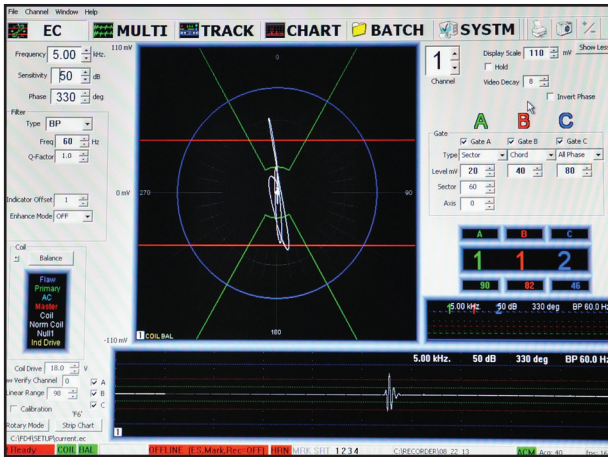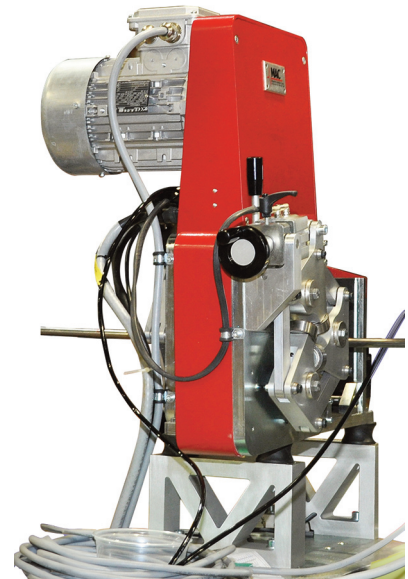# Features of the MultiMac II Electronics
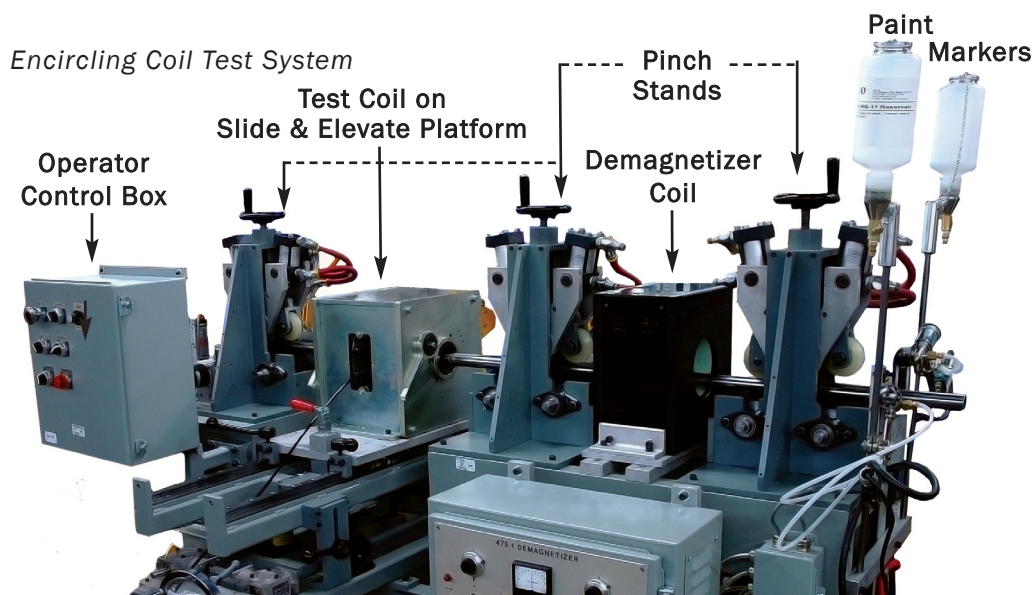

☑ Simultaneous Coil and/or Rotary Probe operation

☑ Differential, MID, and/or Absolute Mode operation

☑ Up to 4independent Test Channels

☑ 1 KHz to 6 MHz Test Frequency selection for each even channel

☑ Store & Recall Setups; Print & Transfer Data

☑ Simultaneous Polar/Linear Display

☑ All channel composite C Scan display of defect location, for rotary applications

☑ Versatile Threshold Selection includes Chord, Half Chord, Sector, All Phase

☑ Enhanced Signal-to-Noise

☑ CE Compliant

MultiMac II Applications

☑ Detect short surface and some subsurface defects in tube, bar, and wire.

☑ Identify seam type surface defects and laps in cold drawn wire or cut length bar stock.

☑ Test magnetic or non-magnetic wire, bar and tube.

☑ Inspect welded tube for short ID or OD defects in the weld zone.

