The **8807-01, 8808-01 MEMORY HiCORDER**s, housed in a B5 book-sized, compact, and thin body weighing in at under 1.2 kg, are handy high-speed recorders equipped with features such as analog 4-channel (**8807-01**: 2-channel) isolated inputs, PC card slot, fax/modem communication, 3-way power supply, and powerful trigger functions. One unit is capable of covering a variety of usages, ranging from low-speed/long-term continuous recording to recording of high-speed transients.
Recording Intermittent Leakage, Engine Performance and Relay Timing

-Application Examples-

Unpredictable intermittent leakage is monitored unattended by recording instantaneous waveforms of the leakage current and line voltage.

Analysis of engine characteristics

Allows the balance between boost, oil pressure, air fuel ratio, ignition timing, engine speed, injector aperture, etc., to be observed and recorded as waveforms.

Analysis of Sequence Control Device Faults

Abnormal halts and warnings issued by sequence control devices in manufacturing production and testing lines can be caused by AC power hits or low voltage. Such anomalous behavior can best be analyzed by setting the sequence relay signal as a trigger to record the abnormal AC power waveforms and DC voltage systems.

Circuit breaker timing measurement

Circuit breaker cut-off in a power circuit can be investigated by analyzing the relationship of multipoint logic signals to the analog waveform. Up to eight channels are provided for recording relay operation using logic probes. Use the Model 9320-01 for non-voltage contact signals, and the 9321-01 LOGIC PROBE with isolated inputs for powered AC relay signals.

Recording of motor rush current

Motor power-on inrush current waveforms can be precisely recorded. The Model 9018-10 and 9132-10 CLAMP ON PROBE are available for current measurement, as is the Model 3283 Leakage Current Meter. In addition, to measure direct current waveforms, a variety of sensors such as the Model 9277, 9278 and 9279 UNIVERSAL CLAMP ON CTs are available upon request.
High-Speed Response for Capturing Transient Events
- Memory recorder function -

Operation of the memory recorder functions

The input signal is converted to digital data that are stored in the internal memory. The data can then be displayed on the screen or printed out on paper. Once recorded, data are backed up for five years by the internal battery, provided that the start button is not pressed a second time (trigger mode: one-shot). The necessary parts can be searched out on the screen so that only the required waveforms are printed out.

The data sampling speed (sampling rate) is automatically set at 1/80 of the time axis range. E.g., at 200 μs/division the sampling rate becomes 2.5 μs, at 5 minutes/division, the sampling rate becomes 3.75 sec.

The optional 8992 PRINTER UNIT is required.

