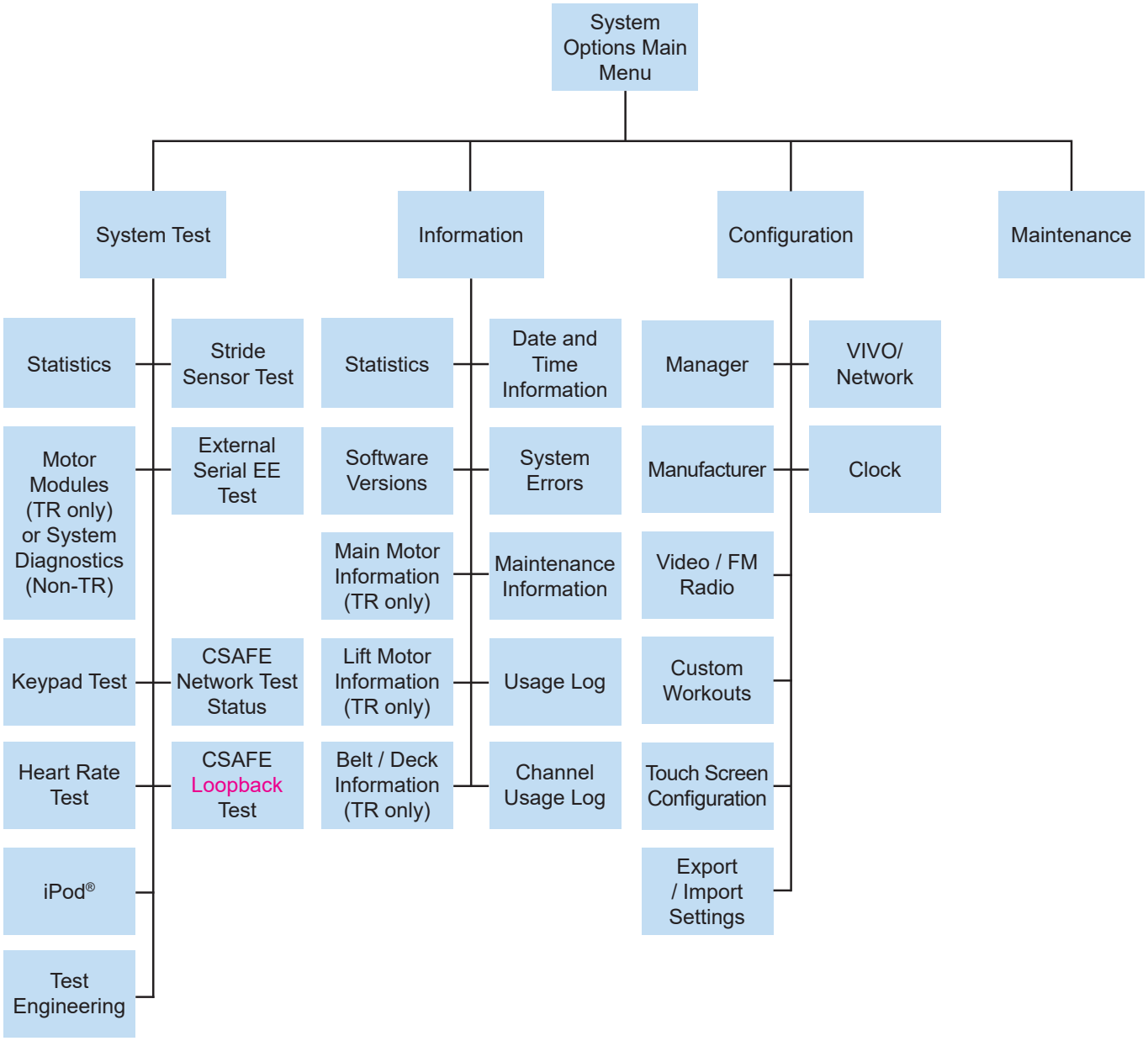
Engage / Inspire Console Diagnostic: Overview

This document is intended to provide a high level overview of System Diagnostic flows as well as screen-by-screen layout and descriptions of their intended functionality for the Engage / Inspire consoles.

Engage / Inspire Console Diagnostic: System Options - Block Diagram Overview

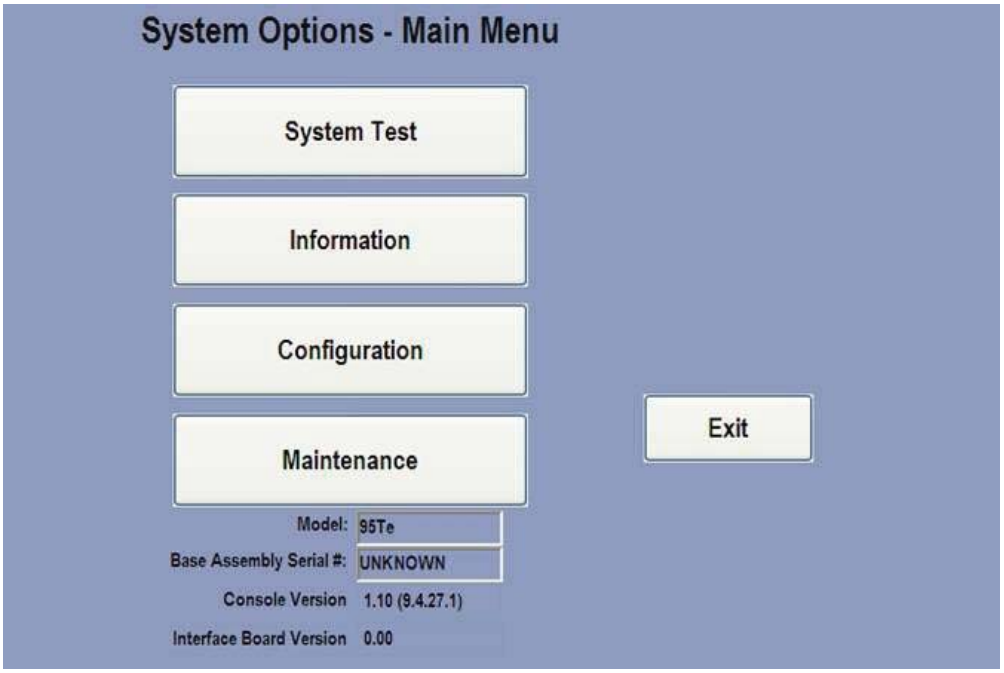
System Flows



NOTE: “TR only” means for Treadmill only. On Bikes and Cross Trainers, those modules marked with “TR only” will not be visible.

Engage / Inspire Console Diagnostic: System Options - Main Menu

User Interface

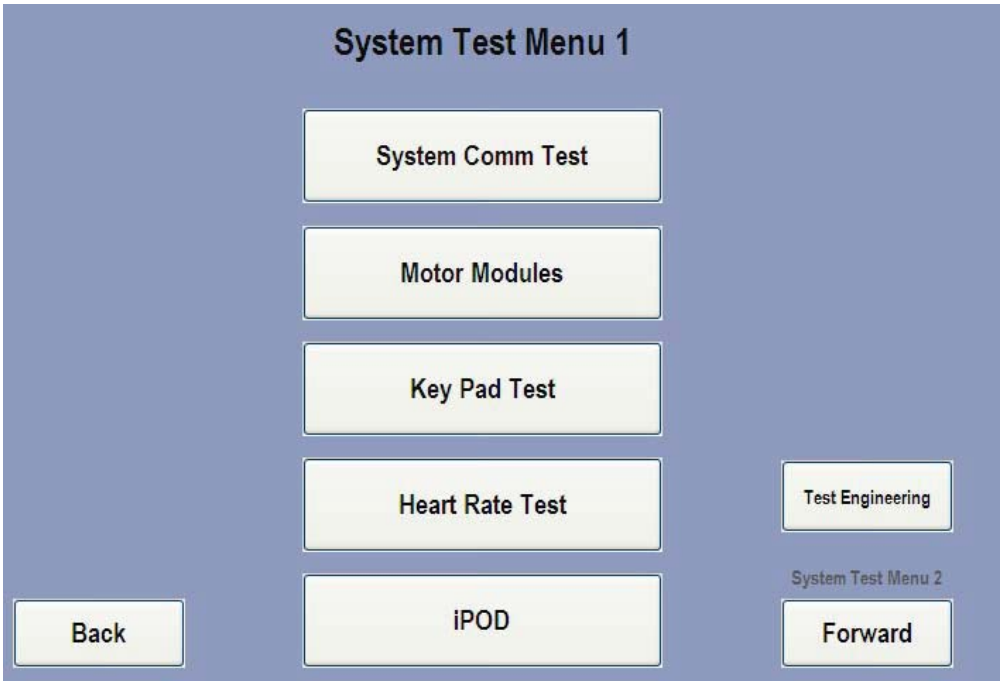


Object Table

LABEL	DESCRIPTION
System Test Button	Displays the System Test Menu Screen.
Information Button	Displays the Information Menu Screen.
Configuration Button	Displays the Configuration Menu Screen.
Maintenance Button	Displays the Maintenance Screen.
Exit Button	Exits out of the System Options – Main Menu and returns to the Attract Screen.
Readouts	**Model:** Displays the current model number.
	Base Assembly Serial #: Displays the base assembly serial number.
	Console Version: Displays the current installed console software version number (build number).
	Interface Board Version: Displays the current interface board software version.

