



MS-MBA-4.4.2-F4-H2-L2

RET Operation Manual



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The **MS-MBA-4.4.2-F4-H2-L2** antenna comes standard with two MDCU Controllers and 14 motorized RET elements. Each motorized RET element controls 2 ports +45/-45 of the respected beam for HB & LB. For FB, each motorized RET element controls 4 ports (4x4 MIMO) of the respected beam.

Factory default firmware for the MDCU Controller is MRET (Type 17).



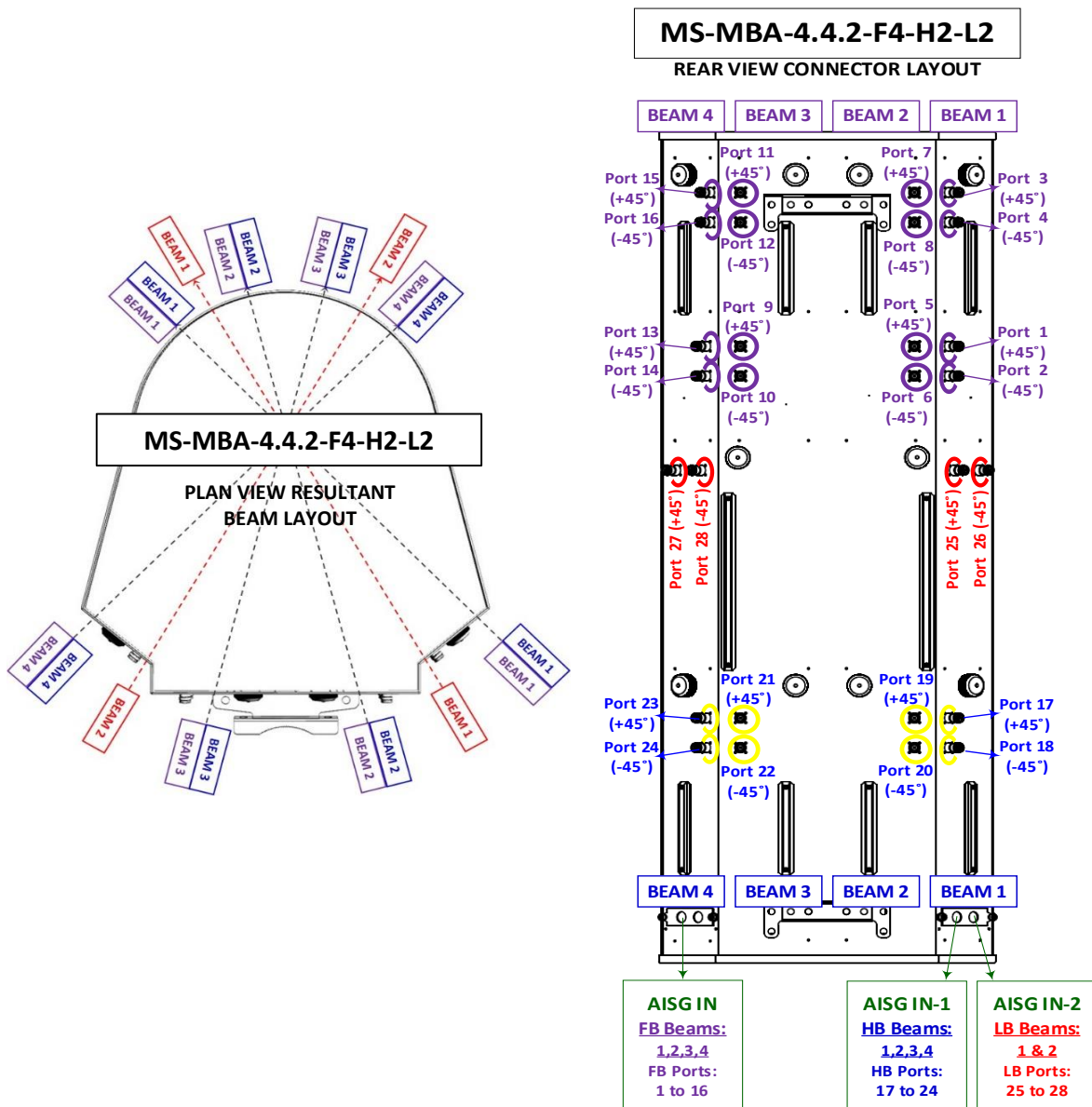
Single AISG Input / Output

IN Controls FB Beams 1-4 (Single AISG)