<table>
<thead>
<tr>
<th>Time axis</th>
<th>Sampling rate</th>
<th>1-channel setting 256 kW/ch 3200 divisions</th>
<th>4-channel setting 64 kW/ch 800 divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 μs /DIV</td>
<td>2.5 μs</td>
<td>640 s</td>
<td>160 s</td>
</tr>
<tr>
<td>400</td>
<td>5 μs</td>
<td>1.28 s</td>
<td>320 ms</td>
</tr>
<tr>
<td>1 μs /DIV</td>
<td>12.5 μs</td>
<td>32 s</td>
<td>800 ms</td>
</tr>
<tr>
<td>2</td>
<td>25 μs</td>
<td>6.4 s</td>
<td>1.6 s</td>
</tr>
<tr>
<td>5</td>
<td>62.5 μs</td>
<td>16 s</td>
<td>4 s</td>
</tr>
<tr>
<td>10</td>
<td>125 μs</td>
<td>32 s</td>
<td>8 s</td>
</tr>
<tr>
<td>20</td>
<td>250 μs</td>
<td>1 m 4 s</td>
<td>16 s</td>
</tr>
<tr>
<td>50</td>
<td>625 μs</td>
<td>2 m 40 s</td>
<td>40 s</td>
</tr>
<tr>
<td>100</td>
<td>1.25 ms</td>
<td>5 m 20 s</td>
<td>1 m 20 s</td>
</tr>
<tr>
<td>200</td>
<td>2.5 ms</td>
<td>10 m 40 s</td>
<td>2 m 40 s</td>
</tr>
<tr>
<td>500</td>
<td>6.25 ms</td>
<td>26 m 40 s</td>
<td>6 m 40 s</td>
</tr>
<tr>
<td>1 s /DIV</td>
<td>12.5 ms</td>
<td>53 m 20 s</td>
<td>15 m 20 s</td>
</tr>
<tr>
<td>2</td>
<td>25 ms</td>
<td>1 h 46 m 40 s</td>
<td>26 m 40 s</td>
</tr>
<tr>
<td>5</td>
<td>62.5 ms</td>
<td>4 h 26 m 40 s</td>
<td>1 h 6 m 40 s</td>
</tr>
<tr>
<td>10</td>
<td>125 ms</td>
<td>8 h 53 m 40 s</td>
<td>2 h 13 m 20 s</td>
</tr>
<tr>
<td>30</td>
<td>375 ms</td>
<td>1 day 2 h 40 m</td>
<td>6 h 40 m</td>
</tr>
<tr>
<td>1 minutes /DIV</td>
<td>750 ms</td>
<td>2 days 5 h 20 m</td>
<td>13 h 20 m</td>
</tr>
<tr>
<td>2</td>
<td>1.5 s</td>
<td>4 days 10 h 40 m</td>
<td>1 day 2 h 40 m</td>
</tr>
<tr>
<td>5</td>
<td>3.75 s</td>
<td>11 days 2 h 40 m</td>
<td>2 days 18 h 40 m</td>
</tr>
</tbody>
</table>

Real-time waveform judgement trigger with constant monitoring of the voltage waveforms of AC power lines
(Memory recorder function only)

The waveform judgement trigger constantly monitors the AC power line for irregular waveforms. There are two ways to use this trigger. One cycle of measured waveforms is observed with the judgement area automatically created from the immediately preceding cycle waveform, or the judgement area can be automatically created from the ideal sine wave. In both cases, the trigger activates when the signal is detected to move outside the reference area. This allows real-time monitoring of phenomena in AC power lines that existing level triggers have not been able to capture, such as momentary stops, sags, and impulses.

The level trigger can be set separately for each analog channel. Also, when the printer is connected, the judgement area automatically generated from the ideal sine wave can be printed as an overlay with the measurement waveform.

The time axis can be used for all ranges above 10 ms/DIV (version 2.20 or later).
Waveforms are Saved During Real-Time Recording

-Real-Time Recording-

RMS recorder function

This function is exclusively for use on 50/60 Hz power-supply lines and DC. High-speed sampling is applied to calculate the rms value from the waveform data\(^1\), and the result is recorded as a graph.

\(^1\) Using 250 μs high-speed sampling, data for three waveforms are captured for calculating the rms value. This process is repeated 800 times per second using the moving average method, resulting in high-speed response.

RMS recorder & memory function

If an abnormal event is detected by triggers during real-time recording of signals using the RMS recorder, it is stored in memory by the high-speed sampling memory recorder. The RMS recorder function works independently and never stops. This function is highly convenient when it is desirable to record both abnormal phenomena and normal level fluctuations.

Recorder function operation

The input signal is converted to digital form and displayed or printed\(^2\) in real-time. The chart speed is maximum 10 mm/s (in the 1s/division range)\(^3\). Even with the real-time recording, the last 400 divisions of the waveform can be observed by scrolling or reprinting the data\(^4\).

\(^2\) The optional 8992 PRINTER UNIT is required.
\(^3\) Only when using the AC Adapter. When using batteries, the maximum speed is 5 mm/s (2 s/division range).

X-Y Recorder format

This function allows two signals converted to digital form to be combined in an x-y plot and stored in memory. Any of the four analog channels can be used for an x-y plot, but only one plot can be combined. The X-Y plot can be viewed in real-time on the display, and there is no limit on the recording time. The waveforms can also be printed out as many times as desired.

