

1. Configurable Output

Revision History			
Revision	Date	Author	Comments
1.0	January 16, 2024	S. Westaway	

1.1 Overview

Configurable Output is used to publish a ASCII text string to an external device or software. The output can be delimited or fixed length, and if delimited, each field can be set to a fixed length with leading and/or trailing zeros.

2. Add Device

1. Select Devices from the Configuration section of the Setup ribbon to open the IO Devices window.
2. Select Configurable Output in the drop-down list, see Figure 1

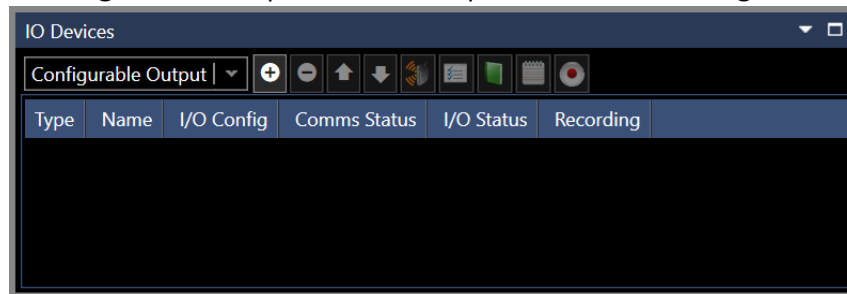



Figure 1 IO Devices Window

3. Click the add  button, this will open the Configure Device I/O dialog, see Figure 2.

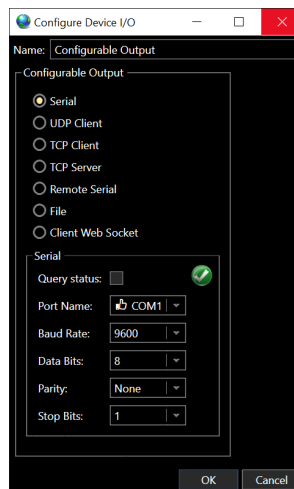


Figure 2 Configure Device I/O Dialog

4. Configure I/O as required. Refer to *Device* section in the NavView User Guide for I/O configuration.

5. Click **Okay**.

3. Configure Device

Click the configure device  button to open Configure Output dialog, see Figure 3.

