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About Raycap

Raycap has a clear vision of the future network, a result of many years of research and development in the telecommunications field and our continuous engagement with the leading companies in our industry including partners, customers, suppliers, current and future stakeholders of the network. We have proven to be a thought-leader in our space, and our edge is in the design of high throughput, high-density and multi-technology passive solutions. We possess a unique capability to turn concepts and innovative ideas into industrialized, cost efficient products quickly, providing realistic solutions and support in any network infrastructure.

Twenty-five years ago, the telecommunications landscape was much different than today – cell phones were larger, smart phones were nonexistent and society was not connected by technology 24 hours a day, seven days a week. The industry has grown immensely with the advancement of new equipment and increased demand from mobile operators for more expanded and hardened networks. The latter necessitates installation of numerous apparatus such as remote radio heads, small cells, antennas and microwave links located even on the street level, which must be concealed.

Raycap acquired STEALTH Concealment in June 2018 and APELIO Innovative Industries in January 2020. Together these companies form cornerstones of Raycap's experience in the wireless concealment industry, creating concealments that are proven to be aesthetically pleasing and RF friendly. STEALTH, located in Charleston, South Carolina USA was the pioneer of the wireless concealment industry and created the first ever RF-transparent concealment system. APELIO Innovative Industries, located in Kearney, New Jersey USA was formed as a telecom and electrical switchgear manufacturer. It brings expertise in radio concealment poles, concealment, mounting and hardware solutions for wood and metal poles and custom equipment enclosures.

Today, as a part of Raycap Inc., the STEALTH concealment product line consists of small cell light poles, rooftop screen walls, cupolas, towers, silos, DAS concealments and many other custom structures, while the APELIO product line represents the industry gold standard in custom equipment mounts, shrouds and custom enclosures for wooden and metal poles for the wireless industry.

Raycap has one goal in mind: to provide our customers the best design, R&D, engineering, manufacturing and sales support to be a one-stop-shop for customers looking to build out their next generation networks.

Facilities & Capabilities



North America Manufacturing Facilities

Post Falls, Idaho

107,000 square foot plant with engineering, product development, manufacturing, assembly and testing facilities.

North Charleston, South Carolina

215,000 total square foot fabrication and integration facilities with full steel and composite fabrication capabilities plus in house wet paint and powder coat lines.

Kearny, New Jersey

75,000 square foot plant with engineering, product development, manufacturing, assembly of radio shrouds, antenna mounts, radio concealment light poles, ground furniture and strand mounts.

Our complete in-house design and manufacturing facilities have the capacity to produce more than 1,000 small cell, fully concealed, concealed or non-concealed poles per month. We provide our customers with:



- Product Design
- Electrical and RF Engineering
- Metal Fabrication & Forming
- Cutting
- Welding
- Drilling
- Wet Painting and Powder Coating Lines
- Equipment Integration & Cabling

- Trouble Free Commissioning & Activation
- Warehousing, Crating, Shipping
- Assembly
- RF Testing
- Thermal Testing
- Fiber Optic Testing
- Electrical Testing



Standards and Certification Testing that are used for Raycap's metal manufacturing facilities:

Steel Fabrication

- AWS D1.1 Structural Welding Code Steel
- ASTM A780 Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- AQL Level II where C=0

Galvanization

• ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

Powder Coating

- ASTM D523 Standard Test Method for Specular Gloss
- ASTM D3359 Standard Test Methods for Rating Adhesion by Tape Test
- ASTM D522 Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
- ASTM D3363 Standard Test Method for Film Hardness by Pencil Test
- ASTM D2794 Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- SSPC-SP1 Solvent Cleaning
- SSPC-SP2 Hand Tool Cleaning
- SSPC-SP3 Power Tool Cleaning







Testing & Measurement

Raycap conducts measurements for its North American products in an RF (radio-frequency) anechoic chamber at its partner's facilities in San Antonio, Texas. Southwest Research Institute (SwRI) and Raycap have a 10+ year testing history, managing demanding testing requirements. RF propagation through concealment material has been a critical aspect for wireless service providers as concealment should not compromise the signal quality and service level. This is why Raycap has significantly invested in signal generators, network analyzers, beamforming transmitters and PIM analyzers. All results are recorded for every material that is considered for concealment solutions. Raycap has also developed RF propagation models based on measurements for several frequency bands and therefore is in a position to define, with details, the RF performance in any spectrum region.

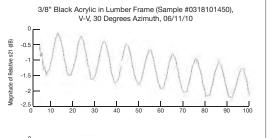


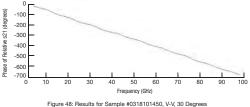
RF Test Capabilities

Raycap performs a wide range of testing to validate its materials. Using a network analyzer, we measure the complex transmission (i.e., magnitude and phase) over the 700 MHz-100 GHz range. To cover that frequency range, measurements are done across six frequency bands, using different horn antennas for each band.

Moreover, Raycap conducts more detailed measurements such as:

- Water/rain attenuation
- Proximity and micro-proximity
- Pattern distortion





Environmental Test Capabilities

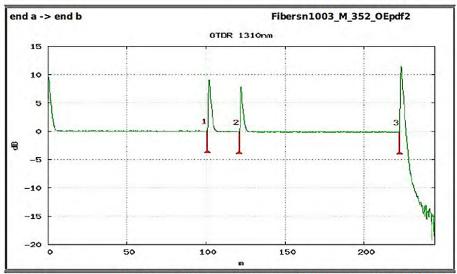
- Experience in the field of environmental testing according to UL, NEBS, GR, ISO, EN, MIL, and ASTM standards.
- Project scope for poles defined and initiated with UL, RTP
 - UL Project Number 4788755381
 - Product Category NWGQ
 - UL Certified
- Verification of initial cooling (active passive) performance simulations and actual measurements for low noise level requirements (below customer specific dBA level).
- Anti-vandalism tests according to DIN ENV 1627
 - RC2/WK2 burglar resistance tests
- Flame propagation testing.



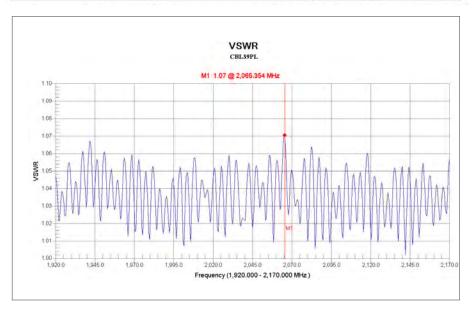
Quality Inspection

Quality inspection is of fundamental importance before any solution is dispatched. Performing all measurements in a controlled environment guarantees less complications during field installation and minimizes commissioning and activation time. For the integrated poles, we conduct several inspections of every cable line:

- RF quality measurements (VSWR, PIM)
- Fiber-optic quality measurements (OTDR)
- Power quality measurement (continuity, earth leakage, power ON load tests)
- Quality inspection checklist



Event		Distance	Loss	Reflect.	Slope	Section	T. Loss
		m	dB	dB	dB/km	m	dB
1	-23-	101.11	0.073	-49.78	0.213	101.11	0.018
2	-\$3-	121.26	0.046	-52.12		20.15	0.097
3	= 00Đ·	222.48		-44.72	0.396	101.23	0.182



Electrical Safety

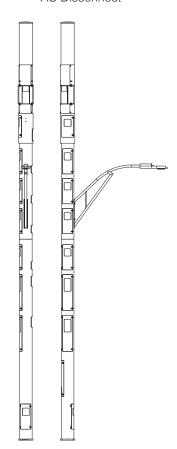


- UL certification program exemplifies Raycap's strong customer commitment and willingness to bring its Integrated Pole in line with the stringent safety requirements of Underwriter's Laboratories (UL)
- Raycap's UL Listed poles include Raycap's AC Disconnects integrated in the poles. Raycap disconnects are capable of providing up to 12 branch circuits at 120 VAC, or 6 branch circuits at 240 VAC. These disconnects are also certified to UL67 Panelboards (E479137) and meet the requirements of being Suitable for Service Equipment (SuSE).
- Raycap was the first concealment company to achieve UL certification for a Small Cell Integrated Pole Certification required the construction and assessment of several prototypes of different configurations and working closely with UL experts over an eight-month period.
- The UL mark carries many benefits to customers
 - Assures the product meets applicable requirements related to personal safety performance standards
 - Allows customers and carriers to provide a level of differentiation in their offerings to cities and municipalities to gain quicker acceptance
 - Facilitates approval by local inspectors and AHJs (Authorities Having Jurisdiction)
 - Meets relevant listing requirements per NFPA 70 National Electrical Code
 - Covers a variety of luminaires and pole constructions under the RCP-6X UL Pole Series. RCP-6X UL Pole Series is valid only when including a Raycap AC Disconnect

