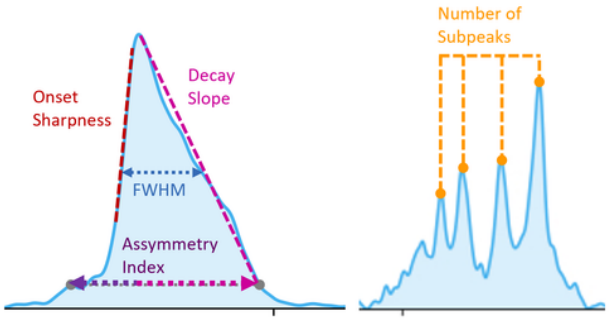
maxwell BIOSYSTEMS
Every Cell Has A Story To Tell

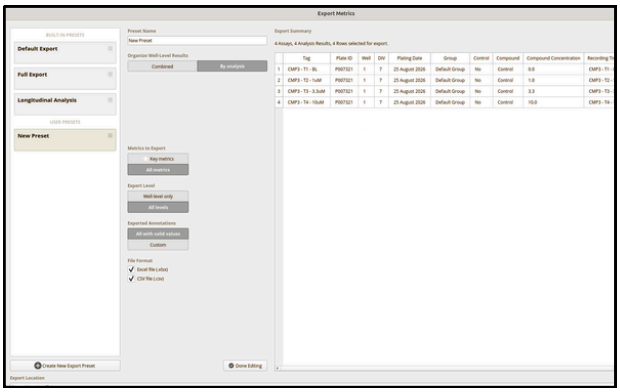
# MaxLab Live v26.1 | What's New?

## Novel Network Metrics



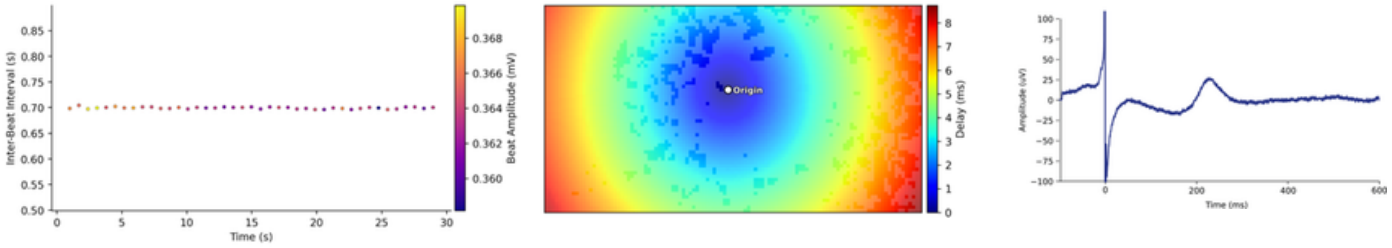

**See every burst in detail: 10 new burst shape metrics**

## Customizable Exporter



**Your metrics, your format, ready for analysis in one click**

## New Cardiac Analysis




**Full cardiac read-outs, across beat rhythm, propagation and field potential**

## Further Improvements

- 55 new metrics with selected key metrics
- New Analysis module Network Activity Dynamics with 23 well-level metrics
- Live Raster data retained across wells while streaming
- 24-Well Plate+ support for parallel readout and electrical stimulation
- Trial licenses via QR code or link.

# MaxLab Live Version 26.1 – Release Notes

26.1.2 – 5 November 2026

## Important Notes

Please note the following changes when updating to MaxLab Live 26.1.

- **Metric names and analysis versions:** Some metrics are renamed, and both burst detectors use a new analysis version (v2.0, selectable in the Settings Tab), so results may differ from earlier releases. See the full list of metric changes here.
- **MaxLab Live API:** New version 1.2.0; update the API module before running API-based experiments.
- **License required:** Recording and running assays now require a loaded system license.

## Key Updates

MaxLab Live 26.1 brings the following major new features.

- **New Metrics and Analyses:**
  - Two new analyses and a total of 55 new metrics.
  - Each analysis now features a set of selected key metrics that capture the most relevant data aspects.
- **Network Analysis:**
  - Burst Detection v2.0: the ISI-N detector now sets N automatically, and new burst shape metrics describe bursts in more detail.
  - New Network Activity Dynamics analysis: 23 well-level metrics describing the temporal structure of network activity (based on catch22 time-series features), including Population Synchronicity, which quantifies network synchrony independently of burst detection.
- **Cardiac Analysis (license required):**
  - New analysis to characterize recordings from cardiomyocytes, providing read-outs across beat rhythm, propagation and field potential features.
- **Metrics Exporter:**
  - The new Metrics Exporter lets you choose which metrics to export and how, with the possibility to group different assays by experimental day, simplifying downstream analysis.
- **Improvements for 6-Well and 24-Well Plates:**
  - MaxLab Live 26.1 is compatible with the new 24-Well Plate$^{+}$, supporting parallel readout and electrical stimulation.
  - Switch freely between wells while streaming: the Raster view now keeps live spike data for all wells (24-Well Plate: within the same bank).
- **Self-Service Trial Licenses:**
  - Trial licenses can now be requested directly from the software via a link or QR code.

