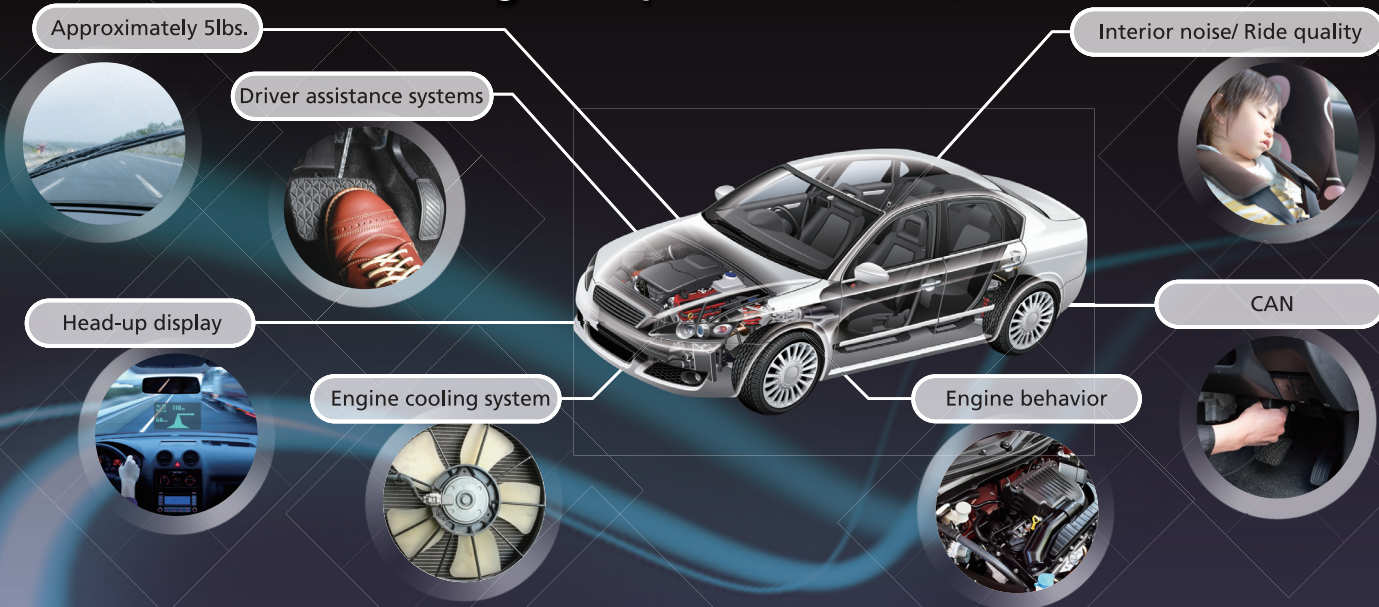


Record all the various signals to one recorder



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 × 1 ch (QVGA resolution : 240p)			
	30fps × 1ch (HD resolution : 720p)			
	30fps × 1ch (HD resolution : 720p)			
* p : progressive				
Analog IN				
Number of Channels	4ch			
Coupling	DC / AC / ICP™(TEDS applicable) Selectable for each ch.			
A/D converter	delta-sigma (simultaneous sampling)			
Sampling	Bandwidth[Hz]	40k 20k 10k 5k 2.5k 1.25k 630 100		
	Sampling[Hz]	96k 48k 24k 12k 6k 3k 1.5k 240	(Bandwidth × 2.4)	
Frequency	Bandwidth[Hz]	40k 20k 10k 5k 2k 1k 500 100		
	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 range, 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			
ICP™ Current	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	LX-100 series / WX-7000 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.

TEAC CORPORATION

Information Products Division

1-47 Ochiai, Tama-shi, Tokyo 206-8530, Japan
Phone : +81-42-356-9154
FAX : +81-42-356-9185
URL : <http://datarecorder.jp/en/>

Copyright© 2018 TEAC CORPORATION. All rights reserved.

Other company names and product names in this document are the trademarks or registered trademarks of their respective owners.
Features and specifications are subject to change without notice.
Precaution : To ensure safe handling and operation, read the Instruction Manual before use.

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



TEAC

Video NV Recorder
VR-24

<http://datarecorder.jp/en>

Video **2** + **4** Analog
+ CAN/GPS/Pulse



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

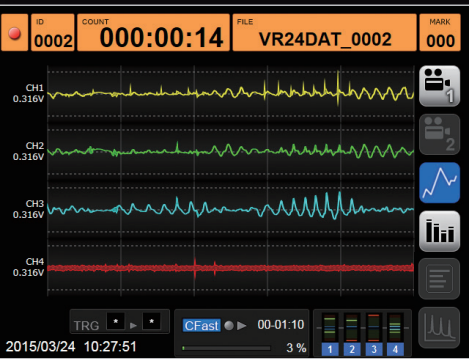
Fulfilling increasing demands for high frequency noise measurements on EV and turbo chargers required when downsizing engines.

