

V700 display

OWNER'S MANUAL



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V700 DISPLAY OWNER'S MANUAL

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CHAPTER 1.0

VULCAN V700 DISPLAY

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INTRODUCTION



Figure 1-1: V700 Display Shown

Vulcan On-Board Scales can be installed on all types of vehicles including, hook lifts, logging trucks, flatbed trailers, chip trailers, front loaders, rear loaders, side loaders, roll-offs, transfer trailers, and many other commercial vehicles requiring scales. Axle group weights, payload weights and gross vehicle weights can be measured using the Vulcan On-Board Scale System. The V700 Display works in conjunction with any standard V320, V340, or V600 Meter.

The Vulcan V700 Electronics System consists of:

- **V700 Transmitter** – using advanced Spread Spectrum technology, the V700 Transmitter sends scale information to the V700 Display.
- **V700 Display** - displays the weights remotely.

The **Vulcan Radio Frequency (VRF)** technology is a revolutionary way that the V700 Display communicates with any V320, V340, or V600 Meter. VRF technology uses radio frequency to provide the communications between the cab-mounted meter and V700 Display. The V700 Transmitter is connected to the meter's VSL line. The meter will automatically recognize the V700 Transmitter and pass weight information to it along the VSL line. The V700 Transmitter then sends the weight data via RF to the V700 Display.

The V700 Display is easy to operate, utilizing a simple menu to allow it to be configured to suit your individual requirements. Here are some of its features:

- Small enough to fit in your shirt pocket.
- Large easy-to-read LCD screen.
- Remote display of scale weights for 1 to 4 channels.
- Simultaneous display of channels and totals (including subtotals for 3 or more channels).
- Choice of 7 frequencies (to help reduce interference).
- Uses readily available AA batteries (2 needed).
- Up to 38 hours of continuous operation on one set of batteries.
- User selectable “on time” to preserve battery life.
- Variable backlight – high, low, off.
- User selectable backlight “on time” to preserve battery life.
- Operations and settings that are independent of the scale meter:
 - Units (pounds, kilograms, or tons)
 - Display Mode (gross, net, or pickup/deliver)
 - Display Code for specifying channel subtotals (3 or more channels).
 - Graduation Size (10, 20, 50, 100, or 200).
- RF transmission range is typically 200+ feet (depending on conditions).

1.1 V700 OPERATION

The V700 Display has two states of operation: Weight State and Menu State. Menu State is described in detail in Chapter 2.

In Weight State, the V700 simply shows the weight on the truck scale. The LCD is automatically formatted for 1, 2, 3 or 4 channels. Figures 1.2 and 1.3 are examples of what the Display can show.

See Chapter 3 for keypad usage while the V700 is in Weight State.



 VULCAN 	
GROSS WEIGHT	
CH A	29340lb
CH B	9440lb
TOTAL	38780lb

Figure 1.2 Sample Two-Channel Display



 GROSS 	
A:	19400
B:	22700
C:	17150
D:	15350
A+B:	42100
C+D:	32500
TOTAL	74600lb

Figure 1.3 Sample Four-Channel Display

CHAPTER 2.0

V700 DISPLAY MENU (SYSTEM SETUP)

The V700 Display menu enables the user to modify these settings:

- **RF Frequency** - Selects the proper RF frequency, **1 to 7, or OFF** for the V700 Display (Section 2.2).
- **Pwr On Time** – Selects the desired time for the display to remain on, **1 to 4 minutes, or always on** (Section 2.3).
- **Backlite Time** - Selects the desired back light on time for the display, **10 to 120 seconds (in 10 second intervals)** (Section 2.4).
- **Weight Mode** - Selects the desired weight mode preference, either **Gross, Net, or Pickup/Deliver**, for displaying weight (Section 2.5).
- **Units** - Selects the units of measure, **Pounds, Kilograms, or Tons** (Section 2.6).
- **Grad Size** - Selects the graduation for displaying weight (Section 2.7).
- **Display Code** - By selecting a program code, the user tells the V700 Display what channels and combination of channels to display if using three or more channels (Section 2.8).
- **Set Contrast** – Allows the user to set the desired display contrast on the V700 Display (Section 2.9).
- **Reset Defaults** – Resets the V700 Display back to factory defaults (Section 2.10).

2.1 ENTERING THE V700 MENU**To Enter the V700 Menu:**

Press the **PWR / MENU** button to turn on the display.



After the Display has completed its start up routine and is running, press and release the **PWR/MENU** button to enter the V700 Menu.



