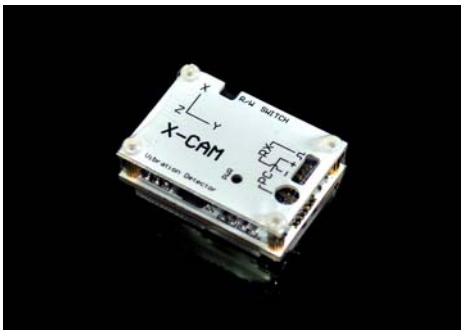
X-CAM Vibration Detector User Manual



Parameters:

Weight：8g
Sampling frequency： 500Hz
Amplitude range: -2g to +2g
Frequency range: 1 to 200Hz
Max record time: 180 sec
Input voltage: 5 - 6V

Accessory

- Vibration Detector x 1
- Servo wire x 1
- USB Adapter x 1
- Servo Y wire x 1 (only for COMBO version)

Usage mode

Launch ways:

1. By manual： There a switch on the left side of the device, hold for 3 seconds for start work
2. By remote controller： Setup a switch channel for start.

The receiver provides the device 5v or 6v voltage for work, make sure anode and cathode is connected with correct.

Connect to PC：

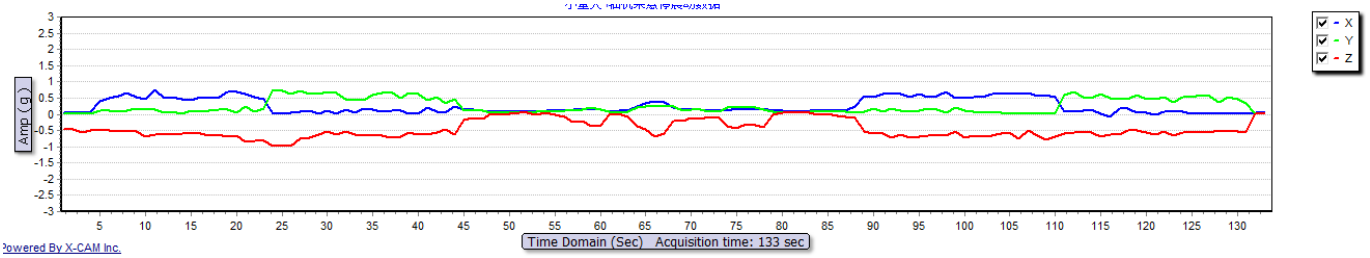
Use attached USB adapter wire to connect PC, it does not need other power.

Software Introduction

Vibration Detector analysis software provides 2 main charts

1. Time domain chart

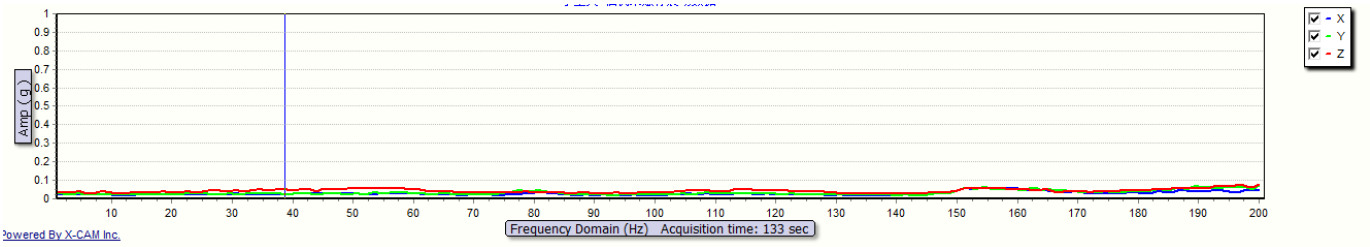
Time domain chart for sensor based on continuous time return amplitude data, this data can probably understand the circumstance of vibration, but can not do the actual data of judgment, because in the time domain data no frequency information, so can not understand the amplitude in a band.



