



8910 CAN ADAPTER

Recorders



Use your own recorder for

CAN Signal Visualization

CAN (Controller Area Network) is a serial data communications bus standard for transferring sensor data and control signals within vehicles during development or inspection.

The **8910 CAN ADAPTER** allows you to freely select signals on the CAN bus for conversion to analog and logic signals for recording and monitoring. Via the real-time output, monitor CAN signals on your own MEMORY HiCORDER or other data recorder. By using it with a recorder, you can capture and store CAN sensor data and control signals along with signals acquired from non-CAN-bus devices.



ISO14001
JQA-E-90091



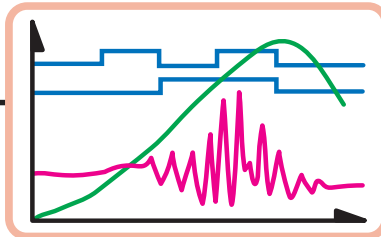
<http://www.hioki.co.jp/>

HIOKI company overview, new products, environmental considerations and other information are available on our website.

Record combinations of

CAN Data Monitoring

CAN Data Recording



Mixed Recording:
Mechanical + Control

Mechanical Data

Output from various sensors
such as strain gauges, vibration
pickups and pressure sensors



MEMORY
HiCORDER

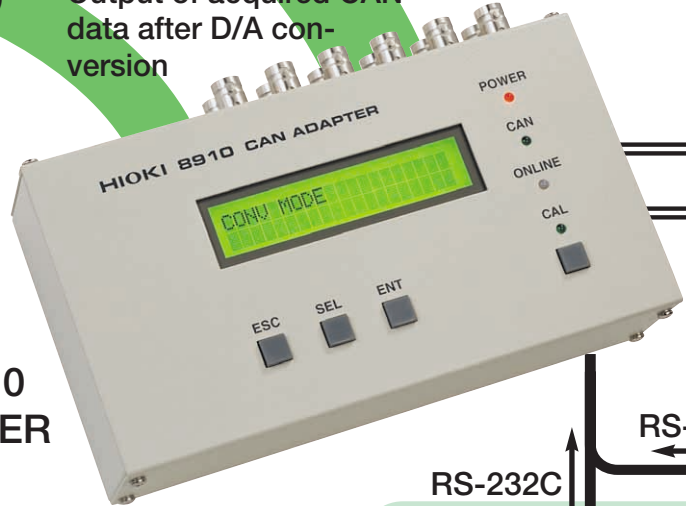
or
Your existing
data logger
or other recorder

Various MEMORY
HiCORDER Input Units

Analog Outputs
(-5 to +5 V)

Logic Outputs
(0/5 V)

Output of acquired CAN
data after D/A con-
version



8910
CAN ADAPTER

RS-232C

RS-232C

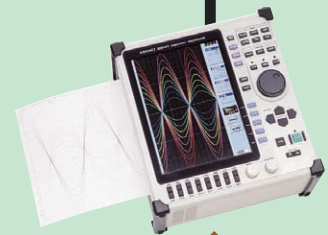
CAN Setup Function (Supplemental Function for MEMORY HiCORDERs)

By connecting a Model 8841, 8842 or 8826 MEMORY HiCORDER to the 8910 CAN ADAPTER via RS-232C, the output channel and other settings can be made simply from the MEMORY HiCORDER screen.

In addition, scaling and units can be set automatically by loading setting data for the 8910 from storage media (floppy diskette, PC Card or MO disc) or via RS-232C.

