

PortaScan 007

Portable Corrosion Mapping System

Ultrasonic, Eddy Current and Bond Color Scan Imaging

PortaScan007



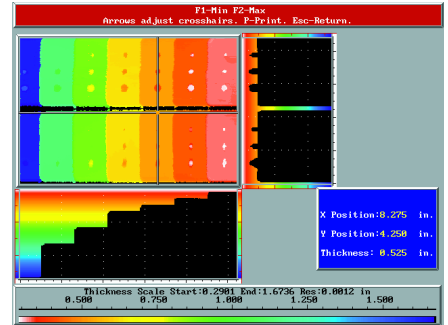
- Truly Portable & Easy to Use
- High Resolution Imaging of Ultrasonic Thickness/Amplitude Data
- Optional Automatic or Manual Scanners
- Non Invasive
- Non Destructive
- Scan Flat, Curved and Moderately Irregular Material
- Eddy Current Phase Plane Analysis (Optional)
- Mechanical Impedance Plane Bond Analysis (Optional)
- Detect Pitting, Corrosion, Laminations, Cracks
- Thru Paint and Coating Measurement Capability

PortaScan 007 Ultrasonic Color Scan Imaging

True Data Point Image Acquisition and Analysis Software

Not pixel based as with some other would be competitors, data array size is limited only by the smaller of the computer RAM, or 30,000 data points in either the X or Y axis. Scan areas

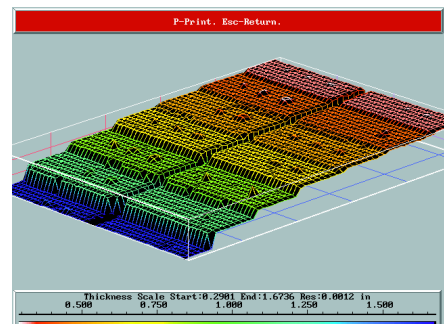
in acquired data; show dual axis (x and y) "B" scans or topographical 3D views of the entire "C" scan or **zoomed** area. 3D images can be enhanced by rotating them about their 3 axis (pitch, yaw, roll), and compressing or stretching the images. A histogram function is available to help optimize the color presentation as are



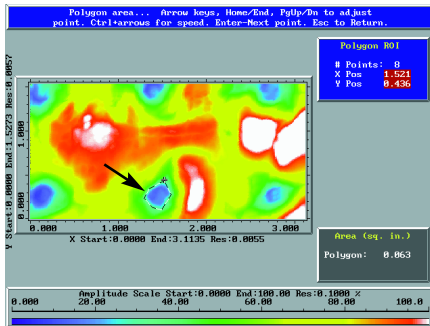
B scan of composite test block

No Computer Expertise Required

PS3-QBT intuitive menu driven software makes data collection, analysis and presentation easy. No prior computer knowledge is required. Every function, clearly directed by the software, can be selected by using only the **Enter**, **Escape** and **Arrow** keys. When you select **new scan**, Quantum's setup information is automatically uploaded to the computer, and the type of scanner, motorized or manual, is automatically detected. All you need to do is define the area you want to scan, **rectangular** or **irregular** to fit your needs. While scanning, a high resolution "C" scan image is displayed in your choice of a user selectable 256 color or grey, red, blue or green scale pallet. Prior to storage of the image, the Quantum A-trace of suspect areas may be evaluated by simply moving the scanner to the position in question. Since the optical encoders always know the precise location of the transducer, material obstructions encountered during scanning will not cause the **PortaScan 007** to lose it's place, permitting a complete image to be acquired. Professional test reports are automatic including the Quantum setup and all scan parameters. Operators need only to title the scan and add any optional descriptive comments.

