3. **Direct entry through intelligent terminal**: Intelligent terminals are very similar to cathode ray terminals. They have built in processing capabilities. The need of source document can be eliminated by the use of intelligent terminal for data capture unless a paper record of the transaction is required. The moment a transaction takes place, the operator keys the data directly through the intelligent terminals. As the data is entered, the processor validates the data. One advantage of intelligent terminal is that it can directly interact with the computer.

10.5 INPUT MEDIA AND DEVICES

Source data can be put into the system using a variety of ways. Various media and devices are used for this purpose. Few of the important media and devices are listed below—

1. **Punch cards**: The width of punch cards is either 80 or 96 columns. Data is arranged in a sequential and logical order. It is arranged in such a way so that it becomes easy to put the data into the system. Key punch is used to copy data from source documents into cards. It is very important that while designing both source document and cards should be considered simultaneously.
2. **Key to diskette**: It is modeled after the key punch process. The card is replaced by a diskette and it can store up to 3,25,000 characters. It is equivalent to data stored in 4050 punch cards. Data is stored in diskette in sequential and logical manner in batches.
3. **MICR**: Magnetic Ink Character Recognition (MICR) is a technology that translates the special fonts printed in magnetic ink on cheques into directed computer input. This technology enables a machine to read, process and record information. MICR numbers are designed in such a way so that it can be read by both user and the system. The MICR numbers cannot be faked or copied due to the use of magnetic ink and unique fonts.

4. **Mark-sensing readers:** Mark sensing readers (MSR) is also known as optical mark reader (OMR). It can recognize marks made by a pencil or pen on a specially designed form or card. These cards and forms are pre-printed for special uses. A mark in a particular position in the form or card represents certain meaning. MSR are mostly used in tests, surveys, questionnaires, etc where answers are recorded as dark pencil marks in boxes or circles.
5. **Optical Character Recognition (OCR) readers**: It recognizes all kinds of different characters. It recognizes both hand-written and printed characters and converts it into a machine-readable, digital data format. There are various applications of OCR technology. Image based PDF, TIFF, or JPG can be automatically converted into a text-based machine readable file. Digital files processed with OCR can be searched, viewed, edited and sent to other systems.
6. **Optical bar code readers**: Barcodes consists of bars and spaces that represent characters, numbers, etc. Optical recognition devices called barcode readers or barcode scanners are used to read the barcodes. Optical barcode readers detect any combination of marks that represents data. The most widely used optical bar code reader is Universal Product Code (UPC). UPC is widely used in retail stores.
7. **Cathode Ray Tube**: CRT is mostly used for online data entry. CRT screen has the ability to display 20, 40 or 80 characters simultaneously on a screen. They can display as many as 24 lines of data.

10.6 ONLINE DATA ENTRY

The most widely used technology for online data entry is Cathode Ray Tube (CRT) screens. As computers are commonly used and its price also declining, entering data directly into the computers using keyboards has become very popular. For example, Automated Teller Machine (ATM) in banking sector, Point Of Sale (POS) in retailing, etc.