



CURLIN AIR

Portable, Ultrasonic Flaw Detector for Non-Contact Air Coupled Inspection of Attenuative or Liquid-Intolerant Materials

INSTRUMENT

P/N: 150-10000-1 - **CURLIN-AIR PACKAGE** Weighs 6.3 lbs. (2.9 kg) including batteries. Easy to read, ultra-fast LCD display A-trace. User friendly menu structure with context sensitive help screens for every menu item. Membrane push button controls. Direct access to range, delay & gain controls, audio/visual flaw alarms, as well as various menus through a front panel keypad. Features include 115db gain, . **Shipped complete with** Curlin Air instrument, Analog Output Option, AC charger/Power cord, rugged canvas carrying pouch with shoulder strap, hard-shelled pelican storage case and operating Manual.

ACCESSORIES, OPTIONS & SPARES

P/N: AT1 - **SPECIAL HI-POWER ACOUSTIC TRANSDUCERS** Two required, one as a transmitter and one as receiver (both interchangeable as transmitter or receiver). A L e m o t o B N C c o a x c a b l e (P /N: A T C-1 0 listed below) is needed to connect EACH transducer to the Curlin Air. For use in thru-transmission test mode with the Curlin Air.

P/N: AT2 - **MINI RECEIVER TRANSDUCER** Used for a variety of applications requiring either higher sensitivity and/or greater resolution or use in areas with restricted clearance. Beam diameter is approximately 1/8" at aperture. Microdot connector. The AT2 transducer is used as the RECEIVER and the AT1 transducer is used as the TRANSMITTER. A Microdot-to-BNC coax cable (P/N: MBA-10 listed below) is required to connect the probe to the Curlin Air instrument.

P/N: AT2YA **YOKE ADAPTER** attaches Model AT2-series mini-probe receivers to standard Curlin Air yoke.

P/N: MBA-10 **COAX CABLE** Special 10-foot BNC-Microdot receiver coax cable for use with Model AT2 series mini-probe receivers.

P/N: ATC-10 **LEMO TO BNC CABLE** - 10 Feet (One required for each AT1 transducer) ATC-10 connects the At1 to the yoke.

P/N: BBR01-10 **BNC to BNC CABLE** 10 feet to connect the yoke to the Curlin Air.

P/N: QTEBE-A **BATTERY CHARGER** Power Cord Provides direct AC operation of the CURLIN AIR without the need for a battery.

Replacement parts:

P/N: TEP1 CARRYING POUCH with shoulder strap. Lightweight, pack for carrying and using the CURLIN-AIR. The unit firmly fits into a form-fitting compartment supported by an adjustable angle and height such that the screen can be viewed just below normal line-of-sight. The neck strap is padded for comfort during extended use.

P/N: 150-80000 **YOKE ASSEMBLY, FIXED ENDS** For manually scanning materials (using a pair of AT1 transducers).

Replacement parts: (cont.)

P/N: 150-81000 YOKE ASSEMBLY, ONE FIXED END/ONE GIMBALED END For manually scanning materials (using a pair of AT1 transducers).

P/N: 150-80200 GIMBAL ATTACHMENT. Can be fitted to 150-80000 fixed end yokes.

P/N: 19-51035 PELICAN TRAVEL CASE Hard-shelled protective carrying case.

P/N: TE-232 PC INTERFACE CABLE

TX1 PACKAGE P3

TX1 Portable Coating Thickness Gage For Digitally Measuring Nonconductive (Dielectric) Coatings/Layers On Metal; Microprocessor-Based And Digitally Linearized; Rechargeable Battery-Powered And AC Powered; Charger Built In; Auto-Cutoff For Over-Discharge Battery Protection And Blinking Lo Battery Warning Lite; English And Metric Readout; Unprocessed Signal Mode For User-Generated Special Correlation Curves. RS232C Output Connector For Driving Digital Printers, Loggers, Computers, Statistical Analyzers, Etc.

PROBE MODEL P3 ONLY

TX1 PROBE

Medium - High Conductivity (Standard)	Housing Size (Dia. x Hgt.)	Contact Tip (Dia. x Shape)	Thickness Range/ TX1 Readout	Digital Resolution TX-1 Readout
P3	1 5/8" x 2 3/8"	1 1/16" x Flat	0 - 0.75"	±.001" to .500"
	42mm x 61mm	27mm x Flat	0 - 19.0mm	±.01" above .500"
				± .02mm to 10mm
				± .2mm above 10mm



NOVASCOPE 6000

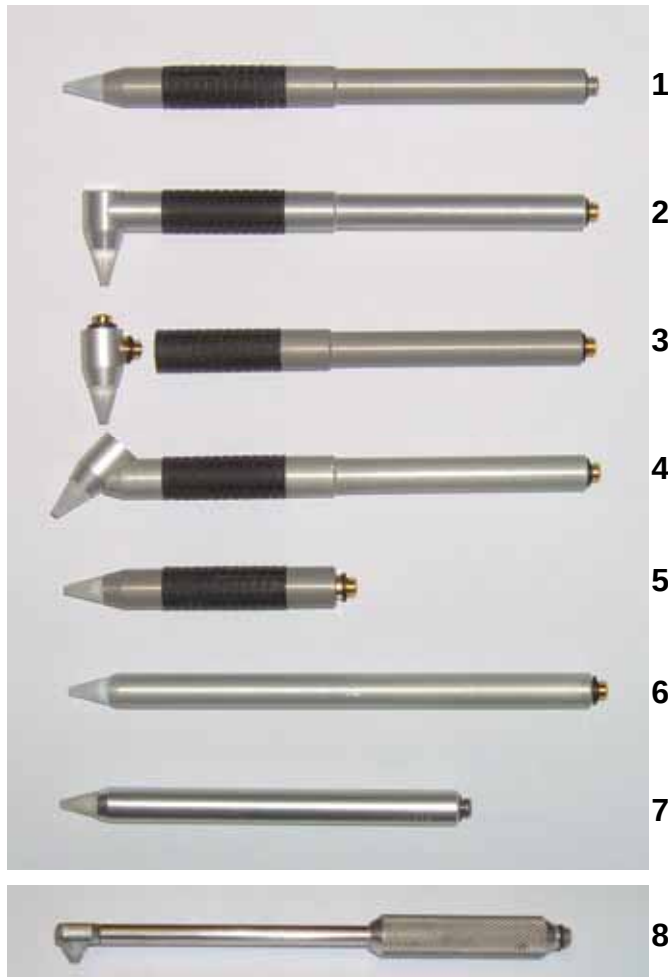
MODEL	INSTRUMENT
NOVASCOPE 6000	PRECISION ULTRASONIC THICKNESS GAGE The NovaScope 6000 features full color, Touch Screen Control presenting a familiar "Virtual" user interface replacing 40+ mechanical knobs & switches. Just touch the screen and rotate one knob or use our exclusive SLIDER to make changes. Thousands of user setups can be saved on the internal or removable external SD card for future recall and sharing setups with other instruments. Standard features on the 6000 include selectable 0.0001" or 0.001" digital resolution from as low as 0.0100" to 9.9999" thickness. The four digit "virtual" LED reads English or Metric, user selectable. The color TFT screen displays the A-trace in full RF or rectified RF along with gates. Outputs of the 6000 include alarms, analog thickness, and serial RS-232C & IP sync. Thickness amplitude control (TAC) for noise suppression and single or dual element transducers may be used. NOVASCOPE 6000 INCLUDES instrument, micro SD Card, User's Manual, Certificate of Compliance, and AC adapter and power cord.
	<u>ACCESSORIES</u>
NOVA-DTPW	DATA LOGGING & TRANSFER PROGRAM Moves Location And/Or Thickness Data From NovaScope instruments to Windows Compatible Computer. Requires Appropriate Optional Cable.

