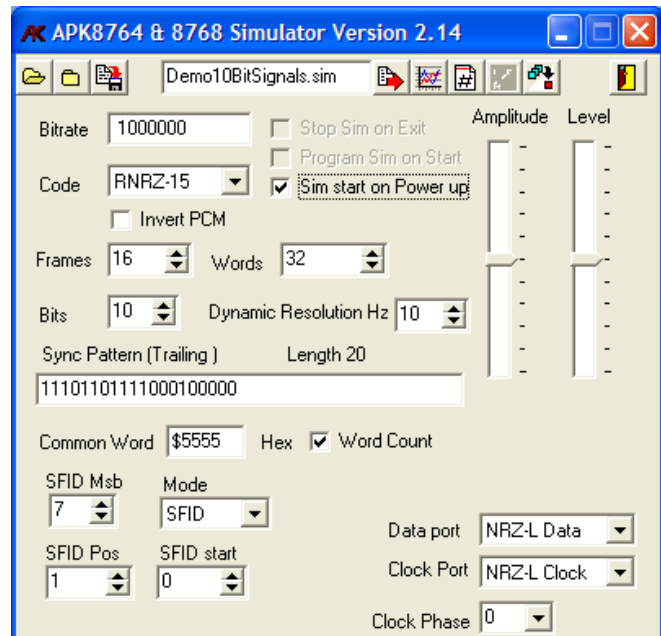
The APK8768-B can be programmed with a GDSmate Frame Format.

The APK8768-B also includes a rechargeable Battery Pack and on/off switch. The Battery charges through the USB port.

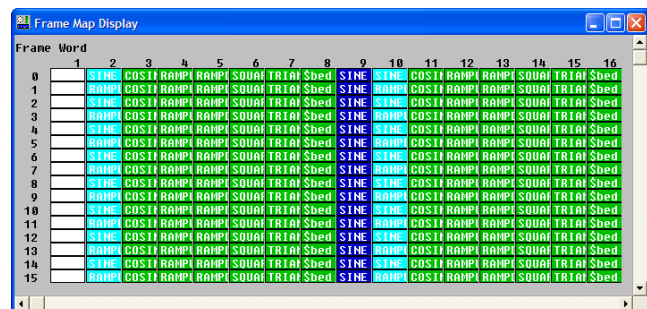
Software Control

- Select the Bit Rate for PCM
- Select the RF Transmitter Frequency and Modulation
- Build the Data Frame
- Variable Bits per Word supported
- Assign Variables to Words
- Assign Embedded Data Stream Words
- Select the Variable Frequency
- Select the Variable Amplitude
- Select the Channel Interval
- Select the Channel DC Offset
- Update the Simulator
- Output Simulated Data
- Colour Coded Format Status identification
- Direct access to simulated parameters through the GDSmate compatible Frame Map display
- The Simulator can also be loaded with Frame Format files generated by the ApolloDas 8600 Modular PCM Encoder Set-Up Software

Typical PCM Frame Set Up Form



Typical PCM Parameter Frame Map Display



System Interface Specification

Interface Type:

USB 2 with USB 1 compatibility

Programmable Functions:

PCM Frame Format and Bit Rate, Transmitter Centre Frequency, Modulation Type, Individual simulated parameter amplitude, Individual parameter offsets. Individual parameter frequency, PCM Frame Format characteristics. Clock Output type. Parameter Setup selected through Frame Map Display

Mechanical Specification

Standard Module dimensions:

Length: 115 mm Width: 70 mm (including connectors)
Height: approximately 52 mm excluding antenna

Construction:

Multi-layer printed circuit boards mounted inside Aerospace grade aluminium housings precision machined from solid Aluminium.