Different Types of Plotters and Their Uses Functions Types with Differences

Plotters are similar to printers, they are used and utilized in drawing illustrations, diagrams, construction maps, architectural plans, engineering drawings, business charts, and 3D printing, and are also used in printing charts rather than alphanumeric characters.

It has been found that plotters are quite expensive when compared to **printers**.
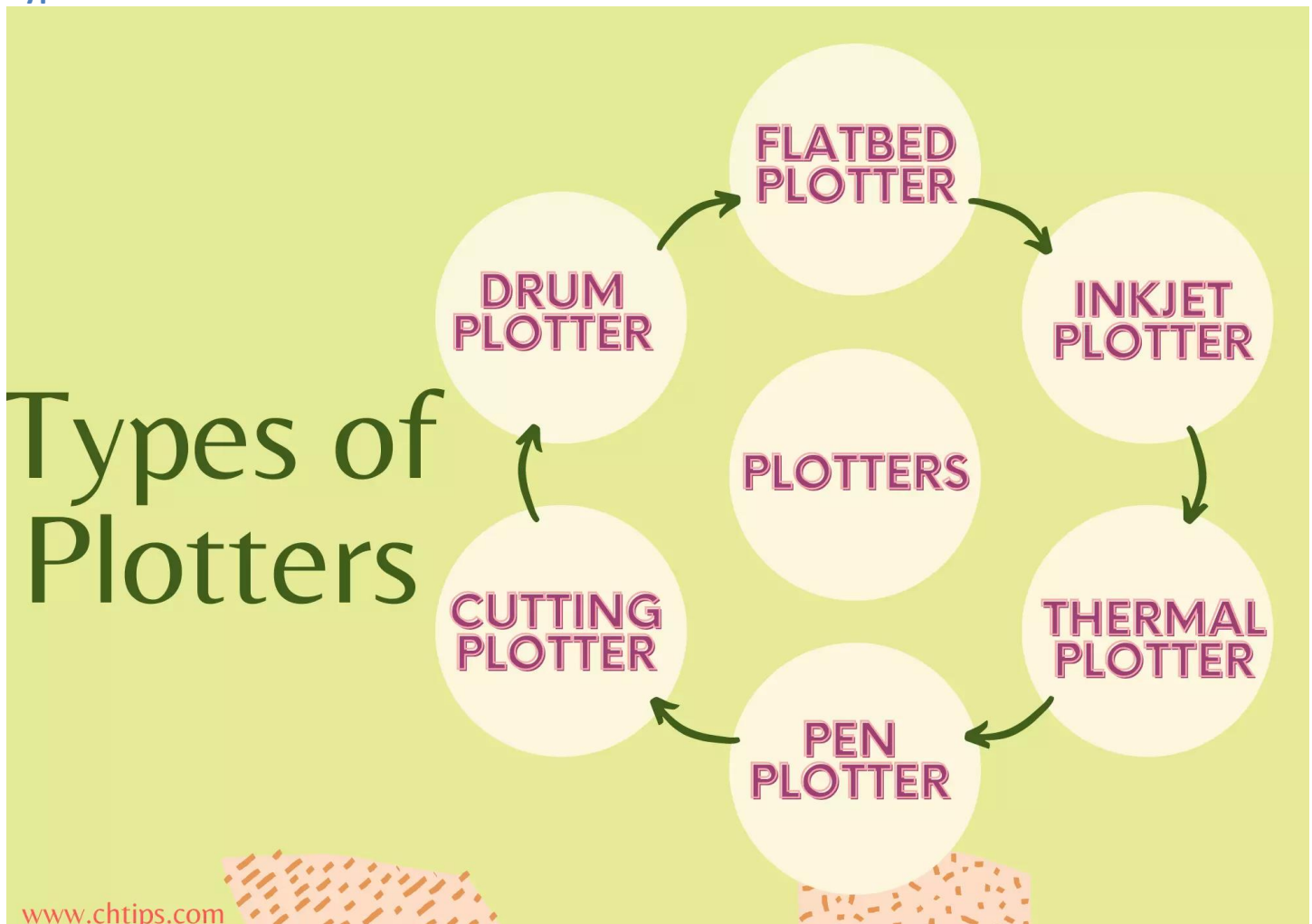
The plotter is used in specific assignments and tasks associated with engineers, architects, graphic architects, and so on.

They are well known for their contribution to planning and drawing therefore abundantly used by professionals.

In this article we are going to learn and discuss on different types of plotter and its uses, functions and types with differences.

Let us dig in the topic in more detail.

Types of Plotter and its Uses Functions

What is a Plotter?

Remington Rand invented the first Plotter in the year 1953.

As discussed earlier, plotters are similar to printers whose primary function is to offer users printouts whenever requested or demanded.

