Rev.	Description	ECO number
A	Release	
B	Updated the installation kits to add SX antenna views and instructions for 91900313 and 9190055 bracket kits	75289 ECR00708
C	Added the revised 91900313 exploded view	75775 ECR00873
D	Added weep hole information	76110 ECR00950
E	Updated logos and HQ address	ECO-00407 ECR02611
F	Added graphics related to IX02PNL165-65 and SX02FIT165-4X antennas; removed references to internal part numbers.	

DX-* / SX-* / IX-* Antenna Mounting Instructions and Kits

Instructions for Wall Mount Brackets and Mounting Kits 91900324, 91900325, & 91900340

P/N 81900511

JMA Wireless World Headquarters

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Syracuse, NY 13202
USA

www.jmawireless.com
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91900324: DX/SX Antenna Mounting Bracket Kit (included in antenna)

91900340: IX Antenna Mounting Bracket Kit (included in antenna)

91900325: Replacement bracket kit (sold separately)

919055: Optional bracket kit (sold separately).

91900313: Optional bracket kit (sold separately). Only for SX230 model, to be used with kits 91900324 & 91900325.

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DX-* / SX-* / IX-* Mounting Instructions and Kits

This is the installation guide for the Stadium Mounting Bracket - Rotational. Note that a mounting bracket comes pre-installed on the antenna.

Antenna DX10FRO260-00/06 pictured for reference.

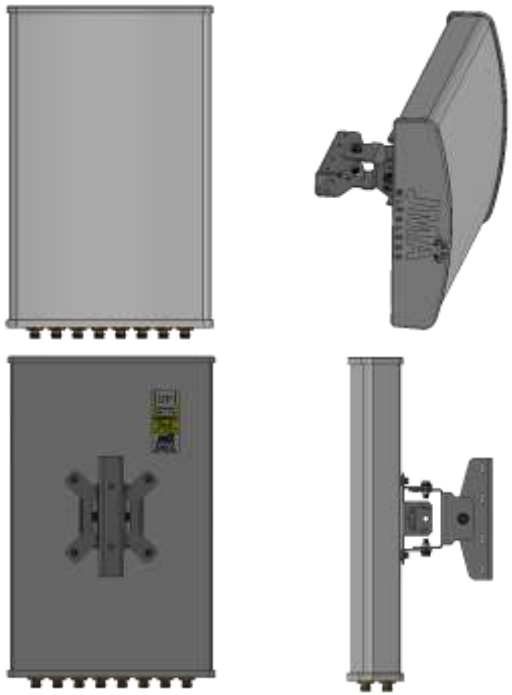


Figure 1: Bracket installed on DX antenna

The bracket can be repositioned depending upon use in the field.

When mounting the antenna, always follow the arrows and the word "top" for correct placement. When the bracket is in horizontal mount, the word "top" marked on the bracket will match the top of the antenna. But in vertical mount, the bracket can be turned either way. Torque 1/4" SS hardware to 75 lbf·in (8.47 N·m).

Antenna SX08FRO230-01 pictured for reference.

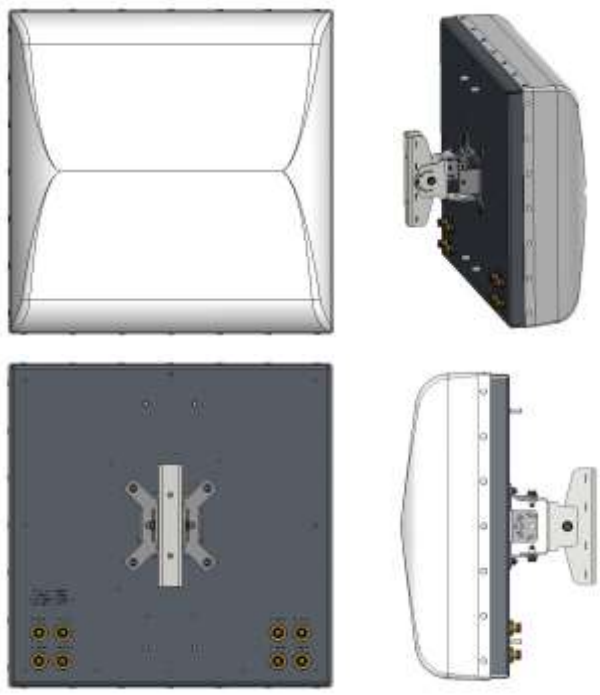


Figure 2: Bracket installed on SX antenna

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This is the installation guide for the Antenna IX02PNL165-65 Wall Mounting Bracket. Note that a wall-mount bracket comes with the antenna, but separately packed into its box.

Antenna IX02PNL165-65 pictured for reference with the wall-mount bracket.

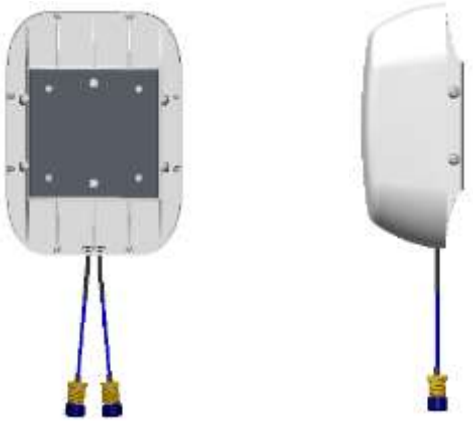


Figure 3: Wall-mount bracket installed on IX antenna

This is the installation guide for the Antenna IX02PNL165-65 Wall Mounting Bracket coupled with the rotational kit. Note that a wall-mount bracket and the rotational mount 91900340 kit come with the antenna, but separately packed into their box.

Antenna IX02PNL165-65 pictured for reference with the wall-mount bracket coupled with the rotational mount 91900340.

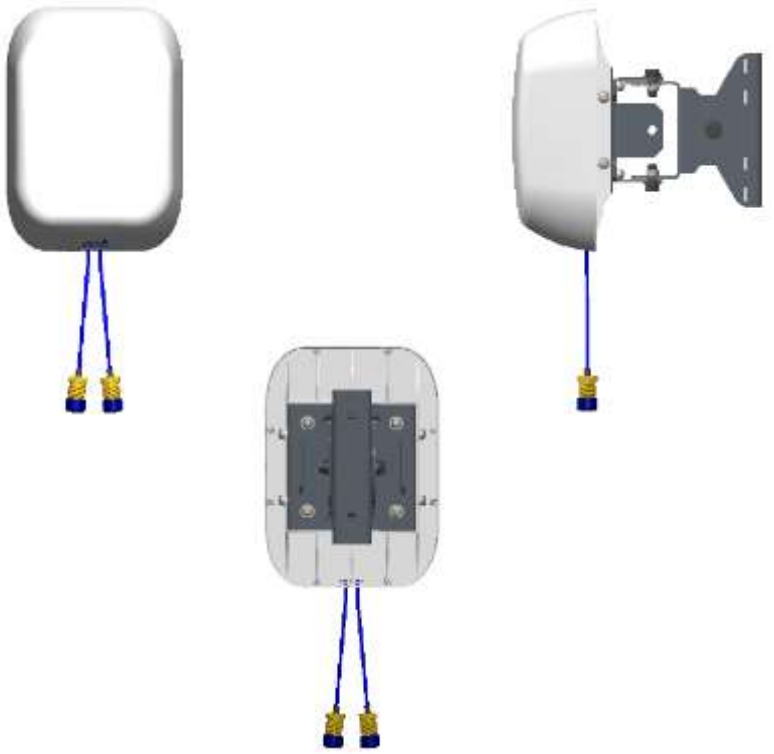


Figure 4: Rotational bracket installed on IX antenna

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This is the installation guide for the Antenna SX02FIT165-4X Wall Mounting Bracket. Note that a wall-mount bracket comes with the antenna, but separately packed into its box.