☑ Test uniform cross sectional material, including squares, rectangles, hex and round.

☑ Check continuity and locate welds in single & multi-conductor insulated wire and cable.

☑ Built in MID with software-controlled activation.

☑ Inspect in-line with continuous wire operations.

☑ Test parts, such as small shafts and bearings for longitudinal surface defects.

Rotary Probe Tester, shown above, used with MultiMac® electronics to inspect bar or tube from 3mm - 38.1mm diameter.

Encircling Coil Test System

Paint Markers

Pinch Stands

Test Coil on Slide & Elevate Platform

Demagnetizer Coil

Operator Control Box

MultiMac® II

Eddy Current Instrument for Encircling Coil, Sector and Rotary Probe Testing of Tube, Bar, & Wire
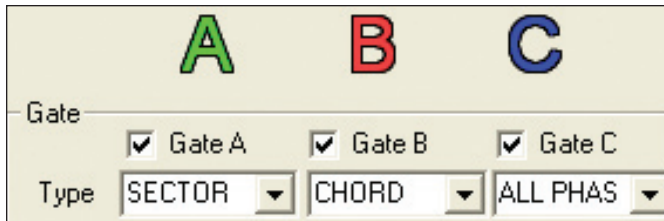
Inspection Features

Versatile Threshold Selection

Challenging test conditions are made simple with threshold selections that allow complex gating to detect ID/OD and weld sector defects. 3 gates per channel may be set based on All Phase, Sector, Chord or Half Chord thresholds.
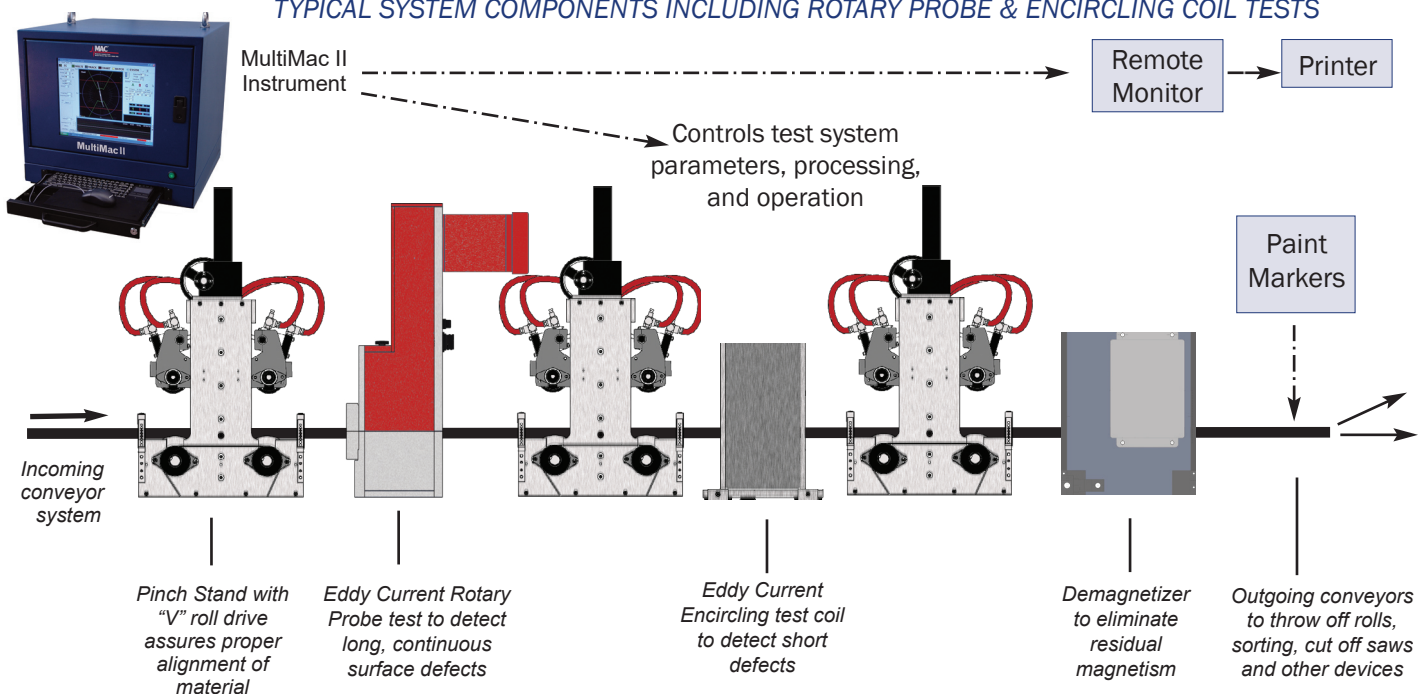*(Gates shown at right & below)*

Up to 8 Channels

Eight flaw, MID, absolute, or a combination channels are able to operate over the frequency range of 1 KHz to 6 MHz, with appropriate test coils or rotary probes.

