

WinFrog Device Group:	COUNTER														
Device Name/Model:	Red Lion CUB5														
Device Manufacturer:	Red Lion Controls 20 Willow Springs Circle York PA 17402 Phone: +1 (717) 767-6511 Fax: +1 (717) 764-0839 Email: techsupport@redlion-controls.com														
Device Data String(s) Output to WinFrog:	WinFrog expects the <i>Full Filed Transmission</i> . <table border="1"> <thead> <tr> <th>Byte</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1, 2</td> <td>2 byte Node Address field [00-99]</td> </tr> <tr> <td>3</td> <td><SP> (Space)</td> </tr> <tr> <td>4-6</td> <td>3 byte Register Mnemonic field</td> </tr> <tr> <td>7-18</td> <td>12 byte data field; 10 bytes for number, one byte for sign, one byte for decimal point</td> </tr> <tr> <td>19</td> <td><CR> (carriage return)</td> </tr> <tr> <td>20</td> <td><LF> (line feed)</td> </tr> </tbody> </table> <p>The three byte mnemonics that WinFrog will request and decode are: CTA for count A CTB for count B RTE for rate of count A</p>	Byte	Description	1, 2	2 byte Node Address field [00-99]	3	<SP> (Space)	4-6	3 byte Register Mnemonic field	7-18	12 byte data field; 10 bytes for number, one byte for sign, one byte for decimal point	19	<CR> (carriage return)	20	<LF> (line feed)
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WinFrog Data String(s) Output to Device:	Three commands can be sent to the device: TA* to request count A TB* to request count B TC* to request rate A														
WinFrog Data Item(s) and their RAW record:	CABLE COUNT 492														

DEVICE DESCRIPTION:

This is a driver that reads the raw cable count and speed from the Red Lion CUB5 counter. It also allows you to apply compensating scale factors to the raw count and speed data to obtain the actual count and speed data in the correct units. The units that WinFrog expects and requires after all scalars are applied are: meters for counts and metres/minute for speed.

DEVICE CONFIGURATION INSTRUCTIONS

WINFROG I/O DEVICES > EDIT I/O:

Serial
Configurable Parameters

WINFROG I/O DEVICES > CONFIGURE DEVICE:

This device must be configured at the I/O Device window level. In the I/O Devices window, click the device name to select it, then right-click and select Configure Device. The configuration dialog box appears, as seen below.

The screenshot shows the 'Red Lion CUB5 Configuration' dialog box. It is divided into three main sections: 'Count A', 'Count B', and 'Rate (Count A speed)'. Each section contains an 'Interrogate' checkbox and radio buttons for channel assignment. The 'Count A' and 'Count B' sections also include input fields for 'Counter scale factor' (set to 1.0000000), 'Apply scale from CC' (set to 0.000), and 'Counter offset' (set to 0.000), along with a 'Clear and reset to 1,0,0' checkbox. The 'Rate (Count A speed)' section has an 'Interrogate' checkbox and a 'Scale factor' input field (set to 1.000000). On the right side of the dialog, there are three buttons: 'OK', 'Cancel', and 'Apply'.

The Red Lion CUB5 supports two count channels (A and B) and the rate or speed of count A. All three are available to WinFrog.

The values entered in this dialog are retained and used within WinFrog; they are not sent to the counter. The only data sent to the counter are the commands to request a count or speed.

Interrogate:

The Red Lion CUB5 does not normally send data over the serial port. Check these boxes to enable WinFrog to send the command to the Red Lion CUB5. Only check those required.

Assign to channel:

The count may be assigned to channels 1 or 2 in WinFrog. Channel one is used for product cable (power, telephone, etc.) whereas channel 2 is used for tow cable. If interrogating both count A and B, only one can be assigned to each of WinFrog's

count channels. The rate or speed is always associated with the channel that count A is assigned to, as it pertains to count A.

Scale Factor:

Scaling within WinFrog should only be used as a last resort. It is always better to have the counter output the correct cable count. Also, only the corrected cable count is recorded in the *.RAW files. If you determine that the incoming cable count is incorrect, possibly due to a mis-calibration of the counter itself, you can enter a compensating scale factor here. If necessary, this can also be used to convert incoming units to the required units. The result must be in meters.

Apply Scale from CC:

This scale factor can be applied along the entire length of cable or you can choose to apply the scale factor from a certain cable count onward. Enter the desired cable count from which to start applying the scale factor in the “Apply scale from CC” field. An offset can also be added to the cable count from the cable engine; scale is applied first, followed by the addition of the offset. All scale factor applications are accumulative, i.e., all previous scale factors entered are also applied. Only the last application is displayed when the dialog is opened.

To clear all scaling and offsets, select the Clear and reset to 1,0,0 checkbox.

Care is required when entering values here, as applying a scale to the current cable count can result in a cable count jump that will adversely affect other functions and features of WinFrog. If the cable model is running, apply new scale factor changes to the current count. You will not see an immediate change in the count. All entries should be logged, as the INI and CFG files only record the accumulated effect of all the scale changes.

