



DOT MATRIX LED CONSOLE

V-DLED-C (CS101)



SERVICE MANUAL

ISSUED 2026-01-06
JOHNSON HEALTH TECH
V1

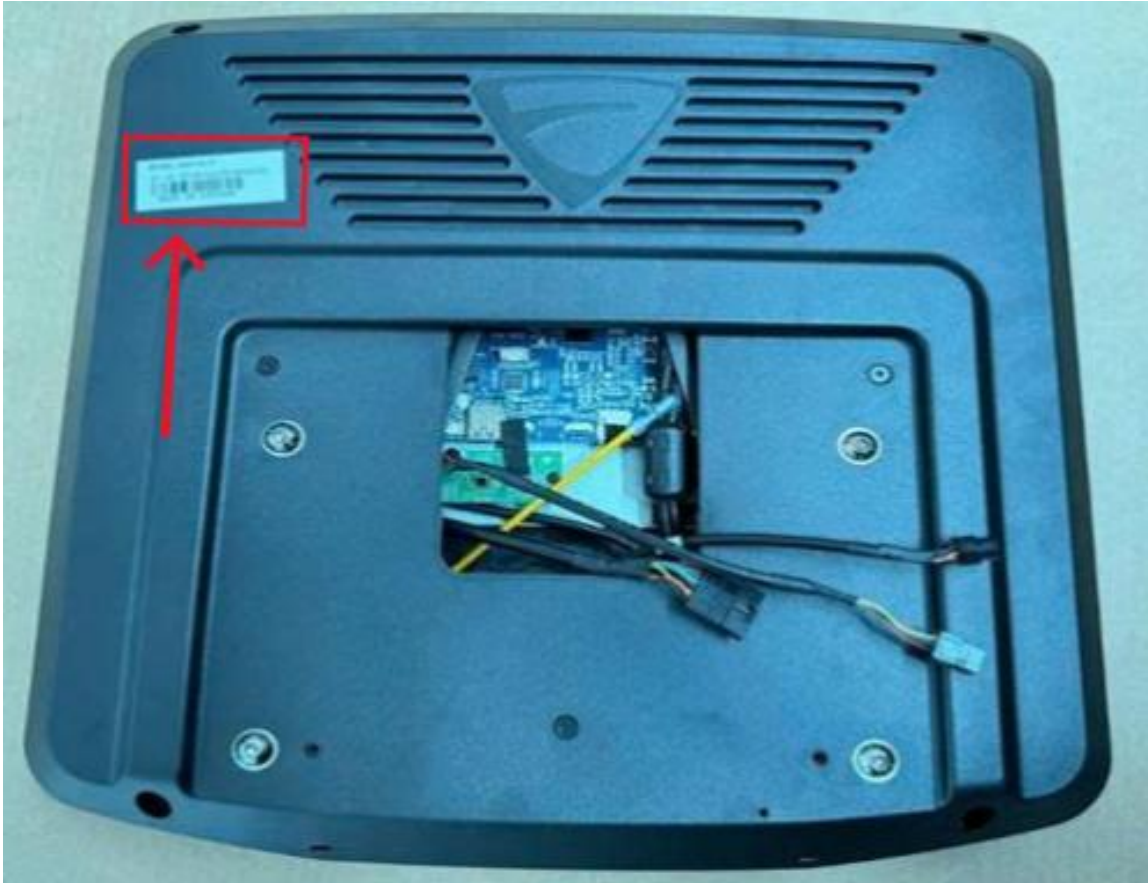
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CHAPTER 1. SERIAL NUMBER LOCATION

SERIAL NUMBER LOCATION

The serial number is located on the back cover.

