CEENBoT Diagnosis
Version 1.0
February 5, 2014

Symptom

Symptom	Possible Cause	Resolution	User-possible	Notes
Robot “dead”				
	No battery or battery not connected	Install and connect battery	Yes	
	Battery discharged	Charge battery	Yes	Battery can also be swapped with a known good battery
	Robot programmed with Commander program with no display or LED use	Upgrade to CEENBoT Commander Ver 1.5.4 or newer, or include a display message	Yes	CEENBoT Commander Ver 1.5.4 includes a 1 second display of the running program’s name.
	Robot not programmed	Program AT Mega and AT Tiny	No	Requires special tools and procedures
	Corrupt firmware on AT Mega or AT Tiny	Load factory firmware	Yes	Requires a charged battery
	Fuse bad	Replace fuse	With parts	Fuse available from CEENBoT, Inc, or on-line sellers
	Controller board damaged	Repair or replace controller board	No	Requires special tools and procedures
Robot operates erratically				
	User program installed	Load factory firmware	Yes	Requires a charged battery
	Low battery	Charge battery	Yes	Requires firmware with charging feature
	Bump sensors mis-connected	Confirm cables are properly connected and not shifted by one pin	Yes	
	Motors mis-connected	Confirm cables are properly	Yes	

		connected and not shifted by one pin		
	Controller board damaged	Repair or replace controller board	No	Requires special tools and procedures
Robot LCD screen lights, but no display				
	User program installed	Load factory firmware	Yes	Requires a charged battery
	Corrupt firmware on AT Mega or AT Tiny	Load factory firmware	Yes	Requires a charged battery
	Controller board damaged	Repair or replace controller board	No	Requires special tools and procedures
Robot does not respond to wireless remote				
	Controller board damaged.	Repair or replace controller board	No	Requires special tools and procedures. Suspect if the PSX connector moves back and forth.
	Missing or dead batteries in wireless remote transmitter.	Install fresh batteries	Yes	
	Wireless remote transmitter and receiver not paired	Press LED illuminated button on wireless receiver until it flashes quickly, the press button located between and just above joysticks on wireless transmitter until the receiver LED turns on solid.	Yes	Indicated by a slowly flashing LED on wireless remote receiver.
	Wireless remote receiver not fully inserted	Turn off robot and press receiver fully into socket so non of receiver connector is visible	Yes	
	Wireless remote receiver	Turn off robot, remove	Yes	Difficult to do, but has been

	installed 180 degrees rotated.	wireless remote receiver, and press receiver fully into socket so none of receiver connector is visible		done.
	Wireless remote receiver is broken	Replace wireless remote receiver	With parts	Can be diagnosed if another known good transmitter and receiver are available.
	Wireless remote transmitter is broken	Replace wireless remote transmitter	With parts	Can be diagnosed if another known good transmitter and receiver are available.
Robot does not track straight with wireless remote				
	Robot battery is low	Charge battery	Yes	Battery can also be swapped with a known good battery.
	Wireless remote transmitter joystick was not in neutral position when turned on.	Turn the wireless transmitter off for 5 seconds and then back on.	Yes	Wireless remote transmitter recalibrates each time it is turned on.
	Wireless remote transmitter calibration has drifted	Turn the wireless transmitter off for 5 seconds and then back on.	Yes	
	Wireless remote transmitter has internal problem with calibration	Repair or replaced wireless transmitter	No	Requires special tools and procedures.
Cannot program the robot with an Atmel AVR ISP mkII programmer				
	Robot is AC powered, or the battery is dead	Power the robot with a charged battery and without an AC power supply.	Yes	
	Programmer firmware is not	Confirm that the	Yes with	Requires a Windows computer

	updated to version 1.13	programmer is running the correct firmware by attaching it to a Windows computer running Atmel AVR Studio 4.18. When attempting to connect the software to the programmer, it will warn if the version is older than 1.13.	software	and Atmel software.
	AVR ISP mkII ribbon cable broken internally.	Separate the halves of the programmer and install a replacement cable. Reassemble by snapping together.	Yes with parts	Cable is poloarized (eg, it must be installed with the red stripe wire on the correct side of the connector.
	AVR ISP mkII programmer driver not correctly installed	In Windows, check that the programmer is correctly found in the device list.	Possibly	Some problems can be difficult to resolve.