INTERFACE CABLES (Same as used with NOVASCOPE 5000)

6000-IBM-CPC	CABLE 6000 to PC, used with software "Computer Print Command" **
6000-IBM-F	CABLE 6000 to PC, incorporates <u>foot switch</u> for "Print/Log Command" to PC **
6000-IBM-H	CABLE 6000 to PC, uses <u>handheld switch</u> for "Print/Log Command" to PC
6000-IBM-FD	CABLE 6000 to PC, incorporates Dual foot switch for "Print/Log Command" to PC and toggle stop gate position. <u>Useful for wax on ceramic core measurements.</u>

Pencil Probes: AEX, PTX and VTX series

AEX Series



PTX Series



VTX Series



- | | |
|---------------|-----------|
| 1. AEX01C | 9. PTX1 |
| 2. AEX03C | 10. PTX2 |
| 3. AEX05C | 11. PTX3 |
| 4. AE02901 | 12. PTX4 |
| 5. AE12B03 | 13. PTX5 |
| 6. AEX01C-GE | 14. PTX6 |
| 7. AEX01C-GEA | 15. PTX6S |
| 8. AE12205 | 16. VTX1 |



Model: PTX2
Frequency: 15 MHz
Height: 0.350"
Removable delay line



Model: AE12205
Frequency: 12 MHz
Height: 0.350"
Removable delay line



Model: PTX5
Frequency: 15 MHz
Height: 0.250"
Removable delay line



Model: PTX6
Frequency: 15 MHz
Height: 0.175"
Removable delay line



Model: PTX6S
Frequency: 15 MHz
Height: 0.175"
Removable delay line



Model	Frequency
VTX1	15 MHz
VTX2	10 MHz
VTX3	5 MHz
Height: 0.150"	
Fixed delay line	





900 SERIES

<u>P/N</u>	<u>INSTRUMENT</u>
900 Package	PRECISION DIGITAL ULTRASONIC THICKNESS GAGE Standard package includes AUTOSET, Fully Adjustable Thickness/Velocity Readout, 64x128 Graphic LCD display, English/Metric units, RS-232C digital I/O port, 2ea NiMH batteries, and 1ea NiMH battery charger. Also includes Pelican Style Storage Case & Manual
910-R Package	PRECISION Benchtop, DIGITAL ULTRASONIC THICKNESS GAGE Standard package includes AUTOSET, Fully Adjustable Thickness/Velocity Readout, ½" LED display, English/Metric units, RS-232C digital I/O port, Universal AC Adaptor/Power cord, built in Battery Charger & NiMH Batteries.
930 Package	PRECISION DIGITAL ULTRASONIC THICKNESS GAGE Standard package includes AUTOSET, Fully Adjustable Thickness/Velocity Readout, 64x128 Graphic LCD display, English/Metric units, RS-232C digital I/O port, 2ea NiMH batteries, and NiMH battery charger. Pelican Style Storage Case & Manual <u>Additional Features include:</u> Ultra-High speed MIN/Alarm Capture. Thickness update also significantly increased (500Hz RepRate). Bandwidth to 35MHz... Delta Mode, Min Thickness Capture, HI/LO alarms, electronic control lock, 50,000 point Alpha Numeric Data Logger, Scrolling 'B' Scan, Data Transfer Software Kit. <u>Available Options:</u> Encoded 'B' Scan, Docking Station. Outputs for viewing Sync, Video, Measurement & AGC Gate on an external oscilloscope
950-R Package	PRECISION BENCHTOP, DIGITAL ULTRASONIC THICKNESS GAGE Standard package includes AUTOSET, Fully Adjustable Thickness/Velocity Readout, 64x128 Graphic LCD display AND ½" High Speed, High Contrast LED, English/Metric units, RS-232C digital I/O port, Rechargeable 'C' Cell Batteries externally replaceable. User's Manual <u>Additional Features include:</u> Ultra-High speed MIN/Alarm Capture. Thickness update also significantly increased. 500Hz RepRate. Bandwidth to 40MHz. Outputs for Sync, Video, Measurement & AGC Gate. Delta Mode, Min Thickness Capture, HI/LO alarms, electronic control lock, 50,000 point Alpha Numeric Data Logger, Data Transfer Software Kit, and scope outputs to view Detected RF, Video and Measurement gating. (Note... this mistakenly reads as optional on Data Sheet), Universal AC Adaptor, Built in Battery Charger & NiMH Batteries.
	OPTIONS & ACCESSORIES
LC900	PROTECTIVE CARRY CASE Canvas protective case with clear window for user accessibility to keys.
CC-110	EQUIPMENT CARRY CASE - Black Pelican Style case with custom cut foam padding. One provided with unit purchase. For 900 / 930 instruments
CC-TGBT	EQUIPMENT CARRY CASE - Black Pelican Style case with custom cut foam padding. One provided with unit purchase. For 910 / 950 instruments.
BP900	BATTERIES - Rechargeable AA -size NiMH high capacity batteries. Package of 4.

900-RBC	UNIVERSAL BATTERY CHARGER – Wall Mount Adaptor – 120/240 Volts – Recharges 900, 920 & 930 Removable NiMH Batteries. For use with NDT Systems supplied high energy batteries
AC910-R	UNIVERSAL AC ADAPTOR / BATTERY CHARGER – For use with 910 & 950 - For use with NDT Systems supplied high energy batteries.
TG900DT	DATA TRANSFER KIT - Transfers location and/or thickness data from all 900 series Thickness Gages to PC computer. Data Transfer Cable (Included on TG930 & TG950)
950-IBM-F	CABLE - Interconnect Cable, 3-feet long from 950 Series Bench top models to PC. RS232C output. Includes remote foot-operated switch to produce Single Thickness Transfer command and a 6-foot long cable.
950-IBM-H	CABLE - Interconnect Cable, 3-feet long from 950 Series Bench top models to PC. RS232C output. Includes remote hand-operated switch to produce Single Thickness Transfer command and a 6-foot long cable.

NOTE: To interconnect 900-Series models to customer peripherals, see the operating manual for detailed wiring diagram, pin callout for the standard 9-Pin connector, and baud rate selections.

<u>P/N</u>	<u>CABLES</u>
ML01	Transducer CABLE , Standard 6-Foot long, flexible transducercoax. Microdot to Lemo, RG174. Use with 900, 920 & 930
MBR01	Transducer CABLE , 6-Foot long, flexible transducercoax. Microdot to Lemo, RG174. Use with 910 & 950 Bench Top Units Above
MBG01	Transducer CABLE , 6-Foot Heavy Duty transducer cable. Use with 910 & 950 Bench Top Units Above

CB110 Cylinder Bore Thickness Gauge

<u>P/N</u>	<u>Description</u>
CB-110 Package	HANDHELD Cylinder Bore Thickness Gauge Package includes: 1ea TG-505R, convex radius face Standard Transducer with potted cable ready for most moderate cylindrical inspection requirements. Includes EXCLUSIVE Section Scan Mode and an Industry Specific "Engine Data Log Mode" 2 AA size alkaline batteries, operating manual, and Pelican style storage case.
CB110-H1	CB110 Package as above with exclusive HAMMER Cylinder Bore Inspection System. Bore size range 3.25" to 4.5". Incorporates pressurized couplant tank for smooth and even Section Scans. Makes cylinder bore inspection effortless. Includes larger Pelican style storage case.
CB110-H2	CB110 Package as above with exclusive HAMMER Cylinder Bore Inspection System. Bore size range 2.5" to 3.5". Incorporates pressurized couplant tank for smooth and even Section Scans. Makes cylinder bore inspection effortless. Includes larger Pelican style storage case.
	For Cylinder Bore diameters to either extreme please contact factory
	<u>TRANSDUCERS</u>
TG-505R	STANDARD PROBE Dual-element, top-mounted microdot connectors, 0.040 to 20.00 inches thickness range, 5 MHz, 0.30 inch diameter element 0.370 inch diameter by 0.590 inch long case. Side mounted cable.
PORT-01	Miniature Swivel Sensor Assembly used for the majority of cylinder head port work – Dual Element. Range 0.040" to 2" Mild Curvature of face for flat to moderately curved inspection surfaces. 5 MHz, 0.22 inch diameter element, 0.325 inch diameter contact face by 0.45 inch tall case. Sensor mounted at the end of a 6" long handle assembly. <i>"Requires LMD1 cable (not included... See Below)."</i>
PORT-02	Miniature Swivel Sensor Assembly used for the majority of cylinder head port work – Dual Element, Detachable Cable, 0.040 to 2 inches thickness range. Convex shaped face to fit within smaller radii down to 0.75". 5 MHz, 0.22 inch diameter element, 0.325 inch diameter contact face by 0.45 inch tall case. Sensor mounted at the end of a 6" long handle assembly. <i>"Requires LMD1 cable (not included... See Below)."</i>
PORT-03	Miniature Swivel Sensor Assembly used for the majority of cylinder head port work – Dual Element, Detachable Cable, 0.025 to 0.5" inches thickness range. Convex shaped face to fit within smaller radii down to 0.75". 7.5 MHz, 0.22 inch diameter element, 0.325 inch diameter contact face by 0.45 inch tall case. Sensor mounted at the end of a 6" long handle assembly. <i>"Requires LMD1 cable (not included... See Below)."</i>

