Avalon
USER GUIDE MY23

OVERVIEW

The high-resolution touch control displays brings more features to the surface providing an unmatched user experience.

Critical information including engine performance, fuel level and depth is always in view or just a touch away.

The center of each window screen swaps out with a touch of the top level destination page buttons.

1. Cruise Control Mode
2. Gauges Screen
3. Vessel Screen
4. Media Screen
5. Check Engine Warning
6. Settings Menu
7. Night/Day Mode Toggle
8. Performance/Simplified Gauges Toggle

CRUISE CONTROL

Mode automatically controls the speed of the vessel. Touch the icon in the upper left-hand corner to turn the system ON, and speed the boat up to the desired set-point to engage.

Pulling the throttle to NEUTRAL will bring the engine to idle anytime CRUISE CONTROL is engaged. Touch the speed up and speed down arrows to adjust the cruise set-point while the system is active. Touch the GREEN set speed button to bring up a keypad to set the cruise set-point directly. This drop-down menu also includes various LAUNCH PROFILES.

LAUNCH PROFILES

With CRUISE CONTROL engaged, bring up the SET SPEED drop down, by touching the GREEN set speed button(in between - and +). On the left side of the display, the User may choose between 5 different LAUNCH PROFILES: 1-5 (1 being the most gradual and 5 being the quickest acceleration to the desired set speed). Here the user may also choose to use standard CRUISE at the bottom.
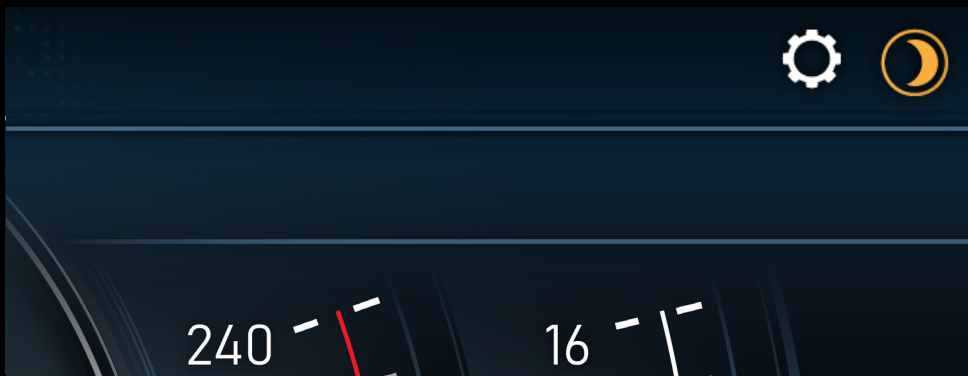
NIGHT/DAY MODE

This button toggles lighting values between night time and daytime brightness settings.

The lighting of the display dim can be adjusted in the SOFTWARE/ BACKLIGHTING section of in the SETTINGS menu.
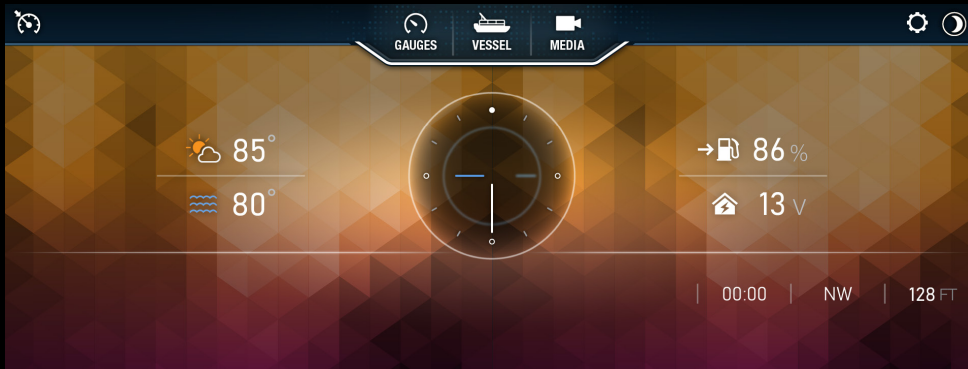
RELAX MODE

