

Data Centre

General Purpose Data Recorder Unit

- 12V DC Operation
- PC based solution
- Windows Application Software
- Watchdog Timer
- Ultra Quiet Operation - No Fan
- Stand-alone Operation
- GPRS/GSM and Cable Free 2.4 GHz Modem Expansion
- Internet Ready - Plug & Go Options
- Embedded Database Recording Software
- Remote Data Access
- Easy Expansion
- Small Footprint - Fits into any location
- Upto 100 Gb Logging Capacity



Photograph shows front panel of the Data Centre

Features

The Keynes Controls Data Centre is a modified ITX based PC data recording station that has been customised for uninterrupted stand-alone data recording and access operations. The modifications to the basic system include an embedded watchdog to reset the software in case of failure and vector cooling to remove the requirement for a noisy fan. The Data Centre can be deployed anywhere and will not disturb any local users with excessive noise and will restart automatically should the application software crash and this operation is transparent to a User.

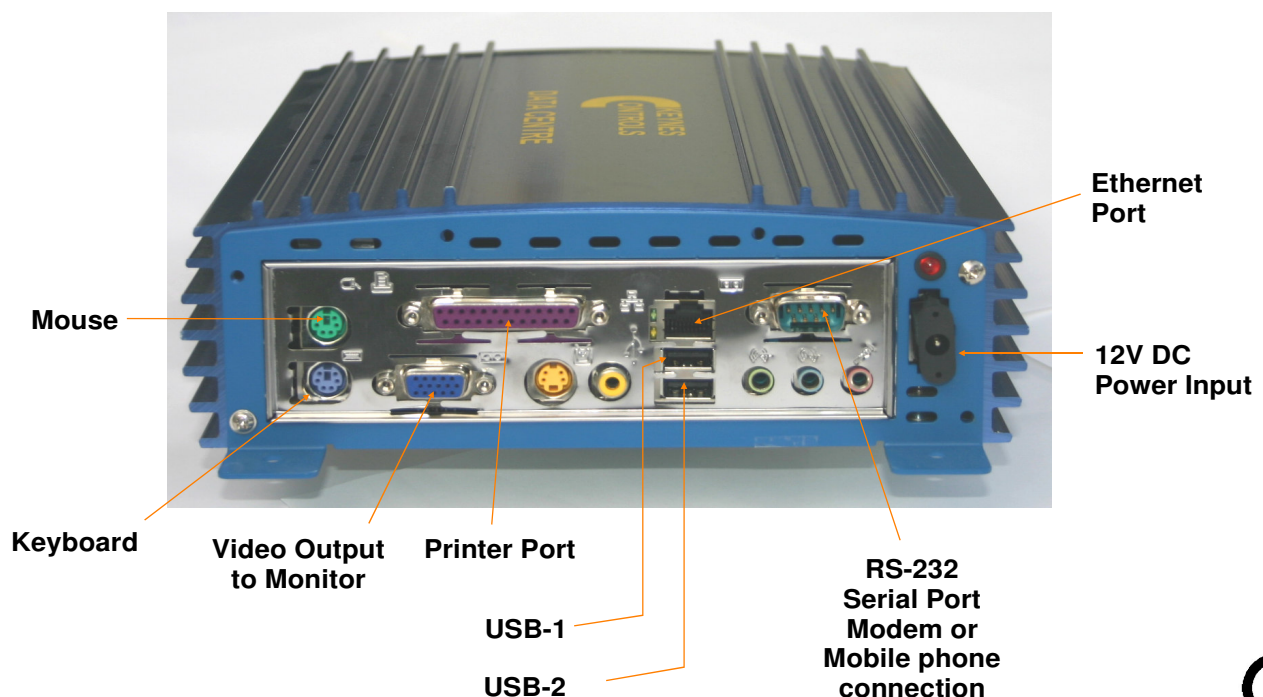
The Data Centre connects to all of the standard computer networks such as Ethernet, WiFi and the Internet as well as supporting interfaces to the Keynes remote instrumentation. Data can be gathered from instrument solutions deployed upon the Cable Free 2.4 GHz local network, GPRS mobile phone network, RS-485 and SDI-12 networks simultaneously if required.

Expansion

The Data Centre can be expanded using standard off the shelf components. The USB ports are expanded using a standard USB hub enabling devices such as flash memory sticks to be used to record and access information easily. An Ethernet Hub can be used to expand the network connections enabling WiFi, Local area networks, NDACS Loggers, and Internet operations to be undertaken simultaneously.

The Data Centre uses Microsoft Windows operating system and so is controlled in an environment that is familiar to many operators. The unit can be supplied with many of the most popular data analysis packages installed so it can be used to analyse any measurements as well as to record data.

Any Keynes instrument system no matter how they are remotely deployed can have their data archived into the Data Centre.



Communications

Figure 2 shows how a typical application can be created using the Data Centre. The unit can be used gather information from any number of distributed instrument systems as well as from third party products so long as a suitable network connection and driver software is available.

The Data Centre can be used to gather information from any number of systems no matter how they are deployed and format this information for later storage into a dedicated database no matter where this software.

A GPRS mobile phone network connection can be used to communicate to remote VibWire-108 instruments as well as providing a network link for the remote configuration of the unit or to provide view the recorded data.