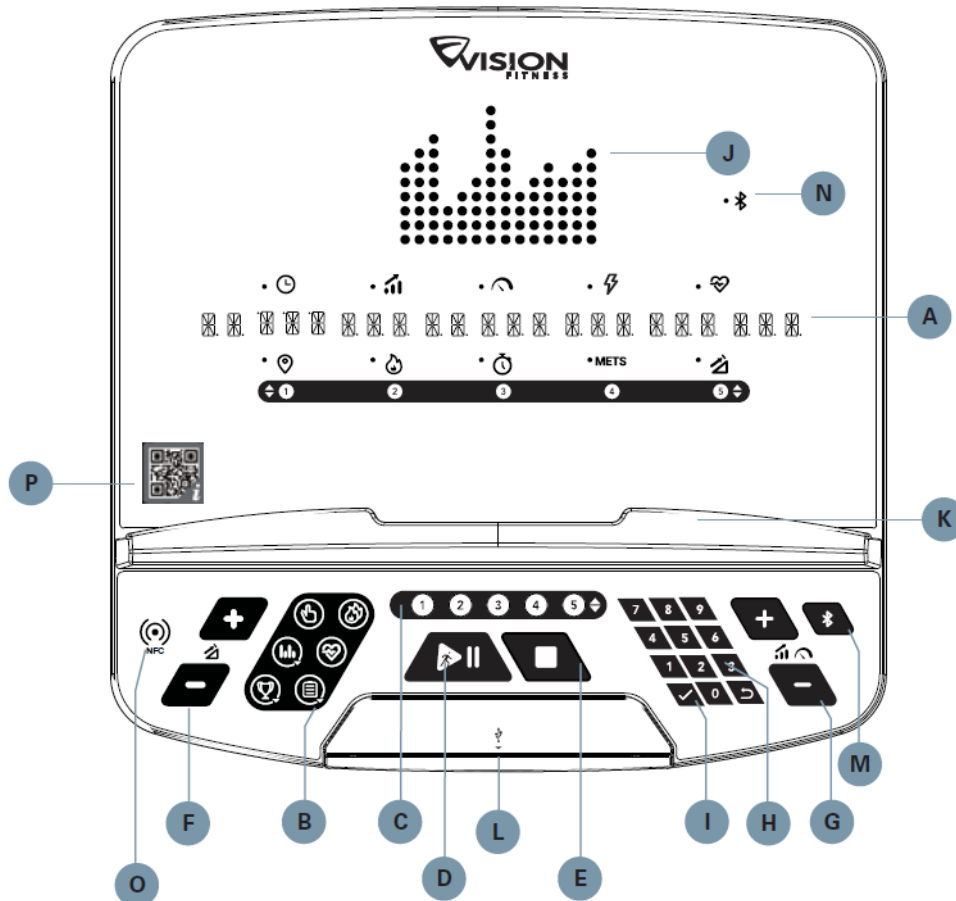


CHAPTER 2. CONSOLE INSTRUCTIONS

2.1 Console Operation

VISION DOT MATRIX LED DISPLAY CONSOLE OVERVIEW

The computerized display allows the user to select a workout that meets their desired fitness goals. It also allows the user to monitor the progress and feedback of each workout so they can track improvements in overall fitness over time.



A	Treadmills	Bikes/ Ellipticals/ Ascents	Stairclimbers
	Time	Time	Time
	Distance	Distance	Floor
	Level	Resistance	Resistance
	Calorie	Calorie	Calorie
	Speed	Speed	Speed
	Pace	RPM	SPM
	Watts	Watts	Watts
METS	METS	METS	METS
	Heart Rate	Heart Rate	Heart Rate
	Incline	NA/ NA/ Incline	NA

B	Program Keys
	Manual
	Fat Burn
	Intervals
	Target Heart Rate
	Goals
	Fitness Test

- A. Message Windows:** The main display for program instructions and relevant measurement during workout.
- B. Program Keys:** Simple program view and selection buttons. Press Manual, Fat Burn, Intervals, Target Heart Rate, Goals or Fitness test buttons to cycle through available tests.
- C. Workout Data Selector:** Switch the associate workout data (up and down) in LED window when pressed.
- D. GO/Pause:** One Press Start and press again to pauses workout.
- E. STOP:** Ends workout and shows workout summary data.
- F. Incline/Resistance:** Adjust resistance for bikes, elliptical, stair climber (incline for treadmills and ascent trainers) and make program selections.
- G. Speed/Resistance:** Adjust resistance for bikes, elliptical, stair climber (speed for treadmills) and make program selections.
- H. Number Keypad:** Workout data input for workout setup.
- I. Enter:** To confirm each program parameter setting.
- J. Profile Display:** This window provides a dot matrix profile of the workout segments you are about to complete, and the level of resistance for each segment.
- K. Reading Rack:** Holds reading material or electronic device.
- L. USB Ports:** Access for charging devices, WIFI setup and for software updates.
- M. Bluetooth Connection:** Press and hold 5 sec to switch between APP MODE & BT HEART RATE MODE. (Note the console can only be paired to 1 Bluetooth device at the same time.
- N. Bluetooth Indicator:** The LED will be lit when the console is paired with a Bluetooth device.
- O. NFC Connection:** Wireless connect and transmit the workout data to Vision APP for reception.
- P. QR Code:** Scan and visit Vision website for the console video guideline or Vision APP download link if cellphone not yet installed Vison APP; Or directly launch Vision APP on cellphone if APP has been installed.

CHAPTER 3. ENGINEER MODE

3.1 Engineer Mode for Stairclimber

Entering "3001" and press "enter" to enter the Engineer Mode. Hold "Stop" to exit Engineer Mode.

