

PCUS 40

Ultrasonic Components

PC System:	4 transmit/receive channels per module, expandable to 4 more transmit/receive channels for a total of 8 transmit/receive channels (optional modules)
Rack-mount System:	4 transmit/receive channels per module, expandable a total of 64 transmit/receive channels (optional modules, 4 channels each)
Options:	½ size analog board with 4 channels and full size analog board with 8 channels
Transmitter Pulse:	Spike pulse
Transmitter Voltage:	50, 100, 150, 200, 250 V _{pp} for one individual scan cycle
Transmitter Output Impedance:	50 Ω
Pulse Repetition Rate:	≤ 5 kHz, dependent on selected sweep range and sampling rate, adjustable
Input Dynamic:	97 dB with narrow-band filter 1MHz 85 dB with broad-band filter (0.3 – 15 MHz)
Frequency Range (-3 dB):	0.3 – 15 MHz
Amplitude Characteristics (Receiver):	Linear, logarithmic (optional)
Variable Gain/TGC:	40 dB, 0.2 dB resolution
Pulse Mode:	Pulse-Echo (P/E), Transmit/Receive (T/R)
Analog Boards (4 Channels):	½ size ISA (16 bit), 166mm x 127mm
Digital Boards (2):	Full size ISA (16 bit), 332mm x 127mm, and ADC clip-on

Data Processing

A/D Converter:	1 ADC 10 bit (9 bit & header), 80 MS/sec 1 ADC 12 bit (11 bit & header), 40 MS/sec
A/D Converter Dynamic:	54 dB for 10 bit ADC 66 dB for 12 bit ADC
A/D Converter Rate:	80 MS/sec (10 bit ADC), 40 MS/sec, 20 MS/sec, 10 MS/sec, adjustable
Standard A-scan data:	Included
Standard RF data:	Included
Half-wave peak data:	Add-on board (optional)
Pixelized A-scan data:	Add-on board (optional)
Gated data:	Add-on board (optional)
ALOK data:	Peak Detector board (optional)
Number of Scan Cycles:	256, individually programmable
Maximum Cycle Rate:	1 kHz
Scan Speed:	Dependent on internal bus clock (20 MHz), Cycle processing delay (30 μsec) and Processing time (min. 170 μsec)
Data Acquisition Rate:	480 Kbytes/sec, on-line display of 4 A-scans and writing to HDD simultaneously (60 MHz Pentium processor)
Scan Cycle Triggering:	Position, time, manual, external 128 programmed scan trigger functions can be activated/deactivated

PCUS 40 (continued)

Interfaces

DSP Interface:	Add-on DSP board (optional) for special processing
Phased-Array Interface:	Analog included Digital (optional) Programmable from PC (PCUS 40)
EMAT Phased-Array Interface:	Analog included Programmable from PC (PCUS 40)
Eddy Current Interface:	Digital (optional) Programmable from PC (PCUS 40)
User Interface/Menus:	Controllable from PC (PCUS 40)

System Configurations

Portable System (Laptop PC):	<ul style="list-style-type: none">• Maximum of 8 Channels• Keyboard and/or touch screen (optional) operation• TFT color monitor• Protection class up to IP54 (optional)
Desktop/Tower PC:	<ul style="list-style-type: none">• Maximum of 64 Channels• Protection class up to IP54 (optional)
Industrial PC:	<ul style="list-style-type: none">• Maximum of 64 Channels• Protection class IP54
19" Rack System:	<ul style="list-style-type: none">• Maximum of 64 Channels• Passive backplane Protection class IP65• High-speed data interface• Protection class IP65
Operating Temperature:	-5°C to 50°C (23°F to 122°F)
Storage Temperature:	-40°C to 70°C (-40°F to 158°F)

Software CPS-N

Operating System:	Windows NT®
Menus:	Inspection Parameter for: <ul style="list-style-type: none">• Component data, scan setup, global data (date & time, operator, site, etc.)• Databank for component, setup, etc., history data
On-line Display:	A-scan and C-scan presentation of maximum 4 selections simultaneously
Off-line Display:	A-scan, Composite A-scan, C-scan, Composite BCD-scan, Zoom functions, various measuring selections, SAFT reconstruction (optional)