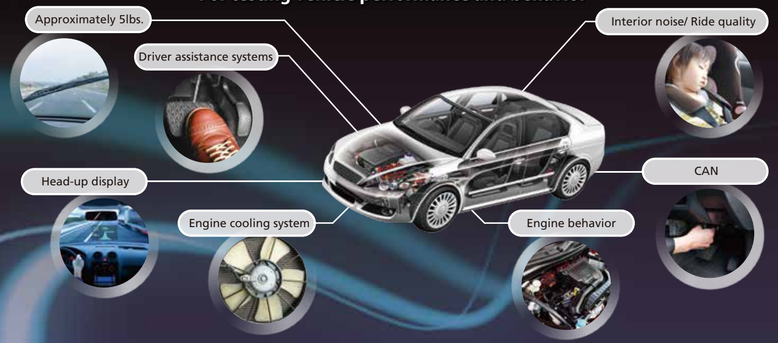
Record all the various signals to one recorder

For testing vehicle performance and behavior



For testing railway conditions

- Noise and Vibration measurement of running trains
- Monitoring of pantograph bounce
- Inspection of wheel conditions such as brake squeal
- Verification of ride quality

For equipment diagnosis

- Investigation of causes of failure on product line
- Monitoring for productivity
- Prevention of failure, prediction of deterioration, optimization of inspection interval, such as estimation of product life

For measurement of environmental noise

Cause investigation and improvement on traffic noise by confirming the synchronization of both data of the environmental noise and video of the occurrence .

Specification

Video IN	
Camera I/F	Gigabit Ethernet (Camera is required to use specified model)
Number of Channels	2ch
Frame Rate	100fps × 1ch (QVGA resolution : 240p)
	30fps × 1ch (HD resolution : 720p)
	30fps × 1ch (HD resolution : 720p) * p : progressive

Analog IN	
Number of Channels	4ch
Coupling	DC / AC / IEPE (TEDS applicable) Selectable for each ch.
A/D converter	delta-sigma (simultaneous sampling)
Sampling Frequency Bandwidth[Hz]	40k | 20k | 10k | 5k | 2.5k | 1.25k | 630 | 100
Sampling Frequency Sampling[Hz]	96k | 48k | 24k | 12k | 6k | 3k | 1.5k | 240 (Bandwidth × 2.4)
Sampling Frequency Bandwidth[Hz]	40k | 20k | 10k | 5k | 2k | 1k | 500 | 100
Sampling Frequency Sampling[Hz]	102.4k | 51.2k | 25.6k | 12.8k | 5.12k | 2.56k | 1.28k | 256(Bandwidth × 2.56)
Analog Output	None
A/D resolutions	16bit / 24bit selectable
Input Range	0.01 / 0.0316 / 0.1 / 0.316 / 1 / 2 / 3.16 / 10 [V]
Dynamic Range	100dB (20kHz bandwidth, 1V rrange, 24bit mode)
High Pass Filter	OFF / 5Hz (–12dB/oct)
Low Pass Filter	OFF / 200 / 500 / 1k / 2k [Hz] (–12dB/oct)
Absolute maximum input voltage	±50 V
Inter-channel phase difference	20kHz band and below : within 1 degree
	40kHz band and below : within 3 degrees
iEPE Curent	4mA / 24V

Digital IN / Pulse IN	
GPS	Position data, Time data
CAN	All packets data recorded (2 signals monitor available)
Pulse	1ch (Either Pulse or Ext. Trigger)

Other	
Video & Analog sync. Accuracy	< +/- 1fps (@ 30fps)
View while Recording	Video (1ch) / Analog Data / CAN
Recording START/STOP	Manual mode / Trigger mode
Trigger	Level, Timer, Repeat, External
	Pre Trigger, Post Trigger
Voice Memo	Available
Recording Media	CFast(up to 64 GB) / SDHC(up to 32 GB) *CFast media is required to record video
Synchronization	WX-7000 series, LX-1000 series, VR-24 x 2
LCD	5.7 inch
Operation	Touch Panel + Button
Dimensions / Weight	W260 x D186 x H77 [mm] / Approx. 2.3[kg]
Power supply	DC 12 — 16 V
	AC 100 — 240 V (when using AC adapter)
Operating conditions	Operating temperature/humidity 0 to 40°C/10 to 80% (no condensation)
	Storage temperature/humidity –20 to 60°C/5 to 90% (no condensation)
	Operating air pressure 860 — 1060 hPa
	Vibration resistance MIL-STD-810E Figure 514.4-1, 2, 3