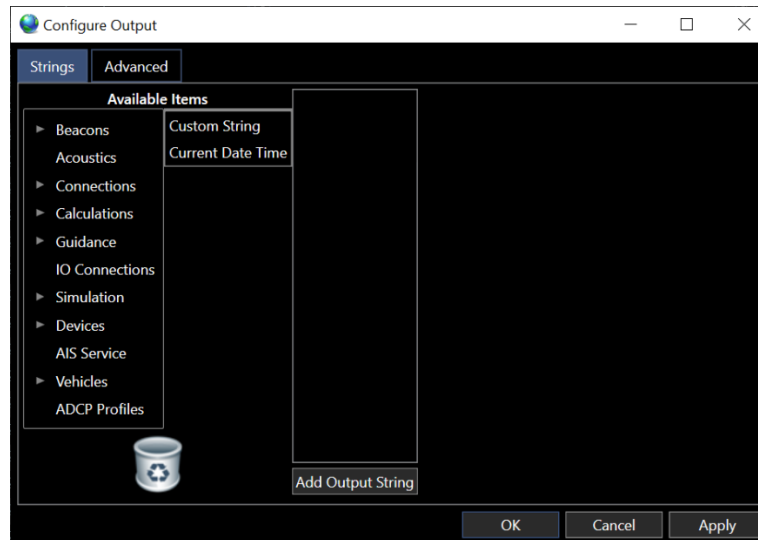


Figure 3 Configure Output Dialog

3.1 Strings Tab

3.1.1 Add a String

1. Click the **Add Output String** button and configure the basic settings

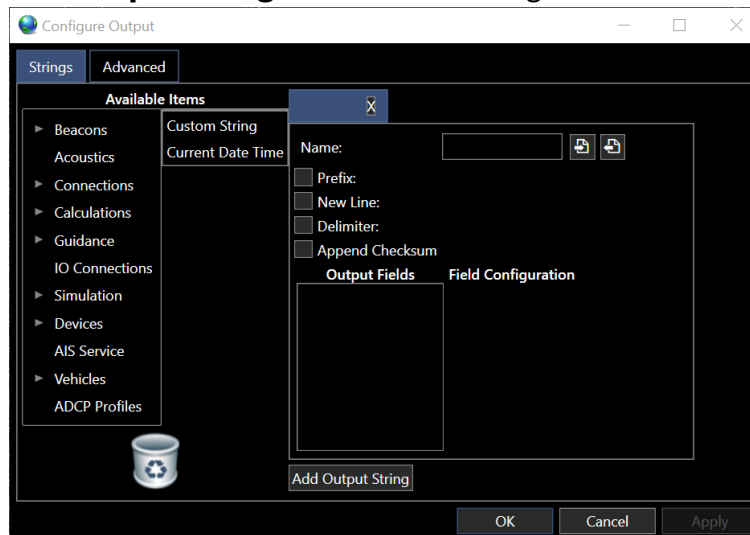


Figure 4 Add Output String Dialog

Name: Enter name for Output String. This will be displayed in the Output String tab

Prefix: If the data string is to contain a Line Prefix, check the **Prefix** box then enter Prefix to be used

New Line: If the Output String requires a line ending option check the **New Line** box and select the option from the drop-down menu

Delimiter: If the Output String is to be delimited check the **Delimiter** box and select the option from the drop-down menu

Append Checksum: To add a Checksum to the Output String check the **Append Checksum** box

2. If desired, add multiple strings and configure as per step 1, each string is presented as a tab.

3.1.2 Add Items to the String

1. Select the tab for the string to be configured
2. From the left panel under **Available Items**, select an observation, the available items associated with this observation will populate the panel on the right under Available items.
3. Drag and Drop items from the right panel under **Available Items** to **Output Fields** box.

Note: If no observations are selected, **Custom String** and **Current Date Time** are available to be added to the string.

3.1.3 Edit Items

Note: The Field Configuration options are based on the data type selected.

1. Select the tab for the string to be configured
2. Select the item in the Output Fields and configure it using the **Field Configuration** options

Format: From the dropdown list populated with options specific to the item data type, select the format to use. This option can also be typed in/over to refine the format.

Leading Zeros: Enter the number of zeros to the left of a decimal point that are desired to complete the integer portion of the value.

Trailing Zeros: Enter the number of zeros to the right of a decimal point that are desired to complete the decimal portion of the value.

Example: Given a value of 10.25 and a format of 0000.0000, the output will be 0010.2500

Alignment: Check this box if the field is to be fixed length and enter the number of characters the data is to occupy. Entering a positive value, e.g., 8,

will right justify the value within the fixed length. Entering a negative value, e.g., -8, will left justify the value within the fixed length.

Note: Leading/trailing zeroes and the Alignment option can be used together, but care must be taken to ensure the respective settings do not conflict.

Max Age: Enter the maximum age of the data before it will not be output because it is considered stale. In this case the respective field will be empty.

Note: The Age is entered as hh:mm:ss.s, e.g., 10 seconds must be entered as 00:00:10. Entering 10 by itself will set the maximum age to 10 hours.

Unit of Measure: From the dropdown list populated with options for the item data type, select the unit to use for the output. Not all data types have units of measure, e.g., Age, Custom String, Geo2D, Date Time.

Kind: If the item is Date and/or Time, from the dropdown list select if the output is to be UTC, Local or Unspecified.

Output CRS If the item is Geo2D, the CRS to output the position on can be selected.

Use Working: Check this box to output the position using the current Working Horizontal CRS. To use another CRS, uncheck this box and select the desired Horizontal CRS from the dropdown list.

Note: The desired Horizontal CRS must already have been added to NavView for it to appear in the dropdown list.

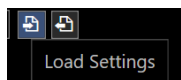
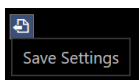
3. Click **Apply**

3.1.4 Remove Items From the String

1. Left click on the item in the Output Fields panel and drag it to the Recycle Bin.

3.1.5 Save/Load a String Configuration

The settings for a string can be saved to and loaded from a configuration file using the buttons shown below. These are string specific, i.e., if multiple strings are present only the settings for the selected string are saved or loaded.



3.2 Advanced Tab

The Advanced Tab controls the Configurable Output.