Hence, it is called the **output device of the computer system**.

The Plotter is a type of computer device used to print vector graphic images and pictures of relatively big sizes compared to printers.

The Plotters were used in CAD computer-aided design, which was removed from conventional printers.

Usually, Plotter utilizes a pen, pencil, and marker for drawing without using toner.

Modern plotters can be used as a component or device of a **computer system** or a standalone device.
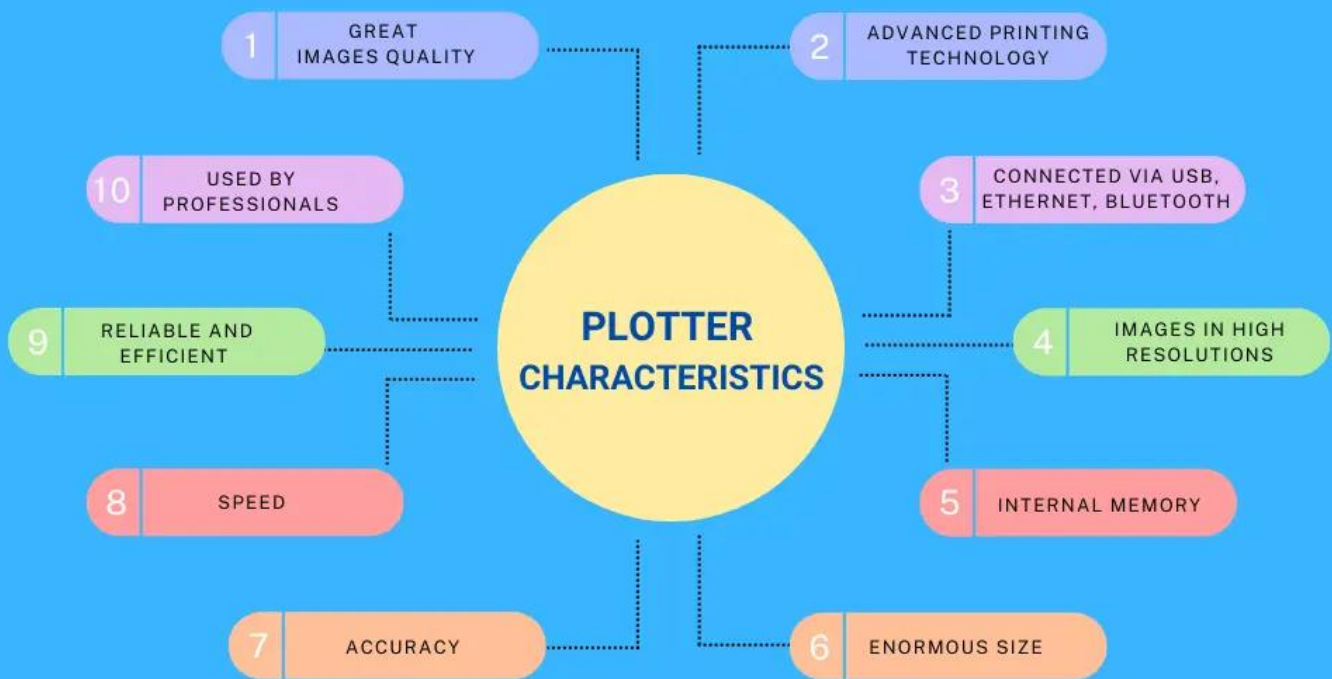
Different Types of Plotters

There are 6 different types of Plotter which are discussed and explained below.

#	Different Types of Plotters
1	Drum Plotter
2	Flatbed Plotter
3	Inkjet Plotter
4	Cutting Plotter
5	Pen Plotter
6	Thermal Plotter

Different Types of Plotters

CHARACTERISTICS OF PLOTTER

1	GREAT IMAGES QUALITY
2	ADVANCED PRINTING TECHNOLOGY
10	USED BY PROFESSIONALS
3	CONNECTED VIA USB, ETHERNET, BLUETOOTH
9	RELIABLE AND EFFICIENT
4	IMAGES IN HIGH RESOLUTIONS
8	SPEED
5	INTERNAL MEMORY
7	ACCURACY
6	ENORMOUS SIZE

PLOTTER CHARACTERISTICS

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1. Drum Plotter

Drum plotters are also pen plotters.

These drum plotters were used as the output devices to print graphics, engineering drawings, diagrams, construction maps, architectural plans, engineering drawings, business charts, etc.

They used to work with different colors of pens and helped in presenting an output of the color printout.

A pen plotter covers the paper on every side and throughout the drum with a pin feed attachment.

There are two types of drum plotters, which are internal and external drum plotters.

