IEEE 488 / GPIB

IEEE 488 - General purpose interface bus and protocol widely used in hardware - software slm for connection of pc and work station with measurement instruments (in DAQ system).

Initialy it is named as "Hewlett packard interface bus" after hewlett developed it. Later this protocol was standardized by American Institute of electrical and electronics Engineers (IEEE) and then named as IEEE 488

Device connected to IEEE - 488 interface can have two conditions "listener" (Read) or "talker" (Send) or be the condition "controller"

Controller decides which device stay in "talker" and "listener" conditions at the moment

The bus consists of 24 wires

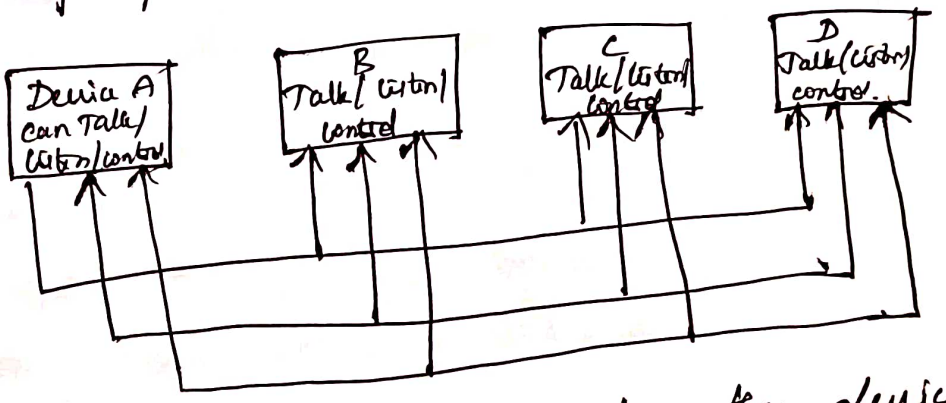
* 16 signal lines → Data transfer.
  (8 to send
  8 to return)
* 3 ⇒ matching (handshake)
* 5 ⇒ bus control.

Configured as to serve up to 15 clients with address from 0 to 30

It is short range digital communication 8 bit parallel multi-master interface bus specification.

IEEE 488 bus block diagram:

The purpose of IEEE 488 bus is to provide digital interfacing between programmable instrument. There are many instrumentation system in which interactive instruments, under the command of a central controller, provide superior error-free results when compared with conventional manually operated systems.



* A talker can send data to other devices at least via the bus.
* In the listen mode it may receive an instruction to make a particular measurement and in the talk mode it may send its measured
* A controller manages the operation of the bus system. It control data gathering and transfer by designating which device talk or listen as well as controlling specific action within other devices.