ENG	Functions	Default	Range	Notes
ENG0	DISPLAY TEST			
ENG1	HARDWARE TEST		P1~P4	P1 ECB motor -No feature -Use down/slow to select P1-Px P2 Induction Brake -No feature -Use down/slow to select P1-Px P3 USB port test -or is static in text box if failed in test. "USB PORT TESTING..." scrolls in matrix or is static in text box. - "PASS" scrolls in matrix or is static in text box if passed test. OR "FAIL" scrolls in matrix -Use down/slow to select P1-Px P4 Wi-Fi test(optional) -" WI-FI TESTING..." scrolls in matrix or is static in text box. - "PASS" scrolls in matrix or is static in text box if passed test. OR "FAIL" scrolls in matrix or is static in text box if failed in test. -Use down/slow to select P1-Px
ENG2	SWITCH FUNCTION			P1 Units select - Switch MILE or KM using Start or +/- button -Press Back to exit, shows P1, press down/slow to P2 P2 Language select -Use +/- button to select language -The display will scroll newly selected language when key is pressed. -Press Back to exit, shows P1, press down/slow to P3 P3 Machine select -Use +/- button to select a machine type from Stairclimber, Elliptical, Bike, and Ascent Trainer. -Scroll the full name in matrix or static in the middle of text box. -Press Back to exit, shows P1, press down/slow to P4 P4 Model select -Use +/- button to select a model. -Press Back to exit, shows P1, press down/slow to P5 P5 Energy mode - Use +/- button to select between 0– 30 (0 = ERP OFF) -Press Back to exit, shows P1, press down/slow to P6 P6 First Boot -Switch "First Boot" Flag using +/- button -The display will show " 0 " for OFF or " 1 " for ON in text box -Press enter to save current setting -Press Back to exit, shows P1, press down/slow to P7 P7 Error Code -Main menu display 1 or 0 -Default On : 1 -Use up/down to switch OFF : 0 -Press enter to save current setting -Press Back to exit, shows P1 ,press

				down/slow to P8 P8 Over Current - Main menu display 0 or 1 - Default OFF : 0 - Use up/down to switch ON : 1 - Press enter to save current setting - Press Back to exit, shows P1, press down/slow to P1
ENG3	INFORMATION			P1. Accumulated Data P2. Software version P3. MCB version P4. WIFI SETUP P5. Remote Update P6. frame number P7. Console number P8. Errors Logs
ENG8	TEST	1	1~100	P1 program accelerator - Press +/- to change it from 1 to 100. - Press enter to save the settings - Press Back to exit, Use down/slow to select P1-Px
				P2 burn-in period check - No feature - Press Back to exit, Use down/slow to select P1-Px
				P3 QUICK STANDBY MODE - The Brickyard will scroll "PRESS START BUTTON TO ENTER STANDBY MODE" - Press Start button to enter standby model instantly. - Press Enter again to skip - Press Back to exit, Use down/slow to select P1-Px
				P4 RPM SIMULATOR - No feature - Press Back to exit, Use down/slow to select P1-Px
ENG9	WIFI INFORMATION			P1 WIFI VERSION P2 WIFI UART VERSION P3 MAC ADDRESS P4 WIFI IP ADDRESS P5. DISCONNECT WIFI P6 WIFI RESET P7 DAPI Environment - Use up/down to switch DAPI environment P8 WIFI Module Mode - There are 2 options to switch, Normal and Web ota, use up/down to switch P9 CLUB ID

3.2 Engineer Mode for EP/Bike/AT

Entering "3001" and press "enter" to enter the Engineer Mode. Hold "Stop" to exit Engineer Mode.

ENG	Functions	Default	Range	Notes
ENG0	DISPLAY TEST			
ENG1	HARDWARE TEST			P1 ECB motor -No feature -Use down/slow to select P1-Px P2 Induction Brake -No feature -Use down/slow to select P1-Px P3 USB port test -or is static in text box if failed in test. "USB PORT TESTING..." scrolls in matrix or is static in text box. - "PASS" scrolls in matrix or is static in text box if passed test. OR "FAIL" scrolls in matrix -Use down/slow to select P1-Px P4 Wi-Fi test(optional) - "WI-FI TESTING..." scrolls in matrix or is static in text box. - "PASS" scrolls in matrix or is static in text box if passed test. OR "FAIL" scrolls in matrix or is static in text box if failed in test. -Use down/slow to select P1-Px
ENG2	SWITCH FUNCTION			P1 Units select - Switch MILE or KM using Start or +/- button -Press Back to exit, shows P1, press down/slow to P2 P2 Language select -Use +/- button to select language -The display will scroll newly selected language when key is pressed. -Press Back to exit, shows P1, press down/slow to P3 P3 Machine select -Use +/- button to select a machine type from Stairclimber, Elliptical, Bike, and Ascent Trainer. -Scroll the full name in matrix or static in the middle of text box. -Press Back to exit, shows P1, press down/slow to P4 P4 Model select -Use +/- button to select a model. -Press Back to exit, shows P1, press down/slow to P5 P5 Energy mode - Use +/- button to select between 0– 30 (0 = ERP OFF) -Press Back to exit, shows P1, press down/slow to P6 P6 First Boot -Switch "First Boot" Flag using +/- button -The display will show " 0 " for OFF or " 1 " for ON in text box -Press enter to save current setting -Press Back to exit, shows P1, press down/slow to P7 P7 Error Code -Main menu display 1 or 0 -Default On : 1 -Use up/down to switch OFF : 0 -Press enter to save current setting -Press Back to exit, shows P1, press down/slow to P8