The internal drum plotter is used to cover the paper as a sheet, whereas the outer drum plotter covers and wraps the paper externally over the drum.

2. Flatbed Plotter
The flatbed plotter is used in complex design, engineering drawing, construction maps, and architectural plans.

The design and architecture of the flatbed plotter are so that they can be kept on the table.

These plotters have built-in pens and holders, which are available in various shapes and sizes.

These pens have different ink filled in them.

These pens with various colors filled in them help in drawing multicolor designs and drawings.

Due to pens and holdings, they can quickly draw, complicating drawing and structures like highway design, engineering drawing, construction maps, modern cars, aircraft, etc.

The flatbed plotter consists of the horizontal surface where paper is placed and with the help of a traveling bar which moves up, down, horizontally, and vertically with (an X-axis and Y-Axis) to draw on the paper or sheet.

3. Inkjet Plotter

The advertising agencies and printing press uses inkjet plotters where images are created and developed with the help of ink droplets which are sprayed on the paper to derive clean and proper output.

These inkjet plotters are used in printing large images and documents like **billboards, hoardings, large designs, massive banners, etc.**

These inkjet plotters are available in both thermal and piezoelectric models.

The thermal inkjet plotters used heat to spray ink droplets on the paper to produce super fine outputs, whereas piezoelectric plotters used charged crystals to apply ink on paper.

In various types of Plotter, the inkjet plotter is considered the best in producing excellent quality design and outputs.

4. Cutting Plotter

This cutting plotter is a large cutting device that helps in producing vinyl lettering and huge graphic designs.

These plotters are attached to a computer system that helps develop designs, and also these plotters are equipped with automatic plotter knives that cut the sheet when kept on a flat surface.

These plotters are well-known for developing and creating high-quality graphics, banners, designs of vehicles, billboards, sign making, etc.

They generally work with almost 100% **accuracy** as they possess some excellent features and have easily replaced old-fashioned plotters.

5. Pen Plotter

Pen plotters are commonly found working with color pens where several colored inks are filled in them.

This ink, when used with pen and holder, produces high-quality multicolor graphics and design.

These drawings produced by pen with various colors can be printed on paper sheets, plastic sheets, or any other conductive material.

6. Thermal Plotter

This Thermal Plotter is a well-known plotter used in all sectors where high-quality designs and products are required.

To produce output, it takes the help of an electronic pin which is developed by heat that assists in building images and design as output.

How Does Plotter Works?

Flatbed plotters are a system where paper is fixed on a flat surface and an inked pen is moved left-right, and up-down to draw on the paper or paper sheet.

The drum Plotters pen moves up and down, whereas the paper rolls in the left and right direction when the drum is rotated to obtain the final output.

The Plotter uses more than one inked pen to draw multi-colored designs and graphics.

10 Uses of Plotters

- A plotter can be considered a computer printer primarily used in printing and obtaining the output of vector graphics and images with high resolutions. Plotters are capable of drawing pictures and designs using a pen.
- They are also used in CAD [Computer Aided Design] and CAM [Computer Aided Machines].
- They are used in substantial engineering applications and projects.
- They are also used in designing and creating architectural plans for buildings and new constructions.
- They are used in developing diagrams and construction maps.
- Drawing illustrations and engineering drawings with business charts are developed in plotters.
- They are primarily used in printing agencies that design and develop giant banners, signboards, signboards, and billboards.
- They are used by professionals like engineers, architects, and graphics designers.

3 Features of Plotter

#	Plotter Features
1	Plotters can print A1 paper-size documents.
2	They have fantastic speed and therefore are used in good numbers.
3	Dot per inch is up to 1200 * 1200

7 Advantages of Plotter

- They can print on huge sheets to obtain results in high resolution with maintaining and preserving DPI.
- They are capable of printing on various other materials like plastic sheets, wood, aluminum, and steel.
- They can print with incredible speed.
- They can work with almost 100% accuracy.
- Working with speed does not harm the design and quality of the output produced by plotters.
- Professionals use them for quality output.
- A large volume of production can be obtained in less time with plotters.

5 Disadvantages of Plotter

- They are pretty big compared to old printers.
- They are pretty expensive.
- Large in size, therefore, need massive space for installation.
- Some plotters make noise while printing.
- A plotter needs maintenance.

10 Applications of Plotter

There are various applications of Plotter. Some of them are mentioned below.

A Plotter is capable of performing highway design, engineering drawing, construction maps, modern cars, aircraft, business charts and 3D printing etc.

