Bulkhead-Style Fiber Panels

Fiber :: Provide Simple, Effective Optical Distribution

Amphenol Network Solutions Patch and Splice Panels Feature Industry Standard Design, High Termination Densities, and a Broad Range of Configuration Options

Bulkhead-style panels are the simplest, lowest-cost, and most commonly used platforms for fiber optic patching and splicing in communications networks. In many situations, they're also the most effective.

Many choices are available, so what makes the best bulkhead style panel? For starters, choose a panel that features an industry-standard form factor, and can be mounted in any standard equipment rack. A broad range of configuration options means that there will always be a panel available that fits the specific application. Finally, features such as circuit designation, latching doors, and simple cable management add significant value to the panel.

Fig. 1: LCX 1 RU 12-port SC/UPC patch panel

Amphenol Network Solutions' LCX line of bulkhead-style panels provide all of these features and capabilities. Here is a look at where each of the key components of the product line fits best in today's network applications.

Low Fiber Counts, Remote Sites, Huts, etc.

Many applications require the termination of just a handful of fibers. For these locations, there are Amphenol Network Solutions panels available that can accomplish this while at the same time occupying a minimal amount of equipment rack space.

Amphenol Network Solutions 1RU LCX panels – just 1.75 inches in height – terminate up to 12 fibers with standard SC or FC six-port patch plates. Install eight port plates and the result is a 16-port panel. With small form factor LC connectors, 12-port patch plates provide 24 terminations in 1RU.

In all of these cases, a 2RU panel provides double the capacity; for example, standard 6-port patch plates make a 24-port panel in 2RU. Standard Usage, Cos, Larger Remote Sites 3RU and 4RU Panels.

The 4RU 72-port SC patch panel is one of the most commonly deployed bulkhead panel configurations in today's networks, and with good reason. This configuration utilizes SC adapters, with a total of 12 six-port patch plates in the panel. The result is a high-density solution that provides simple access to connections.

Fig. 2: LCX 4RU 72-port SC/UPC patch panel

With different patch plates, greater circuit density can be achieved – if that is the user's goal. Eight-port patch plates are available with SC and FC adapters, allowing for a 96-port 4RU panel. Again, for even greater density, 12-port LC patch plates create a 144-port panel.

Ultra High-Density, Static Environments 4RU Pre-Loaded Panels

In high circuit count applications, manageable circuit density is often the top priority. If a bulkhead panel is still the preferred platform for optical distribution, an Amphenol Network Solutions' 144-port patch panel is the highest-density option.

This 4RU panel utilizes a bulkhead "plate" that's pre-loaded, or populated, with 144 SC connectors. Rather than utilizing 6-port or 8-port patch plates, the adapters are part of a single unit that is pre-fastened in the panel.

The same high density can be attained using 12-port LC patch plates. The 4RU panel holds up to 12 patch plates, for 144 total terminations.

Combination Panels – Patch and Splice

All Amphenol Network Solutions bulkhead panels can also be configured for splicing. Compact 1RU panels hold up to 12 fibers; 2RU panels handle 24 fibers; 3RU panels hold 48 fibers; and 4RU panels hold 72 or 96 fiber splices, based on the splice cassette.

A combination patch and splice system increases versatility and provides a multifunctional platform for optical distribution. Multifunctionality is accomplished by essentially combining two panels in a single platform – a 2RU patch panel and a 2RU splice panel combine for a 24 fiber 4RU combination panel, providing capacity for 24 total terminations.

Amphenol Network Solutions combination panels range from 2RU to 8RU, with capacities from 12 to 96 fibers.
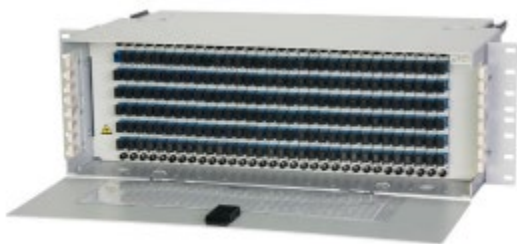
Additional Functionality

Slitter Modules and WDMs Fiber optic splitting is key application in many of today's optical networks, as network designers strive to maximize every available fiber. In a bulkhead-style panel, splitter modules can provide a platform to "tap off" a small portion of the signal (10%, for example) for non-intrusive test access – without affecting the quality of the signal delivered through the fiber.

Amphenol Network Solutions offers a comprehensive range of splitter modules for bulkhead-style panels, with a broad range of split ratios, connector types, and configuration options. Wave division multiplexing (WDM) modules are also available – all of these fit into standard Amphenol Network Solutions LCX panels.

For high-density applications, Amphenol Network Solutions HDX bulkhead-style splitter panels provide up to 128 splitter outputs in a standard 4RU footprint.

Bulkhead-Style Panels – Feature Summary

Connectors	All standard
Maximum capacity	144 per 4RU panel
Mounting	Standard racks
Cable management	Simple
Bend radius protection	Simple
Cost/CAPEX	Low
Maintenance/OPEX	Minimal

For more information on these or any Amphenol Network Solutions fiber optic products, please visit amphenol-ns.com.

Fig. 3: HDX high-density fiber optic splitter panel

Fig. 4: 8RU SC/UPC 72-fiber patch and splice combination panel

White Paper