

Specification

▶ CardVibro Air 2 Common Specification

Item	Specification
Interface	Wireless LAN: IEEE802.11b/g, In conformity to WiFi 128bit WEP, WPA/WPA2 Cable USB: USB2.0, Visual COM port and Direct Connection
Wireless Communication Mode	Infrastructure Mode
Built-in Memory Capacity	4Mbit×16bank
Power Supply	2 pcs. of AAA battery
Consumption Current	Under measurement (During Use of WiFi) : about 150mA
Ambient Temperature	+5°C~+50°C (Guaranteed by attached battery)
Ambient Humidity	30~90% No condensation
Sampling Frequency	Max. 76.8kHz
AD Resolution	16bit
Effective Measuring Frequency	2~20kHz
Operational Tablet OS	Android3.2, Android4.1*only Android OS approved by IMV *Please see IMV website for updated information on usable tablet OS.

▶ CardVibro Air 2 Composition

Symbol	Name	Model
A	Air 2 sensor Unit	VM-2012 (For Standard Type) VM-2012C (For Connector Type)
B	AAA NIMH battery	GP100AAAHCU2
C	Probe for pickup Contact probe for measurement	VB-2001
D	micro USB cable Use to charge Air 2 sensor unit	USB-M201/BK
E	USB AC adapter Use to charge Air 2 sensor unit	HK-AC001UW
F	Data Management Software Use to manage the measured data on P.C.	DB-2012
G	Equipment Diagnosis Software Detailed diagnosis function to see abnormality, such as Unbalance or Miss alignment location	DS-2012Tr
H	Carrying Case To store Air 2 sensor or Tablet PC	B-2012
I	Small size strong magnet To fix the sensor to the measurement spot	MH-202R
J	Long probe To use a long sensor probe. (Length:185mm)	PI-2001
K	Long Cable 3m 10m	CE-2012-3m CE-2012-10m
L	Piezoelectric Acceleration Pickup Accelerometer	VP-2012A
M	Low Frequency Vibration Measurement Pickup Use measurement of Low Frequency Vibration fixed on the spot by both side adhesive tape etc. Piezo-resistive type, cable extension 2.5m.	VP-2012PS1
N	Charge Amplifier Use for the general purpose Piezoelectric Accelerometers. With BNC input connector. A low noise cable between CA-2012 and the pickup is additionally necessary.	CA-2012
O	Dedicated holder A holder to fix the Air 2 sensor of connector type.	HL-2012
P	Sensor input cable For ICP sensor connection	CC-2012

*Please feel free to contact us if you wish to use the conventional optional extras.

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WiFi Portable Vibrometer

CardVibro
Air 2



▶ CardVibro Air 2 Standard Type VM-2012

Item	Specification
Mass	About 145g
Size	42mm(D) × 40mm(W) × 89mm(H)
Sensor	Piezoelectric Accelerometer
Acc. Frequency Range	10~10kHz
Vel. Frequency Range	10~1kHz
Disp. Frequency Range	10~150Hz
Maximum Measurement Acceleration	500m/s ²

Standard Composition



Option



▶ CardVibro Air 2 Connector Type VM-2012C



*Connecting image of Low Frequency Vibration Measurement Pickup

Item	Specification
Mass	About 130g (without a sensor)
Size	42mm(D) × 40mm(W) × 89mm(H)
Connecting Sensor	Voltage Output Sensor, ICP sensor
Voltage Output Port	-5V, +5V
ICP Port	+24V (2mA)
Voltage Input Port	±2.5V

Standard Composition



Option



WiFi Portable Vibrometer

CardVibro
Air 2

CATCH THE VIBRATION

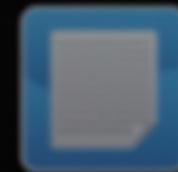


- ▶ Operation with Android Tablet PC/ WiFi Wireless
- ▶ Light and Compact Size
- ▶ High Speed Signal Response
- ▶ Low Power Consumption

