

Centronics PinOut, Connector Interface

Search

Parallel port; Printer side

The Personal Computer [PC] **Centronics Connector Pin-Out** for the Centronics Standard Parallel Port [SPP] is listed.

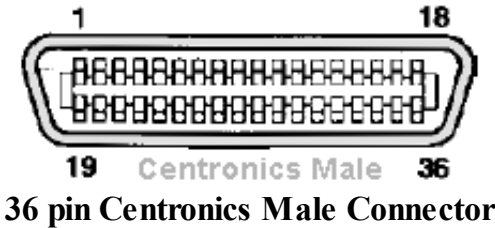
The Centronics parallel cable has a maximum run out to 12 feet, using a 36-pin champ connector.

The Centronics interface was obsoleted by the introduction of [IEEE-1284](#) in 1995.



The [IEEE-1284 Bus](#) cable which replaced this bus has a maximum run out to 25 feet. The function and pinout between the two buses differ.

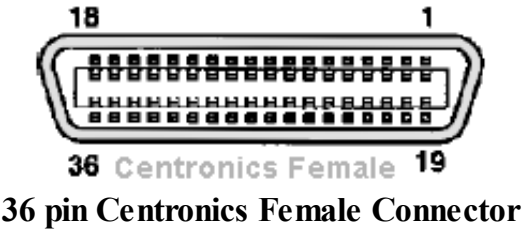
The Centronics interface is an 8-bit [parallel] unidirectional bus. The Parallel port [Centronics] interface cable used a 36-pin connector on the Printer side, and a 25-pin D-Sub connector on the Host [PC] side. The D-Sub connector pinout used on the computer is listed on the [PC Parallel Port](#) page. There is no defined standard for the Centronics interface, timing varied between printers from different manufacturers, as drivers, receivers and [termination](#) differed. The maximum possible transfer rate is 150kbps, but typical values were 10kbps. The electrical interface used [TTL logic levels](#). The data lines used [74LS374](#) integrated circuits [ICs], while the control lines used 7405 ICs. Resistor [pull-ups](#) for the open collector lines were 4.7k ohm to +5 volts, but could be any value because there was no specification. The IBM PS/2 series of computer [also obsolete] added bi-direction to the port. The Centronics interface is obsolete. The Centronics Pinout is listed in the table below.



36 Pin Centronic Connector Pin Out

Pin #	Pin Name	Pin Description and Function
1	/STROBE	Data Strobe (May be called /PSTROBE, HostCLK)
2	D0	Data Bit 0
3	D1	Data Bit 1
4	D2	Data Bit 2

5	D3	Data Bit 3
6	D4	Data Bit 4
7	D5	Data Bit 5
8	D6	Data Bit 6
9	D7	Data Bit 7
10	/ACK	Acknowledge receipt of Data (or /PACK, PtrCLK)
11	BUSY	Strobe received, Waiting on Acknowledge (or /PBUSY, PtrBusy)
12	PAPER ERROR	Paper Out / Paper Error (AckDataReq)
13	SELECT Out	Daisy-Chain Device Select Signal (May be tied high in some Printers)
14	/AUTOFEED	Auto-Feed paper, Not used with PostScript printer (HostBusy)
15	Select IN	Daisy-Chain IN
16	Signal GND	Logic Ground
17	CHASSIS GND	Shield Ground
18	+5 V PULLUP	+5 V DC (50 mA max)
19	GND	Signal Ground (Strobe Ground)
20		Signal Ground (Data 0 Ground)
21		Signal Ground (Data 1 Ground)
22		Signal Ground (Data 2 Ground)
23		Signal Ground (Data 3 Ground)
24		Signal Ground (Data 4 Ground)
25		Signal Ground (Data 5 Ground)
26		Signal Ground (Data 6 Ground)
27		Signal Ground (Data 7 Ground)
28		Signal Ground (Acknowledge Ground)
29		Signal Ground (Busy Ground)
30	/GNDRESET	Reset Ground
31	/RESET	Cancel Current Job (May be called /PRIME)
32	/FAULT	Fault with Printer (Low when offline)
33	0 V	Signal Ground
34	n/c	Not used
35	+5 V	+5 V DC
36	/SLCT IN	Select In; Taking low or high sets printer on line or off line



The Personal Computer [PC] **Centronics Connector signal assignments** are listed above. These bits include 8 data lines, a Strobe, a Busy, an Acknowledge, a Select, Paper Empty, Fault, Initialize Printer, Select Printer, and a Auto Feed line.

