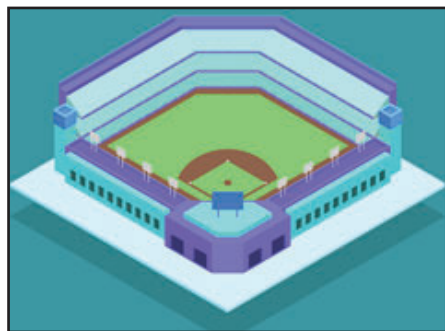# Charles Venue Enclosure Solutions for DAS and Small Cell Systems

Wireless operators, neutral host providers, and venue owners all face challenges of reliably providing sufficient wireless coverage and capacity within their buildings, structures, and campuses. Distributed Antenna System (DAS) and small cell (CRAN/DRAN) equipment are designed for and deployed across large venues, buildings, and campuses to overcome these challenges.
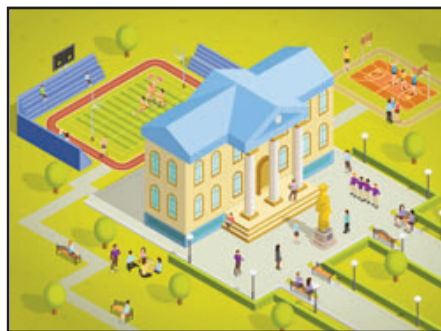
Charles provides enclosed solutions to protect, house and power wireless equipment. Reliability, flexibility, and aesthetic design are the hallmarks of Charles Industries enclosure solutions. To further support ease of deployment, integrated power and cooling solutions are provided. Charles offers both indoor and outdoor solutions to protect and conceal equipment for all types of in-building, public safety, campus, and community wireless networks.

Charles advanced thermal modeling capability and harsh environment design know-how enables an industry leading innovative cost effective purpose built solution portfolio. This also affords venue owners peace of mind with reliable protection of their capital investments. Charles robust outdoor solutions are designed to meet the rigorous requirements of Telcordia GR-487 and NEMA 4X.

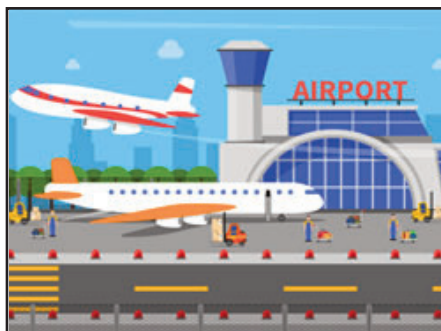## Indoor and Outdoor Enclosure Solutions for Wireless Systems at Every Venue
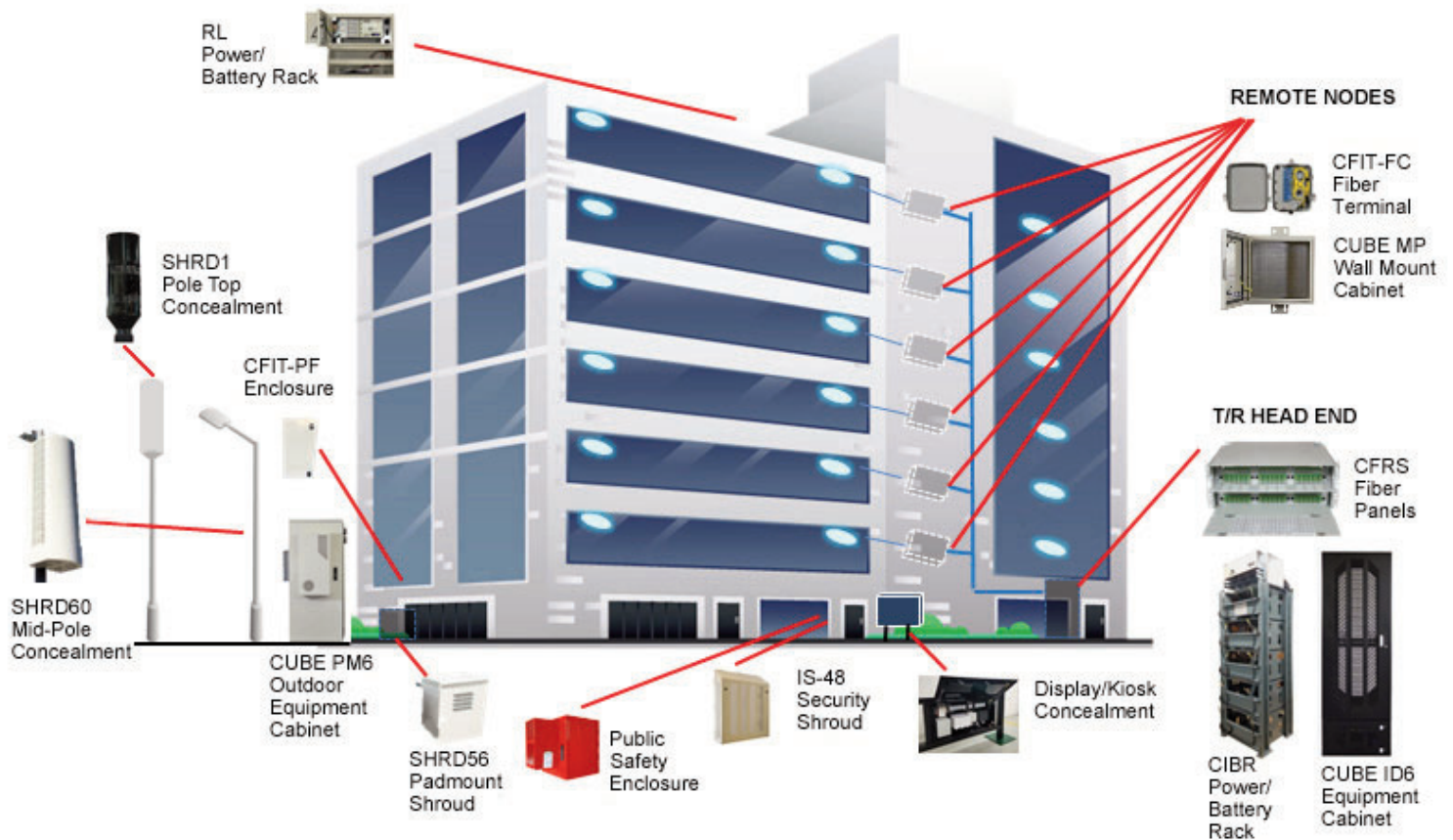

