



## IEEE 1284 (Parallel Port)

**Massimiliano Pieraccini**



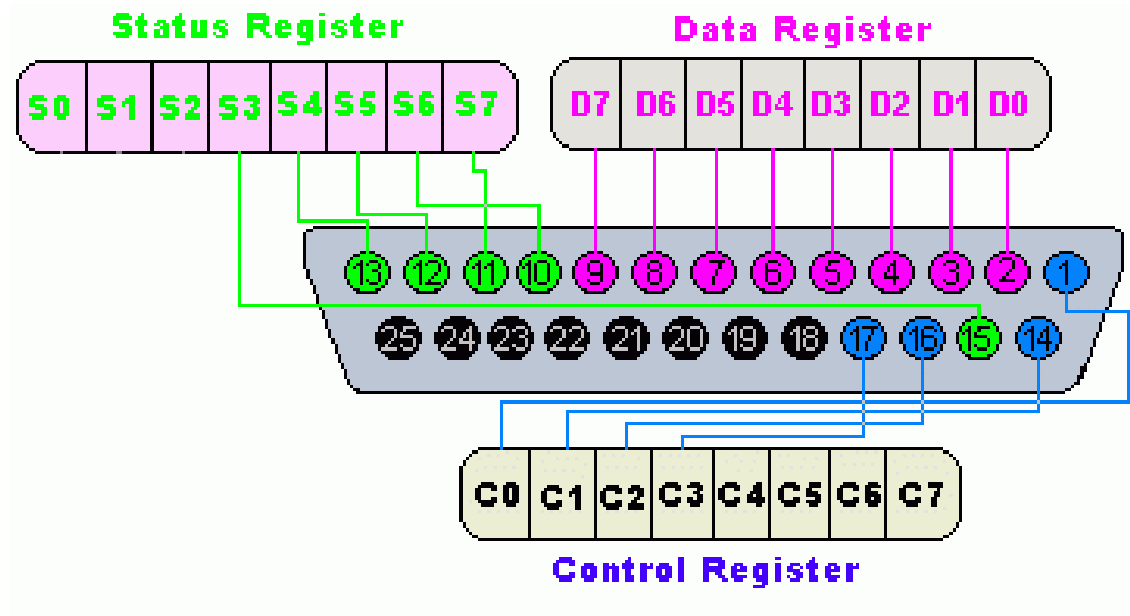
Porta a 25 pin (DB25) originariamente per comunicare con la stampante

