

# MAC

Magnetic Analysis Corporation

# MAC<sup>®</sup> 400

## Multi Channel Eddy Current Tester

### MAC 400 Features

- Multi-channel, multi-frequency eddy current instrument
- Up to four eddy current channels operating independently or synchronized
- Convenient, familiar, Windows<sup>®</sup> XP user interface
- Easy to use “drag and drop” setting capability on a touch screen with pen, mouse, or keyboard entry
- Use with multi-probe and encircling coil applications, including segmented coils
- Fully networkable. Supports TCP/IP protocol
- Test in-line or off-line

### Ease of use

MAC 400 has a full Windows XP based user interface, making it easy and intuitive to operate. The ease of use was an important target when developing the instrument and is documented in several installations.

The setting and control of the instrument is done in pull-down menus. The different displays that can show test results and settings are dragged and dropped on the screen and they are also scalable. All settings, including thresholds, can be entered by figures with a keyboard, or by pointing and dragging on the display with a mouse for easy feedback to the operator. Use of an optional touch sensitive screen enhances the MAC 400's ease of use even more by allowing pen or touch entry of settings.

### Multiple eddy current channels

MAC 400 has one to four channels of eddy current analysis capacity. Each channel is either independent or synchronized. They can therefore be used in almost all eddy current applications.

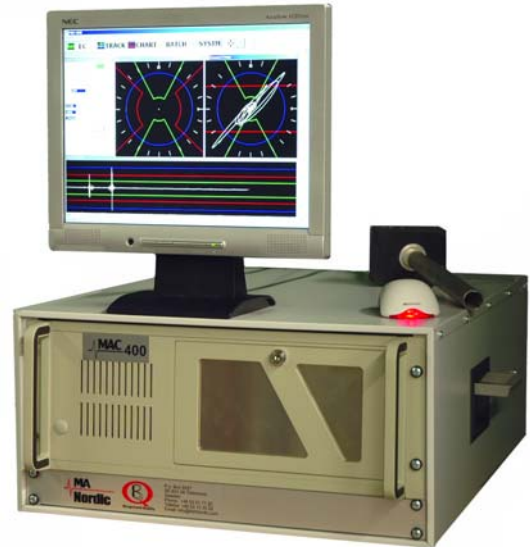


Segmented encircling coil

The independent setup can be used for multi probe scanning applications where multiple probes can inspect the material surface. The synchronized setting is used for multiple eddy current sensors with common feed system. A good example of this setting is segmented encircling coil applications where an increased sensitivity is achieved.

### Networking

As communication with other computers for exchanging information has become more and more important for nondestructive



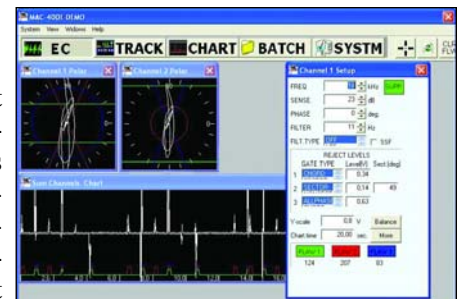
MAC 400 with optional monitor

testing, MAC 400 is designed to meet the needs of network communication.

That means that all the test information is available through the network for quick and easy follow up. MAC 400 supports TCP/IP communication protocol. MAC 400 can also be operated remotely through the network. That means that operators or quality managers can view and verify both the settings and outcome during testing.

### Display windows

During testing the test results can be displayed in various ways. The polar window shows the amplitude and phase information. The chart window shows the linear display of the eddy current signal. In both types of windows all the thresholds are displayed. All windows can be scaled to fit the screen used.



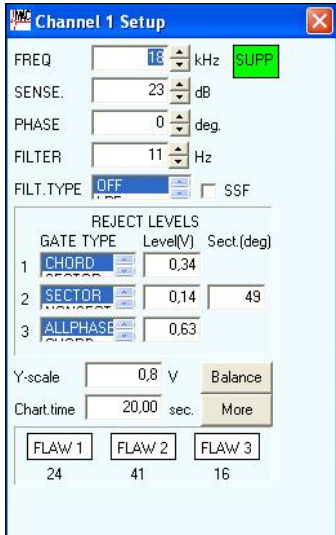
MAC 400 Screen Shot with Multiple Windows

Each channel can be individually displayed. In addition the windows can show the sum of several channels.