				P8 Over Current -Main menu display 0 or 1 - Default OFF : 0 -Use up/down to switch ON : 1 -Press enter to save current setting -Press Back to exit, shows P1 ,press down/slow to P1
ENG3	INFORMATION			P1. Accumulated Data P2. Software version P3. MCB version P4. WIFI SETUP P5. Remote Update P6. frame number P7. Console number P8. Errors Logs
ENG8	TEST	1	1~100	P1 program accelerator -Press +/- to change it from1 to 100. -Press enter to save the settings -Press Back to exit, Use down/slow to select P1-Px
				P2 burn-in period check -No feature -Press Back to exit, Use down/slow to select P1-Px
				P3 QUICK STANDBY MODE -The Brickyard will scroll "PRESS START BUTTON TO ENTER STANDBY MODE" -Press Start button to enter standby model instantly. -Press Enter again to skip -Press Back to exit, Use down/slow to select P1-Px
				P4 RPM SIMULATOR -No feature -Press Back to exit, Use down/slow to select P1-Px
ENG9	WIFI INFORMATION			P1 WIFI VERSION P2 WIFI UART VERSION P3 MAC ADDRESS P4 WIFI IP ADDRESS P5. DISCONNECT WIFI P6 WIFI RESET P7 DAPI Environment -Use up/down to switch DAPI environment P8 WIFI Module Mode -There are 2 options to switch, Normal and Web ota, use up/down to switch P9 CLUB ID

CHAPTER 3. ENGINEER MODE

3.3 Engineer Mode for TM

Entering "3001" and press "enter" to enter the Engineer Mode. Hold "Stop" to exit Engineer Mode.