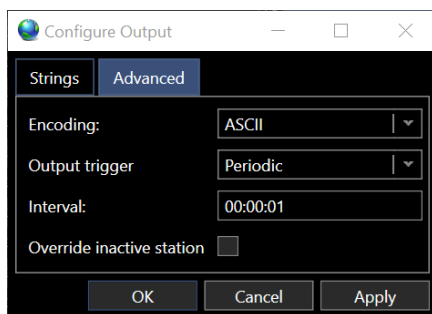


Figure 5 Advanced Tab

Encoding: Select the code format for the output string from the drop-down menu

ASCII

UTF7

UTF8

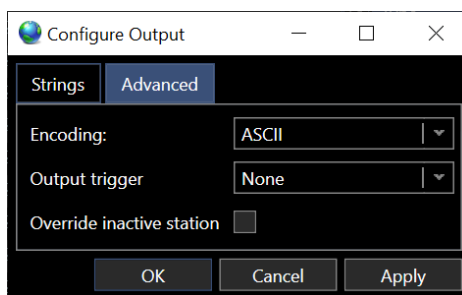
UTF32

Unicode

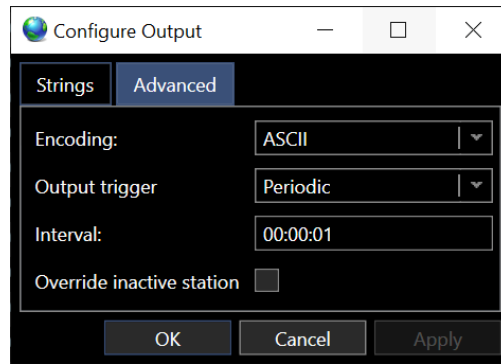
Default

Output Trigger: Select what triggers the output update from the drop-down menu

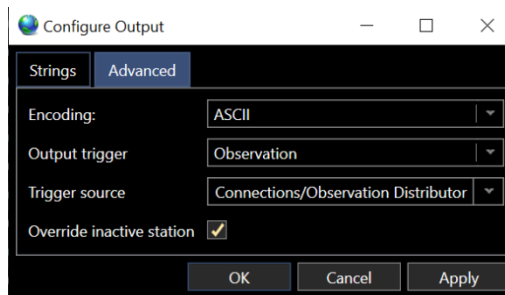
None: Will not broadcast configurable output



Periodic: Enter an interval for the string to output an update



Observation: Select an observation to trigger the string to output an update



Override inactive station: If the station is not set to **Active**, checking this box allows the Configurable Output string to be output.

4. Example

This example creates a comma delimited output string of ROV data.

1. Click the Add Output String to add a string and set the basic settings
 - i. **Format:** Use the default G
 - ii. **Alignment:** Leave unchecked
 - iii. **Kind:** Select Local
 - iv. **Max age:** Enter a maximum age of 10 seconds, e.g., 00:00:10
2. Select Current Date and Time from Available Items and drag to the Output Fields box

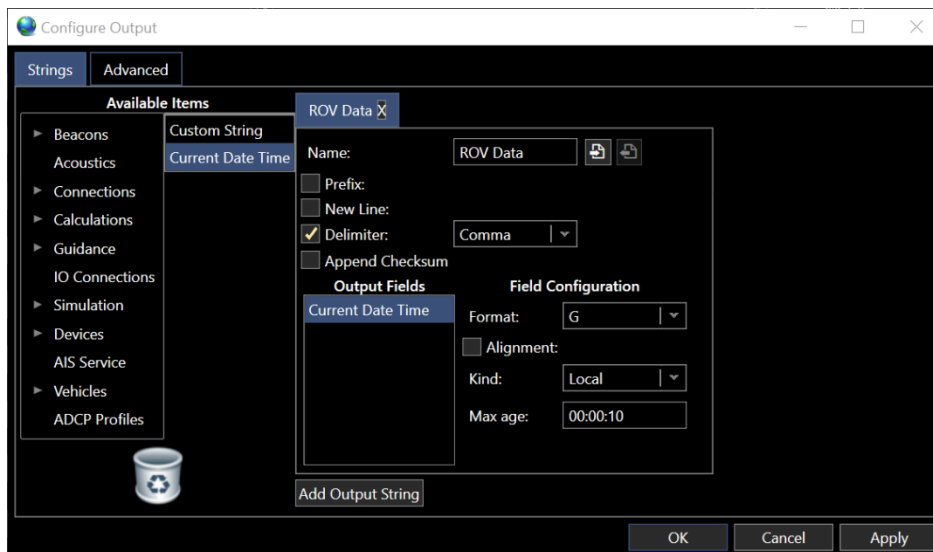


Figure 6 Current Date and Time Added To Output String- Example

3. Under Available Items, expand **Vehicles > ROV**
 - a. Select **Geo2D** in the left panel and drag **Geographic2D** from the right panel to the Output Fields box
 - b. Configure this position as shown in Figure 7