Stadiums

Academic Campuses

Commercial Buildings

Airports

an **Amphenol** company

Typical Venue & Building Complex Solutions

RL Power/ Battery Rack

SHRD1 Pole Top Concealment

CFIT-PF Enclosure

SHRD60 Mid-Pole Concealment

CUBE PM6 Outdoor Equipment Cabinet

SHRD56 Padmount Shroud

Public Safety Enclosure

IS-48 Security Shroud

Display/Kiosk Concealment

REMOTE NODES

CFIT-FC Fiber Terminal

CUBE MP Wall Mount Cabinet

T/R HEAD END

CFRS Fiber Panels

CIBR Power/ Battery Rack

CUBE ID6 Equipment Cabinet

Head End Equipment (Indoor & Outdoor)

CUBE PM6 Outdoor Cabinets
Support DAS headend equipment, fiber management devices, base band units, power plants, and alarms. Padmount cabinets are available with many heat exchangers, air conditioners and many integration options. These cabinets may also be ordered as a turnkey solution.

CUBE ID6 Indoor Cabinets
Address the needs of indoor wireless applications. They feature power equipment and optional battery compartments and are direct air cooled. Up to 45RU front and rear space for 23" or "19" rack mount equipment. Shelves designed for DAS/Small Cell RRHs.
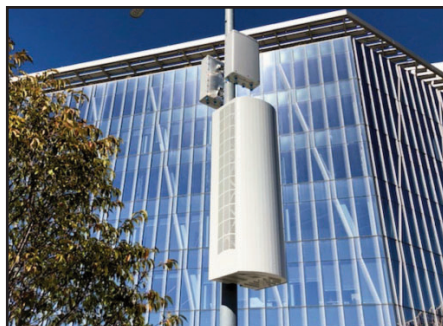
CIBR Power/Battery Racks
Modular, seismic Zone 4 rated and designed to fit the footprint of Saft Tel.X Ni-Cd or VRLA batteries as well as a other power plants. In addition to several standard configurations, there are also single tray options that can be built on site. This flexible, modular design allows for installation in areas where it would not be practical to use a full-size, one-piece rack.

