

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

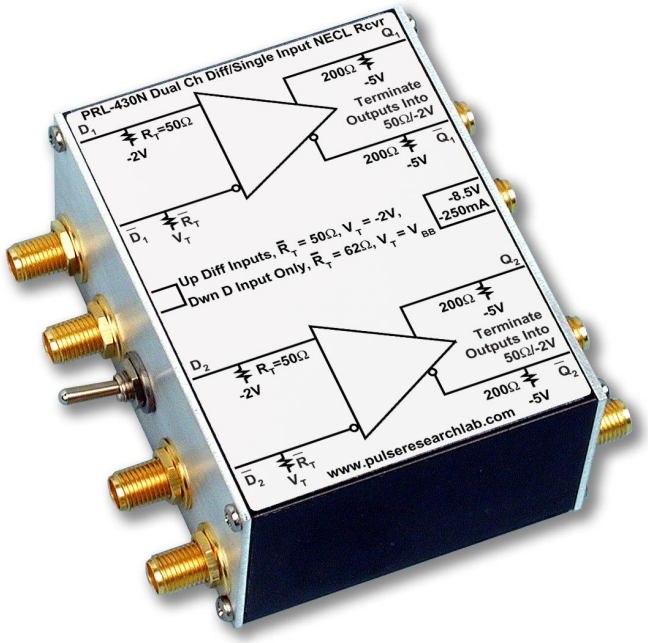
PRL-430N/430P DUAL CHANNEL DIFFERENTIAL NECL/PECL RECEIVERS

APPLICATIONS

- Converts Single-ended Input Signals into Differential Signals for driving long lines
- Ideal for receiving Differential Signals from Long Lines
- Converts GHz Sine Wave Signals into Differential NECL/PECL Signals
- An Essential Lab Tool for Working with GHz NECL/PECL Circuits

FEATURES

- 3 GHz f_{MAX}
- Single-ended or Differential Inputs
  Internal 50 Ω/V_{TT} Input Terminations also accept Sinewave or AC coupled Signals
- V_{TT} equals –2 V for NECL and +3 V for PECL
- Complementary Outputs drive 50 Ω loads terminated to V_{TT} or AC coupled 50 Ω loads
- DC Coupled I/O's Compatible with ECLinPS or 10KH Devices
- SMA I/O Connectors
- Ready-to-Use 1.3 x 2.9 x 2.2-in. Module includes a ±8.5V AC/DC Adapter



PRL-430N Differential NECL Receiver

DESCRIPTION

The PRL-430N and PRL-430P are, respectively, dual channel, differential or single-ended input NECL and PECL receiver modules with complementary outputs. They are intended for converting single-ended signals, including GHz sine waves, into differential NECL/PECL signals for driving long lines and for receiving differential signals from long lines.

A switch selects either single-ended or differential inputs, as shown in Figs. 1A and 1B. In the differential input mode, both inputs D and $\overline{D}$ are terminated internally into 50 Ω/V_{TT}, where V_{TT} is equal to –2 V for NECL and +3 V for PECL. In the differential input mode, therefore, either one or both inputs can accept AC coupled signals as well. In the single input mode, signals should be connected to the D inputs only. The $\overline{D}$ inputs are switched internally to V_{BB}, nominally -1.3 V for NECL and +3.7 V for PECL, and termination resistors $\overline{R}_T$'s for the $\overline{D}$ input channels are changed to 62 Ω. Complementary outputs of both models are designed for driving 50 Ω loads terminated into V_{TT} or AC coupled 50 Ω loads

Either output from the PRL-430N can drive a single-ended NECL input. The PRL-430P complementary outputs, however, must be used together for driving differential PECL inputs only, because the reduced output logic swing of 400 mVp-p, due to short circuit protection reasons, is not logic level compatible with single-ended PECL input.

The PRL-430N and PRL-430P are each housed in a 1.3 x 2.9 x 2.2-in. extruded aluminum enclosure and is supplied with a -±8.5V AC/DC Adapter. If mounting is desired, a pair of 35001420 mounting brackets can accommodate two PRL modules of the same length. A number of PRL modules can also share a single ±8.5V AC/DC adaptor using the PRL-730 or PRL-746 voltage distribution module. Please see the Accessories Section for more detail.