	<u>ACCESSORIES - Optional</u>
CB110DT-USB	DATA TRANSFER CABLE & CB110-XFER Data Transfer Software Connects CB110 to USB port of PC for download of logged Engine and other data. Software prepares and prints Professional Cylinder Bore Reports for customer presentation.
LMD1	PORT Series PROBE CABLE Dual coaxial cable, 6 feet long, Microdot and miniature Lemo connectors.
BC-110	SLIP-ON INSTRUMENT CASE Canvas case with cutouts for instrument display, push-button controls and probe connectors, a snap lock integral handhold or belt loop.
MPCV3	Portable manually pressurized couplant tank with 20' feed tube, 1.3 gallon capacity



H1 & H2 Style Hammer Probe
Suits a Large Variety of Bores



Head Porting Probe
This one shown with Bend. Standard configuration is Straight Shaft, Ready For User Configuration



TG-505R Probe



H1 & H2 Hammer Kit: Includes Gage, Hammer Probe, Standard Probe, Instructive User's Manual, Rugged Case, Pressurized Couplant Container, Gel and Training CD





TG410

<u>MODEL</u>	<u>INSTRUMENT</u>
TG410 PACKAGE	PRECISION DIGITAL ULTRASONIC THICKNESS GAGE Standard package includes AutoSet, Fully Adjustable Thickness/Velocity Readout, 240x320 Graphic LCD display, English/Metric units, USB digital I/O port, 20,000+ Point Data Logger including A-Scans, B-Scans. Incorporates 30 character file naming. Use 3 or 6ea NiMH batteries (6 supplied), a NiMH battery charger, and Pelican Style Storage Case & Manual
LCATR	PROTECTIVE CARRY CASE Canvas protective case with clear window for user accessibility to keys.
BPATR	BATTERIES - Rechargeable AA -size NiMH high capacity batteries. Package of 3.
ACATR	UNIVERSAL AC ADAPTOR / BATTERY CHARGER –For use with NDT Systems supplied high energy batteries.
TG410DT-USB	DATA TRANSFER KIT - Transfers location and/or thickness data from all Nova A-Trace series Gages to PC. Includes Data Transfer Cable.
	<u>CABLES</u>
ML01	TRANSDUCER CABLE Standard 6-Foot long transducer coax, Microdot/Lemo, RG174.
BL01	TRANSDUCER CABLE Standard 6-Foot long transducer coax BNC/Lemo, RG174.



TG210

<u>MODEL</u>	<u>INSTRUMENT</u>
TG210 PACKAGE	MINIATURE ULTRASONIC THICKNESS GAGE General purpose, dual element, thickness gauge with A-Trace. General use is corrosion/erosion and general thickness measurements as in the TG110. Standard TG210 is fully adjustable and recognizes the TG110 type probes but lets the customer use their own transducers if needed. Time-based B-Scan and data logger included. Package includes Battery Charger, Pelican style storage case, Couplant and Operations Manual.
	<u>OPTIONS & ACCESSORIES</u>
LCATR	CANVAS CARRYING CASE Canvas protective case with clear window for user accessibility to keys.
BPATR	BATTERIES - Rechargeable AA -size NiMH high capacity batteries. Package of 3.
AC_ATTRACE	UNIVERSAL AC ADAPTOR / BATTERY CHARGER – For use with A-Trace Gages - For use with NDT Systems supplied high energy rechargeable batteries.
TG210DT-USB	DATA TRANSFER KIT - Transfers location and/or thickness data from all Nova A-Trace series Gages to PC compatible computer. Includes Data Transfer Cable.
	<u>CABLES</u>
ML01	TRANSDUCER CABLE Standard 6-Foot long transducer coax cable, Microdot/Lemo, RG174.
BL01	TRANSDUCER CABLE , Standard 6-Foot long transducer coax cable, BNC/Lemo, RG174.



TG110-DL Series

<u>MODEL</u>	<u>Description</u>
TG-110 PKG 208 TG110 PKG 502 TG110 PKG 505 TG110 PKG 506 TG110 PKG 560P	MINIATURE ULTRASONIC THICKNESS GAGE Each of these packages includes: One Standard Transducer (select TG208, TG502, TG505, TG506 or TG5060P), 2 AA size alkaline batteries, operating manual, and Pelican style storage case. LMD1 Cable included when selecting TG208 or TG506 transducers. TG110 PKG 560P includes TG110-T software.
TG110-T	THROUGH PAINT MEASUREMENT CAPABILITY Switches gage to multi-echo mode providing the ability to ignore surface coating thickness of up to 0.080". Requires TG-560P Through Paint Probe (not included) and factory installation of software.
	<u>ACCESSORIES</u>
TG110DT-USB	DATA TRANSFER CABLE & TG110-XFER Data Transfer Software Connects TG110 to USB port of PC for download of logged data in an ASCII format for easy import to Excel or other analysis software.
BC-110	BALLISTIC NYLON SLIP-ON INSTRUMENT CASE Contoured Canvas Carrying Case with cutouts for instrument display, push-button controls and probe connectors, with snap lock integral handhold or belt loop.



BondaScope 3100 and Accessories

MODEL	INSTRUMENT
Bond 3100 PKG	ULTRASONIC BOND TESTER The BondaScope 3100 incorporates features including Pitch-Catch Mode, Resonance Impedance Plane Mode, and an adjustable, Hi-Energy fixed frequency Mechanical Impedance Analysis Mode (MIA). MIA is available in Swept Frequency (SweepMI) Mode resulting in more useful and interpretive data. Bond 3100 Pkg includes: Li-Ion Smart Battery, 110/220VAC Universal Charger, USB Cable and software, Operating Manual, Pelican Style Storage Case, and COC

Resonance Probes – Laminate BondaScope 3100

L3110	Resonance Probe – 110KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Equivalent to Bondmaster Series S-PR-3, S-PR-3L Type Frequency Range 90 to 150 KHz
L3165	Resonance Probe – 165KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 - L1 Type
L3200	Resonance Probe – 200KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – L4 Type Frequency Range 190 to 210 KHz – diameter to be specified
L3201	Resonance Probe – 200KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – L4 Type Frequency Range 190 to 210 KHz – different diameter
L3250	Resonance Probe – 250KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Equivalent to Bondmaster Series S-PR-5, S-PR-5L Type Frequency Range 230 to 270 KHz
L3280	Resonance Probe – 280KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – L2 Type Frequency Range 260 to 300 KHz
L3330	Resonance Probe – 330KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – L3 Type. Equivalent to Bondmaster Series S-PR-6, S-PR-6L Type Frequency Range 310 to 360 KHz
L3370	Resonance Probe – 370KHz – Laminated Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – L6 Type Frequency Range 355 to 385 KHz

Resonance Probes – Honeycomb Applications – BondaScope 3100

H318	Resonance Probe – 18KHz – Honeycomb Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – H1 Type
H326	Resonance Probe – 26KHz – Honeycomb Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – H2 Type
H330	Resonance Probe – 30KHz – Honeycomb Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – H2 Type
H353	Resonance Probe – 53KHz – Honeycomb Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – H2 Type
H360	Resonance Probe – 60KHz – Honeycomb Structures - 6 Pin Connector – NDT Auto I.D. Replaces BondaScope 2100 – H2 Type

Pitch-Catch Probes – BondaScope 3100

PCLS31	Pitch-Catch, Low Frequency – TONE BURST - SPRING LOADED
PCMS31	Pitch-Catch, Medium Frequency – TONE BURST - SPRING LOADED
PCHS31	Pitch-Catch, High Frequency – TONE BURST - SPRING LOADED
PCL32	Pitch-Catch, Low Frequency – TONE BURST - FIXED TIP
PCM32	Pitch-Catch, Medium Frequency – TONE BURST - FIXED TIP
PCH32	Pitch-Catch, High Frequency – TONE BURST - FIXED TIP
PCLHV32	Pitch-Catch, Low Frequency - HIGH VOLTAGE TONE BURST - FIXED TIP*
PCLHVS32	Pitch-Catch, Low Frequency - HIGH VOLTAGE TONE BURST SPRING LOADED*
PPCHPS31	Pitch-Catch, Low Frequency – PULSED - HIGH POWER SPRING LOADED*
PC-TIP	Replacement Tips for ACTIVE Part of Pitch-Catch Probes – AMBER in color Incorporates Snap-In design to prevent Foreign Object contamination
PC-FEET	Replacement Stabilizing Tips. Sold in sets of 3