Displayed automatically when engine is OFF. Provides only non-engine related data and relaxing, color-changing screen graphic. Simply touch the gauge icon, at the top of the screen, to return to driver info mode.
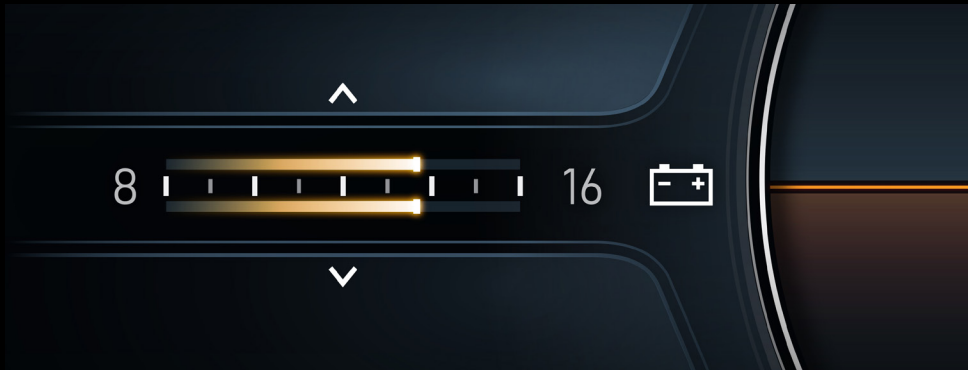

PERFORMANCE GAUGES

Detailed driver mode. Provides simultaneous readouts for all engine systems including tachometer, engine oil and pressure, battery, and boat trim, for ensuring optimal performance.

SIMPLIFIED GAUGES

Simplified driver mode. Displays only critical engine information for ease of viewing.

SWITCHABLE GAUGES

The two visible engine data monitors are reconfigurable. Simply press the up or down button to scroll through the available engine system read-outs.

VESSEL MODE

View and control various systems on the boat in VESSEL Mode. The left-hand side includes on/off switches for water pumps including bilge, fresh and raw, and accessories. On the right are lighting controls for docking, interior, exterior, anchor, underwater and RGB color.

1. Controls On/Off Switches
2. Lighting Area On/Off Switches

RGB MENU

Touch the RGB button on the bottom right side of the display to show the RGB Lighting controls. Toggle each zone you want to customize by touching INTERIOR, EXTERIOR, and ARCH or by tapping the button at the bottom.

When your desired zone(s) are selected, choose between a SOLID or FADING light effect and adjust the COLOR and INTENSITY of the lights with the sliders.
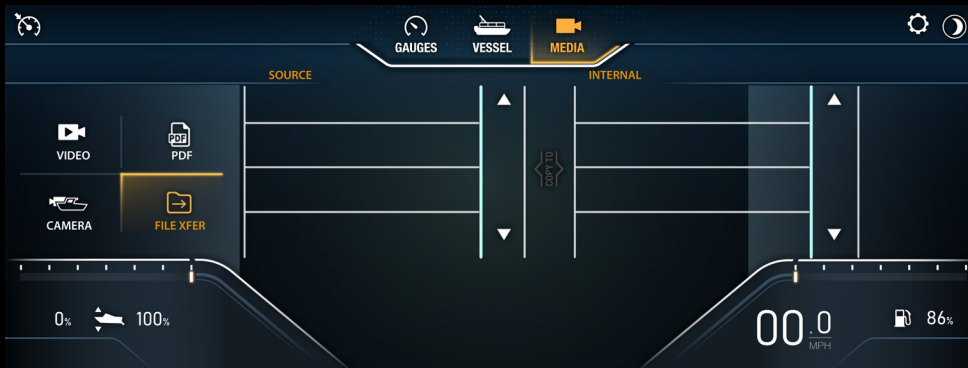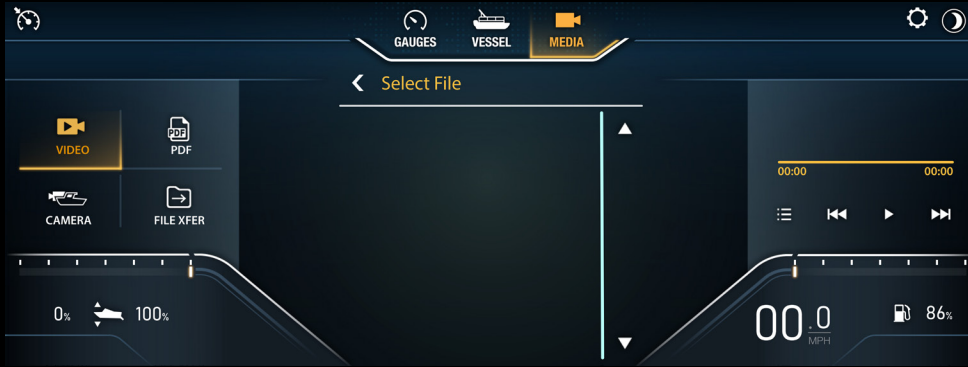
MEDIA SCREEN

View video and image files from an external USB from the MEDIA screen. This option will only be available when the engine is OFF or in idle. Files can be copied over to system storage using the FILE XFER menu. To bring up a live feed of the rear-facing camera select the CAMERA feature.

