



# Data Capsule Digital Recorder

Cat. No. 17400

- Connectors available for most transducers
- Data logging into Excel
- Bridge amplifiers on board

**4-CHANNEL DATA ACQUISITION SYSTEM**  
Including one bridge amp channel

## General

The DataCapsule is a new general purpose, four channel data acquisition system. This versatile digital recorder system consists of a controller with four channels and adaptable, easy to use software.

One channel has an integrated bridge amplifier as a standard feature; (additional bridge amplifiers may also be integrated into the DataCapsule chassis as requested.)

There are two BNC analog outputs on the front of the chassis, as well as an external trigger in-put via BNC. Triggering may also be accomplished via software.



## Main Features

- USB connection
- Software included
- DIN and BNC input (BNC non-amplified)
- Input trigger to start recording
- Output function generator
- Recording tools with data export to Excel

## Connections and Specifications

All four channels have two connectors per channel, BNC and 8 pin DIN.

Cable adaptors allow connection of a variety of sensors and transducers. Sampling rates to 10kHz, with output resolution to 12 bits. Input ranges from +/- 20V, to +/- 1V. Output range 0 to +5V.

## Software Driven

The DataCapsule controller connects to a computer via USB, in addition to the two BNC outputs. The system is software driven, and the software features a suite of most common applications, including applications for working with isolated organs and tissues. This low cost system is designed for simplicity of operation, and is an ideal solution for basic, laboratory applications. Custom software modules for specific applications can be designed to suit your needs.

## Data Files and File Management

Data are displayed onscreen as a virtual chart recorder. Maxima, minima, and independent scaling for each channel are easily accomplished via pop-up daughter windows and pull-down arrows. Comments and markers may be inserted to data files on the fly / during data acquisition. A data file may be recalled and reviewed on screen so that additional commentary may be inserted ad hoc, with the press of a button. Finally, data files may be exported to Excel.

## Bridge Amplifiers

Number of inputs	: <b>1 standard, up to 4</b> (special order, 8-pin DIN connectors)
Input configuration	: Single ended
Transducer supply V	: 8 V
Gain	: 1000 times

## Data Capsule Specifications

Power Requirements	: 115/230 V – 50/60 Hz, 22W max
Instruments Size	: 25 (w) x 26 (d) x 12 (h) cm
Net Weight	: 2.0 Kg
Shipping Weight	: 4.0 Kg

## Analog Input

Analog inputs	: 4 differential
Input resolutions	: 12 bits differential
Max sampling rate	: 10 ks/sec
Input range	: ±20 V, ±10 V, ±5 V, ±4 V, ±2.5 V, ±2 V, ±1.25 V, ±1 V
Working voltage	: ±10 V
Input impedance	: 144 kΩ
Overvoltage protection	: ±35

Trigger Source	: Software or external digital trigger
System noise	: differential 1.47 mVrms

## Analog Output

Converter Type	: Successive approximation
Analog outputs	: 2
Output resolution	: 12 bits
Maximum update rate	: 150 Hz, software-timed
Output range	: 0 to + 5 V
Output impedance	: 50 Ω
Output current drive	: 5 mA
Power-on state	: 0 V
Slew rate	: 1 V/μs
Short circuit current	: 50 mA
Absolute accuracy (no load)	: 7mV typical, 36.4mV max. at full scale

## Digital I/O

Compatibility	: TTL, LVTTTL, CMOS
Absolute maximum voltage range	: -0.5 to 5.8 V with respect to GND
Pull-up resistor	: 4.7 kΩ to 5 V
Power-on state	: Input (high impedance)

## Ordering Information

- 17400** DataCapsule, 4-Channel Digital Recorder, standard package, including:
- 17080** On-Board Signal Amplifier (additional amplifiers to be ordered separately)
- 17100** Data Acquisition Software

### Optional

- **Additional bridge amplified channels**
- **Connectors for compatible transducers**
- **Custom Software for specific applications (e.g. ECG, Grip strength, etc)**

### Transducers

The DataCapsule can be connected to a variety of transducers. Among the ones offered by Ugo Basile:

- 7003-E** Isometric Force Transducer, type DY1
- 7004-E** Isometric Force Transducer, type DY2
- 7005-E** Isometric Force Transducer, type DY3
- 7010-E** High Sensitivity Transducer, type DY0
- 7006-E** Isotonic Transducer
- 17844-E** Pressure Transducer
- 7020-E** Bronchospasm Transducer