Counter Offset:

This offset is added to the result of the multiplication above. This value must be in meters.

Clear and reset to 1,0,0:

To clear all scaling and offsets, select the Clear and reset to 1,0,0 checkbox. This is not applied until OK or Apply is clicked.

WINFROG VEHICLE > CONFIGURE VEHICLE DEVICES > DEVICE DATA ITEM > EDIT:

Adding the Red Lion CUB5 device creates the COUNT data item. Once the data item has been added to the vehicle, it must be edited to suit the application.

Data item: COUNTER, Red Lion CUB5, COUNT

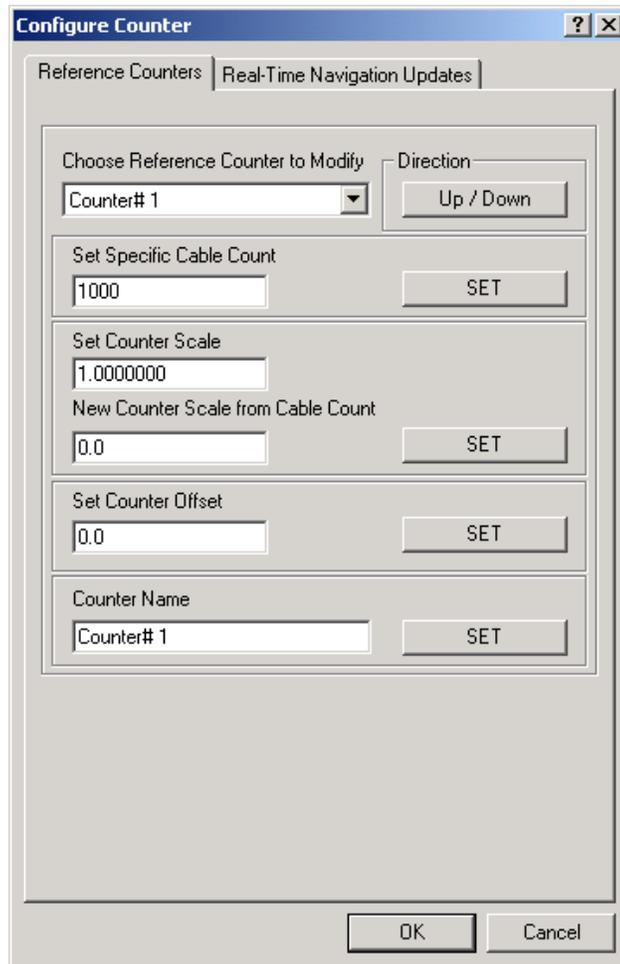
Highlighting the COUNTER, Red Lion CUB5, COUNT data item in the vehicle’s device list and clicking on Edit opens the Configure Counter dialog box.

This data item configuration dialog has two pages, the Reference Counters page and the Real-Time Navigation Updates page.

Reference Counters Page

This page (shown below) is used in conjunction with the Calculations window to maintain up to five reference counts based on the Channel One (cable) count. These reference counts are not used for any real-time calculations and are not logged to any file; they are intended for reference purposes only.

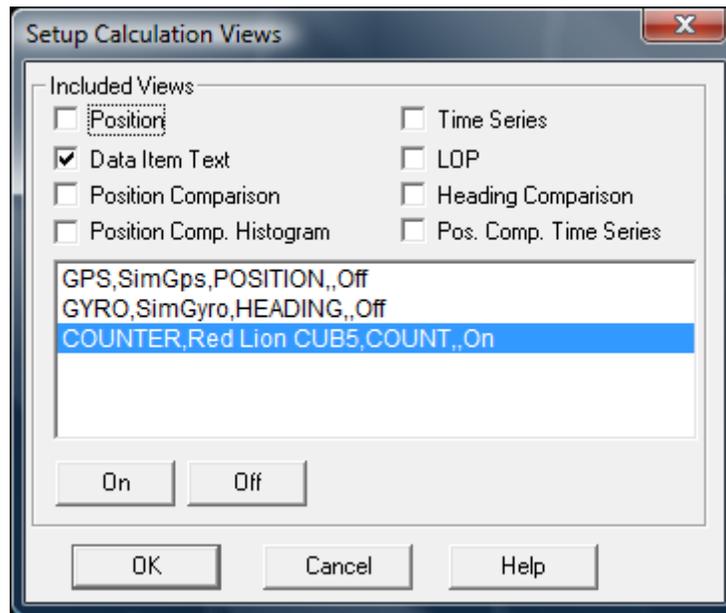
One common use for the Reference Counters page is to have a ‘count down’ between cable body deployment. This is accomplished by entering the cable spans between cable bodies in the ‘Set Specific Cable Count’ field(s), selecting the ‘Direction’ as ‘Down’ and exiting with OK when the first cable body is launched. The results of this configuration are typically viewed in a Calculations window.



