Imaginant

JSR Ultrasonics

PureView 脉冲发射接收器

Features

- Miniaturized Pulser-Receiver at just 124mm x 50mm x 25mm.
- Controlled and powered via USB interface.
- High-gain low-noise broadband standard models with 500MHz (or higher) receiver bandwidths.
- Custom models can be defined with Receiver bandwidths up to 1 GHz.
- Pulse-echo or Through transmission mode operation.
- Selectable high-pass and low-pass filters.
- Pulser trigger rates up to 65 kHz on some models.
- JSR Dot Net Control Panel application and an SDK for Windows 7 and 10 custom software development.
- PureView models are easily Interchanged to reconfigure metrology systems on-the-go.
- Custom PureView models can be defined for high-volume applications.

Description

The PureView family of Pulser-Receivers are USB controlled and USB powered and span a broad range of operating frequencies, enabling their usage across a correspondingly broad range of ultrasound system applications. PureView units are ideal for many applications including IVUS ultrasound catheters, high-frequency scanning acoustic microscope, and other applications that require low power or miniaturization.

PureView Pulser-Receivers incorporate the latest advances in JSR Ultrasonics Pulser-Receiver design. Advantages include broad bandwidths, extremely low noise, and high Receiver signal amplification. PureView receivers have two selectable high-pass for enhancing receiver recovery from overload, and two selectable low-pass filters for out-of-band noise reduction. PureView Pulser-Receivers can operate in Pulse-Echo mode, where one ultrasound transducer acts as both transmitter and receiver, or in Through mode where one transducer acts as a transmitter and a second transducer acts as the receiver.

The PureView Pulser can be triggered at rates as high as 65 kHz for high-throughput metrology systems using an external source, or internally triggered while providing a synchronization signal to an external waveform digitizer.

PureView models are physically interchangeable to enable users to rapidly reconfigure measurement systems.

Across the PureView family, a range of receiver bandwidths and pulser energy and voltages are available, supporting transducer frequencies up to hundreds of megahertz.

Recommended Transducers

Model Number	Type	Recommended Transducers
JPV-PR-USB-La1	L	2 to 65 MHz
JPV-PR-USB-Lb2	L	0.5 to 40 MHz
JPV-PR-USB-Hb3	H	40 to 165 MHz
JPV-PR-USB-Ua1	U	> 100 MHz.

Receiver Characteristics

Model	Modes	Bandwidth (MHz)	Gain (dB)	High Pass (MHz)	Low Pass (MHz)	Peak-Peak Noise Input Referred (µV)	Spot Noise InputReferred (nV/Sq Rt Hz)
JPV-PR-USB-La1	Echo Through	1-100	-11.5 to 70	1, 12.5	60, 100		
JPV-PR-USB-Lb2	Echo Through	0.1-100	-11.5 to 70	0.1, 1	35, 100		
JPV-PR-USB-Hb3	Echo Through	5-300	-11.5 to 70	5, 30	150, 300	200@57dB	1.7
JPV-PR-USB-Ua1	Echo Through	1-500	-11.5 to 70	1, 30	300, 500	220@57dB	1.5

Pulser Characteristics

Model	Fall time Maximum (ns)	Pulse Width Typical (ns)	Pulse Amplitude Min (V)	Pulse Energy (µJ)	Maximum PRF (kHz)	Damping (Ohms)
JPV-PR-USB-La1	5 5.5	70 210	-135 -148	61 247	10 2.5	400, 200, 70, 46
JPV-PR-USB-Lb2	5.5 6	115 260	-140 -145	123 308	5 3	302, 100, 20, 16
JPV-PR-USB-Hb3	2.2	3	-125	3	65	100, 50, 33, 25
JPV-PR-USB-Ua1	1.7	2.4	-150	4.9	65	100, 50, 21, 17

Mechanical/Other

Model	Connectors	Dimensions L x W x H (mm)	Weight (kg)	Approvals
All models	SMA	131.5 x 50.8 x 25.4	0.16	CE, CSA