Antenna SX02FIT165-4X pictured for reference with the wall-mount bracket.

For the correct functionality of the SX02FIT165-47, connectors need to be facing up. For SX02FIT165-40, connectors can be facing up or down.

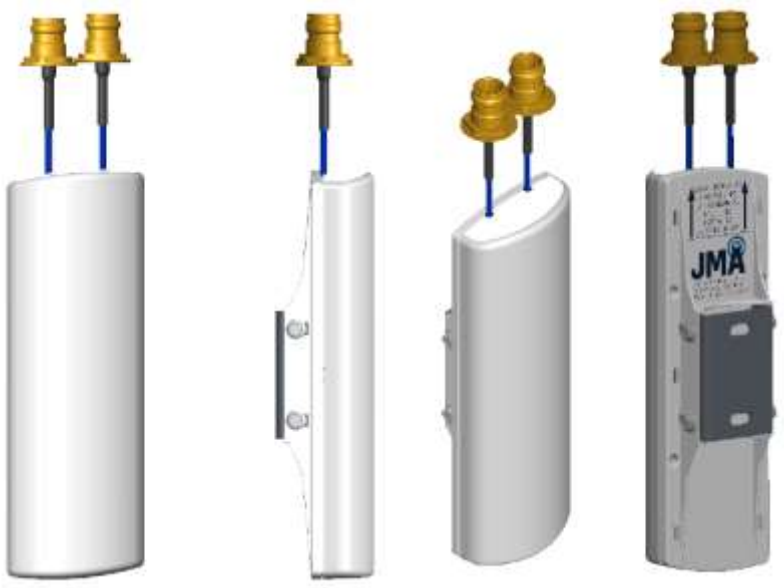


Figure : Wall-mount bracket installed on SX antenna

Weep hole drilling instructions: Weep holes to be drilled prior to installation. Please refer to "JMA Stadium Antenna, Weep Hole Modification Guide" at link below.

https://jmawireless.com/stadium_antenna_weep_hole_addition_guide

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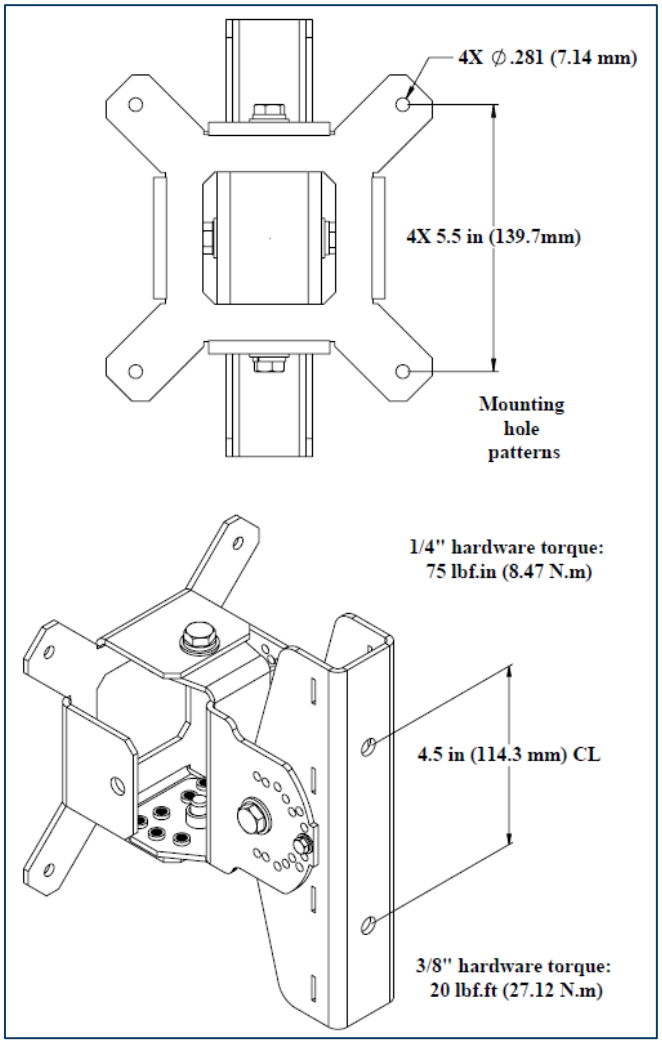


Figure 4: 91900324 kit

Below is the bracket kit included with the DX and SX antennas.

Kit #91900324

Item #	Description	Qty. in kit
1	Center Mount Stadium Bracket	1
2	Wall / Pipe Mount Stadium Bracket	1
3	3/8” FLAT WASHER SS (OD 13/16)	4
4	3/8”-16 x 1.000” HEX HEAD BOLT FULL THRE	4
5	3/8 SPLIT LOCK WASHER SS	4
6	10-32 x 1/2” HEX Head Bolt SS	2
7	#10 SPLIT LOCK WASHER SS	2
8	#10 FLAT WASHER SS	2
9	Assembly instructions	1

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Other key details:

- The brackets were designed to handle pole diameters ranging from 2.5 to 4.5 inches.
- All 10-32 hardware to be torqued to 30 lbf·in (3.39 N·m).
- All 3/8” hardware to be torqued to 20 lbf·ft (27.12 N·m).
- All 1/4” hardware to be torqued to 75 lbf·in (8.47 N·m).
- Fasteners / hose clamps for wall mount and pole mount not included in 91900324 bracket kit. (Sold separately)

Note:

- Parts 2-10 can be rotated 90° if needed, to rotate the antenna. For example, Bracket (1) has two mounting positions on the pre-installed bracket.
- When rotating the antenna, additional weep holes must be drilled to properly drain antenna. Refer to JMA weep hole modification guide at jmawireless.com

Venue bracket details (*Figure 5*):

Bracket (1) can be re-oriented 90° to support vertical mounting configurations. Keep the word “top” on the antenna facing top, and the weep hole facing down. Use Screw (6) for locking bracket into specific angle positions. Torque to 30 lbf·in (3.39 N·m). Use the holes in Bracket (2) (4.50” [114.3 mm] apart @ CL) and 3/8” hardware for wall mounts.

