ULTRA DASH XTREME

250-DS-UDX

Features:

- Four user programmable display pages
- Six user programmable warning channels with internal and external lighting capability.
- Integrated six point shift light.
- Minimum and Maximum recall.
- Electro luminescent(EL) back light for night time operation.

The Ultra Dash display allows for a single cable connection to the V-Net port on any Racepak V-Series data logger. The dash has 4 programmable display pages. The user can customize each page to display any channel they are currently data logging. There are 6 user programmable warning channels that can illuminate the internal warning LED's and an external warning light. The dash also has an integrated shift light output with six programmable shift points. The shift points can be programmed using the DataLink PC software or the buttons directly on the dash.

Contents:

The Ultra Dash kit should contain the following components:
- Ultra Dash Display
- V-Net tee cable for connection to your existing V-Net system
- Warning and shift light harness
- Instruction manual
- Mounting template

If you are missing any of the above components please contact Racepak at 949-709-5555.

Selecting a Mounting Location:

Select a mounting location that does not expose the Ultra Dash to temperatures over 185º F. Also avoid exposing the front LCD to direct sunlight. Extreme overheating from the sun can temporarily cause the LCD to turn entirely black. Although the dash is water resistant (i.e. light rain), you should never submerge any part of the dash under water.

Installation:

Dash Mounting:
Once you have decided on a mounting location use the supplied template to cut out the rear dash inserts and drill holes for the mounting studs.
Use the supplied machine nuts and locking washers to bolts in the dash. <u>Do not use thread lock or nylock nuts on the mounting studs.</u>

Wiring:

Connector locations

Warning and shift light   Not used   V-Net   Not used
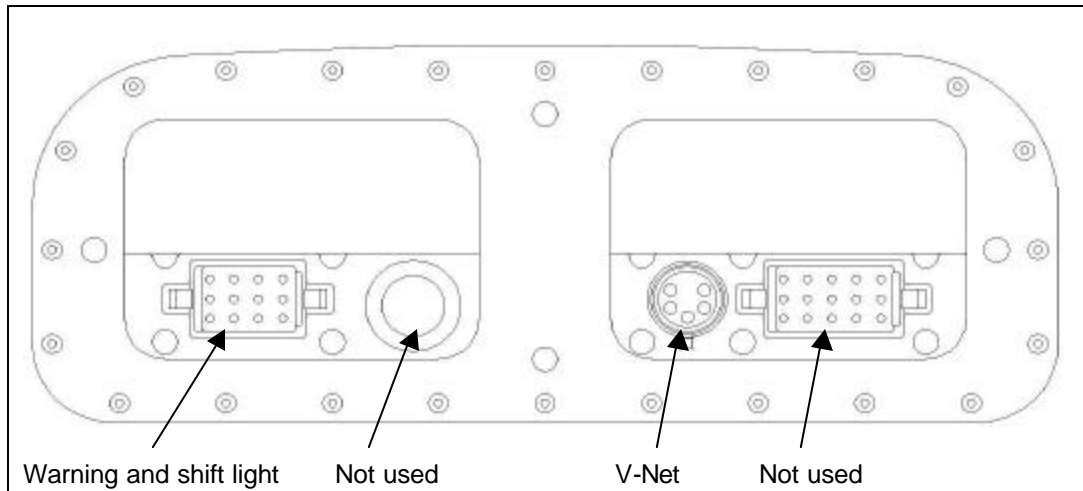
V-Net --- Use the supplied tee cable to connect the Ultra Dash at any point in the V-Net system that is convenient. Next, apply power the to data logger. If everything is working properly the dash will turn on and you should see the battery voltage displayed in the upper left hand corner of the dash. Note: If your logger does not have a battery voltage channel the display will read zero.

Warning and shift light connector wiring – Wires are provided with the pins crimped and ready to install in the appropriate connector position as described below.

| Wire Color	Connector Pin Position	Function
Green	8	Warning light output positve
Yellow	9	Warning light output ground
Orange	11	Shift light output positve
Blue	12	Shift light output ground

Programming:

Configuration File:
If you have purchased the Ultra Dash as part of a new data logger and the system was shipped to you as a pre-configured system you may skip this step as it has already been done for you at the factory. If you are adding an Ultra Dash to an existing system you will need to perform the following steps to add the Ultra Dash to your logger configuration file. **You will not be able to configure the dash until you have completed this step.**

1) If a new DataLink CD was provided install it now only if the version number printed on the label is higher than the DataLink version currently installed on your system. Follow any other special instructions that may be provided with the software.

2) Start the DataLink software.

3) Connect the data logger to the serial port on your PC with the serial cable that was provided with your data logger.