Data Acquisition

Analogue data acquisition operations can be undertaken using the NDACS range of acquisition systems. These can be added to and removed from the Data Centre using a few key stroke operations.

Connection to RS485 Network

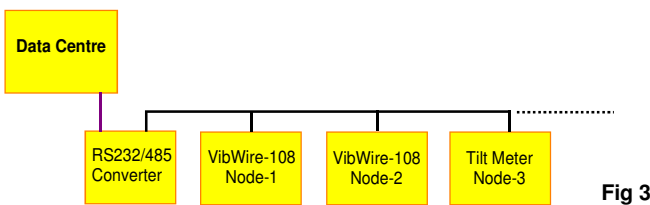


Fig 3

Any third party RS232/485 converter can be used to connect remote instruments to the Data Centre so long as a suitable Windows operation system driver is available.

Third Party Hardware

The Data Centre can be expanded to include data acquisition systems from many different manufactures as well as all of the Keynes Controls products. So long as suitable interface software is available any additional hardware can be added to the unit.

Scheduled Automated Tasks

The Windows Operating system supports automated scheduled tasks and so can be used used to acquire and process information at specified times. Used in collaboration with the Keynes instrument systems the remote acquisition operations can be undertaken at the lowest network toll costs or at specified times to reduce systems power requirements.

Technical Specifications

533 MHz Pentium Processor
 128 MB RAM
 2 x USB-2 Ports
 1 x Ethernet Port
 1 x Parallel Printer Port
 Video Card
 Standard Keyboard Interface
 Mouse
 Windows Operating System
 12V DC Operation - 12 Watt continuous operation
 Stand-alone and Wall Mounting Brackets
 Height = 28.5 cm Width = 21 cm Depth (max) = 7.5 cm
 Mounting holes = 6 mm

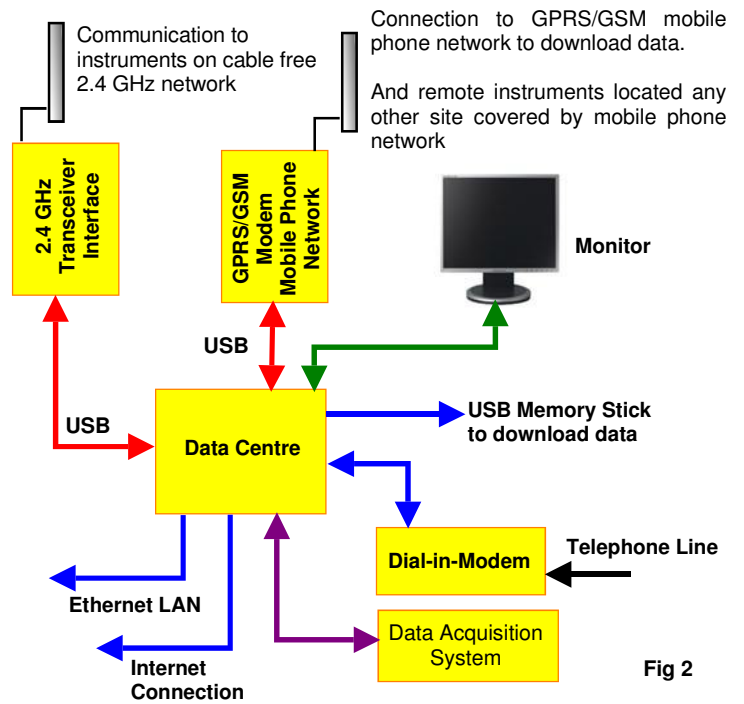


Fig 2

Connection to SDI-12 Network

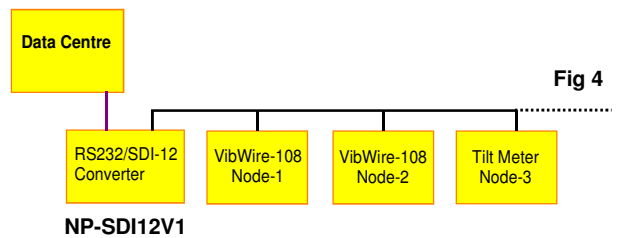


Fig 4

The **NP-SDI12V1** module is used to connect the SDI-12 serial network to the serial RS232 port on the Data Centre This interface works with any product that supports the full SDI-12 protocol. The **NP-SDI12V1** is manufactured by Keynes Controls Ltd.

Timing

An important part of any data recording operation is the ability to acquire and record information at the correct time. The Data Centre undertakes this task using an in built battery backed up clock for stand-alone operations and can be connected to the World Clock for absolute timing when a suitable Internet connection is available.

Bespoke Software Development/Applications

Customised software can be developed for the Data Centre using any of the common Windows development environments such as Delphi, Visual C/C++. Basic data analysis can also be undertaken using the Excel or similar spread sheet applications software.

Expansion

The data Centre can be expanded using any standard PC based accessories such as USB hub, WiFi cable free interface and memory sticks.

Mounting Instructions

The Data Centre can be fixed to any suitable location by fixing 6 mm mounting bolts or as left as stand-alone unit on a bench or inside a cabinet.