Concealment Solutions

CISH51 Shroud
Designed to accommodate different configurations of DAS remote units from Commscope and JMA.
The shroud allows for maximum configuration flexibility in minimal real estate. It is designed to enable airflow while minimizing noise.
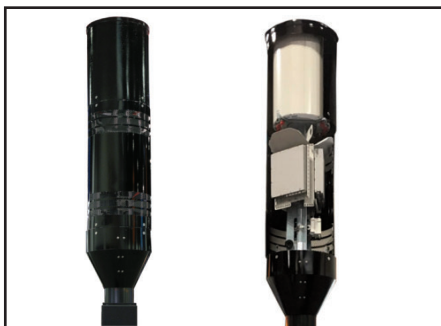

SHRD60 Shroud
Aesthetically pleasing curved pole mount shroud concealment solution. The curved shape matches the pole contour, eliminating right angles. Multiple sizes are available supporting low, mid, or high power radios. Multiple colors to match existing poles.

SHRD56
Low profile Small Cell ground mount concealment solution supporting up to six low power or two high power radios. All-in-one solution with integral AC load center and available meter socket. Passively cooled, eliminating noise. Available in multiple colors.

SHRD1 Shroud
Cylindrical Small Cell pole top shroud solution conceals 3 to 6 low power remote radio heads, antenna, and cabling. A radome antenna shroud and optional radio shroud skirt complete the solution.

Public Safety Enclosures
Indoor/outdoor enclosures and shrouds for public safety radios, combiners and fiber management. Provides secure placement of public safety systems in commercial buildings. Safety Red finish.

5G Pole Mount Shroud
Cylindrical 5G small cell pole top shroud conceals remote radio heads and associated cabling. The open face permits mm-wave RF signals to pass. Available in multiple colors to match existing poles.

IS-48 Security Shroud
Provides concealment and security for wall-mounted DAS, Small Cell, and public Ethernet equipment. The indoor security shroud consists of a single compartment that is vented to release heat. The front panel of the shroud is removable for convenient access to internal equipment.
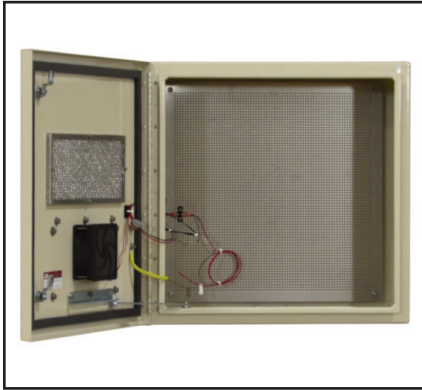

Integrated Poles
Charles poles support externally mounted radio equipment. Fully integrated poles support all radio equipment, power, and fiber residing entirely inside the pole or pole base cabinet. Available in multiple colors and styles to match existing local municipality poles.

Advertising Display Concealment
Charles offers custom shrouds and enclosures for concealed equipment in customized advertising displays or kiosks. These solutions provide reliable and aesthetic equipment concealment appealing to venue, stadium and building owners.

Remote Equipment Solutions (Indoor & Outdoor)

CUBE MP Series Cabinets
Rugged, compact enclosures with steel mesh or wooden backboards designed for protection of an assortment of remotely deployed gear including wireless radios. These cabinets are versatile performers adaptable to many common remote terminal applications for copper, fiber and coaxial.

CUBE RL Remote Power /Battery Cabinets
Small enclosures are wall, pole, or H-frame mount. These power and battery solutions are ideal for powering remote radios on roof tops. Models are available with multiple compartments for division of access between provider and customer 19" or 23" rackmount equipment.

CBFT Building Fiber Terminals
CFBT offer safe and secure protection of interior adapters, splice trays and other equipment. Their light weight allows for one-person installation on interior building walls for fast and flexible access to fiber aggregation and demarcation points.

CFIT-PF
Terminal enclosures provide indoor and outdoor protection of fiber terminations and power units. Optimally designed to consolidate fiber and power in a single enclosure.

CFIT-Flex Enclosures
These non-metallic enclosures may be wall, pole, strand or pedestal mounted and configured to meet a variety of fiber, copper or coaxial distribution applications. With a universal backplane and inter-changeable feed and drop cable port plates, CFIT-Flex are adept at meeting fiber distribution at multi-user sites.

CFRS Fiber Panel Rack Solutions
Flexible, multi-functional panels for patch, splice and splitter requirements within virtually any application. CFRS are available in 1, 2, and 4RU configurations, providing up to 288 ports (LC) in 4RU.

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