

## Using Multiple GPS Units on one Mobile in HYPACK® 2014

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To use multiple GPS units on a single mobile (so you have a backup in HYPACK® 2014) the hardware must be configured with two GPS drivers *recording position only*. If the GPS units are producing heading, set up a NMEA.DLL for the HDT string on the same port as one of the GPS units.

The SURVEY program checks for multiple position devices using the position driver. When you launch the SURVEY program, a new window the BOAT MULTI POSITION window—appears.

On the map, you see two circles. One of them is a red circle with a line through it. The other is a green circle around the position currently used by SURVEY. In Figure 1, the primary GPS is selected in the Boat Multiposition window. SURVEY uses the

ACK Configuration Boat	Survey Devices	Survey Connect	Offsets	s
Primary GPS	Available	All Devices		~
Secondary GPS	DLL Name	Ve	rsion	
g/ Heading	adcp.dll	1	2.0.1.3	^
	adcp.dll	1	2.0.1.3	
	adgc.dll	1	2.0.1.2	
	ais.dll	1-	4.0.2.6	
	aistide.dll	1	2.0.1.0	
	AnchorMana	ager.dll 1	2.0.0.2	
	arenosa.dll	1	2.0.1.2	
	articlino.dll	1	2.0.1.2	¥
	<		>	
	View OLL Name	ne 🔿 Descr	iption	
		Rescan Driver List	6	
	Functions   Record ra   Position  Depth Heading  Speed Tide	aw messages		

position from this device to position the vessel and update the Data Display; that data is stored in the POS record in the RAW files.

<b>a</b>	Primary GPS	×	Ø		Second	dary GPS				Map(	1)		
Setup			Setup						Settings Output View	Matrix Tools			
HDOP		1.3	HDOP					1.3					
Sat		8	Sat					8		K 🖇 🔁 🕅	Range N	one	
Mode		Differential	Mode					ifferential		1			
WGS84 Lat		41°35.6180 N	WGS84 Lat					35.6180 N	8	1			
WGS84 Lon		072°43.4214 W	WGS84 Lon				072°4	43.4214 W		1			
WGS84 Height		5.10 m	WGS84 Heig	ht				5.10 m		Ø			
Lat		41°35.6180 N	Lat					35.6180 N	1	~			
Lon		072°43.4214 W	Lon				072-2	13.4214 W					
A DECIMAL OF T	CALCULATION OF	A COMPANY AND A COMPANY		1		112 11 2	Cherry Contraction	North Contract		11			
<b>a</b>		Boat Multi	Position					1 × 1		H	s		
Name	×	Y	d×	dY	NSa	t hdop	ElipH			۲	2		
Current Position	306984.4	236836.8								-	`		
☑ Primary GPS	306984.4	236836.8	0.0	0.0	8	1.300	5.1						
Secondary GPS	306994.2	236838.6	-9.8	-1.8	8	1.300	5.1						
									02469				
1									306975.31	236861.89 41	d35'37.836" N	072d43'26.099" W	41

FIGURE 1. The Primary GPS is Set in the Boat Multiposition Window

The RAW files record the location of all three positions, generating an added device number for the averaged position.

**Note:** All actual GPS readings are RAW without offsets applied. The offsets are applied in real time and the data is stored as *raw* Easting and Northing. The offsets are *reapplied* in editing.

 Sample Position Records—
 POS 1 47510.392 500059.135 2999827.068

 2 Position Devices (devices
 POS 0 47510.386 499817.643 3000026.255

 #0 & 1), and the Average
 POS 3 47512.395 499998.389 2999994.161

 Position (device #3) in 1
 Raw File

If both positioning devices are checked, the current position is the average of the two GPS units. On the map display, both GPS positions are circled in green, but the vessel is shown at the average position.

ð I	Primary GPS	- 🗆 🗡	8		Second	ary GPS		Map(1) ×
Setup			Setup					Settings Output View Matrix Tools
HDOP		1.1	HDOP					1.1
Sat		7	Sat					7 X X K K K K K Range None
Mode		Differential	Mode					ferential
WGS84 Lat		41°35.6179 N	WGS84 Lat				41°35.61	
WGS84 Lon		072°43.4218 W	WGS84 Lon				072°43.42	
WGS84 Height		4.20 m	WGS84 Heigh	nt				420 m
Lat		41°35.6179 N	Lat				41°35.6°	
Lon		072°43.4218 W	Lon				072°43.42	
8		Boat Multi	Position					
Name	×	Y	d×	dY	NSa	t hdop	ElipH	L L
Current Position	306988.7	236837.4						
✓ Primary GPS	306983.8	236836.5	4.9	0.9	7	1.100	4.2	
Secondary GPS	306993.6	236838.3	-4.9	-0.9	7	1.100	4.2	0 2 4 6 9
					_			306995.86 236825.68 41d35'36.662" N 072d43'25.212" W 4

FIGURE 2. 2 Position Devices Checked—Current Mobile Position is the Average of the Selected GPS Units

When you open the file in the SINGLE BEAM EDITOR, you may choose the Primary GPS, the Secondary GPS or the averaged Boat Multi-position location.

	Offsets Survey Info Pres	sort GPS Pre-Filter Advanced
Devices		
Echosou	nder	Navigation
		Boat Multi Position
Heading		Primary GPS Secondary GPS
Headin	)	✓ Boat Multi Position
Tide		
None		¥
No Con	version	¥
Other	to Line	Invert Tide Values
Snap	e Depth Records Before First	t Event
Snap	e Depth Records Before First e Planned Line Infomation	t Event
Snap		t Event

FIGURE 3. Choosing Position Records in the SINGLE BEAM EDITOR

This location is the position that was chosen throughout the recorded file. If you selected different sources in the survey, the current position selected was stored in this navigation devices location.

Figure 4 shows four GPS units displayed as green circles because they are all checked. The position in the middle is the average position.

<b>a</b>		Boat Multi Position			-		Settings Output View Matrix Tools
Name	×	Y	dX	dY	NSat	hdop E	Range None
Current Position	306994.0	236838.8					
☑ Primary GPS	306982.4	236846.9	11.6	-8.0	7	1.100 4	
Secondary GPS	0.0	0.0	3069	236	0	0.000 C	
negatives	307002.0	236850.5	-8.0	-11.6	7	1.100 4	
✓ positives	306986.0	236827.2	8.0	11.6	7	1.100 4	
✓ forward	307005.7	236830.8	-11.6	8.0	7	1.100 4	$\circ$
<						>	0 2 5 7 10 0
		and the second	1		1	1000	
No.	1 23		1 Cart		13	1	
	The	and the second		51	and and		307022.87 236850.94 41d35'37.481" N 072d43'24.04

FIGURE 4. The Mobile Position is the Average of all Currently Selected POS Devices