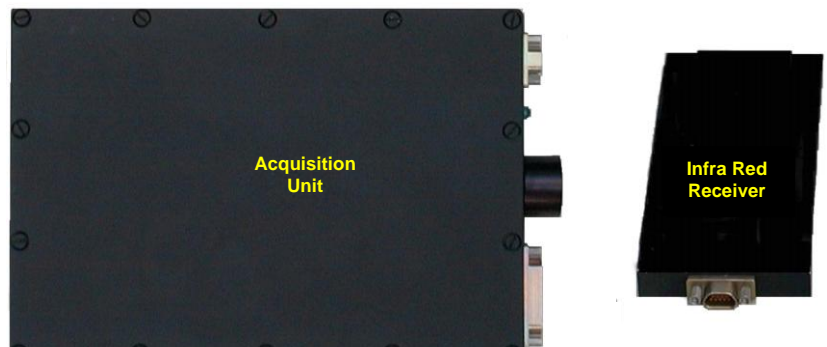


### Features:

- Designed to fit into Flying Suit Thigh Pocket
- Battery Powered Unit
- Up to three hour mission duration and data storage
- Synchronises to IRIG B Time
- Internal Solid State Storage of all data with time stamps
- 1 dedicated heart rate channel
- 8 general purpose channels
- Individual Programmable Gain between for each Channel
- Individual Programmable Offset for each Channel
- Per Channel Filter Cut-off selection
- Constant Current or Constant Voltage Excitation provided
- Completion Networks for Bridge Transducers
- 12 bits per word resolution
- Real Time Infra Red Data Transmission to an Airframe mounted PCM Telemetry Link
- System Set-Up and Post Mission Data Extraction using Apollotek GDSmate Software
- Fast Jet Qualified



The Apollotek 8500 Series battery powered and Flight Qualified Instrumentation is designed to provide a totally portable and highly accurate human physiological and cockpit environmental parameter measurement capability.

The data acquisition unit is battery powered and the basic unit is designed to operate for periods in excess of three hours to accommodate the longest flight test missions. The Acquisition Unit is designed to fit into a Pilot's flying suit thigh pocket.

Eight General Purpose channels are provided. Each of these has programmable gains and offsets to accommodate a wide variety of sensors including bridges. Each input channel is also provided with programmable constant current or constant voltage excitation. A dedicated Heart Rate Monitor channel is provided in addition to the eight data channels. This channel accepts the electrical signals produced by standard three site adhesive ECG sensors and it converts the received electrical signals into a heart rate value in beats per minute.

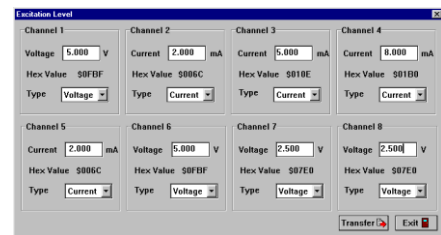
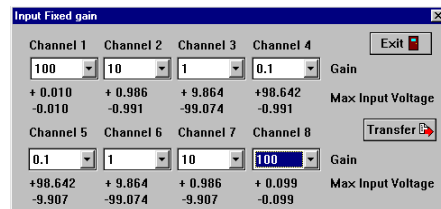
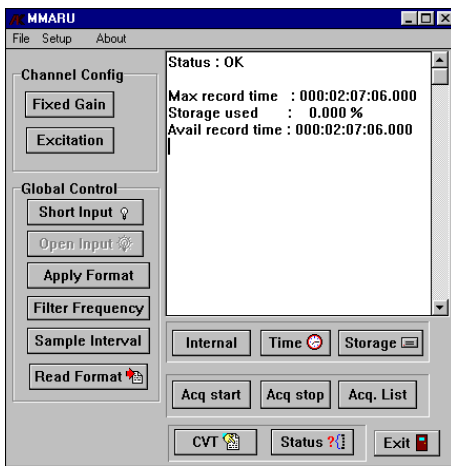
The unit also contains a time code reader which can be externally synchronised to IRIG B or it can be selected to count from zero time from power-on.

All data acquired during the mission is stored internally in solid state memory. This data is then recovered using an Apollotek GDSmate based replay unit. A Real Time optical data link is also provided in the Acquisition Unit which transmits the acquired data to a cockpit mounted receiving unit that in turn is interfaced to the Aircraft Flight Test Instrumentation System and an on-board Radio Transmitter provides real time Telemetry transmission to the associated Groundstation.

# Model 8500 Series General Specifications

## Typical Electrical Specification

- Number of Data channels:** 8 general purpose channels  
Plus one heart rate monitoring channel
- Resolution:** 12 bits per data word
- Typical Battery Duration:** With 20 mA Excitation on 8 channels and with the Heart Rate Channel in use battery duration is estimated to be in excess of 180 minutes when using 1200 mA/h batteries. No data is lost from memory if the batteries expire.
- Acquisition Unit Programming:** The unit is programmed using the Apollotek Graphical User Interface supplied with the system.



## System Interfaces

- Sensors are connected to the Unit via a Microminiature D-Type Connector.
- The real time Optical Data Link is via a 9-pin connector to a transmitting device mounted on the Air Service Pack / PEC which connects to the Ejector Sector Seat in a Fast Jet.
- The Cockpit Mounted Optical Receiver Unit is designed to provide a parallel handshaking data port to an on board Flight Test Instrumentation System. It operates from the aircraft nominal 28 Volt DC Supply. It requires an optical line of site to the transmitter.
- Ground Replay from Solid State Memory is via a serial RS422 link through the 9-pin connector typically into an Apollotek PC running the GDSmate Telemetry Environment Software package. GDSmate provide a complete telemetry data processing software environment. Contact Apollotek or your local representative for further details.

## Mechanical Specification

- Acquisition Box Size including switch and Connectors:** 190 mm x 120 mm x 27mm
- Acquisition Box Weight:** 695 grams with batteries installed