Engage / Inspire Console Diagnostic: System Test Menu 1

User Interface

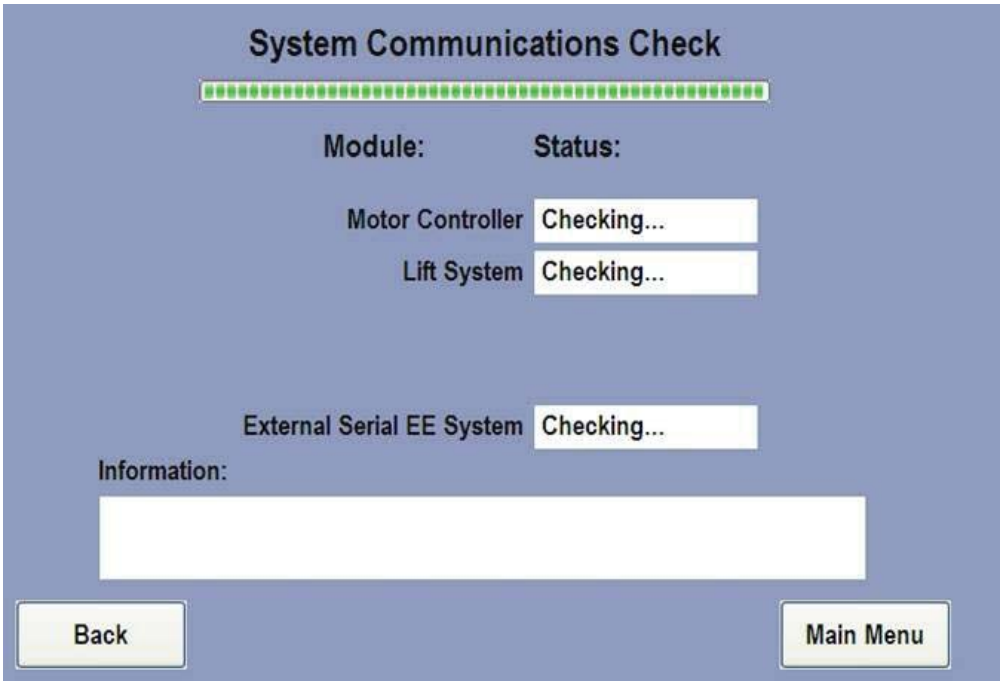


Object Table

LABEL	DESCRIPTION
System Communication Test Button	Displays System Communication Checks Screen and executes system communication check.
Motor Modules (TR only) or System Diagnostics Button (Non-TR only)	Displays the Motor Modules Screen for TR or System Diagnostic Screen for non- TR.
Key Pad Test Button	Displays the Key Pad Test Screen.
Heart Rate Test Button	Displays the Heart Rate Test Screen.
iPod® Button	Displays the iPod® Test Screen.
Test Engineering Button	Displays the Test Engineering Screen.
Back Button	Displays the previous screen.
Forward Button	Displays the System Test Menu 2 Screen.

Engage / Inspire Console Diagnostic: System Communication Check

User Interface



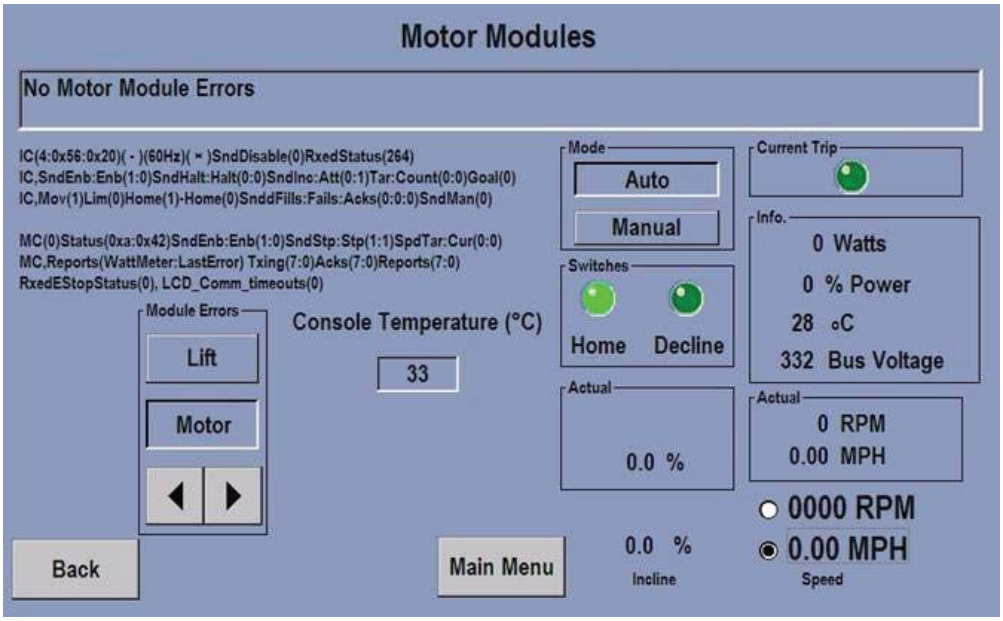
Object Table

LABEL	DESCRIPTION
Motor Controller	Displays the status of the Motor Controller (i.e. Checking, Detected, Failed)
Lift System	Displays the Motor Modules Screen.
External Serial EE System	Displays the Key Pad Test Screen.
Information	Displays any additional information regarding the System Communication check (i.e. System Communication OK, System Communication Failed, Error - Communication Test Results Not Available).
iPod® Button	Displays the iPod® Test Screen.
Back Button	Displays the previous Screen.
Main Menu Button	Goes back to the System Options – Main Menu

NOTE: This test checks the communications between the MIB and Motor Controller boards (i.e. System Communication). The Lift System and External Serial EE System are part of the Motor Controller board. To repeat test, press Back button and then System Communication Test button.

Engage / Inspire Console Diagnostic: Motor Modules (TR Only)

User Interface



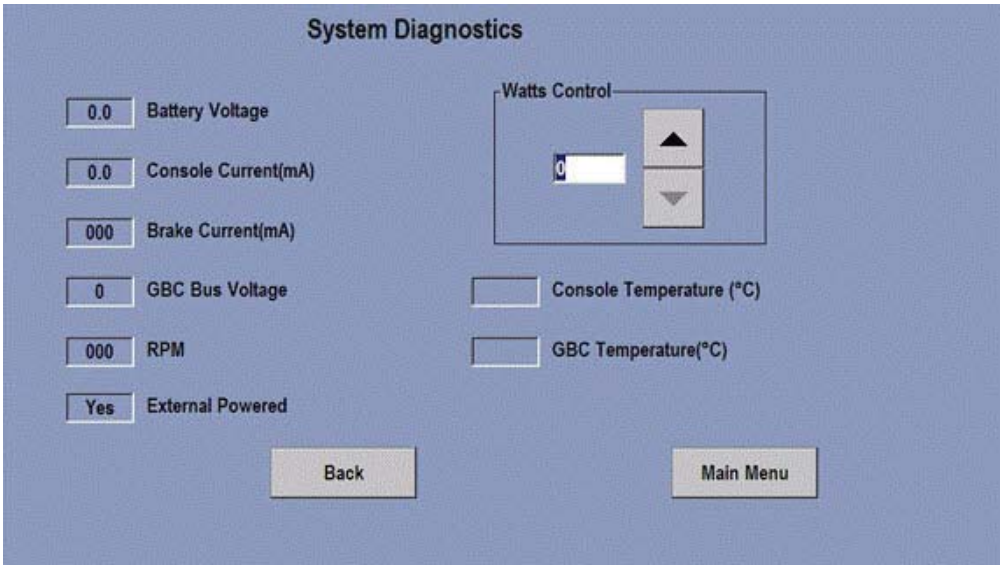
Object Table

LABEL	DESCRIPTION
Module Errors	**Lift:** Displays module error for incline
	Motor: Displays module error for motor controller **Note:** If there are no errors, the message center reports “No Motor Module Errors” ,etc. Only errors occurring in real time are shown here. To see any past errors go to the “System Errors” section.
Mode	**Auto:** Automatically switch the incline (Incline will move and automatically stop at the commanded value as selected using the incline Up/Down keys)
	Manual: Manually adjust the incline up/down (incline moves when either the Incline Up or Down arrow keys are held and stops moving when these keys are released. Note that the incline movements will not stop even if the incline Home Switch (or incline negative switch, if equipped) is encountered.
Console Temperature	Displays the current console temperature.
Actual	**Actual incline:** Displays the current and actual incline percentage.
	Actual RPM and MPH: Displays the current and actual RPM if the RPM radio button is selected or MPH if the MPH radio button is selected.
Current Trip	If lift, then a dynamic or temporary current trip has been detected by the motor controller typically due to an excessive load
Info	**Watts:** Displays the current wattage.
	Power: Displays the current power consumption.
	Temperature: Displays the current temperature of the motor controller board and surrounding area’s.
	Bus Voltage: Displays the current Bus voltage.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu

NOTE: The information below the message center is for engineering use and is related to specific communication modules (i.e. “IC” = incline controller, MC = motor controller, etc.)

