SPECTRADYNAMICS, INC.

HIGH PERFORMANCE DISTRIBUTION AMPLIFIER
PD10-RM-B

OPERATING MANUAL / 220VAC

SPECTRADYNAMICS, INC • 1849 Cherry St. Unit 2. • Louisville, CO 80027
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PD10-RM-B

Description

The PD10-RM-B is a TTL pulse distribution amplifier that accepts one input and provides ten outputs. The outputs are designed to drive low impedance loads and long 50 or 75-ohm cables. The propagation delay through the amplifier is typically 10 ns. The channel-to-channel delay differences are less than 1 ns. The small propagation delay characteristics and low temperature coefficient of delay are essential for the distribution of high quality timing signals. The instrument is available in a 1.72" X 19" X 14" rack mountable enclosure.

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Safety and Preparation for Use

CAUTION!
Voltages capable of causing injury or death are present in this instrument. Use extreme caution whenever the instrument cover is removed.

Line Voltage
This instrument has been setup to operate on 220 to 240 VAC and a line frequency of 50 to 60 Hz. The unit can be converted to operate on a line voltage 100 to 120 VAC, please contact SDI.

Fuse
A 0.25 Ampere 250V slow-blow fuse is used for 220 to 240 VAC operation.
Only replace fuses with the same type and specifications.

Line Cord
The instrument has a detachable, three wire power cord for connection to a grounded power source. The enclosure of the unit is directly connected to the outlet ground to protect against electrical shock. Always use an outlet with a protective ground and do not disable this safety mechanism.

Service
Do not attempt to service or adjust the instrument unless another person, capable of providing first aid or resuscitation, is present. Contact SDI for any questions or repairs.

Operation
To operate the unit, locate the AC power entry connector on the rear panel and connect the power cable. When power is applied to the unit, a red led located on the front panel, labeled “AC Power”, should light up.

The Front Panel

AC Power

The led is on when power is applied to unit and the unit is operating properly.

DC Power LED

The LED is on when DC power is applied to unit and the unit is operating properly.

1PPS LED

The LED will flash on the falling edge of the 1 PPS output signal.

The Back Panel

AC POWER ENTRY MODULE

The PD-10 is configured to operate on 220 to 240 VAC.

1 PPS Input

Pulse input. The input signal should conform to TTL levels.

Outputs

Distribution amplifier output. The outputs are designed to drive 50 ohm cables. The outputs provide a 2 volt peak-to peak signal into a 50 ohm load.

Specifications

The rise and fall times were tested with a TTL input signal at 100 kHz.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Rise time	10 - 90 %	-	3	4	ns
Fall time	10 - 90 %	-	3	4	ns
Propagation delay	50 ohm load	-	10	12	ns
Differential delay	Channel - Channel		200	500	ps
Impedance	input output		1000 10		Ohms
High level Low level	50 ohm load 50 ohm load	2 -	2.4 0.4	- 0.5	V V
Temperature-delay Coefficient	0 - 50 ºC 25 - 35 ºC		3 3	5	ps/ºC

Warranty

The PD10-RM-B is warranted to be free of defects under normal operating conditions, as specified, for one year from date of original shipment from SpectraDynamics, Inc (SDI). SDI's obligation and liability under this warranty is expressly limited to repairing or replacing, at SDI's option, any product not meeting the said specifications. This warranty shall be in effect for one (1) year from the date a PD10-RM-B is sold by SDI. SDI makes no other warranty, express or implied, and makes no warranty of the fitness for any particular purpose. SDI's obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect, or consequential damages or delay. Any improper use, operation beyond capacity, substitution of parts not approved by SDI, or any alteration or repair by others in such manner as in SDI's reasonable judgment affects the product materially and adversely shall void this warranty. No employee or representative of SDI is authorized to change this warranty in any way or grant any other warranty.

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