

# MIZ-21C SOFTWARE 1.3.0

Product Bulletin



## Table of Contents

Table of Contents .....	2
Purpose of MIZ-21C Software 1.3.0 .....	3
New Features in MIZ-21C Software 1.3.0 .....	4
Depth Sizing .....	4
Balance Remotely for Any Technique .....	6
Skip Reflection Mode for Surf-X Low Frequency Probe .....	6
Downloading and Installing MIZ-21C Software 1.3.0 .....	7

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## MIZ-21C Software 1.3.0 Product Bulletin

Zetec just released *MIZ-21C Software 1.3.0*. This software version can be used on any MIZ-21C instrument that has operating system and drivers Full Flash Update (FFU) 1.1.1 or newer. Please contact Zetec Customer Service at [CustomerService@zetec.com](mailto:CustomerService@zetec.com) if you have FFU 1.0.9 or earlier. This product bulletin presents an overview of the new features and changes in this software version.

MIZ-21C Software 1.3.0 has three application modes depending on the MIZ-21C model:

- **MIZ-21C-SF Models:** Conductivity and Coating Thickness, Sub-Surface, and Surface Cracks.
- **MIZ-21C-DF Models:** Includes Bolt Holes.
- **MIZ-21C-ARRAY Models:** Includes Bolt Holes and Surface Array.

### Purpose of MIZ-21C Software 1.3.0

*MIZ-21C Software 1.3.0* is the standard upgrade for users of previous versions of MIZ-21C software. This software release includes several new features and improvements.

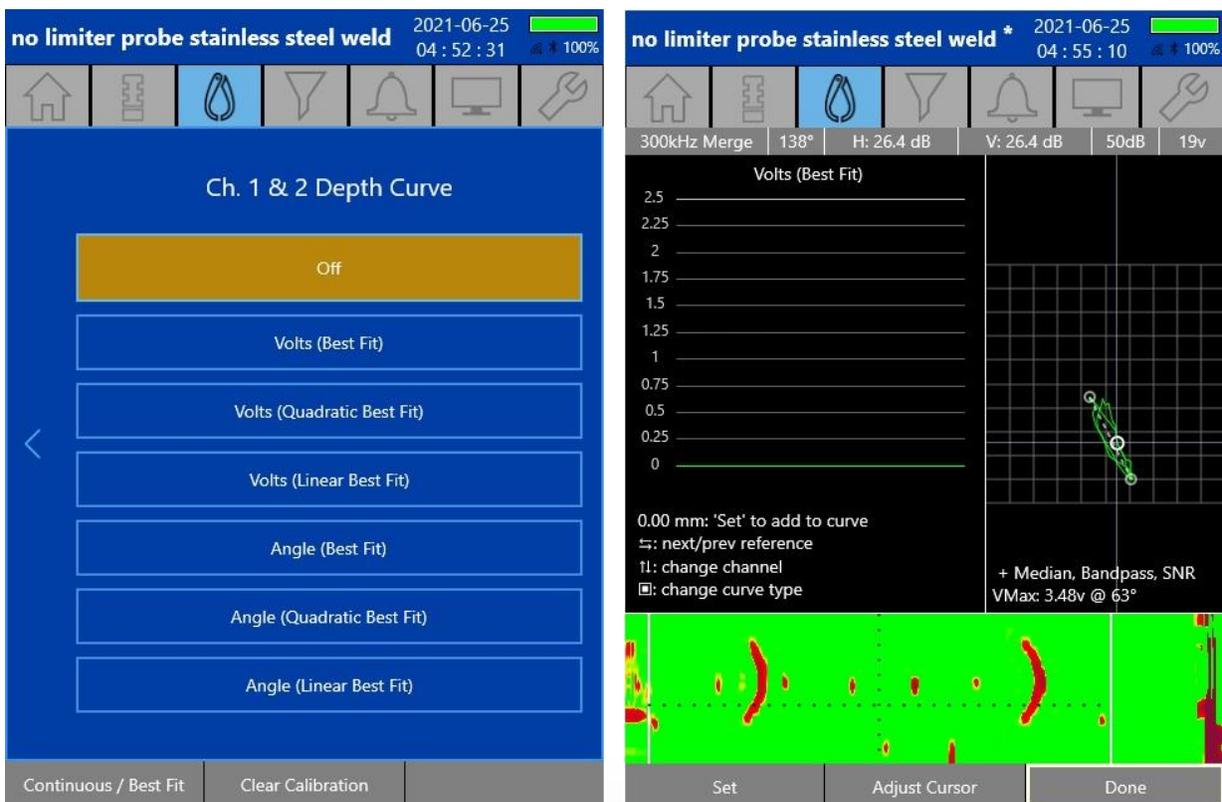
Zetec's hardware and software development process is performed according to a quality system that is certified ISO 9001-2015. With this certified software development process, Zetec guarantees that changes between earlier MIZ-21C Software releases and MIZ-21C Software 1.3.0 have no consequences on the sensitivity and the accuracy of the recorded data or results processed by the software.