1981: IBM

1994: IEEE 1284 Standard

8 Mbit/s

<http://www.fapo.com/ieee1284.htm>

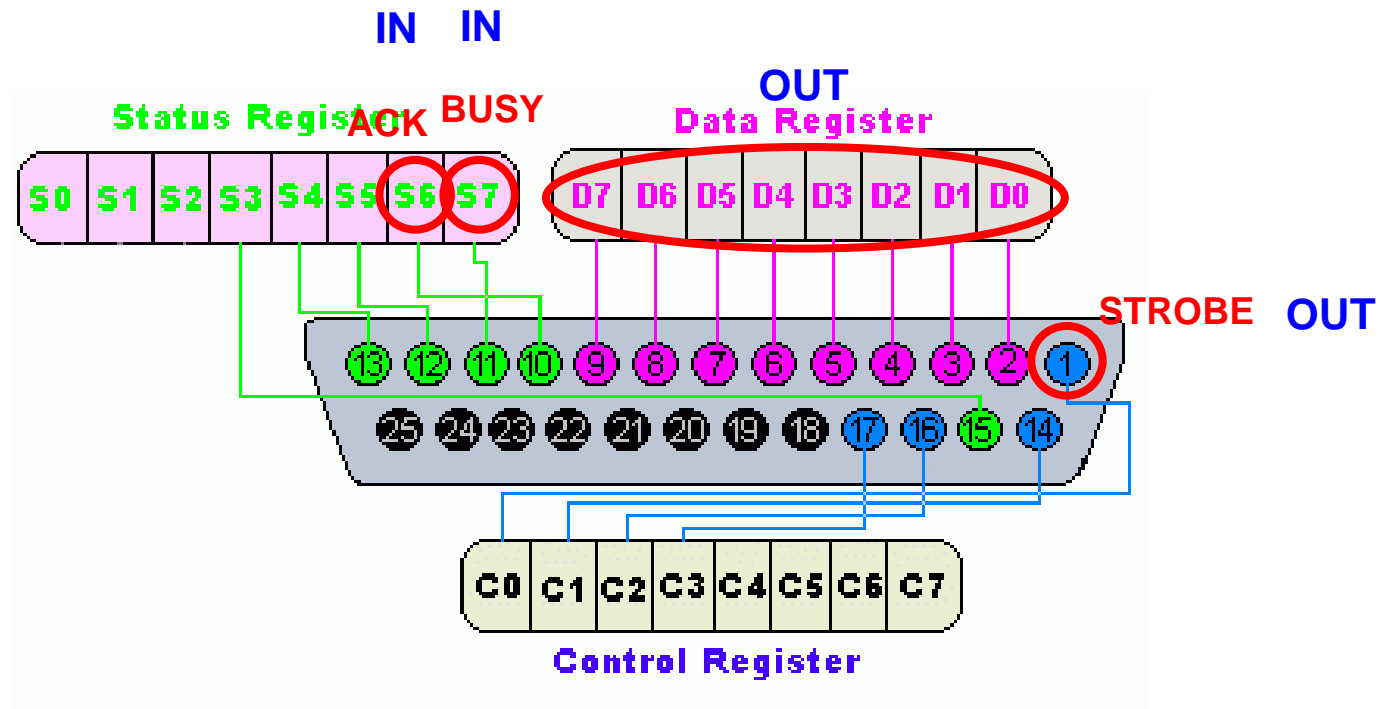


- Control (4 lines)
- Status (5 lines)
- Data (8 lines)

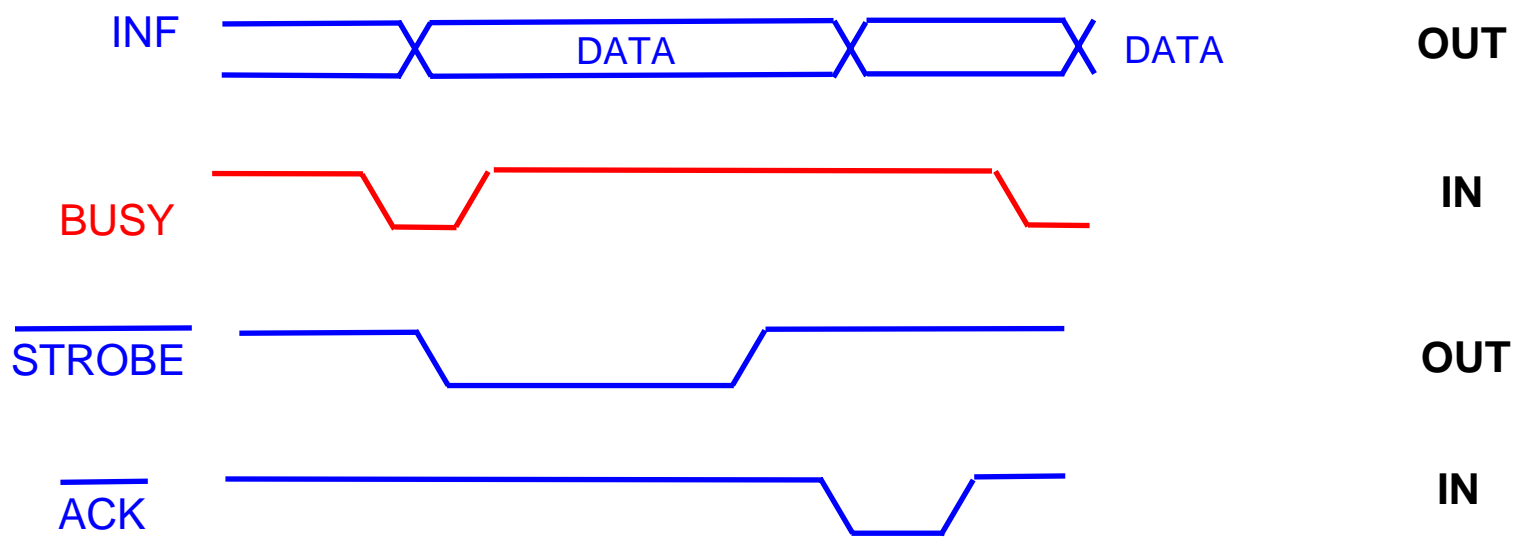
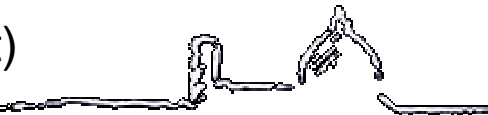