Use the **▲** or **▼** button to scroll through the different various menu items.

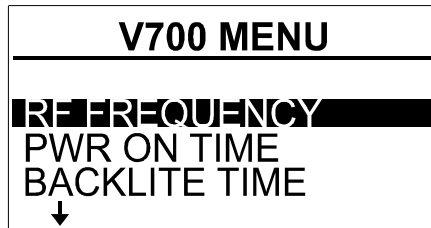
Note: If the **PWR/MENU** button is held too long, the V700 will display “**Power Down**” and the Display will turn off.

2.2 SETTING THE RF FREQUENCY

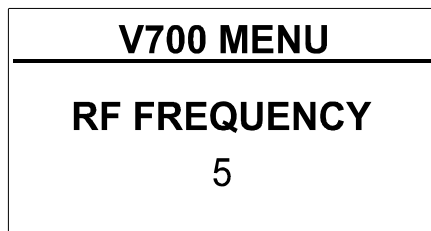
RF FREQUENCY –allows the user to change the RF Frequency of the V700 Display so it matches the frequency of the V700 Transmitter. The user can adjust this RF Frequency, **1 to 7**, or **OFF**. The factory default is **1**. To change the RF Frequency, refer to the procedure shown below.

Procedure to Set The RF Frequency:

After entering the Program Menu, the first item displayed will be RF FREQUENCY.



Press the **ENTER** button to select **RF FREQUENCY** Menu item.



Press either the **▲** or **▼** button to select the desired RF Frequency.



Press the **ENTER** button to store the RF Frequency information and return to the **RF FREQUENCY** Menu item.

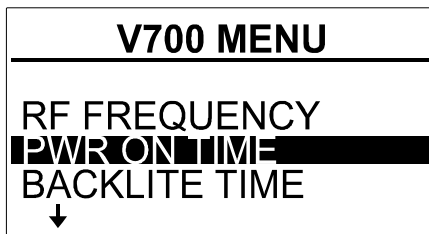
Note: Press the **PWR / MENU** button to cancel any changes, return the V700 to the original RF frequency, and return the **RF FREQUENCY** Menu item.

2.3 SETTING THE POWER ON TIME

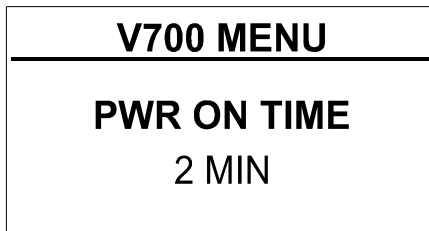
PWR ON TIME – allows the user to set the “ON” time for the V700 Display. The available values are **1, 2, 3**, or **4** minutes, and **ALWAYS**. Any value besides **ALWAYS** will cause the display to power off automatically after that number of minutes unless any key is pressed. If **ALWAYS** is chosen, the display will stay on until the **PWR/MENU** button is pressed and held for more than 2 seconds. The factory default is 2 minutes.

Procedure to Set The Power On Time:

After entering the V700 Menu, use the ▼ button to highlight the **PWR ON TIME** Menu.



Press the **ENTER** button to select **PWR ON TIME** Menu item.



Press either the ▲ or ▼ button to select the desired Power On Time setting.



Press the **ENTER** button to store the Power On Time setting and return to the **PWR ON TIME** Menu item.

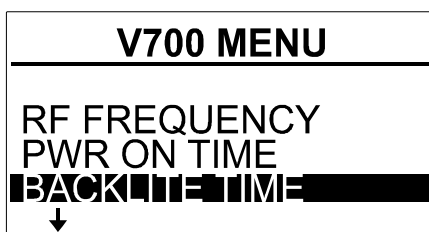
Note: Press the **PWR/MENU** button to cancel the changes.

2.4 SETTING THE BACKLIGHT TIME

BACKLITE TIME – allows the user to choose how long the backlight will stay on. This may be set in 10 second increments from **10** seconds to **120** seconds. If no buttons are pressed for that period of time, the backlight will turn off. The factory default value is set to **20** seconds.

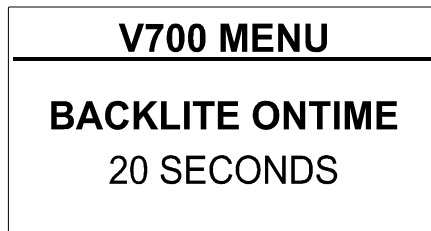
Procedure to Set The Backlight Time:

After entering the Program Menu, use the ▼ button to highlight the **BACKLITE TIME** Menu.





