

PCU COMMAND SUMMARY

USAT-24 Version 1.11 - 1.xx

0	00	NUL	ignored in sio			64	40	@	GPS position, min		msg@_J
1	01	SOH				65	41	A	absolute az	Adddd@_J	*
2	02	STX				66	42	B	absolute hdg hard	Bdddd@_J	*
3	03	ETX				67	43	C			
4	04	EOT				68	44	D	absolute hdg soft	Ddddd@_J	*
5	05	ENQ				69	45	E	absolute el	Edddd@_J	*
6	06	ACK				70	46	F			
7	07	BEL				71	47	G			
8	08	BS				72	48	H	read R H	H	msg@_J
9	09	HT				73	49	I	absolute CL	Idddd@_J	*
10	0A	LF				74	4A	J	absolute rel	Jdddd@_J	*
11	0B	VT				75	4B	K			
12	0C	FF				76	4C	L	echo msg=Lddddd	Lddddd@_J	msg*_J
13	0D	CR	cmd terminator	_J		77	4D	M			
14	0E	SO				78	4E	N	set parameters	Nddddd@_J	msg*_J
15	0F	SI				79	4F	O	port e output	Ohhhh@_J	*
16	10	DLE				80	50	P	read E A C	P	msg@_J
17	11	DC1				81	51	Q			
18	12	DC2				82	52	R			
19	13	DC3				83	53	S	read S (sio)	S	msg@_J
20	14	DC4				84	54	T			
21	15	NAK				85	55	U			
22	16	SYN				86	56	V	PCU version	V	msg_J
23	17	ETB				87	57	W			
24	18	CAN				88	58	X			
25	19	EM				89	59	Y			
26	1A	SUB				90	5A	Z	diag test start(res)	Znnnn@_J	*
27	1B	ESC				91	5B	[			
28	1C	FS				92	5C	\			
29	1D	GS				93	5D	]			
30	1E	RS				94	5E	^	utility cmds	^ddddd@_J	*
31	1F	US	reserved for conscan pulse			95	5F	_			
32	20	sp				96	60	`			
33	21	!				97	61	a	incremental az	ai@_J	*
34	22	"				98	62	b	incremental hdg	bi@_J	*
35	23	#				99	63	c			
36	24	\$				100	64	d			
37	25	%				101	65	e	incremental el	ei@_J	*
38	26	&	clear errors	&	*	102	66	f			
39	27	'				103	67	g	write pol	gddddd@_J	*
40	28	(				104	68	h	write pwm	hddddd@_J	*
41	29	)				105	69	i	differential CL	idddd@_J	*
42	2A	*	reserved for positive command response			106	6A	j	differential LV	jddddd@_J	*
43	2B	+	reset rc in sio	+		107	6B	k	differential AZ	kddddd@_J	*
44	2C	,				108	6C	l	lumped CL,LV,AZ		
45	2D	-				109	6D	m			
46	2E	.				110	6E	n	same as N		
47	2F	/				111	6F	o			
48	30					112	70	p	read EAC in hex	p	msg@_J
49	31	1				113	71	q			
50	32	2	dec lvtrm ‡	2	*	114	72	r			
51	33	3				115	73	s			
52	34	4	dec cltrm ‡	4	*	116	74	t			
53	35	5	clr trms ‡	5	*	117	75	u	read Pol & aux	u	msg@_J
54	36	6	inc cltrm ‡	6	*	118	76	v	read references	v	msg@_J
55	37	7	TAAC off	7		119	77	w	read QRSs	w	msg@_J
56	38	8	inc lvtrm ‡	8	*	120	78	x	read IVCs	x	msg@_J
57	39	9	TAAC on	9		121	79	y	read TCs	y	msg@_J
58	3A	:				122	7A	z			
59	3B	;				123	7B	{			
60	3C	<				124	7C				
61	3D	=	GPS position, .0000 min		msg@_J	125	7D	}			
62	3E	>				126	7E	~			
63	3F	?	reserved for negative command response			127	7F	DEL			

UTILITIES (.94)						
0	std mode	^0000				
C	Toggle DishScan	^0067				
F	Slow Scan	^0070				
G	Sat Reference	^0071				
V	Cksum off	^0086				
T	Test/Tilt mode	^0084				
W	NV write	^0087				
Z	Reset	^0090				
2	Trim Up	^0002				
4	Trim Left	^0004				
5	Trim Clear	^0005				
6	Trim Right	^0006				
7	TAAC off	^0007				
8	Trim Down	^0008				
9	TAAC on	^0009				
1nnn	CL DC torque	^1nnn				
2nnn	LV DC torque	^2nnn				
3nnn	AZ DC torque	^3nnn				
Checksum for ^0086 = Alt+0172 (0xAC)						
n / N PARAMETERS (.78) or (.110)						
n / N	Parameter	Format				
0	Stype	n0nnn	N0nnn			
1	CL Kp	n1nnn	N1nnn			
2	LV Kp	n2nnn	N2nnn			
3	AZ Kp	n3nnn	N3nnn			
4	CL trim	n4nnn	N4nnn			
5	LV trim	n5nnn	N5nnn			
6	HF trim	n6nnn	N6nnn			
7	DishScan	n7nnn	N7nnn			
8	Scan Rate	n8nnn	N8nnn			
9	Error Byte	n9nnn	N9nnn			
A/;	System ID	nAnnn n:nnn	NAnnn	N:nnn		
B/;	Tim40S	nBnnn n:nnn	NBnnn	N:nnn		
System	N0	N1	N2	N3	N7	Index
USAT24	4	40	14	18	69	1
						2
						3
						4
USAT30	5	40	24	28	69	5
						6
USAT24 FSR	8	40	14	18	69	7
						8
USAT30 FSR	9	40	24	28	69	9
						10
						11
						12
						13
						14
						15
						16
N7						
Phase		Drive	CL	AZ	EL	
-45	0	Max	0	0	0	
+0	64	1/2	16	4	1	
+45	128	1/4	32	8	2	
+90	192	1/8	48	12	3	

‡ enabled only in test mode

© checksum

Software Part Numbers
129175

Application
USATxx

Status word bit assignments

Bit	Word 1	Word2	Word 3
7	Spare	El Target	Spare
6	1		1
5	SlowScan	Az Target	Sensor Limit
4	Sat Ref	Spare	Stabilization Limit
3	DishScan	Hdg Valid	Az Reference Error
2	Unwrap	Error Flag	Az Torque Limit Error
1	Data in 3	Init	Lv Torque Limit Error
0	TAAC on	Hi Elevation	Cl Torque Limit Error