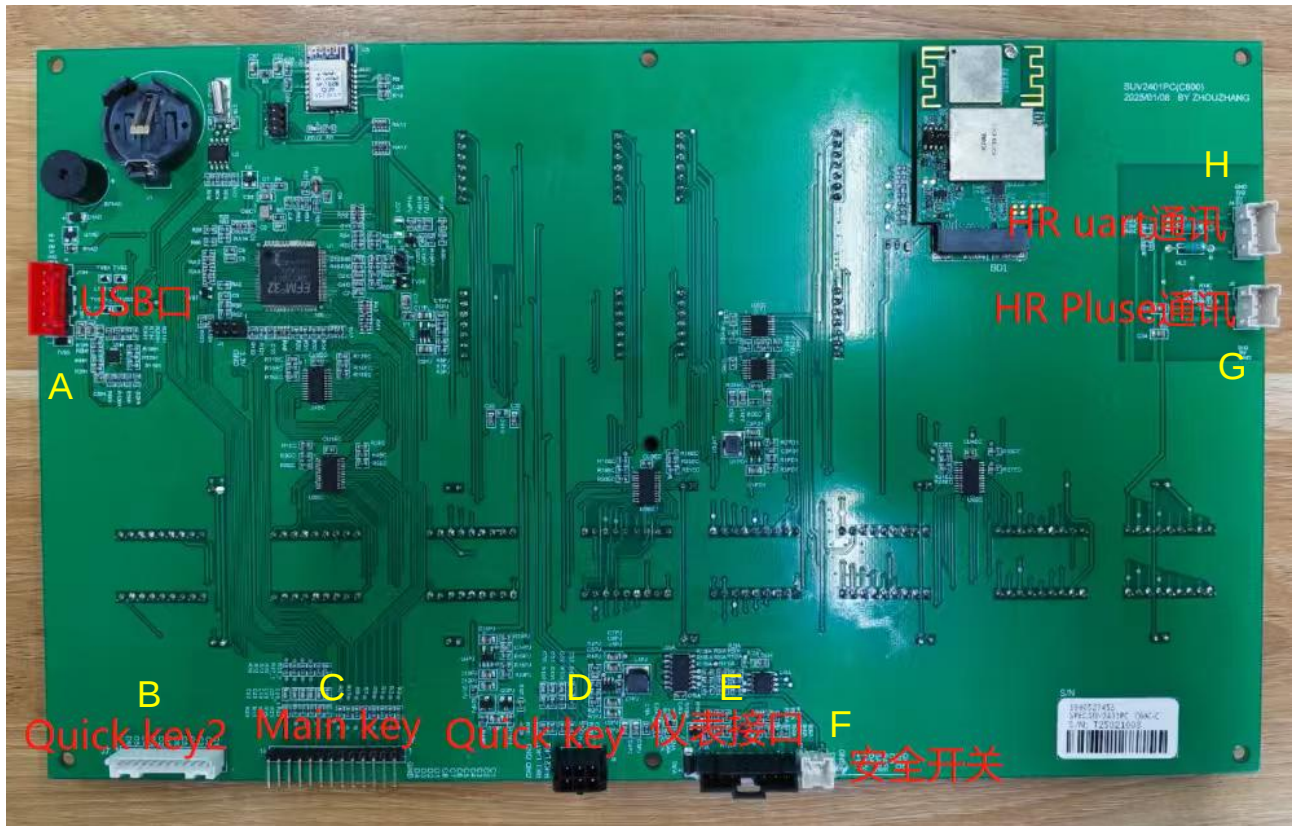
ENG	Functions	Default	Range	Notes
ENG0	DISPLAY TEST			
ENG1	HARDWARE TEST			P1 ECB motor -No feature -Use down/slow to select P1-Px P2 Induction Brake -No feature -Use down/slow to select P1-Px P3 USB port test -or is static in text box if failed in test. "USB PORT TESTING..." scrolls in matrix or is static in text box. - "PASS" scrolls in matrix or is static in text box if passed test. OR "FAIL" scrolls in matrix -Use down/slow to select P1-Px P4 Wi-Fi test(optional) - "WI-FI TESTING..." scrolls in matrix or is static in text box. - "PASS" scrolls in matrix or is static in text box if passed test. OR "FAIL" scrolls in matrix or is static in text box if failed in test. -Use down/slow to select P1-Px
ENG2	SWITCH FUNCTION			P1 Units select - Switch MILE or KM using Start or +/- button -Press Back to exit, shows P1, press down/slow to P2 P2 Language select -Use +/- button to select language -The display will scroll newly selected language when key is pressed. -Press Back to exit, shows P1, press down/slow to P3 P3 Machine select -Use +/- button to select a machine type from Stairclimber, Elliptical, Bike, and Ascent Trainer. -Scroll the full name in matrix or static in the middle of text box. -Press Back to exit, shows P1, press down/slow to P4 P4 Model select -Use +/- button to select a model. -Press Back to exit, shows P1, press down/slow to P5 P5 Energy mode - Use +/- button to select between 0– 30 (0 = ERP OFF) -Press Back to exit, shows P1, press down/slow to P6 P6 First Boot -Switch "First Boot" Flag using +/- button -The display will show " 0 " for OFF or " 1 " for ON in text box -Press enter to save current setting -Press Back to exit, shows P1, press down/slow to P7 P7 Error Code -Main menu display 1 or 0 -Default On : 1 -Use up/down to switch OFF : 0 -Press enter to save current setting -Press Back to exit, shows P1 ,press

				down/slow to P8 P8 Over Current - Main menu display 0 or 1 - Default OFF : 0 - Use up/down to switch ON : 1 - Press enter to save current setting - Press Back to exit, shows P1 ,press down/slow to P1
ENG3	INFORMATION			P1. Accumulated Data P2. Software version P3. MCB version P4. WIFI SETUP P5. Remote Update P6. frame number P7. Console number P8. Errors Logs
ENG4	OC PROTECTION	enable: 1	1 or 0	P1. OVER SPEED
		enable: 1	1 or 0	P2. STRING WARNING
			1-3	P3. SPEED DROP including: P1 10 MPH - Main menu display default : 1 , range 0.5-4 - Press +/- to change it from 0.5-4. P2 6-10 MPH - Main menu display default : 1 , range 0.5-2 - Press +/- to change it from 0.5-2. P3 0-6 MPH - Main menu display default : 0.5 , range 0.5-2 - Press +/- to change it from 0.5-2.
		5	5-20	P4. SPEEDUP SKIP - Press +/- to change it from 5 to 20.
		2	0-20	P5. STEADY SKIP - Press +/- to change it from 0 to 20.
		50	5-max	P6. IGNORE SPEED - Press +/- to change it from 5 to max speed.
		enable: 1	1 or 0	P7. SPEED ERROR - Use up/down to disable: 0
		1	0-100	P8. SPEED MODE PERCENT - Press +/- to change it from 0 to 100.
		8	0-100	P9. SPEED ERR FACTOR - Press +/- to change it from 0 to 100.
		80	1-200	P10. OC TRIGGER POINT - Press +/- to change it from 1 to 200.
ENG8	TEST	5	0-20	P11. EXIT RANGE - Press +/- to change it from 0 to 20.
		1	1~100	P1 program accelerator - Press +/- to change it from 1 to 100. - Press enter to save the settings - Press Back to exit, Use down/slow to select P1-Px
				P2 burn-in period check - No feature - Press Back to exit, Use down/slow to select P1-Px
				P3 QUICK STANDBY MODE - The Brickyard will scroll "PRESS START BUTTON TO ENTER STANDBY MODE" - Press Start button to enter standby model instantly. - Press Enter again to skip - Press Back to exit, Use down/slow to select P1-Px
				P4 RPM SIMULATOR - No feature - Press Back to exit, Use down/slow to select P1-Px