Mechanical Impedance Analysis (MIA) Probes – BondaScope 3100

M31	Mechanical Impedance Probe – MIA 1/4" Tip
M32	Mechanical Impedance Probe – MIA 3/8" Tip
M33	Mechanical Impedance Probe – MIA 1/2" Tip

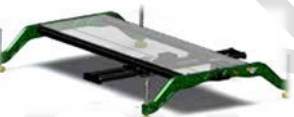
Probe Kits

BPK-01	This BPK-01 includes: Resonance L3110 - 110 KHz L3250 - 250 KHz L3330 - 330KHz Pitch-Catch PCMS31 – Medium Frequency – Spring Loaded Tips PCLHVS32 – High Voltage Tone Burst – Spring Loaded Tips MIA M32 - Medium Tip Mia MIA-SL – MIA Spring Loaded Housing Cables & Accessories BL8-BL8 – Lemo 8 Pin to Lemo Pin (MIA & P-C) BL8-S6 – Lemo 8 pin to 6 Pin – (Resonance) Accessories Liquid Couplant (4oz) Pelican Style Storage Case
BPK-02	This BPK-02 includes: Resonance L3110 - 110 KHZ L3250 - 250 KHZ L3370 - 370 KHZ Pitch-Catch PCMS31 - Medium Frequency – Tone Burst – Spring Loaded PCLS31 - LOW Frequency – Tone Burst – Spring Loaded PCHS31 - HIGH Frequency – Tone Burst – Spring Loaded PPCLHPS31 - Pulsed Pitch Catch – High Power – Spring Loaded CABLES BL8-BL8 – Lemo 8 Pin to Lemo Pin (MIA & P-C) BL8-S6 – Lemo 8 pin to 6 Pin – (Resonance) Accessoires Liquid Couplant (4oz) Pelican Style Storage Case

Cables & Accessories – BondaScope 3100

BONDDT-KIT	BONDASCOPE DATA TRANSFER SOFTWARE & CABLE Connects BondaScope 3100 Data Port to USB Port of PC for download of Stored Data in a BMP format for easy import to Word, PowerPoint or other software reporting tools.
BL8-S6	PROBE CABLE – Resonance Probes Lemo 8 pin to 6 Pin Connector – 8 feet long
BF11-L8	PROBE CABLE – Pitch Catch & MIA Fischer 11 pin to Lemo 8 Pin.
BF11-F11	PROBE CABLE – 3100 to BondmasterPitch-Catch and MIA Probes Fischer 11 pin to 11 Pin Fischer Connector – 8 feet long – Bondmaster compatible
BL8-BL8	PROBE CABLE – 3100 to Pitch-Catch – For Use with all BondaScopes Lemo 8 Pin to Lemo 8 Pin – 8 feet long
MIA-SL	RIGHT ANGLE, SPRING LOADED HOLDER Fits all MIA Probes
LC3100	Canvas Carry Case for BondaScope 3100. Incorporates a removable neck strap.
CC3100	EQUIPMENT CARRYING CASE Black Pelican Style Case, with custom cutout foam padding & plastic couplant squeeze bottle.
BP3100	Battery Pack for BondaScope 3100
AC3100	AC Adapter and Battery Charger for BondaScope 3100
BCL-1	Conditioning, external rapid charger for BP-3100. Charge, conditions and recalibrates primary and/or additional battery packs.

BondHub Imaging Bond Tester

	P/N	Description
	BondHub	- BondHub integrated in a Pelican case includes batteries, AC charger, and user's manual. Windows 7, 1GHz processor 128Gb solid state HDD, CompVu software, keyboard, mouse, 12 inch sun-readable display. - Pitch-Catch, Mechanical Impedance (MIA), Resonance modes capable - Multiple scanner capable 7.5"Hx21"Wx16"D (191x533x406mm) 25lb (11kg) BondaScope 3100 not included.
	String Scan II	Lightweight X-Y large area manual scanner for use with BondHub. 0.020" Resolution. Includes suction feet. Select appropriate probe holder
	SlideScan	Lightweight, high resolution manual X-Y scanner, compatible with BondHub and Phased-Array systems from other manufacturers. 0.006" resolution. Select appropriate probe holder. Optional PAUT cable adapter, PAUT probe holder 3 X-Y sizes available: SlideScan 18x18 SlideScan 24x24 SlideScan 36x36
	Tunnel Scan	Automatic, high resolution X-Y scan bridge for use with BondHub on mild radii to flat surfaces. 0.001" resolution, 12x18" scan area. Includes on-board vacuum feet & pump, 2x Li-ion batteries (RBP-1), Select appropriate probe holder.
	Tunnel Scan II	Automatic, high resolution X-Y scan bridge for large areas- 40x50" scan area. 0.020" resolution. Adjustable height in one inch increments. Select appropriate probe holder. AC powered.
	Tunnel Scan III	Automatic, high resolution X-Y scan bridge for large areas- 40x60" scan area. 0.020" resolution. Adjustable height in one inch increments. Select appropriate probe holder. AC powered.
	CrosScan II	Automatic, standard resolution X-Y scanner for use with BondHub on mild radii to flat surfaces. 0.020" resolution. 24"x24" scan area. Self-contained motor control, batteries with external charger, and on-board vacuum pump for vacuum feet. Select appropriate probe holder

	BondHub Interface Cables	StringScan and SlideScan = SSCAN-BH Cable CrossScan = CSCAN-BH Cable TunnelScan = TSCAN-BH Cable
	Probe Holders	SSH-PC - StringScan holder for Pitch-Catch Probes <u>ONLY</u> For CrossScan, SlideScan and TunnelScan use: BHH-L3xxx for ALL Resonance Probes BHH-MIA for ALL MIA Probes BHH-PC for ALL Pitch/Catch Probes
	MPCV3	Portable manually pressurized couplant tank with 20' feed tube, 1.3 gallon capacity



Avenger

<u>MODEL</u>	INSTRUMENT
Avenger- L 0 0 P K G	Avenger miniature ultrasonic flaw detector - features a large 3.9", 240 x 320 display, SplitView, SplitScreen and AutoTrak. Incorporating our unique Dual Time Base, the Avenger will automatically track signals and zoom into them at high resolution in the second 'A' trace window. Weld trig and dual gates are included as well. Standard Connectors - Lemo00. Package includes Battery Charger, Pelican Style Storage Case, Couplant, and Operations Manual. BNC and LEMO1 Connectors also available

Options and Accessories

LC1-AVANGER	Canvas Carrying Case
CC-ATR	EQUIPMENT STORAGE CASE - Black Pelican Style case with custom cut foam padding. One provided with unit purchase
BPAVANGER	BATTERIES - Rechargeable AA -size NiMH high capacity batteries. Package of 3.
Avenger-DT-USB	DATA TRANSFER KIT - Transfers location and/or thickness data from all 900 series Gages to PC compatible computer. Includes Data Transfer Cable.
ML01	Transducer CABLE - Standard 6-Foot long transducer coax. Microdot/Lemo, RG174.
AWS-DAC	Add AWS Calculations to the Avenger.
DAC	Incorporates 20 point DAC into the Avenger.