Special range for clamp probe enables easy current measurement\(^5\)

Using the 9018-10 CLAMP ON PROBE, current waveforms can be captured on live lines. Voltage range settings and scale settings are performed with a one-touch operation thanks to the special clamp probe range provided.

\(^5\) Only compatible with the 9018-10 and 9132-10 CLAMP ON PROBES. Model 9018 and 9132 CLAMP ON PROBES can be connected using the Model 9199 CONVERSION ADAPTER

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**Recorder recording time**

<table>
<thead>
<tr>
<th>Time axis</th>
<th>Chart speed</th>
<th>Sampling period</th>
<th>Approximate recording time with one roll of recording paper (18 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 ms/DIV</td>
<td>Printer not required</td>
<td>2.5 μs</td>
<td>Stored in memory only: 40 s</td>
</tr>
<tr>
<td>200</td>
<td>500</td>
<td>2.5 μs</td>
<td>Stored in memory only: 1 m 20 s</td>
</tr>
<tr>
<td>1 s/DIV</td>
<td>AC Adapter used 10 mm/s</td>
<td>2.5 μs</td>
<td>Stored in memory only: 3 m 20 s</td>
</tr>
<tr>
<td>2 s/DIV</td>
<td>5 mm/s</td>
<td>2.5 μs</td>
<td>29 m 30 s</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2.5 μs</td>
<td>59 m</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>2.5 μs</td>
<td>4 h 55 m</td>
</tr>
<tr>
<td>20</td>
<td>20 mm/s</td>
<td>2.5 μs</td>
<td>14 h 45 m</td>
</tr>
<tr>
<td>1 minute/DIV</td>
<td>10</td>
<td>2.5 μs</td>
<td>1 day 5 h 30 m</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>2.5 μs</td>
<td>2 days 11 h</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2.5 μs</td>
<td>6 days 3 h 30 m</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>2.5 μs</td>
<td>12 days 7 h</td>
</tr>
<tr>
<td>30</td>
<td>20 mm/h</td>
<td>2.5 μs</td>
<td>36 days 21 h</td>
</tr>
<tr>
<td>1 h/DIV</td>
<td>10 mm/h</td>
<td>2.5 μs</td>
<td>73 days 18 h</td>
</tr>
</tbody>
</table>

---

**Chart of Recorder function**

**Chart of RMS recorder function**

**Slow-speed recording by RMS recorder**

**High-speed recording by memory**

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**Connects Directly (BNC plug)**

**Connects Indirectly (Banana plugs)
Fax/modem communication function and PC connection

Use of a commercially available fax/modem card*1 allows communication via a telephone line. The RS-232C terminal is standard equipment that allows the 8807-01 and 8808-01 to be connected serially to a personal computer.

*1 Please contact HIOKI for details on compatible fax/modem cards. The fax/modem card is inserted into the PC card slot on the 8807-01 and 8808-01.

- RS-232C connection to PC
  The PC and HiCORDER can be directly connected serially for transferring recorded data and remote settings. The optional 9332 WAVE COMMUNICATOR software or other software created by the user may be used on the PC.

- Modem connection to PC (requires main unit version 2.0 or later)
  When an abnormal waveform is recorded in the MEMORY HiCORDER by a trigger event, the data file can be transferred by automatically dialing a PC at a remote location (the optional 9332 WAVE COMMUNICATOR software must be running on the PC).

Off-Line Data Exchange with a PC

Waveforms acquired by the memory recorder can be stored on flash ATA-PC cards. Stored waveform data can be converted to text (CSV) format files by the supplied Wv Waveform Viewer PC application program.

- Using Data on the PC
  Displayed images can be saved in BMP format to easily create and print color reports from the PC’s word processor. Also, measurement data can be converted to text format*2 for numerical analysis in a PC spreadsheet program.

*2 Data can be saved in binary or text formats. The binary format is for data to be used in the 8807-01 and 8808-01 MEMORY HiCORDER. Data saved to the PC in binary format can be converted to text format using the supplied Wv (Waveform Viewer program), for loading into a spreadsheet program such as Excel. Also, images can be saved in BMP format.