ENG9	WIFI INFORMATION			P1 WIFI VERSION P2 WIFI UART VERSION P3 MAC ADDRESS P4 WIFI IP ADDRESS P5. DISCONNECT WIFI P6 WIFI RESET P7 DAPI Environment -Use up/down to switch DAPI environment P8 WIFI Module Mode -There are 2 options to switch, Normal and Web ota, use up/down to switch P9 CLUB ID
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CHAPTER 4. TROUBLESHOOTING

4.1 PCB Layout



A	USB port	D	Quick key	G	HR pluse communication
B	Quick key2	E	Console port	H	HR spare port
C	Main key	F	Safety switch		

4.2 Error Code List

To reference the [Master Error Code List](#) (NB-1903010) for error codes.

4.3 Console Does Not Light Up

SYMPTOM:

- a. The unit is not getting power from the outlet.
- b. The MCB is not getting power from the power receptacle.
- c. The power switch and MCB LEDs are lit, but there is no power to the console.

SOLUTION:

- a. Check to see if the power switch is lit. If it is not, plug the power cord into a known working outlet and re-test.
 - If the power switch is still not lit, replace the power switch, receptacle, and / or the power cord.
- b. Remove the right-side cover and check to see if the control board **L5V LED (red)** is lit.
 - If the LED 5V is not lit, check the incoming AC voltage to the LCB from adapter.
- c. Check that **LD1 and LD2 indicator LEDs (communication LEDs)** are flashing.
- d. Check the connection of the console communication cable.
 - If the console communication cable is connected correctly, please check the +12VDC pins to make sure the console UCB is receiving power.
 - If the console UCB is not receiving power, replace the console communication cable.
 - If the console UCB IS receiving power, but there is still no power to the console, replace the UCB.

4.4 Speed Does Not Display

SYMPTOM:

The speed value does not display on console

SOLUTION:

1. Unplug power cord, remove the console and check that all connections to the console are secure and not damaged or pinched.
2. Remove the side cover and check to see if the sensor wire is connected well.
3. Check to see if the speed sensor is aligned with the optic disc and the distance less than 1.5mm.

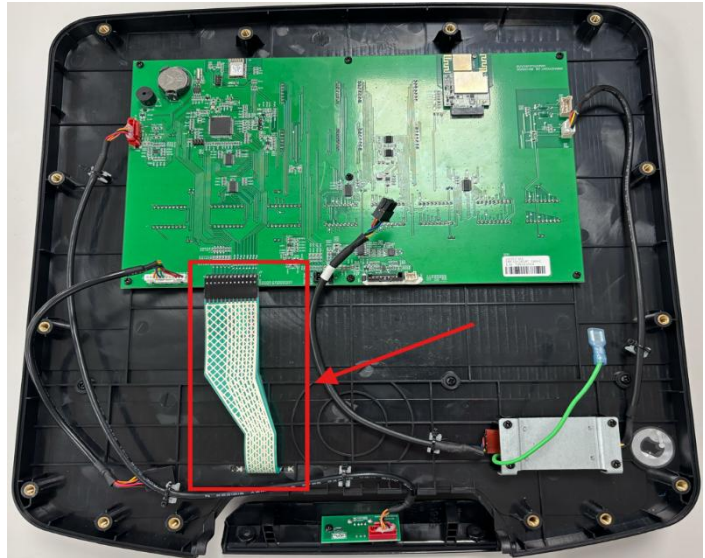
4.5 Function Key Do Not Respond

SYMPTOM:

Function keys do not respond.