Avenger - AWS

<u>P/N</u>	<u>INSTRUMENT</u>
Avenger-AWS	Avenger-AWS miniature ultrasonic flaw detector - features a large 3.9", 240 x 320 display, <u>SplitView</u> , <u>SplitScreen</u> and <u>AutoTrak</u> functions. Using our unique Dual Time Base, the Avenger-AWS will automatically track signals and zoom into them at high resolution in the second 'A' trace window. Weld trig and dual gates are included as well. Package includes electronic DAC and AWS software. Standard Connectors - BNC
<u>NOTE</u>	<i>ALL of the following items are included in the AVENGER-AWS Package</i>
LC1-Avenger	PROTECTIVE CARRY CASE - Canvas protective case with clear window for user accessibility to keys.
	<u>CABLES</u>
BBG01	Transducer CABLE, Standard 6-Foot long transducer coax. BNC to BNC, RG174.
	<u>TEST BLOCK</u>
TBS103	CALIBRATION BLOCK – DSC
	<u>TRANSDUCERS & WEDGES</u>
AWS0266	AWS angle beam transducer features all metal design for maximum durability, epoxy face for optimum acoustic impedance, acoustically matching the wedge and transducer flawlessly. Designed to produce optimum gain, high sensitivity, resolution and excellent signal to noise ratio. Satisfying the tough AWS code requirements. 2.25 MHz, element size dimensions 0.75"x0.75".
CHRF028-TM	2.25 MHz, 1" diameter, contact transducer. Stainless Steel hardened casing, wear resistant alumina wear plate, assures long inspection life under rough surfaces.
AWW045	AWW wedges are designed to continuously reflect and deflect the internal sound beam, in effect "trap" unwanted noise, providing a superior signal-to-noise ratio. 45 degree refracted angle in steel.
AWW060	AWW wedges are designed to continuously reflect and deflect the internal sound beam, in effect "trap" unwanted noise, providing a superior signal-to-noise ratio. 60 degree refracted angle in steel.
AWW070	AWW wedges are designed to continuously reflect and deflect the internal sound beam, in effect "trap" unwanted noise, providing a superior signal-to-noise ratio. 70 degree refracted angle in steel.



RAPTOR Imaging Flaw Detector

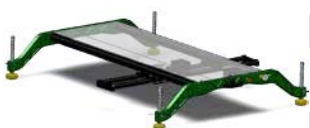
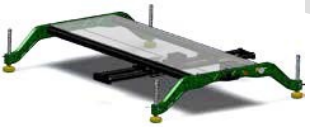
P/N	Description
RAPTOR PACKAGE	The Raptor Package offers features like built in 5.7" diagonal, TFT Active Matrix, Color display, DAC (Digital Amplitude Correction) 2 Serial, 1 USB port. (one serial assigned for external motor controllers) SD Card Slot, Full Color Capability for higher resolution scan images. True Data Point Acquisition. User definable length and resolution separate for X & Yaxes. Scan index adjustable from .001" to 2". Spreadsheet display of thickness or amplitude value. Show 3D or B-Scan based on the Zoom Window. Export data to an ASCII text or binary file for input into Excel or statistical packages. Display of X & Y B-Scan on a single screen. Operates with manually driven scanners and with Raptor Battery Powered Pipe and X-Y scanners. Also offers 2 axis stepper motor control using RAPTOR external motor control package (Optional). Package ships with these items included: flaw detector, AC adapter/power cord, User's Manual, Pelican style storage case, couplant, and certificate of compliance.
LC-RPTR	Optional Canvas Carrying Case

RAPTOR Corrosion Inspection System

P/N	Description
RAPTOR CIS	The Raptor Package offers features like built in 5.7" diagonal, TFT Active Matrix, Color display, DAC (Digital Amplitude Correction) 2 Serial, 1 USB port. (one serial assigned for external motor controllers) SD Card Slot, Full Color Capability for higher resolution scan images. True Data Point Acquisition. User definable length and resolution separate for X & Yaxes. Scan index adjustable from .001" to 2". Spreadsheet display of thickness or amplitude value. Show 3D or B-Scan based on the Zoom Window. Export data to an ASCII text or binary file for input into Excel or statistical packages. Display of X & Y B-Scan on a single screen. Operates with manually driven scanners and with Raptor Battery Powered Pipe and X-Y scanners. Also offers 2 axis stepper motor control using RAPTOR external motor control package (Optional). Raptor CIS and Raptor CIS 18 include AEHS-03. Raptor CIS includes the RCA-10 as describe below. Use P/N Raptor CIS 18 for RCA-18 scanner as described below.
LC-RPTR	Optional Canvas Carrying Case
RCA-10	Magnetic attached Automatic Cantilever Arm Scanner. 10" Scan length. For use on piping 4" diameter to flat plate. Includes dual element 5 MHz transducer (RCA-03), 72224-00-00 Mushroom, AE09M01 probe holder, DMB01 cable, RCA-SAVER safety line attachment, spare parts kit, RBCU-1 Battery Control Unit, 15 foot RCCB Interface Cable and AC-Raptor Battery Charger
RCA-18	Same as RCA-10, but 18" Scan Length.
AEHS-03	Armadillo Hand Scanner With Position Encoder with dual element 5 MHz transducer and standard 6 foot cable (Optional cable lengths to 25 feet).



Scanners and Accessories

	P/N	Description
	String Scan II	Lightweight manual X-Y large area scanner for use with Raptor. 0.020" Resolution. Optional magnetic bases. Compatible with SSxxxxx transducers. Requires SSCAN-RAP cable for Raptor control and SSCAN-BH for BondHub control.
	SlideScan	Lightweight, high resolution manual X-Y scanner, compatible with Raptor and Phased-Array systems from other manufacturers. 0.006" resolution. Includes AE09M01 probe holder. Optional magnetic bases, PAUT cable adapter, PAUT probe holder 3 sizes available: SlideScan 18x18 SlideScan 24x24 SlideScan 36x36 Requires SSCAN-RAP cable for Raptor control and SSCAN-BH for BondHub control.
	Tunnel Scan	Automatic, high resolution X-Y scan bridge for use with Raptor on mild radii to flat surfaces. 0.001" resolution, 12x18" scan area. Includes vacuum feet & pump, 2x Li- ion batteries (RBP-1) and AE09M01 probe holder. Optional Magnetic Feet (4 required). Requires TSCAN-RAP cable for Raptor control and TSCAN-BH for BondHub control.
	Tunnel Scan II	Motorized scan bridge for large areas- 40x50" scan area. 0.020" resolution. Adjustable height in one inch increments. Select appropriate probe holder. AC powered. Requires TSCAN-RAP cable for Raptor control and TSCAN-BH for BondHub control.
	Tunnel Scan III	Motorized scan bridge for large areas- 40x60" scan area. 0.020" resolution. Adjustable height in one inch increments. AE09M01 probe holder. AC powered. Requires TSCAN-RAP cable for Raptor control and TSCAN-BH for BondHub control.
	RCA-10	Magnetic attached Automatic Cantilever Arm Scanner. 10" Scan length. For use on materials 4" diameter to flat plate. Includes AE09M01 probe holder, DMB01 cable, RCA-SAVER safety rope attachment and spare parts kit. Also includes RBCU-1 Battery Control Unit and RCCB Interface Cable to Raptor (standard cable length is 3 meters).

	RCA-18	18" version of RCA-10 scanner
	CrossScan II	Automatic, standard resolution X-Y scanner for use with Raptor on mild radii to flat surfaces. 0.020" resolution. 24x24" scan area. Fully self-contained batteries and control interface with onboard vacuum system and battery charging system. Requires CSCAN-RAP cable for Raptor control or CSCAN-BH for BondHub control.
	AEHS03	Armadillo Encoded Hand Scanner. Includes 6' Raptor interface cable (Optional cable lengths to 25'). Order AEHS01 for Avenger and TG210/410 Instruments.

Scanner Probe Holders and Inserts

	AE09M01	Replacement Probe Holder- Detachable, gimbaled and irrigated probe holder that connects to the RCA- 10, RCA-18, SlideScan, CrossScan, TunnelScan, TunnelScan III
	72224-00-00	Stainless Steel Mushroom Insert for AE09M01 probe holder. For use with Transducers: AE10404, AE10405, AE10406, AE07E06 and other 0.600"OD probes.
	2126 2159 2160 2161 2162 2163	Nylon Inserts fit the AE09M01 probe holder. Allow the use of: C14 and D12 Transducers D11R and RDG Style Transducers D11 and 0.250" PDG Style Transducers C16, C17 & 0.5" Optima Style Transducer C11 and 0.375" Optima Style Transducers Insert for C13 and 0.250" Optima Style Transducers
	MPCV3	Portable manually pressurized couplant tank with 20' feed tube, 1.3 gallon capacity

Scanner Cables and Accessories

	MBSS01	Pair of magnetic bases for StringScan, SlideScan, CrosScan or TunnelScan (Price includes 2x bases)
	RBCU-1	RAPTOR Battery Control Unit for Use With RCA Scanners. See RPB-1 for extra Battery
	RCCB-3M	Interface cables for RCA-10 and RCA-18: 3m (10') RAPTOR Control Cable Bundle (standard) Additional lengths available upon request.
	DMB01	Replacement Cable- Dual Coaxial BNC to microdot connector, 2 feet long, For use with RCA-10, RCA-18 and CrosScan scanners only
	MB01	Cable Single Coaxial BNC to Microdot Connector, 2 feet long, connects transducer to scanner. For use with RCA-10, RCA-18 and CrosScan scanners only
	RBP-1	Battery Pack for use with RAPTOR, RBCU-1, MCU- 1, TunnelScan
	BCL-1	Conditioning External Battery Charger for Li-ion batteries used in RAPTOR, RBCU-1, MCU-1, TunnelScan.

