

http://www.teac.co.jp/

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/MD 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	OVERWRITE : 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
	Event list	Stores latest 1000 events (event start date and time) * For events with duplicated time, the first event is stored.
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 starts.
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 1.0 Vp-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	Pixels
	1	720 x 240
	2	720 x 240
	3	720 x 240
	4	720 x 240
	5	360 x 120
		Recording interval (fields/sec)
		60
		30
		30/15
		15
		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 Exchanging operation : Exchange after stopping REC or PLAY, then shutting down the power. Recording time : Approx. 5 hours / Approx. 10 hours (HDD:80GB) 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 Supply		
10 to 17V DC , 100 to 240V AC 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 40GB HDD pack)		
Standard accessories		
Manual, View Softwarer ( CD-ROM ), HDD Pack ( 40GB ), USB cable, BNC cable, AC adapter		

### OPTION

#### LX-100 series sync. kit

- Contents of Kit
- Cable
- LX View Basic Software ( PL-S1100 )
- LX View Sync. Option Software

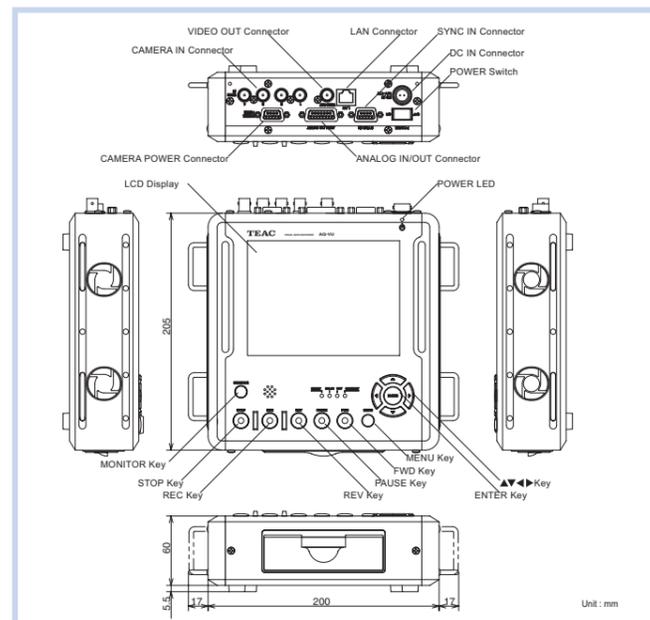
#### Network Monitoring AQ-Net ( PL-S1100 )

#### Adapter cable for camera power supply (Approx. 10cm) CL-AQ-CPWR

#### BNC conversion cable (1.5m) CL-AQ-BNC

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

#### HDD Pack (80GB) PH-AQ-80



High-speed driving test



Vehicle and rail safety test and driving test



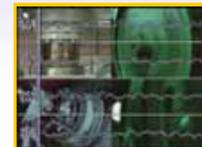
Product line



Equipment maintenance such as elevators



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



Factory/Plant equipment

## 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.

### 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 ]

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## TEAC CORPORATION Information Products Division

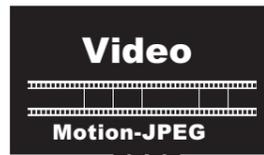
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# 4 channels synchronous video and analog data recording

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

Controlling and monitoring from the desk

**4ch**  
High-resolution recording



**Motion-JPEG**  
with 60 fields/sec max



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



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

**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



Monitoring in the field

Removable HDD Pack (USB Interface)

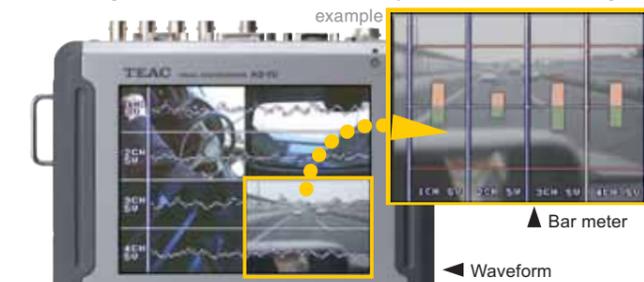
AQ-VU is capable of synchronously recording up to 4 channels of video camera data and up to 4 channels of analog data. The recorded video and analog data are stored in the HDD pack and they can be synchronously played back. The video is recorded as fast as 60 frames per second per channel in Motion-JPEG 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.

### 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.

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

5 hours recording time with 40GB HDD pack. (10 hours recording time with 80GB HDD pack) Endless recording mode allows use for extended time monitoring such as surveillance etc.



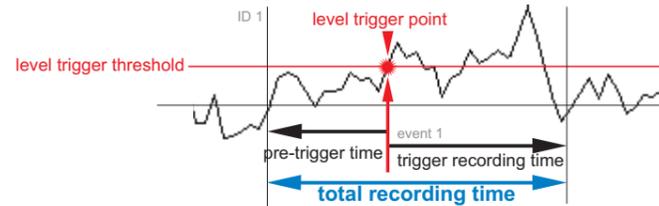
\* AQ-VU screen on the catalogue is simulated graphic.