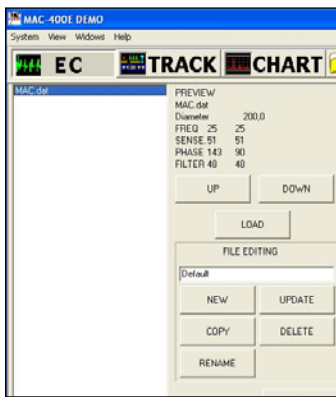
### Setting of the instrument

Settings are entered in pull down menus. The setting is divided into the setting of the eddy current instrument and the post-processing of information for storing, marking and sorting.

Test parameters are set in three principle ways: by entering figures from the numeric part of the keyboard; by increasing or



Setting Menu



Stored Settings

decreasing selected values by using the up/down arrows; or by using the point and drag feature on the polar or linear displays. The point and drag is especially useful to receive important and quick feedback when changing threshold parameters.

Output settings are done by the matrix method. You select an event in the instrument and select a desired output for that event. This setting is performed in the TRACK part of the instrument.

All settings can be stored and recalled by means of a library. The library can be stored locally or on the network. When networked, multiple instruments can share the same library, thereby giving assurance of correct settings in multiple test lines.

The number of stored settings are only limited by the storage capacity, i.e. unlimited.

## Powerful Signal Processing

MAC400 has the capability of multiple thresholds analysis. The thresholds can be configured as:

- all phase
- chord
- sector
- non-sector

These thresholds can be individually and independently configured. You can point and drag the different thresholds to a preferred setting. This gives powerful possibilities for catching and separating different flaw signals.

## Reporting

Reporting is increasingly important in systems for nondestructive testing. MAC400 has strong capabilities for configurable reports. The reports can store test results and settings in different formats to fulfill customer requirements.

The report can be stored locally or on a networked server.

## SPECIFICATIONS

(unit is CE certified)

Operating System	Windows® XP
Platform	3.1 GHz Pentium® processor equipped Industrial PC. PCI-bus based.
Function	Up to four channels flaw operation. Basic unit has one channel. Additional channels are optional.
Stored Setups	Unlimited
Test Frequency	2.5, 5, 10, 25, 50, 100, 200 KHz
Flaw Bandwidth	1 KHz
Sensitivity	0 - 99 dB, calibrated in 1-dB steps
Phase	0 - 359 degrees, Calibrated in 1degree steps
Filter	High Pass, Low Pass, Band Pass, software selectable
Threshold	All phase, chord, sector, non-sector
Outputs	Choice of 3 thresholds per channel. Map to any of 8 outputs. Configurable opto isolated 5-40 VDC, 200 mA
Display	A back panel output connector is provided for optional external monitor. Polar and linear traces are simultaneously displayed on the optional screen along with testing parameters.
Balance	Auto tracking, continuous AC self-balance in the entire frequency range and press button DC balance
Controls	Software controls for all functions
Report	Configurable reports
Probe Drive	Primary drive up to 16 Vpp
Operator Interface	Mouse or external keyboard Optional touch screen monitor
End Suppression	Optional software with optical sensor Optional pulse encoder
Cabinet Dimension	W 500 mm H 250 mm D 750 mm (19.7" x 9.9" x 29.5")
Weight	35 Kg (77 lbs) approximately
Power Input	120/240 VAC, 50/60 Hz, single phase, 5 amps
Options	High Frequency Remote Keypad Monitor with touch screen End Suppression with optical sensor Pulse encoder for end suppression feature

Windows® is a registered trademarks of Microsoft. Pentium® is a registered trademark of Intel. MAC® is a registered trademark of Magnetic Analysis Corporation.

# MAC

## Magnetic Analysis Nordic AB

Odenskogsavagen 36, POB 6047, Ostersund, Sweden SE-831 06 Tel: +46 63 51 77 20 Fax: +46 63 13 30 22

Magnetic Analysis Corp.

535 South 4th Avenue, Mount Vernon, NY, 10550-4499.

Tel: 800-4NDT-MAC

Fax: 914- 699- 9837

www.mac-ndt.com

email: info@mac-ndt.com

Tel: 914-699-9450

MAC 400 - 06e