Data Bus Components:

In computer terminology, a bus is a communication system that allows the transfer of data between components within a computer, or between separate computers. These components could be any kind of hardware components, such as wire or optical fiber, or software. The three main parts of a computer is the central processing unit (CPU), main memory, and the peripherals that communicate data. The function of a data bus is to either allow these components to communicate with each other or with the outside world.

Advancements in the Data Bus Technology:

The earliest versions of [data buses](#) were simply parallel electrical wires with multiple connections. First generation data buses, first introduced by IBM back in 1958, were simply bundles of wire that attached computer memory and peripherals. Soon thereafter, channel controllers were introduced, which were small computers designed to handle the input and output of any data bus. This resolved the primary issue of complications caused by interrupts, a signal sent to the processor by either hardware of software that indicates a problem or a situation that needs immediate attention. Companies like Control Data Corporation and other vendors began to introduce these types of products as well. In 1969, Digital Equipment Corporation pioneered the first advancement in data bus technology by mapping peripherals into memory buses. Once second generation data bus systems came around, it had advanced from 8-bit parallel buses to 16 or 32-bit, meaning they were able to transfer 2-4 times the amount of data per second. Third generation buses, which began entering the market around 2001, began to look more like entire networks than just a data bus, with the speed increasing up to 64-bit or 96-bit in newer computers. Computer technology is advancing just as rapidly to keep up with data bus technology, meaning that while data buses can handle more bits, computers can also handle the higher bitrates. The amount of data that can be transferred by a data bus is referred to as bandwidth.

Most modern computers today use both parallel and serial buses.

- **Parallel data buses:**
  - Carry data on many wires simultaneously
  - Each wire carries one bit of data
  - Most common parallel buses: Advanced Technology Attachment (ATA), PC card, Small Computer System Interface (SCSI)
- **Serial data buses:**
  - Has one wire that carries all the bits of data
  - Most common serial data buses: Universal Serial Bus (USB), FireWire, Serial ATA, Serial Attached SCSI

In addition, nearly every computer contains internal and external data buses, which are used in tandem.

- **Internal data bus:**
  - Also known as a local bus
  - Connects all components that are on the motherboard
- **External data bus:**
  - Connects all peripheral devices to the motherboard

- o Type of data bus is contingent upon the type of peripheral being attached to the computer

You can browse on web for leading distributor of all types of Data Bus Connector Components from a comprehensive list of manufacturers.