Scanner Transducers

RCA-10 & RCA-18 SCANNER TRANSDUCERS – (fits 72224-00-00 mushroom)		
	RCA052	Transducer, Dual Element 5.0MHz, 0.22" Dia., 0.060"-1.000" thickness range, 0.600" case OD

	RCA053	Transducer, Dual Element 5.0MHz, 0.375" Dia., 0.040"-9.999" thickness range, 0.600" case OD
	RCA102	Transducer, Dual Element 10 MHz, 0.20" Dia., 0.022"-1.875" thickness range, 0.600" case OD
	RCA022	Transducer, Dual Element Composite 2.25MHz, .25" Dia, 0.600" case OD

StringScan II & other Scanners

	SSC17TC	Transducer Scanner Style 2.25MHZ High Power for Attentive Materials Thickness Range 2.00 to 199.9 Inches
	SSC16TC	Transducer Scanner Style 2.25MHZ for Attentive Materials Thickness Range 0.200 to 19.9 Inches
	SSC11TC	Transducer Scanner Style 5 MHZ General Purpose Contact Thickness Range 0.062 to 19.99 Inches
	SSD11TC	Transducer Scanner Style 15 MHZ Fixed Delay Line High Resolution for Thin Materials Thickness Range 0.005 to 0.700 Inches
	SSCHF014TC	Transducer Scanner Style 1.0 MHZ General Purpose Contact
	SSCHF0.54TC	Transducer Scanner Style .5 MHZ General Purpose Contact

	SSCMF0.54TC	Transducer Scanner Style 0.5 MHZ High Power Contact
	SSPDG052TC	Transducer Scanner Style 5 MHZ Fixed Delay Line High Resolution
	SSTG506C	Transducer Scanner Style 5 MHZ Dual Element Composite

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Transducers & Accessories - Gauge Specific

TG 100 & 110 Series	Gauge Type		Frequency /MHz				Thickness Range /inch							Element Diameter /inch		Probe Height /inch		Max. Temperature /F			
	TG100D	TG110DL	2.25	5	7.5	10	0.022-1.875	0.040-2.000	0.040-9.999	0.060-1.000	0.060-2.000	0.060-9.999	0.200-9.999	0.25-0.5	0.5-0.75	0.45-0.80	1.3-1.5	250	450	600	1000
TG-506		X		X					X					X			X	X			
TG-556		X		X					X						X		X			X	
TG-560P		X		X					X					X			X		X		
TG560-PHT		X		X					X					X			X				X
TG-702		X			X		X							X		X				X	
TG-790		X		X					X					X			X				X
TG-790HP		X		X					X					X			X				X
TG-505	X	X		X					X					X		X			X		
TG-505TM		X		X				X						X			X		X		
TG-208	X	X	X										X		X		X			X	
TQ-506		X		X									X	X			X				X
TG-502		X		X						X				X		X			X		
TG-502TM		X		X						X				X			X		X		
TG101HR		X				X	X							X		X		X			

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CONTACT TRANSDUCERS		Characteristics				Frequency /MHz										Element Diameter /inch									
	General Purpose	High Resolution	High Gain	Permanent Delay	Replaceable Delay (B=Bubbler)	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.09	0.125	0.188	0.25	0.375	0.5	0.75	1	1.125	
IBUCS	REPLACEABLE CONE, SHORT																								
IBUT	REPLACEABLE METAL TIPS - 5/PK																								
IBUT-H	TIP IBU HARDENED 1 PER PACKAGE																								
IBU-TP	NYLON CONE TIPS																								
IBUT-S	REPLACEABLE TIPS - 5/PK																								
IBUT-V	IBU STYLE V GROOVE TIP 1/PKG																								
PTX5-T	TIPS FOR PTX5 PENCIL PROBE																								
PTX6-T	TIP FOR PTX6, PTX6S																								

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Standard Transducers & Accessories - (cont.)

CONTACT TRANSDUCERS	Characteristics					Frequency /MHz										Element Diameter /inch						
	General Purpose	High Resolution	High Gain	Permanent Delay	Replaceable Delay	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125
CHF012	X						X										X					
CHF013	X						X											X				
CHF014	X						X												X			
CHF016	X						X													X		
CHF016-TM	X						X													X		
CHG0.54		X				X													X			
CHG014		X					X												X			
CHG016		X					X													X		
CHF022	X							X									X					
CHF023	X							X										X				
CHF024	X							X											X			
CHF026	X							X												X		
CHG022		X						X									X					
CHG023		X						X										X				
CHG024		X						X											X			
CHG026		X						X												X		
CHF032	X								X								X					
CHF033	X								X									X				
CHF034	X								X										X			
CHF036	X								X											X		
CHG032		X							X								X					
CHG033		X							X									X				
CHG034		X							X										X			
CHG036		X							X											X		
CHF052	X									X							X					
CHF053	X									X								X				
CHF054	X									X									X			
CHF056	X									X										X		
CHG052		X								X							X					
CHG053		X								X								X				
CHG054		X								X									X			
CHG054-TC		X								X									X			
CHG056		X								X										X		
CHF072	X										X						X					
CHF073	X										X							X				
CHF074	X										X								X			
CHG072		X									X						X					
CHG073		X									X							X				
CHG074		X									X								X			
CHF102	X											X					X					
CHF103	X											X						X				
CHF104	X											X							X			
CHG102		X										X					X					
CHG102TM		X										X					X					
CHG103		X										X						X				
CHG104		X										X							X			

CONTACT TRANSDUCERS		Characteristics				Frequency /MHz										Element Diameter /inch						
	General Purpose	High Resolution	High Gain	Permanent Delay	Replaceable Delay	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125
Contact- Delay Line																						
RDG0.54		X				X													X			
RDG012		X			X		X										X					
RDG014		X			X		X												X			
PDG014		X			X		X												X			
PDG024		X		X				X											X			
RDG022		X			X			X									X					
RDG022TM		X			X			X									X					
RDG024		X			X			X											X			
PDG032		X		X					X								X					
PDG052		X		X						X							X					
PDG054		X		X						X									X			
RDG052		X			X					X							X					
RDG052TM		X			X					X							X					
RDG053		X			X					X							X					
RDG054		X			X					X									X			
RDG054TM		X			X					X									X			
PDG102		X		X								X					X					
PDG104		X		X								X							X			
RDG102		X			X							X					X					
RDG102TM		X			X							X					X					
RDG104		X			X							X							X			
RDG104TM		X			X							X							X			
PDG152		X		X									X				X					
RDG152		X			X								X				X					
RDG152TM		X			X								X				X					
PDG201		X		X										X		X						
PDG202		X		X										X			X					
RDG202		X			X									X			X					
PDG252		X		X											X		X					
RDG252		X			X										X		X					
Contact- Protected Element																						
RHF0.56	X					X														X		
RHF0.58	X					X															X	
RHF0.59	X					X																X
RMF0.56			X			X														X		
RMF0.58			X			X															X	
RMF0.59			X			X																X
RHF014	X						X												X			
RHF016	X						X													X		
RHF018	X						X														X	
RHF019	X						X															X
RMF014			X				X												X			
RMF016			X				X													X		