Convenient features for ease of operation

Convenient features such as the DMM function, special range for a clamp probe, numerical value calculation, scaling, A/B cursor measurement, free comment input, and automatic restart after power outage make the measurement work quick and simple.

- Auto-dial function for connection to fax machine (requires main unit version 2.0 or later)
  Automatically transmit measurement data (display screen shots) to a specified fax machine. When used in combination with a trigger, this function allows automatic notification in case of abnormalities. It also enables unattended monitoring with waveforms transmitted to the fax machine at specified times.

- Communication software to connect the 8807-01 and 8808-01 with a PC
  The 9332 WAVE COMMUNICATOR (communication software) is available as an option to transfer recorded data and remote settings between a Windows PC and MEMORY HiCORDER.

- DMM Function
  Digital Multi Meter functions are provided for simple input voltage checking. Selectable modes are Effective value mode (AC+DC), and Instantaneous value mode (DC), each displaying four numeric digits. When the scaling function is enabled, the specified scaling value is incorporated.

  **Note:** Convenient for checking waveform recordings of power lines. RMS display is for 50/60 Hz or DC only.
## -Specifications-

### 8807-01, 8808-01 MEMORY HI-CORDER Basic Specifications

<table>
<thead>
<tr>
<th>Measurement functions</th>
<th>(1) Memory recorder, (2) Recorder, (3) RMS recorder &amp; memory (50/60 Hz or DC only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input type and number of channels</td>
<td><strong>8807-01</strong> fixed input section, 2 analog + 8 logic; <strong>8808-01</strong> fixed input section + 4 analog + 8 logic. Isolated analog channels, isolated input and outputs, logic has common GND.</td>
</tr>
<tr>
<td>Maximum sampling rate</td>
<td>400 k sample/s (2.5 µs cycle); Simultaneous sampling for 2 analog + 8 logic inputs.</td>
</tr>
<tr>
<td>Memory capacity</td>
<td><strong>8807-01</strong> (analog 12 bits + logic 4 bits) × 256 kilo-words/channel (CH1) + (analog 12 bits + logic 4 bits) × 128 kilo-words/channel (CH1, CH2); <strong>8808-01</strong> (analog 12 bits + logic 4 bits) × 256 kilo-words/channel (CH1) + (analog 12 bits + logic 4 bits) × 64 kilo-words/channel (CH1 - CH4).</td>
</tr>
<tr>
<td>External memory</td>
<td>PC card TYPE B slot × 1: SRAM card (max. 32 MB), flash ATA card (max. 528 MB), MS-DOS format.</td>
</tr>
<tr>
<td>Battery backup</td>
<td>Check, waveform data, settings, battery life approx. 5 years at 23 °C / 73 °F.</td>
</tr>
<tr>
<td>External control</td>
<td>Terminal block: trigger input/output.</td>
</tr>
<tr>
<td>Interface</td>
<td><strong>RS-232C interface</strong>: 9 pin round connector terminal (D-sub); <strong>HIOKI 8122-25 CABLE</strong>: coaxial cable for connection to PC. <strong>PC card interface</strong>: Commercially available PC card type fax modem (Please consult HIOKI for information on compatible fax modems). <strong>Printer interface</strong>: 8992 PRINTER UNIT can be connected (option).</td>
</tr>
<tr>
<td>Environment conditions</td>
<td>Operating: ±5 °C/41 °F to ±40 °C/104 °F, 35% to 80% relative humidity. Storage: 10 °C to 40 °F/ -14 °C to 40 °F, 35% to 80% relative humidity.</td>
</tr>
<tr>
<td>Applicable standards</td>
<td>Safety: EN61010; EMC: EN61326.</td>
</tr>
<tr>
<td>Power supplies</td>
<td>(1) 9.6 VDC to 10.8 VDC (±6%); (2) 14.8 VDC ±8% (±6%) (DC, GND).</td>
</tr>
<tr>
<td>Power requirements</td>
<td><strong>8807-01, 8808-01</strong>: 15 V max. (when using optional printer).</td>
</tr>
<tr>
<td>Continuous operation time</td>
<td>Approx. 3 hours (when using 8447 BATTERY PACK); Approx. 1 hours (when using alkaline batteries).</td>
</tr>
<tr>
<td>Charge time</td>
<td>With power switch OFF, approx. 2 hours fast charge (at 23 °C).</td>
</tr>
<tr>
<td>Dimensions</td>
<td><strong>8807-01, 8808-01</strong>: Approx. 201 (7.90) W × 170 (6.70) H × 52 (2.05) D mm (inch) (printer detached) Approx. 201 (7.90) W × 170 (6.70) H × 52 (2.05) D mm (inch) (printer attached).</td>
</tr>
<tr>
<td>Mass</td>
<td><strong>8807-01</strong>: 1.1 kg (2.42 lbs); <strong>8808-01</strong>: 1.2 kg (2.64 lbs).</td>
</tr>
<tr>
<td>Supplied accessories</td>
<td>L/R06A alkaline batteries (6), alkaline battery box (1), shoulder belt (1), Wave viewer software (1).</td>
</tr>
</tbody>
</table>

