

# Low Power PCM Line Receiver

## GENERAL DESCRIPTION

The XR-T5676 is a low power PCM line receiver IC intended to operate up to 2.048 MBPS and a maximum signal level attenuation of -10dB (cable loss) at half the bit rate. Because of its small outline and low power consumption, this device is very well suited for mux/demux applications interfacing to several T1/CEPT lines.

## FEATURES

- Low Power (Typ 6mA)
- Single +5.0V Supply
- Up to 2.048 MBPS Operation
- TTL Compatible Interface
- Inputs: Balanced Transformer Single Coaxial  
Capacitive Coupled Twisted Pair

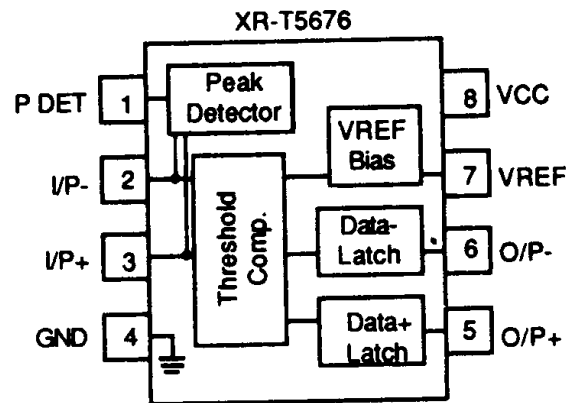
## APPLICATIONS

- Mux/Demux Equipment
- T1 and CEPT Interfaces
- CPI's
- DMI's

## ABSOLUTE MAXIMUM RATINGS

Supply Voltage	+20V
Storage Temperature	-65°C to +150°C

## FUNCTIONAL BLOCK DIAGRAM



## ORDERING INFORMATION

Part Number	Package	Operating Temperature
XR-T5676IN	Ceramic	-40°C to +85°C
XR-T5676IP	Plastic	-40°C to +85°C

## SYSTEM DESCRIPTION

The XR-T5676 PCM line receiver IC accepts the incoming PCM signals which have been attenuated and distorted by the cable through a balanced transformer or a single capacitive coupled terminal. A peak detector which follows the input generates a DC reference voltage for the positive and negative threshold comparator. This voltage in turn is mirrored around a reference voltage to establish the threshold voltage for the negative pulses.

## PIN DESCRIPTION

Pin	Name	Description			
			5	O/P+	Data Positive Output. (active low)
1	PDET	Peak Detector Output. Connects to a timing capacitor for signal peak detection.	6	O/P-	Data Negative Output. (active low)
2	I/P-	Receiver Negative Input.	7	V <sub>REF</sub>	Reference Voltage. Establishes reference voltage for transformer coupled applications.
3	I/P+	Receiver Positive Input.			
4	GND	Ground. Most negative supply voltage (0V)	8	V <sub>CC</sub>	Positive Supply Voltage. (5.0V ± 5%)

## DC ELECTRICAL CHARACTERISTICS

Test Conditions: V<sub>CC</sub> = 5V ± 5%, T<sub>A</sub> = 25°C unless otherwise specified.

PARAMETER	MIN	TYP	MAX	UNIT	CONDITIONS
Supply Voltage	4.75		5.25	V	
Supply Current		6	10	mA	
Data Output Low		0.3	0.6	V	Pin 5 & 6 I <sub>OL</sub> = 1.6mA
Data Output High	3.0	3.6		V	Pin 5 & 6 I <sub>OH</sub> = 400µA

## AC ELECTRICAL CHARACTERISTICS

Test Conditions: V<sub>CC</sub> = 5V ± 5%, T<sub>A</sub> = 25°C unless otherwise specified.

PARAMETER	MIN	TYP	MAX	UNIT	CONDITIONS
Input Level		6	6.6	V <sub>p-p</sub>	Pins 2 & 3
Loss Input Signal					
Alarm Level		0.6		V <sub>p-p</sub>	Pins 2 & 3
Input Impedance		2.5		KΩ	@ 2.048 MBPS
Data Pulse Width	200	244	300	nS	Cable loss = 0dB

