The Evolving World of Wireless in Healthcare Facilities

OBERON

Mounting Solutions for Wi-Fi Access Points

A division of Chatsworth Products

The world, and particularly the healthcare market, has experienced many changes in the first half of 2020. Conditions have driven the healthcare industry to re-conceptualize how it delivers the technology required to support today's challenges. New processes are required for patient care, safety, and diagnostic abilities. It is more important than ever to share information in a timely manner.

Wireless Infrastructure Supports Critical Healthcare Functions

Wireless networks play a crucial role in the delivery of key information to clinicians and patients, with wireless involved in everything from patient monitoring and coordinating care to appointment scheduling and payment systems. The wireless infrastructure must be prepared to support data traffic at increasing rates as more and more medical and communication devices put pressure on the system.

The positioning and installation of the wireless access points (AP) have a pronounced impact on the performance of the wireless service. The most desired location of small cell and wireless AP deployment is ceiling mounting, as it offers the greatest coverage and performance. The adoption of new methods of ceiling mount installations are proving to be significant in terms of offering quick turn-around, serviceability, consistency and reducing the need to access the above-ceiling space for maintenance or technology upgrades.

THIS IS THE EDGE

Adapt accordingly.

Assessing the Risks

As construction begins again for new or renovated healthcare buildings, the emphasis on infectious disease control measures is greater than ever. Ceiling penetrations for the deployment of antennas, cables, fiber-optics, radios and other components is a critical issue, as improper installations introduce the opportunity for airborne pathogens to travel from the above-ceiling space to the patient space.

A robust wireless infrastructure, therefore, not only plays a role in meeting the demand for data from medical staff, patients, and visitors – it also is a factor in ensuring the physical well-being of more vulnerable patients. Developing that infrastructure requires consideration of the following key factors:

- Dust, mold, and fungal spores found in the space above a suspended ceiling are a serious threat to immunosuppressed and other at-risk patients.

- Preventing the movement of infectious materials between the above-ceiling space and occupied areas means avoiding holes and gaps in ceiling tiles for cable egress to your Wi-Fi APs, RTLS equipment or small cell AP antennas. Closing these holes or gaps with sealant or other means can affect the ease of access to the wireless equipment and cabling for maintenance or serviceability, leading to a need for a more convenient and consistent solution.

- Lifting ceiling tiles often requires tenting and HEPA filters to be constructed around the work area – a costly and disruptive undertaking.

Avoid holes and gaps in the ceiling

Oberon's 1047 Series features a back-box which serves as an effective dust barrier. Once installed, the access point can be reached through the locking enclosure door. A wide variety of AP-specific doors and domes (such as those pictured to the right) are available.
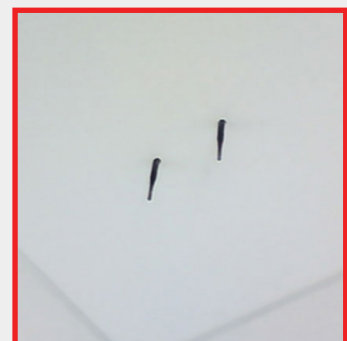
Preparing for the Future of Wireless Infrastructure

As the amount of wireless equipment in the system continues to increase, and industry standards and recommendations continue to evolve, advanced methods of physical deployment should be considered.

Let us consider some of the factors involved in determining the method of physical network deployment.

- The number of wireless devices required within a facility, both medical and personal, will continue to increase.

- Ceiling mounts may be needed for wireless access points, RTLS equipment, and small APs. Consistency of installation method across a variety of equipment may be preferable for physical security, aesthetic and logistical reasons.

- Ensuring full access to the equipment and cabling WITHOUT lifting the ceiling tiles can reduce tenting costs and traffic disruption. This can be achieved via the use of a secure enclosure with a back-box.

- Selecting solutions which simplify ICRA procedures while simultaneously providing optimal wireless coverage save time and reduce costs in the long term.

- Choosing ceiling mounts with interchangeable doors for quick and easy migration for AP upgrades in the future is cost-effective as well as reducing material waste and upgrade time.

- It is important to properly stow critical cabling components and still have access to them.

- Consider codes and compliances as well as best practices and recommendations.

- Choose physical deployment methods which offer better aesthetics and functionality.

Compliance Considerations

ANSI/BICSI 004-2018 Information Communication Technology Systems Design and Implementation Best Practices for Healthcare Institutions and Facilities

Regarding placement of equipment – "…wireless antennas and access points be placed within enclosures or surface mounted in locations that provide access without disturbing the environment"

ANSI/BICSI 008-2018 Wireless Local Area Network (WLAN) Systems Design and Implementation Best Practices

Section 9.2 Healthcare facilities

"APs should be designed and installed so they are accessible for servicing and troubleshooting without the need for infectious control protocols"

"The wireless access point infrastructure physical design should consider consistency, compatibility, and ease of operational support while lowering overall cost."