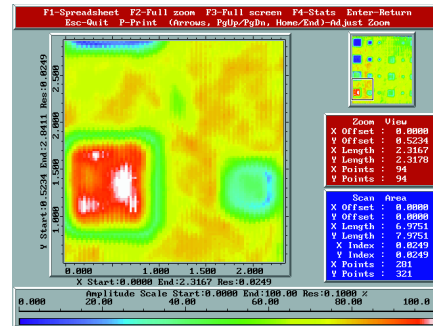


3D of composite test block



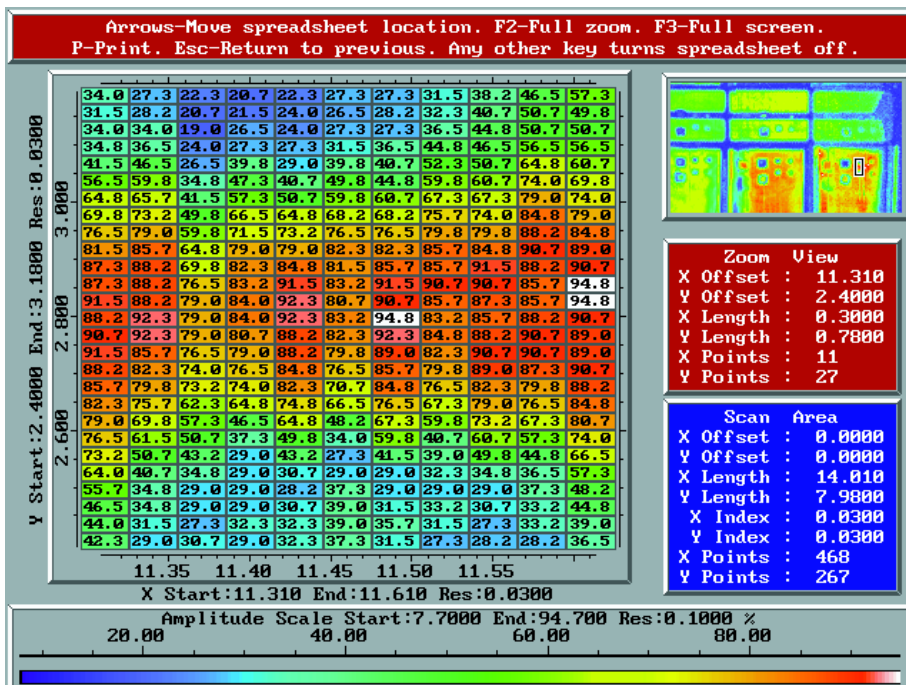
C scan showing polygon flaw sizing

are limited only by the choice of optional scanner. Scans can be indexed from 0.010" (.25 mm) to 2" (50 mm), and using the capabilities of the built-in Quantum instrument, material from 0.025" (.63 mm) to 9.999" (254 mm) can be tested. The PS3-QBT software holds your choice of the lowest, center or highest value of the data scanned. You can pan and zoom even to actual numbers



Zoomed image highlights anomaly

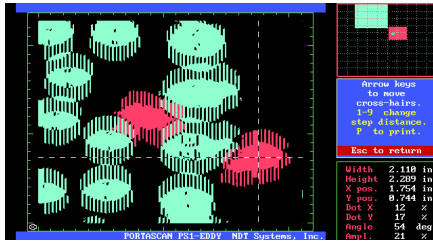
spreadsheets that display actual thickness or amplitude values. Flaws are sized via a user positioned ellipse, rectangle or polygon. Cross hairs allow the user to display an actual depth/digital amplitude readout of an acquired data point. All data can be exported to an ASCII text or binary file for input into other DOS or Windows based applications including Excel, Lotus and any other programs which import ASCII data.



Zoom spreadsheet of actual acquired data

PortaScan 007 Optional Eddy Current, Bond Testing and Accessories

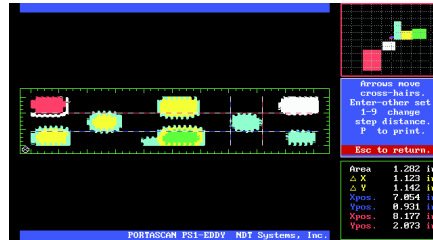
PortaScan 007 comes complete with analog inputs to connect to the BondaScope 2100, and eddy current instruments and bond testers from many manufacturers. Optional easy-to-use software works with either motorized or manual scanners to generate scaled color "C" scan images. Please call our customer service to verify whether your instrument is suitable for scanning.