- 1) **Compatibility Mode** ("Centronics" or SPP)  
Dati solo in uscita
- 2) **Nibble Mode** Dati solo in ingresso,  
4 bits alla volta usando le linee di stato
- 3) **Byte Mode** ("bidirezionale")  
8 bits alla volta in ingresso e in uscita.  
IBM PS/2
- 4) **EPP** (Enhanced Parallel Port)  
usata principalmente per CD ROM, dischi esterni,..)
- 5) **ECP** (Extended Capability Port)  
usata dalle stampanti più recenti multifunzione

# Compatibility Mode ("Centronics" or SPP Standard Parallel Port)

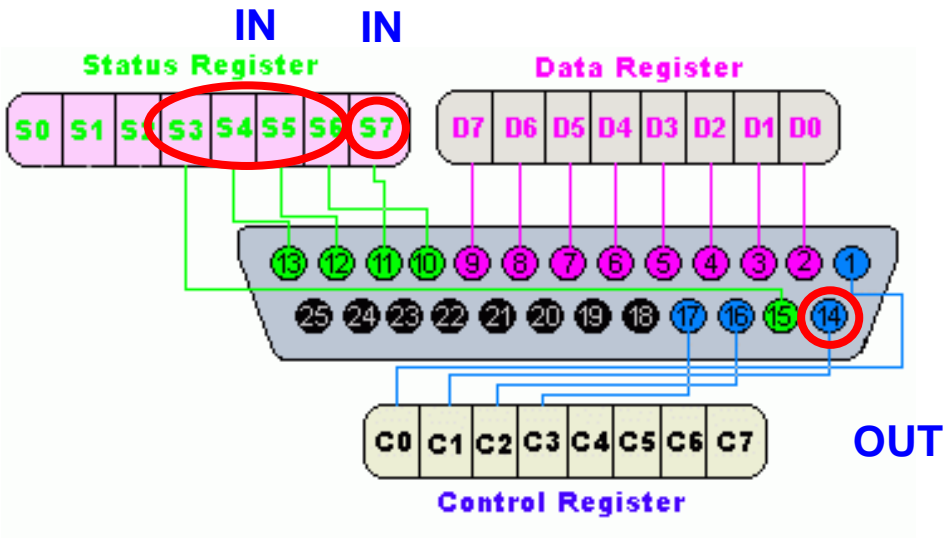


# Compatibility Mode ("Centronics" or SPP Standard Parallel Port)



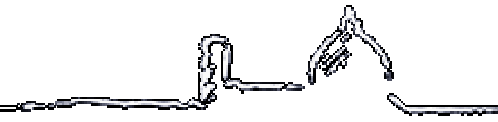
150 KByte/s (1.2 Mb/s)