This indicates that in the 133 seconds of continuous motion weighted average data according to the time line, we can see the entire flight vibration is not stable, vibration changes a lot

2. Frequency domain chart

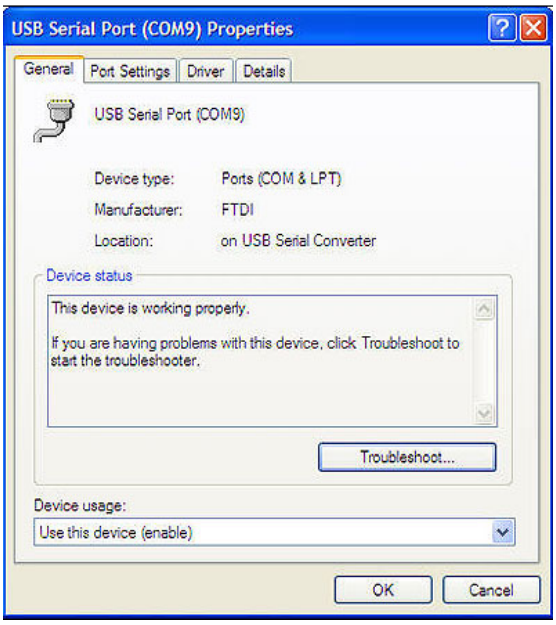
Frequency domain is based on the frequency of amplitude reference line reflects, from this figure, we can understand that the amplitude frequency



The frequency domain weighted average data map after conversion

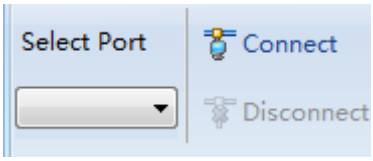
Driver installation：

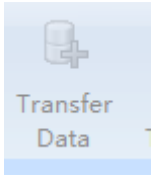
Most systems without having to install drivers, driven by Windows automatic identification, but some will not automatically installed, you need to manually install the driver, driver installed correctly, can find new port in Device Manager



If need install the driver, please download it at http://www.x-camtech.com/X-Cam/c_html_info/xiazaizhuanqu-8.html

Open X-CAM Vibration Detector software, select the COM port as follow

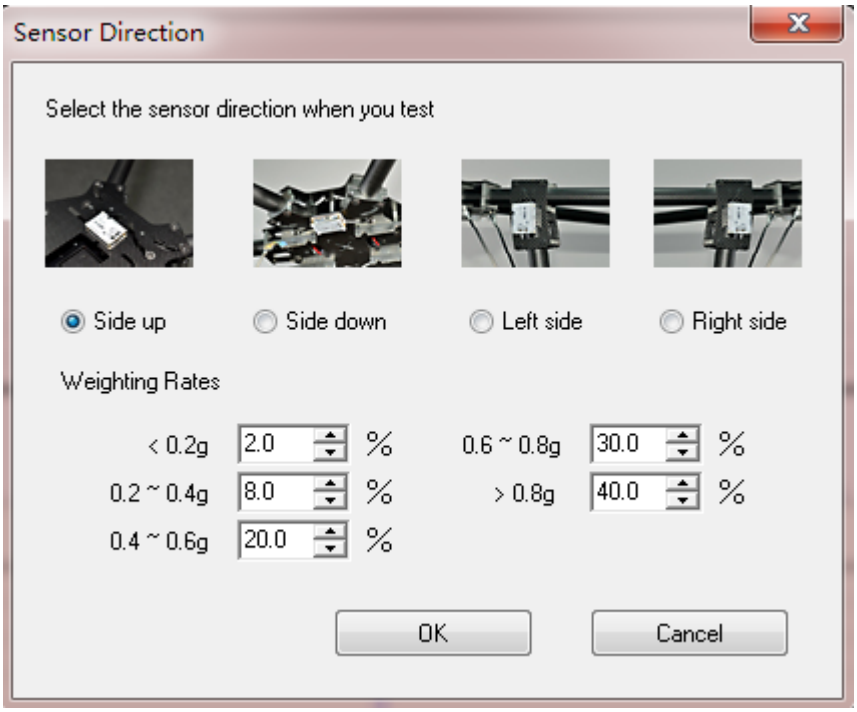


Press 

button for transfer the data after the connection is successful

Notice : Due to the Windows may lead to transmission on the COM port support failure, software is installed with automatic failure treatment but can not guarantee to handle all failure, if it is found that the transmission stops, no response in a long time, you may need to unplug the device and restart the program.