| SYSTEM 4 | | INTERFACE | | MEM | | 04-03-01 14:31:14 | |
|-----------|------------------|-----------|-------|------|------------|----------------------|------|
| BLOCK NO. | | | | | | | |
| 8910 | LABEL | POS | LEN | STGN | D/A | 8841 | |
| CH | | | | | TYPE | CH | |
| 1 | Speed | 01 | 10bit | US | B1 | 1 | |
| 2 | E-Speed | 01 | 16bit | US | MOND | 2 | |
| 3 | Gear | 51 | 3bit | US | MOND | 3 | |
| 4 | ECT | 3M | 7bit | 2S | B1 | 4 | |
| 5 | Torque | 01 | 11bit | US | MOND | 5 | |
| 6 | sft_stat | 13M | 3bit | US | MOND | 6 | |
| 7 | ThrottlePosition | 0M | 3bit | 1S | B1 | 7 | |
| 8 | KnockSensor | 0M | 8bit | 2S | B1 | 8 | |
| 9 | CKP | 01 | 8bit | US | MOND | 9 | |
| 10 | CMP | 01 | 8bit | US | MOND | 10 | |
| 11 | ISC | 0M | 1bit | US | MOND | 11 | |
| 12 | TCC | 24M | 16bit | US | MOND | 12 | |
| 8910 | LABEL | BP | 8841 | 8910 | LABEL | BP | 8841 |
| CH | | CH | CH | CH | | CH | CH |
| A0 | IATMalFun~ | 0 | A1 | D0 | OFF | | |
| A1 | Gear | 0 | A2 | D1 | OFF | | |
| A2 | Gear | 1 | A3 | D2 | OFF | | |
| A3 | Gear | 2 | A4 | D3 | IO TRIGGER | 100 | |
| B0 | OFF | | | E0 | Engine01~ | 4 | --- |
| B1 | OFF | | | E1 | Engine01~ | 5 | --- |
| B2 | MPH1 | 0 | B3 | E2 | Engine01~ | 6 | --- |
| B3 | MPLOW | 0 | B4 | E3 | Engine01~ | 7 | --- |
| C0 | OFF | | | F0 | Engine01~ | 0 | --- |
| C1 | OFF | | | F1 | Engine01~ | 1 | --- |
| C2 | OFF | | | F2 | Engine01~ | 2 | --- |
| C3 | IACInterm~ | 0 | C4 | F3 | Engine01~ | 3 | --- |

CAN Setup Function Screen
(on Model 8841 MEMORY HiCORDER)



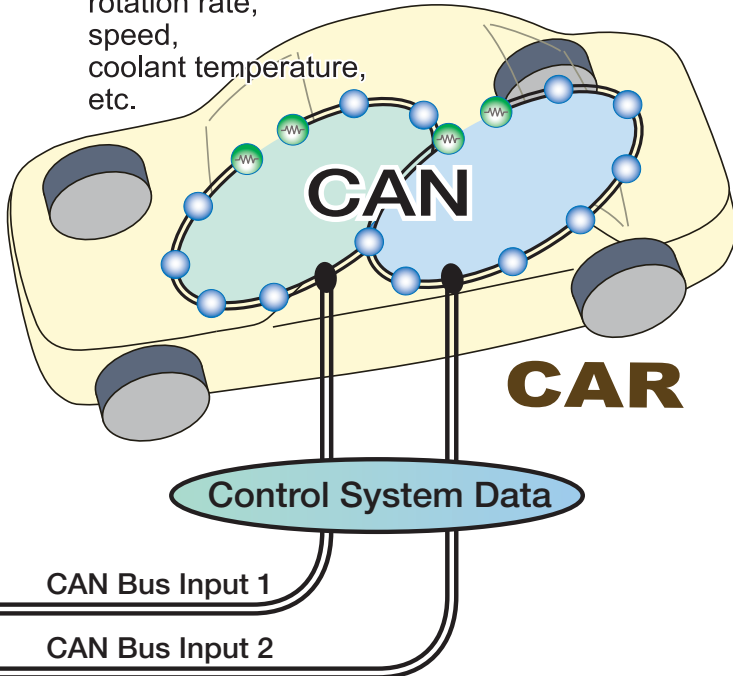
PC Card

MO disc Floppy diskette

Settings for the 8910 stored on floppy diskette, PC Card or MO discs by a PC can be loaded by a MEMORY HiCORDER.

CAN bus data and other signals

Throttle opening,
rotation rate,
speed,
coolant temperature,
etc.



Features of the 8910 CAN ADAPTER

● Easily monitor a variety of CAN data

The 8910 CAN Adapter allows you to freely select signals on the CAN bus for conversion to analog and logic signals.

