Viper 3 System Troubleshooting Guide

As a first step to troubleshooting, please ensure software revisions are up to date.

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 module.
	Battery switch power is missing from Viper 3.	Ensure 12V is present on pin 20 of Main 1 connector (20 pin) on Viper 3 Module when battery switch is turned on.
	Ignition power is missing from Viper 3.	Ensure 12V is present on pin 18 of Main 1 (20 pin) on Viper 3 module when dash power switch is turned on.
Display remain 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 (20 pin) on Viper 3 module.
	Battery switch power is missing from Viper 3, but ignition is present.	Ensure 12V is present on pin 20 of Main 1 connector (20 pin) on Viper 3 Module when battery switch is turned on.
CAN 2 Error	No CAN 2 components are present on Accessory CAN bus.	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 module. Measure resistance between CAN + (pin9) and CAN - (pin10). Value should be approximately 60 ohms.
	Incorrect connection of CAN network.	Ensure proper connection on Main 1 connector (20 pin) pins 9 & 10. Pin 9 is CAN + & pin 10 is CAN -
No Engine Data	Incorrect connection of CAN network.	Ensure proper connection on Main 1 connector (20 pin) pins 16 & 17. Pin 16 should be CAN + & pin 17 should be CAN - For Mercury Engines Pin 16 on Viper should be common with Pin J on J-box connector. Pin 17 on Viper 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 engine CAN under helm and at the engine.
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 display connections are in place for display and reboot Viper module by cycling battery switch.
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 3 module
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 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 dissabled anytime the engines are running (RPM > 300). Shut off engines are retry.
	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 Transfering 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 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, turbulance 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 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 correct value
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

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 Dwn (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	CAN1Shield	
16	CAN1+	Engine CAN
17	CAN1-	Engine CAN
18	Ignition	Ignition (12V)
19	Ground	Ground
20	Battery	12V Battery

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	

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