The **Centronics** bus provided a parallel port for the IBM compatible personal computer. The **Centronics** bus had a maximum cable limit of around 12 feet.

The **Centronics** bus was replaced by the [IEEE-1284 Bus](#) which is mechanically compatible with the **Centronics** bus, but the pin functions were changed.

The original Centronics was named because of the type of connector it used, a Centronics connector. Some devices may not use all the pins:

- Apple LaserWriter Pro 600/630 does not use pins 18, and 33 - 36
- Apple LaserWriter Select 310 does not use pins 14 - 16, 18, 31, 33 - 36
- Apple LaserWriter Select 360 does not use pins 14, 15, 34, 36. Pins 18, 33, 35 are not used and tied high
- Apple LaserWriter 16/600 does not use pins 15, 34. Pins 18, 33, 35 are not used and tied high
- Apple LaserWriter 12/640 does not use pins 15, 33, 34, 35.

Back to the [IEEE-1284 Bus](#) page. For reference, the IEEE1284 interface is being retired in favor of either a [USB](#) or [Ethernet](#) interfaces.

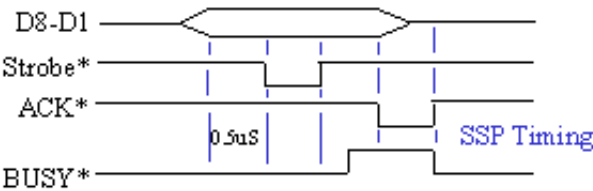
Timing for the SSP interface is shown below. The transfer starts when the Printer is ready for data and brings BUSY low.

The Host then places data on the bus and waits 500nS [minimum] before taking the Strobe active [low]. The Strobe is active for 500nS minimum.

The Host leaves valid data on the bus for another 500nS after the Strobe is removed.

Once the printer receives the data it takes the Busy line active to indicate data is being processed.

When the printer has finished with the data it will activate the ACK line for a minimum of 500nS, and then de-assert the BUSY line.



Centronics Standard Parallel Port [SPP] Data Timing

36 Pin Centronics Signal Name Description

Data8 - Data1	Unidirectional data lines. Data8 is the most significant.
STROBE*	Data is valid during an active low pulse on this line.

AUTOFD*	Usage of this line varies. Most printers will perform a line feed after each carriage return when this line is low, and carriage returns only when this line is high.
INIT*	This line is held low for a minimum of 50mils to reset the printer and clear the print buffer.
SelectIn*	The host drives this line low to select the peripheral.
ACK*	The peripheral pulses this line low when it has received the previous data and is ready to receive more data. The rising edge of ACK* can be enabled to interrupt the host.
BUSY	The peripheral drives this signal high to indicate that it is not ready to receive data.
PError	Usage of this line varies. Printers typically drive this signal high during a paper empty condition.
Select	The peripheral drives this signal high when it is selected and ready for data transfer.
FAULT*	Usage of this line varies. Peripherals usually drive this line low when an error condition exists.

Navigation: [Engineering Home](#) > [Interface Buses](#) > [Cabled Interface Standards](#) > Centronics Parallel Port.



[Home](#)



[Distributors](#)



[Components](#)



[Equipment](#)



[Software](#)



[Standards](#)



[Buses](#)



[Design](#)



[Reference](#)

Modified 2/26/12

© 1998 - 2012 All rights reserved Leroy Davis