CONTACT TRANSDUCERS		Characteristics				Frequency /MHz										Element Diameter /inch						
	General Purpose	High Resolution	High Gain	Permanent Delay	Replaceable Delay	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125
RMF018			X				X														X	
RMF019			X				X															X
RHF024	X							X											X			
RHF026	X							X												X		
RHF026TM	X							X												X		
RHF028	X							X													X	
RHF029	X							X														X
RMF024			X					X											X			
RMF026			X					X												X		
RMF026TM			X					X												X		
RMF028			X					X													X	
RMF029			X					X														X
RHF034	X								X										X			
RHF036	X								X											X		
RHF036TM	X								X											X		
RHF038	X								X												X	
RMF034			X						X										X			
RMF036			X						X											X		
RMF038			X						X												X	
RHF054	X									X									X			
RHF056	X									X										X		
RHF056-TM	X									X										X		
RHF058	X									X										X		
RMF054			X							X									X			
RMF056			X							X										X		
Replacement Delay Lines																						
RDL2	1/4" DELAY LINE TIP.350"																					
RDL2-.250	RDL2 DELAY LINE TIP .250"LONG																					
RDL2-.375	RDL2 DELAY LINE TIP .375" LONG																					
RDL2-.50	RDL2 DELAY LINE TIP .5" LONG																					
RDL2-.75	RDL2 DELAY LINE TIP .75"LONG																					
RDL2-.875	RDL2 DELAY LINE TIP 0.875"LONG																					
RDL2-1-HT	DELAY HIGH TEMP																					
RDL2-1.00	RDL2 DELAY LINE TIP 1.00"LONG																					
RDL2-1.25	RDL2 DELAY LINE TIP 1.25"																					
RDL2-HT	DELAY HIGH TEMP																					
RDL4	1/2" DELAY LINE TIP 5/PK																					
RDL4-.75	3/4" DELAY LINE TIP 5/PK																					
RDL4-1.25	RDL4 DELAY LINE TIP 1.25"LONG																					
RDL4-1"	RDL4 DELAY LINE TIP 1.00"LONG																					
RM4	ACC - MEMBRANES - 10 PACK																					
RM6	ACC - MEMBRANES - 10 PACK																					
RM8	ACC - MEMBRANES - 10 PACK																					
RM9	ACC - MEMBRANES - 10 PACK																					
RTS	ACC - TRANSDUCER DOCUMENTATION																					



Standard Transducers & Accessories - (cont.)

CONTACT TRANSDUCERS		Characteristics					Frequency /MHz										Element Diameter /inch						
		General Purpose	High Resolution	High Gain	Permanent Delay	Replaceable Delay	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125
RTSP		ACC - TRANSDUCER DOCUMENTATION																					
RTSS		ACC - SPECIAL DOCUMENTATION																					

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Dual Element Transducers & Accessories

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ANGLE BEAM TRANSDUCERS		Type					Frequency /MHz										Refracted Angle /degrees					Element Dimensions /inch														
		Quick Change	Standard	AWS	Mini Potted	Wedge Only	0.5	1	2.25	3.5	5	7.5	10	15	20	25	30	45	60	70	90	Ø 0.25	Ø 0.375	Ø 0.5	0.19 x 0.19	0.25 x 0.25	0.38 x 0.38	0.5 x 0.5	0.5 X 1.0	0.625X 0.625	0.625 X 0.75	0.75 x 0.75	0.75 X 1.0	1.0 X 1.0		
	MPA0227A				X			X											X							X										
	MPA0227S				X																					X										
	MPA0229A				X			X													X					X										
	MPA0229S				X																															
	MPA0234A				X			X									X										X									
	MPA0234S				X																															
	MPA0236A				X			X											X								X									
	MPA0236S				X																															
	MPA0237A				X			X											X								X									
	MPA0237S				X																															
	MPA0239A				X			X																			X									
	MPA0239S				X															X							X									
	MPA0244A				X			X									X											X								
	MPA0244S				X																															
	MPA0246A				X			X											X									X								
	MPA0246S				X																															
	MPA0247A				X			X												X								X								
	MPA0247S				X																															
	MPA0249A				X			X													X							X								
	MPA0249S				X																															
	MPA0514A				X					X								X							X											
	MPA0514S				X																															
	MPA0516A				X					X									X						X											
	MPA0516S				X																															
	MPA0517A				X					X										X					X											
	MPA0517S				X																															
	MPA0519A				X					X											X				X											
	MPA0519S				X																															
	MPA0524A				X					X								X								X										
	MPA0524S				X																															
	MPA0526A				X					X									X							X										
	MPA0526S				X																															
	MPA0527A				X					X										X						X										
	MPA0527S				X																															

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ANGLE BEAM TRANSDUCERS	Type					Frequency /MHz										Refracted Angle /degrees					Element Dimensions /inch														
	Quick Change	Standard	AWS	Mini Potted	Wedge Only	0.5	1	2.25	3.5	5	7.5	10	15	20	25	30	45	60	70	90	Ø 0.25	Ø 0.375	Ø 0.5	0.19 x 0.19	0.25 x 0.25	0.38 x 0.38	0.5 x 0.5	0.5 X 1.0	0.625X 0.625	0.625 X 0.75	0.75 x 0.75	0.75 X 1.0	1.0 X 1.0		
AWS0266			X					X																								X			
AWS Wedges																																			
AWW045			X		X												X																		
AWW060			X		X													X																	
AWW060-HT			X		X													X																	
AWW070			X		X														X																

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Immersion Transducers & Accessories

Immersion Transducers	Type						Characteristics			Frequency /MHz										Element Diameter /inch						
	A-Style	B-Style	C-Style	D-Style	E-Style	F-Style	General Purpose	High Resolution	High Gain	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125
IAHF012	X						X				X										X					
IAHF022	X						X					X									X					
IAHF031	X						X						X								X					
IAHF032	X						X						X									X				
IAHF051	X						X							X							X					
IAHF052	X						X							X								X				
IAHF071	X						X								X						X					
IAHF072	X						X								X							X				
IAHF101	X						X									X					X					
IAHF102	X						X									X						X				
IAHF151	X						X										X				X					
IAHF152	X						X										X					X				
IAHF201	X						X											X			X					
IAHF202	X						X											X				X				
IAHF251	X						X												X		X					
IAHF252	X						X												X			X				
IAHG011	X							X			X										X					
IAHG012	X							X			X											X				
IAHG021	X							X				X									X					
IAHG022	X							X				X										X				
IAHG031								X					X								X					
IAHG032								X					X									X				
IAHG051	X							X						X							X					
IAHG052	X							X						X								X				
IAHG071	X							X							X						X					
IAHG072	X							X							X							X				
IAHG101	X							X								X					X					
IAHG102	X							X								X						X				
IAHG151	X							X									X				X					
IAHG152	X							X									X					X				
IAHG201	X							X										X			X					
IAHG202	X							X										X				X				
IAHG251	X							X											X		X					
IAHG252	X							X											X			X				
IAMF011	X								X		X										X					
IAMF012	X								X		X											X				
IAMF021	X								X			X									X					
IAMF022	X								X			X										X				
IAMF031	X								X				X								X					
IAMF032	X								X				X									X				
IAMF051	X								X					X							X					
IAMF052	X								X					X								X				
IAMF071	X								X						X						X					
IAMF072	X								X						X							X				
IAMF101	X								X							X					X					
IAMF102	X								X							X						X				
IBC054				X			X							X							X					
IBHF012		X					X				X											X				

Immersion Transducers & Accessories - (cont.)

