

DR-7100

Portable Data Recorder for Acoustics & Vibration

Overview

The DR-7100 is a portable data recorder for acoustic and vibration with high accuracy. Automobiles, railroads, household appliances, wind power generators...we are living surrounded by equipment that emit noise and vibration. These equipment are now required to be "more quiet", "more comfortable", and "less vibrated" than ever before. As a result, sounds and vibrations not noticed so far have become conspicuous in lower noise environment.

The DR-7100 greatly helps to make such comfortable acoustic environment by recording sound and vibration on site quickly, reliably with ease and high accuracy.

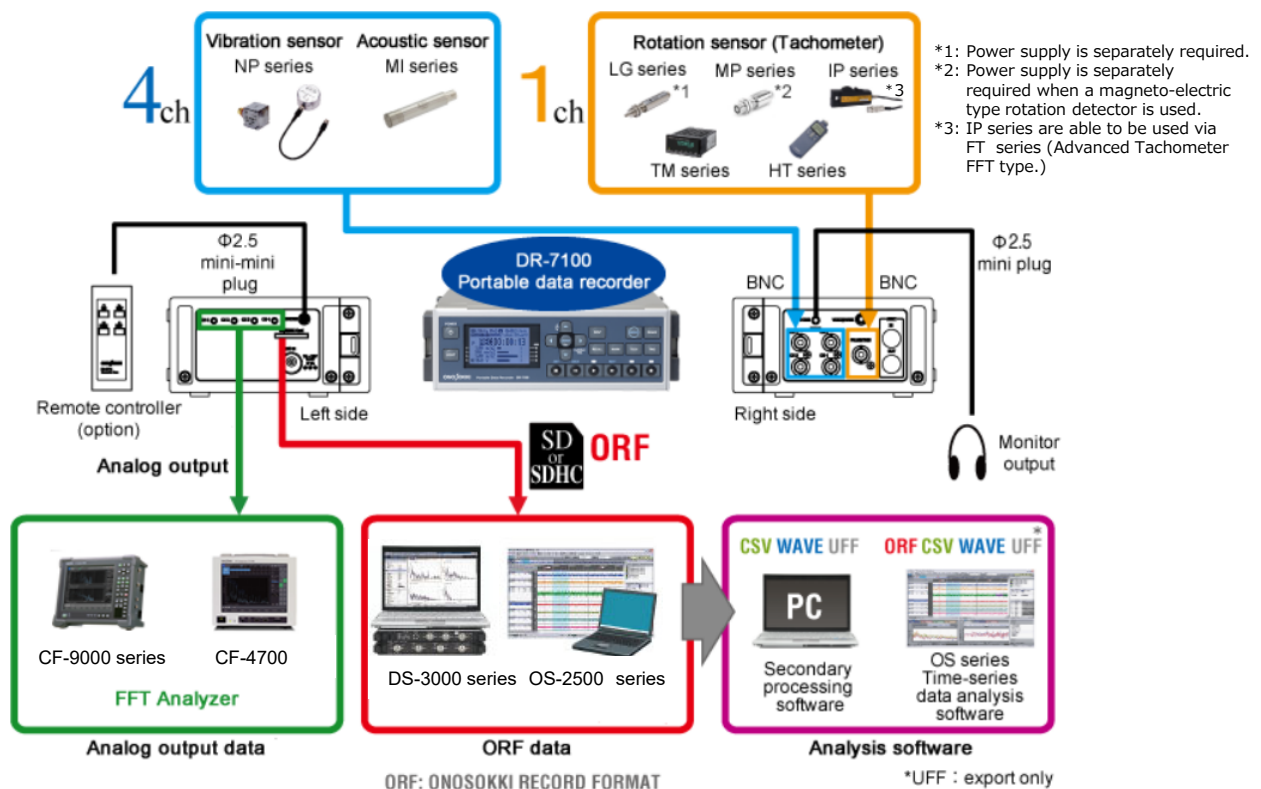


Feature

- Data recording with high speed, high accuracy (4ch 40 kHz range 24 bit*)
- Equipped with a connector for rotation pulse input
- TEDS supported
- Available for high-capacity SDHC 32 GB
- Compact A5 size
- 2-Unit synchronicity function (option)

* 40 kHz range: option(standard: 20 kHz)