Press the **ENTER** button to select **BACKLITE TIME** Menu option.



Press either the ▲ or ▼ button to select the desired Backlite Time setting.



Press the **ENTER** button to store the Backlite Time setting and return to the **BACKLITE TIME** Menu option.

Note: Press the **PWR/MENU** button to cancel the changes.

2.5 SETTING THE WEIGHT MODE

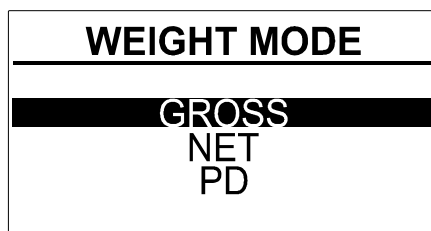
WEIGHT MODE – allows the user to choose the desired weight mode, **GROSS**, **NET** and **PICKUP/DELIVER**. The default value is **GROSS**.



Procedure to Set The Weight Mode:


After entering the Program Menu, use the ▼ button to highlight the **WEIGHT MODE** Menu.



Press the **ENTER** button to select **WEIGHT MODE** Menu option.



 OR  Press either the ▲ or ▼ button to select the desired Weight Mode setting.

 Press the **ENTER** button to store the Weight Mode setting and return to the **WEIGHT MODE** Menu option.

Note: Press the **PWR/MENU** button to cancel the changes.


2.6 SETTING THE UNITS

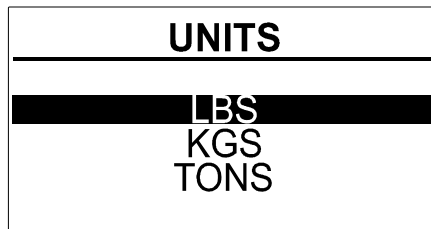
UNITS – allows the user to choose the desired unit, **POUNDS**, **KILOGRAMS** and **TONS**. The default value is **POUNDS**.



Procedure to Set The Units:


After entering the Program Menu, use the ▼ button to highlight the **UNITS** Menu.



 Press the **ENTER** button to select **UNITS** Menu option.



 OR  Press either the ▲ or ▼ button to select the desired Units setting.

 Press the **ENTER** button to store the Units setting and return to the **UNITS** Menu option.

Note: Press the **PWR/MENU** button to cancel the changes.

2.7 SETTING THE GRAD SIZE

GRAD SIZE – allows the user to choose the graduation size (**10, 20, 50, 100, or 200**). Any weight displayed will be rounded to the nearest graduation. The factory default grad size is **50**.

Procedure to Set The Grad Size:

After entering the Program Menu, use the ▼ button to highlight the **GRAD SIZE** Menu.



Press the **ENTER** button to select **GRAD SIZE** Menu option.



OR



Press either the ▲ or ▼ button to select the desired Grad Size setting.



Press the **ENTER** button to store the Grad Size setting and return to the **GRAD SIZE** Menu option.

Note: Press the **PWR/MENU** button to cancel the changes.

2.8 SETTING THE DISPLAY CODE

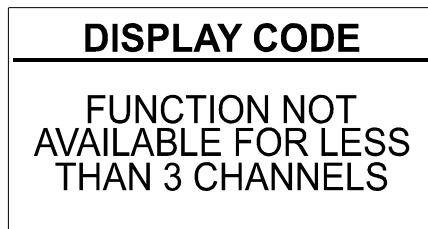
DISPLAY CODE – allows the user to choose between several “subtotal” formats when displaying three or four channels.

Procedure to Set The Display Code:

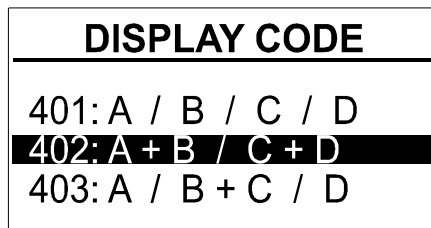
After entering the Program Menu, use the ▼ button to highlight the **DISPLAY CODE** Menu.



Press the **ENTER** button to select **DISPLAY CODE** Menu option.



If 4 channels are used:



Press either the ▲ or ▼ button to select the desired Display Code setting.



Press the **ENTER** button to store the Display Code setting and return to the **DISPLAY CODE** Menu option.

Note: Press the **PWR/MENU** button to cancel the changes.