SOLUTION:

- a. Confirm whether the keypad wire is well-connected with the UCB, plug the wire and retest.
- b. If still does not work, try to use another keypad to retest, replace the defected keypad if needed.
- c. Try to replace the digital communication cable from UCB to MCB.
- d. Replace another UCB and retest, replace the defected UCB if needed.
- e. If both keypad and UCB are good, replace MCB.



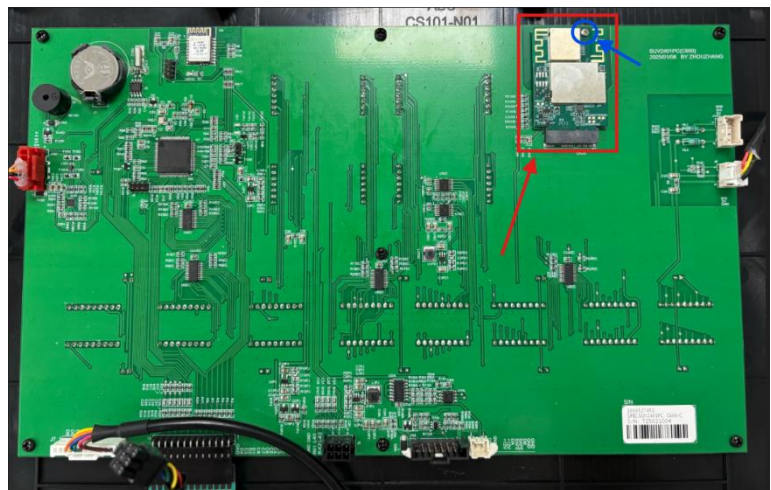
4.6 WiFi Connect Problem

SYMPTOM:

Console cannot receive WiFi signal.

SOLUTION:

- a. When the console cannot receive WIFI signal, open the console back cover.
- b. Check if the WiFi board screw is loose. Tighten it if it is loose.
- c. If problem still exists, re-plug the WiFi board.
- d. If problem still exists, replace WiFi board.
- e. If problem still exists, need to replace the UCB.



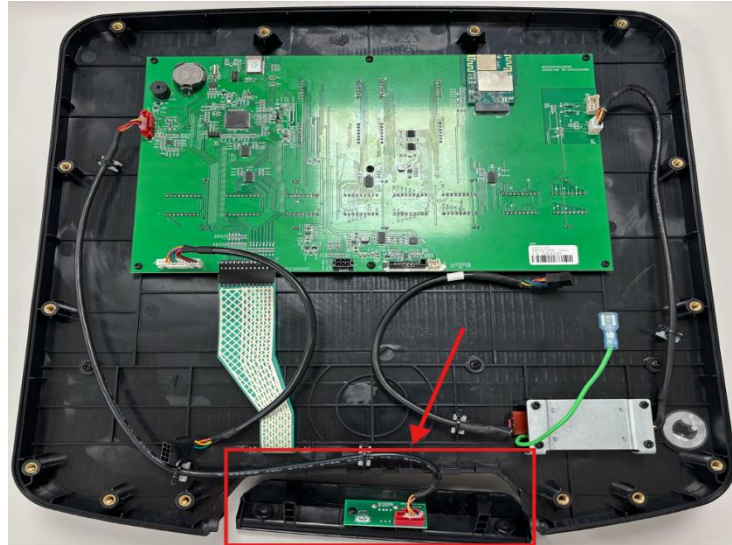
4.7 Console Cannot Read USB Device

SYMPTOM:

Console cannot read USB device.

SOLUTION:

- a. Plug the USB device into a computer/laptop to see if it is recognized and has content on it.
- b. Check if USB cable port is loose or defected, replace the USB cable.
- c. Replace the USB board.
- d. If the problem still exists, replace the UCB.