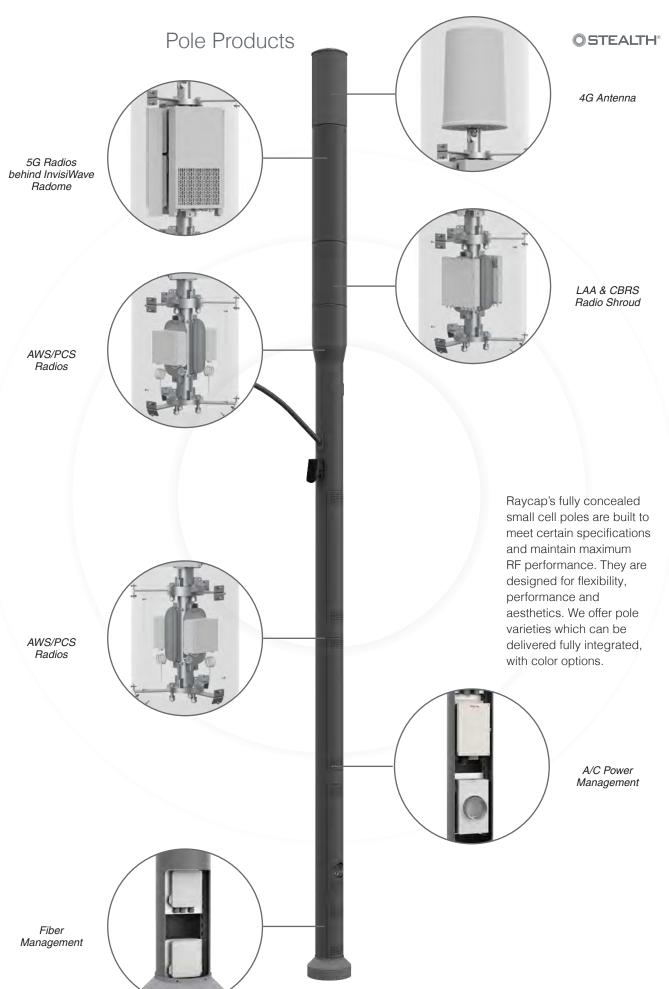
The luminaire pole houses a proprietary load distribution center capable of providing up to 12 branch circuits at 120VAC, or 6 branch circuits at 240VAC. This distribution equipment is also certified to UL67 Panelboards (E479137) and meets the requirements of being Suitable for Service Equipment (SuSE).

As part of the production line testing required under UL 1598, both a Bonding Circuit Impedance test and a Dielectric Voltage-Withstand test will be performed.

RCP-6X Line Drawing





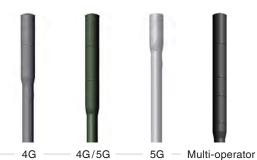


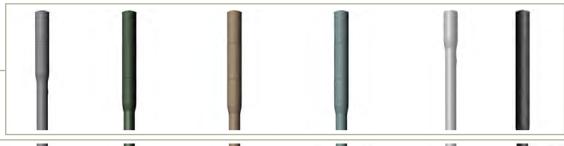


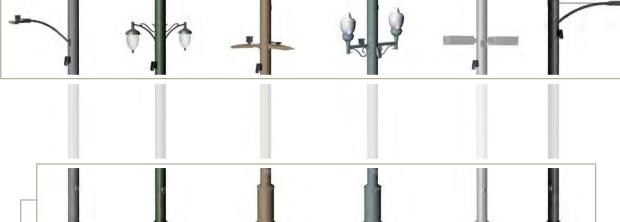
Fully Concealed Pole Products

Radio Technology

Raycap's small cell poles are designed to customer specifications, can be delivered fully or partially integrated, and can accommodate all radio technologies.





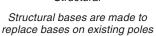


Bases

Decorative bases can be installed around existing poles to hold power and fiber distribution equipment, as well as radio equipment.

Structural bases also perform this function, but can also support an existing or new light pole installed on top of the structural base.









Decorative

Decorative bases are available on brand new poles

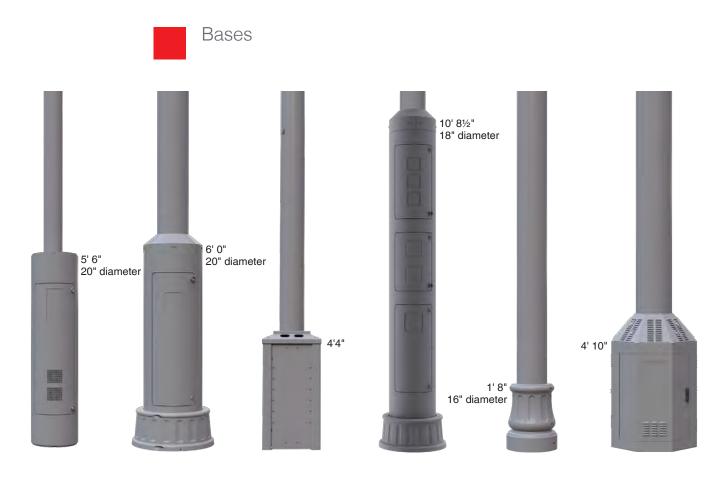
Luminaries & Attachments

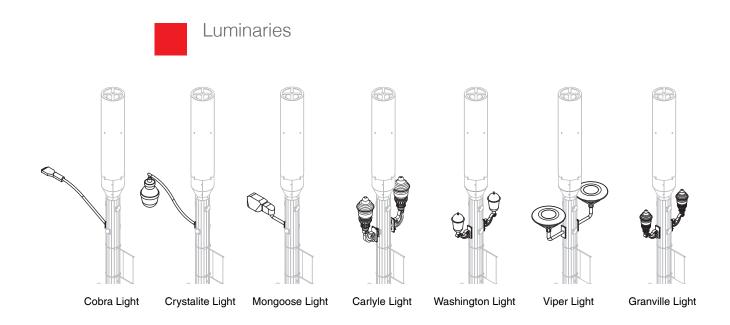
Fully concealed pole solutions can be ordered with optional lighting or attachments to match existing surrounding light poles. Poles can also be engineered to re-use existing luminaires to reduce site costs and lead time.





STEALTH





For powder coat color options, see Appendix on page 55.



Concealed Pole Product Gallery

Concealed and non-concealed poles are suitable for situations when full concealment is not necessary.













⊘STEALTH°











Optional Pre-fab Foundation

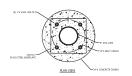


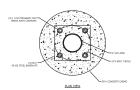
Raycap can provide customers with traditional poured-in-place foundation designs, as well as alternative pre-fabricated foundation options to help expedite deployment.

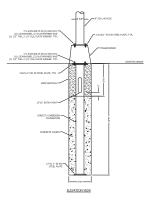
Options include:

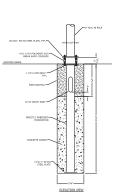
- Direct embedded
- Mechanical/Helical
- Pre-cast
- Break-away mechanisms
- Contact us directly for more information.

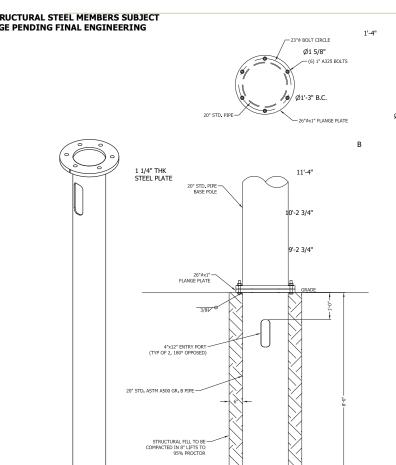
-26"øx1/2" A36 PLATE

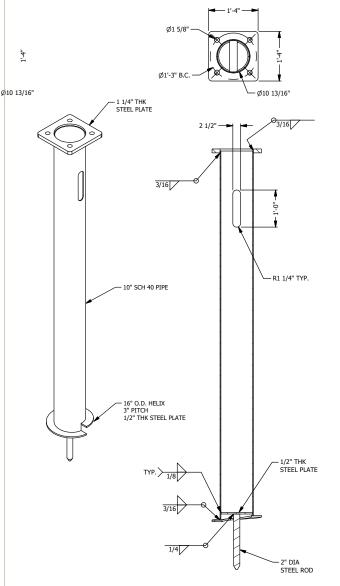














Integration Options



Our broad experience in integration services enables us to help our customers by manufacturing a fully or partially integrated concealed small cell pole product.

Raycap fully integrated concealed small cell poles arrive at a customer's site with cabling, radios, and power/fiber equipment, pre-installed and pre-tested. In the case of fully integrated poles, all that is needed for installation is to set the pole on the foundation, then hook up the feed lines for power and fiber. This is a much faster solution than the traditional method of hiring field crews to install electrical components and run cabling. Taking advantage of Raycap's expertise in integration saves customers time and money.















