



FEATURES

- Built-in square pulser and tone burst pulser
- Tone burst pulser for high attenuating material testing
- Ethernet communication for laptop and desktop computers
- Real-time peak detections with 4 fixed and/or slave gates
- One-Device Design: pulser/receiver and A/D converter
- 12-bit A/D conversion resolution up to 160 MSPS
- On-board encoder counters for on-position acquisition
- Up to 16 channel for single device and up to 255 devices on Ethernet
- Hardware peak detection for minimal data transfer at high PRF
- Included UT oscilloscope software for Windows 2000/XP/Win7/Win10
- Windows 2000/XP/Win7/Win10 software development kits for C/C++, Visual BASIC, and LabVIEW

DESCRIPTION

EUT3160 is a combination of a square and tone burst pulser/receiver with an analog-to-digital converter -- both of which are located in a single device for the Ethernet communications. This product comes in five models: 1, 2, 4, 8 and 16 channels. The device generates a series of pulses with user-defined pulse frequency and pulse cycles from T connectors. The pulses are transmitted to an ultrasonic transducer, and the transducer converts the electrical excitation pulses to ultrasound which is propagated into either the tested material or air. The transducer also receives the reflected echoes from the interface and converts the ultrasound back into an electrical signal. The on-board receiver processes the signal with the user defined parameters, and the A/D converter converts analog signals into digital data at a rate of up to 160 million samples per second. In addition, the digital data is transferred to a computer's RAM.

Adjustable parameters include pulse frequency, pulse cycles, receiver gain, DC offset, rectifications, sampling rates, trigger source, and adjustable trigger delay. A standard scope software for MS Windows is included with this device.

One of the unique features is the on-board FPGA chip which is capable of processing data in real-time for peak detection, data compression, averaging, spray marker control, factory process control and feedback. With the on-board micro-controller, the device can run stand alone as a remote tone burst pulser/receiver and data processing system without being connected to a computer. The user can set up the parameters through the Ethernet and then save the parameters in the non-volatile memory. The device can load the parameters automatically after the device is powered up without any control from the computer.

So **EUT3160** can be used as a smart flaw detector and distance measuring device with various software running at real-time. Custom software is available for your applications upon request.

SPECIFICATIONS

All Pulsers:

PRF	1Hz to 20,000Hz
Damping	500 ohms
Transducer Mode	Software controllable single or dual elements
Polarity	Negative
Channels available	1, 2, 4, 8, and 16

Square Pulser:

Pulse Width	20 to 2,000 ns
Pulse Voltage	25V to 400V in 256 steps

Tone Burst Pulser:

Pulse Frequency	20 kHz to 30 MHz
Pulse Voltage	+/-13V to +/-200V in 256 steps
Number of Pulses	1 to 32 half cycles

Receiver:

Receiver Gain	0 dB to 84 dB in 0.1dB increments.
DC Offset	-2.5V to 2.5V in 5mV increments
Low Pass Filter	All, 48, 16, 9, 4.8, 1.6, 0.6, and 0.16 MHz
High Pass Filter	22, 12, 7, 3.7, 1.2, 0.46, 0.12, and 0.012 MHz
Waveform	Full rectify, + half rectify, - half rectify, or RF
Band Width	Receiver band width up to 30 MHz

Digitizer:

Sampling Rate	160, 80, 40, 20, 10, 5, and 2.5 MHz
Resolution	8-bit (0 - 255) or 12-bit (0 - 4095) software selectable
Waveform Length	16 to 32,768 samples in 2 sample step
Trigger Source	+External, -external, internal or software
Connectors	LEMO 00 connectors for pulse out and receive in
Trigger delay	0 to 32,768 samples in 2 sample step
PC Interface	Ethernet 100BASE-T
Dimensions	4-channel: 4.2"x5.65"x1.55" (107mmX143mmX40mm) 8-channel: 8.4"x6"x1.75" (213mmX153mmX44mm) 16-channel: 8.4"x6"x3.5" (213mmX153mmX88mm)
Power Supply	+10VDC to 24VDC @0.5A with battery monitoring
Weight	1.5 pounds to 3 pounds
Add-on Options	Up to 6 encoder counters 16 digital I/O, two 10-bit ADCs and encoder connector EXT TRIG with LEMO 00 (or BNC) connector SYNC OUT with LEMO 00 (or BNC) connector Up to 2 14-bit ADC with user defined input range Windows software development kits for LabVIEW, MS C/C++ and Visual BASIC Distance Amplitude Correction DAC with 16,384 cell table, fixed and floating DAC curve to interface gate