The "Sensor Direction" form will be shown after press the "Transfer Data" button



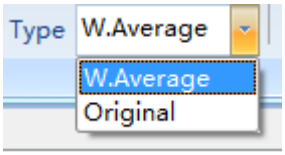
Set the device direction, Notice: X Axis is forward by default.

The Sensor Direction form allows you choose 4 directions:

Side up, Side down, Left side, Right side

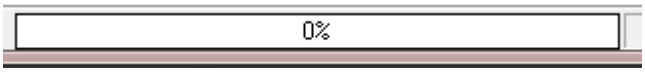
Also need to set the amplitude of the weighted average value, we can set up large amplitude larger but fewer amplitude recording proportion, if the user does not know how to set the weight, can use the system's default values

You can freely switch to view the chart data weighted average or the original chart data in the toolbar

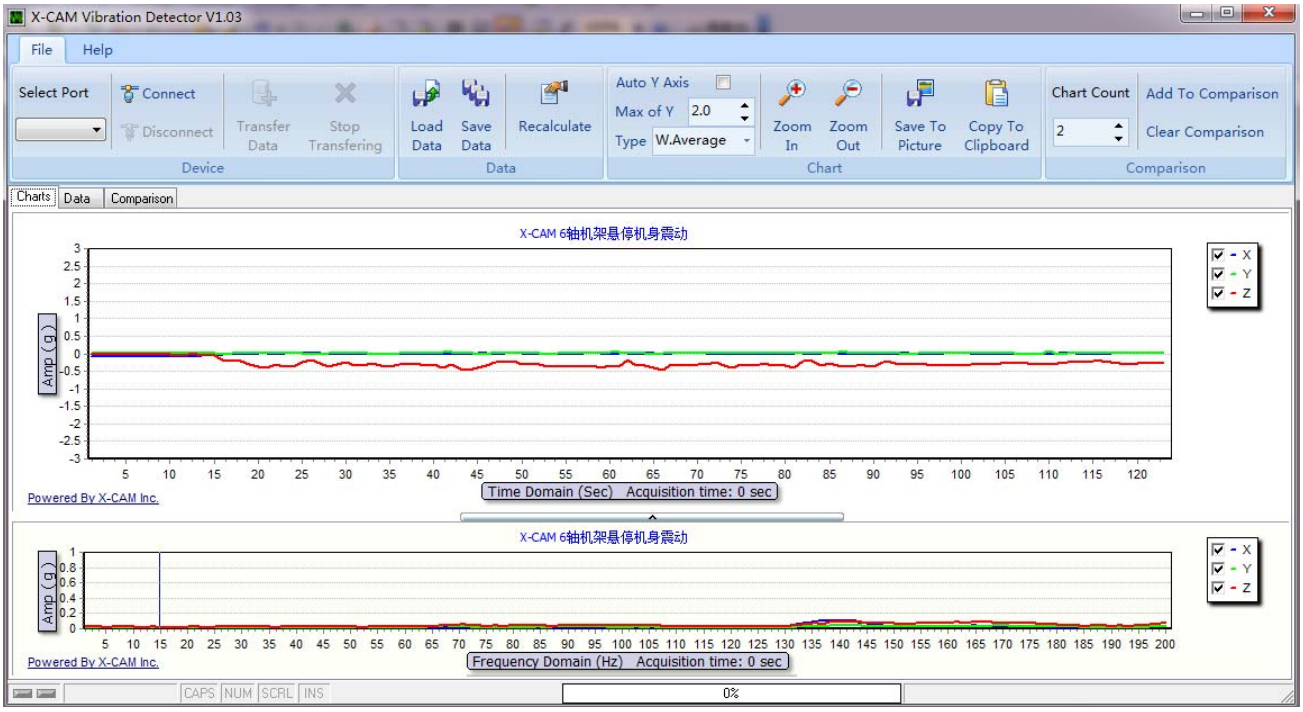


The original data is a superposition of the chart data, there will be 200 vibration data of a period, the weighted average figure for the 200 data weighted average display data, and the original data for the 200 data are presented, the original data is more suitable for vibration analysis