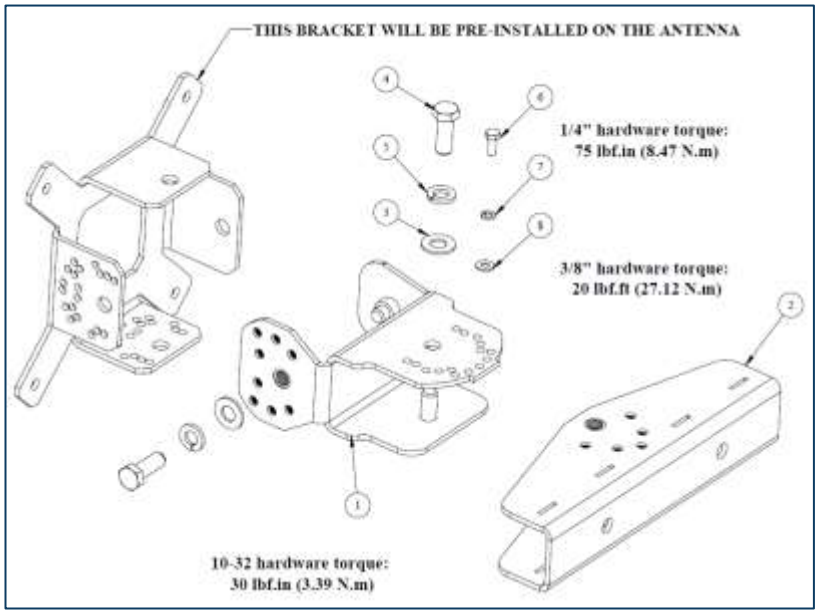


Figure 5: 91900324 bracket kit details

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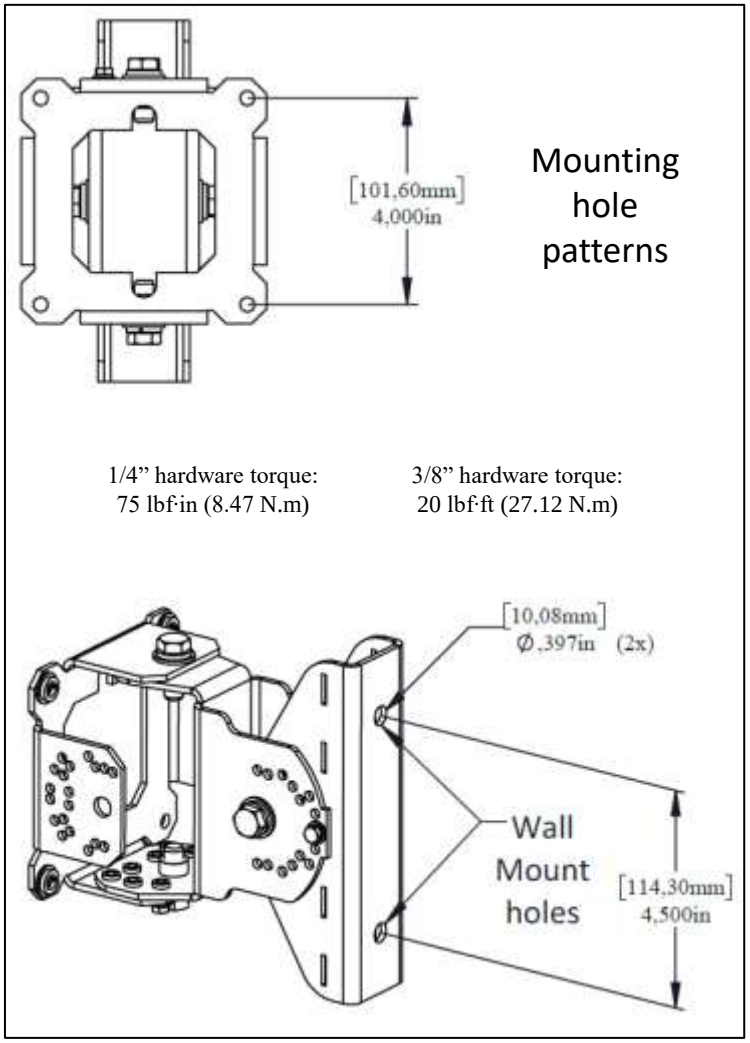


Figure 6: 91900340 kit

Below is the bracket kit included with the IX antennas.

Kit #91900340

Item #	Description	Qty. in kit
1	Center Mount Venues Bracket AL	1
2	Wall/Pipe Mount Venues Bracket AL	1
3	3/8 FLAT WASHER SS, OD 13/16	4
4	SCREW, CAP, HEX HD, 3/8-16 UNC X 1" LG, SS	4
5	WASHER, LOCK, 3/8, SS	4
6	10-32 x 1/2IN HEX Head Bolt, SS	2
7	WASHER, LOCK, #10, SS	2
8	FLAT WASHER, #10 STAINLESS STEEL	2
9	WASHER, FLAT, 316 SS, .05, 1/4	4
10	WASHER, LOCK, 18-8 SS, 0.25	4
11	SCREW, BH-T27, 316 SS, 1/4-20x1/2	4
12	Rotational Mounting Bracket AL	1

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Other key details:

- The brackets were designed to handle pole diameters ranging from 2.5 to 4.5 inches.
- All 10-32 hardware to be torqued to 30 lbf·in (3.39 N·m).
- All 3/8” hardware to be torqued to 20 lbf·ft (27.12 N·m).
- All 1/4” hardware to be torqued to 75 lbf·in (8.47 N·m).
- Fasteners / hose clamps for wall mount and pole mount not included in 91900340 bracket kit. (Sold separately)

Note:

- The kit 91900340 can be rotated 90° if needed, to rotate the antenna. For example, Bracket (12) has two mounting positions on the pre-installed bracket supplied with the antenna, and Bracket (1) has two mounting positions on Bracket (12).
- When rotating the antenna, additional weep holes must be drilled to properly drain antenna. Refer to JMA weep hole modification guide at jmawireless.com

Venue bracket details (*Figure 7-9*):

Kit 91900340 can be re-oriented 90° to support vertical mounting configurations. Keep the word “top” on the antenna facing top, and the weep hole facing down. Use Screw (6) for locking bracket into specific angle positions. Torque to 30 lbf·in (3.39 N·m). Use the holes in Bracket (2) (4.50” [114.3 mm] apart @ CL) and 3/8” hardware for wall mounts.

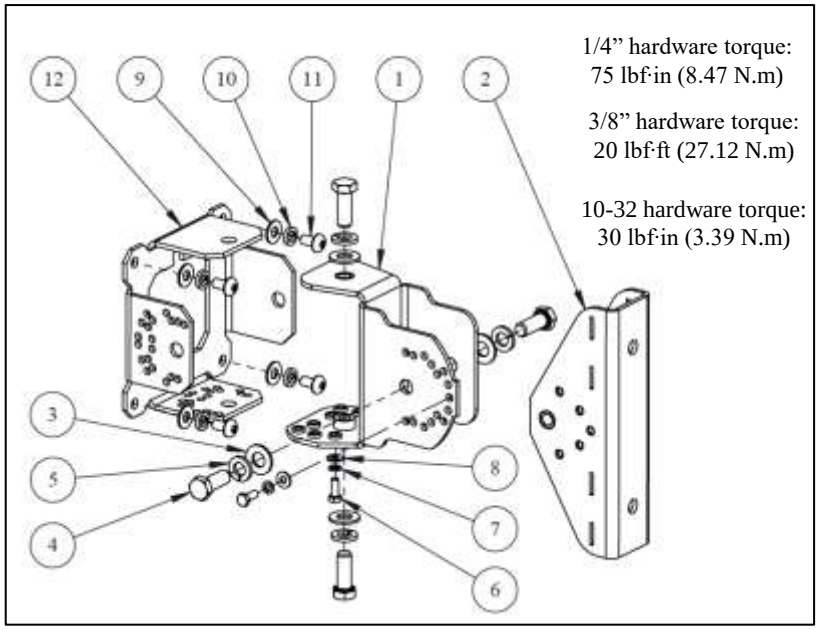


Figure 7: 91900340 bracket kit details.