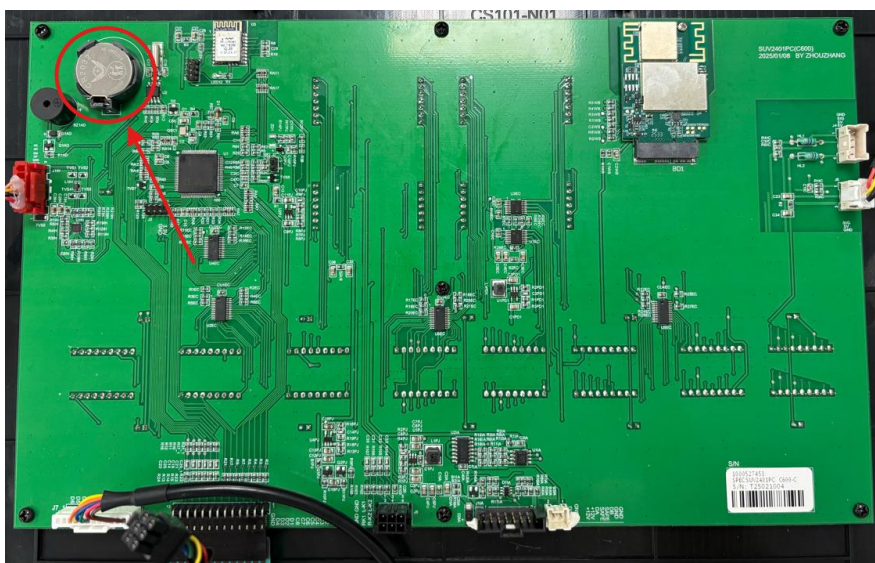
4.8 Console Cannot Save System Time

SYMPTOM:

Console cannot save system time.

SOLUTION:

Change RTC button cell.



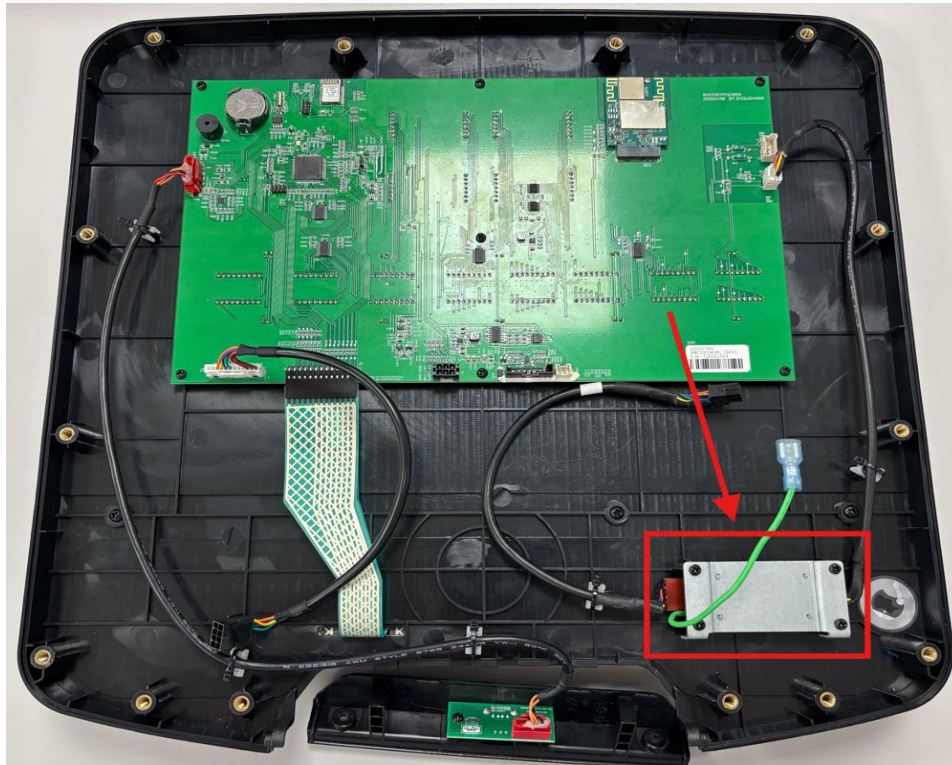
4.9 No Handlebar Heart Rate

SYMPTOM:

Console cannot read heart rate.

SOLUTION:

- a. Check if the heart rate wire in handlebar is well connected (this belongs to frame).
- b. Open the console back cover and check heart rate pulse wire and heart rate receiver wire is well connected
- c. If the problem still exists, replace the heart rate board



4.10 Preventative Maintenance Message (PMM)

SYMPTOM:

- a. Console displays “**LUBE CHAIN**” message every **1080 accumulated hours**.
- b. On treadmills without scrolling text, “**LUBE**” appears in the text box.
- c. On models with two 4-digit windows, “**LUBE BELT**” is displayed.
- d. Message does not appear during a workout program.
- e. Message does not appear when the safety key is removed.
- f. Message reappears after workout completion if the unit has been run for **at least 0.1 hour**.

SOLUTION:

- a. Perform belt/chain lubrication per maintenance procedure.
- b. Pressing any button will temporarily clear the message and return the console to normal operation.

c. To fully reset the PMM timer, press and hold STOP + SPEED (+) buttons simultaneously for 5 seconds.

– This resets the message and prevents it from reappearing for another 1080 hours.

d. The PMM can be reset at any time, even before reaching 1080 hours.

MESSAGE CLEAR OPTIONS:

● Temporary Clear:

Message is dismissed by pressing any key, but will return after workout completion or console reset.

● Total Clear:

Press and hold STOP + SPEED (+) buttons for 5 seconds to fully reset the PMM timer.