# Nibble Mode



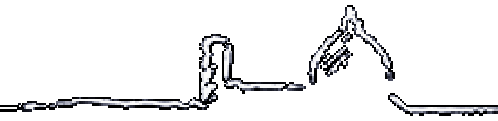
Manipolazione dei nibble per la ricostruzione dei byte

50 KByte/s    (400 Kb/s) <sup>7</sup>



**Data register bidirezionale**





**EPP** Enhanced Parallel Port

Bidirezionale

Indirizzi e Dati

Transferimento in un ISA I/O ciclo

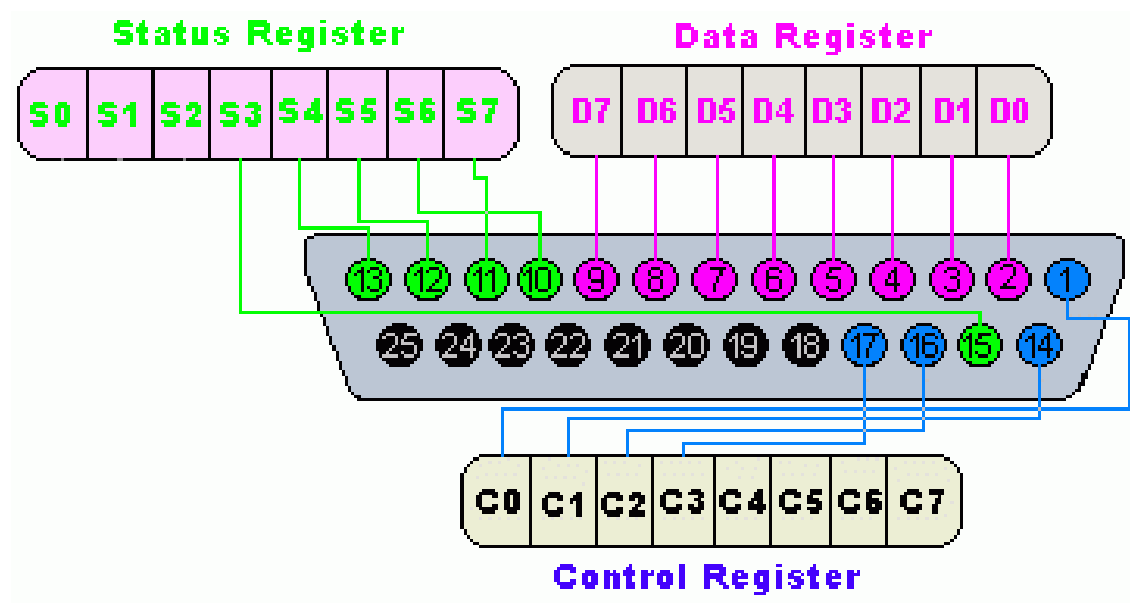
**ECP** Extended Capability Port

Dati e comandi (**Run Length Count**, Channel Address)

FIFO

Negoziatore dell'inversione del flusso di dati

# Porta paralela



- Control (4 lines)
- Status (5 lines)
- Data (8 lines)

Pin No (DB25)	Signal name	Direction	Register - bit	Inverted
1	nStrobe	Out	Control-0	Yes
2	Data0	In/Out	Data-0	No
3	Data1	In/Out	Data-1	No
4	Data2	In/Out	Data-2	No
5	Data3	In/Out	Data-3	No
6	Data4	In/Out	Data-4	No
7	Data5	In/Out	Data-5	No
8	Data6	In/Out	Data-6	No
9	Data7	In/Out	Data-7	No
10	nAck	In	Status-6	No
11	Busy	In	Status-7	Yes
12	Paper-Out	In	Status-5	No
13	Select	In	Status-4	No
14	Linefeed	Out	Control-1	Yes
15	nError	In	Status-3	No
16	nInitialize	Out	Control-2	No
17	nSelect-Printer	Out	Control-3	Yes
18-25	Ground	-	-	-