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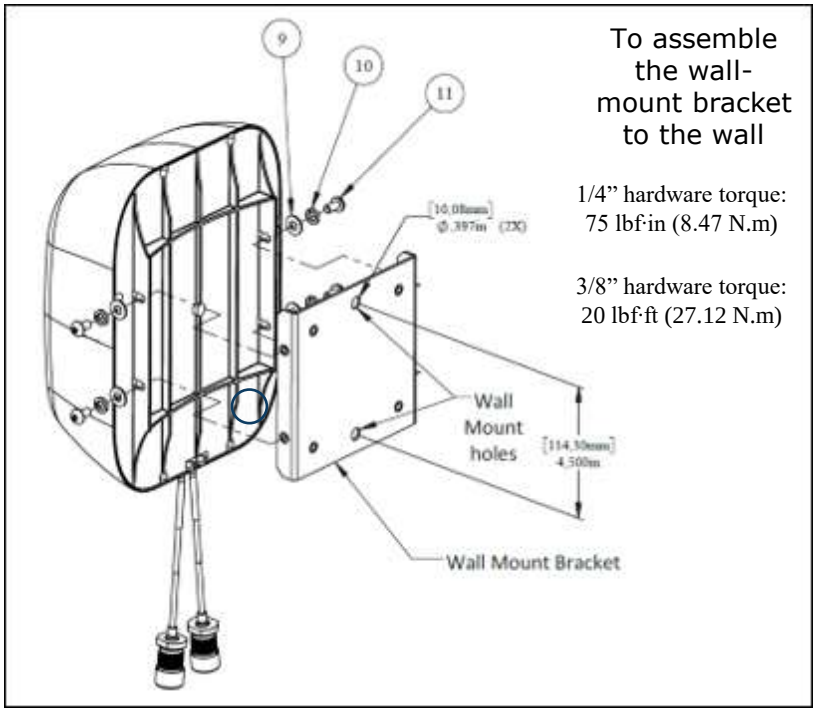


Figure 8: IX02PNL165-65 antenna assembled on the wall-mount bracket.

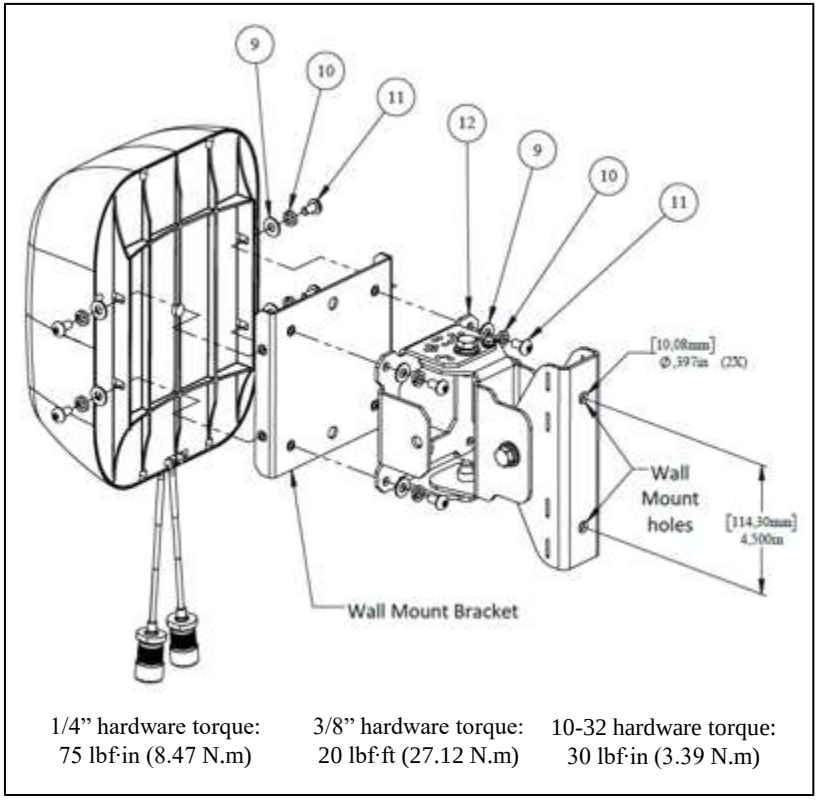


Figure 9: IX02PNL165-65 antenna assembled on the tilt brackets.

Wall assembly

If the antenna is to be directly assembled on the wall, without the 91900340 kit, the necessary hardware is supplied with the antenna. For hardware identification, see the BOM for 91900340 on page 11.

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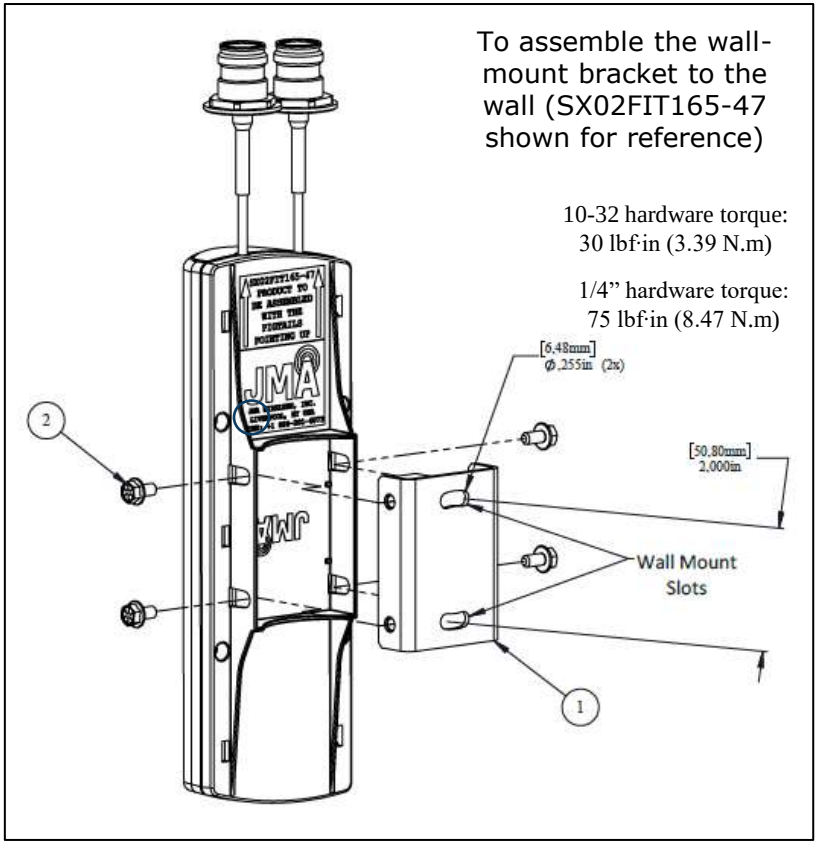


Figure 8: SX02FIT165-4X antenna assembled on the wall-mount bracket.

Wall assembly

The antenna has to be directly assembled on the wall. First install Bracket (1) on the wall and then install the antenna using Screw (2) supplied with the antenna. For the correct functionality of the SX02FIT165-47, connectors need to be facing up. **For SX02FIT165-40, connectors can be facing up or down.**

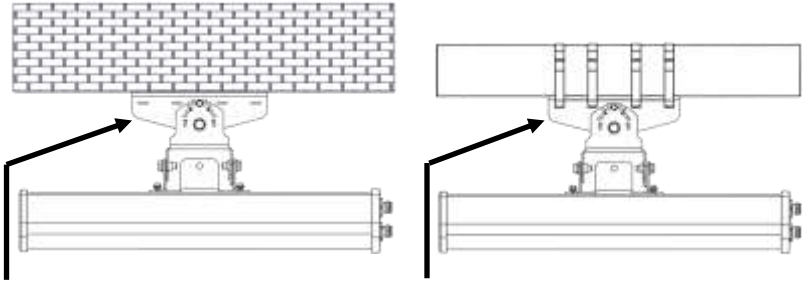
Antenna #SX02FIT165-4X

Item #	Description	Qty. in kit
1	BRACKET SX02FIT165-40	1
2	SCREW, HH, FLANGED, 18-8 SS, 3/8, 10-32	4

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Wall-mounted bracket **Pole-mounted bracket**

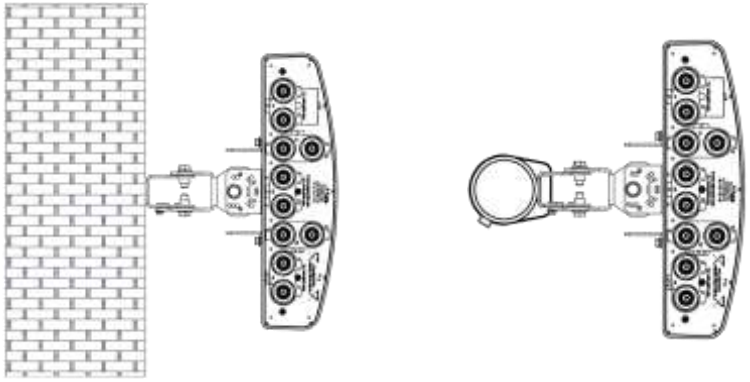
See *Figures 4* or *6*, the bracket drawings, for the hole layout dimensions. All 3/8” hardware to be torqued to 20 lbf·ft (27.12 N·m).



Bracket attaches to wall using appropriate 3/8” fasteners suitable for wall structure (2 places each) Torque to 20 lbf·ft (27.12 N·m)

Bracket attaches to pole using appropriate pole straps (4 places each)

Plan view



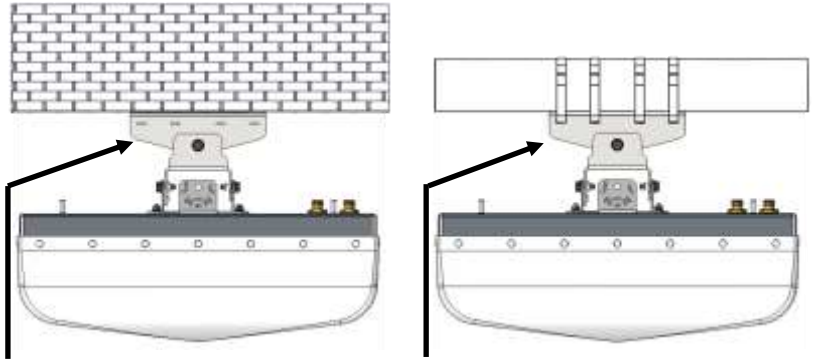
Side view

Figure 10: DX model wall mount and pole mount

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Wall-mounted bracket **Pole-mounted bracket**

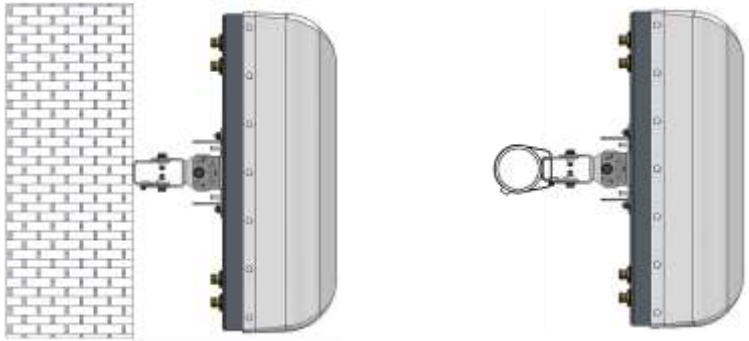
See *Figures 4* or *6*, the bracket drawings, for the hole layout dimensions. All 3/8” hardware to be torqued to 20 lbf·ft (27.12 N·m).



Bracket attaches to wall using appropriate 3/8” fasteners suitable for wall structure (2 places each) Torque to 20 lbf·ft (27.12 N·m)

Bracket attaches to pole using appropriate pole straps (4 places each)

Plan view



Side view

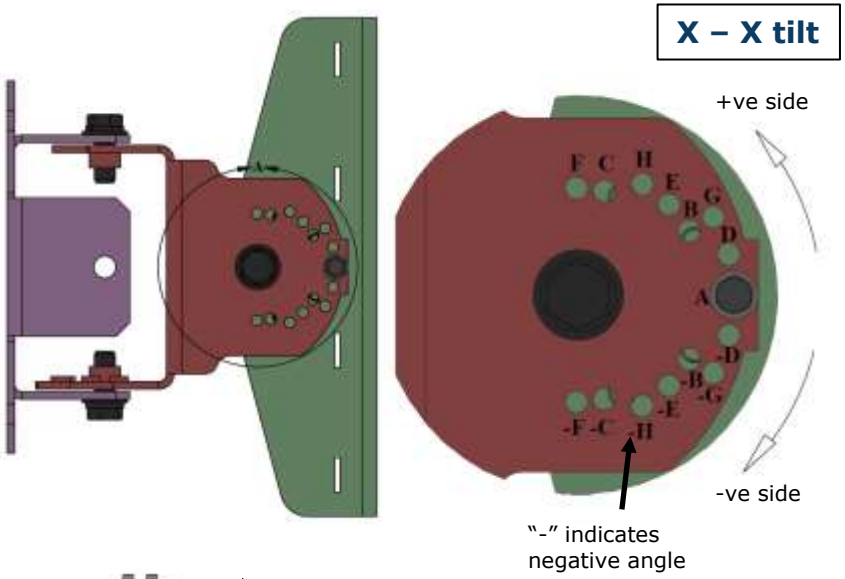
Figure 11: SX model wall mount and pole mount

DX-* / SX-* / IX-* Mounting Instructions and Kits

Vertical and horizontal mounting positions tables

Azimuth rotation for specific locking position. Use supplied #10-32 fasteners to lock bracket at specific angle.

X – X tilt

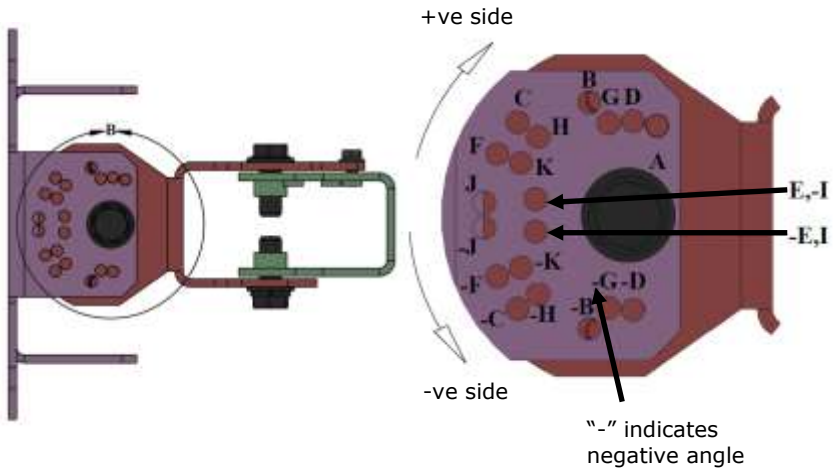


Azimuth Rotation Table: Max angle (degrees) pole/wall mount					
Legend	Azimuth Rotation (Deg)	Antenna (L) x (W)			
		1'x1'	1'x2'	1'x3'	2'x2'
A	0	✓	✓	✓	✓
B	5	✓	✓	✓	✓
C	10	✓	✓	✓	✓
D	15	✓	✓	✓	✓
E	20	✓	✓	✓	✓
F	25	✓	✓		✓
G	30	✓			
H	35	✓			

Figure 12: Bracket azimuth rotation in vertical position

Mechanical downtilt rotation for specific locking position. Use supplied #10-32 fasteners to lock bracket at specific angle.

Y – Y tilt



Mech. Downtilt Table: Max angle (degrees) pole/wall mount					
Legend	Azimuth Rotation (Deg)	Antenna (L) x (W)			
		1'x1'	1'x2'	1'x3'	2'x2'
A	0	✓	✓	✓	✓
B	5	✓	✓	✓	✓
C	10	✓	✓	✓	✓
D	15	✓	✓	✓	✓
E	20	✓	✓	✓	✓
F	25	✓	✓	✓	✓
G	30	✓	✓	✓	
H	35	✓	✓	✓	
I	40	✓	✓	✓	
J	45	✓	✓	✓	
K	50	✓	✓	✓	

Figure 13: Bracket mechanical downtilt rotation in horizontal position

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Replacement bracket kit (91900325).

Kit 91900325 (*Figure 14*) is sold separately and can be used instead of 91900324. Kit 91900325 is identical to 91900324-01, except the Antenna Mount Stadium Bracket (1) is included in this kit; consequently, some extra hardware is provided, i.e., (10), (11), and (12).

Kit #91900325		
Item #	**Description**	**Qty. in kit**
1	Antenna Mount Stadium Bracket	1
2	Center Mount Stadium Bracket	1
3	Wall/Pipe Mount Stadium Bracket	1
4	3/8” FLAT WASHER SS (OD 13/16)	4
5	3/8”-16 x 1.000” HEX HEAD BOLT FULL THRE	4
6	3/8 SPLIT LOCK WASHER SS	4
7	10-32 x 1/2” HEX Head Bolt SS	2
8	#10 SPLIT LOCK WASHER SS	2
9	#10 FLAT WASHER SS	2
10	NUT, HEX, 1/4-20,UNC,SS	4
11	FLAT WASHER, 1/4 STAINLESS STEEL	4
12	WASHER, LOCK, 1/4,SS	4
13	Assembly instructions	1

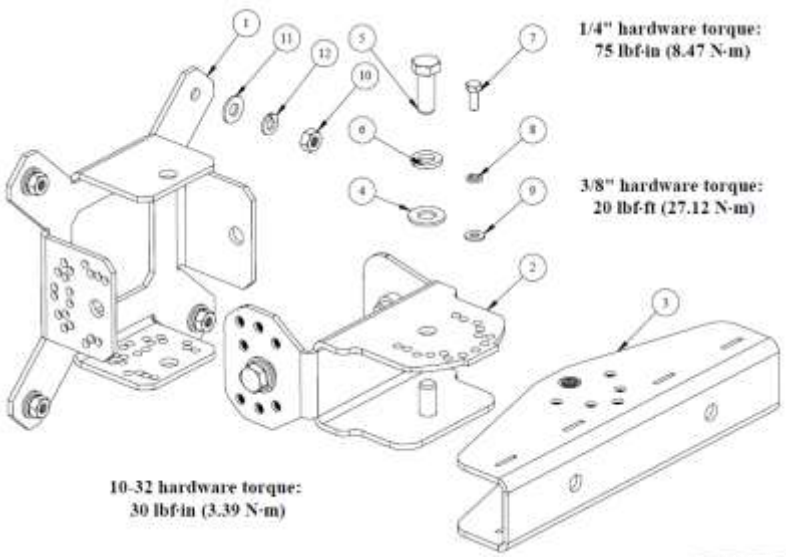


Figure 14: 91900325 bracket details

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Below is the optional extension bracket kit 91900313 for inverted mount of larger antennas.

Figure 15 shows antenna SX08FRO230-01 (for reference only) pictured after being fitted with extension bracket kit 91900313.



Figure 15: Inverted mount

Step 1: Removing the wall/pipe mount bracket from the antenna mount stadium bracket. Do not throw away any hardware. Remove 2 sets of 3/8”-16 hardware and the #10-32 screw from the connection of the center mount stadium bracket and wall/pipe mount stadium bracket. Remove the wall/pipe mount bracket from the assembly.

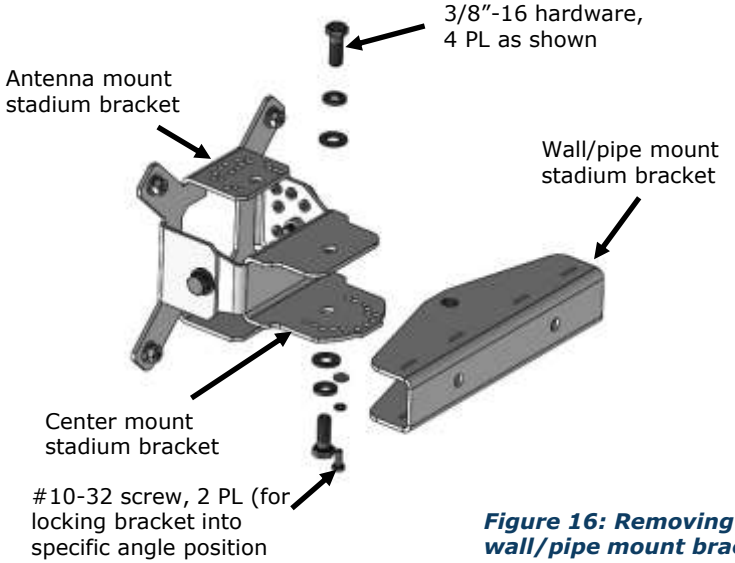


Figure 16: Removing the wall/pipe mount bracket

Step 2: Installing the extension bracket. Install extension bracket kit 91900313 by securing the extension bracket to the center mount stadium bracket using 3/8” hardware and #10-32 screw from Step 1. All 3/8” hardware to be torqued to 20 lbf·ft (27.12 N·m). See pages 24-25 for horizontal and vertical mounting positions tables.