One channel can be set as a differential channel with an encircling test coil to detect short weld line defects, for example, while a second channel, using a rotary probe test, simultaneously detects long, continuous surface flaws such as laps and seams.
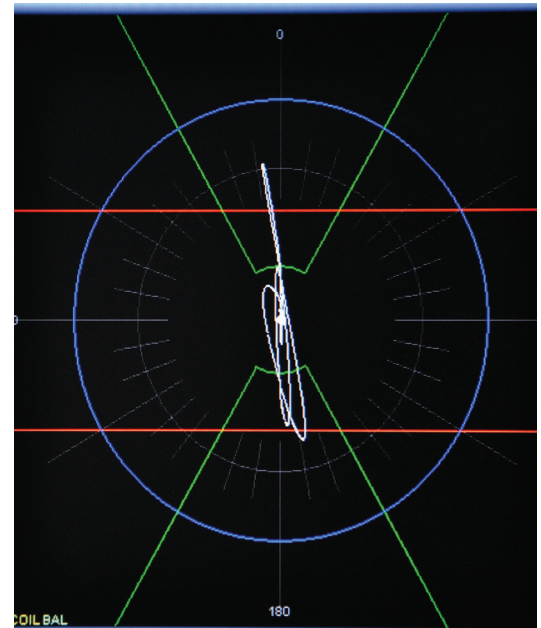
EC Screen Polar view of thresholds with a test signal for a drilled hole in a copper tube.

TYPICAL SYSTEM COMPONENTS INCLUDING ROTARY PROBE & ENCIRCLING COIL TESTS

MultiMac II Instrument

Remote Monitor → Printer

Controls test system parameters, processing, and operation

Paint Markers

Incoming conveyor system

Pinch Stand with "V" roll drive assures proper alignment of material

Eddy Current Rotary Probe test to detect long, continuous surface defects

Eddy Current Encircling test coil to detect short defects

Demagnetizer to eliminate residual magnetism

Outgoing conveyors to throw off rolls, sorting, cut off saws and other devices

# Multimac Screens for Operation and Control

EC Screen

All parameters for testing are set up through the EC Screen. They can be entered through the keyboard or by using a mouse. Each channel is set up independently. A lock out provision is included to prevent changes by unauthorized persons.

Multi Screen

- ❑ Simultaneous test results, including thresholds, for up to eight channels, in polar and linear modes
- ❑ Clearly demonstrates defect signals outside the acceptable threshold levels
- ❑ Displays Rotary speed, piece number, length, and throughput speed

C Scan Screen

- ❑ For rotary probe applications, an intuitive C Scan combines all channels and clearly displays the defect location with respect to its circumferential and longitudinal position.
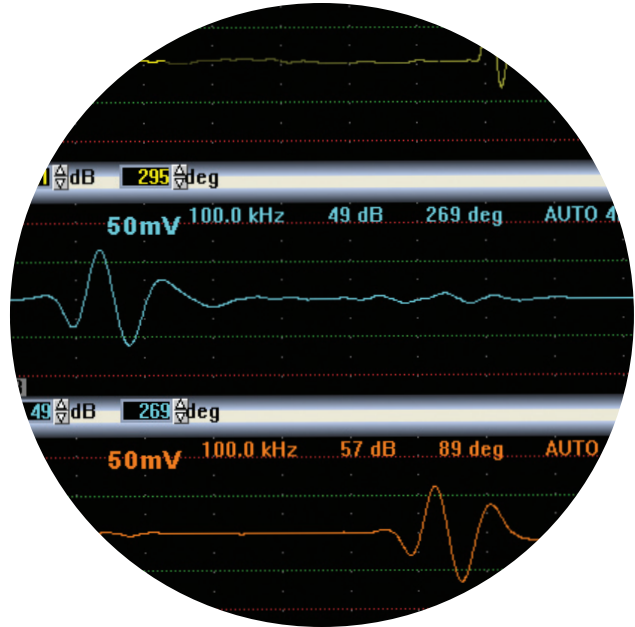
Linear view in the Multi Screen.
EC Screen also displays linear view

Chart Screen

- ❑ Shows the linear test results for up to 8 channels at a time
- ❑ Each channel can record up to 3 charts, based on the type of threshold (Allphase, Sector and Chord)
- ❑ Time, date, piece number, length and speed of the material under test are also indicated

Track Screen

The Track Screen allows for a visual representation of the product, length, line speed, end suppression, flaw tracking, piece count, and output (alarm) routing. Advantages include increased quality control and decreased down time.