SETTINGS MENU

Manage system settings, options, troubleshooting and software updates in SETTINGS. The selection icon is located in the upper right-hand corner of the display. SETTINGS is divided into three menu selections, SYSTEM, CONFIG, and DIAGNOSTIC. Changes will automatically be saved upon leaving the screen.

SYSTEM SETTINGS

Update and reset software, and adjust backlighting levels for DAY and NIGHT modes under the SOFTWARE/BACKLIGHTING section. Manage time settings for daylight savings, 12 or 24 hour format, and hours offset. Choose between English imperial or metric display units.

Note: In order to update the system software must be either installed via USB drive or over Wi-Fi, which requires an active Wi-Fi connection.

CONFIGURATION SETTINGS

Customize options for a preferred boating experience in the CONFIG settings menu. Boat options allows the enabling/disabling of cameras (front, rear, auto-backup), lighting (underwater, high/low beam, tower, docking), heater, and seat heater.

Adjust depth alarm height, air temp and lake temp offsets in the DEPTH ALARM/TEMP screen. Select between engine types (single, twin, surf) and manufacturers (Mercury, Yamaha, Suzuki, Honda) in the ENGINES screen. Calibrate and reset fuel and trim in the FUEL CALIBRATION and TRIM CALIBRATION screens.

ENGINE CONFIGURATION

In the ENGINES menu, switch between engine manufacturers and SINGLE/TWIN Engine configurations depending on what option your boat has. Choosing the SURF engine option will add a SURF CONTROL menu button to the upper left of the display. This is where the user can control the BALLASTS and choose SURF MODES.

SURF MENU

In the SURF menu, enable/disable the BALLASTS. When enabled, the user can adjust the PORT and STARBOARD BALLAST levels with the corresponding UP/DOWN arrows. The user can also view the DRIVE TRIM degree and select between the 4 preset surf modes: SURF LEFT, SURF RIGHT, WAKE-BOARDING, and CRUISE.

DIAGNOSTIC SETTINGS

Displays on-screen diagnostic information concerning engine date, system power module outputs, current active and inactive engine alarms, and global positioning system status.

ISSUE	POSSIBLE CAUSE	SOLUTION
System Does Not Power Up	Ground is missing from Viper 3	Ensure Battery Negative is properly populated in **Pin 19** of Main 1 Connector (20 Pin) on Viper 3
	Battery switch power is missing from Viper 3	Ensure 12V is present on **Pin 20** of Main 1 Connector on Viper 3 when Battery Switch is turned on
	Ignition power is missing from Viper 3	Ensure 12V is present on **Pin 18** of Main 1 on Viper 3 when Dash Power Switch is turned on
Display Remaining Black While Viper 3 is Running	Bad Display Connection on display	Secure Display Cable to Viper Module and Display
	Ignition is turned off and Viper is in sleep mode	Turn Dash Power Switch on and ensure 12V is present on **Pin 18** of Main 1 on Viper 3
	Battery switch power is missing from Viper 3, but ignition is present	Ensure 12V is present on **Pin 20** of Main 1 on Viper 3 when Battery Switch is turned on
CAN 2 Error	No CAN 2 components are present on accessory	Ensure Transducer and 10 Channel Power Module is present on the bus and powered
	No CAN Termination	Turn all power off and unplug 20 Position Connector from Viper 3. Measure resistance between CAN + (**Pin 9**) and CAN - (**Pin 10**). Value should be approximately 60 ohms
	Incorrect Connection of CAN Network	Ensure proper connection on Main 1 with **Pins 9** and **10**. **Pin 9** is CAN + and **Pin 10** is CAN -
Heading or **Clock** Does Not Appear	No GPS signal is available	Ensure open visibility to sky away from structures. It may take up to 8 minutes to aquire satellite lock
		Ensure proper connection of Antenna to Viper 3 module

TROUBLESHOOTING GUIDE

As the first step to troubleshooting, please ensure all software revisions are up to date