Engage / Inspire Console Diagnostic: System Diagnostics Check (Non – TR only)

User Interface

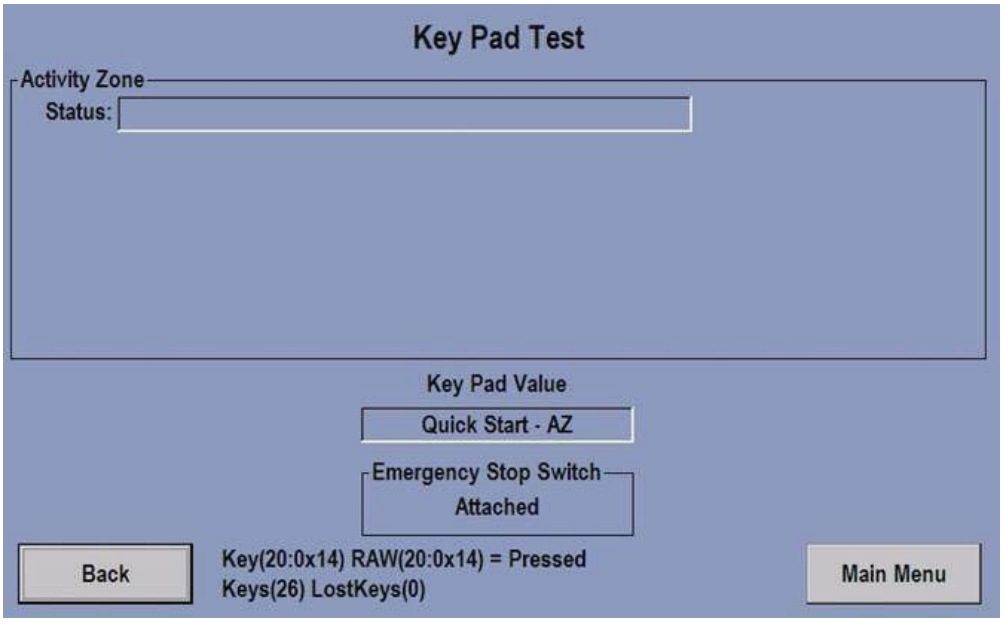


Object Table

LABEL	DESCRIPTION
Readouts	**Battery Voltage:** Displays the current battery voltage
	Console Current (mA): Displays the current of the console in milli-amps.
	Brake Current (mA): Displays the break current in milli-amps.
	GBC Bus Voltage: Displays the current voltage of the GBC.
	RPM: Displays the current RPM.
	External Powered: Yes or No
	Console Temperature: Displays the current console temperature in Celcius.
	GBC Temperature: Displays the current GBC temperature in Celcius.
Watts Control	Inputs the amount of Wattage to be tested.
Back	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Key Pad Test

User Interface



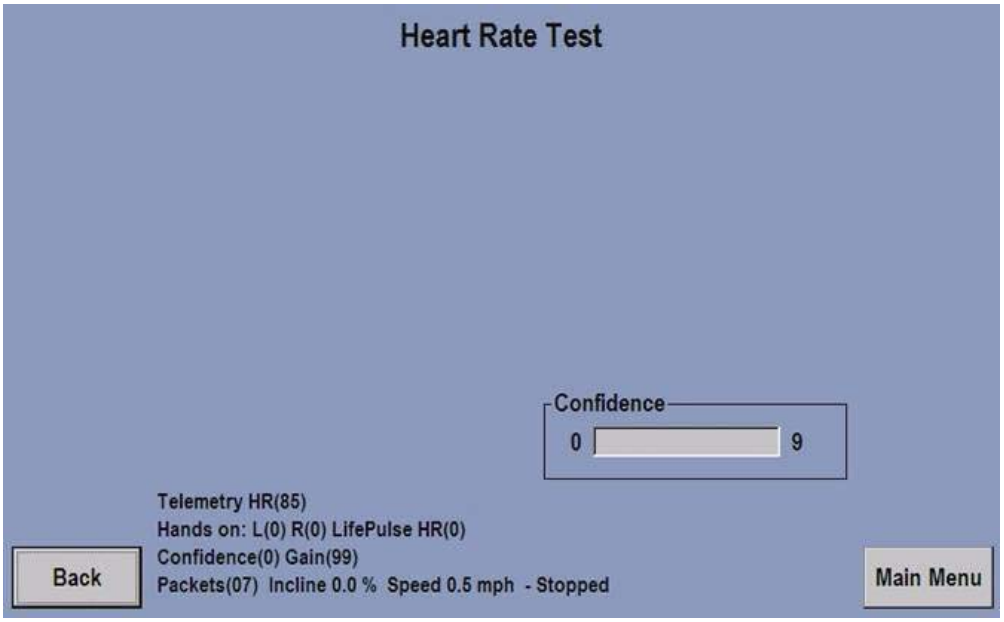
Object Table

LABEL	DESCRIPTION
Readouts	**Activity Zone Status:** Displays the Activity Zone keypad status (Detected or Unplugged). When keys are press on this keypad they will shown up in the Key Pad Value area.
	Key Pad Value: Displays the name of the keypad button that is being pressed.
	Emergency Stop Switch: Displays the status of the ESS (i.e. Attached or Not Attached).
Back	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: The additional information at the bottom of the screen is for engineering use and represents communication data between the MIB and SBC concerning hard key press events.

Engage / Inspire Console Diagnostic: Heart Rate Test

User Interface



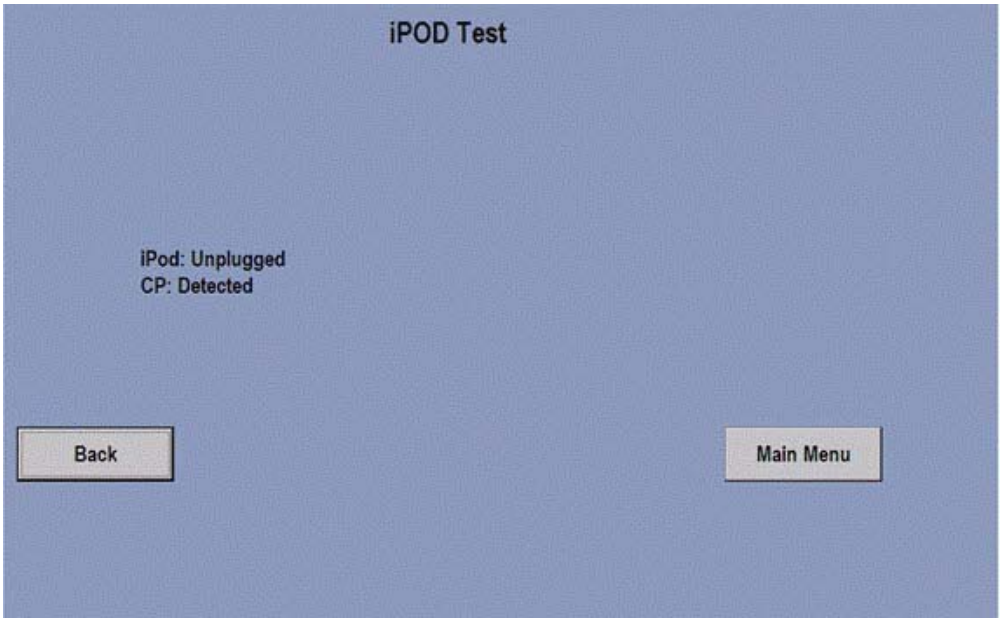
Object Table

LABEL	DESCRIPTION
Confidence	**0-9:** Displays the confidence level from 0 – 9 for the heart rate reading on the LifePulse® sensors
Readouts	**Telemetry HR:** Shows the telemetry strap heart rate reading If Telemetry(OFF) is shown then telemetry has been disabled in Manager's Configuration.
	Hands on: Shows detection of hands on/off on the left and right Life Pulse sensors. L(0)/R(0) = no hands on detected, L(1)/R(1) = hands on detected.
	LifePulse® HR: Shows the LifePulse® heart rate reading. If LifePulse®(OFF) is shown then Life Pulse has been disabled in Manufacturer's Configuration.
	Confidence: Shows the confidence level of the heart rate detection signal.
	Gain: Shows the amplification level of the Life Pulse heart rate signal. A strong signal results in less required gain. Weaker signals results in a higher gain.
	Packets: Shows the data packet that is being transmitted.
	Incline: Shows the current incline (TR only).
	Speed: Show the current speed.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: You can use the Activity Zone Incline/Speed Up/Down arrow keys to control the belt and incline motors in this test mode.

Engage / Inspire Console Diagnostic: iPod® Test

User Interface

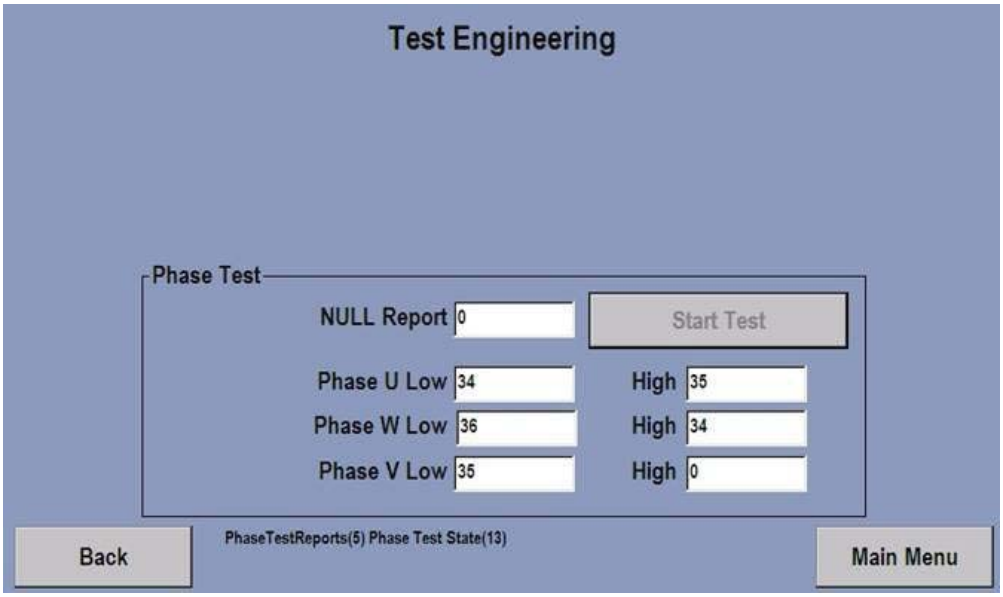


Object Table

LABEL	DESCRIPTION
Readouts	iPod®: Displays the status of the iPod® (i.e. Unplugged or detected).
	CP: Displays the status of the co-processor/authentication chip (i.e. detected or not detected).
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Test Engineering