4) Turn on the power to your data logger.

5) Select **File** from the menu bar then select **Open Car Configuration**. Select the configuration containing the serial number of your Racepak data logger and click on the OK button. (shown right)
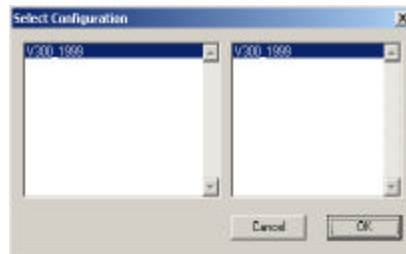
6) Select **Edit** from the menu bar then select **Read VNET Config**. The message log will appear and your configuration will begin to update. Click on the OK button when you see the message "**Devices Read Successfully**".
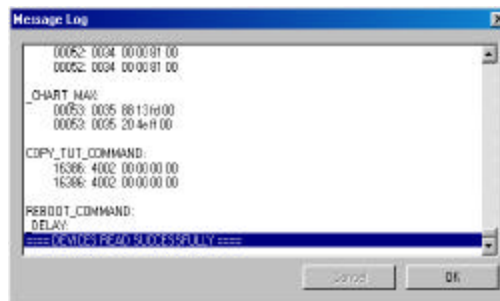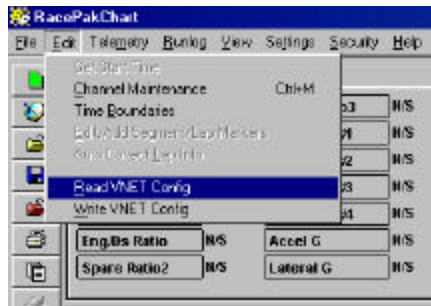
If you have purchased the Ultra Dash a part of a new V-Net data logger system, the dash will be preprogrammed for you at the factory. See the V-Net Module section in the data logger manual appendix for details on how your dash has been programmed. Although you may skip this section if you are satisfied with how your dash has been programmed at the factory, we recommend you still read through in case you wish to change something in the future.
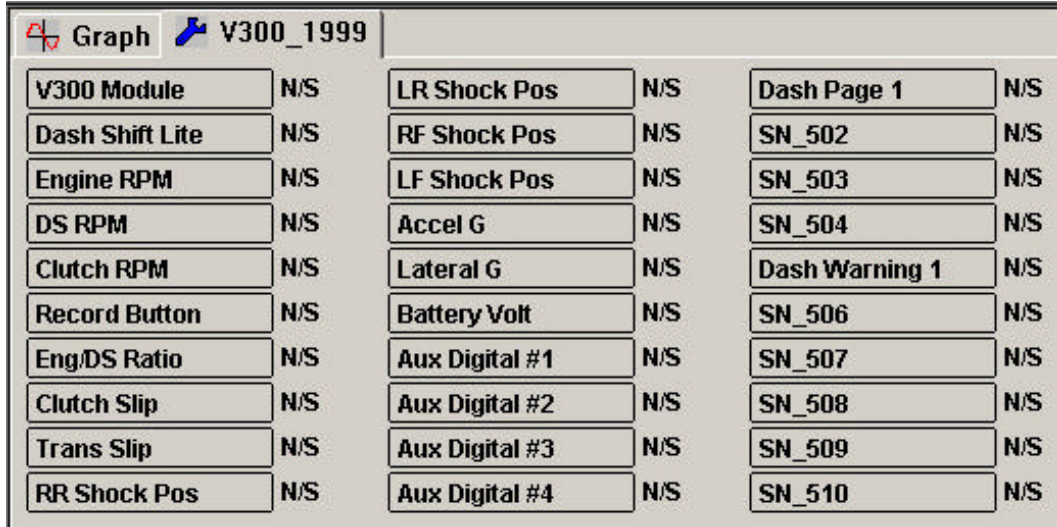
Once you have added the dash channel buttons to your configuration as described above you can now program the display pages, warning light and shift light to your preference. The factory default configuration is as follows:

	LCD Section	Channel Displayed	Display Tag
DISPLAY #1	Swept Tach	Engine RPM	
	Middle Center	Engine RPM	RPM
	Upper Left	Battery Volts	
	Lower Left	Water Temperature	WATER
	Lower Center	Oil Pressure	OIL 1
	Lower Right	Disabled	
DISPLAY #2, 3 & 4	Swept Bar	Disabled	
	Middle Center	Disabled	
	Upper Left	Disabled	
	Lower Left	Disabled	
	Lower Center	Disabled	
	Lower Right	Disabled	

