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Function specifications		
Video input function	Input signal	NTSC ( Composite video 75ohm 1Vp-p )
	Max Field rate	60 fields per second
	Number of cameras	Up to 4 cameras, Auto-skip absence channel. When active cameras are 3 channels, ch-1 is recorded twice. 1ch -> 2ch -> 1ch -> 3ch
Indication function	Video viewing	4 channels per screen or full screen viewing ( selected channels)
	Waveform/Bar meter	4 Selectable waveform or bar meter (overlay)
	Character display	Date and time : Current time, Record Y/M/D H:M:S Operation display : Operation status Channel number : Display/non-Display selectable (All channels)
Recording mode	Start operation	Push REC button for REC standby, push FWD button to start recording Trigger function record External signal (START/STOP)
	Stop operation	Manual (Press STOP button) Trigger mode External control (Start/Stop signal)
	Hard disk mode	OVER WRITE : Endless record by overwriting older video ONE WAY : Record stops on hard disk full Record resumes on replacing or initializing hard disk
Playback	Playback operation	Normal playback, Reverse playback, Still image playback, Skip playback, Block jump, Fast playback (x2, x4, x8), Fast reverse playback (x2, x4, x8), Slow playback (1/2, 1/4, 1/8), Slow reverse playback (1/2, 1/4, 1/8)
	Search	Time search : Search by record date and time Event search : Search from event start date time list ID search : Search from recording start point list Stores latest 1000 events (event start date and time) * For events with duplicated time, the first event is stored.
Event	Event list	
Menu	Main unit settings	Time correction, 30 seconds correction, Communication
	Record settings	Hard disk mode, Analog input ON/OFF, Hard disk initialization, etc
	Monitor settings	Character (date and time) / Bar graph selectable
External level trigger function	Pre-trigger	Set the recording time prior to the recording start condition as mentioned above. Setting zero seconds is equivalent to no (with not-delete) pre-trigger function
	Level trigger	Set the level trigger threshold of designated channel. When the analog input signal exceeds the threshold level, the recording begins.
Record start condition	Analog level	Choice one of 1Channel to 4Channel. A trigger direction against the threshold level. UP(default) / DOWN Set the level trigger threshold [example : +50% ] The recording time prior to the recording start condition [0 to 999 sec]
	External trigger	When the START/STOP signal at the SYNC IN connector on the rear panel is changed from L level to H level, the recording stops.
	Manual operation	It is started with an operation button
Others	Internal clock	Correction : Manual entry in Monitor screen, or 30 seconds auto correction

Units specifications		
Video specifications		
Video input	4ch, BNC NTSC VBS 1.0Vp-p 75 ohm	
Video output	1ch, BNC NTSC VBS 1.0Vp-p +/-1.0% 75 ohm	
Picture data handling	Quantization frequency/bit : 13.5MHz/8bit Video compression : Motion JPEG (Original)	
Channels and Video interval	CHs	Recording interval (fields/sec)
	1	720 x 240 60
	2	720 x 240 30
	3	720 x 240 30/15
	4	720 x 240 15
5	360 x 120 60	
Data specifications		
Input	4ch Sampling Frequencies 2kHz fix	
Input ranges	+/-1, +/-2, +/-5V	
Output	4ch	
Output ranges	+/-2V fix	
Quantization bit rate	16bit (LSB 1 bit is used as identification sign)	
Sampling method	Successive approximation type / Multiplexer type	
Others		
Sync accuracy	+/-1 frame (in one video channel mode)	
Sync signal	Start/Stop signal input : Starts on Low, stops on Hi (polarity reversible) Duration : 100mS or more. Repeat duration: 600mS or more Sampling clock signal input : Sampling clock of measuring data (200 kHz or less) Alarm signal output : Indicates malfunctions of this unit Event signal input : Negative logic pulse or make-contact, +5V pull-up (10k ohm) Stores event on Lo Serial interface signal : TTL input / output	
Ethernet	TCP/IP 100Base-TX	
Recording media	2.5" removable HDD, using removable type package Capacity : 40GB/160GB Exchanging operation : Exchange after stopping REC or PLAY, then shutting down the power. Recording time : Approx. 5 hours / Approx. 20 hours(HDD:160GB) Initialization : Quick (instant), Full (several hours with 40GB HDD)	
Internal clock accuracy	less than 60 seconds per month (ambient temperature 25 degC, at operation)	
Operating environment		
Temperature	Temperature / Humidity (operating) : 0 to 35 degC / 10 to 80%RH Temperature(non-operating) : -20 to 60 degC non-condensing * Always remove the HDD pack out of the main body at the time of the transportation by all means.	
Safety/Electromagnetic Radiation		
Comply with Electrical Appliance and Material Safety Law Conform to VCCI Class A		
Current / Power consumption		
Approx. 2A / 24W (excluding a supply power to the camera on 12V operation)		
Power requirements		
DC10V to DC17V , AC100V to 240V 50-60Hz (when using an adapter)		
Dimension ( W x H x D )		
Approx. 200 x 60 x 205 mm , 7 7/8" x 2 3/8" x 8 1/16" (excluding protruding Parts)		
Weight		
Approx. 2.3kg/5.07lb (Including HDD pack)		
Standard accessories		
Manual, Veiv Softwarer ( CD-ROM ), HDD Pack ( 40GB ), USB cable, BNC cable, AC adapter		

