Sampling frequencies and bands

Series 1		Series 2		Series 3		Series 4	
Fs	Band	Fs	Band	Fs	Band	Fs	Band
192.00 kHz	80.00 kHz	200.00 kHz	83.33 kHz	204.80 kHz	85.33 kHz	131.07 kHz	54.61 kHz
96.00 kHz	40.00 kHz	100.00 kHz	41.67 kHz	102.40 kHz	42.67 kHz	65.54 kHz	27.31 kHz
48.00 kHz	20.00 kHz	50.00 kHz	20.83 kHz	51.20 kHz	21.33 kHz	32.77 kHz	13.65 kHz
24.00 kHz	10.00 kHz	20.00 kHz	8.33 kHz	25.60 kHz	10.67 kHz	16.38 kHz	6.83 kHz
12.00 kHz	5.00 kHz	10.00 kHz	4.17 kHz	12.80 kHz	5.33 kHz	8.19 kHz	3.41 kHz
6.00 kHz	2.50 kHz	5.00 kHz	2.08 kHz	5.12 kHz	2.13 kHz	4.10 kHz	1.71 kHz
3.00 kHz	1.25 kHz	2.00 kHz	0.83 kHz	2.56 kHz	1.07 kHz	2.05 kHz	0.85 kHz
1.50 kHz	0.63 kHz	1.00 kHz	0.42 kHz	1.28 kHz	0.53 kHz	1.02 kHz	0.43 kHz

Sampling frequencies and bands Sampling frequency
(Fs)/2.4 = band

Series 1	Corresponds to DAT/audio sampling frequencies
Series 2	Corresponds to integer frequencies
Series 3	Frequency axis during 2N FFT analysis : integrated in resolution
Series 4	Frequency axis during 2N FFT analysis : integrated in resolution

Approximate total recording times for a 1TB RDX HDD (in days, hours:minutes:seconds)

Fs(kHz)	Band(kHz)	16-bit						24-bit					
		8ch	16ch	32ch	64ch	96ch	128ch	8ch	16ch	32ch	64ch	96ch	128ch
192.00	80.00	3 days, 18:10	1 day, 21:09	—	—	—	—	1 day, 21:09	—	—	—	—	—
96.00	40.00	7 days, 11:53	3 days, 18:10	1 day, 21:09	—	—	—	3 days, 18:10	1 day, 21:09	—	—	—	—
48.00	20.00	14 days, 21:56	7 days, 11:53	3 days, 18:10	1 day, 21:09	—	—	7 days, 11:53	3 days, 18:10	1 day, 21:09	—	—	—
24.00	10.00	29 days, 12:34	14 days, 21:56	7 days, 11:53	3 days, 18:10	2 days, 12:10	1 day, 21:09	14 days, 21:56	7 days, 11:53	3 days, 18:10	1 day, 21:09	—	—
12.00	5.00	57 days, 20:48	29 days, 12:34	14 days, 21:56	5 days, 0:20	3 days, 18:10	14 days, 21:56	29 days, 12:34	14 days, 21:56	7 days, 11:53	3 days, 18:10	2 day, 12:10	1 day, 21:09
6.00	2.50	111 days, 6:48	57 days, 20:48	29 days, 12:34	14 days, 21:56	10 days, 0:41	7 days, 11:53	57 days, 20:48	29 days, 12:34	14 days, 21:56	7 days, 11:53	5 days, 0:20	3 days, 18:10
3.00	1.25	206 days, 16:03	111 days, 6:48	57 days, 20:48	29 days, 12:34	20 days, 1:23	14 days, 21:56	111 days, 6:48	57 days, 20:48	29 days, 12:34	14 days, 21:56	10 days, 0:41	7 days, 11:53
1.50	0.63	361 days, 16:06	206 days, 16:03	111 days, 6:48	57 days, 20:48	40 days, 2:47	29 days, 12:34	206 days, 16:03	111 days, 6:48	57 days, 20:48	29 days, 12:34	20 days, 1:23	14 days, 21:56

Approximate total recording times for a 32GB SDHC (in days, hours:minutes:seconds)