### Recording and Display Section

<table>
<thead>
<tr>
<th>Display</th>
<th>5.7-inch STN color LCD, with Japanese/English selector 240 × 320 dots.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printer paper</td>
<td>112 mm (4.4&quot;) × 18 m (59.06 feet), thermal paper roll.</td>
</tr>
<tr>
<td>Recording width</td>
<td>10 divisions for full scale, 1 division = 10 mm (0.39&quot;) (80 dots)</td>
</tr>
<tr>
<td>Paper feed density</td>
<td>8 rows/mm (203 rows/inch) 16 rows/mm (406 rows/inch) in memory recorder’s smooth printing mode.</td>
</tr>
<tr>
<td>Recording speed</td>
<td>Max. 10 mm/s (0.39&quot;) (when using AC Adapter). Max. 5 mm/s (0.2&quot;) (when using batteries).</td>
</tr>
</tbody>
</table>

### Trigger Function

<table>
<thead>
<tr>
<th>Trigger type (Analog)</th>
<th>Analog input CH1 - CH4: <strong>8807-01</strong>: CH1 - CH2, <strong>8808-01</strong>: CH1 - CH4, logic input. Analog input A - B: external, timer, manual (either ON or OFF for each source), logical AND/OR of sources.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>Triggered when set voltage value is exceeded in UP or DOWN direction. Voltage window is: When entering or exiting a level range defined by upper or lower limit.</td>
</tr>
<tr>
<td>Voltage drop</td>
<td>Only for AC 50/60 Hz power lines. Triggered when the peak voltage falls below setting value.</td>
</tr>
<tr>
<td>RMS level</td>
<td>Only for DC and AC 50/60 Hz power lines. Triggered when rms value crosses set value in UP or DOWN direction (RMS recorder function only).</td>
</tr>
<tr>
<td>Real-time waveform judgment</td>
<td>Only for AC 50/60 Hz power lines. Trigger function that monitors when a signal exceeds the evaluation area (Memory recorder function only).</td>
</tr>
</tbody>
</table>

### Auxiliary Functions

<table>
<thead>
<tr>
<th>Calculation functions</th>
<th>Memory recorder: Up to four arithmetic operations simultaneously: average, effective (RMS) value, peak to peak value, maximum value, time to maximum value, minimum value, time to minimum value, period, and frequency, area, X-Y area.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other functions</td>
<td>Measurement range: 0 to 50 kHz. In the measuring range, the display shows the minimum value -95 % of recording length; 15 settings.</td>
</tr>
</tbody>
</table>