User Interface

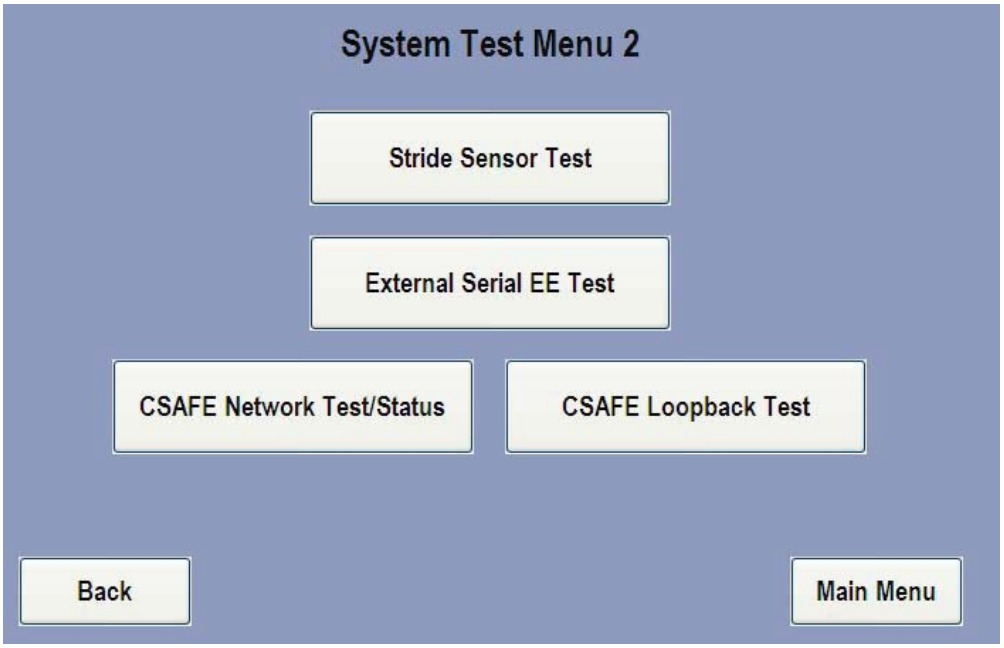


Object Table

LABEL	DESCRIPTION
Phase Test Readouts	**NULL Report:** Checks the balance of the phases. This value should be <=3 (0.3a).
	Phase U/W/V Low/High: Checks the individual phases and transistors. These values should be in the 30's (~3a-4a). If one phase pair (Low/High) shows very low, the cable/connector or motor needs to be checked. If individual phase(s) are substantially different, the DSP board needs to be checked.
Start Test Button	Runs the test engineering phase test.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: System Test Menu 2

User Interface

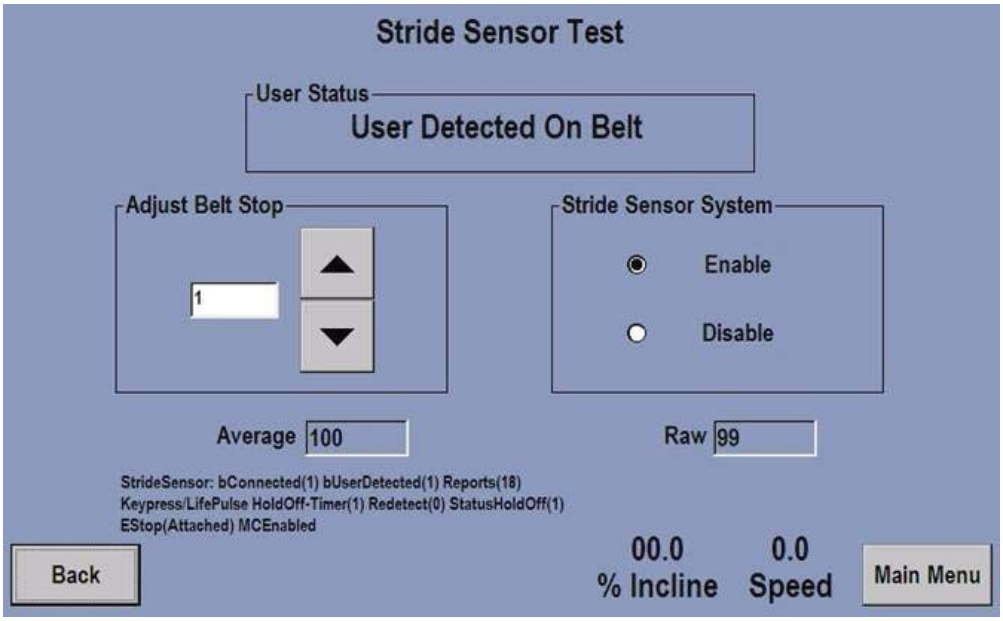


Object Table

LABEL	DESCRIPTION
Stride Sensor Test Button (TR only)	Displays Stride Sensor Test Screen and executes the stride sensor test (TR only).
External Serial EE Test Button	Displays the External Serial EE Test Screen.
CASFE Network Test / Status Button	Displays CSAFE Network Test / Status Screen and executes the CSAFE Network Test.
CSAFE Loopback Test Button	Displays the CSAFE Loopback Test Screen.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Stride Sensor Test (TR only)

User Interface



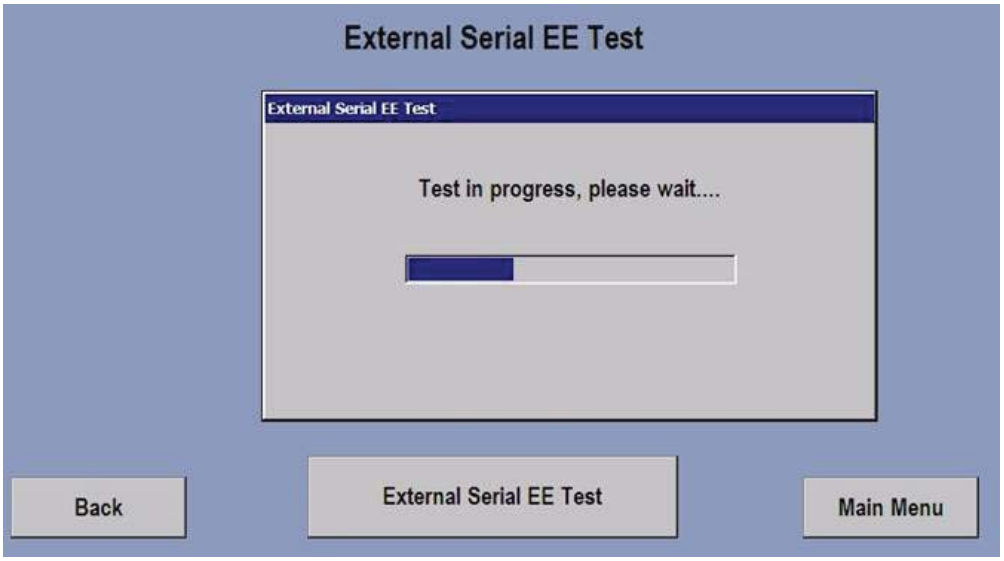
Object Table

LABEL	SPECIFICATION
User Status	Shows the detection status of a user on the belt (User Detected On Belt or User Not Detected On Belt). Additional status info: “Stride Sensor Disabled” (see Stride Sensor System below) or “Stride Sensor Unplugged”. If sensor is detected as unplugged the software will periodically try and re-detect sensor while in this test mode. While re-detecting a “Getting Status…” message will be shown.
Adjust Belt Stop	Trigger point adjustment. Zero = use internal default trigger point (value = 62). When the Average value decays to the trigger point the status will change to “User Not Detected On Belt”. Higher Adjust values results in a quicker acting system. A lower value results in taking more time to detect a user has left the belt. Adjusting values that are too low can result in system never detecting that a user has left the belt. Change this adjustment only when recommended to do so.
Stride Sensor System	Allows the Stride Sensor System to be enabled or disabled. When disabled User Status = “Stride Sensor Disabled”
Average	Running average of raw reading (filtered value). When this slower, changing value decays to the trigger point (see Adjust Belt Stop) the User Status changes to “User Not Detected On Belt”
Raw	This is the raw reading from the stride sensor. Reading represents real time actuations of the stride sensor. This is a fast changing value (as opposed to the Average value above). When sensor deflects raw reading jumps to max or close to max. Max = 100.
Readouts	The information in this section is for engineering purposes and represents data being received from the motor controller as well as internal hold off and grace period timers.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu

NOTE: You can use the Activity Zone Incline/Speed Up/Down arrow keys to control the belt and incline motors in this test mode.

