

Module Application Note

General description

The Microlog AX supports modules which allow additional analysis and maintenance activities to be performed. The AX is supplied with the Balancing, Bump Test, Conformance Check, FRF, Recorder and Run-up Coast-down modules installed: which modules are initially licensed depends on which configuration has been purchased. Additional modules can be purchased, and are enabled by typing in a 7-digit license key provided by SKF.

Data from all modules can be transferred to PC via the SKF Analysis and Reporting Module.

Module information

Balancing

The Balancing module has been updated to use the same look-and-feel as the other modules. This means that there are some differences compared to the GX Balancing module with which some users will be familiar, as follows:

- **New Balancing menu screen** – in common with the other modules, the first Balancing screen now shows three icons:
 - Setup – specify balance run parameters.
 - Recall – load saved balance run parameters.
 - Review Data – load saved balance runs to be continued or restarted.
- **Setup menu simplified** – there is now a single Setup menu, with items previously on the Setup and Options menus combined to make it easier to get started.
- **Color coded measurements** – the 1x vibration reading is displayed in red if the measurement is above the vibration threshold (user-specified) and green if it is below.
- **30:30 rule** – after the trial run, the Balancing module checks if the trial weight resulted in a magnitude change of at least $\pm 30\%$ or a phase shift of at least $\pm 30^\circ$. If not then the user is given the option of choosing a new trial weight. (Experienced users can choose to carry on with the trial weight they have selected.)
- **On exiting the user is prompted to save or discard the balance run data** – if saved then the balance run can be continued or restarted later via the Review Data icon.



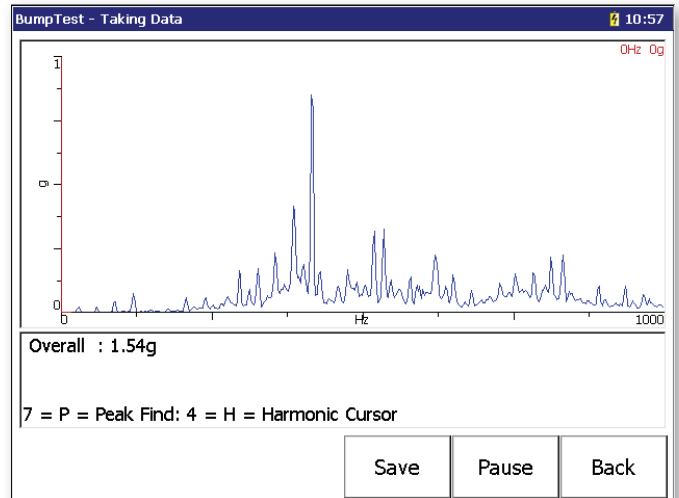
Microlog AX with Balancing module screen.

Module Application Notes

Bump Test

Bump Test module allows easy identification of a structure's natural frequencies:

- Determination of resonant (critical) frequencies.
- Turbine blade testing.
- Crack detection.
- Structural mechanical integrity.



Bump Test screen.

Conformance Check

Conformance Check supports general machine health checks using vibration measurement to appropriate standards:

- Pre-defined tests are available in accordance with industry standards, e.g. ISO, BS.
- Operator feedback given on actual values and health grading.

Test setup generator is available for creating custom test templates:

- Select machine classes and alarm limits.
- Enable vibration limits to be set by your own vibration experts.

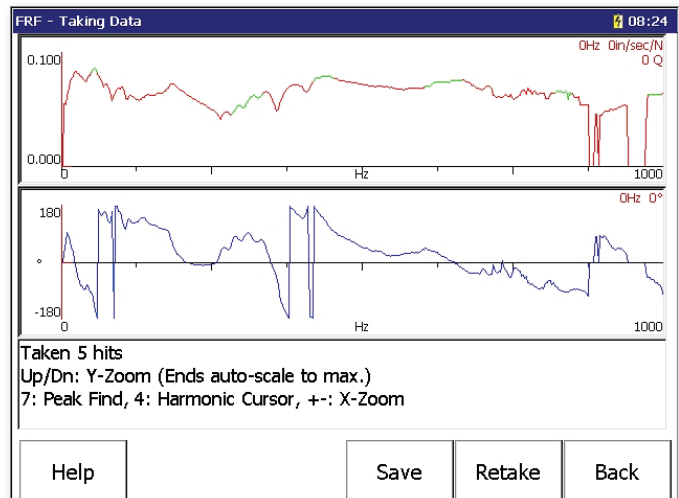
Pos	Dir	Disp	Vel	Accel
2	Ver	Good	Rough	Just Tolerable
2	Hor	Good	Just Tolerable	Rough
3	Ver	Good	Rough	Just Tolerable
3	Hor	Good	Rough	Good
4	Ver	Good	Rough	Good
4	Hor	Good	Rough	Good
5	Ver	Good	Just Tolerable	Good
5	Hor	Good	Rough	Good
6	Hor	---	---	---
7	Ver	---	---	---
7	Hor	---	---	---
8	Ver	Good	Rough	Rough
8	Hor	Good	Just Tolerable	Just Tolerable
9	Ver	---	---	---
9	Hor	---	---	---