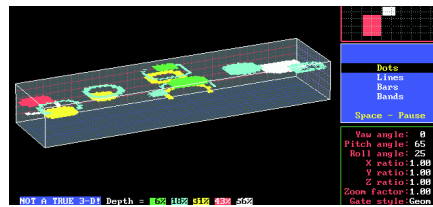
Corrosion beneath rivets on aircraft wing

PS1M-EDDY generates a scaled color "C" scan image with an inset window display of the eddy current flying dot. The operator has a choice of three types of adjustable flaw gates, Rectangular, Elliptical and Wedge, each producing different colors to enhance the "C" scan and its interpretation. Raw numerical eddy current data is stored for every pixel in the "C" scan image, which can be reprocessed at any time for image enhancement. Adjustable cross hairs can be used to size suspect regions. A pseudo 3D image

can be rotated about its 3 axes and compressed or stretched from its original scale to enhance image features.



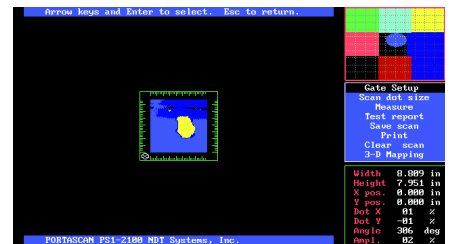
C scan of test block with dual cross hair flaw sizing



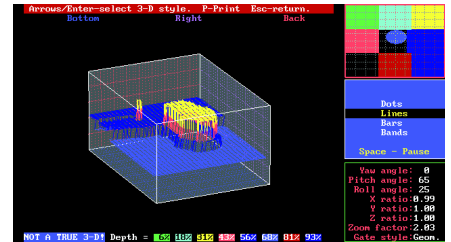
Pseudo 3D image enhancement of test block

PS1M-2100 generates a scaled color "C" scan image whose size and shape are operator selectable. Included is a display of the BondaScope 2100 (or other bond test instrument) flying dot impedance plane display in either of two adjustable satellite area (vector-sensitive) flaw gates, or a centralized multilevel "bulls eye" gate array (scaler-sensitive). These adjustable gates

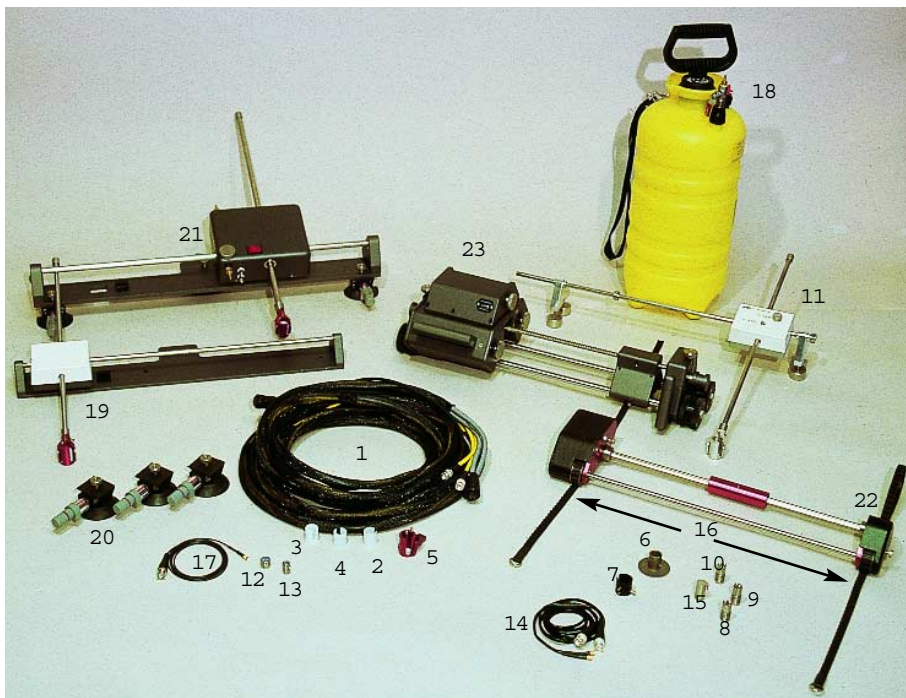
produce different colors to enhance the "C" scan image and its interpretation. A data inset window digitally displays the selected size (x/y) of the scan area, as well as the current location (x/y) of the scanning probe. Any "C" scan image can be reprocessed at any time, and equally important, the raw BondaScope flying dot data can be retrieved for any location by simply centering cross hairs. Adjustable pairs of cross hairs size suspect areas, and pseudo 3D image enhancements similar to the eddy current program are available for image presentation.