## Improvements & Bug Fixes

The following improvements and fixes are grouped by module.

- **All Analyses:**
  - Analysis Versioning: analysis algorithms are now versioned; the version can be selected in the Settings Tab.
  - Analysis parameters are locked once an analysis has run; use the new "Modify" and "Duplicate" buttons to change them.
  - Redesigned summary tables in the Statistics Tab now highlight key metrics.
- **Activity Analysis:**
  - Spike-level metrics are removed and are no longer exported.
  - Improved interpolation method for activity maps.

  - **New metrics:** Number of Spikes, Firing Rate (all electrodes), Electrode Burstiness Index.
  - **Changed Defaults:** Interpolation Off → On; Colormap Rescaling On → Off.
- **Network Burst Analyses (v2.0, ISI-N and FR detectors):**
  - Improved visualization of burst detection results, with combined views and a redesigned burst display.
  - ISI-N: new algorithm that estimates N automatically, with the new Start-Stop Threshold as its only parameter.
  - In v2.0, the Interburst Interval (IBI) is measured from the end of one burst to the start of the next (previously peak-to-peak).
  - **New metrics:** 9 burst shape metrics and Full Width at Half Maximum.
  - **Changed Defaults:** Start-Stop Threshold 0.8 (FR: previously 0.3).
- **Stimulation Assay and Analysis:**
  - Spikes on stimulation electrodes are now excluded from the analysis, as stimulation artifacts on these electrodes can be detected as spikes. Note that metric values may therefore differ from earlier MaxLab Live releases.
  - Color Bar Maximum "Auto" now uses one color scale per well, so plots of different stimulation amplitudes can be compared directly.
  - "Trial Level" results are renamed to "Burst Level".
  - **Fixes:** manually selected recording electrodes lost when repeating an assay; incorrect bin sizes in the assay summary heatmap (empty last bin removed, x-ticks aligned); crash with non-English OS localization settings.
  - **New metrics:** Peak Latency, Spike Amplitude.
  - **Changed Defaults (Assay):** Pulses per Burst 3 → 1; Number of Bursts 5 → 10; Interburst Interval 1 → 2 s; Stimulation Amplitude 200 mV → range 100–600 mV (100 mV steps, randomized, with 0 mV control).
- **AxonTracking Assay:**
  - **Fixes:** analysis error with small footprints; affected neurons are now skipped.
  - **Changed Defaults (Assay):** Block Side Length (Blocks mode) 300 → 800 µm.
- **Metrics Export:**
  - New Metrics Exporter with built-in presets (Default Export, Full Export, Longitudinal Analysis) and the option to export key metrics only; well-level results can be organized by analysis or combined, and the exported annotations can be selected.
  - Restructured export files: one metrics worksheet per analysis and level, plus a Metadata worksheet with analysis versions and parameters.
  - Electrode-level metrics can now also be exported when exporting multiple assays (previously only for single assays).
  - New column header format in export files: Metric - Statistic (unit), with units in round brackets, e.g., "Spike Amplitude - Median (µV)".
  - Metric values are exported with more decimal places.
- **Annotation, Batch Analysis and Report Generation Modules:**
  - Corrected the MaxOne+ electrode size from 12.5 × 12.5 $\mu m^2$ to 11.5 × 11.5 $\mu m^2$.
  - New "Refresh Data" action in the Report menu.
  - New right-click option "Show in Assays" in Batch Analysis.
  - **Fixes:** batch analysis could not be stopped; Pivot plots grouped by Group → Well listed wells outside the selected group as empty rows.
- **Scope & User Interface:**
  - Disk usage is now shown in the interface, with a warning when more than 90% of the disk space is used.
  - Status indicator in the well plate widget (sidebar) improved for visibility.
  - Display Themes (in Settings) reduced to Light and Dark; theme changes are applied after restart.
  - Improved readability for long project names in the Switch Project dialog.
  - Warning when a well records too many corrupted frames (possible well plate issue); improved frame-loss logging in the mxwserver terminal.

  - **Fixes:** transparency problem with a loaded background image in Electrodes View; primary well selection out of sync between server and Scope; crash when loading a replay without a "routed" group.
- **API:**
  - New API version 1.2.0 (previously 1.1.0). C++ users: remove calls to maxlab::checkVersions() from custom scripts; the function is deprecated.
  - Updated API documentation (v1.2.0): new example script for sequential stimulation and improved MaxTwo compatibility of the examples, plus a redesigned documentation layout and many smaller corrections.
- **Installation:**
  - Shell scripts "mxwserver.sh" and "scope.sh" replaced by executables "mxwserver" and "scope".

**Revision History**
MaxLab Live Version 26.1: November 2026
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