DPR500

Dual Pulser/Receiver



- Configurable as a dual channel instrument with two independent receiver modules, or as a single channel instrument
- Receiver bandwith options up to 500 MHz.
- PC control of all pulser/receiver functions.
- Utilizes interchangeable remote pulsers.
- 72/80 dB gain low noise receivers.
- Operates in both pulse-echo and through transmission mode.
- Windows instrument control software, Windows NT and 98/95 .dll's, and LabVIEW .vi and c language drivers provided.

The DPR500 DUAL Pulser/Receiver is the first dual channel, modular instrument consisting of two complete pulser/receivers integrated into one unit. Receiver modules are currently available in the following bandwidths: 500 MHz, 300 MHz, and 50 MHz. The DPR500 may also be configured as a single channel instrument using any of the available modules.

The DPR500 utilizes remote pulsers. This approach enables the pulser to be located in close proximity to the transducer. By eliminating long lengths of cable between the pulser and transducer, cable effects that can produce undesirable reflections and ringing are minimized. A variety of interchangeable remote pulsers are available to accommodate a wide range of transducer frequencies and energy requirements.

Instrument functions include adjustable damping, gain, pulse amplitude, pulse energy, pulse repetition rate, high pass filters, low pass filters, echo or through mode select (dependent on pulser selection), and pulser trigger source.

The rapid-recovery receiver and the pulser circuitry are fully shielded from electromagnetic noise and interference to ensure a high signal to noise ratio.

The DPR500 includes a Windows-based software control program. An unlimited number of instrument setups can be stored and retrieved. Multiple JSR instruments may be connected to the same host computer. Windows NT and 98/95 dll's, and LabView and C language source code drivers are provided to enable rapid development of custom software.

Applications include acoustic microscopy, thin material or coating thickness gaging, computer controlled imaging and measurement systems, materials analysis and characterization, and transducer evaluation.

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DPR500 Specifications

Pulser

Excitation Pulse See separate remote pulser data sheets for specifications on interchangeable remote pulsers.

Pulse Trigger Source Internal or external, selectable by computer.

Ext. Trigger Input 3-5V positive going pulse. Triggering will occur on leading edge. TTL and CMOS compatible.

Sync Output +4 V into 50 Ω, tr <10 ns, tw = 40 ns min.

Receiver The DPR500 can be configured with any combination of one or two of the following receivers:

	500MHz	300 MHz	50MHz
Gain (Does not include gain from remote pre-amp)	-22 to 50 dB in 1 dB steps	-22 to 50 dB in 1 dB steps	-13 to 66 dB in 1 dB steps
Phase	0° (noninverting)	0° (noninverting)	0° (noninverting)
Input Referred Noise	112 µVp-p typ., 500 MHz BW, 50 dB gain	101 µVp-p typ., 300 MHz BW, 50 dB gain	80 µVp-p typ., 50 MHz BW, 60 dB gain
Bandwidth	5-500 MHz	5-300 MHz	0.001 - 50 MHz
High Pass Filter	5, 30 MHz	5, 30 MHz	1.0, 2.5, 5.0, 7.5, 12.5 MHz
Low Pass Filter	300 MHz	150 MHz	3, 7.5, 10, 15, 22.5 MHz
Input Impedance	50 Ω	50 Ω	50 Ω
Output Impedance	50 Ω	50 Ω	50 Ω
Max Output Power	5.5 dBm (approximately ± 0.60 V into 50 Ω)	5.5 dBm (approximately ± 0.60 V into 50 Ω)	5.2 dBm (approximately ± 0.58 V into 50 Ω)

Computer

Computer Interface Bi-directional communications via RS-232 serial link using RJ45 type 8-conductor cable. 6' cable length standard. Other lengths available.

Software Windows-based control program, Windows 98/95 and NT .dll's, and LabVIEW .vi and C language drivers are provided.

Miscellaneous

Power 100/120/220/240 VAC, 50/60 Hz, 40 W max

Dimensions 8.5" W x 3.5" H x 12" D

Weight 10 lbs. (6.8 Kg)

Operating Temperature 0 to 50 °C

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Note: Specifications are typical, at 25° C.
Specifications subject to change without notice.

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