Application



● Specification

Input section	Number of channels	Input x 4 Rotation speed/external trigger input x 1
	Input connector	Signal input x 4ch (CO2 type: BNC) Rotation speed/external trigger input x 1ch (CO2 type: BNC) VOICE/MARK connector x 1ch (φ 3.5 5-pole mini plug) Remote controller x 1 (φ 3.5 5-pole mini plug) Synchronized input (SYNC) x 1 (Round connector 12pin) (option)
	Max. input voltage	±13 V
	Input level monitor	Display when max. inputting (LED: instantaneously red light ON, LCD: hold display) (Displays 95% or more of F.S. value.)
	Input coupling	DC or AC (0.35 Hz) Cutoff characteristics -6 dB/oct, at cutoff frequencies -3.0 dB±1.0 dB
	Input impedance	1 MΩ±0.5%, 100 pF or less
	Input format	Single-ended
	Sensor drive power (CCLD)	Voltage: ±24 V Current: 4 mA
	TEDS	IEEE 1451.4 (TEDS) supported (ver. 1.0 or later)*1
	Frequency characteristics	DC coupling : DC to 20 kHz ± 1.0 dB : 3 Hz to 20 kHz ± 0.5 dB (option: up to 40 kHz ± 1.0 dB) AC coupling : 1 Hz to 20 kHz ± 1.0 dB (High-pass filter OFF) : 3 Hz to 20 kHz ± 0.5 dB (High-pass filter OFF) (option: up to 40 kHz ± 1.0 dB)
	Input voltage range	±0.01, 0.0316, 0.1, 0.316, 1, 3.16, 10 V pk
	Input (offset voltage)	Within ±10 mV
	High-pass filter	Selectable from OFF or 7.2 Hz. Cutoff characteristics -6 dB/oct, at cutoff frequency -3.0 dB±1.0 dB
	Low-pass filter	Selectable from OFF, LPF 500 Hz, 1 kHz, or 10 kHz. Cutoff characteristics -12 dB/oct, at cutoff frequency -3.0 dB±1.0 dB
	Amplitude accuracy between channels	Within ±0.5 dB (1 kHz, 1ch standard, filter OFF, same input voltage range)
	Phase difference accuracy between channels	Within ±1.0° (1ch standard, filter OFF, 1 Hz to 20 kHz, same input voltage range, however, only 10 mV range: within ±2.0°) When unit is connected using unit synchronized function (option: DR-0730); within 5.0° (1ch standard, filter OFF, 1 Hz to 20 kHz, same input voltage range, however, only 10 mV range: within ±6.0°)
	Rotation input	AC amplifier Signal waveform : sine wave or rectangular wave Signal voltage range : sine wave 0.2 to 10 Vrms : rectangular wave 0.6 to 26 Vp-p Signal frequency range : 1 Hz to 100 kHz DC amplifier Signal waveform : rectangular wave of pulse width 5 μs or more (duty ratio 20% or more) Signal voltage range : Hi level; 4 to 13 V : Low level; -1 to 1 V Signal frequency range : 1 Hz to 100 kHz Measurement range : 1 to 99,999 r/min Pulse setting : 0.5 to 9.999 P/R Measurement accuracy : within the display value x (0.05%) ± 1 count Auto-zero function : 10 seconds Input impedance : 10 kΩ or more Open collector input supported (VDC 5, 15 mA) Low-pass filter : ON/OFF selectable (AC: 20 kHz, DC: 5kHz)
	Dynamic range	90 dB or more (1 Hz to 20 kHz band frequency, 20 kHz range, 1 V range)
	Microphone input	Ch4 is used concurrently with input signal.
	Remote controller (sold separately)	REC, PAUSE, PLAY, STOP key