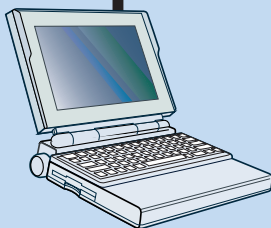
● Monitor CAN signals on your existing MEMORY HiCORDER or similar recorder

The 8910 CAN Adapter provides your selected CAN signals as analog (-5 to +5 V) or logic (0/5 V) outputs in real time. You can monitor CAN signals simply using your existing MEMORY HiCORDER or other data recorder.

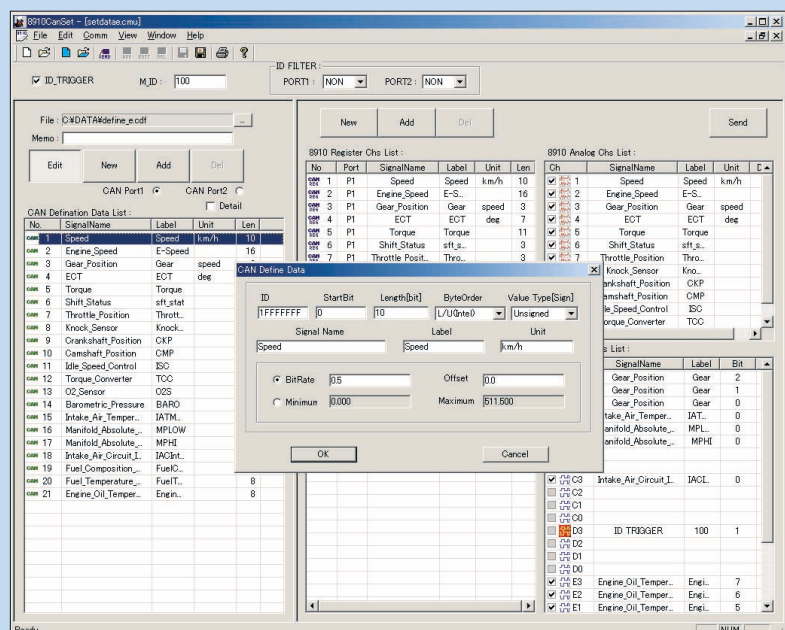
● Record combinations of CAN bus sensor data and control signals along with signals acquired from non-CAN-bus devices

To verify proper engine response and to evaluate ECUs, control signals and mechanical functions need to be recorded simultaneously. With the 8910 CAN Adapter, you can record combinations of sensor data or control signals on the CAN bus and signals acquired from non-CAN-bus devices.

CAN Set Program (PC Software Application)



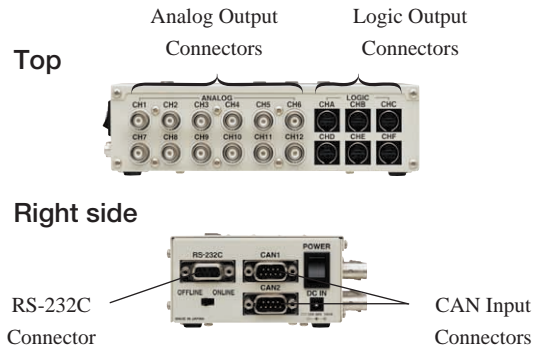
You can select CAN definition data and output channels using the CAN Set Windows application running on a PC. Setting data can also be sent via RS-232C to the 8910 CAN Adapter at the touch of a button.



CAN Set Screen (PC Software Application)