CATCH THE VIBRATION



WiFi Portable Vibrometer
CardVibro Air 2

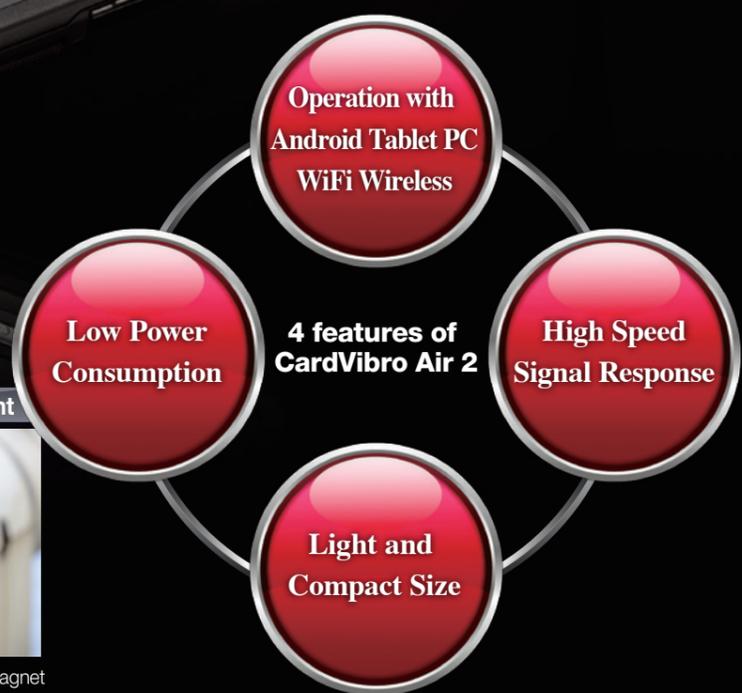


Wireless CardVibro Air 2 is available at any measuring situation. >>>

Wildly vibrating place	Dangerous place	Narrow space	Partitioned place
Robot arm	Bridge	Narrow space between machines	Clean Room

2 choices of measuring methods >>>

Direct Measurement	Hands-free Measurement
With dedicated sensor probe, it can measure vibration directly, and no need to worry about a cable pulled into a rotating machine with wireless Air2.	Hands-free measurement with a magnet <small>*Small magnet: Option</small>



Simultaneous Measurement

Support of Quick and Easy Measurement

There are many functions to express characteristics of vibration. However, it is necessary for the conventional vibrometers that same point is measured plural times switching objective functions one by one. CardVibro Air 2 which has simultaneous measurement function which can measure Displacement, Velocity and Acceleration. Acceleration Envelope for bearing condition Assessment is also simultaneously measurable by just pressing on the measurement start key.



FFT Analysis

For Investigation of Cause of Vibration

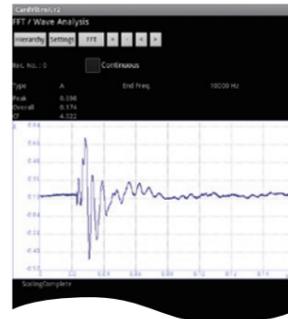
If the measured magnitude of vibration is too large, the cause investigation by FFT is recommended. CardVibro Air 2 is possible to perform Frequency Analysis only by the minimum condition setting. Try fine analysis with 12800 lines on the small body. CardVibro Air2 could be your strong handheld weapon to root out the harmful vibration!



Waveform Observation

For Investigation of Cause of Vibration

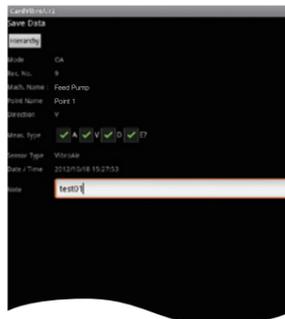
Status change of vibration can be known by looking. Maximum 30 minutes of waveform can be recorded.



Data Saving

Important Basic Function

All data acquired can be saved if the Android tablet PC is compatible to the storage card, such as SD card. Data can be transferred to PC for more efficient handling by using data management software.



Evaluation Function

Evaluation at the site

You may want to make evaluation of condition of the rotational machineries as blowers or motors at the site by just measuring their vibrations. With CardVibro Air 2, such evaluation is possible with the use of the standard for the Vibration Severity ISO-10816 (JIS-B-0906) and the criteria set by the world largest bearing manufacturer SKF and these functions help you make easy and quick judgement.