## New Features in MIZ-21C Software 1.3.0

The following are the new features in *MIZ-21C Software 1.3.0*:

### Depth Sizing

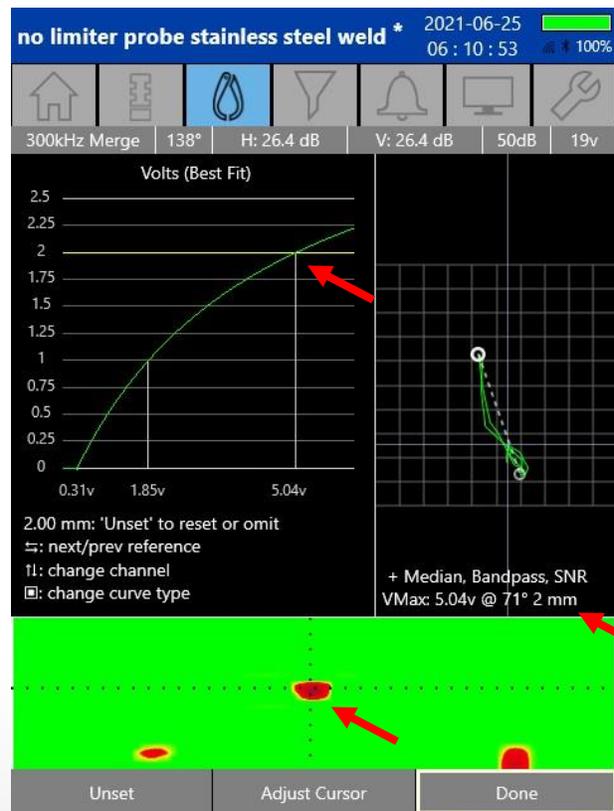
The MIZ-21C now includes Depth sizing which is a critical need in many inspection industries to determine crack depth, the extent of corrosion penetration, or other types of flaw sizing. The MIZ-21C uses depth curves that are established through a calibration process from a standard with known indications. These indications are representative of the flaws that are to be detected. Depth sizing can be done with conventional probes or Surf-X Array probes. Near Surface or Far Surface (ID vs OD) must be defined due to different response. When creating the depth curves, they can be defined by amplitude volts or phase angle and many types of curves are available to select from to give the best results.



The types of curve available are:

- 1) Off
- 2) Magnitude, Volts (Standard)
- 3) Magnitude, Volts (Quadratic)
- 4) Magnitude, Volts (Linear)
- 5) Phase, Angle (Standard)
- 6) Phase, Angle (Quadratic)
- 7) Phase, Angle (Linear)

There is an option for a 'Best Fit' of points to the curve type, as well as an option for 'Continuous', where the curve is made up of any number of curves, smoothly interpolated together between calibration points. 'Best Fit' does not have to go through the points, while 'Continuous' is forced to go through all defined points.



The depth curves can be independently configurable per channel. Depth Curve type per channel will be visible at the technique level, but all depth reference calibration points as well as the actual calibration will be at the data setup level only. Adding depth references or calibrating your curve will not modify your technique (indicated by an \* next to the technique name). The depth curve configuration and calibration will be storable both to the review setup and to the technique as desired.

Curve reference depths are a single set that can apply to all channels. However, each channel may use any number of these reference depths allowing for points to be ignored. Once the reference curve is defined, the depth measurement is shown for the channel it is defined on, wherever a measurement is displayed. The curve is valid to within +/- 10 degrees of the angle calibration points, and from 0.0 volts up to 25% greater than the max calibration point voltage. When your current measurement is outside these ranges then the display shows '--- mils' instead of a depth value.