Engage / Inspire Console Diagnostic: External Serial EE Test

User Interface

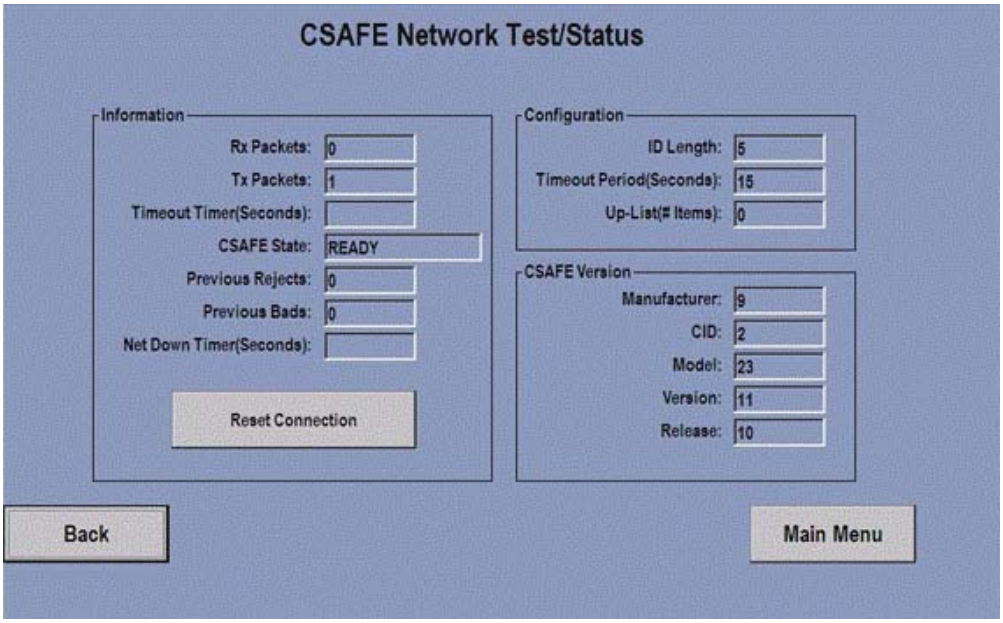


Object Table

LABEL	SPECIFICATION
External Serial EE Test Button	Executes and displays the test in progress pop-up window.
	Test result will be displayed in a pop-up with a status of Pass or Failed. This test will verify the proper operation of the serial EE storage chip located on the motor controller which is used to store the Main Motor Info and basic configuration information (product type, etc.).
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: CSAFE Network Test or Status

User Interface



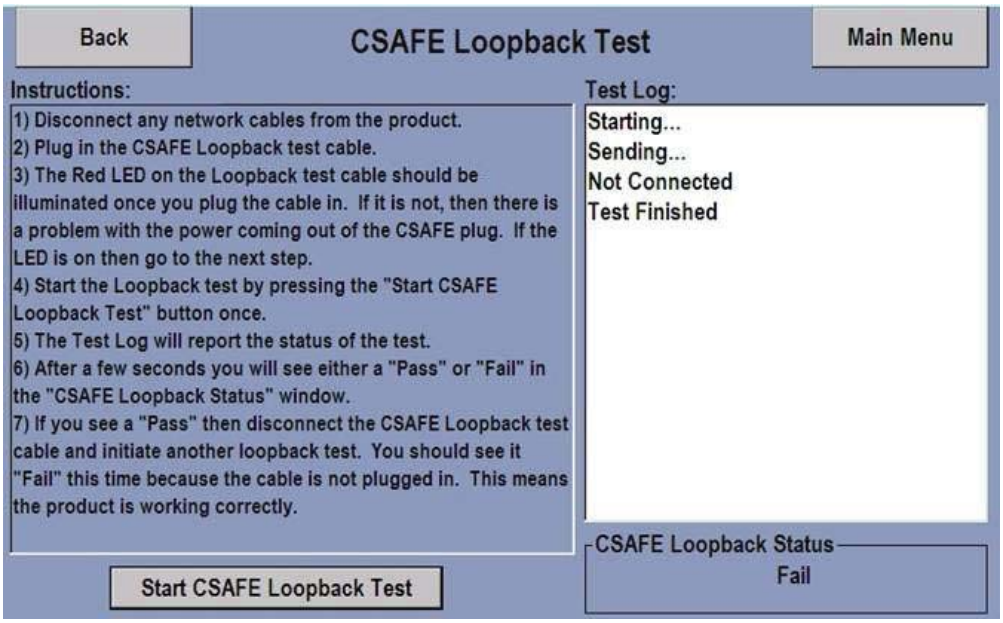
Object Table

LABEL	SPECIFICATION
Information Readouts	**Rx Packets:** Displays the number of data packets received.
	Tx Packets: Displays the number of data packets transmitted.
	Timeout Timer: Displays the timeout in seconds.
	CSAFE State: Displays the current state of the CSAFE network.
	Previous Bads: Displays the number of bad requests
	Net Down Timer: Displays the down time of the network in seconds.
Configuration Readouts	**ID Length:** Displays the ID length number.
	Timeout Period: Displays the timeout in seconds.
	Up-List: Displays the number of up-list items.
CSAFE Version Readouts	**Manufacturer:** Displays the manufacturer's ID number.
	CID: Displays the connection ID number.
	Model: Displays the model number.
	Version: Displays the version number.
	Release: Displays the release number
Reset Connection Button	Resets the connection to the CSAFE network.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: This test shows many CSAFE communication specification parameters and is intended to provide more detailed information for engineering and third party companies that make compatible CSAFE devices. Use the "CSAFE Loopback Test" to test the console's CSAFE port.

Engage / Inspire Console Diagnostic: CSAFE Loopback Test

User Interface



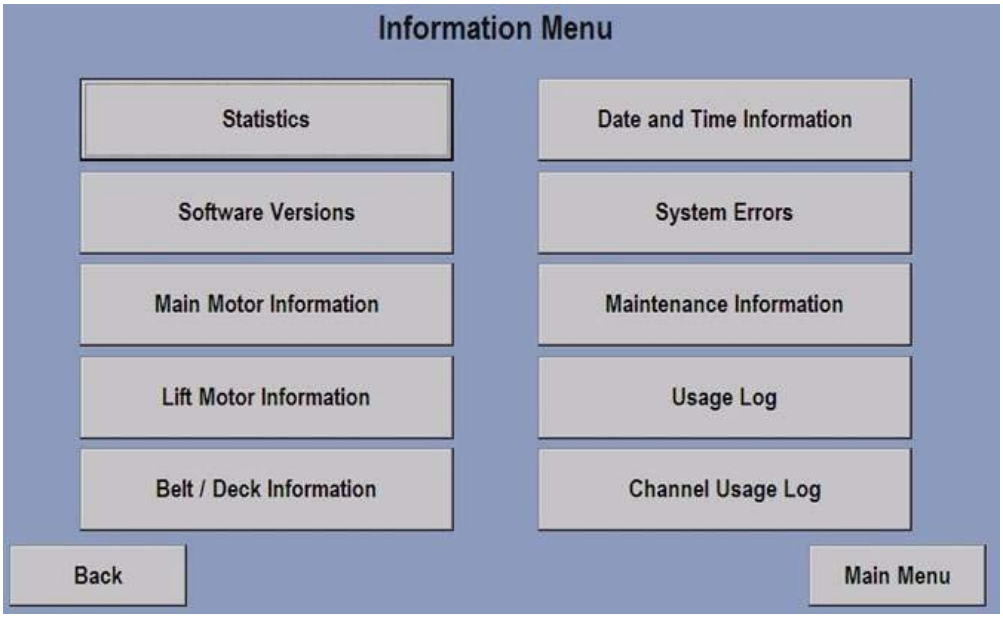
Object Table

LABEL	SPECIFICATION
Instructions	Displays the seven steps instructions to perform the CSAFE Loopback Test.
Test Log	Displays and logs the status of all the testing steps and results.
CSAFE Loopback Status	Displays the status of the loopback test (i.e. Pass or Fail).
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: This test is used to verify the console's CSAFE port and to provide instructions on how to use and diagnose port problems.

Engage / Inspire Console Diagnostic: Information Menu

User Interface

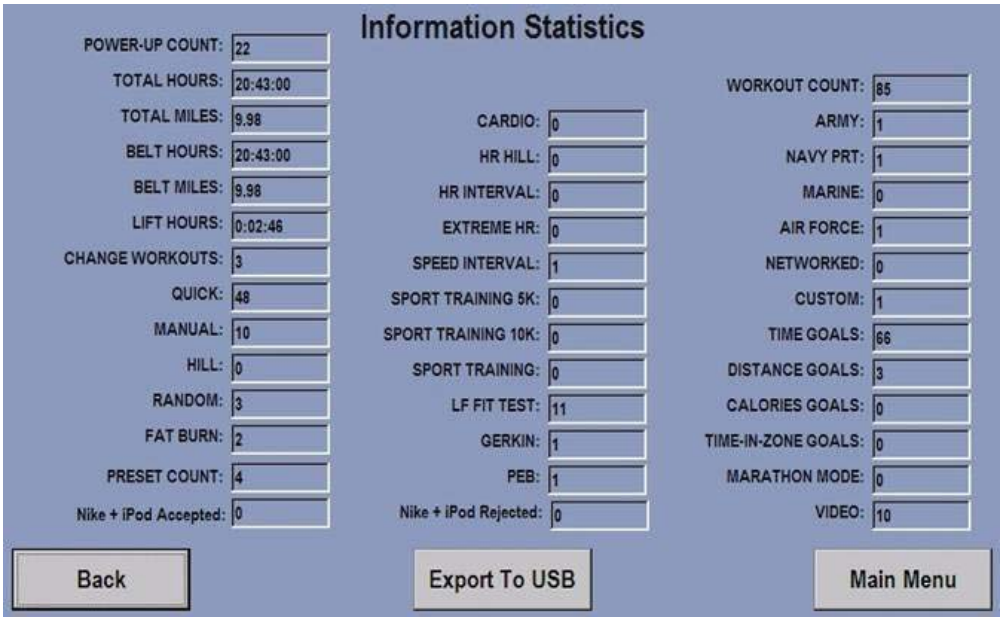


Object Table

LABEL	DESCRIPTION
Statistics Button	Displays the Information Statistics Screen.
Software Versions Button	Displays the Software Versions Screen.
Main Motor Information Button	Displays the Main Motor Information Screen.
Lift Motor Information Button	Displays the Lift Motor Information Screen.
Belt / Deck Information Button	Displays the Belt / Deck Information Screen.
Date and Time Information Button	Displays the System Date and Time Information Screen.
System Errors Button	Displays the System Errors Screen.
Maintenance Information Button	Displays the Maintenance Information Screen.
Usage Log Button	Displays the Usage Log Report Screen.
Channel Usage Log Button	Displays the TV Channel Usage Log Screen.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Information Statistics