Conformance Check screen.

FRF

FRF module supports analysis of the mechanical properties of structures or machines:

- FRF analysis (measurements of accelerance, mobility, stiffness etc.) using hammer and sensor.
- Operating Deflection Shape analysis (in conjunction with ME'Scope VES v5.xx).
- User friendly interface includes algorithms to automatically select input range & window type, and to reject bad data (overload & double impact).
- Simple color coding to show good / bad coherence in FRF results.



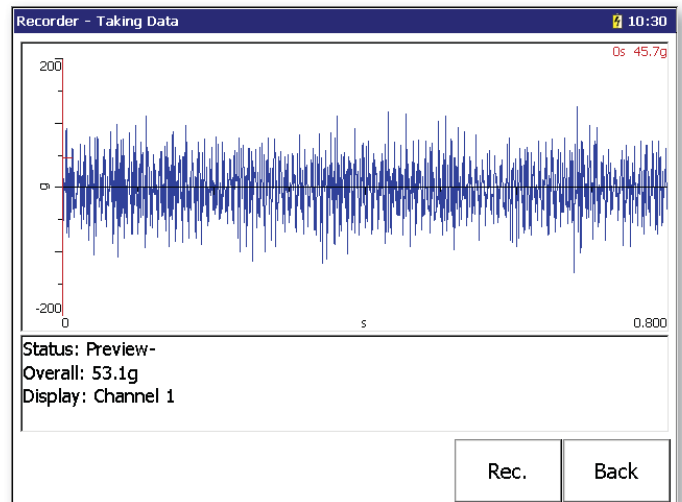
FRF screen.

Module Application Notes

Recorder

Recorder module provides basic digital time waveform recorder capability:

- Record live vibration signatures e.g. run up, steady state and coast down.
- Storage of one, two, three or four channel time data in industry standard (.WAV) format.
- Log vibration levels or process variables over long time periods.
- Transfer file to PC (via ActiveSync) for playback, analysis and diagnosis.

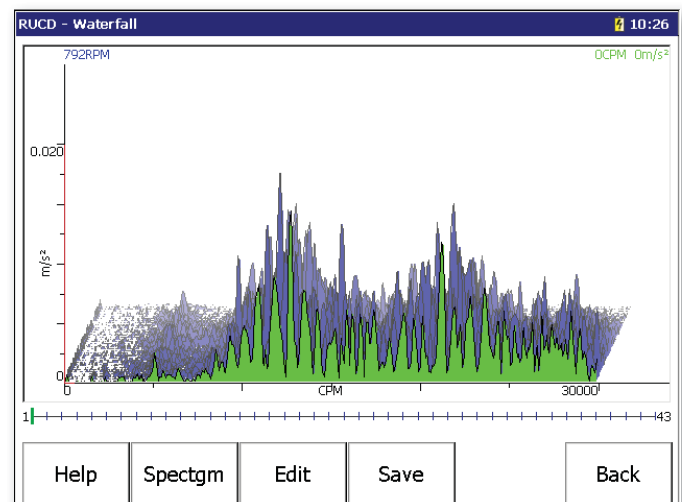


Recorder screen.

Run-up Coast-down

Run up Coast down module supports transient analysis.

- Record and analyze data from machines where noise or vibration levels are changing with speed or time e.g. during machine run-up or coast-down.
- Vibration and tachometer signal are recorded (as .WAV file) to allow post-processing as often as required without needing to recapture the data.
- Calculates and displays Bode, Nyquist, Table, Waterfall and Color Spectrograms.



Run up Coast down screen.

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