Monitoring Function

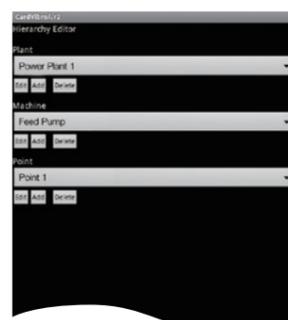
Real-time Monitoring

Almost real-time monitoring of waveform data and FFT is possible.



Route Setting Function

The next point to be measured will be displayed as setting.



*Screen are under development, it may be changed.



High speed signal communication with WiFi

Measurable in Android OS



Remote measuring with WiFi



Waveform Display Screen
*Tablet PC is not included in a standard unit.

Easy measurement with Android Tablet.



Main Menu Screen



OA value Measurement Screen



Measuring Point Setting Screen



High Speed and Short Time

Time to display data is substantially reduced during OA value measuring.

10 times faster in signal communication speed



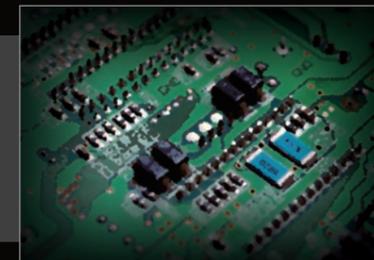
Conventional Sensor

1 second

10 seconds

Other Features of CardVibro Air 2

High capacity memory of built-in 4Mbit



Practical Waterproof



Can attach a neck strap at the top



*Maximum 30min.

the common sense of vibrometer.

WiFi Portable Vibrometer

CardVibro Air 2

Light and Compact Size

▶ Light and Compact Size



Weight about 145g (Including a sensor)

Low Power Consumption

▶ Continuous 6 hour operation with 2 AAA batteries



6 hour operation

Rechargeable with USB connection

Cable wired measurement is also possible.

External connector type is compatible to 2 optional pickups.



pickup and piezoelectric velocity pickup

Low frequency vibration measurement

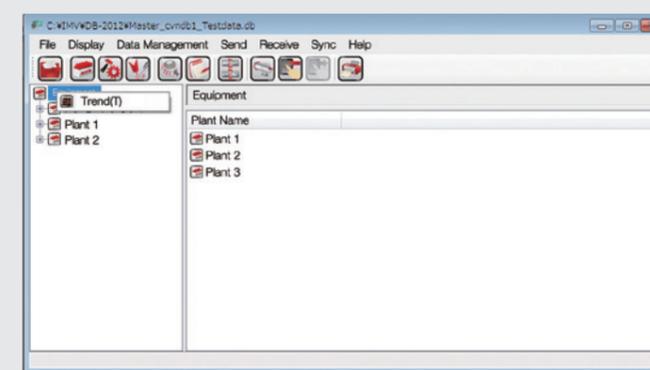
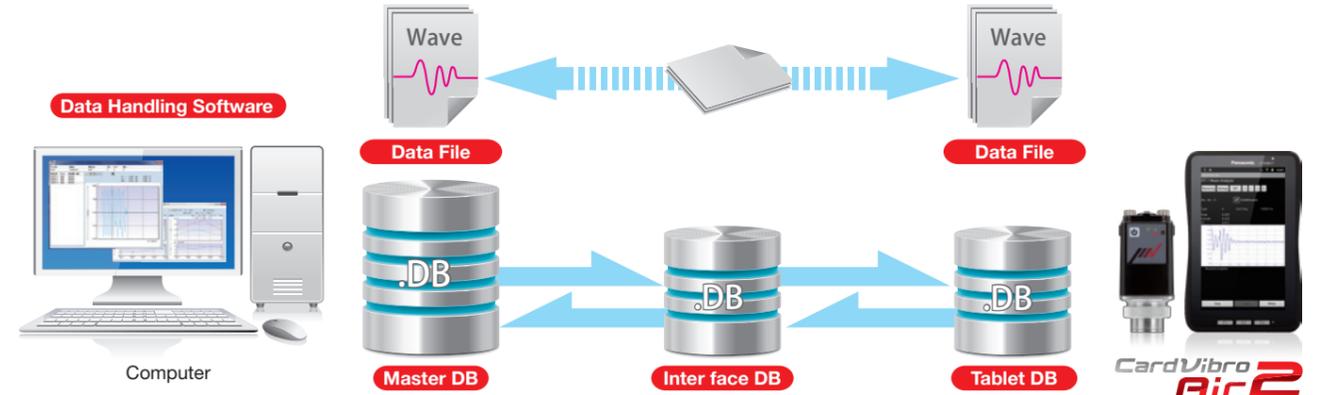
*only for table with USB host device