Raycap has performed extensive research and testing in all suitable frequency ranges to produce its patent-pending InvisiWave® material suitable for the concealment of 5G technologies.

To validate performance and determine the best possible materials for 5G concealment applications, candidate materials are subjected to an array of tests. Ultimately the materials selected are proven to provide exceptional performance in signal transmission, weatherability, and many other important properties. By implementing

designs with InvisiWave apertures in combination with our proprietary SSV or ESSV screen wall panels we are also able to conceal C-band installations effectively. Raycap can provide concealment material solutions for every 5G site configuration, taking into consideration equipment type, climate, and municipal regulations including flammability requirements.

InvisiWave is available for use in pole toppers, surrounds and radomes as well as in panel concealments in chimneys, cupolas, rooftops or macro pole structures. After decades of problem-solving and testing, and with feedback and approval from industry stakeholders, Raycap has continually developed solutions that meet the concealment needs of all telecom providers.

Raycap has a concealment material for every need, and with InvisiWave.

We've Got 5G Covered.™



Existing screen wall to be field altered for fit as required for new aperture panel assembly.

Existing screen wall to be field out for kit installation. Installer to verify structural adequacy of existing panel and screenwall support system.

Panel to have factory installed InvisiWave aperture.

InvisiWave can be used on new site builds or retrofits. New projects can be designed and manufactured with InvisiWave in the 5G radio location, or used in combinaton with our SSV or ESSV panels in an aperture configuration as an excellent solution for C-band concealments.





Pole Mounted Infrastructure





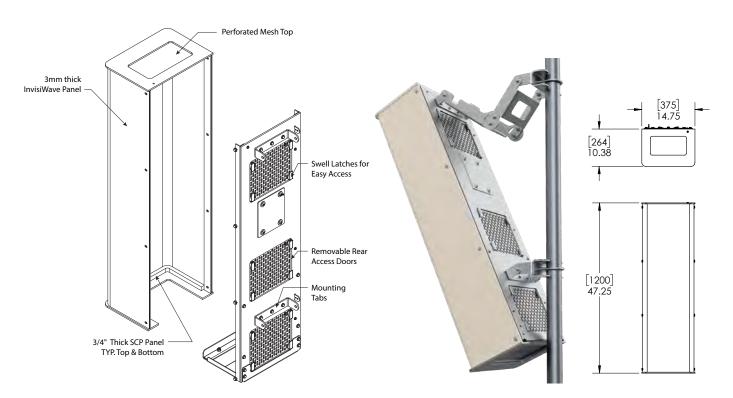
5G mmWave Pole Mounted Solutions



Raycap's exclusive InvisiWave solution for pole mounts is approved for use at mmWave frequencies including 24 GHz, 28 GHz, and 39 GHz, as well as being fully backwards compatible with all commonly used sub-6 GHz frequencies.

RCM-3114-IW

- Fabricated from RF friendly material
- Tested from low frequencies up to 100GHz
- Suitable to concealing mmWave radios
- Features minimum dB loss
- PIM free tested per IEC 62037-8
- Thoroughly tested to identify beamforming impact
- Hydrophobic surface
- Compatible to back lobe mitigation techniques with use of upgrade kits
- Covers and hides from sight radios attached to poles or other structures without interfering in radio performance
- Easy to install
- Full range of heights and diameters available to meet virtually all concealment applications
- Compatible with 5G radios
- Patent pending design

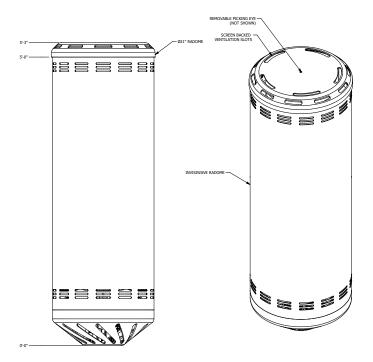


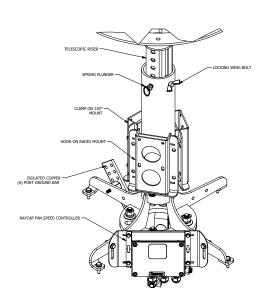


Raycap's exclusive InvisiWave solution for pole mounts is approved for use at mmWave frequencies including 24 GHz, 28 GHz, and 39 GHz, as well as being fully backwards compatible with all commonly used sub-6 GHz frequencies.

RTR-1044-IW

- DoITT-Approved and compliant design to NYC guidelines
- Fabricated from RF friendly material
- Tested from low frequencies up to 100GHz
- Suitable to concealing mmWave radios
- Features minimum dB loss
- PIM free tested per IEC 62037-8
- Thoroughly tested to validate no beamforming impact
- Hydrophobic surface
- Covers and hides from sight radios attached to poles or other structures without interfering in radio performance
- Easy to install
- Included 5G radio bracket and antenna mount
- Compatible with multiple radio/antenna configurations.
 Mounts supplied per customer-specified combinations
- Multiple color options available
- Includes pole mounting brackets
- Fans and fan controller included
- Adjustable internal height is configurable to multiple radio/antenna configurations to allow for easy future expansion or equipment swaps









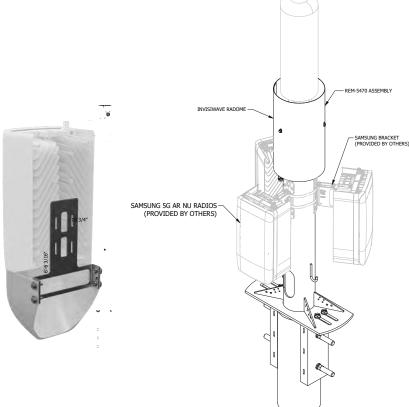
Pole Mount Solutions

For Samsung RA AU Radios

Raycap's exclusive InvisiWave solution for pole mounts is approved for use at mmWave frequencies including 24 GHz, 28 GHz, and 39 GHz, as well as being fully backwards compatible with all commonly used sub-6 GHz frequencies.

REM-5470

- Complete solution for Samsung 5G NR AU radios
- Through bolted connection style; alternative connection types available for different pole styles
- Accommodates all small cell 4G cannister antennas and Samsung 5G NR AU radios
- Variable pole diameter Attaches to most common sizes
- All structural steel hot dip galvanized per ASTM A123 with optional powder coated finish to customer color specification
- Optional RCS-5128 antenna cable shroud for 5G radios*
 - Provides cable concealment and protection
 - Fabrication fit to radio used
- Fabricated from RF friendly mmWave material
- Tested from low frequencies up to 100GHz with minimum dB loss
- Thoroughly tested to validate no beamforming impact
- PIM free tested per IEC 62037-8
- Hydrophobic surface
- Easy to install
- Multiple color options available





*RCS-5128 (optional cable shroud)





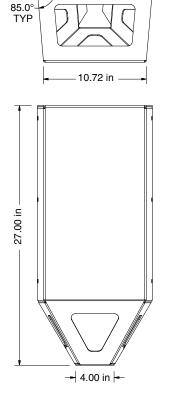
RCS-8105-01

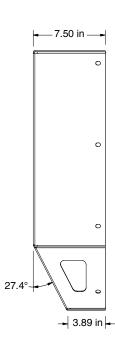
- Specifically designed to conceal radios
- Fabricated from RF friendly material
- Tested from low frequencies up to 100 GHz
- Suitable to concealing mmWave radios
- Features minimum dB loss
- PIM free tested per IEC 62037-8
- Thoroughly tested to identify beamforming impact
- Hydrophobic surface
- Covers and hides from sight radios attached to poles or other structures without interfering in radio performance
- Easy to install
- Full range of heights and diameters available to meet virtually all concealment applications
- Compatible with 5G radios

12.00 in -

Patent pending design









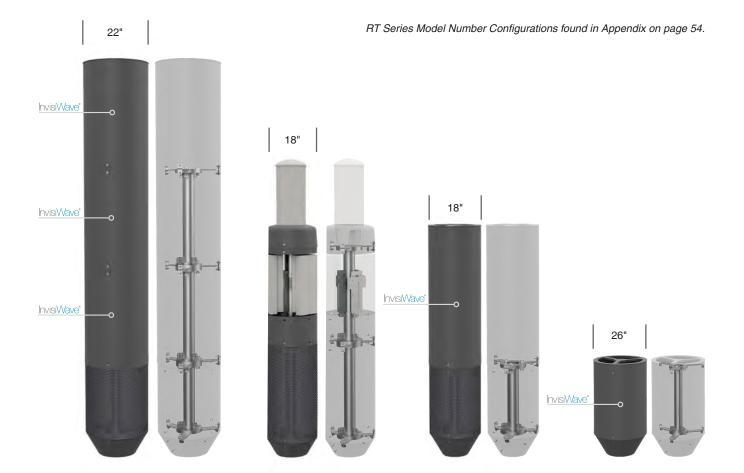


Pole Toppers

For Wood or Metal Poles

RT Series

- This modular system allows ultimate configurability for all technologies. Up to four modules can be stacked together.
- Various degrees of concealment are available.
- · Concealment materials include powder-coated perforated steel and proprietary InvisiWave technology.
- Fully concealed versions are available in 22" and 26" diameters.
- Limited downtilt can be achieved within the 26" diameter version.
- A thin profile (18" diameter) version is available when partial concealment is desired.
- Active cooling is available depending on equipment configuration.
- Can be ordered in various colors to blend in with the surrounding environment.
- All structural steel hot dip galvanized per ASTM A123 with optional powder coated finish to customer color specification.
- Adaptive Pole Mounts for wood and metal poles can fit a range of 6-16" OD poles and be through bolted or strapped
- 120 mph max approved for majority of non-coastal regions
- Optional leveling add on for poles not plumb
- Coastal and seismic regions require additional engineering.