C scan image of boron epoxy composite patch



Pseudo 3D of boron epoxy composite patch



PortaScan 007 Accessories

- | | | |
|----|-------------|------------------------|
| 1 | 007CCB-25 | Control Cable Bundle |
| 2 | 2161 | Nylon Insert 1/2 inch |
| 3 | 2162 | Nylon Insert 3/8 inch |
| 4 | 2163 | Nylon Insert 1/4 inch |
| 5 | 2168 | Probe Holder |
| 6 | 72224-00-00 | Probe Insert (SS) |
| 7 | AE10402 | Probe Holder |
| 8 | AE10404 | 5MHz Dual Probe |
| 9 | AE10405 | 5MHz Dual Probe |
| 10 | AE10406 | 10MHz Dual Probe |
| 11 | AKC1 | Tank Scanner |
| 12 | C11 | 5MHz Transducer |
| 13 | D11 | 15MHz Delay Transducer |
| 14 | DMB01-02 | Cable Dual Element |
| 15 | DV506HP | 5MHz Dual Probe |
| 16 | FB1-18 | Flexible Belts (Set) |
| 17 | MB01-02 | Cable, Single Element |
| 18 | MPCV3 | Couplant Bottle |
| 19 | MS1-15x18 | MiniScanner Manual |
| 20 | MS1-SF1 | Suction Feet (Set) |
| 21 | MS1M-12x15 | MiniScanner Motorized |
| 22 | P1-12 | PipeScanner Manual |
| 23 | P2-12 | PipeScanner Motorized |

PortaScan 007 Rugged, Accurate, Repeatable, Easy

Combines the Portability, Performance and Price You Require

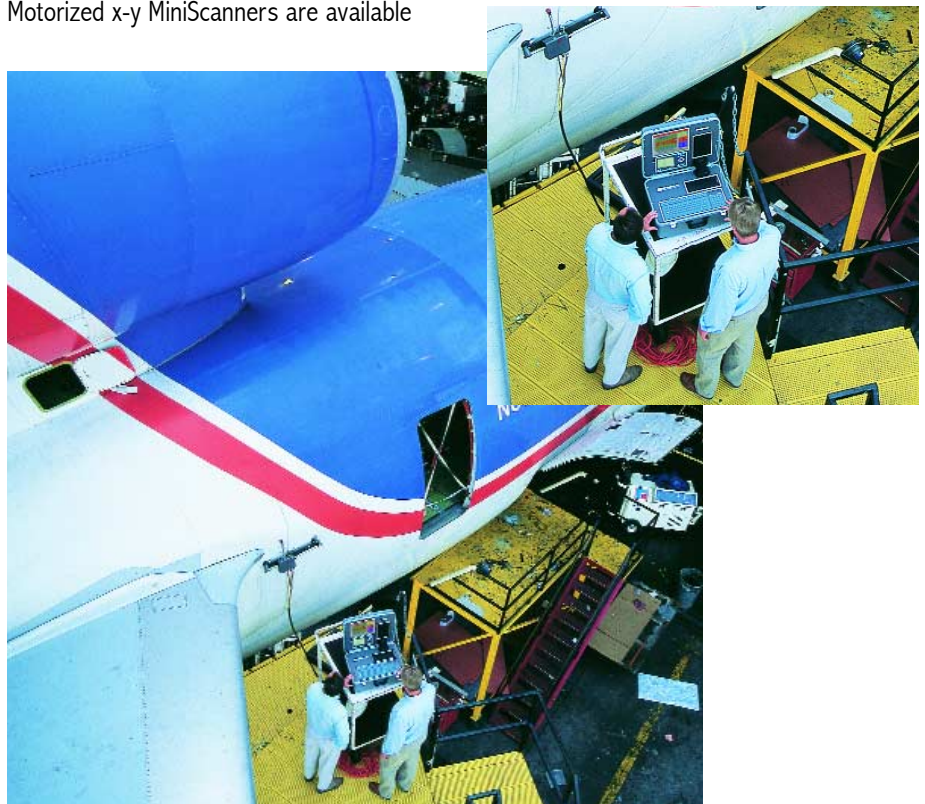
PortaScan 007 is a truly portable ultrasonic color scan imaging system. A powerful Quantum ultrasonic flaw detector/thickness gage, state-of-the-art computer with active matrix color display, and two axis motion control electronics are all built into a ruggedized suitcase that can fit thru the smallest of manholes. In fact, it's so small airlines treat it as carry-on luggage!! Yet PortaScan 007 offers features of systems at twice the weight and volume costing twice as much, or more.