PULSE RESEARCH·LAB

1234 Francisco Street, Torrance, CA 90502
Tel: 310-515-5330 Fax: 310-515-0068
Email: sales@pulseresearchlab.com
www.pulseresearchlab.com

SPECIFICATIONS* (0º C ≤ TA ≤ 35ºC)

Symbol	Parameter	PRL-430N			PRL-430P			Unit	Notes
		Min	Typ.	Max	Min	Typ	Max		
R_{in}	Input Resistance	49.5	50	50.5	49.5	50	50.5	Ω	
V_{TT}	D Input Termination Voltage (fixed)	-2.2	-2	-1.8	2.7	3	3.3	V	
V_T	$\overline{D}$ Input Termination Voltage (variable)	-1.17/ -2.2	-1.3/ -2	-1.43/ -1.8	3.33/ 2.7	3.0/ 3.7	4.07/ 3.3	V	
V_{IL}	Input Lo Voltage	-1.95	-1.6	-1.48	3.05	3.4	3.52	V	
V_{IH}	Input Hi Voltage	-1.13	-0.9	-0.81	3.87	4.1	4.19	V	
V_{OL}	Output Lo Voltage	-1.95	-1.7	-1.48	3.0	3.15	3.3	V	
V_{OH}	Output Hi Voltage	-1.13	-0.9	-0.81	3.4	3.55	3.8	V	
I_{DC}	DC Input Current		-235	-250		235	260	mA	
V_{DC}	DC Input Voltage	-7.5	-8.5	-12	7.5	8.5	12	V	
V_{AC}	AC/DC Adapter Input Voltage	103	115	127	103	115	127	V	
TPLH	Propagation Delay to output ↑		750	950		750	950	ps	
TPHL	Propagation Delay to output ↓		750	950		750	950	ps	
t_r/t_f	Rise/Fall Times (20%-80%)		400	550		400	550	ps	Note (1)
tSKEW	Skew between Q&$\overline{Q}$ outputs		20	75		20	75	ps	
f_{MAX}	Max clock frequency	2.8	3.2		2.5	3		GHz	Note (2)
V_{CMR}	Common Mode Range	-2.7		-0.4	2.5		4.6	V	
	Size	1.3 x 2.9 x 2.2			1.3 x 2.9 x 2.2			in.	
	Weight	5			5			Oz	

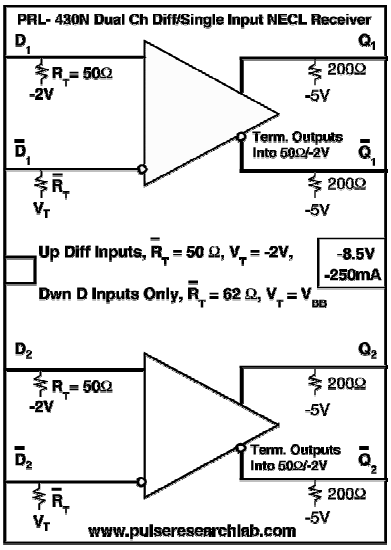


Fig. 1 PRL-430N Block Diagram

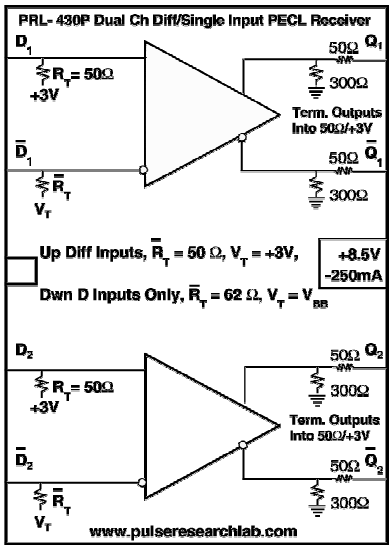


Fig.2 PRL-430P Block Diagram

Notes:

(1). The output rise and fall times are measured with both the Q and $\overline{Q}$ outputs terminated into 50Ω/V_{TT}. An unused complementary output must be either terminated into 50Ω/V_{TT} or AC coupled into a 50Ω load. Otherwise, output waveform distortion and rise time degradation will occur. Use the PRL-550ND4X/PD4X or PRL-550NQ4X/PQ4X, two or four channel NECL/PECL Terminator, respectively, for the 50Ω/V_{TT} termination and for connection of NECL/PECL signals to 50Ω input oscilloscopes.

(2). f_{MAX} is measured by inputing either a sinewave or a pair of complementary signal using the differential input mode(switch up). The complementary outputs of either unit are divided by four using the PRL-255N/255P in cascade, and then the outputs of the PRL-255N/255P are measured using the PRL-550NQ4X/PQ4X, four channel NECL/PECL Terminators, connected to a sampling 'scope.

*All measurements are made with outputs terminated into 50Ω/V_{TT}, using the PRL-550NQ4X/PQ4X, four-channel NECL/PECL Terminator, connected to a 50Ω input sampling oscilloscope.

PULSE RESEARCH·LAB

1234 Francisco Street, Torrance, CA 90502
Tel: 310-515-5330 Fax: 310-515-0068
Email: sales@pulseresearchlab.com
www.pulseresearchlab.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP