

# Eddyfi Magnifi® 5.0R5 Release Notes

Release date: September 6, 2022

## **\*\*\*Cloud-based licensing system\*\*\***

Magnifi 5.0 is now activated through a cloud-based licensing system.

For clients under a valid maintenance plan, access to version 5.0 is included. Simply type your current Magnifi key code in the *Manage License-> License code* field.

If you are not under a valid maintenance plan, please contact your Eddyfi Technologies sales representative.

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## Resolved Issues

- Unexpected recurring error message for perpetual licenses with expired maintenance plan are removed.
- Hardware key license driver issue preventing Magnifi from recognizing the license key is fixed.
- “Get Data” feature of the Magnifi SDK now fully functional.

## Known Issues, Limitations, and Restrictions

### Tubing Applications

- Some types of manual operations to the AI landmarks are not fully supported.
- Logbook can't be enabled when setup is configured with the legacy landmark detection engine.
- Logbook column indicates that 0 indication was detected when the AI landmark detection engine has not been calibrated.

### Generic

- Data List naming format always returns to Free Format when loading an inspection sub-folder.
- Some files from the Documentation section of the backstage have not been updated.
- The unit of some fields has changed from samples (smpl) to counts (cnt).
- Magnifi can take a few seconds to close.
- Buttons in the Manage License window can take a few seconds before being available.
- Some minor visual issues when opening Magnifi by double-clicking on .magsetup or .magdata files directly from Windows.

# AI-ECT module 1.0

## Data Requirements

### Setup configuration and parameters:

- Technique: ECT.
- Probe model: bobbin.
  - Eddyfi ECT-BBST probes
  - 3<sup>rd</sup> party manufacturer not validated.
- Input channels: 2 maximum.
  - Absolute and Differential channels must be set up.
- Four (4) frequencies, with the following specific ratios:
  - $F1 = F2 \times 2$
  - $F2 = F_{90}$ , the frequency which provides 90° separation between near side and far side
  - $F3 = F2 / 2$
  - $F4$  between  $F2 / 4$  and  $F2 / 16$ .
- Instrument channel names must be similar to the default configuration (ex: R\_ABS-F1, ...).
- Magnifi 3.X and 4.X data files are compatible if above requirements are fulfilled.

### Current development database content

- Eddyfi ECT-BBST bobbin probes.
- Type of heat exchanger inspected:
  - Straight through bundles with open end
  - Straight bundles with partial restriction on opposite tubesheet
  - U-bend bundles, *one-leg* (inspection with a rigid probe).
- Types of tubes:
  - Plain tubes.
- Non-ferromagnetic tube materials: Admiralty Brass, Aluminum Brass, CuNi 70-30, CuNi 90-10, Inconel 825, SA-213-316L, SA-249-304L, SA-249-316L, SA-249-317L, SA-359-443, SS304, SS304L, SS309, SS316, SS321, SMO254, SB163, SB167, and Titanium.
- Tube OD:
  - Most common diameters: 19.05 mm (0.75 in); 25.4 mm (1.0 in)
  - All: 9.53 mm (0.4 in) to 50.8 mm (2 in);
- Tube wall thickness:
  - Most common: 1.25 mm ( 0.050 in) and 1.65 mm (0.065 in)
  - All: 0.5 mm (0.020 in) to 3.22 mm (0.127 in)
- Tube lengths: 2 m (6.6 ft) to 18 m (59 ft).
- Sampling density: 2 samples/mm to 4 samples/mm.
- Total number of individually tagged indications: 13,502.

- Tagged indications are determined to be a relevant indication based on the ASME code definition, but are not all significant enough to be reported.

## Detection capabilities and improvements

### Landmarks

- Detection of Tubesheet In & Out (TSI & TSO).
- Detection of Support Plates (SP)
  - Not required to know exact or approximate quantity of support plates in bundle.
- In calibration tube, detection of air before (AIRI) and after (AIRO) the tube is supported.
- For data files that include data while the probe is pushed down the tube, landmarks are automatically removed in that region and kept when the probe is pulled back.

### Indications

- Generic detection of potential indication, not specific to a certain type.
- Detection is performed in the free span region only, no overcalls on noise outside the tube.

## Limitations and Restrictions

- ECT-BBFS saturation, ECT-BBST flexible, DefHi, and ECT-BBAC air conditioning probes are not supported.
- Tubes with external fins, ID and/ OD mechanically enhanced tubes.
- Indications under support plates and tubesheets are not detected.
- Indications with length greater than 1,000 pixels are not detected. For a typical sampling rate of 2 samples/mm, this represents a length of approximately 50 cm (19.7 in)

## Minimum System Requirements for Magnifi 5.0R5 and AI-ECT 1.0

- Processor: Core i5 (or equivalent).
- Operating systems:
  - Edition: Windows® 8.1 and Windows 10 version 1607 (Anniversary Update)
  - System type: 64-bit operating system
  - Note: The software is tested and optimized for most major language packs available on the Windows suite.
- Memory: 8 GB.
- Graphics card: GPU with DirectX 11 support.
- Disk space: 20 GB.
- Network: Built-in network card.
- Display:
  - Screen size: 13 in
  - Resolution: 1366 × 768 pixels
  - Display scale: 100% (Windows preferences setting).
- Administrator rights: User must have local administrator permissions on the computer to install and use Magnifi.

## Recommended System Requirements

- Processor: Core i7 (or equivalent).
- Operating systems:
  - Edition: Windows 10 (latest version)
  - System type: 64-bit operating system
  - Note: The software is tested and optimized for most major language packs available on the Windows suite.
- Memory: 16 GB.
- Graphics card: Dedicated GPU with DirectX 11 support.
- Disk space: 100 GB.
- Network: Built-in network card.
- Display:
  - Screen size: 15 in
  - Resolution: 1920 x 1080 pixels
  - External monitor: 22 in or larger, with a minimum resolution of 1920 × 1080 pixels (for extensive analysis purposes)
  - Display scale: 100% (Windows preferences setting).

- Administrator rights: User must have Administrator permissions on the computer to install and use Magnifi.

## Firmware

Included in this release of Magnifi is the following package:

Eddyfi Ectane® 2

- Version: 2.1R7 (update the firmware on first connection to the Ectane 2).

Ectane

- Version: 1.8R5.1 (same version as for Magnifi 3.5R15).