

■ Seat Track Motor: Production Audit Test

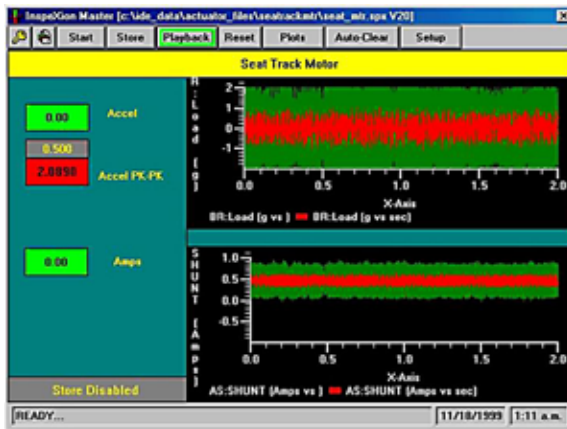
**Highlights:**

- DC brush motor checks
  - Terminal volts “com bar” noise defects
  - Current and power
  - Efficiency
  - Delivered torque
  - RPM
- Statistically “learned”
  - FFT (frequency domain)
  - Time domain
  - Waveform storage
- Operator simplicity
- Traceability
- PLC connectivity
- Ethernet capable
- Cost effective

The reduction of ambient noise in the interior of a vehicle presents a continuous challenge for automotive manufacturers. As cabin noise levels continue to drop, it becomes essential that all electro-mechanical devices operate smoothly and quietly. As quality improves and permitted equipment noise levels fall, it becomes increasingly difficult to detect defects which cannot be heard in a noisy production environment.



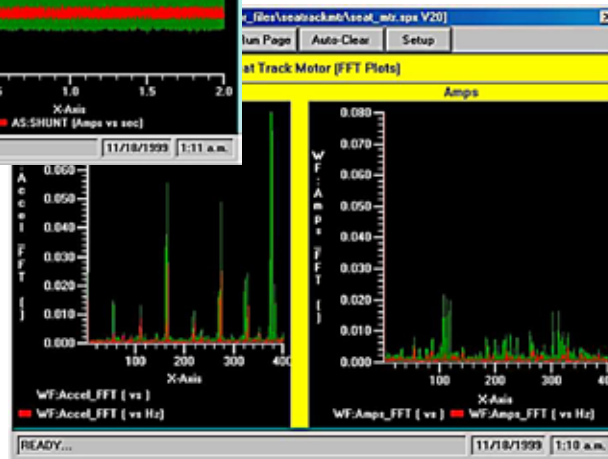
The Sciometric Test and Analysis System with InspecXion® software solves the problem of production line noise and mechanical performance testing of seat track motors by relieving the operator of the responsibility of listening for defects. The eight analog input channels provide ample means to monitor current, voltage, torque and vibration. Sciometric’s InspecXion® software is configurable for various test sequences, each of which is focused on a specific area of interest for the part under test. Mathematical tools form unique building blocks that are combined with others to form sophisticated solutions to the most demanding production test requirements.



*InspecXion® Screen showing Signature Waveforms Produced by Vibration and Current in the Time Domain.*

The test system digitizes the inputs from the sensors, compares the results of each part of the test with limits derived from known, good motors, and gives a definite PASS/FAIL indication to the operator. Waveform capture, storage and subsequent Signature Analysis provide the means to derive trends and practical acceptance limits for good production assemblies. This makes it possible to accurately detect small deviations (root cause defects) from the established norm, and

to correct and improve the product. Reliable 100% inspection is now possible and manufacturers have a practical tool with which to combat production defects, reduce warranty and callback costs and enhance production quality.



*InspecXion® Screen showing Signature Waveforms Produced by Vibration and Current in the Frequency Domain.*