2.9 SETTING THE SCREEN CONTRAST

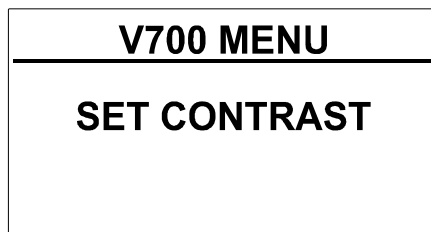
SET CONTRAST – allows the user to adjust the screen contrast.

Procedure to Set The Screen Contrast:

After entering the Program Menu, use the ▼ button to highlight the **SET CONTRAST** Menu.



Press the **ENTER** button to select the **SET CONTRAST** Menu option.



Press either the ▲ or ▼ button to select the desired Screen Contrast setting, (press and hold for rapid adjustment).



Press the **ENTER** button to store the Screen Contrast setting and return to the **SET CONTRAST** Menu option.

Note: Press the **PWR/MENU** button to cancel the changes.

2.10 SETTING THE FACTORY DEFAULTS

RESET DEFAULTS – Returns all settings to their factory defaults.

Procedure to Reset Factory Defaults:

After entering the Program Menu, use the ▼ button to highlight the **RESET DEFAULTS** Menu.



Press the **ENTER** button to select the **RESET DEFAULTS** Menu option.

Once the **RESET DEFAULTS** Menu has been selected, the LCD Display will black out the screen and restart the V700.

2.11 EXITING THE V700 MENU

To Exit the V700 Menu:



Press the **PWR / MENU** button to exit from the program menu at any time to return to the normal operating mode.

Note: If the **PWR/MENU** button is held too long the V700 will display **POWER DOWN** and the unit will turn itself off.

CHAPTER 3.0

BUTTON OPERATION IN WEIGHT STATE

In Weight State the V700 displays the weight on the truck scales. The buttons on the keypad have specific functions in this state. Using the keypad buttons you can:

- Change the backlight intensity
- Display gross and net vehicle weight while in Pickup/Deliver Mode.
- Zero the channel weights while in Pickup/Deliver Mode.

3.1 CHANGING BACKLIGHT INTENSITY

There are three levels of display intensity to choose from: **OFF, Low, and High**. Backlight time affects battery life. With backlighting turned **OFF**, battery life is approximately 38 hours with a fresh set of alkaline batteries. With **Low** backlighting, battery life is approximately 30 hours. With **High** backlighting, battery life is approximately 6 hours (not recommended). See Setting the Backlight Time, section 2.4.

To Increase the Display Intensity:



Pressing the ▲ button increases the backlight intensity from “off” to “low” to “high” and back to “off”. Press the ▲ button, while in the normal operating mode to turn on the backlight. Press the ▲ button again to cycle to the next backlight setting. Press the ▲ button a third time to turn the display backlight off.

3.2 DISPLAY NET AND GROSS VEHICLE WEIGHTS WHILE IN PICKUP/DELIVER MODE



While in Pickup/Deliver Mode, you may want to view your Gross Vehicle Weight, or even your Net Payload Weight. You can do this without having to change the Weight Mode. Press and hold the **ENTER** button for 1 second to display the net weight (all channels) for a 3 second interval. Press and hold the **ENTER** button a second time (within the 3 seconds) to display gross weight. After 3 seconds, display will return to Pickup/Deliver Mode.

3.3 ZERO WEIGHT DISPLAY IN THE PICK-UP/DELIVERY MODE

The ▼ button function enables the user to automatically zero the display for each channel at any time during Pickup/Deliver Operating Mode.

To Zero The Weight Display:



Press and hold the ▼ button to zero the weight displayed during P/D operation. **Note:** The ▼ button will zero all channels.

CHAPTER 4.0

SYSTEM SPECIFICATIONS**V700 Transmitter**

Environment:	Environmentally sealed electronics.
Operating Temp:	-40 to +140 degrees F.
2-Wire Cable, Orange:	Custom polyurethane jacket.
Voltage Input:	Vulcan VSL line.
RF Frequency:	7 different frequencies (user selectable).
RF Transmit Range:	Typically 200 feet (depending on conditions).

V700 Display

Display:	LCD, Variable backlight, variable backlight "on-time".
Graduation:	10, 20, 50, 100 or 200 lb or kg, independent of cab mounted meter.
Display Range:	-99,999 to 999,999
Voltage Required:	Two AA batteries.
Approximate Battery Life:	38 hours (no backlight). 30 hours (low backlight). 6 hours (high backlight).
RF Frequency:	Up to 7 different user-selectable frequency channels.
RF Range:	Typically 200 feet (depending on conditions).