WASSP Output Data Format

for

WASSP

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Version 1.1

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Revision History

Name	Date	Reason For Changes	Version
Gavin Sentch	29/01/08	Initial Version	1.0

1. Introduction

1.1 Purpose

This document describes the data output format for external plotter systems which allows access to the bottom detection points in real-time from the WMB160 multibeam system.

1.2 Project Scope and Product Features

To provide the ability for end users to read the detection information.

1.3 References

WASSP V104-044 software

2. WMB160 Format V1.1

2.1 Overview

The output of detection data from the WMB160 to external plotting systems is sent over an Ethernet port. The information is sent out in bursts. This output rate will depend on how often the WMB160 received a new GPS position which was different by 1m from the last position.

The WMB160 application runs as the server and uses TCP/IP to communicate to the external plotter application. The external application requires a TCP/IP client.

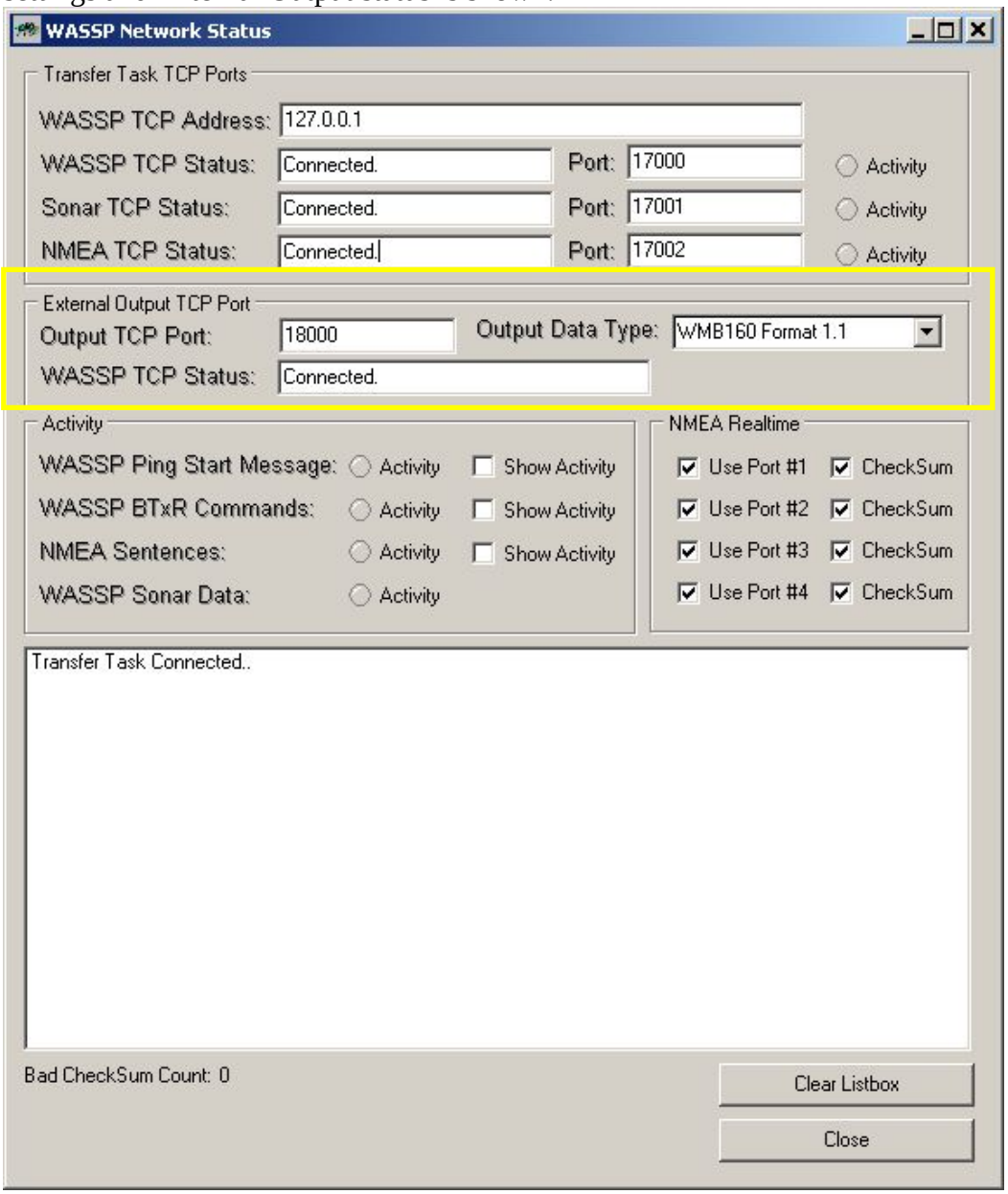
2.2 TCP/IP Connection

The TCP/IP connection requires a client to connect to the WMB160 application. The port is setup in the Network Window in the WMB160 Multibeam application.