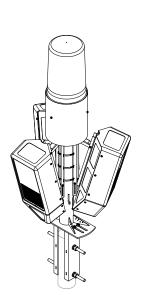
For Wood or Metal Poles

- Complete solution for 5G radios and 4G cannister antenna; options available for CBRS and LAA radios
- Through bolted connection style; alternative connection types available for different pole styles
- Accommodates all small cell 4G cannister antennas and 5G OEM Radios
- Variable pole diameter Attaches to most common sizes
- All structural steel hot dip galvanized per ASTM A123 with optional powder coated finish to customer color specification
- Optional 5G radio composite decorative surround (shown on RTR-8221)
- Optional RCS-7659 cable shroud concealment*

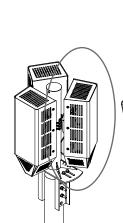


*RCS-7659 (optional cable shroud)

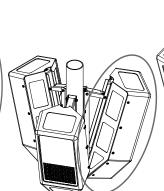




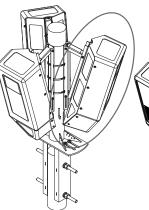
RTR-8222 Pole topper with partially concealed decorative parts for Nokia AExB radios and a canister antenna up to 4' x 20" OD



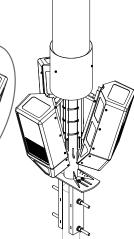
REM-9812 Concealment shroud and bracket for (1) Nokia AExB radio



RCM-5724 Concealment shroud and bracket for (1) Nokia AExB Radio



REM-4551 Concealment shroud and bracket for (1) Ericsson 6701 Radio



RTR-8223 Pole topper with partially concealed decorative parts for Nokia AExB a canister antenna up to 4' x 20" OD















Specialized Enclosure Solutions





Equipment Mounts/Hardware

4G+5G Wood Pole Top-Mount Solutions

RTR Series

- Accommodates all small cell 4G panel antennas through various adapter plates
- Variable pole diameter Attaches to most common sizes
- All structural steel powder coated Galvannealed finish to customer color specification
- PIM free tested per IEC 62037-8
- Included bubble-level assists in precise and easy installation
- Universal wood pole base or custom metal pole base available
- Each unit ships with the RTR-Series Universal Top-Mount Base

 RTR-CMM-NT

 RTR-TRBR

 **RTR-

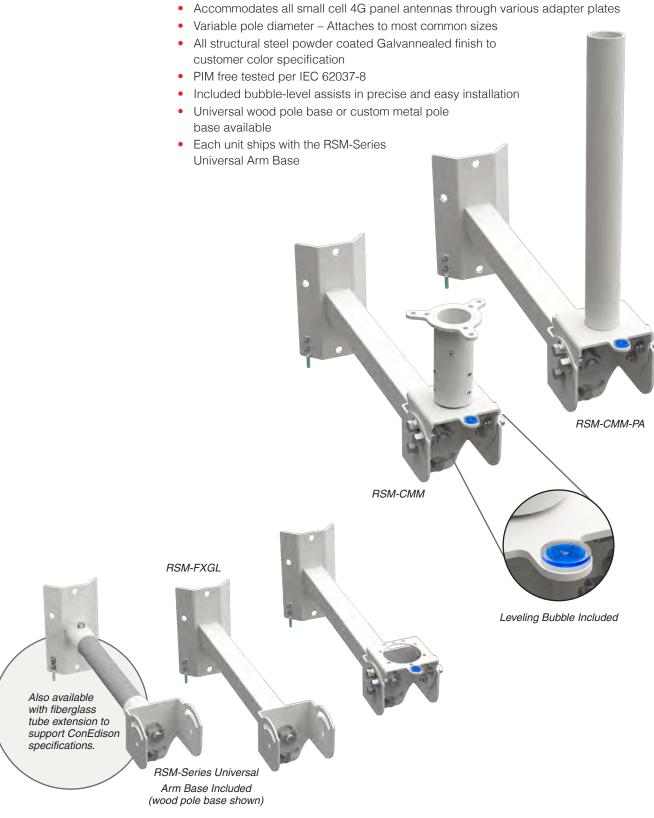
Leveling Bubble Included



RTR Series Universal Base Included (wood pole base shown)



4G+5G Wood Pole Side-Mount Solutions



5G Mount Solutions

- Accommodates all 5G mmWave radios or small cell 4G panel antennas
- Variable pole diameter Attaches to most common sizes
- All structural steel hot dip galvanized per ASTM A123 with optional powder coated finish to customer color specification
- · Many options for radio configurations and downtilt



Through bolted connection style



REM-7136
Through bolted connection style



REM-7137
Through bolted connection style



REM-4046
Through bolted connection style



REM-8220 Banded connection style



Adjustable bolted clamp-on attachment



Antenna Mount
Designed to allow radio
downtilt for up to 25 degrees

Radios supported: Nokia AExB, AExD, ASOD; Ericsson 6701; Samsung AT1K01, AT1K02, HT5H01, RT4401, RT2201, LAA RRH, CBRS RRH



REM-8359
Through bolted connection style

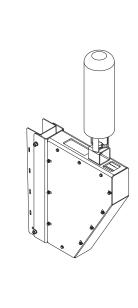


REM-4204*
Optional cable concealment shroud



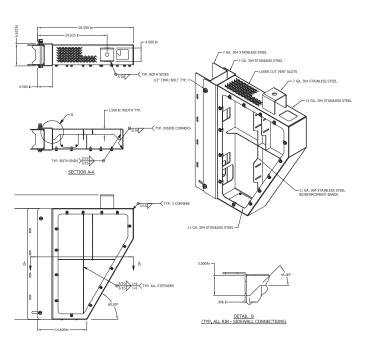
Complete Side-Mount Solutions



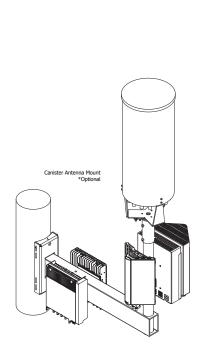


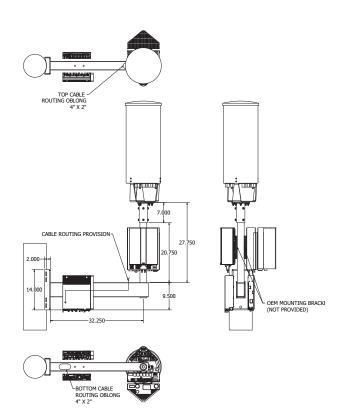
REM-1348

REM-3099











Pole Mounted Enclosures

DoITT 4G & 5G Shrouds & Side Mounted Cages

Raycap's RCM-2093 Apelio 4G shroud was designed specifically for the NYC metro area. In some locations installation on the ground is not possible. Whether due to lack of space, permit restrictions or even a costly installation of power and/or fiber cables for the connectivity, this scenario requires the installation of active equipment (antennas and connectivity enclosures) on or at the side of an existing structure. Raycap has developed several side mounted solutions for existing light poles as well as additional wall mounted solutions. Raycap has several single and multi-carrier configurations successfully deployed throughout NYC.

RCM-2093

- Compatible design to NYC guidelines
- Can support single or multi-carrier configurations
- Every configuration is accessed for thermal management
- Full in-house integration
- Computerized material tracking system tracks carrier's supplied components from their warehouse to our manufacturing/assembly facility to installation site
- Improved intake louver design enables better circulation
- UL Certified assembly
- PIM free tested per IEC 62037-8
- Easy installation
- Fabricated from RF friendly material
- Multiple color variations available
- Made in the USA

Components

Power and fiber management modules

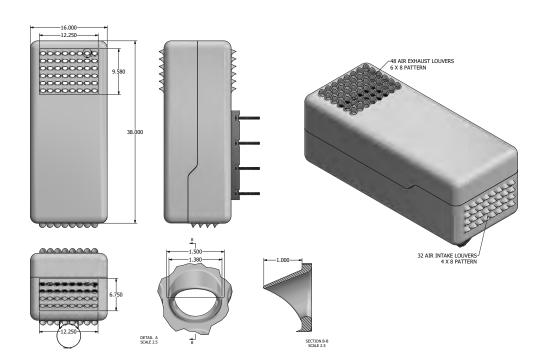


Front View

Internal View



Bracket View



DoITT 4G Shrouds & Side Mounted Cages

In some locations installation on the ground is not possible. Whether due to lack of space, permit restrictions or even a costly installation of power and/or fiber cables for the connectivity, this scenario requires the installation of active equipment (antennas and connectivity enclosures) on or at the side of an existing structure. We have developed several side mounted solutions for existing light poles as well as additional approaches that can be wall mounted.



