



MS-MBA-3.2-H8-L4 **(4X4 RET Configuration)** **RET Operation Manual**



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The **MS-MBA-3.2-H8-L4** antenna comes standard with two MDCU Controllers and 16 motorized RET elements. Each motorized RET element control 2 ports +45/-45 of the respected beam.

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



Single AISG Input / Output

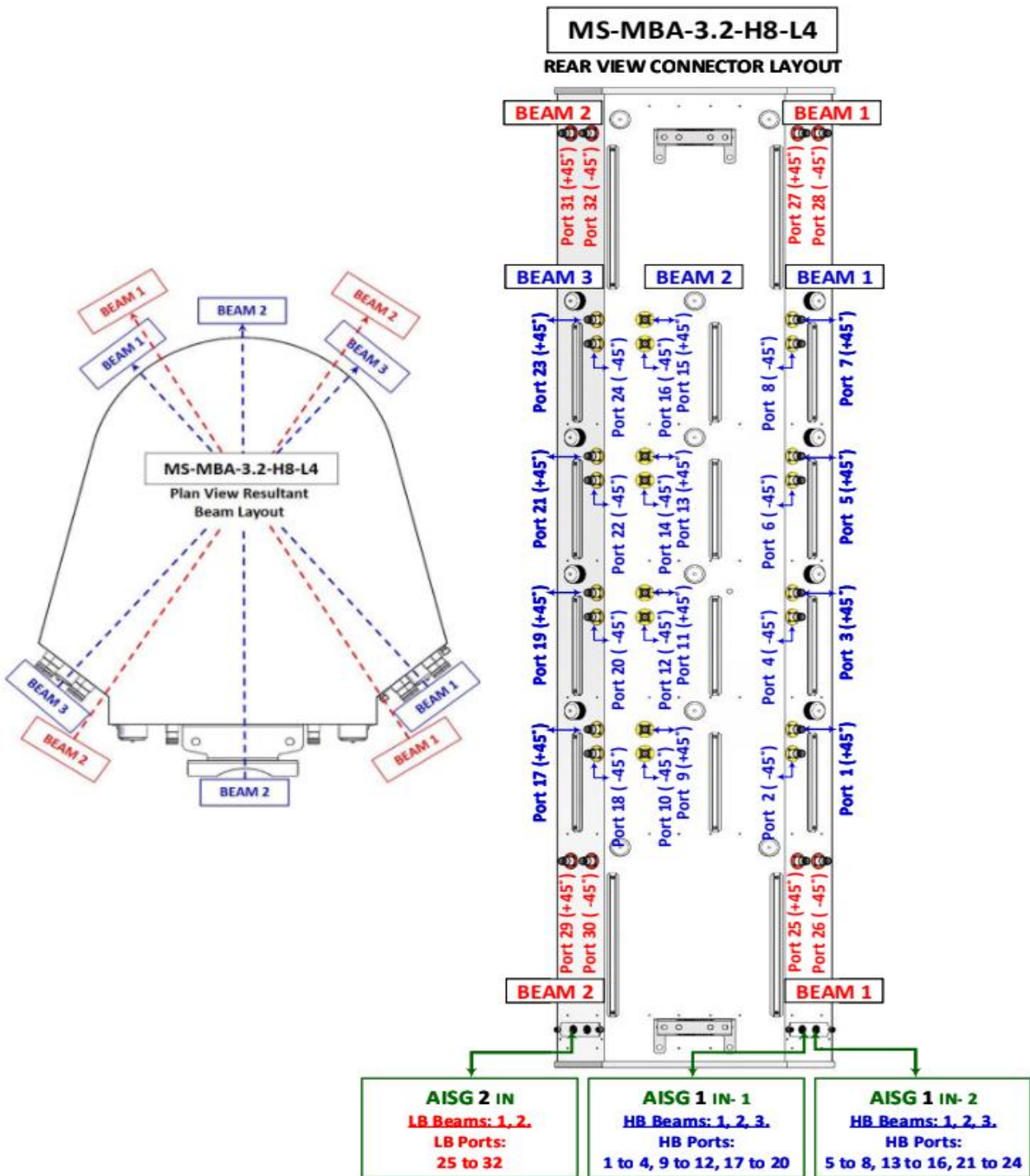


Dual AISG Input

IN Controls LB Beams 1-2 (AISG 2)

IN-1 Controls HB Beams 1-3 (AISG 1)

IN-2 Controls HB Beams 1-3 (AISG 1)



MS-MBA-3.2-H8-L4 Connector Ports Table					
BEAM 2				BEAM 1	
Port 31 (+45 °)	Port 32 (-45 °)			Port 27 (+45 °)	Port 28 (-45 °)
BEAM 3		BEAM 2		BEAM 1	
Port 23 (+45 °)	Port 24 (-45 °)	Port 15 (+45 °)	Port 16 (-45 °)	Port 7 (+45 °)	Port 8 (-45 °)
Port 21 (+45 °)	Port 22 (-45 °)	Port 13 (+45 °)	Port 14 (-45 °)	Port 5 (+45 °)	Port 6 (-45 °)
Port 19 (+45 °)	Port 20 (-45 °)	Port 11 (+45 °)	Port 12 (-45 °)	Port 3 (+45 °)	Port 4 (-45 °)
Port 17 (+45 °)	Port 18 (-45 °)	Port 9 (+45 °)	Port 10 (-45 °)	Port 1 (+45 °)	Port 2 (-45 °)
BEAM 2				BEAM 1	
Port 29 (+45 °)	Port 30 (-45 °)			Port 25 (+45 °)	Port 26 (-45 °)

Firmware 3.02D2 & 3.02D3

RET Element Mechanical Movement with 3.02D3 (HB Element)