Automated Scanners Increase Accuracy, Repeatability and Reliability

PortaScan 007 offers a complete choice of optional automated or manual scanners and various attachments (including suction cups, magnetic wheels and feet, adjustable pivot legs and cantilever extender arms) to allow you to customize your system for almost any requirement. Motorized x-y MiniScanners are available

for flat or moderately curved surfaces; and motorized PipeScanners to test pipe from 4" (101mm) O.D. or greater. When you use one of these motorized scanners you assure that virtually all potential operator induced errors are removed from the test.



Basic 007 System

- Pentium Class SBC computer
- Serial & parallel port for printers & peripherals
- 20+ GB IDE hard disk drive, others available
- 1.44 MB shielded floppy drive/pop-out door
- 128 MB RAM. Expandable
- Keyboard/annunciator
- Built-in 10"+ (254 mm) diagonal TFT active matrix 256 color display
- Connector for external color VGA display monitor
- Digital and analog inputs for external UT, EC or Bond instrument
- Encoder input for selected scanner device
- Maximum 39 pounds (18 Kg) with optional Quantum[®] and motor controls
- 17.5" x 20.5" x 10.25" (445 x 321 x 260 mm) size not including scanner or couplant vessel
- 110 or 220 volt 50/60 Hz switchable operation

Motor Control Features (optional)

- Built-in 2 axis motion control for motorized scanners
- Includes indexer, driver & power supplies
- Software configures scanner range & increment
- Maximum scan speed 6 ips (150 mm/sec)
- Scan index from < 0.010" to > 2" (0.25-50 mm)
- Either axis can be scan or index
- Automatically detects manual or motorized scanner

Quantum Flaw Detector Features (optional)

- Built-in full featured flaw detector & thickness gage
- RS-232 port for down & up loading data & set-ups
- Gate alarm output connector
- Provision for single or dual transducer
- Sealed tactile keypad and easy to use menus
- Super twist 5.25" (133 mm) LCD display/ backlight

Scanners (optional)

Model MS1M MiniScanners (Motorized)

- Portable X-Y scanner covers 12" x 15" (305 x 381 mm) or 18" x 24" (457 x 610 mm)
- Can be used on flat or moderate curved parts
- Precision rack and pinion gearing with 0.001" (0.025 mm) resolution
- Folding X-axis arm for compact storage
- Attached by suction cups

Model P2-12 PipeScanner (Motorized)

- Portable X-Y scanner for use on pipe from 4" (102 mm) diameter to flat material
- 13" (330 mm) Y axis range with unlimited X axis range (limited only by memory in the PortaScan)
- Utilizes high power magnetic wheels or flexible belts for non-magnetic materials
- Precision lead screw design with 0.001" (0.025 mm) resolution

Model MS1 MiniScanner (Manual)

- Covers 15" x 18" (381 x 457 mm) area

Model AKC1 TankScanner

Ultrasonic Image Acquisition and

Analysis Software Features (optional)

