

NEXUS-M

MULTICHANNEL ULTRASONIC SYSTEM



NEXUS-M is a configurable multichannel system designed for ultrasonic testing in the industrial field. It is reasonable in cost yet retains the same quality, accuracy and reliability as the NEXUS US PCI board.

NEXUS-M is composed of a PC with a NEXUS-M board and an external MUX multiplexer board for the configuration of up to 8 channels.

Multiple boards can be used, proportionally increasing the available channels: 2 NEXUS-M boards and 2 MUX boards provide 16 channels and so on.

In the configuration with two or more boards, one board is recognized as master with the others as slaves.

TECHNICAL FEATURES:

- Transmitter: 125/250 V square wave pulse with 5 ns rise-time and adjustable width (on MUX board)
- Time base range: 3 mm to 3900 mm ($V=5900$ m/s)
- Delay: up to 1950 mm at 5900 m/s (0-655 ms)
- PRF (Rep Rate): 20 Hz to 20KHz (0-20 KHz Trigger ext.) divided according to the number of channels
- Dynamics: 105 dB
- Gain 1: 70 dB, step up to 0.1 dB
- Gain 2: 70 dB, step up to 0.1 dB, starting after the DAC area



- Filters: 0.5-1-2-2.25-5-10-15 MHz and BB
- Waveform: positive, negative, full wave and RF
- Reject: from 0% to 50%, step 1%
- DAC: dynamic 70 dB with slope 40 dB/ms max
- Gates: 3, one for interface and two independent for flaws
- Syncro video: TX, gate 1, gate 2, interface
- Syncro gates: TX, interface, echo-echo
- Noise suppression: positive from 1 to 30 or negative from -1 to -30 number of violations
- Thickness measurement: main pulse to echo, multiple echoes and echo-echo with 10 (5) ns resolution without WT

- Outputs: 9 TTL+ 8 ANA for each NEXUS-M board
- Trigger: internal/external
- Board size: full-size PCI board
- NEXUS-M connectors: TX, RX, RF coax and HE10 with 26 pins for I/O signals
- MUX connectors: 8 RX, 8 TX coax, 1 RX coax + HE10, 10 pins for Nexus-M, RS232 for PC
- Pre-amplifier: +12 dB (MUX board)
- MUX board size: 250x190x20 mm

- A-scan: configurable multi A-scan display
- Adjustments: common for all channels for each NEXUS-M board, apart from the following which are independent for each channel: gain 1, gates 1-2, DAC position, TTL-ANA outputs.

Acknowledged as "HIGHLY QUALIFIED LABORATORY" with decree D.M. 9-10-1985 - L.46/82 art.4

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