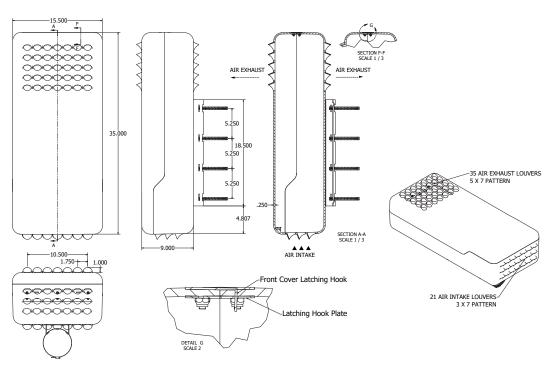
Mounting bracket included

DoITT 4G Shrouds

- Larger internal space due to lack of inner flanges (increases internal space for more equipment installations)
- Better air circulation due to improved design to intake louvers (outcomes: fans won't run as hard which reduces noise levels)
- Dimension consistency due to injection molding processes (won't deform much when gets hotter)
- High grade ASA plastic material
- Metal locking system provides stronger connection between base and cover
- Available in a full spectrum of colors to fit any application
- Made in the USA

Components

• Supports various configurations





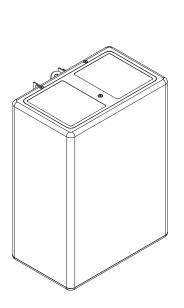
DoITT 5G Shroud

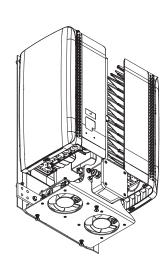
RSE-21212

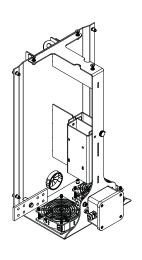
- Ergonomic design for easy radio installation and replacement
- Cover with InvisiWave mmWave friendly material
- InvisiWave is tested per UL 746C, meets requirements of an f1 rated material, suitable for outdoor use
- Entire solutions thermally tested according to GR-487
- Includes fiber and power management
- Offset bracket to minimize signal blockage

Components

Supports various configurations











RSCAC-1018-1

RSCAC-1018 Series

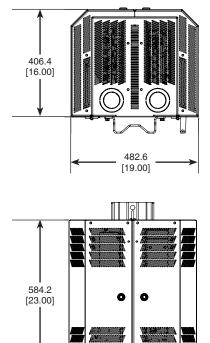
- Shroud utilizes passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Allows (3) 1/2" bolts through wooden pole (customer supplied)
 - Banding slots for metal poles
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes available

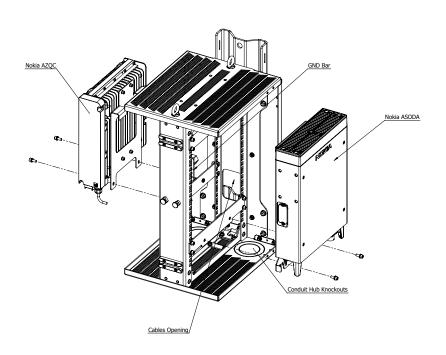
Cabinet Components

- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber-optic termination enclosure
- AC/DC power solutions (All-in-One)





Multiple Power and Fiber Configurations Available



RSCAC-1018-2

RSCAC-1018 Series

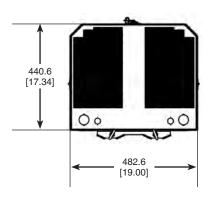
- Shroud utilizes passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Allows (3) 1/2" bolts through wooden pole (customer supplied)
 - Banding slots for metal poles
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes available

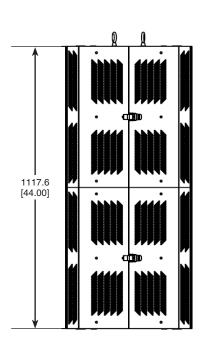
Cabinet Components

- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber-optic termination enclosure
- AC/DC power solutions (All-in-One)







RSCAC-1018-34

RSCAC-1018 Series

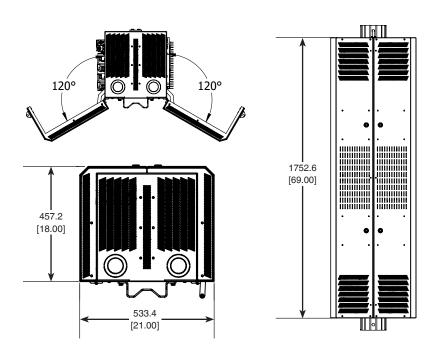
- Shroud utilizes passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Allows (3) 1/2" bolts through wooden pole (customer supplied)
 - Banding slots for metal poles
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes available

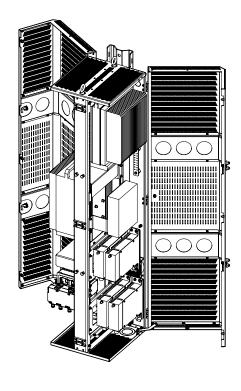
Cabinet Components

- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber-optic termination enclosure
- AC/DC power solutions (All-in-One)







RSCAC-1018-32

RSCAC-1018 Series

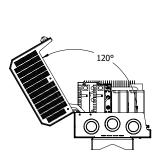
- Shroud utilizes passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Allows (3) 1/2" bolts through wooden pole (customer supplied)
 - Banding slots for metal poles
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes available

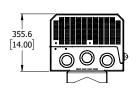
Cabinet Components

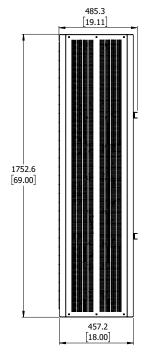
- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

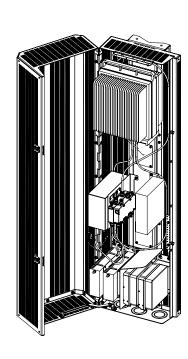
Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber-optic termination enclosure
- AC/DC power solutions (All-in-One)





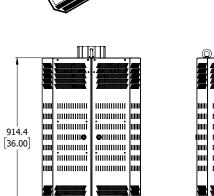


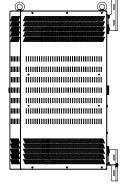




RSCAC-1028

560 [22.05] 568 [22.36]





RSCAC-1028 Series

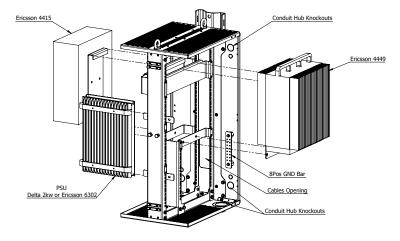
- Shroud utilizes passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Allows (3) 1/2" bolts through wooden pole (customer supplied)
 - Banding slots for metal poles
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes available

Cabinet Components

- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber-optic termination enclosure
- AC/DC power solutions (All-in-One)





RSCAC-1038

RSCAC-1038 Series

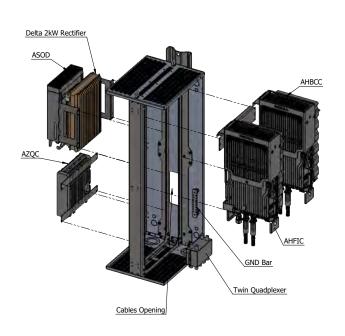
- Shroud utilizes passive or active vented design
- Door access design allows easy access
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes and dimensions available

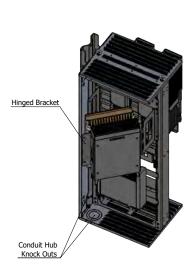
Cabinet Components

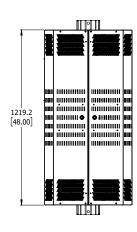
- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

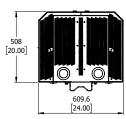
Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber-optic termination enclosure
- AC/DC power solutions (All-in-One)











