

# PANAMETRICS EPOCH IV



## GENERAL DESCRIPTION

The Panametrics-NDT™ EPOCH 4 is an advanced digital ultrasonic flaw detector that combines powerful, fully featured measurement capabilities, a comprehensive internal datalogger, and a wide range of software options to solve many demanding inspection problems. Signal processing features include a 25 MHz bandwidth to permit testing of thinner materials, a selectable square wave pulser to optimize penetration on thick or attenuating materials, and narrowband filters to improve signal-to-noise in high gain applications. The EPOCH 4 incorporates rugged packaging and a conveniently organized directaccess keypad, and offers the choice of high-resolution Liquid Crystal or Electroluminescent displays.

A large capacity datalogger allows field storage of test data that can then be transferred to the PC via its versatile GageView PRO Interface Program.

**EASY AND FAST OPERATION** The EPOCH 4 with its robust packaging design, large display, and functional color-coded keypad provides easy and fast operation in difficult inspection environments. Important keys such as Gain, Freeze, Save Thickness, Save Waveform, Enter, and Slewing Keys are grouped together for easy thumb control and one-handed operation of all critical parameter settings. The five Function keys allow quick access to preset parameter values that can be customized by the operator.

### FEATURES

- Customizable narrowband filtering
- Selectable, tunable square wave or negative spike excitation pulser
- Light, ergonomically designed (5.7 lbs / 2.6 Kg)
- Fast minimum 60 Hz electronics update rate
- High-power NiMH battery
- Large, bright, high-resolution ELD or LCD with full/split screen views
- Automated transducer calibration
- 400" (10,000 mm) full screen range at longitudinal velocity of steel
- Superior minimum range capability (0.038" or 1 mm full scale at longitudinal velocity of steel)
- Display Freeze holds waveform and soundpath data
- Soundpath data viewable in inches, millimeters, or microseconds
- Peak Hold and Peak Memory
- RF display mode
- Alarms, threshold positive/negative, or minimum depth
- Dual Gate with Echo-to-Echo measurements
- Security Key enables remote upgrade of software options



**Making  
technology  
work for you!**

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Accredited to BS EN ISO 9001:2000

# PANAMETRICS EPOCH IV

## TECHNICAL SPECIFICATIONS

### MEASUREMENTS

Sensitivity: 110 dB Max and Reference level sensitivity feature with 6 dB or 0.1 dB selectable resolution

Auto Transducer Calibration: Automated calibration of transducer Zero Offset and/or Velocity

Reject: 0% to 80% of full scale in 1% increments

Units: English, Metric, or Microseconds

Material Velocity: 0.025 to 0.6000 in/isec (635 to 15240 m/S)

Range: Standard 0.038 inch to 400 inch (1 mm to 10,000 mm)

Refracted Angle: Fixed settings of 0°, 30°, 45°, 60°, 70°, or variable from 10° to 85° in 0.1° resolution

Peak Memory: Simultaneous display of live A-scan at 60 Hz update rate and peak envelope of A-scan display

Peak Hold: Freezes Peak Memory echo envelope for waveform comparison with live A-scan

Pulsar Type, User Selectable: Tunable square wave, negative spike excitation

Pulse Energy: Low (100 V), Medium (200V), High (300V), and Max (400V)

Damping: 50, 63, 150, and 400 ohms

Rectification: Full Wave, Half Wave Positive or Negative, and unrectified RF settings

Analog Bandwidth: 0.05 MHz to 25 MHz at -3 dB

Filters: Broadband, Narrowband, or Custom Selectable Low and High Pass Filters

Test Modes: Pulse Echo, Dual, or Through Transmission

Alarms: Selectable threshold positive/negative or minimum depth modes

### DISPLAY

Display: 320 pixels (W) X 240 pixels (H), ELD or LCD screens

Display Update Rate: Minimum 60Hz

### POWER SUPPLY

Power Requirements: AC Mains: 100-120VAC, 200-240VAC, 50-60Hz

Battery: Internal Rechargeable NiMH battery pack rated at 12 V at 4000 mAH

Battery Operating Time: ELD 7 hours nominal. LCD 10 hours nominal. 2 hours typical Recharge Time

### OUTPUTS

High Speed Parallel Port: Allows rapid communication to external devices and B-Scan encoder communication

Analog Output: Keypad selectable voltage output of depth or amplitude data

VGA Output Port: Connects to standard VGA monitor or A/V projector RS-232

Communications Port: Allows interfacing with PCs and printers. Max Baud Rate 38.4

### GENERAL

Keypad: English or International symbols

Languages: Available in keypad selectable languages: English, French, German, Spanish, Italian, Russian, Japanese, and user-defined custom languages

Transducer Cable Connectors: Fits BNC or Number 1 Lemo®

### Dimensions:

(ELD) 11.15" H x 6.55" W x 2.6" T  
(LCD) 11.15" H x 6.55" W x 2.4" T

Weight: 5.7 lbs. (2.6 Kg) with battery

Operating Temperature: ELD/ -20°C to 50°C (-4°F to 122°F)  
LCD/ 0°C to 50°C (32°F to 122°F)

Storage Temperature: -40°C to 70°C (-40°F to 158°F) depending on battery and display

PC Requirements: PC running minimum Microsoft® Windows® XP®, Microsoft Windows 2000®

Warranty: One year warranty, battery not included. Optional second year warranty available

### STANDARD INCLUSIONS

EPOCH4, Advanced Microprocessor-Based Ultrasonic Flaw Detector. Includes:

- EP4/MCA Mini Charger Adapter
- EP4/BAT Nickel Metal Hydride Rechargeable Battery
- EP4/CAL-NIST NIST Calibration Certificate
- EP4/MAN Instruction Manual
- EP4/TC Transport Case
- EP4/PS Stainless Steel Pipe Stand
- EP4/HS Hand Strap

### OPTIONAL ACCESSORIES

EP4/SC Shipping hard shell case  
EP4/BAT-AA Alkaline battery pack  
EP4/EC External stand-alone charger  
EP4/RPC Rubber protective carrying case  
EP4/PR Printer: 110-120 V  
EP4/PRE Printer: 230-240 V  
EP4/DP-E Display Protectors (ELD)  
EP4/DP-L Display Protectors (LCD)  
EP4/C-15VGA-6 VGA cable  
EP4/C-25PRL-6 Parallel port cable  
EP4/C-9FAT-6 Serial port cable  
GAGEVIEWPRO-SERIAL Interface program



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