User Interface



Object Table

LABEL	DESCRIPTION
Information Readouts	**POWER-UP COUNT:** Shows many times the system has been powered-up.
	TOTAL HOURS: Shows the total hours of machine usage.
	TOTAL MILES: Shows the total miles accumulated for the machine.
	BELT HOURS: Shows the total number of hours accumulated for the belt usage.
	BELT MILES: Shows the total number of miles accumulated for the belt usage.
	LIFT HOURS: Shows the total number of hours of up incline operations.
	CHANGE WORKOUTS: Show the total number of times this feature was invoked.
	QUICK: Shows the total number of times this program (Quick Start) was invoked.
	MANUAL: Shows the total number of times this program was invoked.
	HILL: Shows the total number of time this program was invoked.
	RANDOM: Shows the total number of times this program was invoked.
	FAT BURN: Shows the total number of times this program was invoked.
	PRESET COUNT: Shows the total number of times this program was invoked.
	Nike + iPod® Accepted: Shows the total number of times this feature was accepted.
	CARDIO: Shows the total number of times this program was invoked.
	HR HILL: Shows the total number of times this program was invoked.
	HR INTERVAL: Shows the total number of times this program was invoked.
	EXTREME HR: Shows the total number of times this program was invoked.
	SPEED INTERVAL: Shows the total number of times this program was invoked.

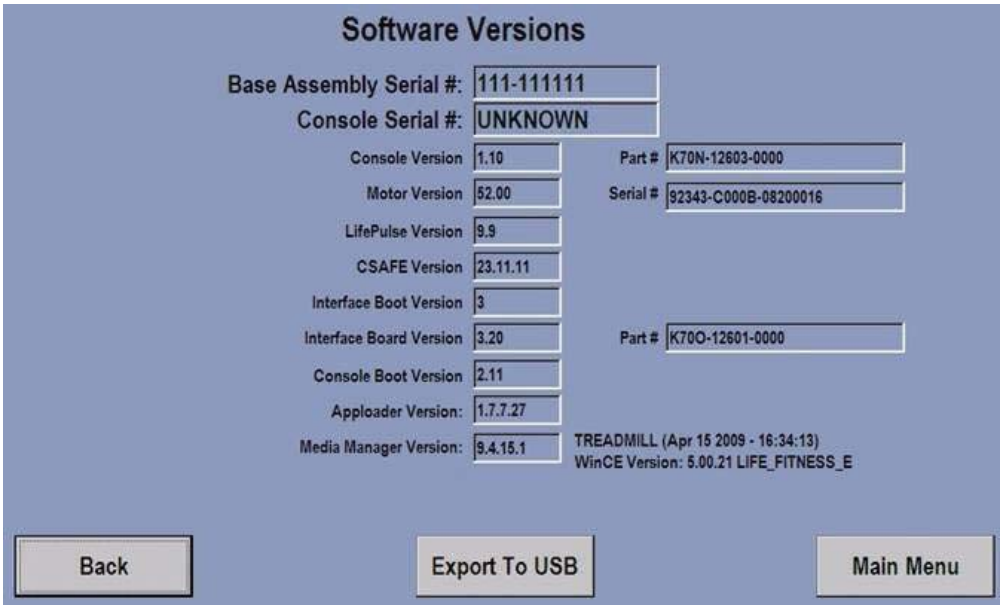
Information Statistics

Object Table

LABEL	DESCRIPTION
Information Readouts	**SPORT TRAINING 5K:** Shows the total number of times this program was invoked.
	SPORT TRAINING 10K: Shows the total number of times this program was invoked.
	SPORT TRAINING: Shows the total number of times this program was invoked.
	LF FIT TEST: Shows the total number of times this program was invoked.
	GERKIN: Shows the total number of times this program was invoked.
	Nike + iPod® Rejected: Shows the total number of times this feature was rejected.
	WORKOUT COUNT: Shows the total number of times this program was invoked.
	ARMY: Shows the total number of times this program was invoked.
	NAVY PRT: Shows the total number of times this program was invoked.
	MARINE: Shows the total number of times this program was invoked.
	AIR FORCE: Shows the total number of times this program was invoked.
	NETWORKED: Shows the total number of times a network workout program was invoked.
	CUSTOM: Shows the total number of times this program was invoked.
	TIME GOALS: Shows the total number of times this feature was invoked.
	DISTANCE GOALS: Shows the total number of times this feature was invoked.
	CALORIES GOALS: Shows the total number of times this feature was invoked.
	TIME-IN-ZONE GOALS: Shows the total number of times this feature was invoked.
	MARATHON MODE: Shows the total number of times this feature was invoked.
	VIDEO: Shows the total number of times this feature was invoked.
Export to USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Software Versions

User Interface

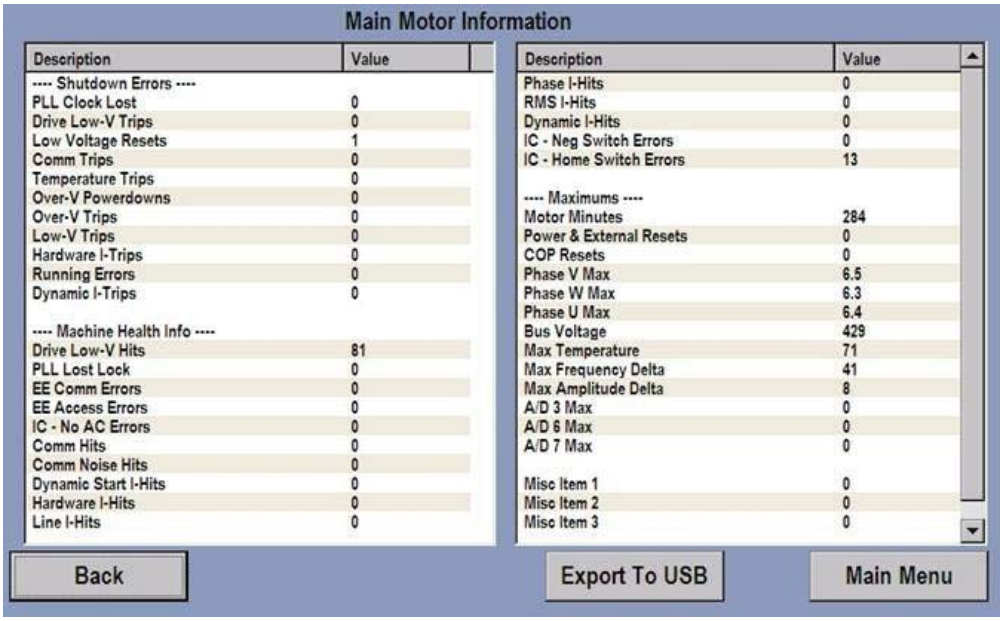


Object Table

LABEL	DESCRIPTION
Readouts	**Base Assembly Serial #:** Displays the base assembly serial number.
	Console Serial #: Displays the console serial number.
	Console Version / Part #: Displays the software version number and part number.
	Motor Version / Serial #: Displays the software version number and part number.
	LifePulse® Version: Displays the software version number.
	CSAFE Version: Displays the software version number.
	Interface Boot Version: Displays the software version number.
	Interface Board Version / Part #: Displays the software version number and part number.
	Console Boot Version: Displays the software version number.
	Apploader Version: Displays the software version number.
	Media Manager Version: Displays the software version number.
	Treadmill/Bike/CT: Date and time of the console software build
	WinCE Version: Displays the version number of the Windows CE operating system.
Export to USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

User Interface



Object Table

LABEL	DESCRIPTION
Readouts	Description and Value: Display shutdown errors, health, power, and voltage information.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Shutdown Errors

Shutdown Errors records events that caused the motor to stop and report an error to the console.

Machine Health Info records events that have not stopped the motor that the system recovered from, but may be an indication of a potential problem in the future.

Maximums show monitored signal extremes and may be useful in diagnosing problems.

When analyzing the Main Motor Information keep in mind that a Shutdown Error actually caused the belt to stop in a safe manner but nonetheless (and most likely) when a user was on it. Low value Machine Health Info counts in general are not a concern but combinations of them can help determine a machines' condition, i.e. any type of I-Hit combined with high maximum phase currents (>10a) can be an indication of a worn belt.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

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LABEL	DESCRIPTION
PLL Clock Lost	If the phase locked loop circuitry detects no clock, this error will occur. If the motor is running and this occurs the motor stops quickly, turning off the drive. The state of the phase lock is monitored every 75us. **CAUSE** Noisy system or defective DSP board. **ACTION** Check all grounds and cables first. If the number is >3 the DSP board should be checked.
Drive Low-V Trips	Not Used.
Low Voltage Resets	The processor has detected a voltage < 2.7v to the processor but it hasn't shut down. If the motor is running and this occurs the motor stops immediately, turning off the drive. **CAUSE** Power line surges or an intermittent line cord or wall outlet. **ACTION** Check the power source and line cord. Same action as "Low-V Trips" below.
Communication Trips	If the motor controller stops receiving transmissions from the console for more than 5 seconds, the motor will come to a stop at its normal rate. The incline will be held at its present position. **CAUSE** Vibration can cause the connection to become intermittent and disrupt communication between the console and M/C. **ACTION** Check the console cable and connectors. Make sure they are fully seated. Observe communication LED #3. It should be flashing at a very high rate (~5/sec). If you wiggle the cable around and the flashing is changed or even stopped, there is a strong indication that the cable is the problem.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