RSCAC-1048

RSCAC-1048 Series

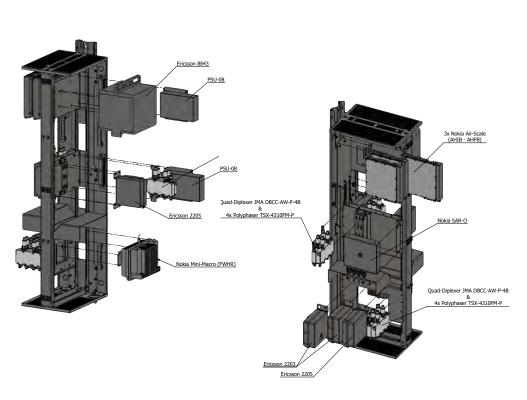
- Shroud utilizes passive or active vented design
- Door access design allows easy access
- Construction
 - Aluminum shroud
 - Stainless steel mast supports
- Multiple color finishes and dimensions available

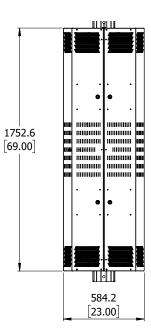
Cabinet Components

- Internal equipment support brackets
- Active ventilation system (If applicable)
- Alarm sensors
- Cable routing fixtures
- Pole mounting kit

Additional equipment that can be provided and pre-installed

- AC disconnect
- Fiber optic termination enclosure
- AC/DC power solutions (All-in-One)





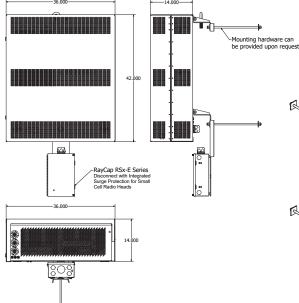




RSCAC-SH24

Shipped with integrated AC disconnect



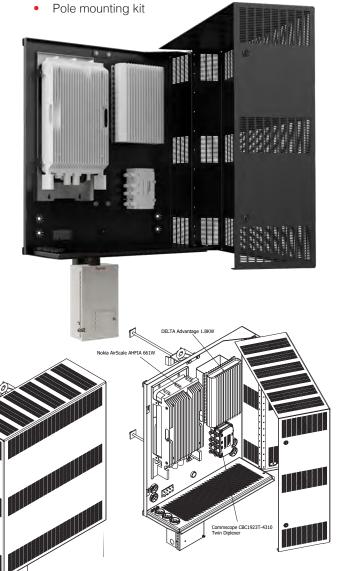


RSCAC-SH24-423614 PSEG

- Shroud utilizes passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Provision for two ½ ¾ mounting bolts (Rods)
 - Banding slots for metal poles
 - Powder coated galvannealed steel
- Construction:
 - Aluminum shroud
- Multiiple color finishes available

Cabinet Components

Internal equipment support brackets





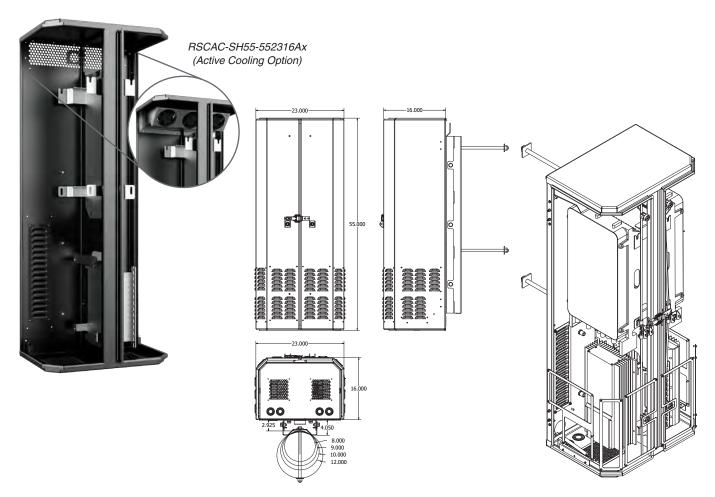
RSCAC-SH55-552316Px

RSCAC-SH55-552316 Series

- Shroud utilizes active or passive vented design
- Door access design allows easy access
 - Belcore 216 quarter turn door latches
- Pole mount brackets (included)
 - Provision for two ½ ¾ mounting bolts (Rods)
 - Banding slots for metal poles
 - Powder coated galvannealed steel
- Construction
 - Aluminum shroud
- Multiple color finishes available

Cabinet Components

- Internal equipment support brackets
- Pole mounting kit



Power Management Solutions



Meterbase & AC Disconnects

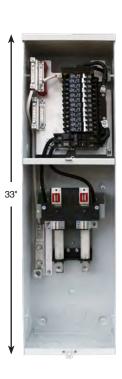
Meterbase, AC Disconnect, Load Center & Surge Protection Devices

RMx-E2 Series

- Tightly integrated ringless meterbase and AC Disconnect functionality in one narrow enclosure
 - (only 9.5" wide to better blend when pole-mounted)
- Suitable for Use as Service Equipment (SUSE) without condition per UL and NEC with 60A or 100A main breaker
- Up to twelve circuits for individual power control and over current protection
- Comes standard with either (12) or (2) DIN rail 13mm breakers providing (12 or 2) 120 VAC circuits which can be bridged to provide (6 or 1) 240 V feeds
- 120/240 VAC split-phase or 2 of 3 phases from 208Y/120 VAC configuration
- Available surge protection
 - Strikesorb 30-A-2CHV Surge Protective Device (SPD)
 - Class I SPD, certified by VDE per the IEC 61643-11 standard as suitable for installation in areas where induced lightning exposure is expected
 - Withstand direct surge currents up to 5 kA (10/350 μs) and induced surge currents of up to 60 kA (8/20 μs)
 - Low let through / clamping voltage as it does not employ spark gaps or other switching elements
- Lockable front hatch access to the main breaker (optional).
- Main power can be turned on and off without opening the main enclosure door.
 Lockout Tagout (LOTO) functionality.
- Flexible mounting options for walls, poles or H-Frames
- Top, bottom, side or rear cable entry allows for cleaner more flexible installations
- Patent pending design







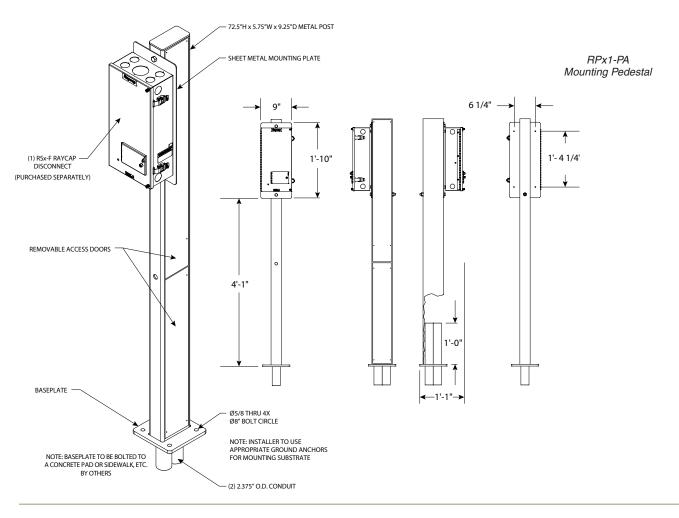


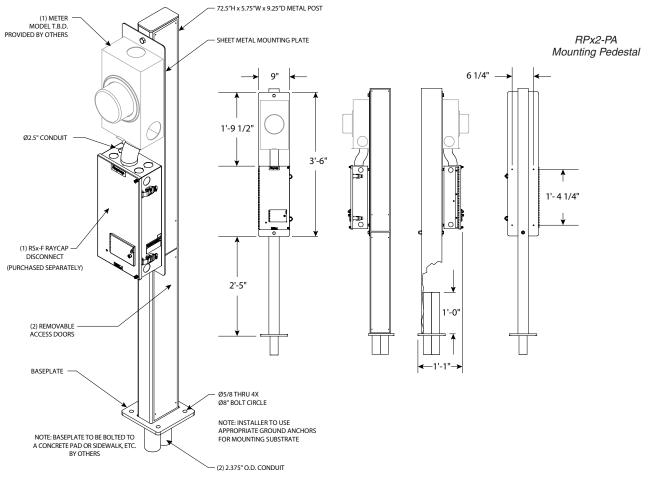
Mounting Pedestals with AC Disconnects

RPDx-PA Series Mounting Pedestals

- Clean, consistent appearance for meterbase and site disconnect/ distribution functionality
- Universal back-panel design accepts all utility-approved meterbases
- Strong and durable powder-coated metal construction includes flexible mountingbase for easy installation
- Available in different colors to meet jurisdiction requirements
- Overall height (Above Grade Level) of 72.5" accommodates full range of approved meter-face heights
- Allows flexible and unobtrusive access for utility-input and load-output conduit runs
- Pre-integrated assembly saves time and money during installation







AC/DC Combo Power Management



RUSAC-1440-P-240

- 60 A main breaker
- DC power supply capable of providing up to 600 Watts at -54 VDC
- (2) 15 A DC outputs
- Employs the Strikesorb 30 Series Surge Protective Device (SPD)
- Passive or active cooling
- Indicator LEDs for AC available (1) and DC available (2)
- NEMA 3R rated enclosure suitable for outdoor



RUSAC-1AN2-P-240-1

- 100 A main breaker
- 120/240 VAC split phase configuration
- Up to six branch breakers providing (6) 120 VAC circuits or (3) 240 VAC circuits.
- Employs the Strikesorb 30 Series Surge Protective Device (SPD)
- DC power supply capable of providing up to 2000 Watts at -54VDC (expandable to 4000 Watts)
- Externally visible indicator available for AC and DC
- Over current protection for up to 6x AC circuits and up to 4x DC circuits for customer use
- Air-to-air heat-exchanger maintains closed loop NEMA Type 4 environment for equipment. Prevents ingress of contaminants and moisture.

AC Disconnects

The RSCAC and RSx-Series are 120/240 VAC industry standard load centers and surge protection devices that are suitable for use as service equipment (SUSE) with NO conditions per UL and NEC. They are designed to provide robust overvoltage surge protection for the AC power circuits for today's small cell radio systems. They employ patented Strikesorb 30-A-2CHV modules capable of withstanding direct surge currents up to 5kA (10/350 μ s) and induced surge currents up to 60kA (8/20 μ s). These products provide dual (L1 to N) (L2 to N) protection for up to 16 AC circuits depending on the model.

Common and Standard Features

- Suitable for use as Service Equipment SUSE with NO condition per UL and NEC
- 120/240 VAC, up to 100 A installations
- Load breakers can be 2A 25A rated (RSx-Series) or 15A and 20A tandems (RSCAC-Series)
- Tightly integrated AC disconnect, AC distribution and AC surge protection in one cabinet
- Strikesorb over voltage protection (OVP) on AC circuits
- Ruggedized industrial construction, most with top and bottom cable access for maximum flexibility and space-savings in small cell deployments
- Rigorous weatherproof enclosure options: NEMA 4 (for hose down/sprinkler protection), NEMA 4x (for corrosive locations) and even NEMA 6/6p (IP68) for temporarily submerged locations like street hand holes
- Optional AC GFI protected outlet and/or various means of external disconnects available on some models





RSD-FMC-Z16MS-21NN (16 Breakers, Strikesorb SPD, External Disconnect)

Common and Standard Features

- Suitable as Service Equipment (SUSE) with NO condition per UL and NEC
- 60 A or 100 A main breaker
- 120/240 VAC
- Up to 16 circuits available
- Strikesorb 30-A-2CHV SPD (L1-N, L2-N)
- Metallic enclosure, NEMA 4
- 9"W × 6"D (Height depends on breakers)
- Versatile mounting bracket included

RSx-D Series

- 60 A or 100 A main breaker, 10 kAIC
- NEMA 4 rated powder coated steel
- Top, bottom, side cable access
- Ships with 2 to 10 breakers



RSD-DMN-X10MS-21NN



RSD-DML-X10MS-21NN – Hinged-Cover External Disconnect



RSD-DML-Z16MS-21NN (Lt. Gray color, 10 Breakers, Strikesorb SPD, External Disconnect)

RSx-E Series

- 60 A or 100 A main breaker, 10 kAIC
- NEMA 4 rated powder coated steel enclosure
- Top, bottom, side cable access
- Ships with 2 to 12 breakers



RSD-EMN-Z12MS-21NN



RSD-EML-Z12MS-21NN – Hinged-Cover External Disconnect



RSD-EML-Z12MS-21NN (Lt. Gray color, 10 Breakers, Strikesorb SPD, External Disconnect)

RSx-F Series

- 16x configurable breakers provided (Load breaker list [ampacities and quantities - total 16] to be specified at the time of order.)
- 60 A or 100 A main breaker
- 10kA Fault Current Rating (kAIC)
- Top, bottom and side cable/conduit access
- 18.5"H × 9"W × 6"D
- NEMA 4 powder-coated enclosure, available in multiple colors
- Versatile mounting bracket included





RSD-FMC-Z16MS-21NN (16 Breakers, Strikesorb SPD, External Disconnect)

Model Number Configuration

RSa-FMb-c16MS-21NN

a: RAL color			
D		= Light Gray / RAL7047	
G		= Green / RAL6012	
В		= Black / RAL9011	
N		= Brown / RAL7013	
L		= Blue / RAL5022	

b	: LED & Ext. Disconnect
N	= None
L	= Light and External Disconnect

	c: Main Breaker	
Χ	= 60A Main Breaker	
Z	= 100A Main Breaker	

AC Disconnect Options			
	Color Options	No External Disconnect	With External Disconnect & Status Light
	Light Gray / RAL7047	RSD-FMN-X16MS-21NN	RSD-FML-X16MS-21NN
	Green / RAL6012	RSG-FMN-X16MS-21NN	RSG-FML-X16MS-21NN
60A Main Breaker	Black / RAL9011	RSB-FMN-X16MS-21NN	RSB-FML-X16MS-21NN
	Brown / RAL7013	RSN-FMN-X16MS-21NN	RSN-FML-X16MS-21NN
	Blue / RAL5022	RSL-FMN-X16MS-21NN	RSL-FML-X16MS-21NN
	Light Gray / RAL7047	RSD-FMN-Z16MS-21NN	RSD-FML-Z16MS-21NN
100A Main Breaker	Green / RAL6012	RSG-FMN-Z16MS-21NN	RSG-FML-Z16MS-21NN
	Black / RAL9011	RSB-FMN-Z16MS-21NN	RSB-FML-Z16MS-21NN
	Brown / RAL7013	RSN-FMN-Z16MS-21NN	RSN-FML-Z16MS-21NN
	Blue / RAL5022	RSL-FMN-Z16MS-21NN	RSL-FML-Z16MS-21NN

RSCAC-1333 Series

- 60 A main breaker
- 22kA Fault Current Rating (kAIC)
- 6x configurable tandem breakers provided (12 Loads) (Default is 6x 15 A/15 A tandem breakers. Custom breaker lists can be specified at the time of order.)
- Bottom cable access
- 9"H × 9"W × 5"D NEMA 4X or IP 68 and NEMA 6/6P rated enclosure
- Versatile mounting bracket included



RSCAC-1333-P-240



RSCAC-1333-P-240-D

- Hinged-Cover
External Disconnect



RSCAC-1333-PH-240

- No-hinge front door for concealment or pole applications
- Submersion up to1 meter for 30 minutes

RSCAC-9556 Series

- 100 A main breaker
- 22kA Fault Current Rating (kAIC)
- 6x configurable tandem breakers provided (12 Loads) (Default is 6x 15 A/15 A tandem breakers. Custom breaker lists can be specified at the time of order.)
- Bottom cable access
- 11"H x 9"W x 5"D NEMA 4X or IP 68 and NEMA 6/6P rated enclosure
- · Versatile mounting bracket included



RSCAC-9556-P-240



RSCAC-9556-P-240-D

- Hinged-Cover
External Disconnect



RSCAC-9556-PH-240

- No-hinge front door for concealment or pole applications
- Submersion up to1 meter for 30 minutes

RSCAC-9550 Series

- 60 A main breaker
- 22kA Fault Current Rating (kAIC)
- 6x configurable tandem breakers provided (12 Loads) (Default is 6x 15 A/15 A tandem breakers. Custom breaker lists can be specified at the time of order.)
- Top and bottom cable access
- 11"H × 9"W × 5"D NEMA 4X or IP 68 and NEMA 6/6P rated enclosure
- · Versatile mounting bracket included



RSCAC-9550-P-240



RSCAC-9550-P-240-D

- Hinged-Cover
External Disconnect



RSCAC-9550-PH-240

- No-hinge front door for concealment or pole applications
- Submersion up to1 meter for 30 minutes

RSCAC-7038 Series

- 100 A main breaker
- 10 kAIC System Rating (due to GFI)
- 6x configurable tandem breakers provided (11 Loads + GFI) (Default is 6x 15 A/15 A tandem breakers. Custom breaker lists can be specified at the time of order.)
- Top and bottom cable access
- 14"H × 9"W × 5"D NEMA 4 rated enclosure
- GFI convenience outlet



RSCAC-7038-P-240



RSCAC-7038-P-240-D - Hinged-Cover External Disconnect



RSCAC-7239 Series

- 100 A main breaker
- 22kAIC System Rating
- 6x configurable tandem breakers provided (12 Loads) (Default is 6x 15 A/15 A tandem breakers. Custom breaker lists can be specified at the time of order.)
- Top and bottom cable access
- 14"H × 9"W × 5"D NEMA 4 rated enclosure



RSCAC-7239-P-240



RSCAC-7239-P-240-D - Hinged-Cover External Disconnect



Building & Rooftop Solutions





Wall Mounted Solutions

Product solutions covering rooftop small cell sites with a screen wall, side-mounted box, sign, chimney, pod, or cupola, are available from Raycap. Rooftop or wall side-mounted box concealments compliment existing construction, and hand-crafted faux brick, block, stucco, and stone textures seamlessly blend with buildings.





