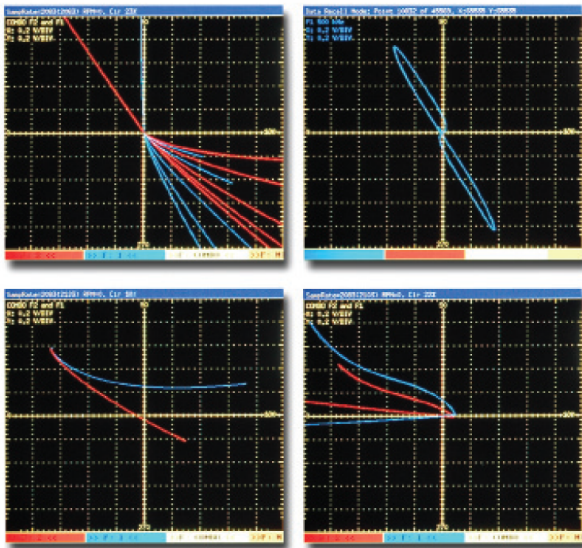
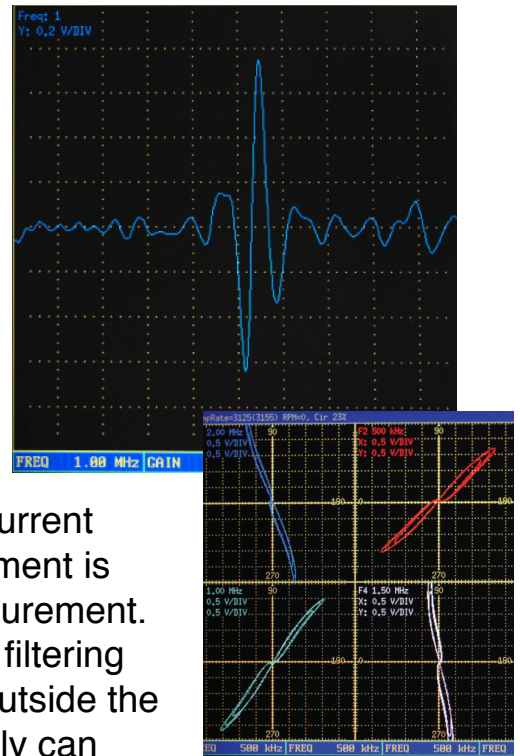


US-454A Multi-Frequency Eddy Current Instrument

The new **US-454A** brings the most innovative multi-frequency eddy current technology to the marketplace. This instrument has transformed eddy current testing by offering single and multi-frequency inspection; frequency mixing capabilities; unprecedented signal-to-noise ratio; USB and Ethernet connectivity; data storage capabilities; and superior digital strip chart data collection.



Built on the rugged US-454 architecture, the US-454A serves many applications in the field or the laboratory—any applications that demand high-level, accurate, and flexible eddy current testing. This instrument is



also uniquely suited for conductivity and thickness measurement. The US-454A's unprecedented signal-to-noise ratio and filtering capabilities are ideal for specialty applications that are outside the scope of what eddy current inspection equipment typically can provide. The US-454A can be configured to 1, 2, 3, or 4 frequencies, depending on requirements. Special mixing and filtering capabilities can meet the needs of numerous specialty applications.

US-454A Multi-Frequency Eddy Current Instrument

CONTROL FEATURES

- Continuously variable control knob for selecting and changing instrument settings
- Scrolling menu
- Programmable push-button function keys
- Display, Erase, Clear, Null, and Enter keys

DISPLAY

- 6.5" diagonal, color flat-panel LCD
- Selectable X/Y impedance plane, oscilloscope waterfall (sweep) with speeds of 1-10 ms/div
- Selectable mode, including strip chart and impedance plane, shown individually or together
- Sensitivity scaling of 0.01, 0.02, 0.05, 1.0, 2.0, 5.0 V/div
- Auto clear of 0 – 10 sec, in 1-sec intervals
- Variable persistence of 0 – 10 sec
- Trace dot to show precise location of null point
- Choice of size and configuration of null point
- Null point can be positioned for operator convenience
- Rotation (phase) 0 – 359°

FREQUENCY

- 20 Hz – 15 MHz
- Adjustable to 3 digits of precision

NUMBER OF FREQUENCIES ENABLED AT SAMPLE RATE

- 1 freq at ≤ 25 KHz
- 2 freq at ≤ 6 KHz
- 3 freq at ≤ 4 KHz
- 4 freq at ≤ 3 KHz

PROBE DRIVES

- Standard probe drive adjustments: Low, Med, High
- Continuous probe drive adjustments: 0 – 100%
- 7.0 Vpp max

GAIN

- 0 – 114.0 dB
- Adjustable to 3 digits of precision above 9.9 dB; adjustable in 0.1 dB increments below 10 dB
- X/Y spread increases gain in X or Y axis up to 42 dB (Total max gain in either axis = 114.0 dB)

FILTERS

- Lo- and High-pass selectable from 0 – 10 KHz
- Adjustable to 3 digits of precision

PROBE TYPES

- Absolute, differential, reflection, and differential reflection

DATA STORAGE

- Programmable test setups; store up 1,000 test setups
- Up to 250 individual 4-MB data files on a 1-G card
- File storage: BMT and text or Report (Use with optional report software for quick and accurate documentation.)

CONTROL FEATURES

- **Type:** Rectangular, elliptical, high- and low-bar dual and single alarms
- **Outputs:** TTL, open collector, audio, headphone

INPUT/OUTPUT PORTS

- RS-232 serial port for remote control
- Ethernet for remote control and data transfer
- Analog outputs of ± 10 V
- Probe connection via 8-pin Burndy
- Scanner connection via 16-pin Fischer
- Auxiliary I/O port for encoders, Pulse On position, etc.
- RGB output for external monitor
- Clear/Null input lines
- Alarm Out and Alarm Audio
- USB port for keyboard and Data Out
- SD card slot

POWER

- Lithium ion rechargeable battery pack, 10.8 V, 5400 mAh
- Universal power supply and power cable for operation and battery recharge
- LED battery power indicator

GENERAL

- **Case:** Uniframe design over-molded grips; drip- and dust-proof
- **Dimensions:** 11.5" long \times 7.5" high \times 3" deep
- **Weight:** 5 lbs. with battery; 4 lbs. without battery

OPERATIONAL FEATURES

- Video LCD with external RGB output
- Eddy current impedance plane with 1, 2, 3, or 4 frequencies
- Selectable grid, background and signal color
- Two-frequency mixing capability
- Data recording of all frequencies (length of recording dependent on sample rate and number of frequencies)
- Zoom feature on recalled data
- Data storage to memory card (amount of data dependent of memory card size)
- Two encoder inputs for position stamping of data
- Pulse-On position for motion control applications
- Ethernet connectivity for instrument control, along with time/position-stamped data transfer to client computer
- 16-bit resolution digital data
- Rugged storage and shipping container
- Standard and special application probes and delivery mechanisms

Specifications are subject to change without notice.

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