LABEL	DESCRIPTION
Temperature Trips	If the current limit reduction scheme fails to control the module temperature, 100c an over-temperature trip will occur at 100C. The motor will come to a stop at its normal rate. **CAUSE** • Airflow restriction into the motor compartment caused by blockage or lint buildup. The unit is located over a heating vent and hot air is being blown into it. • Direct sunlight on the unit can cause this effect although to a lesser degree. • A severely worn belt. **ACTION** Clean in and around the compartment and insure the above conditions are not occurring.
Over-V Powerdowns	If the bus voltage is over 460v and the motor is running, this mode will disengage the motor by gradually removing the drive voltage over a period of approximately a second, depending on its present excitation level. This is the final measure to prevent over-voltage on the bus capacitors. **CAUSE** Users actively pushing the belt at running speeds and maximum incline can overcome the friction of the belt/deck sufficiently to deliver power into the system. **ACTION** Observe if this is actually happening and if so recommend that the user uses a lower incline with possibly a higher speed.
Over-V Trips	If the bus voltage is over 460v this error will be detected. If the motor is running the system will go into Overvoltage Powerdown Mode (above). Otherwise the power relay will be opened immediately. **CAUSE** As described above (if the user pushes the belt) as well as any power line issue. **ACTION** If users are not pushing the belt the power line needs to be monitored for dramatically poor voltage regulation.
Low-V Trips	If the bus voltage is lower than the 190v limit when the relay is closed and ESS switch is on an, error condition will be tripped. The power relay will be opened and the motor will be disabled, forcing it to a controlled stop. **CAUSE** The bus voltage has dropped below its minimum operating value. **ACTION** An improperly seated power cord or badly installed outlet (loose screws holding the wires) will cause the voltage to momentarily sag triggering this error. Insure that the product is directly connected to a dedicated circuit. Using an extension cord can cause this error.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

LABEL	DESCRIPTION
Hardware I-Trips	The hardware overcurrent limit has been hit consistently for over 250ms, which caused a motor shutdown. **CAUSE** Persistent, excessive motor current over 24a will cause this trip. **ACTION** Check that the motor wiring is not being shorted. Check that the motor plug and all its wires are seated properly and that there is no contamination on the pins. Run the phase test to isolate a troubled phase(s).
Running Errors	If after four seconds the motor hasn't drawn over 1a motor current this error will be tripped. The motor will be disabled forcing it to a controlled removal of the motor voltage. **CAUSE** An unplugged motor cable or damaged motor. **ACTION** Make sure the motor is properly plugged in, then run the phase test.
Dynamic I-Trips	Excessive motor or line current has been detected. An appropriate motor rpm drop will be commanded to try to keep the current within its limit. In this case the motor slowed down to a point where it actually went into a pause state. **CAUSE** Excessive belt and deck wear or very high user weight at high speeds. **ACTION** Check the belt/deck and replace if worn.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

Machine Health Info

LABEL	DESCRIPTION
Drive Low-V Hits	This mechanism, which detects low power supply voltage to the power driver chip, had a hit. **CAUSE** Power cycling and occasionally noise induced. **ACTION** This event is recorded only; no action is taken by the DSP. If many are present (>25) the grounds and cables should be checked.
PLL Lost Lock	If the phase locked loop circuitry detects a mismatch in desired speed this hit will occur. It will only be recorded. The state of the phase lock is also monitored every 75us. **CAUSE** Because of noise and other disturbances the clock may vary slightly in speed. No noticeable affects will be felt by the user. **ACTION** No action is required if the number is relatively low (<25). If many, then grounds should be checked, followed by a check of the DSP.
EE Communication Errors	The processor is unable to communicate with the EEPROM. **CAUSE** A damaged DSP board or EEPROM chip. **ACTION** If occurrences are high (>10) replace the DSP board or run as it is. Console will not be able to save data if the DSP is faulty.
EE Access Errors	A write to the EEPROM was not acknowledged in 30ms or a write verify failed. **CAUSE** • Power removed while writing to EEPROM. • A damaged DSP board or EEPROM chip. **ACTION** If occurrences are high (>10) replace the DSP board or run as it is. Console will not be able to save data if the DSP is faulty.
IC - No AC Errors	The frequency detection circuitry did not detect 60hz or 50hz. The incline will still operate however using the default parameters for 60hz. **CAUSE** Power cycling or a damaged DSP board. **ACTION** If occurrences are high (>10) check the DSP board.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

LABEL	DESCRIPTION
Communication Hits	The receive module of the DSP detected an error in a data packet. This packet will be discarded but the system will continue to function. **CAUSE** A damaged or intermittent console cable can cause these. A few of these are normal because of occasional power sequencing differences or drive and incline motor noise. **ACTION** Check the console cable and wiring. Make sure all grounds are solid.
Communication Noise Hits	The receive module of the DSP detected noise on the communication line. If the noise did not cause a checksum error, everything continued normally. If it did then the packet was discarded but the system continued to function. **CAUSE** A less severe case than above but with the same causes. **ACTION** Check the console cable and wiring. Make sure all grounds are solid.
Dynamic Start I-Hits	Excessive motor current has been detected while the motor is starting. An appropriate motor rpm drop will be commanded to try to keep the current within its limit. The DSP will continue monitoring the condition for four seconds. If the excessive current is not reduced to an acceptable level, the motor will stop. **CAUSE** A stalled belt condition, possibly being the result of a worn belt/deck. **ACTION** Check for an excessively worn belt/deck.
Hardware I-Hits	A hardware current limit occurred. No software action occurs other than recording the event a maximum of once every 250ms. The hardware limits the current on a cycle by cycle basis. **CAUSE** An excessive motor current over 24a will cause this hit. **ACTION** As in the above “Hardware I-Trips” condition, check that the motor wiring is not being shorted. Check that the motor plug and all its wires are seated properly and that there is no contamination on the pins. Run the phase test to isolate a troubled phase(s).
Line I-Hits	The line current exceeded the allowable limit. An appropriate motor rpm drop will be commanded to try to keep the current within its limit. **CAUSE** Excessive motor current draw caused by a bad belt/deck or a high user weight combined with a high speed. **ACTION** Check for an excessively worn belt/deck.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

LABEL	DESCRIPTION
Phase I-Hits	The largest individual peak phase current has exceeded 17a; this is relatively quick limit. An appropriate motor rpm drop will be commanded to try to keep the current within its limit. **CAUSE** Users intentionally stomping on the belt can cause these and are considered normal. Excessive motor current draw caused by a bad belt/deck or a high user weight combined with a high speed. **ACTION** Check for an excessively worn belt/deck.
RMS I-Hits	The effective maximum rms current of the motor has exceeded 21.3a. An appropriate motor rpm drop will be commanded to try to keep the current within its limit. **CAUSE** Excessive motor current draw caused by a bad belt/deck or a high user weight combined with a high speed. **ACTION** Check for an excessively worn belt/deck.
Dynamic I-Hits	One of the above occurred: Line I-Hits Phase I-Hits RMS I-Hits
IC – Neg Switch Errors	The negative switch logic reported an error. Because of noise and thermal trips, a few occurrences are acceptable. **CAUSE** An invalid combination of incline switch states occurred, or a timeout occurred going to or away from the negative switch. **ACTION** If a substantial amount (>9) of these are recorded, the negative switch and associated wiring should be checked.
IC – Home Switch Errors	The Home Switch logic reported an error. Because of noise and thermal trips, a few occurrences are acceptable. **CAUSE** An invalid combination of incline switch states occurred or a timeout occurred going to or away from the Home Switch. **ACTION** If a substantial amount (>9) of these are recorded, the Home Switch and associated wiring should be checked.

Engage / Inspire Console Diagnostic: Main Motor Information (TR Only)

Maximums

LABEL	DESCRIPTION
Motor Minutes	Motor running time in minutes.
Power & External Resets	How many times the DSP has gone though a reset operation.
COP Resets	The internal “computer operating properly” watchdog timer detected an abnormal condition and caused the system to reset. This can only occur when reprogramming a board or testing at the factory. Only a few (<5) should ever be seen.
Phase V Max	The highest magnitude peak current measured in phase V.
Phase W Max	The highest magnitude peak current measured in phase W.
Phase U Max	The highest magnitude peak current measured in phase U. NOTE: The above three should always be approximately the same within approximately 1a. If not the motor phase wiring and connectors should be checked.
Bus Voltage	The highest voltage measured on the bus. Anything over 400v is a possible indication of users driving the belt at higher incline and higher speed.
Max Frequency Delta Max Amplitude Delta A/D 3 Max A/D 6 Max A/D 7 Max Misc Item 1 Misc Item 2 Misc Item 3	These are diagnostics for the manufacturer only.