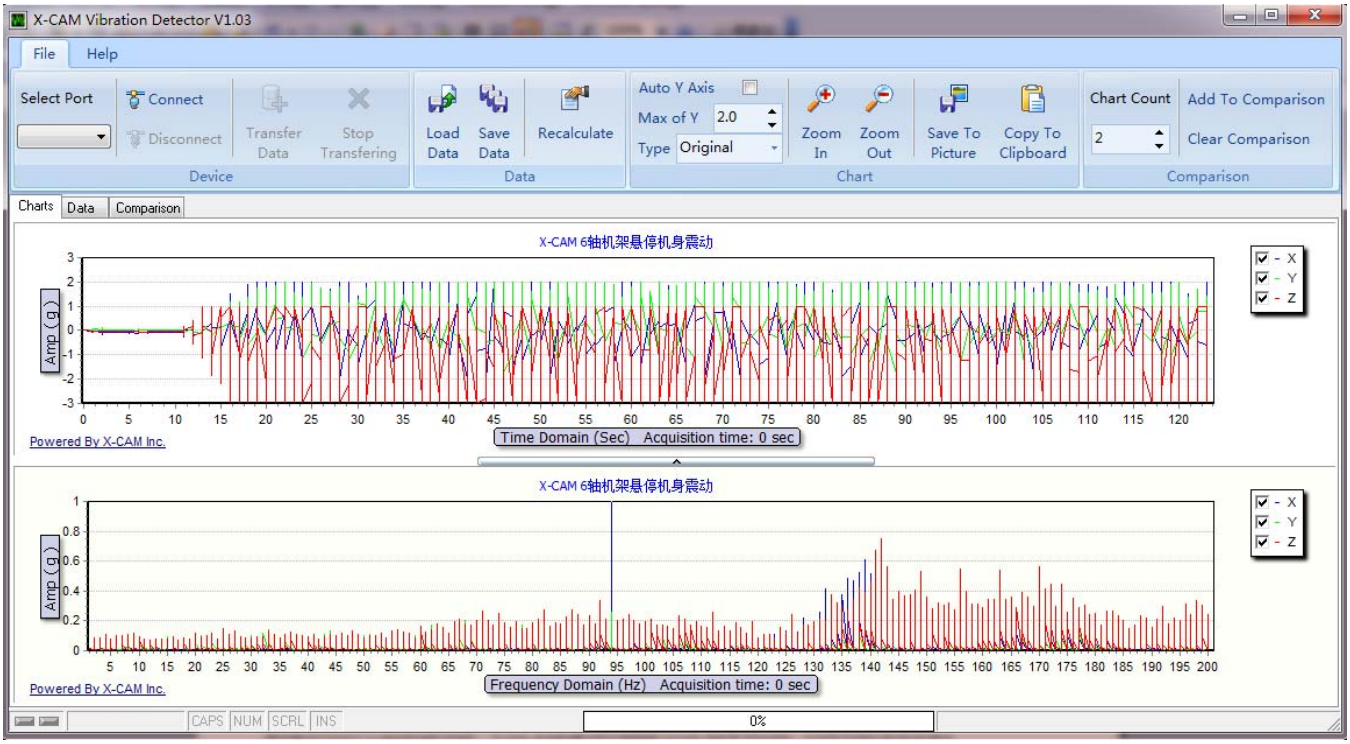
After the completion of the data transmission software will be automatically generated data and charts, the status bar at the bottom of the software can display processing schedule



The whole operation is completed, the software will display the time domain and frequency domain graph, the default is shown in the chart data weighted average



