

POSITION/MATRIX

POSITION/MATRIX

	ASCII	HEX	DECIMAL	BINARY
Command Byte	Z	5A	90	01011010

In the POSITION/MATRIX mode, the outputs from the POSITION and MATRIX modes are combined into one record containing the following twenty four bytes:

MSB	7	6	5	4	3	2	1	0	LSB	BYTE #	
1	X8	X7	X6	X5	X4	X3	X2			#1	LSbyte X
0	X15	X14	X13	X12	X11	X10	X9			#2	MSbyte X
0	Y8	Y7	Y6	Y5	Y4	Y3	Y2			#3	LSbyte Y
0	Y15	Y14	Y13	Y12	Y11	Y10	Y9			#4	MSbyte Y
0	Z8	Z7	Z6	Z5	Z4	Z3	Z2			#5	LSbyte Z
0	Z15	Z14	Z13	Z12	Z11	Z10	Z9			#6	MSbyte Z
0	M8	M7	M6	M5	M4	M3	M2			#7	LSbyte M(1,1)
0	M15	M14	M13	M12	M11	M10	M9			#8	MSbyte M(1,1)
0	M8	M7	M6	M5	M4	M3	M2			#9	LSbyte M(2,1)
0	M15	M14	M13	M12	M11	M10	M9			#10	MSbyte M(2,1)
0	M8	M7	M6	M5	M4	M3	M2			#11	LSbyte M(3,1)
0	M15	M14	M13	M12	M11	M10	M9			#12	MSbyte M(3,1)
0	M8	M7	M6	M5	M4	M3	M2			#13	LSbyte M(1,2)
0	M15	M14	M13	M12	M11	M10	M9			#14	MSbyte M(1,2)
0	M8	M7	M6	M5	M4	M3	M2			#15	LSbyte M(2,2)
0	M15	M14	M13	M12	M11	M10	M9			#16	MSbyte M(2,2)
0	M8	M7	M6	M5	M4	M3	M2			#17	LSbyte M(3,2)
0	M15	M14	M13	M12	M11	M10	M9			#18	MSbyte M(3,2)
0	M8	M7	M6	M5	M4	M3	M2			#19	LSbyte M(1,3)
0	M15	M14	M13	M12	M11	M10	M9			#20	MSbyte M(1,3)
0	M8	M7	M6	M5	M4	M3	M2			#21	LSbyte M(2,3)
0	M15	M14	M13	M12	M11	M10	M9			#22	MSbyte M(2,3)
0	M8	M7	M6	M5	M4	M3	M2			#23	LSbyte M(3,3)
0	M15	M14	M13	M12	M11	M10	M9			#24	MSbyte M(3,3)

Number ranges and scaling are the same as for the POSITION and MATRIX modes.

Or in Euler angle notation, where R=roll, E=elevation, A=azimuth:

$\text{COS}(E) * \text{COS}(A)$	$\text{COS}(E) * \text{SIN}(A)$	$-\text{SIN}(E)$
$-\text{COS}(R) * \text{SIN}(A)$ $+\text{SIN}(R) * \text{SIN}(E) * \text{COS}(A)$	$\text{COS}(R) * \text{COS}(A)$ $+\text{SIN}(R) * \text{SIN}(E) * \text{SIN}(A)$	$\text{SIN}(R) * \text{COS}(E)$
$\text{SIN}(R) * \text{SIN}(A)$ $+\text{COS}(R) * \text{SIN}(E) * \text{COS}(A)$	$-\text{SIN}(R) * \text{COS}(A)$ $+\text{COS}(R) * \text{SIN}(E) * \text{SIN}(A)$	$\text{COS}(R) * \text{COS}(E)$