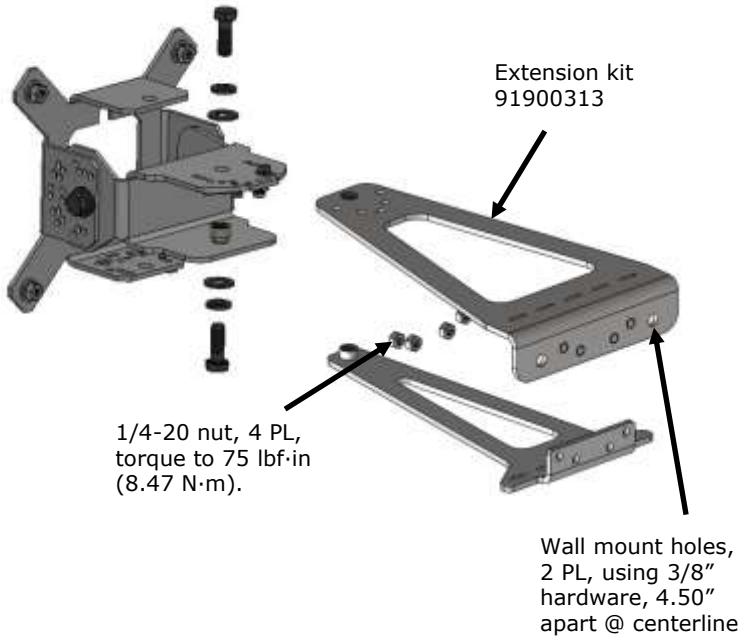
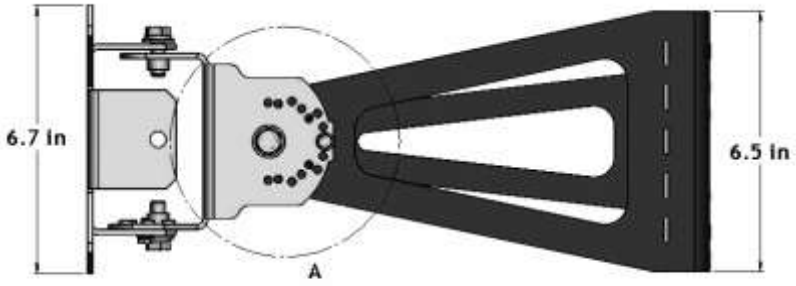


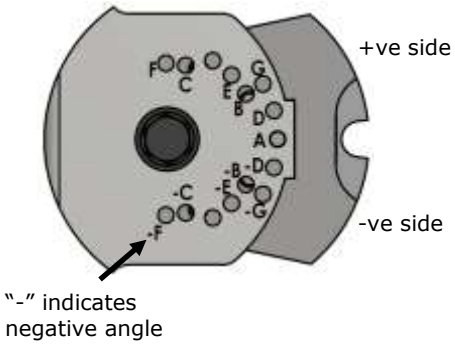
Figure 17: Connecting the extension bracket to the antenna mount stadium bracket

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Vertical and horizontal mounting positions tables

Azimuth rotation for specific locking position. Use supplied #10-32 fasteners to lock bracket at specific angles, at 5-degree increments, (+) & (-) sides.

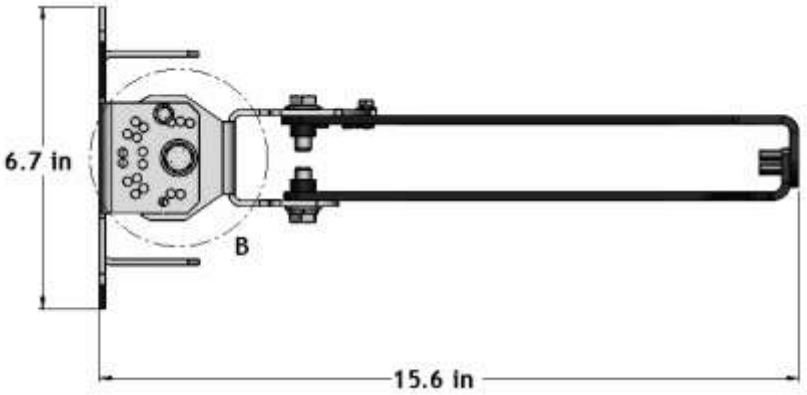


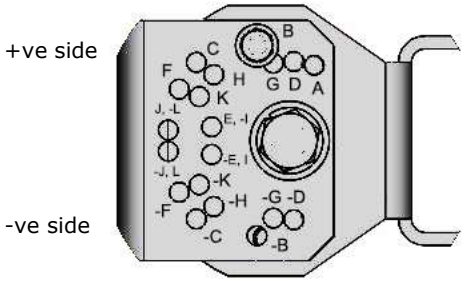


AZIMUTH ROTATION TABLE	
LEGEND	AZIMUTH ROTATION (DEG)
A	0
B	5
C	10
D	15
E	20
F	25
G	30

Figure 18: Bracket azimuth rotation in vertical position

Mechanical downtilt rotation for specific locking position. Use supplied #10-32 fasteners to lock bracket at specific angle.





MECH. DOWNTILT TABLE	
LEGEND	DOWNTILT ROTATION (DEG)
A	0
B	5
C	10
D	15
E	20
F	25
G	30
H	35
I	40
J	45
K	50
L	55

Figure 19: Bracket mechanical downtilt rotation in horizontal position

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Below is the optional extension bracket kit 91900313 for inverted mount of larger antennas.

Figures 20 and *21* show kits 91900324, 91900313, and 919055 together. SX model antenna pictured for reference.