Recording Time (@ CFast 64 GB)

	Camera	Analog * 4ch [hours : minutes]		
		96kHz / 24bit	48kHz / 24bit	24kHz / 24bit
HD(1280x720 / 30fps)	1ch	2:37	2:57	3:09
VGA(640x480 / 30fps)	1ch	4:53	6:12	7:09
	2ch	3:06	3:34	3:52
QVGA(320x240 / 100fps)	1ch	5:21	6:58	8:12
—	—	11:34	23:08	46:17

This table shows approximate times, and record time is different depending on video data.

Accessories

- AC adapter
- Microphone (1 pc.)
- Ear-phone (1 pc.)
- Installation Manual (1 pc.)
- Operation Manual (included in CD)

Options

- Camera Basler ace series (specified model)

- Recording Media CFast / SDHC card

CFast is a flash memory card with the SATA interface which has enhanced format of the Compact Flash, and supports a higher maximum transfer rate.

- Remote Control ER-VRRC

Wired Remote Control Unit ER-VRRC

- Battery unit

Battery unit is attached.
* Battery and Battery Charger are not included.

- Carrying Bag

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TEAC

Video NV Recorder
VR-24

http://datarecorder.jp/en

Something is happening in test site that cannot find only by analog data analysis.

Records 2ch video, 4ch analog, CAN, GPS and Pulse in perfect sync.
An All-In-One Data Recorder

The VR-24 answers When, Where, Why and How events heppen.

TEAC has innovated the analog and video recording technologies that have been used for decades in the field of testing environments.

The VR-24 is a data recorder that can record traditional video/analog signals along with CAN, GPS and Pulse data simultaneously in perfect sync.
Support for wide bandwidth (40kHz). Because of its small lightweight design with battery operation capability, the VR-24 is an ideal stand-alone data recorder for on-site measurements.
These additional data can reveal "hidden details" in your recorded data that you never knew was there.

All-in-one & Stand-alone

An all-in-one unit that records analog, video, CAN, GPS and Pulse data simultaneously in perfect sync.

Portable for field use

Small & lightweight design makes it easier to carry.
Superior portability for field use.
*Can be operated on battery power (option).

Smaller than A4/Letter size

Small footprint
Compact design (W 10 1/4 x D 7 3/8 x H 3 1/8 in)

Light Weight

Approximately 2.3kg/5lbs.

Touch panel

Large 5.7 inch touch panel allows intuitive operation.

Graphically designed top screen and setting menu provide intuitive operation. Highly visible display allows users to check the recorded data immediately after the measurements. With a variety of display contents and full of useful functions, VR-24 is the data recorder for on-site measurement.

Wide Bandwidth 40kHz

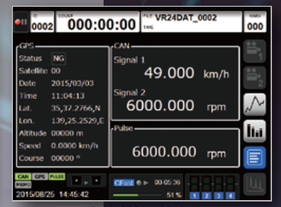
Fulfilling increasing demands for high frequency noise measurements on EV and turbo chargers required when downsizing engines.

Display Example

Analog signal can be shown as waveform

FFT analysis

Analog signal can be shown as bar meter



CAN, GPS and Pulse

Recorded video and data can be reviewed on this screen.

Optional Software

For Viewing and Analysis

VR View WaveMonitor

Optional VR-View allows you to view signal waveform, video and position data recorded by VR-24, on a single display. The function of watching synchronized video and waveforms would greatly help you analyze the phenomena you recorded.

- Waveform display of large capacity data
- Video display
- CAN signal display
- GPS mapping display
- Zoom waveform display
- Sound reproduction
- Waveform segmenting and file conversion
- Waveform processing function

Displays of synchronous recording data in a single window

VR-24 now has exciting new real-time analysis functions!

Real-time analysis viewer

RTA-VU

To meet the needs of various industries, the VR-24 now can provide the following analysis screens in addition to its existing functions:

- Time diagram of four analog channels
- FFT
- Power spectrum and Power spectral density
- 1/1, 1/3 Octave analysis
- FFT spectrogram
- Frequency response function
- Coherence
- Auto/Cross correlation
- Digital multimeter for numeric values