# XR-T5676

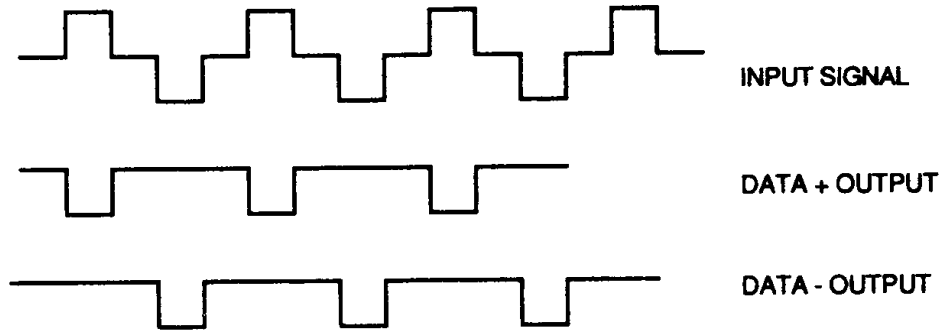


Figure 1. Receiver Output Timing Diagram with 1-1-1-1 Pattern

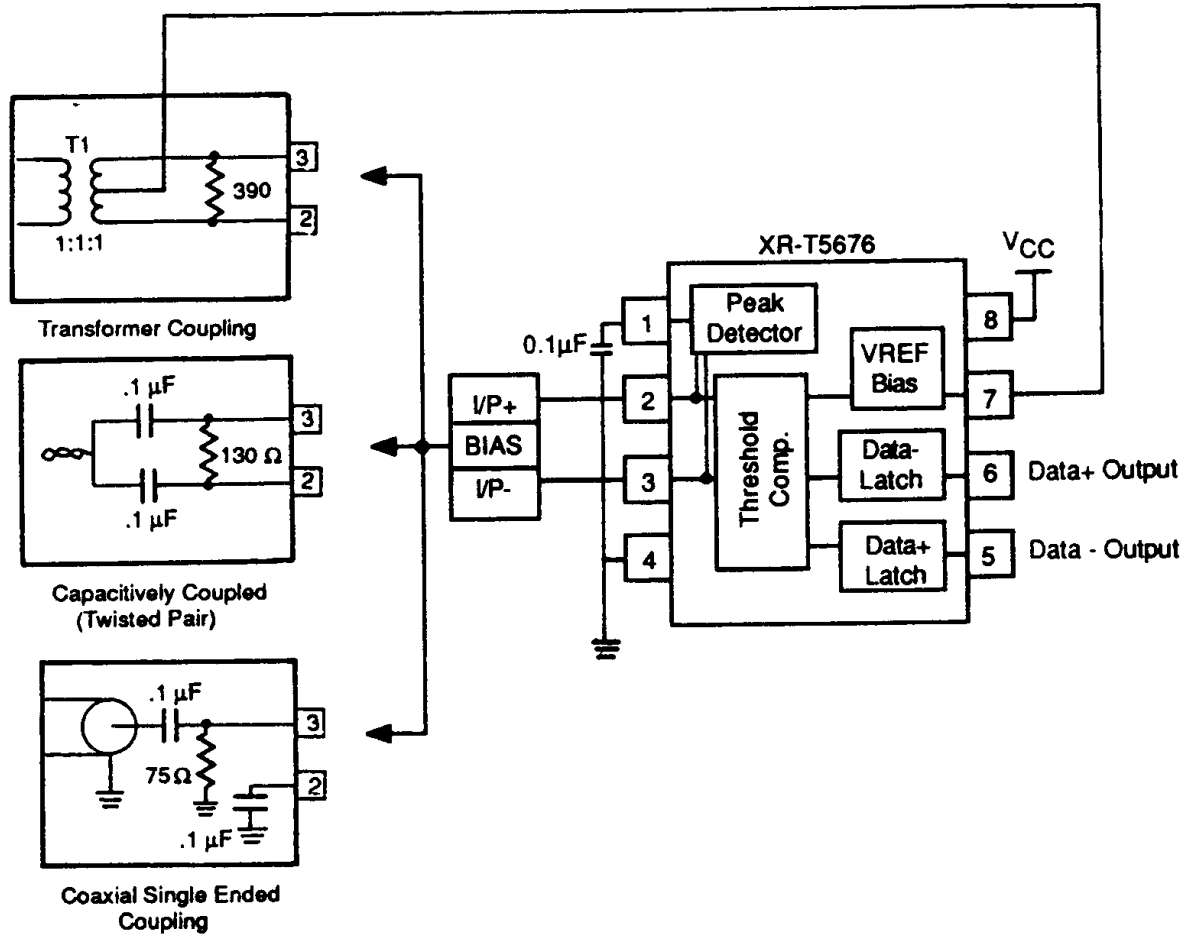


Figure 2. Typical Application Circuit