### OPTION

Adapter cable for camera power supply **CL-AQ-CPWR**

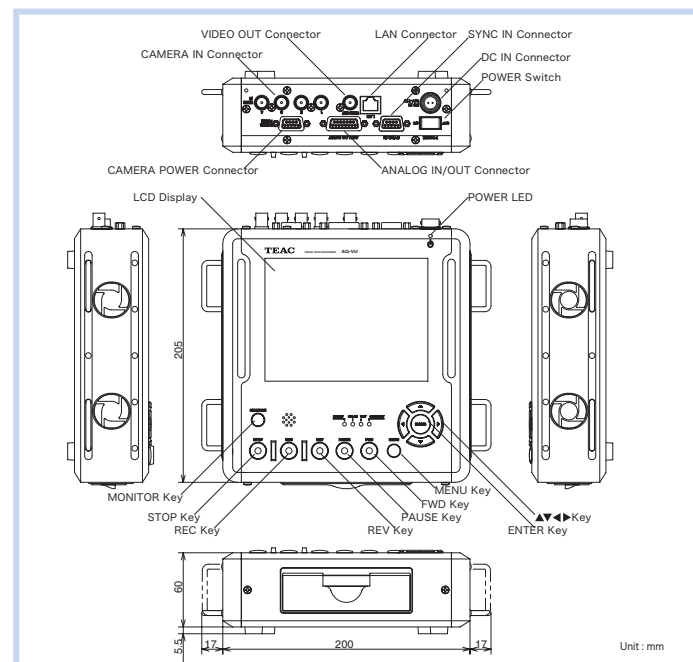
BNC conversion cable **CL-AQ-BNC**

HDD Pack (40GB) **PH-AQ-40**

HDD Pack (160GB) **PH-AQ-160**



HDD Pack.



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## Synchronous 4 channels video and data recording

The video and analog data is easy to verify using the built-in LCD monitor. Visual Data Recorder AQ-VU is a unification of a visual and data measurement.

AQ-VU is a visual data recorder with 4 channels video and analog signals that can be synchronously recorded and played back. Video and data can be verified or played-back without a PC using a LCD monitor and stand-alone AQ-VU. AQ-VU is a remarkable data recorder that can visually confirm a physical event without connecting to a PC.



High-speed driving test



Vehicle and rail safety test and driving test



Product line



Equipment maintenance such as elevators



Temporary monitor of plumbing and pump pressure such as in air conditioning repair



Factory/Plant equipment

### 32 channels synchronized recording

By connecting with LX-100 series data recorder, as much as 32 channels of data can be synchronously recorded.

### It is used in a wide field

- [ Product line ] Extended recording at an unattended automatic product line
- [ Architecture ] Building skew and bridge shake
- [ Vehicle performance test ] Vibration data with synchronous video on high-speed driving test
- [Bio-measurement] Driver's bio-measurement with synchronous video
- [ Product line ] Monitor to find a product line problem and record vibration outbreak
- [Support Service ] Temporary measurement and monitor of manufacturing support service
- [ Elevators ] Monitor elevator malfunction
- [ Factory ] Periodic maintenance of plant equipment and temporarily monitor faulty point
- [ Machinery ] Environmental tests of machinery for deterioration, quake resistance, weather change
- [ Product line ] Production line safety check
- [ University / Research organization ]



# 4 channels synchronous video and analog data recording

## Quickly verify the recorded video and analog data on-site with 6.4" LCD monitor

**4ch**  
High-resolution recording

**Video**  
Motion-JPEG

Motion-JPEG  
with 60 fields/sec max



**4ch**  
Synchronous recording and play-back

**Wave data**  
Analog

Analog Input ON/OFF  
Synchronous play-back  
of recorded video  
and analog data

Controlling and monitoring from the desk

**Synchronous video and data recording**

Video x4

Video



Analog data x4

Vibration

Weight

Pressure

Temperature

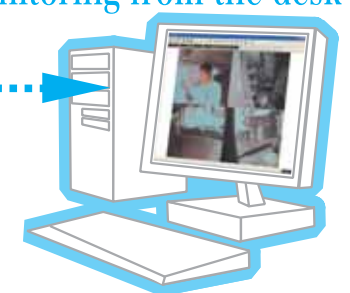
Displacement

Strain

Noise

etc.

\* Sampling frequency is 2 kHz,  
so the band-width is 1 kHz or less.



Monitoring at the desk

AQ-VU is capable of synchronously recording up to 4 channels of video camera data and up to 4 channels of analog data. The recorded video and analog data are stored in the HDD pack and they can be synchronously played back. The video is recorded as fast as 60 frames per second per channel in Motion-JPEG for smooth high resolution. The number of recording channels in both video and analog can be freely selected based on application needs. The event outbreak time can be easily managed. The accessory viewer software allows play-back of the recorded video and analog data synchronously on PC. It can record a video with various synchronized measurement data using LX-100 series.



Monitoring in the field

Removable HDD Pack  
(USB Interface)

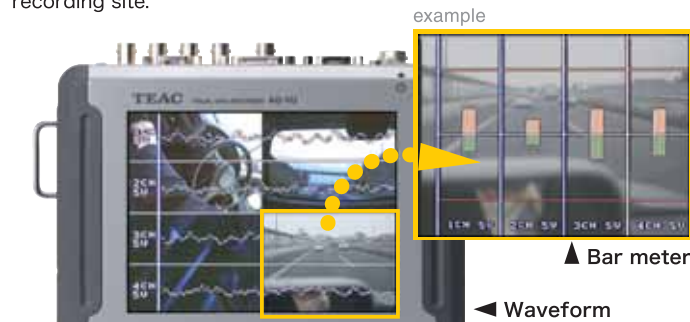


### Stand-alone unit (not requiring PC)

It can record video and analog data without PC connection. Small footprint allows use in confined spaces.

### Built-in LCD display

The recording and the recorded data can be easily monitored at the recording site.



Video viewing : 4 channels per screen or full screen viewing ( selected channels )  
Waveform / Bar meter : 4 selectable waveform or bar meter ( overlay )

### Synchronous recording and play-back

4 channels video and analog data

### Small and lightweight (2.3kg/5.07lb)

Small, portable, compact package allows easy use of AQ-VU in the field (2.3kg/5.07lb). Low power consumption. It runs on either DC 10 to 17 volts or AC power sources. Power for camera is supplied, allowing for mobile environments such as vehicles, trains, etc.

\* AQ-VU screen on the catalogue is simulated graphic.

### Extended recording time (5 hours or continuous record)

5 hours recording time with 40GB HDD pack. (20 hours recording time with 160GB HDD pack) Endless recording mode allows use for extended time monitoring such as surveillance etc.

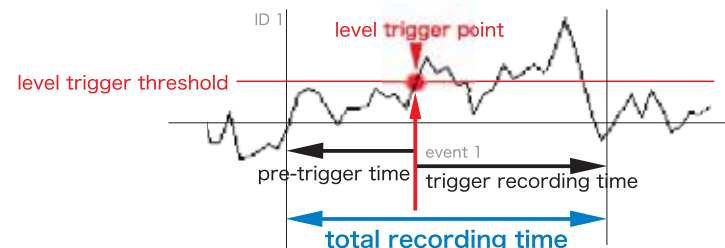


### Perfectly synchronized

Perfectly synchronized between the video and data even after the extended recording. Accumulation delay time is (zero) \*  
Video and analogue signals are recorded as a set frame, preventing  
\* Sync accuracy +/- frame (in one video channel mode)