■ Specifications

| 8910 CAN ADAPTER General Specifications | |
|---|---|
| <small>(Accuracy specified at 23±5°C, 30 minutes after power on, guaranteed for one year)</small> | |
| CAN Input | Two CAN channels (listen-only) |
| CAN Protocol | CAN vers. 2.0B (Standard/Extended formats) |
| CAN Communication Speeds | 125k, 250k, 500k and 1Mbps, High-Speed CAN (ISO 11898) |
| Output Channels | 12 Analog + 6 Logic (24 bits) |
| Output Resolution | 16 bits |
| Output Voltage | -5 to +5 V (Analog), 0/5 V (Logic) |
| Output Accuracy | ±0.1% f.s. |
| Response Speed | 1 ms or less (single-capture ID [with at least 3 ms output interval], with the same ID assigned to all analog and logic channels, and with ID filter on; the time from receipt of a CAN message until all analog and logic output is completed) |
| Interface | RS-232C (status settings) |
| Ambient Environment (non-condensating) | Operating Temp & Humidity: -10 to 55°C, 30 to 80% RH Storage Temp & Humidity: -20 to 70°C, 10 to 90% RH |
| Applicable Standards | Safety: EN61010; EMC: EN61326 |
| Power Supply | (1) Model 9418-15 AC Adapter (supplies 12V DC / 2.5A from 100 to 240V AC mains) (2) 10 to 30V DC (may be obtained from vehicle) (3) Obtain 10 to 30V DC from CAN input connector |
| External Dimensions | Approx. 180W × 50H × 100D mm |
| Weight | Approx. 940 g |
| Setup Software | (1) CAN Set Program (PC software application) (2) CAN Setup Function (supplemental function for MEMORY HiCORDERs) |
| Supplied Accessories | 9418-15 AC Adapter (1), RS-232C Cable (1), 9713-01 CAN Cable (1), CD-R [CAN Set Program, CAN Setup Function] (1) |
| Functional Specifications | |
| Settings | (1) CAN definition data setup (various parameter settings for capturing data from the CAN bus) (2) CAN input port selection (3) Output channel setup (select channels to output captured CAN data), etc. |
| Setting Methods | (a) Above settings [(1) to (3)] can be made from the CAN Set program (b) Above settings (3) can be made from the 8910 itself or a MEMORY HiCORDER |
| Scaling | Only linear function supported (at the MEMORY HiCORDER side) |



| CAN Set Program (PC software application) | |
|---|--|
| Supported Model | 8910 CAN ADAPTER |
| Supplied Media | One CD-R |
| Operating System Environment | Windows 95, 98, Me, NT4.0 (SP3 or later), 2000, XP |
| Settings | CAN definition data, CAN input ports, output channels, ID trigger, ID filter, etc. |
| Communications | 8910: RS-232C, MEMORY HiCORDER: Media (floppy diskette, PC Card, MO disc) |
| Saving | Saves CAN definition data and 8910 setting data |
| CAN Setup Function (Supplemental Function for MEMORY HiCORDERs) | |
| Supported Recorder Models | Model 8826, 8841, 8842* MEMORY HiCORDERs |
| Settings | Output channels, MEMORY HiCORDER channels, D/A conversion format, logic bit assignments |
| Communications | 8910: Model 9557 RS-232C CARD (PC Card) PC: Media (floppy diskette, PC Card, MO disc) |
| Saving | Six blocks of 8910 setting data can be saved in the backup memory of a MEMORY HiCORDER |

* MEMORY HiCORDERs currently in use can be upgraded to support the 8910. Use the accessory CD supplied with the 8910 for the upgrade.

Ordering information

8910 CAN ADAPTER

● Compatible MEMORY HiCORDERs (capable of making settings on the 8910)

8841 MEMORY HiCORDER (use with input units sold separately)

8842 MEMORY HiCORDER (use with input units sold separately)

8826 MEMORY HiCORDER (use with input units sold separately)

● Compatible MEMORY HiCORDERs (waveform recording only)

8807-01/51 MEMORY HiCORDER

8808-01/51 MEMORY HiCORDER

8835-01 MEMORY HiCORDER (use with input units sold separately)

8852 MEMORY HiCORDER

8852-01 MEMORY HiCORDER

8855 MEMORY HiCORDER (use with input units sold separately)

8720 VISUAL HiCORDER (use with input units sold separately)

● Optional accessories

9713-01 CAN CABLE (unprocessed on one end, included accessory)

9713-02 CAN CABLE (for automobile connectors)

*manufactured upon order; please inquire with your local distributor regarding specifications and delivery

9714-01 LOGIC CABLE (unprocessed on one end)

9714-02 LOGIC CABLE (use to connect to MEMORY HiCORDER)

9165 CONNECTION CORD (Metal BNC-to-metal BNC)

9217 CONNECTION CORD (Insulated BNC-to-insulated BNC, use to connect to insulated-BNC terminal on MEMORY HiCORDER input units)

9557 RS-232C CARD (compliant with the PCMCIA standard, for MEMORY HiCORDER)

HIOKI

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