### Memory Recorder Function

| Time axis | 200 µs to 5 minutes/division, 19 settings, time axis zoom x2 to x10, 3 settings, compression: 1/2 to 1/500, 8 settings. |
| Sampling period | 1/80 of time axis ranges (minimum sampling period 2.5 µs) |
| Recording length | 200 µs to 5 minutes, * depending on the number of channels in use. |
| Pre-trigger | Can record data from before the trigger point, 0 – 100 % of recording length: 13 settings. |
| Other functions | Numerical calculations, logarithm (numerical printout), X-Y waveform plot (one plot on 8807-01, up to three plots on 8808-01), voltage axis zoom x2 = x10, 3 settings, compression: 1/2. |

### Recorder Function

| Time axis | 100 ms to 1 hour/division; 14 settings. 1 division = 80 seconds, time axis compression 1/2 to 1/50, 5 settings. |
| Sampling period | 100 µs – 500 microsecond ranges shown only on display when using AC. Adapter. 100 ms – 1 second ranges shown only on display when using batteries. |
| Recording length | 20 – 400 divisions, “continuous” * only “continuous” for X-Y printing. |
| X-Y axis resolution | 20 dots/division/display, 80 dots/division (with optional printer) |
| Other functions | Back-scroll of memory data (max. last 400 divisions) and reprinting of stored data (with optional printer), logging (numerical printout) (with optional printer), voltage axis magnification > x2 ~ x10, 3 settings, compression 1/2, 1 setting. |

### Auxiliary Functions

<table>
<thead>
<tr>
<th>General</th>
<th>Printing of settings including input range, trigger time, etc., cursor measurement, scaling, comment input, screen hard copy, start condition retention, auto setup, auto saving, remote control, auto-range setting, list printing (with optional printer), MM function (display shows in numerals on the display).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation functions</td>
<td>Average value, effective (RMS) value, peak to peak value, maximum value, time to maximum value, maximum value, time to minimum value, minimum value, time to minimum value, period, and frequency, area, X-Y area.</td>
</tr>
<tr>
<td>DMM function</td>
<td>Display update rate: 1 s, display contents, AC/DC rms (measurement signal is DC, 50/60 Hz only), or DC instantaneous value.</td>
</tr>
<tr>
<td>Supported recorder</td>
<td>8832, 8833-01, 8841, 8842, 8807-01, 8808-01.</td>
</tr>
</tbody>
</table>

### Analog input

<table>
<thead>
<tr>
<th>Input</th>
<th>Terminal: isolated BNC inter-channel and input-frame isolation (trigger standby at 23 °C).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>10 mV – 500 V; 13 settings, full-scale (f.s.) × 10 divisions, max. 450 V AC rms or DC, low-pass filter = 5/500 Hz, the measurement resolution in 1/160 of range.</td>
</tr>
<tr>
<td>Accuracy, frequency characteristics</td>
<td>±0.5 % f.s., DC to 50 kHz ± 3 dB.</td>
</tr>
<tr>
<td>Input resistance and capacitance</td>
<td>1 MΩ, 7 pF approx. (at 100 kHz).</td>
</tr>
<tr>
<td>Input coupling</td>
<td>DC, GND.</td>
</tr>
<tr>
<td>Max. allowable input</td>
<td>450 V AC rms, DC (peak voltage which when applied in input channel causing a between input channels does not damage them).</td>
</tr>
<tr>
<td>Max. grounding voltage</td>
<td>450 V AC, DC (peak voltage which when applied in input channel causing a between input channels does not damage them).</td>
</tr>
</tbody>
</table>
**Appearance and Dimensions** (8807-01 and 8808-01 Instrument-only)

- Logic probe terminal
- DC mode, (2) AC mode, (3) RMS mode
- RS-232C terminal
- 8-pin DIN
- Waveform monitor (5.7 inch color STN LCD)
- **PC card slot/Type II**
- External trigger input/output
- Screen contrast adjuster
- Analog input (Isolated BNC terminal)
- Battery compartment at the rear
- LS/AA alkaline batteries × 6 or 9447 BATTERY PACK × 1

**Specifications of Options** (sold separately)

### 9320-01 LOGIC PROBE

Detector for high/low recording of voltage signals or relay contacts.

**Inputs**
- 4 channels (contact, ground), digital / contact signal detection.
- Can detect open-collector signal at contact input.