Fs(kHz)	Band(kHz)	16-bit						24-bit					
		8ch	16ch	32ch	64ch	96ch	128ch	8ch	16ch	32ch	64ch	96ch	128ch
192.00	80.00	—	—	—	—	—	—	—	—	—	—	—	—
96.00	40.00	5:44	—	—	—	—	—	—	—	—	—	—	—
48.00	20.00	11:26	5:44	—	—	—	—	5:44	—	—	—	—	—
24.00	10.00	22:38	11:26	5:44	—	—	—	11:26	5:44	—	—	—	—
12.00	5.00	1 day, 20:22	22:38	11:26	5:44	—	—	22:38	11:26	5:44	—	—	—
6.00	2.50	3 days, 13:19	1 day, 20:22	22:38	11:26	7:39	5:44	1 day, 20:22	22:38	11:26	5:44	—	—
3.00	1.25	6 days, 14:28	3 days, 13:19	1 day, 20:22	22:38	15:18	11:26	3 days, 13:19	1 day, 20:22	22:38	11:26	7:39	5:44
1.50	0.63	13 days, 13:19	6 days, 14:28	3 days, 13:19	1 day, 20:22	1 day, 6:36	22:38	6 days, 14:28	3 days, 13:19	1 day, 20:22	22:38	15:18	11:26

Specifications

Analog signal input/output

Number of input/output	16ch
Channels	32ch, 64ch, 96ch, 128ch : by adding 16-channel Expansion units

Number of channels that can be recorded simultaneously

Fs (kHz)				RDX recording 6MB/s		SDHC recording 1.5MB/s	
Series 1	Series 2	Series 3	Series 4	16bit	24bit	16bit	24bit
192.00	200.00	204.80	131.07	16ch	8ch	-	-
96.00	100.00	102.40	65.54	32ch	16ch	8ch	-
48.00	50.00	51.20	32.77	64ch	32ch	16ch	8ch
24.00	20.00	25.60	16.38	128ch	64ch	32ch	16ch
12.00	10.00	12.80	8.19	128ch	128ch	64ch	32ch
6.00	5.00	5.12	4.10	128ch	128ch	128ch	64ch
3.00	2.00	2.56	2.05	128ch	128ch	128ch	128ch
1.50	1.00	1.28	1.02	128ch	128ch	128ch	128ch

Input	DC, AC, IEPE (TEDS Supported)
Input Range	±0.1, 0.2, 0.5, 1, 2, 5, 10, 20V
Output Range	±1 to 5V (selectable in 0.1 V steps)
Range Accuracy	Less than ±2 %
Linearity	±0.1% or less
Resolution	Selectable 16-bit/24-bit
Analog-digital conversion method	ΔΣ method with 24-bit, 128x oversampling
High pass filter	3rd-order Butterworth analog filter 10Hz/ 20Hz (within ±0.5dB)
Channel Phase Difference (20 V input range)	Band(20kHz or less): 2° or less (in same expansion unit) : 3° or less (in different expansion unit) Band(80kHz or less): 3° or less
Dynamic Range (1V input range in 20kHz band or less)	97 dB @ 24 bit mode 89 dB @ 16 bit mode

General

Front Panel Display	3.5" TFT LCD with Bar Meters
Recording Media	SDHC flash-memory card(Class 10 recommended) RDX cartridge types (HDD)
Recording capacity	SDHC : 4 GB – 32 GB RDX(HDD): 500 GB – 1 TB
IRIG/GPS (Optional)	IRIG-B/GPS(NMEA)
Operating temperature/humidity	0 to 40 °C/10–80% (no condensation)
Storage temperature/humidity	-20 ～ 60℃ / 5 ～ 90%
Operating air pressure range	860–1060 hPa