The client uses the PC's IP address where the WMB160 application is run on and the port number entered in the Network Status Screen.

2.3 Network Status Window

Below is a screen shot showing the network status window where the External Output settings and External Output status is shown.



Output TCP Port

Set this to the TCP/IP port you wish to use for connection. NOTE: do not set to any currently used port number or it will not work.

WASSP TCP Status

Will show 'Connected.' when at least one client has connected to the port.

Output Data Type

Set this to WMB160 Format 1.1, Olex output type is for Olex software only.

2.4 Format Description

This information is corrected by the ships sensors integrated into the WMB160F.
Additionally texture and fish information collected by WASSP has been included.
All GPS positions are rounded by latitude/longitude to the nearest meter.

Each total message contains the detections data for 1 ping.

Note: u32 is 4 bytes standard long word.
float is 4 bytes standard float

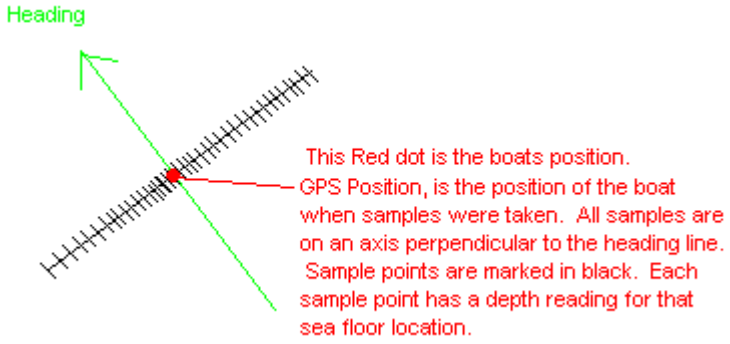
Name	Size	Comments
SYNC	u32	First long word is a unique value to allow synchronization. The value in hex is: 0xFF7F7FFF
MSG SIZE	u32	Total size for this message including SYNC, in bytes
VERSION	u32	4
NUM POINTS	u32	Varies based on how many valid detections for the ping.
LAT DEG	float	Latitude at transducer in degrees
LAT MIN	float	Latitude at transducer, minutes
LONG DEG	float	Longitude at transducer in degrees
LONG MIN	float	Longitude at transducer, minutes
BEARING	float	Bearing/Heading of vessel on transmit in degrees
PITCH	float	Pitch of vessel on transmit in radians
ROLL	float	Roll of vessel on transmit in radians
HEAVE	float	Heave of vessel on transmit in meters
TIDE	float	Tide value of ping in meters
HOUR	u32	Hour 0-23
MIN	u32	Minute 0-59
SEC	u32	Second 0-59
DAY	u32	Day 1-31
MONTH	u32	Month 1-12
YEAR	u32	Year
POINTS [n]	detStruct	Bottom detection points for this ping. See detStruct

2.5 detStruct

This is how the data is stored for each of the bottom detections for a ping.

Name	Size	Comments
X	float	Distance to detection point port/stbd from vessels heading. Negative value is port.
Y	float	Depth in meters for the detection point
TEXTURE	byte	Seafloor intensity value for detection point
RESERVED	byte	-
FISH	byte	Fish intensity value for all fish targets vertically above detection point.
RESERVED	byte	-

Example diagram of points for 1 ping.



Please Note:

- The X,Y positions are based on the location of the transducer, not the location of the GPS antenna. This means if the X,Y,Z offsets in the WMB160 application are correct, there is no need to account for the distance between gps antenna and transducer.
- Texture value has no units at this time. The value is the intensity of the returned echo at the detection point. This is effected by transmission losses and power levels.
- Detection output only works when the contour maps have been fully loaded in the WMB160 application. So on startup or changing replay files there will be a short delay until data is received on the external port.