Calibration values can be hand entered. When hitting 'Set' to enter the current measurement values during curve calibration, a keypad entry will pop up to allow the value to be changed as necessary. For example, the cursor may be put wherever for the 0 depth reference, hit 'Set' and enter '0' in the keypad rather than trying to find a suitably quiet reading. Channels can be toggled during calibration, such that the cursor can be put on a desired flaw and then go through each channel and easily set that cal point before moving on to the next flaw location.

## Balance Remotely for Any Technique

The MIZ-21C will now allow for remote balancing through Pin 13 which is an input pulled up to 3.3V. To activate the remote balance, set Pin 13 to GND via a switch closure or via a PLC. This is available for any MIZ-21C technique. If acquiring data and Pin 13 is grounded, then the remote balance will occur during the data acquisition.

## Skip Reflection Mode for Surf-X Low Frequency Probe

The Surf-X Low Frequency mode can now be driven in 3 modes: Tight Reflection (default), Skip Reflection, and Absolute. Tight Reflection works better on cracks, but Skip Reflection works better on volumetric corrosion. All eddy current array drive modes are now specific about whether they are Skip Reflection or Tight Reflection instead of just Reflection.

## Downloading and Installing MIZ-21C Software 1.3.0

For this or other MIZ-21C Software versions, please visit MIZ-21C Download at [www.zetec.com](http://www.zetec.com)

To upgrade the MIZ-21C software from **1.0.9 or earlier** to the new 1.3.0 version, the MIZ-21C must be returned to Zetec. Please contact Zetec Customer Service at [CustomerService@zetec.com](mailto:CustomerService@zetec.com) for a return authorization number.

Instructions (choose the option applicable to you):

(OPTION 1) To upgrade the MIZ-21C Gen2 sealed hardware to the new 1.3.0 version:

- On a USB drive create a folder “MIZ-21C” with subfolder “Updates”: \MIZ-21C\Updates\
- Copy the downloaded zip files (MIZ-21C.Application.1.3.0.23.install and MIZ-21C.System.1.3.0.23.install) into the “Updates” folder on the USB drive
- Insert the USB drive into the MIZ-21C and go to Tools > System Updates and click Update Software and Firmware
- If rolling back version, select ‘Uninstall’, and if installing new version, select ‘Install’
- Select from the list: MIZ-21C.System.1.3.0.23.install and click OK, then wait for shutdown
- The ‘Gears’ phase will begin, then wait for shutdown
- From Version Manager, select ‘Install’ and select: MIZ-21C.Application.1.3.0.23.install
- Select ‘Install’ and after 15 seconds it will complete with the ‘Install succeeded’ message
- Select ‘Open MIZ-21C’ and the Applications menu will open (Note: if the black Zetec logo persists for more than 2 minutes, then reboot the instrument)

(OPTION 2) To upgrade the MIZ-21C Gen1 non-sealed hardware to the new 1.3.0 version:

- On a USB drive create a folder “MIZ-21C” with subfolder “Updates”: \MIZ-21C\Updates\
- Copy the downloaded zip files (MIZ-21C.Application.1.3.0.23.install and MIZ-21C.System.1.3.0.23.install) into the “Updates” folder on the USB drive
- Insert the USB drive into the MIZ-21C and go to Tools > System Updates and click Update Software and Firmware
- If rolling back version, select ‘Uninstall’, and if installing new version, select ‘Install’
- Select from the list: MIZ-21C.System.1.3.0.23.install and click OK, then wait for shutdown (verify by noting that the fans are off)
- Press the Power Button to turn the instrument back on
- The ‘Gears’ phase will begin, then wait for shutdown (verify by noting that the fans are off)
- Press the Power Button to turn the instrument back on
- Wait for a few minutes, then one of two things will happen on restart:
  - – The application will boot to the normal Applications menu, WAIT 5 seconds for the screen to change to the Version Manager
  - – OR during the boot cycle the user will have a 5 second window to select between ‘Launch’ or ‘Manage Versions’, click Manage Versions to go to the Version Manager
- From Version Manager, select ‘Install’ and select: MIZ-21C.Application.1.3.0.23.install
- Select ‘Install’ and after 15 seconds it will complete with the ‘Install succeeded’ message
- Select ‘Open MIZ-21C’ and the Applications menu will open (Note: if the black Zetec logo persists for more than 2 minutes, then reboot the instrument)