

Vibration Data Acquisition System

Vibration Training system

Introduction

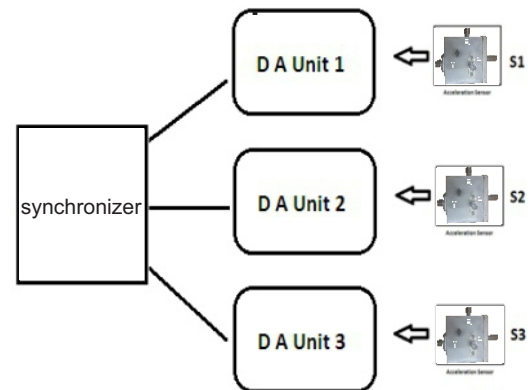
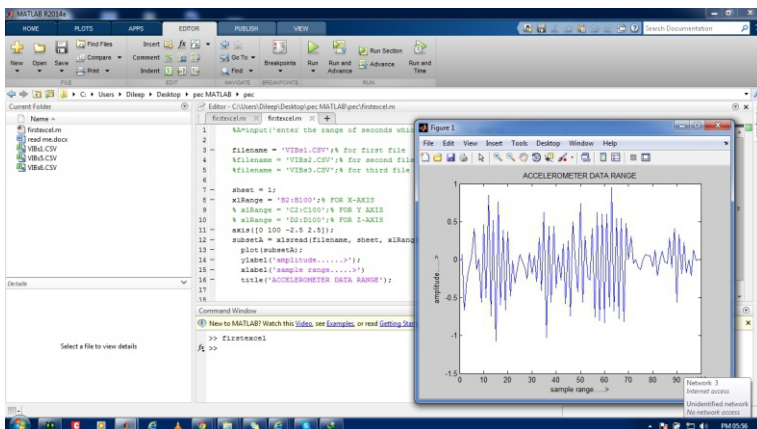
Portable data acquisition system is designed to / Record vibration of different type application. e.g- Machine vibration, Moving vibration vehicles, Building vibration, Many other application as per requirement.

For the measurement of vibration we are using acceleration sensors. Each acceleration sensor is attached to its DA unit called Data Acquisition unit and function of DA unit is to collect data from the sensor and record it into a SD card memory in excel format.

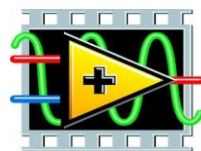
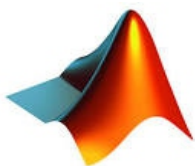
All the DA units are further conceded to synchronizer unit
The functions of synchronizer unit is to Synchronize all DA units, which is required to start and stop all DA units together.

Specification

Sampling rate	800 samples/second
Storage	Micro SD card
Stored file format	Excel file(.CSV)
Max. event duration	15 minute
Battery operated	Rechargeable
Real time clock	Real time reading
	3 Axis reading display
Lcd display- (16x2)	Option change/ view.
4X4 keypad	
Battery power indicators	Status of battery



Note:- Data from vibrations data acquisition system can be further analyzed by using Matlab or Labview Software.



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Vibration Data Acquisition System

Sensor Specification

The following specifications are typical values, referenced at 24°C and 100Hz.

Type of sensor	Piezoelectric charge Based
No of axis	3-axis/single axis
Max g range	0-+/-10g

DYNAMIC CHARACTERISTICS

UNITS

CHARGE SENSITIVITY

Typical	pC/g	12.0
Minimum	pC/g	8.5
Resonance frequency	kHz	10 to 200kHz
Amplitude response (a) ± 5%	Hz	1 TO 10000
Amplitude response (a)		



ELECTRICAL CHARACTERISTICS

Output polarity		Acceleration in to the baseproduces positive output
Resistance grounding	G Ohm	> = 10 Signal ground common totransducer case? 55°C to +177°C
Temperature range		Sealed, Hermetic
Sealing		
Sinusoidal vibration limit	g pk	1000
Shock limit	g pk	2000
Base strain sensitivity	equiv. gpk/strain	0.002
Thermal transient	equiv. g pk/ °C	0.002
Electromagnetic	equiv. g rms/gauss	0.0001



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