Dual AISG Input

IN-1 Controls HB Beams 1-4 (Dual AISG)
IN-2 Controls LB Beams 1-2 (Dual AISG)



MS-MBA-4.4.2-F4-H2-L2			
Connector Ports Table			
BEAM 4	BEAM 3	BEAM 2	BEAM 1
Port 15 (+45°)	Port 11 (+45°)	Port 7 (+45°)	Port 3 (+45°)
Port 16 (-45°)	Port 12 (-45°)	Port 8 (-45°)	Port 4 (-45°)
Port 13 (+45°)	Port 9 (+45°)	Port 5 (+45°)	Port 1 (+45°)
Port 14 (-45°)	Port 10 (-45°)	Port 6 (-45°)	Port 2 (-45°)
BEAM 2		BEAM 1	
Port 27 (+45°)		Port 25 (+45°)	
Port 28 (-45°)		Port 26 (-45°)	
BEAM 4	BEAM 3	BEAM 2	BEAM 1
Port 23 (+45°)	Port 21 (+45°)	Port 19 (+45°)	Port 17 (+45°)
Port 24 (-45°)	Port 22 (-45°)	Port 20 (-45°)	Port 18 (-45°)

A standard **AISG 2.0** compliant cable (not included) is used to connect the **MDCU to the AISG interface control**. Once connected, use an **AISG 2.0** compliant Control software to perform a **Sub Unit SCAN** to identify the **MS-MBA-4.4.2-F4-H2-L2** RET Elements.

RET CONNECTION												
ALD List												
NO	HDLC	Vendor	Serial Number	Product Number	HW Version	S/W Version	3GPP	Device	AISG	Connect	Link	
1	1	MS	MBA442F4HL0001AMM	ACS-RMC00	1.00	1.17	6	Multi RET	2	Connect	Link	
2	2	MS	MBA442F4HL0001BMM	ACS-RMC20	1.00	1.17	6	Multi RET	2	Connect	Link	
3	3	MS	MBA442F4HL0001CMM	ACS-RMC20	1.00	1.13a	6	Multi RET	2	Connect	Link	

Single AISG IN: "A" (FB) Serial End with AMM

Dual AISG IN-1: "B" (HB) Serial End with BMM

Dual AISG IN-2: "C" (LB) Serial End with CMM

Device Data Management for Single AISG IN

RET ID : MSMBA442F4HL0001AMM

RET Additional Device Data

Antenna Number Sub Unit : 1/4

Additional Data	Devide Data
ANT NO	1
ANT Model	MBA4.4.2F4H2L2
ANT Serial	MSMBA442F4HL0001
Band	
Band Ext8	
Band Ext9	UL(3400~3600),DL(3400~3600)/UL(...
Beamwidth #1	19
Beamwidth #2	0
Beamwidth #3	0
Beamwidth #4	0
Gain #1	18.0
Gain #2	0.0
Gain #3	0.0
Gain #4	0.0
Max Tilt	20.0
Min Tilt	0.0
Installation Date	
Installer's ID	
Base Station ID	
Sector ID	FB1 (P1,P2,P3,P4)
Ant Bearing	0.0
Mechanical Tilt	0.0

Device Data Management for Dual AISG IN-1

RET ID : MSMBA442F4HL0001BMM

RET Additional Device Data

Antenna Number Sub Unit : 1/4

Additional Data	Devide Data
ANT NO	1
ANT Model	MBA4.4.2F4H2L2
ANT Serial	MSMBA442F4HL0001
Band	UL(1920~1980),DL(2110~2170)/UL(...)
Band Ext8	
Band Ext9	
Beamwidth #1	17
Beamwidth #2	0
Beamwidth #3	0
Beamwidth #4	0
Gain #1	19.0
Gain #2	0.0
Gain #3	0.0
Gain #4	0.0
Max Tilt	20.0
Min Tilt	0.0
Installation Date	
Installer's ID	
Base Station ID	
Sector ID	HB1 (P17,P18)
Ant Bearing	0.0
Mechanical Tilt	0.0