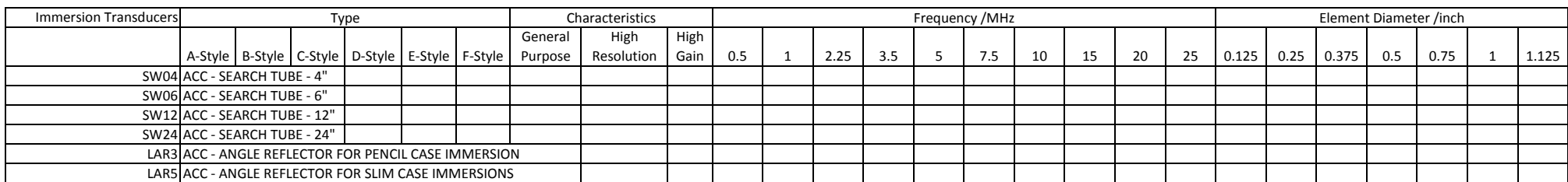
Immersion Transducers		Type						Characteristics			Frequency /MHz										Element Diameter /inch							
		A-Style	B-Style	C-Style	D-Style	E-Style	F-Style	General Purpose	High Resolution	High Gain	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125	
	IBHF013		X					X				X											X					
	IBHF014		X					X				X												X				
	IBHF022		X					X					X									X						
	IBHF023		X					X				X											X					
	IBHF024		X					X				X												X				
	IBHF032		X					X					X									X						
	IBHF033		X					X					X										X					
	IBHF034		X					X					X											X				
	IBHF052		X					X						X								X						
	IBHF053		X					X						X									X					
	IBHF054		X					X						X										X				
	IBHF072		X					X							X							X						
	IBHF073		X					X							X								X					
	IBHF074		X					X							X									X				
	IBHF102		X					X								X						X						
	IBHF103		X					X								X							X					
	IBHF104		X					X								X								X				
	IBHF152		X					X									X					X						
	IBHF153		X					X									X						X					
	IBHF154		X					X									X							X				
	IBHF202		X					X										X				X						
	IBHF252		X					X											X			X						
	IBHG012		X						X			X										X						
	IBHG013		X						X			X											X					
	IBHG014		X						X			X												X				
	IBHG022		X						X				X									X						
	IBHG023		X						X				X										X					
	IBHG024		X						X				X											X				
	IBHG032								X				X									X						
	IBHG033								X				X										X					
	IBHG034								X				X											X				
	IBHG052		X						X					X								X						
	IBHG053		X						X					X									X					
	IBHG054		X						X					X										X				
	IBHG072		X						X						X							X						
	IBHG073		X						X						X								X					
	IBHG074		X						X						X									X				
	IBHG102		X						X							X						X						
	IBHG103		X						X							X							X					
	IBHG104		X						X							X								X				
	IBHG152		X						X								X					X						
	IBHG153		X						X								X						X					
	IBHG202		X						X									X				X						
	IBHG203		X						X									X					X					
	IBHG252		X						X											X		X						
	IBMF0.53		X							X	X												X					
	IBMF0.54		X							X	X													X				
	IBMF012		X							X		X										X						

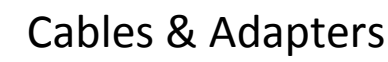
Immersion Transducers	Type						Characteristics			Frequency /MHz										Element Diameter /inch						
	A-Style	B-Style	C-Style	D-Style	E-Style	F-Style	General Purpose	High Resolution	High Gain	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125
IBMF013		X							X		X											X				
IBMF014		X							X		X												X			
IBMF022		X							X			X									X					
IBMF023		X							X			X										X				
IBMF024		X							X			X											X			
IBMF032		X							X				X								X					
IBMF033		X							X				X									X				
IBMF034		X							X				X										X			
IBMF052		X							X					X							X					
IBMF053		X							X					X								X				
IBMF054		X							X					X									X			
IBMF072		X							X						X						X					
IBMF073		X							X						X							X				
IBMF074		X							X						X								X			
IBMF102		X							X							X					X					
IBMF104		X							X							X							X			
IBMF103		X							X							X						X				
IBMF152		X							X								X				X					
ICHF0.54			X				X			X													X			
ICHF0.56			X				X			X														X		
ICHF014			X				X				X												X		X	
ICHF016			X				X				X													X		
ICHF024			X				X					X											X			
ICHF026			X				X					X												X		
ICHF034			X				X						X										X			
ICHF036			X				X						X											X		
ICHF054			X				X							X									X			
ICHF056			X				X							X										X		
ICHF074			X				X								X								X			
ICHF076			X				X								X									X		
ICHF104			X				X									X							X			
ICHG014			X					X			X												X			
ICHG016			X					X			X													X		
ICHG024			X					X				X											X			
ICHG026			X					X				X												X		
ICHG054			X					X						X									X			
ICHG056			X					X						X										X		
ICHG074			X					X							X								X			
ICHG076			X					X							X									X		
ICHG104			X					X								X							X			
ICMF0.54			X						X	X													X			
ICMF0.56			X						X	X														X		
ICMF014			X						X		X												X			
ICMF016			X						X		X													X		
ICMF024			X						X			X											X			
ICMF026			X						X			X												X		
ICMF034			X						X				X										X			
ICMF036			X						X				X											X		

Immersion Transducers & Accessories - (cont.)

Immersion Transducers		Type						Characteristics			Frequency /MHz										Element Diameter /inch							
		A-Style	B-Style	C-Style	D-Style	E-Style	F-Style	General Purpose	High Resolution	High Gain	0.5	1	2.25	3.5	5	7.5	10	15	20	25	0.125	0.25	0.375	0.5	0.75	1	1.125	
	ICMF054			X						X					X									X				
	ICMF056			X						X					X										X			
	ICMF074			X						X						X								X		X		
	ICMF076			X						X						X									X			
	IDHF0.58				X			X			X															X		
	IDHF0.59				X			X			X																X	
	IDHF018				X			X				X														X		
	IDHF019				X			X				X														X		
	IDHF028				X			X					X													X		
	IDHF029				X			X					X														X	
	IDHF038				X			X					X													X		
	IDHF058				X			X						X												X		
	IDHG018				X				X			X														X		
	IDHG019				X				X			X															X	
	IDHG028				X				X				X													X		
	IDHG029				X				X				X														X	
	IDHG038								X					X												X		
	IDHG058				X				X						X											X		
	IDMF0.58				X					X	X															X		
	IDMF0.59				X					X	X																X	
	IDMF018				X					X		X														X		
	IDMF019				X					X		X															X	
	IDMF028				X					X			X													X		
	IDMF029				X					X			X														X	
	IDMF038				X					X				X												X		
	IDMF039				X					X				X													X	
	IDMF058				X					X					X											X		
	IEHF012					X		X			X										X							
	IEHF013					X		X			X											X						
	IEHF014					X		X			X												X					
	IEHF022					X		X				X									X							
	IEHF023					X		X				X										X						
	IEHF024					X		X				X											X					
	IEHF032					X		X					X								X							
	IEHF033					X		X					X									X						
	IEHF034					X		X					X										X					
	IEHF052					X		X						X							X							
	IEHF053					X		X						X								X						
	IEHF054					X		X						X									X					
	IEHF072					X		X							X						X							
	IEHF073					X		X							X							X						
	IEHF074					X		X							X								X					
	IEHF102					X		X								X					X							
	IEHF103					X		X								X						X						
	IEHF104					X		X								X							X					
	IEHF152					X		X									X				X							
	IEHF153					X		X									X					X						
	IEHF202					X		X										X			X							

SW02	ACC - SEARCH TUBE - 2"
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Cables	End 1											End 2												Cable Type				
	Microdot	BNC	UHF	UHF- Right angle	UHF- 45deg	Dual Microdot	Dual BNC	Lemo- 00	Lemo- 1	Male	Female	BNC	UHF	Lemo- 00	Lemo- 1	Lemo-00 Right Angle	Selectro	Microdot Right angle	Dual BNC	Dual Lemo- 00	Dual Lemo- 1	Dual Selectro	Male	Female	RG-174	RG-174 Heavy Duty	RG- 58A/U	RG-58A/U Waterproof
Cables- All Male																												
MB01	X									X		X											X			X		
MBG01	X									X		X											X			X		
MU01	X									X			X										X			X		
ML01	X									X				X									X			X		
ML02	X									X					X								X			X		
MLG01	X									X				X									X			X		
MBR01	X									X		X											X			X		
MRL01	X									X						X							X			X		
BB01		X								X		X											X			X		
BB02		X								X		X											X				X	
BBG01		X								X		X											X			X		
BU01		X								X			X										X			X		
BU02		X								X			X										X					X
BL01		X								X				X									X			X		
BL02		X								X					X								X			X		
BLG01		X								X				X									X			X		
BLG02		X								X					X								X			X		
BS01		X								X							X						X			X		
BBR01		X								X		X											X			X		
BMR01		X								X								X					X			X		
BRL01		X								X						X							X			X		
UU01			X							X			X										X			X		
UU02			X							X			X										X					X
UL00			X							X				X									X			X		
UL01			X							X					X								X				X	
DMB01						X				X									X				X			X		
DBB-01							X			X									X				X			X		
DBL-01							X			X										X			X			X		
DML01						X				X										X			X			X		
DML02						X				X											X		X			X		
DBS-01		X								X												X	X			X		
LL01								X		X				X									X			X		
LMD1						X				X											X		X			X		
Adapters																												
ABU01		X								X			X												X			
ABU02		X								X			X										X					
ALB01									X		X	X											X					
ALB02								X		X		X												X				
ALRB02								X		X		X												X				
ABB01		X									X	X												X				
AUU01			X								X		X											X				
AFU01			X							X														X				
AUR01				X						X			X											X				
AUR02					X					X			X											X				
ABT01		X										X																