Output section	Number of channels	Output x 4 Monitor (PHONE) output x 1
	Output connector	Signal output x 4ch (φ 2.5 mini plug) Monitor (PHONE) output x 1ch (φ 3.5 stereo mini plug) Monitor (PHONE) outputs the selected CH Synchronized output (SYNC) x 1 (Round connector 12 pin) (option)
	Frequency characteristics	DC coupling: DC to 20 kHz±1.0 dB AC coupling: 1 to 20 kHz ± 1.0 dB (option: up to 40 kHz ± 1.0 dB)
	Output voltage	± 1 V (full scale)
Recording section	Monitor (PHONE) output voltage	± 1 V (full scale)
	Output selection	Select from output connector or monitor (PHONE) output connector
	Recording media	SD/SDHC memory card, max. capacity SDHC: 32 GB
	A/D converter	Quantization bit rate: select from 16 bit/24 bit
	File format	ORF format (ONOSOKKI Record Format) (Signal input 32 bit/16 bit selectable, rotation speed input 32 bit)
	Frequency range	Selectable from 100 Hz, 500 Hz, 1 kHz, 5 kHz, 10 kHz, 20 kHz, 40 kHz (40 kHz is optional.)
	Sampling frequency	Select from FFT/ AUDIO of frequency range (102.4 kHz/96 kHz) FFT: frequency range x 2.56, AUDIO: frequency range x 2.4
	Recording time	Approx. 43 minutes (4ch recording) Approx. 172 minutes (1ch recording) (20 kHz range x 2.56, not recording rotation speed, 2 GB memory card is used.) Up to 32 GB memory can be used, (up to 2 GB of recording for one file)
	Pre-recording	Recording starts from 0, 1, 5 seconds before the recording start motion or trigger event.
	Trigger section	Trigger type
Trigger mode		Free/one shot/ repeat
Pre-trigger		Select from 0, 1, 5 s (pre-time from trigger event). Same as pre-recording.
Calibration function		TEDS calibration*2 Setting by sensor sensitivity value
	Display section	LCD 128 X 64 dots (monochrome) with backlight on Setting screen, recording screen, level bar graph, excessive input display (hold), internal trigger level, clock, time counter, display of memorable time, battery level indication (4 levels)
Battery section	LED	Display of excessive input/ recording/ playback/ stop of each channel
	Power requirement	Dry battery (AA alkaline battery, or NiMH battery) x 4 AC adapter (ATS050T-A150) sold separately AC cable 2m (for Japan VM1373-VM0339) sold separately
	External DC	VDC 10 to 18/5 VA, connector EIAJ5*3
	Battery life	More than 5 hours (when using NiMH battery 2400 mAh) More than 4 hours (when using NiMH battery 1900 mAh) Both in frequency range 20 kHz, 4ch, CCLD ON
	Dimensions	A5 size (199(W) x 148(D) x 70(H) mm (Not including protrusions))
General	Weight	Approx. 1.1 Kg or less (not including dry batteries)
	Screw hole	Screw hole for tripod x 1 (JIS B 7103 1/4-20UNC)
	Operating temperature / humidity	-10 to 50 °C, 90% RH or less (with no condensation)
	Storage temperature / humidity	-10 to 50 °C, 90% RH or less (with no condensation)

* 1 When using a third-party TEDS compatible sensor: depending on the TEDS dedicated chip inside the sensor, TEDS information may not be read.
 - If you are considering purchasing sensors from other manufacturers, please consult with each TEDS compatible sensor manufacturer or dealer for operation check.
 - If you wish to use your TEDS compatible sensor with our TEDS compliant measuring instrument, please check the operation with our demo product. (Please contact your nearest Onosokki sales office.)

* 2 Our accelerometer of the NP-XXXXN series or accelerometer compliant with IEEE 1451.4 (TEDS) Ver.1.0

* 3 External battery (sold separately) recommended product: BAYSUN LAMINA

● Option

- DR-0720 40 kHz range expansion function
- DR-0730 Unit synchronicity function*1
- DR-0703 Cable for unit synchronicity (120mm between connectors)
- DR-0745 AA filter OFF function*2
- DR-0711 Remote controller (cable length 0.7m)
- AX-501 Signal cable 2 m
- AC adapter (ATS050T-A150)
- AC cable (2m for Japan, VM1373-VM0339)
- Power cable for battery (5.4 m)
- SDHC memory card*3

● Accessory

- AA alkaline battery (LR6) x4
- SD memory card for operation check (256 MB) x1
- Carrying case x1
- Shoulder strap x1
- Earphone with microphone x1 (main body 0.8m/earphones 0.45m)
- Instruction manual x1

*1: Addition of DR-0730 unit sync function is required for each unit to be connected. 1 sync cable for DR-0703 is required for each connection.

*2: Anti-aliasing filter (a low-pass filter) to prevent aliasing error which may occur when sampling.

*3: Please use our recommended SD / SDHC memory card. Please refer to the latest information on our website.

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* Outer appearance and specifications are subject to change without prior notice.

URL: <https://www.onosokki.co.jp/English/english.htm>

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