Device Data Management for Dual AISG IN-2

RET ID : MSMBA442F4HL0001CMM

RET Additional Device Data

Antenna Number Sub Unit : 1/2

Additional Data	Devide Data
ANT NO	1
ANT Model	MBA4.4.2F4H2L2
ANT Serial	MSMBA442F4HL0001
Band	UL(824~849),DL(869~894)/UL(830...
Band Ext8	
Band Ext9	
Beamwidth #1	34
Beamwidth #2	0
Beamwidth #3	0
Beamwidth #4	0
Gain #1	14.2
Gain #2	0.0
Gain #3	0.0
Gain #4	0.0
Max Tilt	40.0
Min Tilt	0.0
Installation Date	
Installer's ID	
Base Station ID	
Sector ID	LB1 (P25,P26)
Ant Bearing	0.0
Mechanical Tilt	0.0

RET Tilt Window

RET ID : MSMBA442F4HL0001AMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/4	FB1 (P1,P2,P3,P4)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
2/4	FB2 (P5,P6,P7,P8)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
3/4	FB3 (P9,P10,P11,P12)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
4/4	FB4 (P13,P14,P15,P16)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal

**RET Element to Single AISG IN
FB Beam & Port Assigned**

RET Tilt Window

RET ID : MSMBA442F4HL0001BMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/4	HB1 (P17,P18)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
2/4	HB2 (P19,P20)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
3/4	HB3 (P21,P22)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
4/4	HB4 (P23,P24)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal

**RET Element to Dual AISG IN-1
HB Beam & Port Assigned**

RET Tilt Window

RET ID : MSMBA442F4HL0001CMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/2	LB1 (P25,P26)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal
2/2	LB2 (P27,P28)	MBA4.4.2F4H2L2	MSMBA442F4HL0001	0.0	Normal

**RET Element to Dual AISG IN-2
LB Beam & Port Assigned**

Calibration:

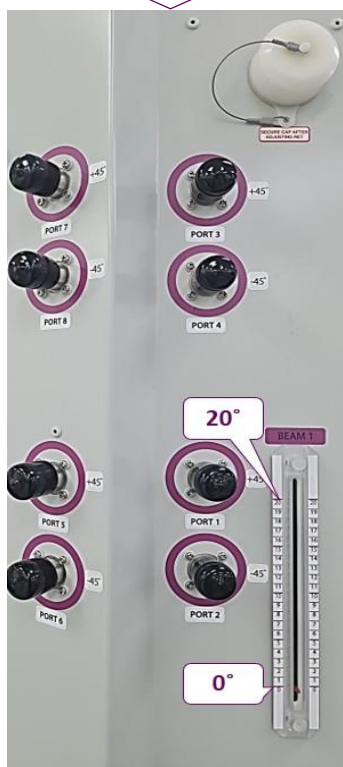
Prior to use, RET Element calibration is required.

Re-Calibration is also required if manual mode was used at any point to adjust tilt

During calibration, the RET Element will use an Bottom hard-stop to calibrate **0°-20° (FB)**, **0°-20° (HB)** and **0°-40° (LB)** Degree range.

The current degree of tilt is indicated by the movable **RED MARKER TIP**.

4 Beam (4x4 MIMO) / RET FB Elements offer a tilt range from 0° - 20° degree independently.



4 Beam / RET HB Elements offer a tilt range from 0° - 20° degree independently.



2 Beam / RET LB Elements offer a tilt range from 0° - 40° degree independently.



Manual Mode

The **MS-MBA-4.4.2-F4-H2-L2** antenna offers a manual override option.

Step 1:

Unscrew/Screw the cap for tilt adjustment process



Step 2:

Engaged with internal RET Motor position



Step 3:

Pull handle out to disengaged RET for tilt adjustment

