

Date	Prepared by	Approved by	Document nos	Rev
22 Oct 2022	Yasir	Tony	MS-ANT-ALIGN-TOOL-001	1

INSTRUCTION MANUAL MS-ANT-ALIGN-TOOL

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Revision History:

Date	Description	Revised by	Revision nos.
22-Mar-2022	Initial document released	Yasir	1
22-Oct-2022	Camera mounting hardware upgraded	Yasir	2

1.00 HARDWARE COMPONENTS

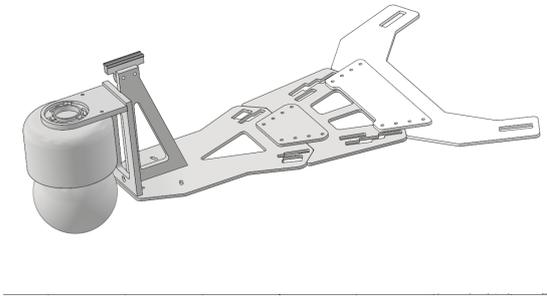
1.10 Matsing Laptop



1.20 HD PTZ Camera



1.30 Camera Mounting System



1.40 Ethernet Cable



1.50 POE Adapter



1.60 Laser Pointer



2.00 COMPATIBLE ANTENNA MODELS

2.10 30cm, 45cm, 60cm, 90cm, 120cm, 180cm

Column headers in the below table show lens size and the respective model numbers.

2.11 Single-Band

All model numbers that **don't contain** "DB" are Single-Band models.

2.12 Dual-Band

All model numbers that **contain** "DB" letters represent Dual-Band models.

180cm	120cm	90cm	60cm	45cm	30cm
MS-10.10.10DBA180	MS-16H120	MS-6.3DB90	MS-4.2DB60	MS-12F45	MS-4F30
MS-10.10.10DBA180-T	MS-8H120	MS-6.3DB90-T	MS-4.2DB60-T	MS-18F45	MS-8F30
MS-12.6DB180	MS-8L120	MS-12F90	MS-16F60	MS-6F45	
MS-12.6DB180-T	MS-8T120	MS-12H90	MS-4H60		
MS-20.10DBA180	MS-8.4DB120	MS-18H90	MS-8F60		
MS-20.10DBA180-T	MS-8.4DB120-T	MS-24F90	MS-8H60		
MS-24H180		MS-48F90			
MS-48H180		MS-6H90			
MS-6L180					
MS-6T180					
MS-12H180					
MS-12L180					
MS-12T180					

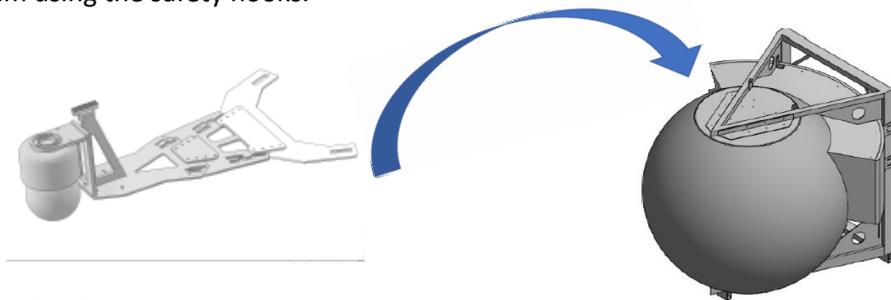
3.00 SETTING UP CONNECTIONS

3.10 Installing camera mounting system

3.11 Carrying the system to the antenna level

3.12 Attaching the camera mounting system to the antenna

Lift the camera mounting system as shown in the picture below and place it on top of the above mentioned antenna models. Holes in the camera mounting system should perfectly fit on top of the antenna frame. Secure the camera mounting system using the safety hooks.