Wall Mounted Signs

- Conceals small cell equipment
- Appears natural in the surrounding area
- Multiple operator and 5G mmWave InvisiWave versions available





Custom Concealment Shrouds

- Conceals small cell equipment
- Blends into any existing facility
- Round form factor shown; shrouds can be any shape including square, rectangular, or multisided
- Multiple operator and 5G mmWave InvisiWave versions available



Rooftop Solutions

Ballasted (non-penetrating) concealment pods are a great solution for disguising rooftop antennas. The ballasted pods are comprised of a steel frame, center mast pipe, steel clamp-on bulkheads and a radome. These standard frames allow for reduced engineering cost and lead time plus the optimized framing material makes manufacturing and installation a breeze.

Ballasted Pods

- 5G mmWave InvisiWave version available
- Does not require roof penetrations
- Can be used as temporary solution
- Easily to assemble and install





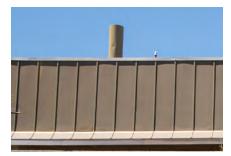
Rooftop Pods / Cupolas / Wall Mounted Solutions Gallery



















Fiber Management Solutions



Fiber Enclosures & Cables

Raycap offers pole or wall mount fiber enclosures for indoor and outdoor use. They are specifically designed for fast deployment and easy customer connection, providing the ultimate flexibility and optimal fiber organization.

Common and Standard Features

- Lightweight design
- IP65 sealing rate
- Minimum bending radius protection
- Customized configuration capacity available
- Allows integration of passive optical components
- Wall and pole mounted

- UV stable material for outdoor above ground use
- Passive convection cooling
- The standard kit contents include wall mounting brackets and splice protector sleeves
- Optional installation of 6 PLC splitters (PLC splitters are pre-connectorized only on the outputs.) Customization available.

RTF-8028

• Splicing capacity of 8 fibers





RTF-3392

Splicing capacity of 16 fibers







RTF-5238

• Splicing capacity of 6 fibers





RTF-3018

• Splicing capacity of 2 fibers





RTF-7054

• Splicing capacity of 4 fibers





RTF-3116

• Splicing capacity of 12 fibers





RTF-8818

• Splicing capacity of 24 fibers





Multi-Fiber Cables (OMCS-GY-xx-yy-LCLC-zzzM)

- Dielectric rodent protected
- Low smoke, halogen free (FR LSZH) outer sheath
- Connectors:
 RRH side: Duplex LC
 BBU side: Duplex LC

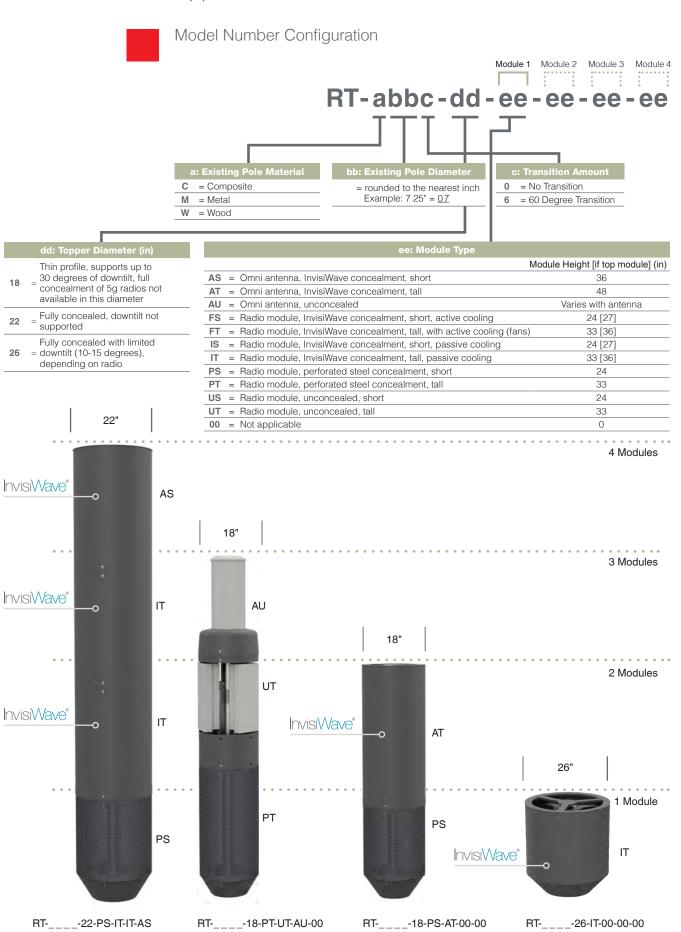


Single Mode / Multi Mode Cables (Duplex Patch cords)

- 0.9/1.8/2.0/3.0 mm versions available
- Low loss connectors
- LSZH jacket
- RoHS compliant
- Different boot lengths available



Appendix: RT Series



Appendix: RAL Standard Color Selection

RAL#	Satin SKU	Color Name
1001	RHS3-00004	Beige
1003	RYS3-00001	Signal Yellow
1013	RHS3-00001	Oyster White
1018	RYS3-00003	Zinc Yellow
1019	RHS3-00005	Grey Beige
1023	RYS3-60010	Traffic Yellow
1028	RYS3-60013	Melon Yellow
1037	RYS3-60006	Sun Yellow
2003	RES3-00001	Pastel Orange
2004	RES3-20003	Pure Orange
2010	RES3-20004	Signal Orange
3000	RRS3-20009	Flame Red
3001	RRS3-00001	Signal Red
3002	RRS3-00004	Carmine Red
3003	RRS3-00003	Ruby Red
3004	RRS3-00007	Purple Red
3005	RRS3-60002	Wine Red
3020	RRS3-20010	Traffic Red
4005	RRS3-20005	Blue Lilac
5002	RLS3-20001	Ultramarine Blue
5003	RLS3-20003	Sapphire Blue
5005	RLS3-20007	Signal Blue
5010	RLS3-20008	Gentian Blue
5011	RLS3-20010	Steel Blue
5012	RLS3-20009	Light Blue
5013	RLS3-20011	Cobalt Blue
5015	RLS3-20013	Sky Blue
5017	RLS3-90001	Traffic Blue
5019	RLS3-20015	Capri Blue
5022	RLS3-60001-C25	Night Blue
5024	RLS3-60003	Pastel Blue
6005	RGS3-80002	Moss Green
6009	RGS3-00025	Fir Green
6012	RGS3-00003	Black Green
6016	RGS3-00001	Turquoise Green
6018	RGS3-00021	Yellow Green
6027	RGS3-00015	Light Green
6029	RGS3-60012	Mint Green
7001	RAS3-00014	Silver Grey

7004	RAS3-20001	Signal Grey
7006	RHS3-00006	Beige Grey
7011	RAS3-00018	Iron Grey
7012	RAS3-20002	Basalt Grey
7013	RGS3-00008	Brown Grey
7016	RAS3-00005	Anthracite Grey
7021	RBS3-00002	Black Grey
7022	RNS3-20001	Umbra Grey
7023	RGS3-00011	Concrete Grey
7024	RAS3-20004	Graphite Grey
7030	RAS3-00007	Stone Grey
7032	RHS3-20002	Pebble Grey
7035	RAS3-00030	Light Grey
7037	RAS3-00020	Dusty Grey
7038	RAS3-00010	Agate Grey
7040	RAS3-00025	Window Grey
7042	RAS3-00003	Traffic Grey A
7043	RAS3-00019	Traffic Grey B
7044	RAS3-00027	Silk Grey
7045	RAS3-00024	Telegrey 1
7046	RAS3-00023	Telegrey 2
7047	RAS3-40005	Telegrey 4
8008	RNS3-20008	Olive Brown
8011	RNS3-20002	Nut Brown
8014	RNS3-00002	Sepia Brown
8016	RNS3-00012	Mahogany Brown
8017	RNS3-00011	Chocolate Brown
8019	RNS3-00004	Grey Brown
8025	RNS3-20011	Pale Brown
8028	RNS3-20012	Terra Brown
9001	RWS3-60004	Cream
9002	RWS3-60002	Grey White
9003	RWS3-00002	Signal White
9005	RBS3-60004	Jet Black
9010	RWS3-60003	Pure White
9011	RBS3-60001	Graphite Black
9016	RWS3-60001	Traffic White
9017	RBS3-60002	Traffic Black

Satin SKU Color Name

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