During calibration, Mechanical HB 1 (P1,P2) is tilted (to lowest hardstop to max tilt , finally back to set tilt). RET test will automatically continue calibrate HB 1 (P3,P4)

Dual AISG	RET Element	Mechanical Tilt
IN-1	HB 1 (P1,P2)	HB 1 (P1,2,3,4)
	HB 2 (P9,10)	HB 2 (P9,10,11,12)
	HB 3 (P17,18)	HB 3 (P17,18,19,20)
IN-2	HB 1 (P5,P6)	HB 1 (P5,6,7,8)
	HB 2 (P13,14)	HB 2 (P13,14,15,16)
	HB 3 (P21,22)	HB 3 (P21,22,23,24)

RET Element Mechanical Movement with 3.02D2 (LB Element)

During calibration, Mechanical LB 1 (P25,P26) is tilted (to lowest hardstop to max tilt, finally back to set tilt). RET test will automatically continue calibrate LB 1 (P27,P28)

Single AISG	RET Element	Mechanical Tilt
IN	LB 1 (P25,26)	LB 1 (P25,26,27,28)
	LB 2 (P29,30)	LB 1 (P29,30,31,32)

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-3.2-H8-L4** RET Elements.

RET CONNECTION											
Dual AISG IN-1: "A" (HB) Serial End with "AMM"				Dual AISG IN-2: "B" (HB) Serial End with "BMM"							
ALD List											
NO	HDLC	Vendor	Serial Number	Product Number	FW Version	3GPP	Device	AISG	Connect	Link	
1	1	MS	MBA32H8L400001AMM	ACS-RMC20	1.00	3.02D3	6	Multi RET	2	Connect	Link
2	2	MS	MBA32H8L400001BMM	ACS-RMC20	1.00	3.02D3	6	Multi RET	2	Connect	Link
3	3	MS	MBA32H8L400001CMM	ACS-RMC00	1.00	3.02D2	6	Multi RET	2	Connect	Link

Single AISG IN: "C" (LB) Serial End with "CMM"

Device Data Management for Dual AISG IN-1

RET ID : MSMBA32H8L400001AMM	
RET Additional Device Data	
Antenna Number	Sub Unit : 1/3
Additional Data	Devide Data
ANT NO	1
ANT Model	MBA-3.2-H8-L4
ANT Serial	MBA3.2H8L400001
Band	UL(1920~1980),DL(2110~2170)/UL(...
Band Ext8	
Band Ext9	
Beamwidth #1	22
Beamwidth #2	0
Beamwidth #3	0
Beamwidth #4	0
Gain #1	17.8
Gain #2	0.0
Gain #3	0.0
Gain #4	0.0
Max Tilt	30.0
Min Tilt	0.0
Installation Date	
Installer's ID	
Base Station ID	
Sector ID	HB 1 (P1,2)
Ant Bearing	0.0
Mechanical Tilt	0.0

Device Data Management for Dual AISG IN-2

RET ID : MSMBA32H8L400001BMM	
RET Additional Device Data	
Antenna Number	Sub Unit : 1/3
Additional Data	Devide Data
ANT NO	1
ANT Model	MBA-3.2-H8-L4
ANT Serial	MBA3.2H8L400001
Band	UL(1920~1980),DL(2110~2170)/UL(...
Band Ext8	
Band Ext9	
Beamwidth #1	22
Beamwidth #2	0
Beamwidth #3	0
Beamwidth #4	0
Gain #1	17.8
Gain #2	0.0
Gain #3	0.0
Gain #4	0.0
Max Tilt	30.0
Min Tilt	0.0
Installation Date	
Installer's ID	
Base Station ID	
Sector ID	HB 1 (P5,6)
Ant Bearing	0.0
Mechanical Tilt	0.0

RET Tilt Window

RET ID : MSMBA32H8L400001AMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/3	HB 1 (P1,2)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal
2/3	HB 2 (P9,10)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal
3/3	HB 3 (P17,18)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal

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

RET Tilt Window

RET ID : MSMBA32H8L400001BMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/3	HB 1 (P5,6)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal
2/3	HB 2 (P13,14)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal
3/3	HB 3 (P21,22)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal

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

**Device Data Management
for Single AISG IN**

RET ID : MSMBA32H8L400001CMM

RET Additional Device Data

Antenna Number Sub Unit : 1/2

Additional Data	Devide Data
ANT NO	1
ANT Model	MBA-3.2-H8-L4
ANT Serial	MBA3.2H8L400001
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	13.5
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	LB 1 (P25,26)
Ant Bearing	0.0
Mechanical Tilt	0.0

RET Tilt Window

RET ID : MSMBA32H8L400001CMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/2	LB 1 (P25,26)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal
2/2	LB 2 (P29,30)	MBA-3.2-H8-L4	MBA3.2H8L400001	0.0	Normal

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

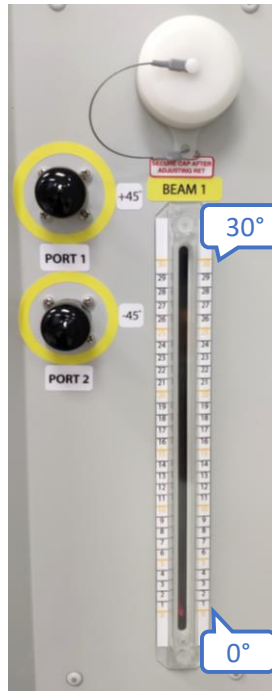
Calibration:

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 Upper & Lower hard-stop to calibrate 0°-30° (HB) and 0°-40° (LB) Degree range.

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



12 Beam / RET HB Elements offer a tilt range from 0° - 30° degree independently.



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

Manual Mode

The MS-MBA-3.2-H8-L4 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 knob out to disengaged RET for tilt adjustment