**Input resistance**
- 1 MΩ (digital input), at +5 V, ±50 V

**Pull up resistance**
- ≤ 2 kΩ (contact input)

**Threshold level**
- +1.4 V, +2.5 V, +4.0 V

**Detect range**
- Open at least 25 kΩ

**Response time**
- 500 ns maximum

**Dimensions and mass**
- 8807-01: 2 ch, 8808-01: 4 ch
- Approx. 262 (10.33) W × 94 (3.70) H × 20 (0.78) D mm (inch), 150 g (5.3 oz)

### 9331-01 WAVE PROCESSOR

Supported recorders: 8806, 8806-01, 8807-01, 8808-01

**Provided media:** 3.5-inch 2HD floppy disks (3)

**Operating environment:** IBM PC/AT or compatible, PC98 series (800 × 600 or higher resolution), Windows 95 (English version)

**Functions:**
- Data conversion - Converts waveform data on disk to voltage values in ASCII format. Converts logic data to 1 or 0 (for all functions of memory recorder, recorder, effective-value recorder).
- All channels or an arbitrary channel can be selected for conversion.
- Waveform display - Waveforms can be displayed on a PC screen.
- Calculation Function - parameters can be calculated.
- Saving conversion data - Displayed, screen-redirected, parameters can be saved in two formats: CSV and DADiSP.
- Reading and Saving Data - Various types of data can be read and saved.
- Calculation Value Saving Function - Parameter calculation results can be saved.
- Report Function - A report can be created from the recorded comment.
- Preview Function - Printing and Saving Comments - Channel headers and channel comments can be printed and saved.
- Print Format - Batch display or group display is possible.
- Printing paper size - A4, portrait or landscape.

**Supported software:** Excel, Lotus 1-2-3, DADiSP

**Dimensions:**
- Approx. 70 W × 150 H × 25 D mm (2.76 W × 5.91 H × 0.98 D inch)

**Mass:**
- Approx. 0.35 g (12.3 oz)

**Primary cord length:**
- Approx. 460 mm (18.11 inch)

**Secondary cord length:**
- Approx. 1.3 m (4.27 feet)

**Power supply:**
- Use with 9418-10 AC ADAPTER (DC 12 V ±10%)

**Supplied accessories:**
- Alligator clips (2), Grabber clips (2), 3853 CARRYING CASE (1)

**Supported software:**
- IBM PC/AT or compatible, PC98 series (800 × 600 or higher resolution), Windows 95, 98, NT4.0 (English version)
- Communications method: Standard telephone line (requires a Windows 95/98/NT4.0 compatible modem), RS-232C

**Functions:**
- Waveform data transfer: waveforms stored in the MEMORY HiCORDER can be transferred to and saved on the PC (for all functions of memory recorder, recorder and RMS recorder).
- Store-on-trigger: waveforms can be transferred and stored in response to a trigger event detected by the MEMORY HiCORDER.
- Create and send Settings files: MEMORY HiCORDER setting files can be created and sent to the MEMORY HiCORDER.
- Waveform display function: received waveform data images can be displayed on the screen.
- Data conversion: saved waveform data can be converted to CSV format.

**Supported recorders:** MEMORY HiCORDER

**Application:**
- Waveform monitor output

**Frequency band width:**
- DC to 10 MHz ±3 dB

**Input resistance:**
- ±3 % f.s. x 2000 V DC or less
- f.s. x 2000 V DC

**9322 DIFFERENTIAL PROBE (DC mode)**

**Application:**
- Detection of power line surge noise

**Frequency band width:**
- DC to 10 MHz ±3 dB

**9322 DIFFERENTIAL PROBE (RMS mode)**

**Application:**
- Effective value output for DC or AC voltage input

**Frequency band width:**
- DC to 10 MHz ±3 dB

**Output accuracy:**
- ±0.5 % f.s.
- f.s. x 2000 V DC

**Response speed:**
- 200 ms or less (400 V AC )
Composition of options

9648 CARRYING CASE
Hard case type, for storing options

9391 CARRYING CASE
Soft case type, for storing options. Holds more options than the 9648 hard case

9320-01 LOGIC PROBE
4-channels, on/off detection of voltage/ contact signal (Exclusive use with 8807-01: 8808-01, small connector type)