Protection vs. Convenience – Can We Have Both?

The benefits of having full access to wireless equipment and cabling after initial installation without the need to lift the ceiling tiles are significant. This method of deployment will ultimately offer significant cost savings, reduce maintenance time, and prevent large disruptions to traffic flow throughout the facility.

Oberon's access point mounting solutions assist effective management of wireless system edge components. Oberon's Wi-Tile™ collection is compliant with ICRA guidelines due to the effective dust barrier. These enclosures offer easy access to the AP and cabling without the need to open the ceiling space, stow the excess cable service loop, and prepare the AP location for quick and easy future technology upgrades. Oberon offers ceiling mounts for both 2 x 2 ceiling grids and hard lid ceilings and walls with attention to physical protection, code compliance and aesthetics.
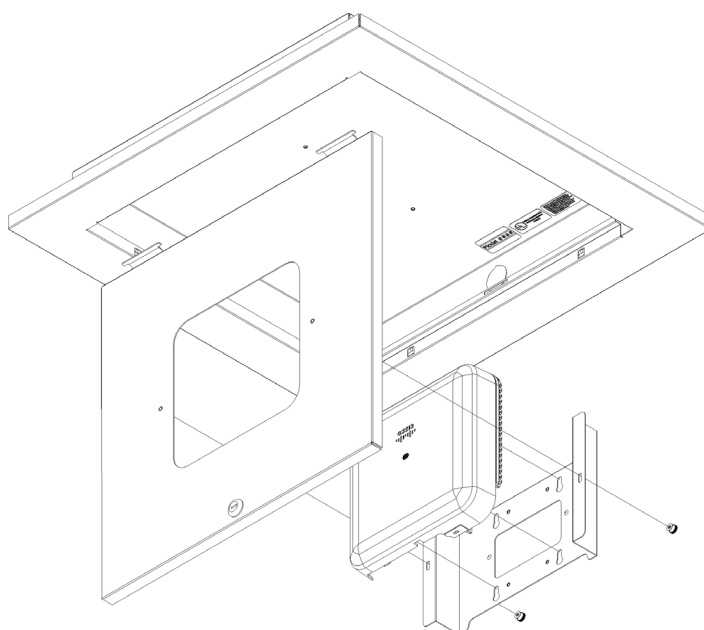
Model 1047-COAP3800 shows how the AP is accessed from below without disturbing the air-handling space

Model 1047-xx demonstrating full access for service. This model offers a plenum-rated back-box, fire-rated grommet, and interchangeable doors. We also offer many other types of solutions for most all your healthcare facility installation needs.

We specialize in products for:

- Clean rooms
- Medicine coolers
- Operating rooms
- Psychiatric facilities

- Patient areas
- Entrances
- ER
- Corridors
- Clinics and medical offices

- Nursing homes
- Parking garages
- Triages
- Interconnected campuses
- Ambulatory surgical centers

Discover the 1047 Series

Lockable to prevent theft and tampering

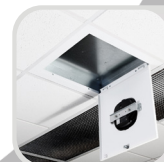UL Listed "Ceiling-Mounted ICT equipment"

Interchangeable doors make AP changes easy

Full access to AP and cabling components

Firestop grommet

Metal back-box simplifies ICRA procedures in healthcare facilities

Convenient swing-down AP mount for 1047-LPDOME

https://oberoninc.com/solution-finder/?fwp_products_series=1047

Wi-Tile™ Collection

oberoninc.com/collection/wi-tile/

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We invite you to experience the Solutions Finder at oberoninc.com. Using project criteria, easily locate your ideal solution from hundreds of secure, convenient, aesthetic Oberon products.

For more information, please contact sales@oberoninc.com.

Knowledge and Trust When it Matters:
Oberon's Manufacturer Representatives

Oberon is continuing to expand its popular line of enclosures and mounts for wireless infrastructure and networking components globally. Oberon's manufacturer representatives and qualified communications integrators are a resource for communications designers, property owners, and end-users challenged with integrating Wi-Fi and 5G into their facilities. These trained representatives are the first point of contact for new customers, and they maintain physical presence in their respective regions.

Speak to a representative in your area:
https://oberoninc.com/sales-representatives

View a list of Oberon's official distributors in the U.S. and worldwide:
https://oberoninc.com/distributors

About Oberon

Oberon offers the widest selection of indoor and outdoor wireless enclosures and aesthetic mounting solutions for securing wireless infrastructure in virtually every venue. Oberon's products are used where RF coverage, infrastructure security, environmental robustness, and aesthetics are paramount in the network implementation. Oberon is a division of Chatsworth Products.