

White Paper

Racks versus Frames



For those of you who have wondered why there is such a varied choice of mounting equipment and patch panels for installation in to either a rack or an open frame, this document aims to highlight those differences and discuss the most suitable products in a variety of situations. There are pros and cons for using both types of enclosure depending on the actual design. Ultimately both are designed to accept 19" rack mount patch panels and equipment.

Racks

Available in different heights, widths and depths with various options for the doors and panels, racks are the most common way of mounting patch panels or equipment. The height is measured in "RU" Rack Units, or more commonly, "U" Units. This is the usable height available inside the cabinet, and not the physical height. As a reminder, 1U is 1¾" (44.45 mm). The standard widths that are most commonly available are 600 & 800 mm, which is convenient as the standard raised floor system is constructed with 600 x 600 mm floor tiles. 19" profiles can be fitted in different positions (Front, Rear, Mid, etc) to support the patch panels and various equipment. By using the front and rear 19" profiles heavy equipment can be fitted.

Pros

- Various heights, widths and depths
- Racks which can cope with large weight limits are available – 1000 kg or higher
 - Equipment can use front and rear profiles for added support
- Different door types can be fitted
 - Glass
 - Cabling and equipment are visible
 - Security
 - Solid Steel
 - Higher security
 - Vented
 - Airflow
 - Security
- Wardrobe style double doors available
 - Easier access in restricted spaces
 - Commonly fitted to the rear of cabinets
- Managing airflow
 - Improve cooling
 - Reduce costs of cooling systems – efficient usage of air
- Security
 - Restricting access to authorised personnel
 - Co-location of clients
- Earth Bonding for equipment and panels



continued overleaf

Frames

Frames are the simplest method of mounting patch panels and are available in various heights. They can take up very little floor space (footprint). 2 post frames consist of two vertical 19" profiles that have a simple base. This arrangement of profiles best suits where patch panels have to be mounted which can be due to a number of reasons such as:

- They are cantilever mounted from the front only
- No air flow management is required
- Works well where a cross-connect is employed
- Easy access to patching
 - No opening of doors
 - Between frame patching can be managed
- Smaller footprint
- Lighter

Conclusion:

Racks and Frames have their different uses. Frames are common in larger communications rooms and data centres where security is controlled by means of access to the room. They are good for managing patching (copper and fibre) and offer a compact solution. Racks are versatile, offer airflow management and security meaning they can be used in work areas as well as dedicated rooms.



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