- Computer-Aided Design
- Architectural Designs
- Building Design and Architects
- Charts
- Diagrams
- Electric Circuit Layout
- Construction Designing
- Printing Press
- Agencies
- Fashion Industry | Garment Industry

Printer vs. Plotter

#	Printer	Plotter
1	The **printer is an output device** of a computer used to obtain a hard copy from the storage device.	The Plotter is also an output device used to receive sizeable graphic vector images with high resolutions.
2	Printers can work with any image-reading software.	Plotters can work with specific software like Adobe Illustrator, Corel, Flexi, and CAD.
3	Printers are cheaper compared to plotters.	Plotters are pretty expensive.
4	There are mainly two types of printers impact and non-impact.	There mostly six types of plotters they are Drum Plotter, Flatbed Plotter, Inkjet Plotter, Cutting Plotter, Pen Plotter, and Thermal Plotter.
5	Printers are slow.	Plotters are comparatively fast.

Printer vs. Plotter

What are the Different Types of Pen Plotters?

Various types of pen plotters are included below. Pen plotters are extensively used for printing and drawing vector graphics and images.

They utilized pen or marker to draw accurately according to the requirement of the users.

1. **Flatbed Plotters.**
2. **Drum Plotters.**
3. **XY Plotters.**
4. **Electrostatic Plotters.**
5. **Inkjet Plotters.**
6. **Laser Plotters.**

1. Flatbed Plotters.

Flatbed plotters are versatile devices significantly used and utilized in various industries requiring precise and accurate drawing.

There are various benefits and advantages of flatbed plotters that are mentioned below.

1. Precision and Accuracy.
2. Versatility.
3. Multi-Color Outputs.
4. Efficiency and Time-Saving.

2. Drum Plotters.

Drum plotters are a plotting device. These plotters utilize a cylindrical drum as the plotting surface, where the paper or drawing medium is mounted.

The drum rotates while the pens move horizontally across its surface, creating highly detailed and accurate drawings.

Drum plotters are used in precise drawing with speed and accuracy. They produce good quality outputs.

3. XY Plotters.

XY plotters are also known as one of the plot device types used in perpendicular axis [X axis and Y axis].

These plotters use flat surfaces with pens or markers that move along the X and Y axes to create the drawing.

Flatbed plotters and drum plotters are types of XY plotters.

4. Electrostatic Plotters.

Electrostatic plotters are used for creating and developing high-quality images with accuracy. They use electrostatic principles to transfer toner or ink onto a surface, typically paper, to produce hard-copy plots or pictures.

They are primarily used in engineering drawings.

Types of Stereo Plotters

The 3 types of stereo plotters are mentioned below.

1. **Analog Stereo Plotter.**
2. **Optical-Mechanical Stereo Plotter.**
3. **Digital Stereo Plotter.**

2 Types of Businesses that Use Plotters

Two types of businesses that commonly use plotters.

1. **Architectural Firms.**
2. **Engineering Companies.**

Different Types of Graph Plotters

There are different types of graph plotters, such as.

1. **Pen Plotter.**

2. **Inkjet Plotter.**
3. **Laser Plotter**

Different Types of Chart Plotters

1. Standalone Chart Plotter.
2. Multifunction Display (MFD) Chart Plotter.
3. Chart Plotter Software

What Type of Printing Mechanism do Plotters Use

Plotters use various types of printing mechanisms couple of them are included.

1. **Pen/Stylus-based Mechanism.**
2. **Inkjet Printing Mechanism**

Types of Secondary Devices

- Hard Disk
- Solid-State Drive
- Pen Drive
- Blu Ray Disk
- SD Card
- CD Drive
- DVD Drive
- Memory Cards
- Floppy Disks
- Disk Packs
- Paper Storage (Punched Tapes, Punched Cards)
- Magnetic Tapes

Top 5 Plotter Manufacturer

#	Manufacturer
1	Hewlett-Packard (HP)
2	Epson
3	Canon
5	Mutoh
8	Xerox

Frequently Asked Questions [FAQs]

What are the 3 Types of Plotters?

Drum plotter, the flatbed plotter, and the inkjet plotter

Is Plotter an Input or Output?

Output Device.

What is the Example of a Plotter?

Inkjet plotters, Electrostatic plotters, Pen plotters, Flatbed plotters, Drum plotters

What is a Plotter Called?

Plotters are also called large-format printers and wide-format printers.

Who Used Plotters?

Plotters are used extensively used in **technical drawing and CAD applications**,

What is the Oldest Plotter?

Cal-Comp 565

What Size is a Plotter?

24", 36" or 44" wide

Price of First Plotter

The first commercial version of the plotter was released by Remington Rand in 1948 at a cost of $2,000.

Is Plotter a Hardware Device?

Yes, Plotter is a computer peripheral hardware device.

Is Plotter a Secondary Device?

Plotter is a computer output device.

For More Information, Please Do Visit : https://www.chtips.com/computer-peripherals/different-types-of-plotter/