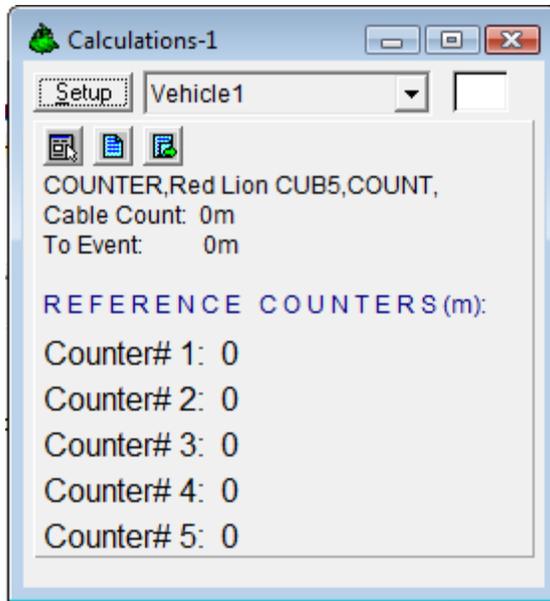
View and configure the Calculations window by completing the following steps.

Note: To view the reference counts the COUNT data item must be attached to the vehicle.

1. From the WinFrog View menu select the Calculations item to open the Calculations window.
2. In the Calculations window click the Setup button to open the Setup Calculation Views dialog box shown below.



3. In the Setup Calculation Views dialog select the Data Item Text checkbox. Then turn On the COUNT data item by selecting the COUNT data item from the list and click the On button.
4. Click OK and the Calculations window opens as seen below.



Once the Calculations window has been opened and configured, the five reference counters can be modified using the Reference Counters page of the Configure Counter dialog. (Note: the Configure Counter dialog can be directly accessed from the Calculations window by clicking the  icon in the Calculations window.)

The Reference Counter page allows the reference counters to be modified in a number of ways, as described below. Start by selecting the reference counter to be modified from the dropdown list box at the top of the page.

Direction

When the *Up/Down* button is not depressed the reference count will increase if the input cable count increases and decrease if the input cable count decreases. When the *Up/Down* button is depressed the reference count will decrease if the input cable count increases and increase if the input cable count decreases.

Set Specific Cable Count

To set the reference counter to a specific cable count, enter the desired value in the edit field then click the *Set* button. When the Configure Counter dialog OK button is then clicked the desired reference counter value will be set to the entered value. This value will then continue to increment or decrement based on the input cable count and the current settings for the reference count.

Set Counter Scale

To change the scale at which the reference count will increment or decrement relative to the input cable count, enter the desired scale factor into the scale field. Leave the *New Counter Scale from Cable Count* value at its present value to apply the scale from the current point onward. Enter a count value into the *New Counter Scale from Cable Count* field to apply the scale from a previous count value onward.

Once the desired scale factor and count value is entered click the *Set* button and then click the *OK* button.

Set Counter Offset

To set an offset from the input cable count to the reference count, enter the desired value into the Set Counter Offset field, click the *Set* button and then click the *OK* button. This value will be added to the input cable count.

Counter Name

To change the reference counter name, enter the desired name into the *Counter Name* field. Click the *Set* and then the *OK* button to enter the change.

Real-Time Navigation Updates Page

The screenshot shows the 'Configure Counter' dialog box with the 'Real-Time Navigation Updates' tab selected. The dialog has a title bar with a question mark and a close button. It contains several sections with checkboxes and a text input field.

- Interval:** A text input field contains '1.0 s'. To its right is the text: 'Enter Raw Data File Logging Interval in Seconds. 0=All Data'.
- Channel 1 (Telephone / Power Cable):** Contains three checkboxes: 'Cable Count' (checked), 'Payout Speed' (checked), and 'Tension' (unchecked).
- Channel 2 (Tow Cable):** Contains three checkboxes: 'Cable Count' (checked), 'Payout Speed' (unchecked), and 'Tension' (unchecked).
- Channels 3,4,5 Tension:** Contains three checkboxes: 'LCE Tension (Channel 3)' (unchecked), 'CDE 1 Tension (Channel 4)' (unchecked), and 'CDE 2 Tension (Channel 5)' (unchecked).
- General:** Contains two checkboxes: 'Distance to Event' (unchecked) and 'Cable Angle' (unchecked).

At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

This page enables/disables certain data from this device to be passed to the vehicle. Unlike the Reference Counters page, data from the Real-Time Navigation Updates page can be logged to the raw files if this data item is associated with a vehicle. This allows the vehicle to have more than one COUNTER device without one conflicting with the other. One COUNTER device may provide the telephone cable count while the other provides the tow count. If a checkbox is selected (checked) the data value will be passed to the vehicle. For example, if the *Cable Count* checkbox is selected in the *Channel 1* section, then the cable count from the input device will be passed to the vehicles channel 1 count.

It is important to note that if you are not interrogating a certain value or if the value is not available (i.e. tensions are not available), you must uncheck the corresponding checkbox above. Selecting an option for which there is no data causes WinFrog to assign a zero in the selected field and it may result in valid data from other sources being overwritten with zeroes.

The *Interval* section sets the data logging interval used when the “With Events” Logging Control option is selected (refer to chapter 10 of the WinFrog User’s Guide for more information).