Semiconductor Factory Automation AMHS VIBRATION ANALYSIS



Vib Tool Information Center

INT02001-VTIC

GCI's Vib Tool Information Center provides background AMHS vibration data collection and analysis to report excessive vibration areas as they arise. This allows vibration data to be collected and analyzed on scheduled basis without operator intervention. Used with GCI's VIBCOM, vibration data for an entire FAB can be collected and analyzed on a periodic basis as an unattended background task. For managers concerned that excessive AMHS vibration can lead to wafer damage and particulate generation, the Information Center provides continuous track monitoring throughout the Fab and sends alerts about areas of concern that should be addressed.

Features of the Information Center include two independent E15 and E84 compliant load stations to interface with the delivery vehicle to Unload and Load an instrumented FOUP. The load stations are equipped with contacts to interface with the instrumented FOUP and charge the Vib Tool battery. The Information Center provides a windows-base server, flat screen monitor, and fold-up keyboard with trackball.

The Information Center software application (InfoCenter App) provides a local Graphical User Interface. User's can view and analyze collected data locally or remotely. It can be programmed to generate alerts when unacceptable levels are encountered. Saved data can be linked into the Fab's AHMS software to display vibration history on a map that represents the track in the Fab.



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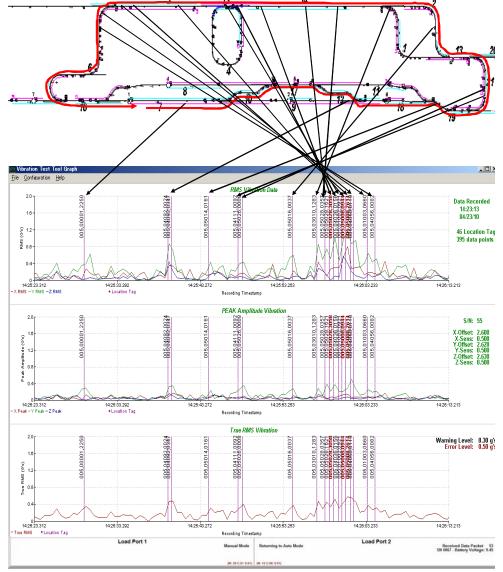
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The InfoCenter App displays RMS, Peak and True-RMS vibration levels recorded by the Vib Tool. Location details are displayed along with the vibration data, based on user selectable warning and error limits. This allows the user to customize the strip charts to show location details associated with areas of the track that caused vibration levels that exceed set limits.

The InfoCenter App receives status information from the Vib Tool loaded onto one of the load stations. Vib Tool battery levels are monitored, and recharge cycles are processed automatically when needed. Vibration recording sessions are started automatically when the instrumented FOUP is unloaded by the AMHS delivery vehicle. Recording sessions are automatically terminated when the FOUP is loaded back onto one of the Information Center's load stations. Recorded data is uploaded and displayed following the recording session. Previous recording sessions can be opened and displayed for analysis.

Uploaded data can be copied to fab specific file formats, allowing the fab to pull track vibration details into other applications. Data can be exported into tabular text files. Vibration graphs can be exported as bitmaps for inclusion into presentations or reports.



Example recording session with track locations.

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