System configurations

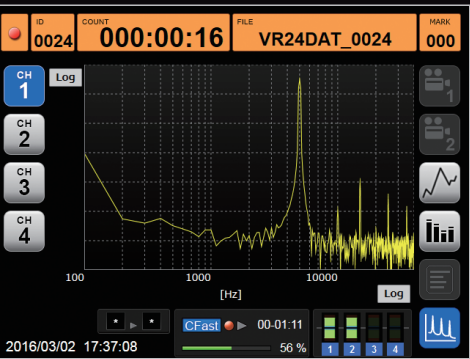


Synchronized recording is possible with other TEAC data recorders such as WX-7000 and LX-100 series, as well as between two VR-24 units.

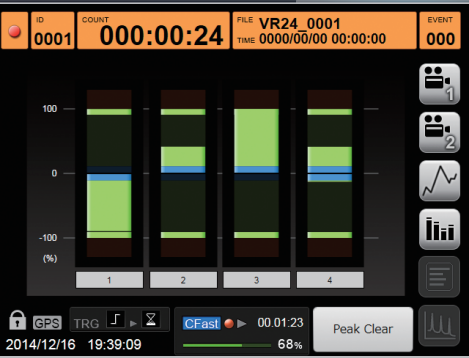
Display Example



Analog signal can be shown as waveform



FFT analysis



Analog signal can be shown as bar meter



CAN, GPS and Pulse

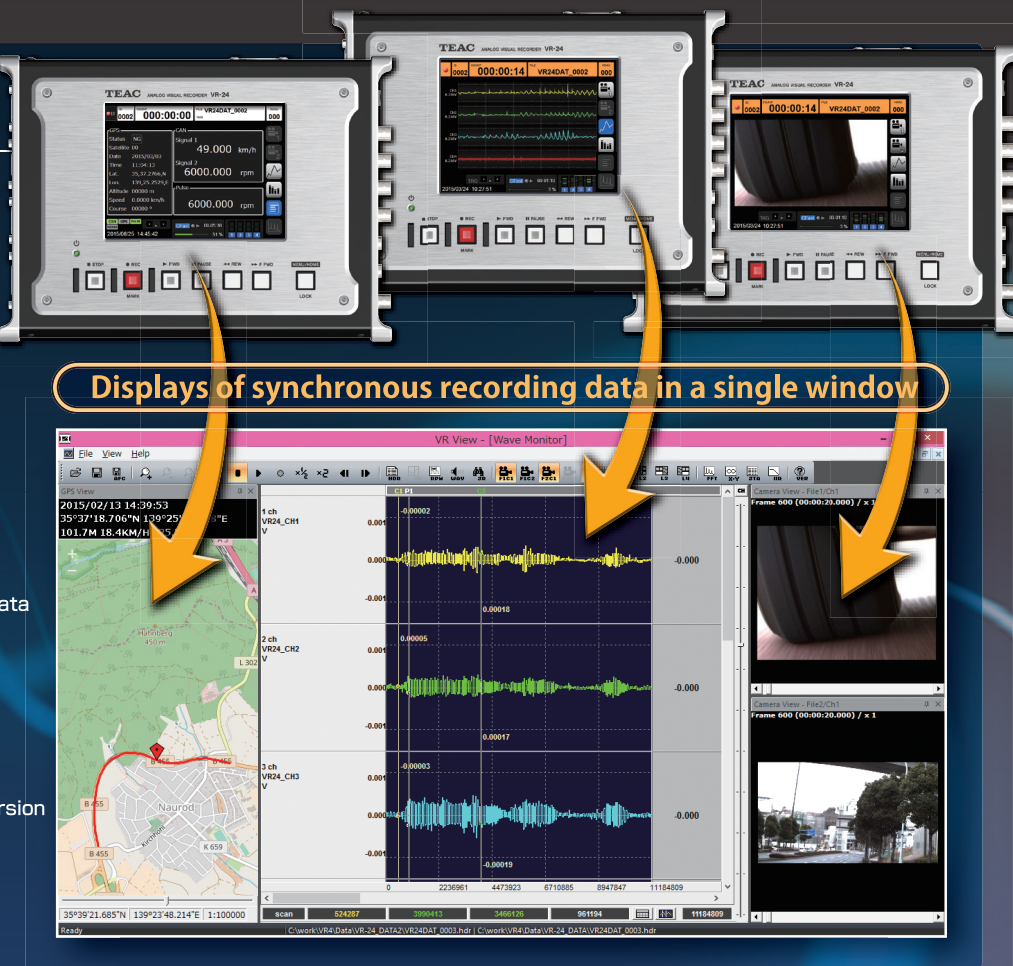
Optional Software

For Viewing and Analysis

VR View

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

RT-View

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