In addition, all six warning channels are disabled and the 6 shift points are set from 5000 to 10000 rpm in 1000 rpm increments. Program the dash by following the instructions below.
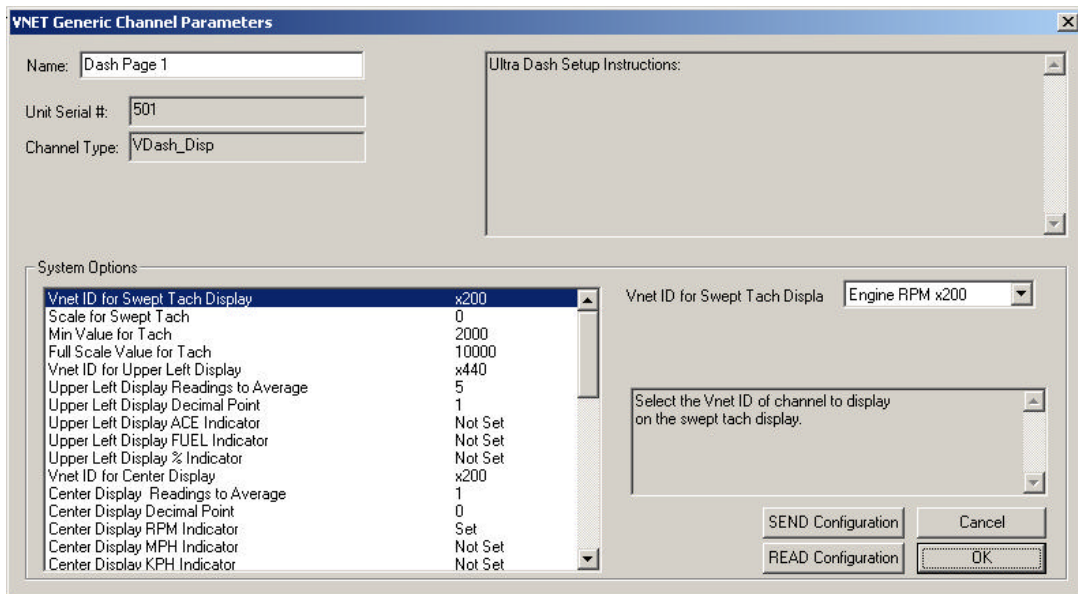
Dash Display Pages:
The dash has four independent display pages. After performing the software portion of the installation, as described above, you will see 11 new channel buttons. The first dash display page will be named "Dash Page 1". The next three page buttons will be named per the page serial number (example: SN_502, SN_503, SN_504) and represent display pages 2, 3 & 4 accordingly. An example of how the new buttons should appear is shown below.

Graph	V300_1999							
V300 Module	N/S	LR Shock Pos	N/S	Dash Page 1	N/S
Dash Shift Lite	N/S	RF Shock Pos	N/S	SN_502	N/S
Engine RPM	N/S	LF Shock Pos	N/S	SN_503	N/S
DS RPM	N/S	Accel G	N/S	SN_504	N/S
Clutch RPM	N/S	Lateral G	N/S	Dash Warning 1	N/S
Record Button	N/S	Battery Volt	N/S	SN_506	N/S
Eng/DS Ratio	N/S	Aux Digital #1	N/S	SN_507	N/S
Clutch Slip	N/S	Aux Digital #2	N/S	SN_508	N/S
Trans Slip	N/S	Aux Digital #3	N/S	SN_509	N/S
RR Shock Pos	N/S	Aux Digital #4	N/S	SN_510	N/S

You may edit each dash display page by following the steps below:

1) Right click with the mouse over the button of the dash display page you wish to edit. The Channel Parameters edit box shown below will appear.

VNET Generic Channel Parameters

Name: Dash Page 1

Ultra Dash Setup Instructions:

Unit Serial #: 501

Channel Type: VDash_Disp

System Options

Vnet ID for Swept Tach Display	x200
Scale for Swept Tach	0
Min Value for Tach	2000
Full Scale Value for Tach	10000
Vnet ID for Upper Left Display	x440
Upper Left Display Readings to Average	5
Upper Left Display Decimal Point	1
Upper Left Display ACE Indicator	Not Set
Upper Left Display FUEL Indicator	Not Set
Upper Left Display % Indicator	Not Set
Vnet ID for Center Display	x200
Center Display Readings to Average	1
Center Display Decimal Point	0
Center Display RPM Indicator	Set
Center Display MPH Indicator	Not Set
Center Display KPH Indicator	Not Set

Vnet ID for Swept Tach Displa   Engine RPM x200

Select the Vnet ID of channel to display on the swept tach display.