Interface	LAN	1000BASE-T connector x1
	DIGITAL CONTROL	External control connector x1 for ER-WXRC remote controller
	AQ-VU	AQ-VU synchronization connector x1
	EXT TRIGGER IN	Ext trigger signal input connector x1
	EXPANSION OUT	expansion unit connector x1
	SYNC IN	synchronized recording connector x1
	SYNC OUT	synchronized recording connector x1
	UPS SIGNAL IN	contact signal input connector x1
	FG	frame grounding connector x1
Synchronization	2 units synchronized operation available (Max 128ch x 2 =256ch)	
Data File Format	TAFFmat (TEAC Data Acquisition File Format)	
Safety Standard	CE	
Vibration resistance	MIL-STD-810E Figure514.4-1.2.3 (not including RDX HDD)	
Dimensions (W x H x D) /weight	WX-7000 : W340 x H 82 x D220 (mm)	4.1Kg
	AU-WXEPIO : W340 x H 40 x D220 (mm)	3.1Kg
	WX-7016 : W340 x H123 x D220 (mm)	7.4Kg
	WX-7032 : W340 x H164 x D220 (mm)	10.4Kg
	WX-7064 : W340 x H246 x D220 (mm)	17.1Kg
	WX-7096 : W360 x H396 x D370 (mm)	26.4Kg
	WX-7128 : W360 x H478 x D370 (mm)	33.9Kg
Power supply	11 – 30 V DC (powered from included AC adaptor) AC adaptors rated input voltage: 100–240 V	
Power consumption	WX-7016: 53W, WX-7032: 90W, WX-7064: 166W, WX-7096: 242W, WX-7128: 317W	
Included accessories	WX Navi (measured data waveform display software) x1	
	Microphone x1 for voice memos	
	Earphone x1 for voice memos	
	CD-ROM (Contents: Owner's Manual, WX Navi software, WX Navi Operation Manual) x1	
	Quick Start Guide x1 printed	
	Expansion connection cables	
	AC adaptors	
Options	AU-WXEPIO Expansion unit	
	ER-WXRC Dedicated simple remote control	
	AR-WXIRGPS IRIG-B timecode signal I/O card GPS data input card	
	Expansion cable TZ-WXSY1(1M)	

TEAC CORPORATION

Information Products Division

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URL : https://datarecorder.jp/en/

Portable high-bandwidth Data Recorder with extended recording time. Selectable 16/24-bit resolution for optimal dynamic range. Multiple channel configurations to address a wide range of applications.

WX-7016

The WX-7000 Series, a new Portable Instrumentation Data Recorder family of products, are designed to provide multi-channel high-bandwidth data recording solutions for testing and monitoring requirements in aerospace, defense, power generation, underwater research, rail transportation, automotive, heavy machinery, and acoustics/vibration-based industrial applications.

Base model is WX-7016; 32, 64 and 128 channel models are available.

32ch model WX-7032　*64ch model* WX-7064　*96ch model* WX-7096　*128ch model* WX-7128

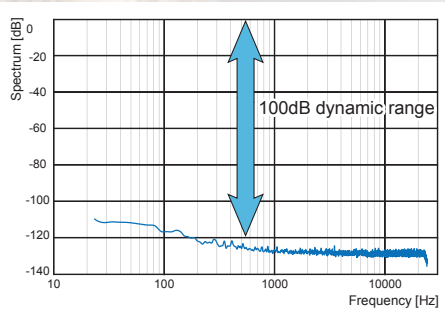# High-speed, Multi-channel and Long recording time in comparison to AIT tape data recorders.

WX-7000 series from TEAC provide reliable data recording with protection from catastrophic data loss

128ch model
WX-7128

WX Navi Control and Viewing Software for WX-7000

The VR-24 is a Video NV recorder which can record 2ch HD Video and Analog signals along with CAN, GPS and Pulse data in perfect sync.
WX-7000 series are able to synchronize with VR-24. Having a way to watch synchronize video and analog signals would greatly help you analyze the phenomena you recorded.

*When synchronizing WX-7000 and VR-24, VR-24 is assigned to the slave unit.

Video NV recorder **VR-24**

Software Support
(Commercial product)
OPTION

WX Navi Control and Viewing Software for WX-7000

3.5 inch LCD is provided on front panel, for user-friendly operation.
Recorder settings are shown on the display. It's easy to monitor and change main parameters on home screen, with easy to access additional set-up menu pages.
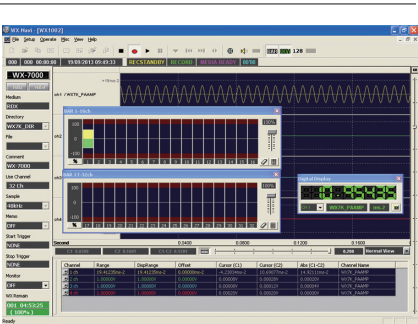
Control API

Control API is provided as a Windows DLL(Dynamic-Link Library) which can be linked from a upper program. Control, Settings, Real-time Transferring Data,
Downloading Recorded Data File are available using this Control API. Data analysis software developer, system integrator can use this Control API in order to add these functions to their existing system.