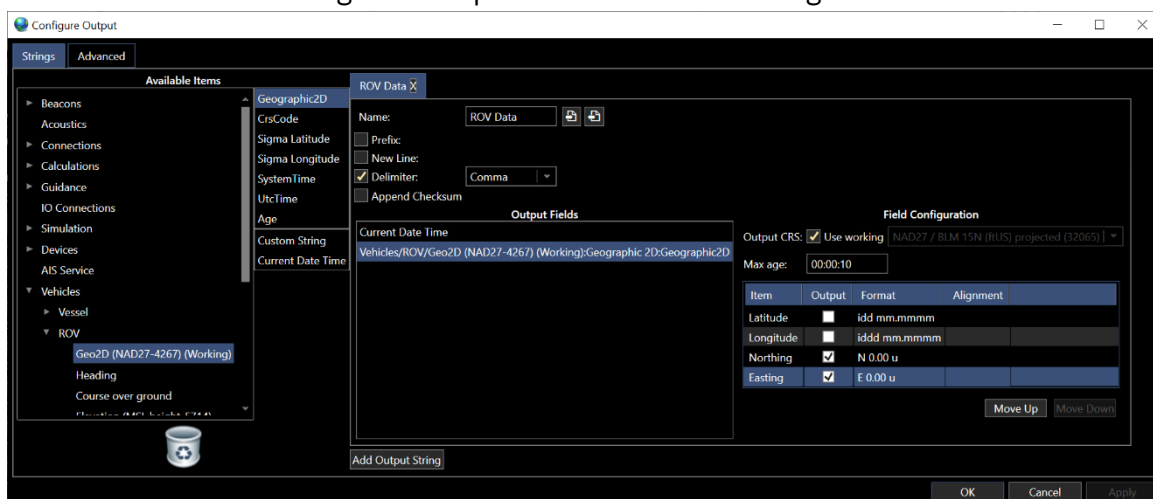


Figure 7 ROV Geo2D position Added To Output String - Example

- c. Select **Heading** in the left panel and drag **Heading** from the right panel to the Output Fields box

d. Configure ROV Heading in shown in Figure 8

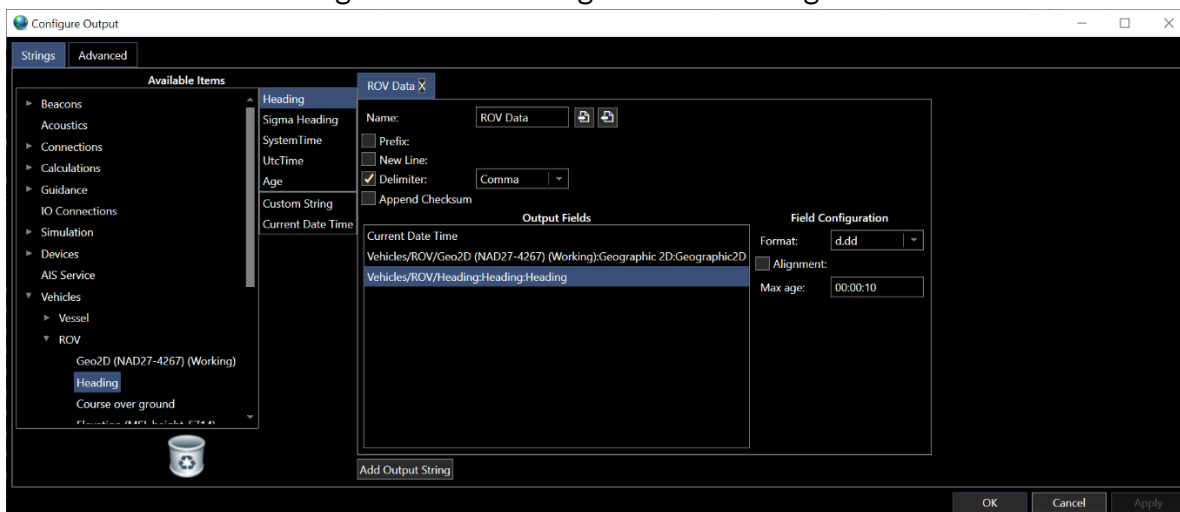


Figure 8 ROV Heading Added To Output String - Example

- e. Select **Elevation** in the left panel and drag **Depth** from the right panel to the Output Fields box
- f. Configure ROV Depth as shown in Figure 9

