

Avalon Viper II System Troubleshooting Guide

Issue

Possible Cause

Solution

As a first step to troubleshooting, please ensure software revisions are up to date. Correct software revision can be requested by Avalon electrical engineering.

System does not power up	Ground is missing from Viper II.	Ensure battery negative is properly populated in pin 1 of Main 2 connector (16 pin) on Viper II module.
	Battery switch power is missing from Viper II.	Ensure 12V is present on pin 2 of Main 2 connector (16 pin) on Viper II Module when battery switch is turned on.
	Ignition power is missing from Viper II.	Ensure 12V is present on pin 3 of Main 2 connector (16 pin) & pin 6 of Main 1 (20 pin) on Viper II module.
Displays remain Black while Viper II is running	Bad RJ45 Connection on Display(s)	Secure RJ45 connection to Viper module and Display(s)
	Ignition is turned off and Viper is in sleep mode	Turn ignition on and ensure 12V is present on pin 3 of Main 2 connector (16 pin) & pin 6 of Main 1 (20 pin) on Viper II module.
	Battery switch power is missing from Viper II, but ignition is present.	Ensure 12V is present on pin 2 of Main 2 connector (16 pin) on Viper II Module when battery switch is turned on.
CAN 1 Error	No CAN 1 components are present on Accessory CAN bus.	Ensure transducer, power module, steering wheel, or grayhill remote is present on the bus and powered.
	Incorrect connection of CAN network.	Ensure proper connection on Main 2 connector (16 pin) pins 4 & 5. Pin 4 should be CAN + & pin 5 should be CAN -
No Engine Data	Incorrect connection of CAN network.	Ensure proper connection on Main 1 connector (20 pin) pins 11 & 12. Pin 11 should be CAN + & pin 12 should be CAN -
	Engine is unpowered and offline	Ensure main breaker on engine is on and clean power for smartcraft is supplied to engine.
	Incorrect connection to Smartcraft J-Box	Ensure proper connection to Mercury J-box or NMEA2000 connection under helm.
No Speed control functionality (will not turn on and values return to default after 3 seconds) (Mercury only)	No engine Data	Reference troubleshooting line item above "No Engine Data"
	No Mercury third party authority dongle present	Ensure Mercury part number 8M0105518 is plugged into the Mercury Smartcraft J-Box
Display powers up and visually looks correct, but touch screen does not work at all	Display was plugged in after Viper module was booted and touch drivers did not initialize	Ensure RJ45 connections are in place for display and reboot Viper module by cycling battery switch.
Screen shows information for single engine, when it should be for twin engine (or visa versa)	Incorrect engine selection in settings menu	Enter settings by pressing the controls tab. Select settings. Select "Engine". Change to single or twin per the application.
Heading or clock does not appear	No GPS signal 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 II module
		Check signal strength by going to Mapping screen and selecting GPS.
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)
Video #1 or Video #2 feed does not appear	Connection to external camera is not made	Ensure analog video cable is connected to the cooresponding Viper II 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 dissabled anytime the engines are running (RPM > 300). Shut off engines are retry.
	No files are located on one of the two sources (USB or SD Card)	Ensure files are on the route of the USB drive and the USB drive is plugged into one of the Viper II's USB inputs
		Ensure files are on the SD Card located in a folder called "Display". The SD card must be installed in the Viper II's SD card slot labeled DATA.

File Transferring frozen	A large file was transferred to/from SD card 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 the bus and powered.
	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)
Air temperature 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 II Main 2 connector (16 pin) pin 13
	Air temp offset adjustment in settings is incorrect	Enter settings by pressing the controls tab. Select settings. Select "Air Temp Offset". Change to correct value
Mapping is not showing any chart detail	Navionics Card does not have data on it	US/Canada Navionics Plus card comes preloaded with basic chart information. If you zoom out in the mapping screen you should see purple squares showing that this detail is present. If it is not then the card is not properly configured. Rest of World Navionics Plus card does not come with any chart detail preloaded. It will not show any until the end user registers the card and downloads information for their region.
	Navionics Card is not properly installed	Ensure the card is installed in the Viper II SD card slot labeled MAP
Malfunction Indicator Lamp Illuminates	Will show upon startup as bulb check to meet CARB requirements	No issue
	There is an issue with the engine system	Refer the the engine supplier for further troubleshooting
Control's switch does not control the load	Power Module is not properly connected	Power module is not powered. Ensure 12v is connected to the large power stud on the power module. Ensure battery negative is connected to pin 6 on the 6pin connector of the power module. Ensure ignition positive is connected to pin 2 on the 6 pin connector of the power module. Ensure CAN+ is connected to pin 3 on the 6 pin connector of the power module. Ensure CAN- is connected to pin4 on the 6 pin connector of the power module.
	Load is not connected to power module	Ensure the pinout of the 16 pin connector on the power module is correct on the boat side harness. By moving the fuse in the power module to the override position you can check the output of the power module and take the electronic control out of equation
	Fuse is blown on the power module	Remove power module cover and check fuse for cooresponding load
Controls switch is showing grey and dissabled or is active and should not be	Options are not properly configured in settings for display	Enter settings by pressing the controls tab. Select settings. Select "Options". Check/uncheck the correct functions for the applicable boat
Stereo information is not turning on	Stereo is not connected to Viper II	Ensure A/V harness properly connects the remote output of stereo to the Viper II module
	Stereo is not powered	Ensure the stereo is powered when battery switch is on. (Using a stereo remote connected to the stere remote connection to assist may be helpful)
		Ensure battery power to stereo is greater than 10.5v The Viper will continue to be operational down to 8v, but the radio will cutout at 10.5v
No bluetooth audio	Phone is not connected / playing audio with high enough volume	Ensure bluetooth visibility is turned on in settings menu. Search for Viper module using mobile device. Request connection using modile device. Accept request on Viper display. Play audio on mobile device and ensure audio output volume is turned up on device.
	Stereo is not in bluetooth mode	Ensure stereo is on and in bluetooth mode using stereo screen
	Audio out of Viper module is not connected to Aux 2 input of stereo	Ensure Red/White audio output of Viper II module is connected to the stereo Aux 2 input