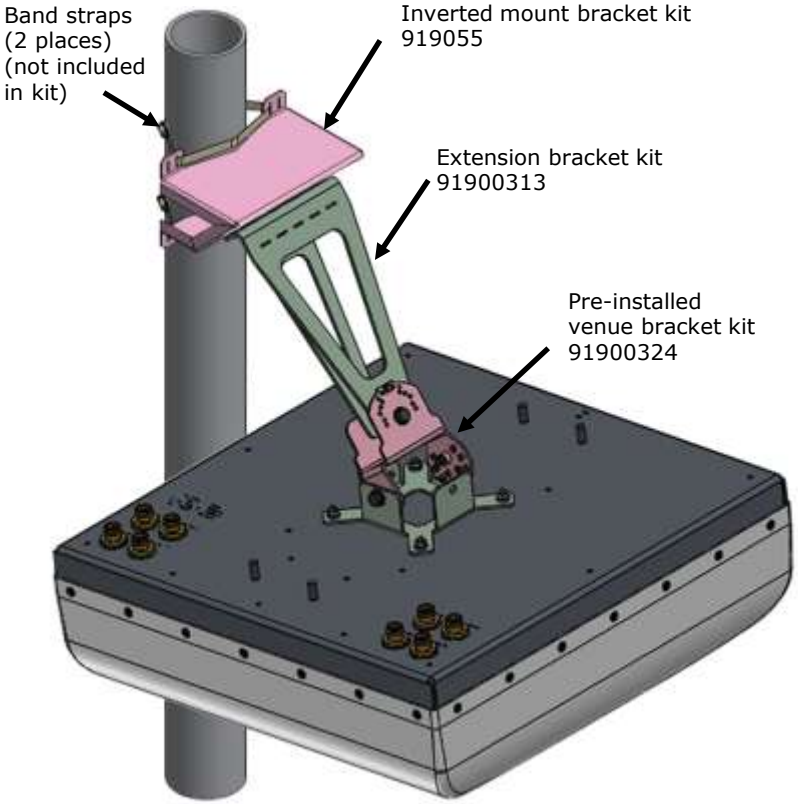


Figure 20: Inverted mount

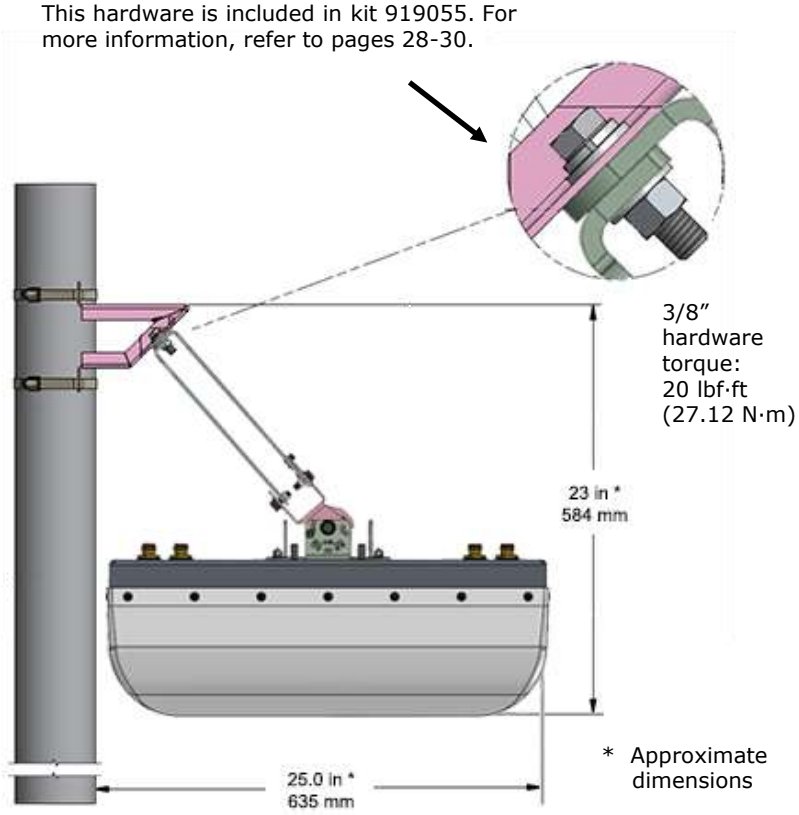


Figure 21: Inverted mount: side view details

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Below is the optional bracket kit 919055 for inverted mount.

Figures 22 and *23* show both kits 91900324 and 919055 together. DX model antenna pictured for reference.

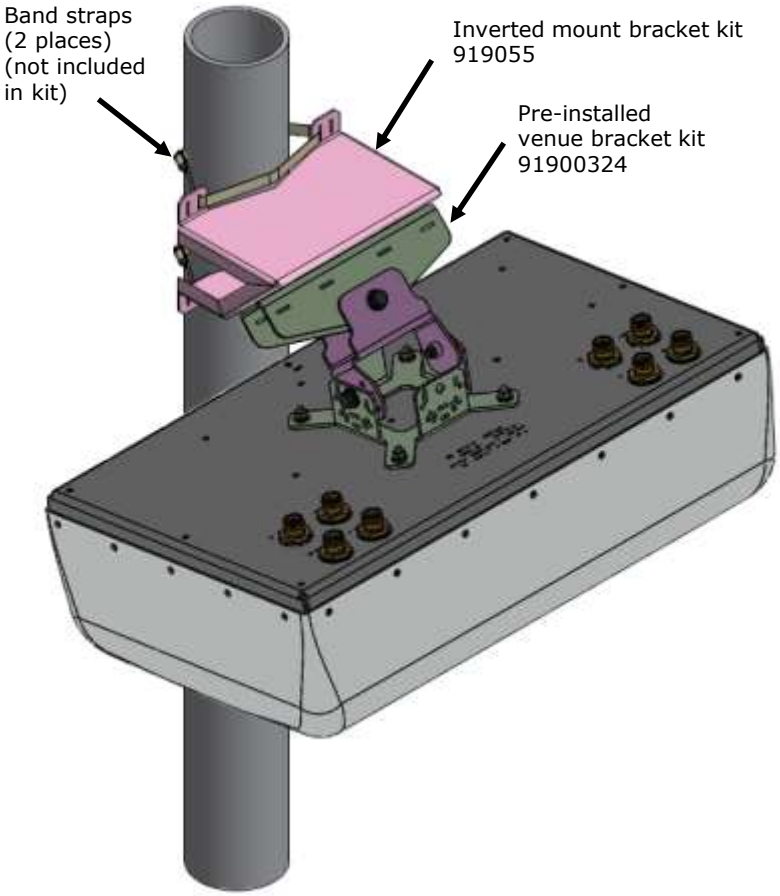


Figure 22: Inverted mount

Optional inverted (upside down) mount kit (919055).

This bracket kit 919055 to be used along with bracket 91900324 on poles with an outer diameter of 4”-10”. Refer to page 18-19 to learn about available tilt options. All 3/8”-16 fasteners to be torqued to 20 lbf·ft (27.12 N·m). Must use appropriate size heavy duty band straps. While mounting antenna upside down, additional weep holes must be drilled to properly drain antenna. Refer to JMA weep hole modification guide at jmawireless.com

Kit #919055

Item #	Description	Qty. in kit
1	3/8”-16 x 1-1/4” HEX BOLT FULL THREAD SS	2
2	3/8”-16 HEX NUT SS	2
3	3/8 FLAT WASHER SS (OD 13/16)	2
4	3/8 SPLIT LOCK WASHER SS	2
5	BRACKET, INVERTED MNT 919050 STDM BRCKT	1

NOTE: These item numbers refer to *Figure 23*.

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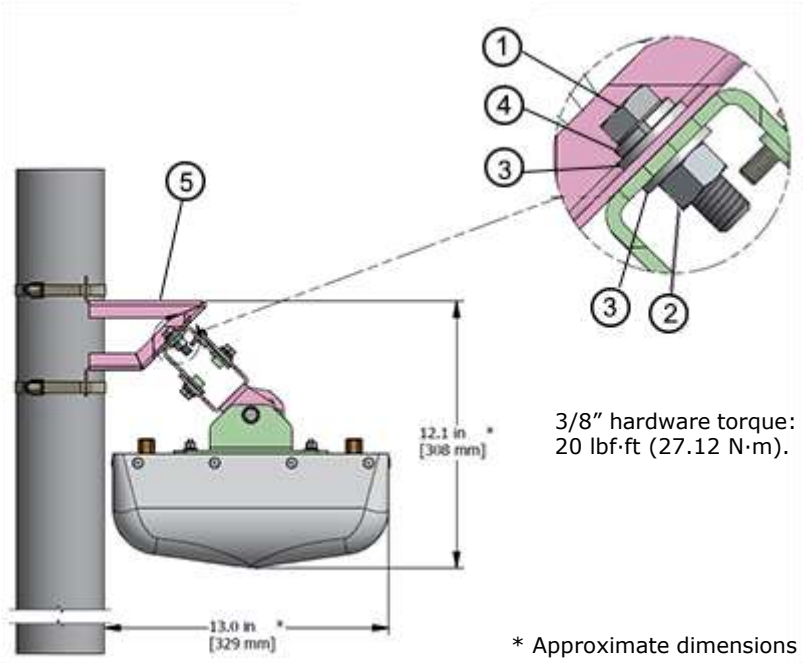


Figure 23: Inverted mount: side view details

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