SEND Configuration   Cancel

READ Configuration   OK

2) Any additional or special instructions on how to edit the selected dash display page will appear in the upper right hand window. Make sure you read these instructions before proceeding.

3) Next, change the channel button name to better represent the function of the channel. For instance, you should rename the second dash display page from "SN_502" to "Dash Page 2".

4) The system options box in the lower left hand corner contains all of the user definable parameters. To edit a parameter, left click with the mouse over the parameter you wish to edit. The parameter text will highlight in blue. Change the parameter value by editing the box to the right of the system options box. Any instructions particular to the selected parameter will appear in the window below the edit box.

5) If you wish to disable an entire dash page you must select disabled for all of the display channel V-Net ID's. For instance, if you only want 2 dash display pages to appear on the dash then you must select disabled for all of the display V-Net ID's on dash display pages 3 and 4. This cause will the dash to skip pages 3 and 4 and only toggle between dash display pages 1 and 2 when the lower left Display button is pushed on the dash.

6) When you have finished editing all of the parameters for this page you must send the information to the dash by clicking on the Send Configuration button in the lower right hand corner.

7) Continue programming the remaining dash display pages by repeating the above steps.

8) **After you have completed programming all of the display pages, the power must be cycled off and on before all of the changes will take affect.**

Warning channels:
There are six programmable warning channels. The channels can be OR'ed (either channel meets condition) or AND'ed (both channels meet condition) together to determine whether a warning condition exists and should be triggered. For example, you could setup a warning channel to trigger only if oil pressure is below 20 psi **AND** the engine is over 500 rpm. This would allow the oil pressure to trigger a warning light only if the engine is running. When there is no oil pressure because the engine is not running the warning light would not turn on. When any programmed warn condition exists the dash will turn on all 6 of the internal warning lights(3 on each side) and the external warning output. When a warning is triggered the dash display does not indicate which warning channel caused the alarm. It is only an indication that the conditions for one or more of the 6 warning channels was met. You can use any available data channel to trigger an alarm. The channel does not have to be displayed on one of the dash pages.

The first dash warning channel will be named "Dash Warning 1". The next three page buttons will be named per the page serial number , SN_506 thru SN_510) and represent warning channels 2, 3, 4, 5 & 6 accordingly. An example of how the new buttons should appear is shown above in the Dash Display Page section.

You may edit each dash warning channel by following the steps below:

1) Right click with the mouse over the button of the warning channel you wish to edit. The Channel Parameters edit box shown below will appear.

2) Instructions on how to edit the warning channel parameters will appear in the upper text box window. Make sure you read these instructions before proceeding.

3) Next, change the warning channel button name to better represent the function of the warning channel. For instance, you should rename Dash Warning 1 to Oil Warning if you were to program the channel to trigger an oil pressure light.

4) Program the warning channel as needed. Again, there are detail programming instructions in the upper text box window.

5) When you have finished editing all of the warning parameters for this page you must send the information to the dash by clicking on the Send Configuration button in the lower right hand corner.

6) Continue programming the remaining channels by repeating the above steps.

7) Make sure to select "Disabled" on all unused warning channels.

8) **After you have completed programming all of the warning channels the power must be cycled off and on before all of the changes will take affect.**