- 256 color or gray scale 640 x 480 images on built-in monitor or external monitor
- True data point acquisition limited only by available RAM
- Up to 30,000 data points per scan line & 30,000 scan lines limited only by available memory
- Display decimation selectable for lowest, highest or center of acquired data value
- Zoom from full image down to single data point
- High zoom factors display actual values at each data point
- Full range pan active up to highest zoom range.
- Fully scalable 3-D imaging with interactive pitch, roll, and yaw adjustment
- Unique dual axis B-Scan imaging on the zoomed area
- Motorized scanner follows intersection point on B-Scan image for defect location
- Palette manipulation of spectrum or quantized values
- Palette can be manipulated in B-Scan and 3-D displays
- Export data in ASCII or binary format
- Export data on a user defined grid of any value less than actual scanned increment
- Grid data export of intersection or center of grid
- Export lowest thickness or highest amplitude value within defined grid cell
- Store and retrieve images with header data
- Optional color paint jet printer for hardcopy output

Eddy Current and Impedance Plane BondTest Imaging Software Features (optional)

- Adjustable rectangular, elliptical or wedge shaped flaw gates (Eddy Current)
- Two Adjustable Satellite (Vector Sensitive), and one multilevel Bulls Eye (Scaler Sensitive) flaw gates (Impedance Plane)
- Flaw Gate color selectable
- Data Inset Window displays flying dot
- Stores and displays actual raw numerical Eddy Current or Bond test data
- Single or Dual Cross Hairs for flaw analysis
- Adjustable polygon, ellipse or rectangle for flaw sizing
- 3-D imaging with pitch, roll and yaw adjustment
- C Scan and 3-D Displays
- Palette can be manipulated in displays
- Store and Retrieve images with header data

Note: Each program is scaled specifically for use with particular instruments manufactured by Hocking, Staveley, Zetec and others. Not all instruments are suitable for scanning. Contact us for details.

Ordering Information

007 PortaScan Model 2010C

Portable Color Scan Imaging System includes all Basic System features plus built-in 2 axis motor controls, Quantum Ultrasonic Flaw Detector/ Thickness Gage, PS3-QBT Ultrasonic Image Acquisition & Analysis Software and rugged case.

Required Accessories

Scanner (1 required)

- MS1M-12x15 Motorized MiniScanner
- MS1M-18x24 Motorized MiniScanner
- P3-12 Motorized PipeScanner
- MS1-15x18 Non-Motorized MiniScanner

Control Cable Bundle (1 required)

- 007CCB Available in lengths from 25' to 150'

MPCV3 Couplant Vessel (1 required)

- 3 gal (11.4 L) pressurized couplant vessel

Probe Holder (1 required)

- 2168 Irrigated Probe Holder fits MS Series MiniScanners and P1-12 PipeScanner
- AE10402 Irrigated Probe Holder fits P3 Series PipeScanners

Probe Holder Insert (1 required)

- 2162 Nylon Collar for 3/8" O.D. Transducers
- 72224-00-00 Stainless Steel insert to accommodate 0.600" O.D. Probes

Transducers/Probes/Cables (1 required)

- C11 Transducer, Single Element, 5 MHz, 0.375" ele dia (fits 2162 insert) and MB01-02 Cable
- AE10404 Transducer, Dual Element, 5 MHz, 0.22" ele dia (fits 7224-00-00 insert) and DMB01-02 Cable

Other Accessories

Image Acquisition & Analysis Software

- PS1M-EDDY - Eddy Current
- PS1M-2100 - Bond Testing
- Custom Color Scan Imaging Programs for Other Manufacturer's Ultrasonic, BondTest and Eddy Current Instruments
- MS1-PA Pivot Foot Assembly
- P2-12ARM Cantilever Extender Arm for P2-12
- AKC1 Tank Wall Scanner
- MS1-SF1 Suction Feet

Printer

- Current Model

Note: Many Other Probe Holders, Inserts and Transducers are available. See Price List and Optima Catalog.

Specifications subject to change without notice

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Specifications subject to change without notice. (E & O.E.)