No **Engine Data**	Incorrect connection of CAN Network	Ensure proper connection on Main 1 with **Pins 16** and **17**. **Pin 16** should be CAN + and **Pin 17** should be CAN - . For Mercury Engines, **Pin 16** on Viper should be common with Pin J on J-Box Connector. **Pin 17** should be common with Pin K on J-Box Connector
	Engine is unpowered and offline	Ensure Engine is on and Clean Power for engine electronics is supplied to engine
	Incorrect connection to Engine Data	Ensure proper connection to the Engine CAN under helm, at engine
Air Temp Not Reading or Reading Incorrectly	Air temp sensor is not plugged in	Ensure a good ground is connected to Air Temp Sensor. Ensure signal from the Air Temp Sensor is connected to Viper 3 Main 2 Connector (16 Pin) Pin 3. Signal is a resistance to ground
	Air temp offset adjustment in settings is incorrect	Enter Settings by pressing the Controls tab. Select Settings. Select Air Temp Offset. Change to the correct value
Clock Time is Incorrect	Incorrect timezone selected in settings screen	Enter settings by pressing the Controls tab. Select Settings. Select Timezone. Change to correct timezone (may have to put in offset for Daylight Savings time)

ISSUE	POSSIBLE CAUSE	SOLUTION
Video #1 or Video #2 Feed Does Not Appear	Connection to external camera is not made	Ensure Analog Video cable is connected to the corresponding Viper 3 Video Input identified with a Yellow RCA jack and labeled Video Input
Media or PDF Buttons Not Functioning or Displaying Files	Engine RPM present	These buttons are disabled anytime the engines are running (RPM>300). Shut off engines' battery
Media or PDF Buttons Not Functioning or Displaying Files	No files are located on USB	Ensure files are on the route of the USB drive and the USB drive is plugged into one of the Viper 3's USB inputs
File Transferring is Frozen	A large file was transferred to/from USB	Large files will take some time to transfer. During this time the system will be sluggish until the processor is released from making this transfer
Depth or Sea Temp Shows "--"	Transducer is Not Connected	Ensure Transducer is present on Bus and Powered
Depth or Sea Temp Shows "--"	Transducer has lost bottom	Move boat around to different bottom conditions and monitor for Depth Lock. It is normal for a transducer to lose bottom under certain situations (i.e. underwater, obstructions, un-solid bottom conditions, turbulence in the water, growth covering the transducer)
Display Powers Up and Visually Looks Correct, but Touch Does Not Work	Display was plugged in after Viper module was booted and touch driver did not initialize	Ensure Display connections are in place for display and reboot Viper module by cycling Battery Switch

TROUBLESHOOTING GUIDE

Malfunction Indicator Lamp Illuminates	Will show upon startup as bulb check to meet CARB requirements	No Issue
Malfunction Indicator Lamp Illuminates	There is an issue with the engine system	Refer to the Engine Supplier for further troubleshooting

AV	DESCRIPTION	SIGNAL
1	VIDEO 1 P	Reverse Camera
2	VIDEO 1 N	Reverse Camera
3	MIC POS	
4	MIC NEG	
5	RS485+	
6	RS485-	
7	VIDEO 2 P	
8	VIDEO 2 N	
9	AUDIO OUT Left P	AUDIO OUT Left P
10	AUDIO OUT Left N	AUDIO OUT Left N
11	AUDIO OUT Right P	AUDIO OUT Right P
12	AUDIO OUT Right N	AUDIO OUT Right N

M1	DESCRIPTION	SIGNAL
1	SENSOR PWR 5V	
2	Relay_06	Buzzer
3	Relay_05	
4	Relay_04	Ballast Drain (Surf)
5	Relay_03	Ballast Fill (Surf)
6	Relay_02	Drive Down (Surf)
7	Relay_01	Drive Up (Surf)
8	CAN2 Shield	
9	CAN2+	ACCY CAN
10	CAN2-	ACCY CAN
11	LIN	
12	Gauge Power	
13	Backlight Out	
14	Backlight In	
15	CAN1 Shield	
16	CAN1+	Engine CAN
17	CAN1-	Engine CAN
18	Ignition	Ignition (12V)
19	Ground	Ground
20	Battery	12V Battery

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M2	DESCRIPTION	SIGNAL
1	ANALOG INPUT 0	Fuel
2	ANALOG INPUT 1	Ballast Level
3	ANALOG INPUT 2	Air Temp (10K)
4	ANALOG INPUT 3	
5	ANALOG INPUT 4	
6	ANALOG INPUT 5	
7	ANALOG INPUT 6	
8	ANALOG INPUT 7	Bypass Switch
9	ANALOG INPUT 8	
10	ANALOG INPUT 9	
11	ANALOG INPUT 10	
12	ANALOG INPUT 11	
13	ANALOG INPUT 12	
14	ANALOG INPUT 13	
15	ANALOG INPUT 14	
16	ANALOG INPUT 15	