Switch to the Original chart



The Y axis numerical setting chart is automatically limits the maximum

If it is manually set the Y value, you need the maximum display here set the Y value

Data page is the raw data of the frequency domain chart

Charts | Data | Comparison

#	—X	X	—Y	X	—Z	X
	X	Y	X	Y	X	Y
28	1	0.000	1	0.001	1	0.003
29	1	0.000	1	0.002	1	0.004
30	1	0.026	1	0.001	1	0.002
31	1	0.002	1	0.001	1	0.001
32	1	0.014	1	0.014	1	0.005
33	1	0.006	1	0.001	1	0.15
34	1	0.001	1	0.009	1	0.03
35	1	0.000	1	0.001	1	0.024
36	1	0.002	1	0.01	1	0.005
37	1	0.008	1	0.001	1	0.001
38	1	0.003	1	0.013	1	0.033
39	1	0.006	1	0.01	1	0.016
40	1	0.009	1	0.002	1	0.046
41	1	0.001	1	0.006	1	0.021
42	1	0.001	1	0.004	1	0.012
43	1	0.002	1	0.001	1	0.034
44	1	0.003	1	0.026	1	0.014
45	1	0.009	1	0.014	1	0.003
46	1	0.008	1	0.008	1	0.028
47	1	0.012	1	0.021	1	0.016
48	1	0.006	1	0.025	1	0.067
49	1	0.003	1	0.022	1	0.011

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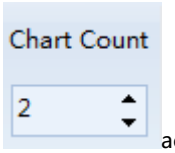
Zoom in and out the chart

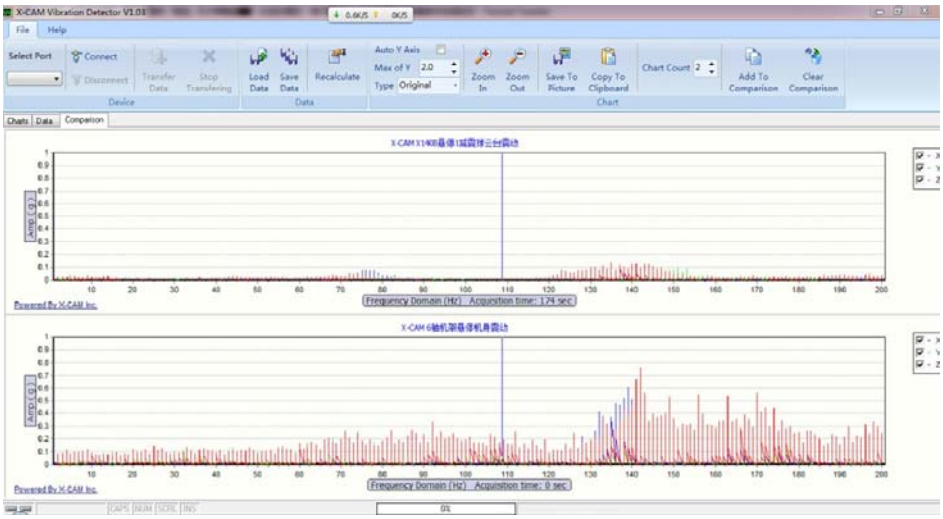
Save the frequency domain chart to a picture

Copy the frequency domain chart to windows clipboard

Add the frequency domain chart to the comparison window,



according to the chart count number to set how many charts need to compare, default is 2 charts.



Vibration Player

The Vibration Player PC allows user can see the vibration curve during playing the flight video

Launch the Vibration Player program, press 

to open the flight video file.

Press 

to open the vibration data file, There is a time difference may between the data record time and the flight video time, set the time difference at here 

Adjust the vibration data curve transparency

Notice:

X-CAM Vibration Detector uses the COM serial port and PC communication, due to the COM serial communication rate and Windows itself may lead to transmission of USB conversion of the COM port support problems of instability, or even port buffer overflow caused transmission to stop, if long time no response to find software, please close the software, pull the Vibration Detector device to try again