Advanced Software

Data Management Software

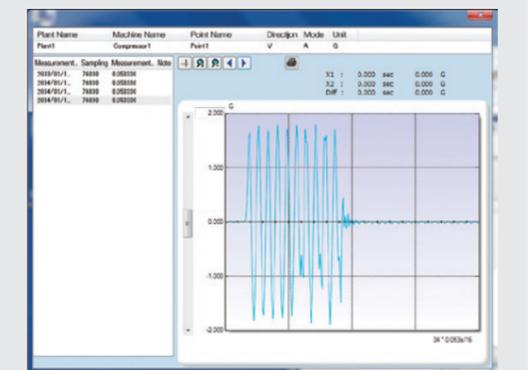
▶ Feature

Data Management Software DB-2012 is a software to manage the measured data practically on the P.C. The Data are transferred through USB to P.C. using SQ Lite as data base. With the data acquired by CardVibro Air 2, it is able to manage and display Trend Plots, FFT Plots and Waveform.

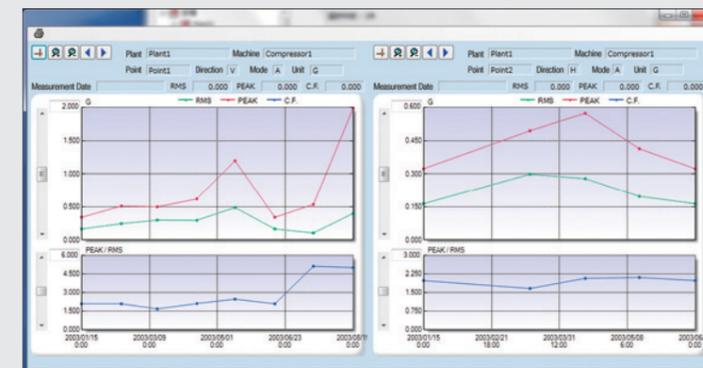


Measurement Spots Management

Data are managed for every machinery as generator or pump separately. Comment on each measurement spot can be input and displayed.

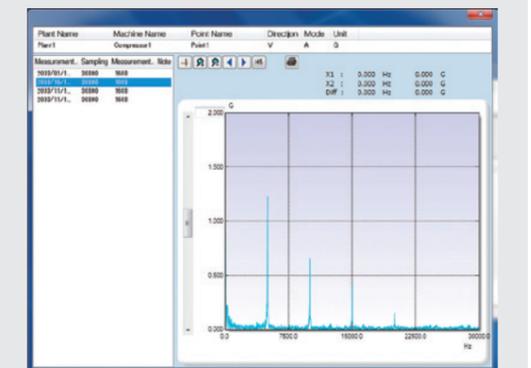


Waveform Display Function



Trend Graph

Trend Plot of Over All Value (OA Value) *Simultaneous display of Maximum 6 screens.



FFT Analysis Function

▶ Features

- Using SQ Lite. Data transfer or synchronization between tablet PC and P.C. is easily available.
- Measurement Spot Management
- Trend Plot
- Waveform Display
- FFT Analysis Function
- Plots of the measured data can be printed out in Microsoft excel file format.
- FFT data, waveform data are obtained as CSV format output.

▶ Requirements <Compatible P.C.>

OS	Windows XP SP3, Windows 7
Display resolution	More than 800 x600 dots
Interface	USB
Software	Microsoft Excel 2010 is necessary to use printer function.

* Equipment Diagnosis Software (Optional) is also available.