

Enabling SBAS (WAAS) on LT500T

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Description: If SBAS (WAAS) is not enabled on the LT500, SurvCE will report Autonomous instead of DGPS(WAAS):

SATView		ATInfo		Re
Quality		Р	osi	ition
			GO	OD
Status DGF	PS(W	AAS))	
Latency: 7.0			03	/21/2

Note: you may need to wait 20 minutes with the receiver outside tracking satellites for DGPS to be shown.

Enabling

1. Additional satellite information is available in SurvCE with the dedicated Trimble driver enabled. You can select it by going to 'Equip: GPS Rover':

Select Manufacturer: 'Legacy GPS' and Model: 'Trimble: R8I'.



2. Select the Comms tab and choose:



Type: 'Cable', Port: 'COM 1', Baud: '38400'.

3. Select the 'RTK' tab and choose:



Set Device: 'Cable or Generic Device', Port: 'COM 1'.

4. Click on the Green Check mark to return to the Equip menu, then click on 'Monitor Skyplot':



You will notice that on the 'SATView' and 'SATInfo' tabs, the satellite



systems are more fully described to include E' for Galileo and C' for Compass (Chinese BDS).

5. If the Status is not DGPS, you can reset the BD910 engine to begin tracking. Exit 'SurvCE' (File: Exit). The main screen will be shown:



6. Click on LTSet3.0 on the main screen:

- ×
Device Info.
Ntrip
I/O
Exit

7. Click on 'Connection':

Connect	ion	×
Device:	LT500T	
COM:	COM1	
Baud:	38400	
	Auto	
Disconneo	cted	
Back		Connect Break



8. Click on Connect:

		Connect	ion		×		
		Device:	LT500T				
		COM:	COM1		•		
		Baud:	38400		V		
			Auto				
		Connected	d				
		Back		Connect	Break		
9.	Click o	n 'Ba	ack', '	then c	lick	on `I/	′O′:
		I/O Con	Fig		×		
		NMEA	Command				
		Baud:	38400				
		🗌 Outpu	ut Raw Data				
		🖌 Outpu	ut NMEA Data				
		GPG	GA 🛿 Hz 🛛 💌	GPGSV 5	s 💌		
		GPRI	MC 1Hz 💌	GPGLL 1	Hz 💌		
		GPV	FG 1Hz 💌	GPZDA 1	Hz 💌		
		GPG:	ST 1Hz 💌	GPGRS 1	Hz 💌		
		GPG:	SA 1Hz 💌	 РЈК <u>1</u>	Hz 💌		
		П ЫТ	1Hz 💌]			
		Rese	t OEM	Set			
		Back					

Check the boxes as shown above, then click on 'Set'. 10.Select the 'Command' tab at the top:

I/O Coi	nfig					×
NMEA	Command					
Device:	LT500T					
COM:	COM1		Baud:	38	400	
39,324,4 \$GLGSV, \$GPRMC 1.569714 E,D*21	1,66,22,115, 6,6,19,76,17 ,163457.00,4 199,W,0.069,	30*67 ,030,30 ,4044. 90.144),77,71, 170193 ,210317	067, 40,N 7,999	41*68 ,1115 9.9000,	
HEX	Save		Clear		Stop	
Comman	d:					•
						\sim
HEX			Clear		Send	
Back						

Make sure that the NMEA strings are streaming in the top gray box. If you are indoors they may not show a position, but they will 'fly by' each second.



11.In the bottom area, click on 'Clear' and check the lower 'HEX' check box:

I/O Co	nfig		×
NMEA	Command		
Device:	LT500T		
COM:	COM1	Baud:	38400
\$GNGST .635,0.48 \$GPRMC 1.569724 0,E,D*10	163620.00,9. 14,0.990*4A ,163620.00,A 135,W,0.065,1	905,0.636,0.4 ,4044.170204; ,21.272,21031	83,177.3,0 A
HEX	Save	Clear	Stop
Comman	d:		
			< >
HEX		Clear	Send
Back			

12.Drop down the command and choose RESET. The lower box will show the OEM Reset Command:

I/O Co	nfig		×
NMEA	Command		
Device:	LT500T		
COM:	COM1	Baud:	38400
\$GPRMC 1.56972 E,D*23	703639.00,9 84,0.993*43 2,163639.00,A 701,W,0.082,9	,4044.1702064)7.465,210317,	2,N,1115 999.9000,
HEX	Save	Clear	Stop
Commar	nd: RESET	_ <	
02 00 58	3 07 FF 03 52	45 53 45 54 E	4 03
HEX		Clear	Send
			$\overline{\mathbf{A}}$

- 13.Click on 'Send'. The NMEA strings at the top will stop streaming. Wait 60 seconds for the internal GNSS board to reboot.
- 14.Click on the 'NMEA' tab at the top of the screen:

I/C	I/O Config				
NM	FA	Command			
D	rice	LT500T			
со	М:	COM1	Bi		
\$G .63	\$GNGST,163639.00,9.689,0.6 .637,0.484,0.993*43				



15. The NMEA screen will be shown:

I/O Coi	nfig 🗙 🗙
NMEA	Command
Baud:	38400
🗌 Outp	out Raw Data
🖌 Outp	out NMEA Data
GPC GPC	GGA 1Hz 💌 🖌 GPGSV 5s 💌
GPI	RMC 1Hz 💌 🗌 GPGLL 1Hz 💌
GP'	VTG 1Hz 💌 🗌 GPZDA 1Hz 💌
GPC GPC	GST 1Hz 🔳 🗌 GPGRS 1Hz 💌
GPC	GSA 1Hz 💌 🗌 PJK 1Hz 💌
TC9 🗌	1Hz
Res	set OEM Set
Back	

Click on the 'Set' button to re-enable NMEA streaming.

- 16.Click on the 'Command' tab at the top again and verify that NMEA sentences are streaming again.
- 17.Click on 'Back' to return to the main LTSet menu. Click on 'Exit' to return to the home screen. Click on 'Yes' when prompted 'Are you sure to exit?'
- 18.Restart Carlson SurvCE, connect to the last device and then select 'Equip: Monitor Skyplot':

SurvCE	<i>,</i> ,		÷	Ľ	ť	a 9:19
Moni	itor/S	kyp	lot			€
SATV	iew	S	ΑΤΙ	nfo	Ì	Ref
Qu	ality			Pos	sitio	on
Status: Latency: Satellite:	DGP 7.0 s: 14	rs(W	AAS) 0 (3/2 08:4	1/2017 3:03.0
Local No Local Ea Local Ele	orthing: sting: ev:	: 433	1479 1402 9.69	95986 2317.1 38	.80 189	68 2
HDOP:	0.84	TD	OP:	1.25		
VDOP:	1.74	GD	OP:	2.30		
PDOP:	1.93					
HSIG:	2.589					
VSIG:	3.234					

If you are outdoors and enough time has passed to acquire a SBAS ephemeris, the receiver will have a 'DGPS (WAAS)' status.