

EVA-625

The World's Standard of Measurement . . . Elevator Ride Quality, Vibration & Sound

Ride Quality Measurement & Analysis for the Elevator/Escalator Industry

Physical Measurement Technologies' EVA-625 Elevator Vibration Analysis system and EVA Vibration Analysis Tools software has quickly become the global standard for the measurement of elevator and escalator ride quality, and vibration & sound. Designed to meet international standards for the recording and analysis of elevator and escalator vibration and sound, only the EVA system allows all elevators and escalators to be measured, analyzed, and documented absolutely, easily and at a **Very Low Cost**. Through continuous refinement & enhancement, the EVA system remains the product of choice for the measurement and analysis of elevator/escalator ride quality, and vibration & sound, while PMT has become the world's number one supplier of high accuracy instrumentation for the vertical transportation industry.



- Quantify Elevator/Escalator ISO18738 Ride Quality
- Measure Acceleration/Deceleration, Speed, Jerk
- Identify & Locate Rail & Joint Misalignment
- Diagnose Bad Roller Guides
- Document Pre/Post Modernization Changes
- Troubleshoot Sheave, Ropes, Counterweight
- Assess Drive & Controller Function
- Document Elevator Performance Baseline
- Year to Year Elevator Operation Comparison
- Escalator Step/Skirt Index Measurement (w/IMD-1)
- Optional Flash Drive Data Storage

EVA System Highlights

- Ride Quality Measurement & Diagnostic Tool for Elevator Service, Analysis, & Inspection
- Highly Accurate, Broad Band 3 Axis Acceleration With Frequency Response Down to 0 Hertz
- A -Weighted, Fast Response, Sound Level Recording
- Elevator, Escalator, Real Time Vibration & Tachometer Operation Modes
- Conforms to International Measurement Standards
- RSB Removable Tri-Axial Acceleration Sensor Block
- Extremely Easy to Use, Portable, Battery Operated, Rugged, Reliable, Small Size, Light Weight
- Low Cost – Includes EVA Software, Sensors, Battery Charger, Serial Cable, 1 Year Warranty
- Optional Tachometer For Elevator Door and Escalator Handrail/Step Speed Comparison
- Optional IMD-1 Escalator Step/Skirt Index Measurement Device
- Robust Hardware Design for Accurate Response to Vibration & Long Term Reliability

EVA Vibration Analysis Tools Software

- Operations under Windows NT, Windows XP, Windows Vista
- ISO Human Response (ISO18738), Acceleration, Sound Level, Speed, Jerk, Distance Time Histories Display
- Spectral Analysis Capability, Software Selectable Filters & Sampling Rate
- ISO Human Response Analysis & User Selectable Digital Filtering
- User Defined Units of Measure & Graphical Scaling, Box Zoom & Scroll,
- Project Specification Analysis, Data Base Compilation
- Multiple Report Printing including Peak to Peak Vibration, Max/Average, Sound Max/Average
- Elevator Performance Measurements

Escalator Tools

The EVA-625 and EVA Vibration Analysis Tools are also optimized to evaluate escalator vibration on hand rails and steps, as well as to meet the special requirements of measuring sound levels at the landings, incline section, and machine. It also leads the operator in measurement of ambient sound level. An optional extension of the EVA-625 is the ETCH01 Tachometer module. This is used for the measurement of handrail & step speed so that differences can be evaluated and addressed. An important feature of the ETCH01 Tachometer and the optimized EVA software is the ability to quickly and accurately measure stopping distances. Contact PMT or your PMT representative for the **Escalator Measurement Tech Sheet**.

Options

ETCH01 Tachometer Module – Although the EVA system accurately calculates elevator velocity and distance in elevator systems without the need of a tachometer, there are times when speed must be measured precisely in constantly moving systems such as escalators. To meet these needs, the ETCH01 tachometer is an extension to all EVA-625 systems. This provides the ability to measure & record, or display in real time, direct drive speed measurements for escalator handrails & steps, escalator stops, elevator doors, or any moving system.

IMD-1 Escalator Step Skirt Index Measurement Device – The EVA-625 can be used with the IMD-1 to record and analyze the newly defined escalator step/skirt index. The combination of EVA-625 and IMD-1 allows the measurement of loaded gap (step edge to skirt distance) and coefficient of friction of escalator skirt panels dynamically.

EVA-625 Specifications

Microprocessor: 8XC52 Family Running @ 11 MHz
 Display: 4 Line by 20 Column Liquid Crystal
 Keyboard: 1 X 4 Sealed Membrane
 Communications: Serial RS232, 57600 Baud
 Clock: Integrated Battery Backed Real Time Clock
 Battery: 12 V, Rechargeable Lead Acid Cel, 30 Hrs per Charge
 Battery Charger: Universal Voltage
 Sensors: 3 Accelerometers (x,y,z Triaxial arrangement)
 1 Condenser Microphone
 Accelerometer Technology: Piezoresistive, DC to 400 Hz

A/D Converter: 13 Bit Self Calibrating
 Anti-Aliasing Filters: (Acceleration Channels)
 Software Selectable: 80 Hz or 160 Hz Cutoff

Packaging:

Case: Structural Resin, Water Proof
 Dimensions: 27.3L x 24.7W x 12.7D (cm)
 10.7L x 9.7W x 5.0D (in)
 Weight: 4.3 (kg), 9.5 (lb)

Sampling Rate: Software Selectable: 256 or 512 SPS/Channel
 Frequency Response: Acceleration Selectable 0 to 80/ 0 to 160 Hz
 Frequency Response: Mic. A-Weighted Fast Response 8 KHz
 Type 2S True RMS Sound Level Measurement
 Range: Acceleration: +1.5g to -1.5g, Mic: 40 to 90db(A)
 Resolution: Acceleration 600 micro(g), (.0006g), Mic: 1 dB
 Data Storage: Over 700 Seconds of 4 Channel Data (Serial Version)
 PC Requirements: Windows NT, Windows XP, Windows Vista

Accelerometer Housing: Stainless Steel
 (Removable Reorientation, Attachment to Structural Member)
 Chassis, Microphone Housing: Anodized Aluminum

Note: Specifications Subject to Change Due to Continuous Improvements