

## 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	Survey Devices	Survey Connect	nnect Offset	
한 Primary GPS 한 Secondary GPS 한 Heading	Available	All Devices		
	DLL Name	Ve	ersion	
	adcp.dll	1	2.0.1.3	^
	adcp.dll	1	2.0.1.3	
	adgc.dll	1	2.0.1.2	
	ais.dll	1	14.0.2.6	
	aistide.dll	1	2.0.1.0	
	AnchorMana	ager.dll 1	2.0.0.2	
	arenosa.dll	1	12.0.1.2	
	articlino.dll	1	2.0.1.2	v
	<		>	
	View OLL Name	ne 🔿 Descr	iption	
		Rescan Driver List	8	
	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.

8	Primary GPS	- 🗆 🗡	8		Seconda	ary GPS		×		Map(1	1)	N 91		×
Setup			Setup						Settings Output View Matrix 1	ools				
HDOP		1.3	HDOP					1.3						
Sat		8	Sat					8		🔅 🖓	Range	None		~
Mode		Differential	Mode				Diffe	rential		1				
WGS84 Lat		41°35.6180 N	WGS84 Lat				41°35.0	5180 N		1				
WGS84 Lon		072°43.4214 W	WGS84 Lon				072°43.4	214 W						
WGS84 Height		5.10 m	WGS84 Heigh	it				5.10 m		$\mathcal{O}$				
Lat		41°35.6180 N	Lat				41-35.0	5180 N						
Lon		072 45.4214 W	Lon				072 45.4	214 1		1				
State of the second		and the second se		1000	Self- 1	12 1 1	and the second	Manage .		11				
1		Boat Multi	Position					×		X	i.			
Name	×	Y	d×	dY	NSat	hdop	ElipH			- Merilia - Meri	)			
Current Position	306984.4	236836.8							1	```				
☑ 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							
									0 2 4 6 9					
									200075 21 020001 0	0 41.	105107 00CILN	070-1421	000	41.
									300975.31 236861.8	9 410	upp 07.836" l	N   0/20435	20.099" W	410

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.

8	Primary GPS	- 🗆 🗡			Seconda	ary GPS	_ <b>D</b> >	×		Ma	p(1)	_ 🗆 🗙	T
Setup			Setup						Settings Output Vi	ew Matrix Tools			
HDOP		1.1	HDOP				1	1.1					
Sat		7	Sat					7		S S 🖗 🖉 🗞	Range N	lone	~
Mode		Differential	Mode				Different	tial					
WGS84 Lat		41°35.6179 N	WGS84 Lat				41°35.6179	9 N	8				
WGS84 Lon		072°43.4218 W	WGS84 Lon				072°43.4218	w	1				
WGS84 Height		4.20 m	WGS84 Heigh	t			4.20	m		$\odot$			
Lat		41°35.61/9 N	Lat				41-35.61/9			Ŭ,			
Lon		072 43.4218 W	Lon				072 45.4218	vv					
Ø		Boat Multi	Position					×	1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_		
Name	×	Y	d×	d۲	NSat	hdop	ElipH			£	9		
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 0 4 6 0				
									306995.86	236825.68	41d35'36.662" N	072d43'25.212" W 41	1c

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		Secondary GPS
Headin	)	<ul> <li>Boat Multi Position</li> </ul>
Tide		
None		¥
No Con	version	¥
Other	to Line	Invert Tide Values
Other		
Other	e Depth Records Before First	t Event
Other Snap Igno	e Depth Records Before First e Planned Line Infomation	t Event
Other Snar Igno Igno	e Depth Records Before First e Planned Line Infomation e Echogram	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.

		Boat Multi Position			-		×	Settings Output View Matrix Tools
Name	X	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	2	
□ Secondary GPS	0.0	0.0	3069	236	0	0.000	C	
negatives	307002.0	236850.5	-8.0	-11.6	7	1.100	2	⊙
✓ positives	306986.0	236827.2	8.0	11.6	7	1.100	2	
✓ forward	307005.7	236830.8	-11.6	8.0	7	1.100	2	
<							>	0 2 5 7 10 ··································
The			X	*	0		2	
	The		and and	51	Gene	1		307022.87 236850.94 41d35'37.481" N 072d43'24.045" W

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