### Perfectly synchronized

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

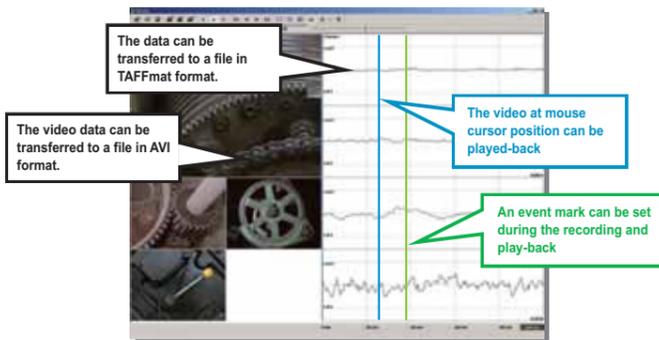
### Analog trigger function

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.



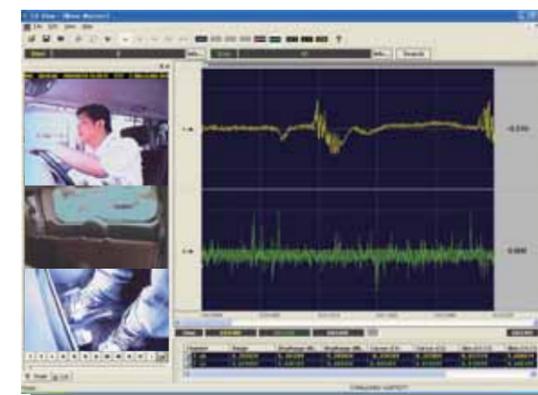
### OPTION

#### 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.



LX-100 series



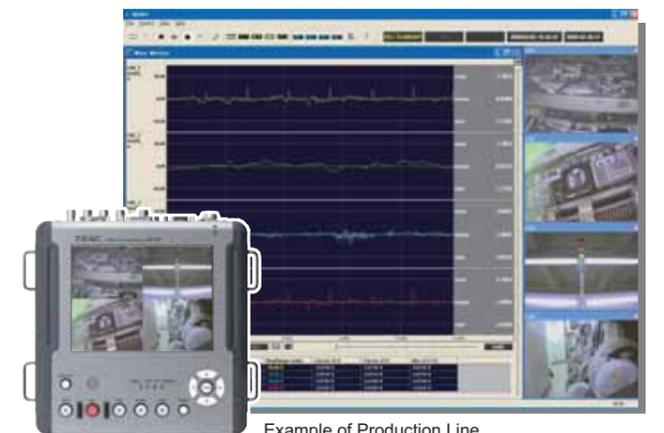
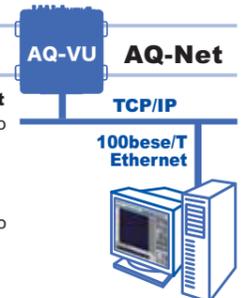
Cables and optional viewer software screen

### OPTION

#### Network Monitoring

**Possible to control and monitor via Ethernet**  
Using AQ-Net which is provided as an option, video and analog signals can be monitored via Ethernet. AQ-VU can be fully controlled via network. Also downloading data files is possible. Recording and downloading are independent, so downloading data has no effect on recording.

\* Downloading data file takes time longer than recording time.  
\* Video update timing is adjusted automatically.

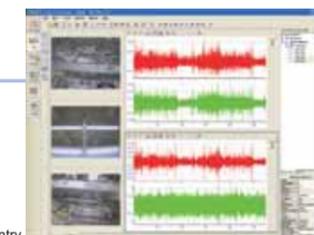


Example of Production Line  
This is example for monitoring SMT machine using four cameras and accelerometers.

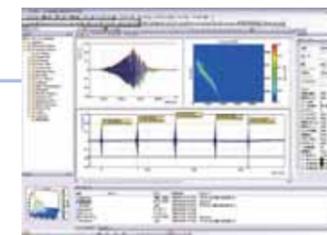
### Supported popular software format

(Commercial product)  
\* The analysis software is other selling

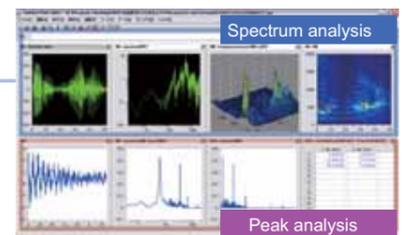
Please contact each distributor in your country



NI DIAdem 10 ( Video and waveform )  
Developed by National Instruments



FlexPro7 Professional ( waveform only )  
Developed by Weisang GmbH



DADISP/2002 ( waveform only )  
Developed by DSP Development Corporation