9321-01 LOGIC PROBE
4-channel isolated, on/off detection of AC/DC voltage (Exclusive use with 8807-01: 8808-01, small connector type)

9323 CONVERSION CABLE
Compatible with the 9320 LOGIC PROBE. connects for the 8807-01 and 8808-01 terminals

9622 RS-232C CABLE
Mini DIN 9-pin. Dual 8-pin. Cable length 1.5 m

9333-01 WAVE PROCESSOR
Software required to convert the binary file to CSV text file, print, calculation, operate under Windows 95/98, NT 4.0

9322 WAVE COMMUNICATOR
Software required to use PC connection via phone modem. RS-232C, operate under Windows 95/98, NT 4.0

PC CARD 64M
Included with PC card adapter, 64 M-bytes compact flash memory card

PC CARD 32M
Included with PC card adapter, 32 M-bytes compact flash memory card

9197 CONNECTION CORD
For up to 500 V, 1.5 m length

9198 CONNECTION CORD
For up to 300 V, 1.5 m length

9199 CONVERSION ADAPTER
Banana-to-BNC, use to connect to insulation-BNC terminal on Input section

Current Measurement

9197 DIFFERENTIAL PROBE
For inputs up to 2 kV DC or 1 kV AC, the 9322 requires the 9418-10 AC ADAPTER

9198 DIFFERENTIAL PROBE
For inputs up to 2 kV DC or 1 kV AC, the 9322 requires the 9418-10 AC ADAPTER

9199 CONVERSION ADAPTER
Banana-to-BNC, use to connect to insulation-BNC terminal on Input section

9197 CONNECTION CORD
For up to 500 V, 1.5 m length

Voltage

Included accessories: LR6/AA Alkaline batteries (6), Alkaline battery box (1), Shoulder belt (1), Wave viewer software (1)

9324 DIFFERENTIAL PROBE
Requires the 9418-10 AC ADAPTER

Examples of optional combinations

8807-01 MEMORY HICORDER (2ch model)
8808-01 MEMORY HICORDER (4ch model)

Included accessories: 18650/AA Alkaline batteries (6), Alkaline battery box (1), Shoulder belt (1), Wave viewer software (1)

8992 PRINTER UNIT
Printing width 109 mm, used together with the 8807-01. 8808-01 main body

9234 RECORDING PAPER
18 m/ 59.06 feet length, 10 rolls/ 1 set

920H PAPER WINDER
Paper width 70 - 220 mm, using special-purpose AC adapter

9447 BATTERY PACK
7.2 V, 2400 mAh

9447 BATTERY PACK
7.2 V, 2400 mAh

9418-10 AC ADAPTER
Input from 10 to 500 A 40 Hz to 3 kHz for 0.2 V AC output. BNC terminal

9132-10 CLAMP ON PROBE
Input from 20 to 1000 A. 40 Hz to 1 kHz for 0.2 V AC output. BNC terminal

9094 OUTPUT CORD
Required along with the 9199 adapter to connect Model 3283 to the 8807-01 or 8808-01

3283 CLAMP ON LEAK TESTER
For leakage current measurement, includes 10 mA to 200 A ranges, with analog output of 1 V/10s DC, and waveform monitor output of 1 V/1s AC. At 40 Hz to 5 kHz. Requires the 9445-01/10 AC ADAPTER

• As the units can be operated using the supplied LR6/AA alkaline batteries but use of the optional 9418-10 AC ADAPTER or 9447 BATTERY PACK (the 9418-10 AC ADAPTER is necessary for recharging) is recommended. Manganese batteries cannot be used. Use of commercially available rechargeable batteries instead of the original battery pack may result in damage to the unit.

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All information correct as of Nov. 28, 2000. All specifications are subject to change without notice.

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