Programming the shift light using the DataLink software and a PC:
The external shift light allows for 6 user selectable shift points. To program the shift light find the channel button in the configuration file named Dash Shift Light typically the second channel button on the left-hand side. To program the shift light right click on the button with the mouse. The Channel Parameters edit box shown below will appear.
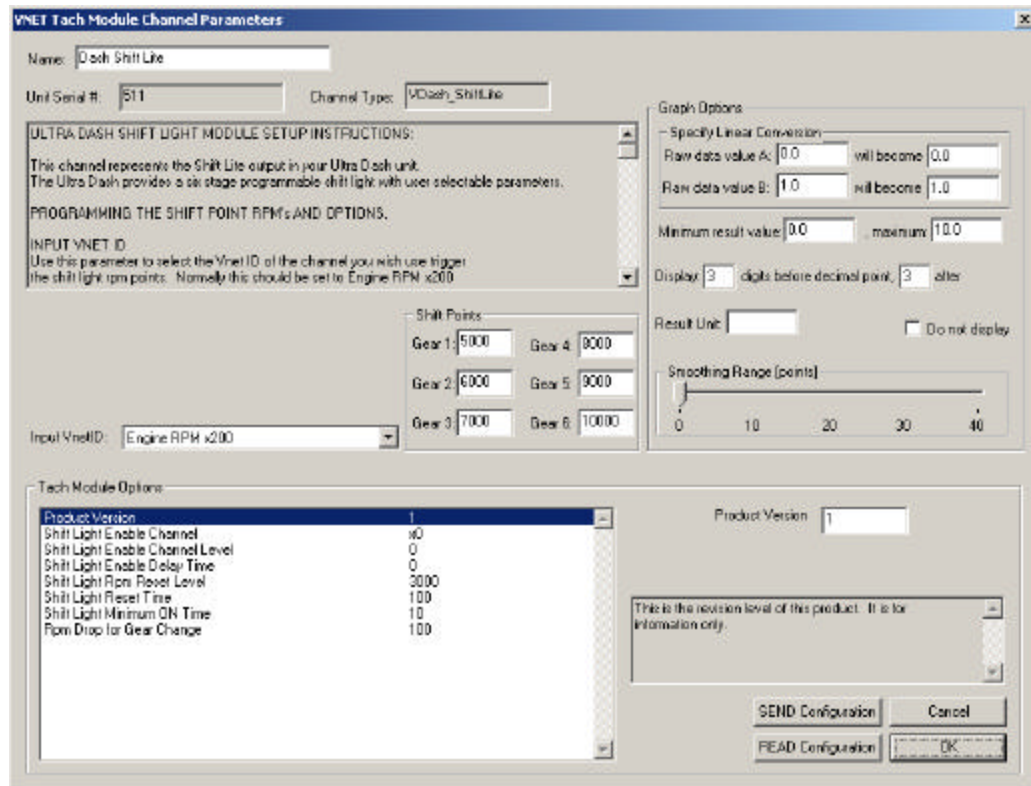
Enter the desired shift rpm levels next to the appropriate Gear in the Shift Points boxes. Typically you would not need to change any of the advanced parameters located in the Tach Module Options box. If you do need to change any of these parameters read and follow the instructions in the upper left text box.

When you have finished editing all of the shift light parameters you must send the information to the dash by clicking on the Send Configuration button in the lower right hand corner. **ANY PROGRAMMING CHANGES YOU HAVE MADE TO THE DASH INCLUDING THE SHIFT LIGHT WILL NOT TACH EFFECT UNTIL THE POWER HAS BEEN CYCLED OFF.**

Operation:

How the Buttons Work:

Each button can perform three different functions depending on how long the button is held down. We will refer to the three different button press types as SHORT, MED and LONG. To help determine when to release the button, and as a result the type of button press, you need to look at the warning indicators in the upper corner of the dash. If you release the button after one flash a SHORT button press will be entered. Releasing the button after two flashes will result in a MED button press and three flashes will result in a LONG button press. Table 1 list the three different button press types.

Type	Warning Flashes	Time in Seconds
SHORT	1	Less than 2
MED	2	2
LONG	3	3 or more

Table 1

How to Change Display Sets:

A SHORT press on the *DISP* button will cause the dash to scroll between the four available display pages. Pages that have been disabled by setting all the VNet Display ID's to disabled will be skipped. For example, if pages 3 and 4 have been disabled then pressing the *DISP* button will cause the dash to switch between pages 1 and 2 only. Each time you change display pages the current page number will briefly show in the upper left corner.

How to Display the Min-Max Values:

To display the minimum and maximum values, enter a SHORT press on the *MODE* button until the work MIN or MAX is displayed. To clear the min-max values enter a LONG press on the *MODE* button.

How to Change the Backlight Intensity:

Entering a MED press on the *DISP* button will enter to a mode which allows you to change the backlight intensity. The word bLIT will be displayed in the lower left corner. Enter a SHORT press on the *MODE* button to increase the backlight intensity. Enter a MED press on the *MODE* button to decrease the backlight intensity. Enter a LONG press on the DISP button to exit.

How to Change the Shift Light Settings:

You can program the shift light rpm points using the buttons on the dash. If you need to change any of the advanced settings, like the rpm reset point or minimum on time, you will need to use the DataLink PC software.

Entering a MED press on the *MODE* button will enter to a mode which allows you to change any of the 6 shift points. The word SLIT will be displayed in the lower left corner. The gear to program will be displayed in the lower middle. The rpm level to turn the light on will be displayed on the lower right. To increase the rpm level by 10, enter a SHORT press on the *MODE* button. To increase the rpm level quickly, press and hold the *MODE* button. To decrease the rpm level by 200, enter a MED press on the *MODE* button. To program the next gear, enter a SHORT press on the DISP button. When you are finished programming the shift points enter a LONG press on the *DISP* button.

Note: If you program the shift light settings using the buttons on the dash you do not need to power the dash off for the changes to take effect. If you use the DataLink PC software to program the dash any changes you have made will not take effect until power to the dash has been cycled.