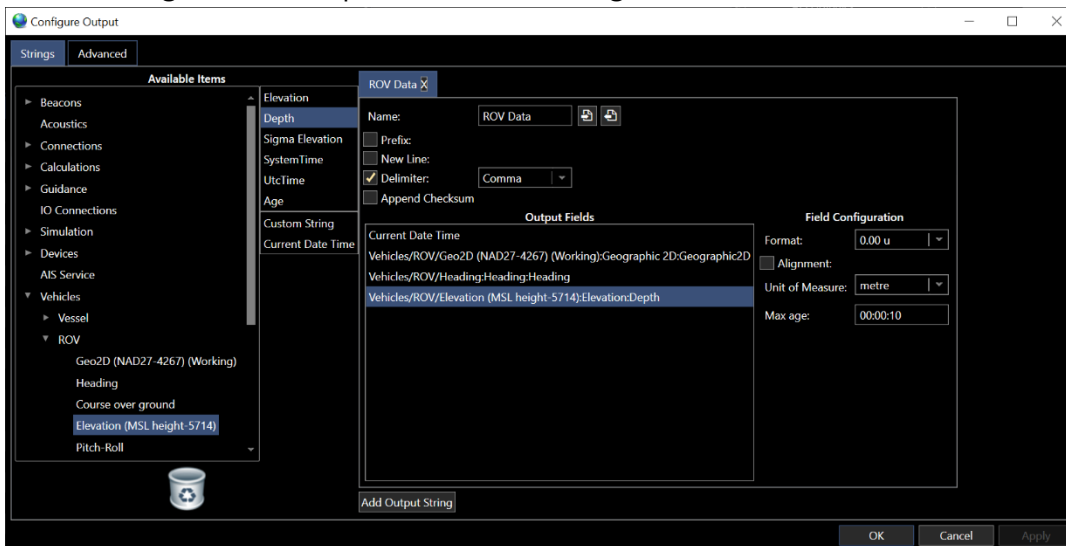


Figure 9 ROV Depth Added To Output String – Example

4. The resulting output is shown in Figure 10

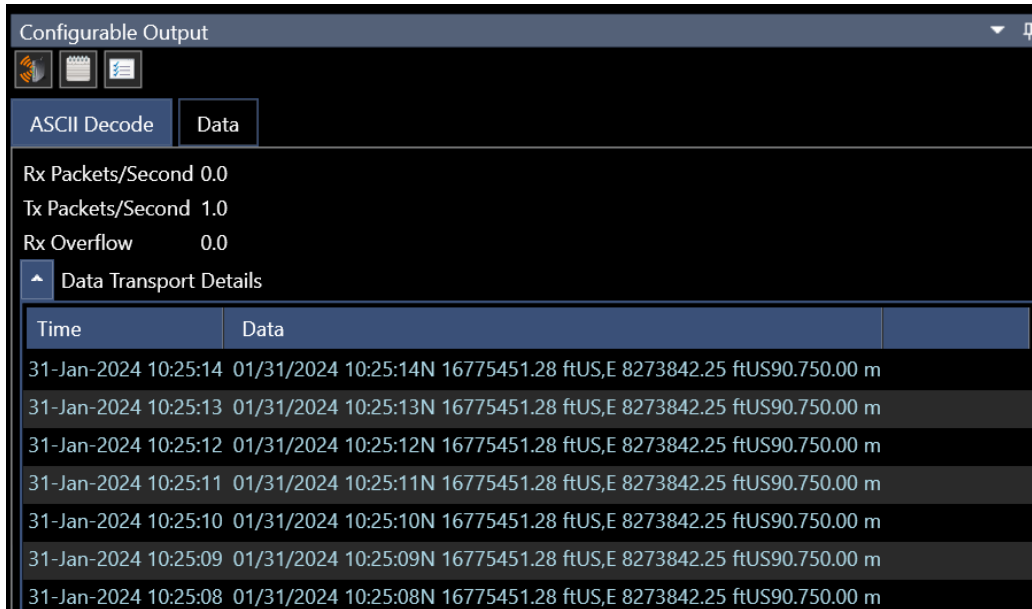


Figure 10 Output String As Seen In Device Window- Example