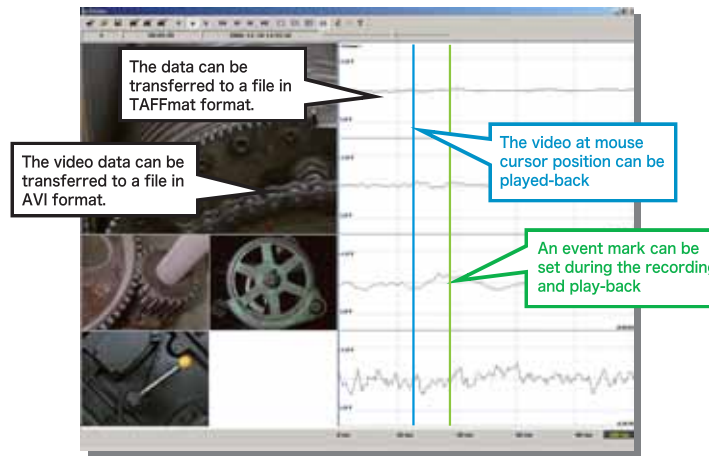
### Analog trigger function

Level trigger allows recording before and after the event. The HDD space is used efficiently and results in quick and easy search operation.



### Search and data edit on PC

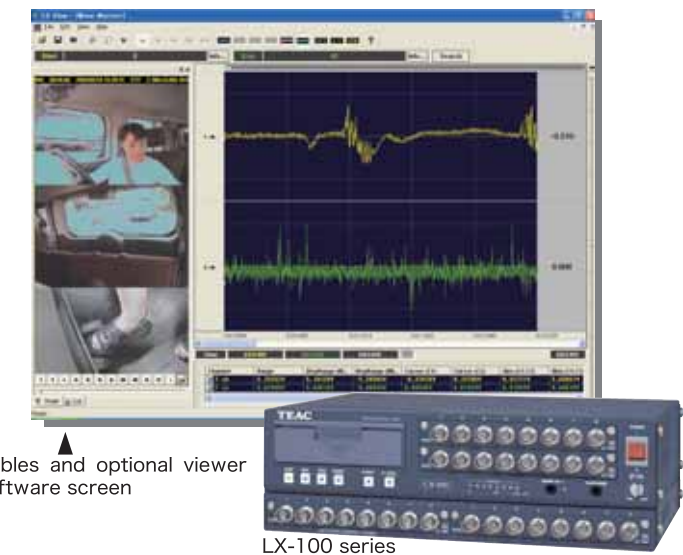
Connecting the HDD pack to PC, the video and analog data can be synchronously played-back using AQView software. The search and data edit is simple and easy using AQView software.



The data can be transferred to a file in TAFFmat format.  
The video data can be transferred to a file in AVI format.  
The video at mouse cursor position can be played-back  
An event mark can be set during the recording and play-back

### 32ch synchronous recording

Using LX-100 series data recorder, it can synchronously record up to 32 channels of data. By synchronizing AQ-VU with LX-100 series data recorder, a variety of data measurements are possible.

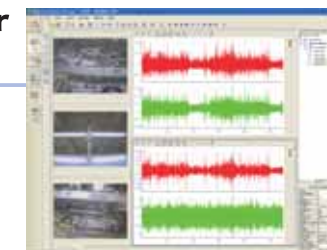


Cables and optional viewer software screen

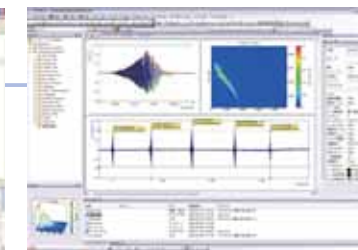
LX-100 series

### Supported popular software format

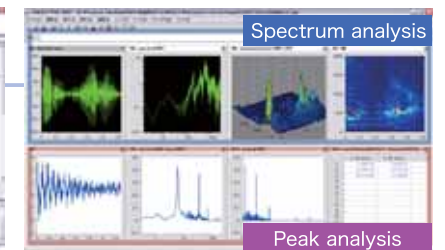
\* The analysis software is other selling



● NI DIAdem 10 ( Video and waveform)



● FlexPro7 Win Professional ( waveform only)



● DADISP/2002 ( waveform only)

Spectrum analysis

Peak analysis