TAFFmat (TEAC data Acquisition File Format) Data File

TAFFmat is widely supported by major data analysis software.
Recorded data file by WX-7000 can be analyzed using data analysis software which is currently used.

Category	Software	Note
General	DADiSP	
	FlexPro	
	DIAdem	
	FAMOS	
	Matlab	Script file can be provided
NVH	LMS Test.Lab	
	B&K PULSE	16 bit only
Turbine Test	APEX Turbine	
	DS	

General analysis software (Commercial product)
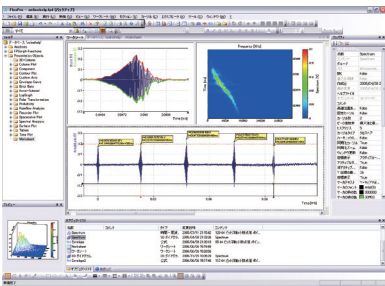
FlexPro9
Developed by Weisang GmbH

DADiSP 6.5
Developed by DSP Development Corporation

Spectrum analysis

Peak analysis

DS
Developed by APEX Turbine

Wide Dynamic Range and High Resolution

Wide dynamic range and high resolution provide extended head-room input range to record transientphenomenon.
24 bit analog to digital conversion provides high-resolution measurement,
avoiding low level data buried in noise.

100dB dynamic range

Extended Recording Time

With the use of 500GB RDX media, WX-7000 records 36 times longer than AIT data recorder. There is no need to change media frequently to record long term test data.

TEDS (Transducer Electronic Data Sheet) support

TEDS function recognizes sensitivity information from transducers electronically, reducing set-up time and eliminating cabling errors.
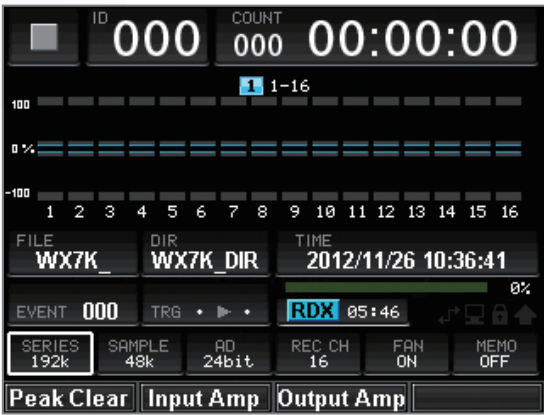
Reliable Recording Media

WX-7000 unit and recording media (RDX , SDHC) are rugged and reliable.
SDHC card has no moving part and is shockproof media.
RDX is a disk-based (HDD) storage system with removable cartridges which offers rugged, reliable and convenient data storage.
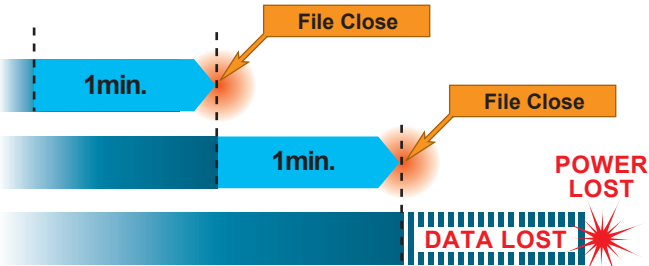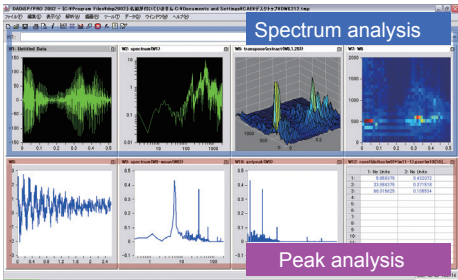RDX cartridge is shockproof which against 1m (39.4")drop to tile over concrete floor.

User-friendly, Intuitive Operation

3.5 inch LCD is provided on front panel, for user-friendly operation.
Recorder settings are shown on the display.
It's easy to monitor and change main parameters on home screen, with easy to access additional set-up menu pages.

Fail-safe Recording

WX-7000 closes the data file after every one minute while recording. Even if an unexpected or mistaken power outage happens during recording, all recorded data from one minute before power loss is saved and is available for review and replay.

File Close

1min.

File Close

1min.

POWER LOST

DATA LOST