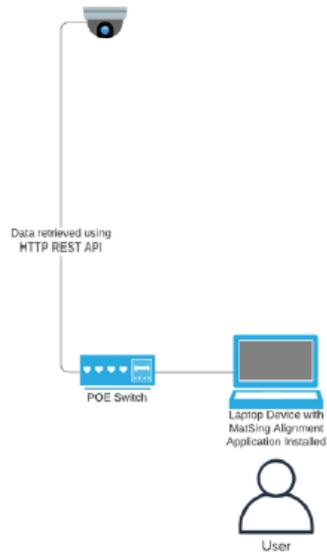


3.20 Connecting camera

3.21 Connecting camera to POE

3.22 Connecting camera to the laptop

- Connect 250' Ethernet cable to the camera on one end
- Connect the Ethernet cable to the power adapter (T8154) via "DATA PWR OUT" port
- Connect your local PC to the power adapter (T8154) via "DATA IN" port on T8154 POE adapter
- Plug in power adapter (T8154) to the power outlet
- A green light will show up on the adapter



4.00 ANTENNA AZIMUTH & COVERAGE VERIFICATION

4.10 Verifying camera self calibration

- Camera will calibrate itself 20 seconds after POE adapter is plugged into the power source
- Camera will complete one full 360 degree rotation
- Camera lens will be looking in the bore-sight of the antenna

4.20 Turn on the laser pointer located on top of the camera mounting system

- Turn on the laser pointer
- Laser pointer functions are mentioned below in the picture



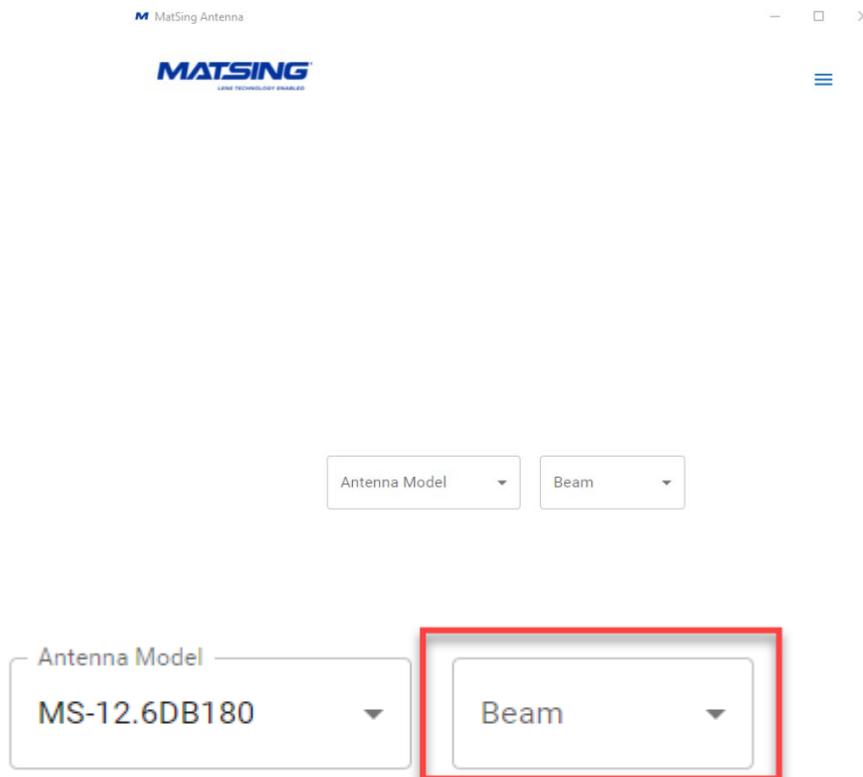
4.30 Launching "Matsing Antenna Alignment Tool"

- Double click on the following application located on the Matsing laptop Desktop;



4.40 Operational Process

- Below window will show up once the application is launched;
- Select the desired Antenna Model from the drop-down list next to "Antenna Model"



- Select "Start Zero" from the "Beam" drop down menu
- Camera position will change to a predefined PTZ preset i.e. pan and tilt = 0 degree
- Camera will show the laser pointer "green dot" on the laptop screen
- Laser pointer location in the field/stadium will identify the bore-sight of the antenna
- Select the first and last beams of the antenna from the beam drop down menu to verify the antenna coverage
- If the antenna azimuth and coverage matches with the design then capture the screenshot of the camera locations and add the screenshots to the closeout package
- If the antenna needs adjustment please work with tower crew and capture screenshots once the adjustment is completed