Engage / Inspire Console Diagnostic: Lift Motor Information (TR Only)

User Interface

Object Table

LABEL	DESCRIPTION
Readouts	**Incline Range and Lift Time:** Display the incline ranges and lift time from -3.0% to 15.0%. If a product only supports positive incline the range will show up as 0.0% to 15.0%. The maximum allowable incline can be set below 15.0% using the “Max % Incline” configuration setting in the Manager’s Configuration 2 screen. Lift Time shows the total lift time (Lift Motor on time) reported by the motor controller. The lift ranges (i.e. 0.0% Time) shows the amount of time a user worked out in the given incline range.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Belt / Deck Information (TR Only)

User Interface

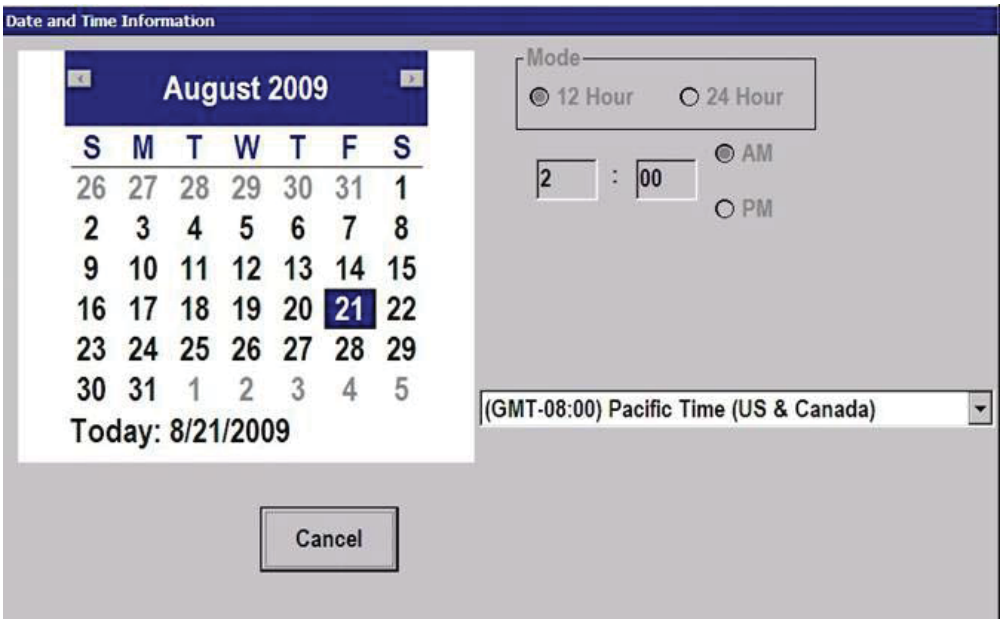
Object Table

LABEL	DESCRIPTION
Statistics Readouts	**Total Treadmill Hours:** Display the total operating hours.
	Total Treadmill Miles: Display the total operating miles.
	Belt Hours: Display the total belt operating hours.
	Belt Miles: Display the total belt operating miles.
Event History	Displays all events history information for belt and deck.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: This test will report any belt wear notifications via the pop up message “Please Check Belt/Deck for Signs of Excessive Wear”. This message is cleared once it has been shown. The Event History will report any events that can led to a notification. The event can be either a slowdown (where user would see the “Unable to Attain Target Speed”) or a distance (mileage) based event (where a notification is issued due to high Belt Miles). When a belt/deck is replaced a “Replacing Belt and Deck” procedure must be submitted in the Maintenance screen for the belt wear notification feature to continue to work properly.

Engage / Inspire Console Diagnostic: Date and Time Information

User Interface

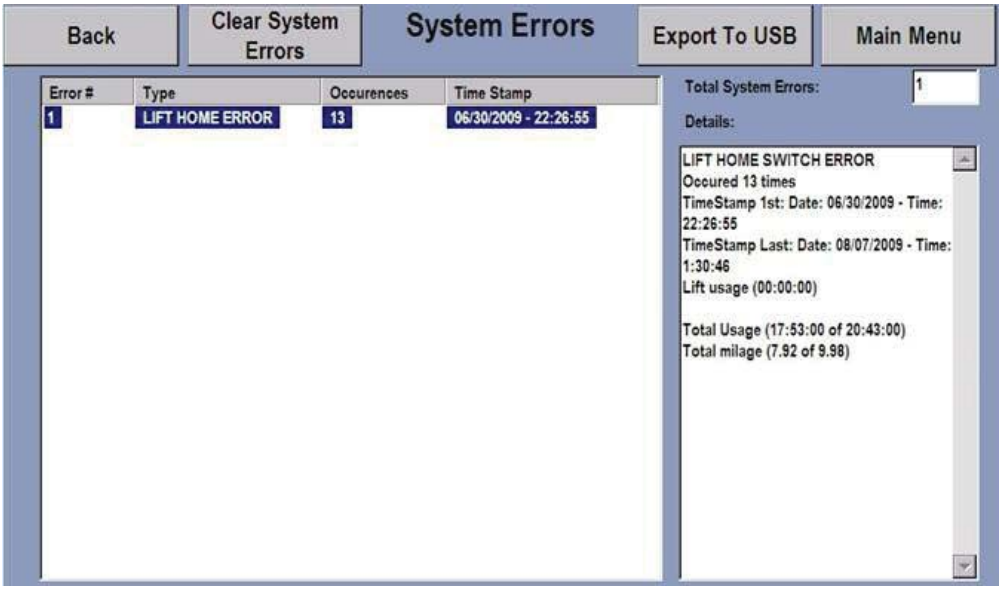


Object Table

LABEL	DESCRIPTION
Date and Time Information	**Calendar:** Shows the current system date and time
	Mode: Indicates the current time format in 12 Hour or 24 Hour mode.
	AM/PM: Indicates the current time in AM/PM.
	Time Zone: Shows the set time zone for the system and allows user to view all available time zone from the drop down.
Cancel Button	Closes the Date and Time Information pop-up and returns to the previous screen.

Engage / Inspire Console Diagnostic: System Errors

User Interface

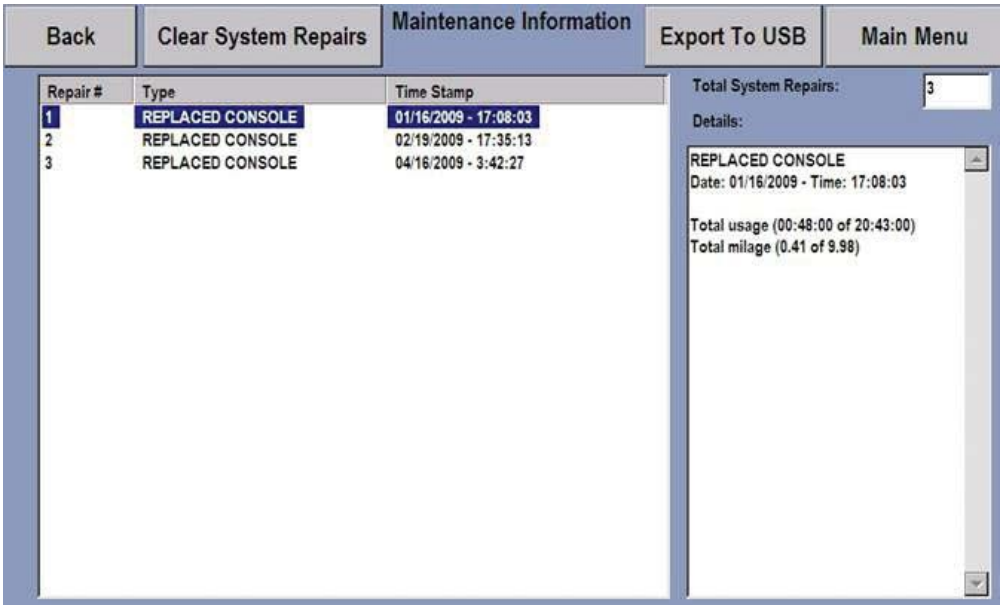


Object Table

LABEL	DESCRIPTION
Error Readouts	**Error #:** Displays the number of the error log (last/most recent error log is shown at the top of the list, first error log will be Error #1).
	Type: Displays the type of error (see Details section for an expanded description of the error type).
	Occurrences: Displays the number of occurrences.
	Time Stamp: Displays the date and time of the occurred errors (first and last error if there has been more than one occurrence of the error).
	Total System Errors: Displays the total errors registered by the system.
	Details: Display the error details. Note that many details are for engineering use. Use the scroll bar to the right of this area to scroll down to see additional details, if applicable
Clear System Errors Button	Displays a pass code entry pop-up and allows the user to enter a correct pass code entry. This will allow the system to wipe out all registered system errors.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Maintenance Information

User Interface

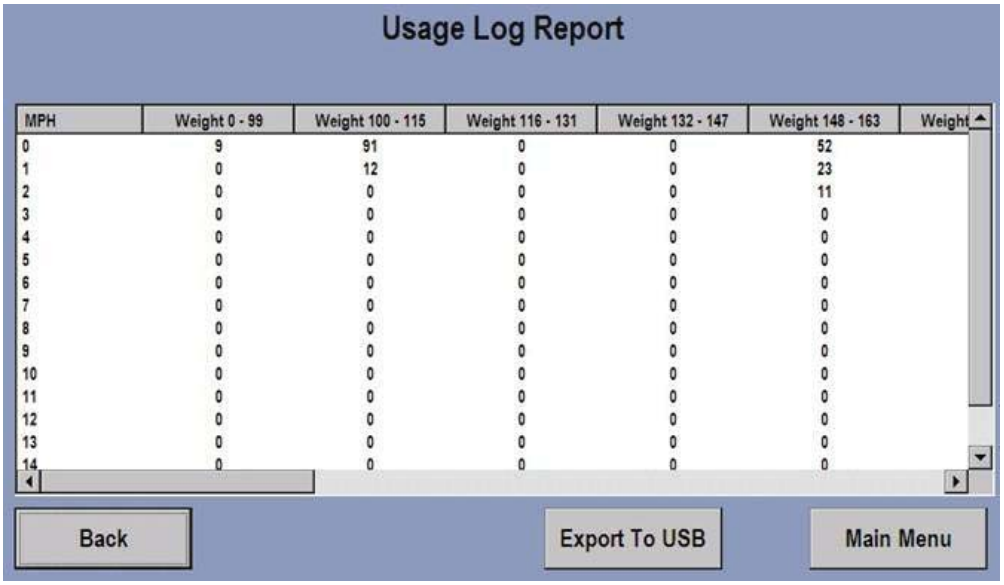


Object Table

LABEL	DESCRIPTION
Maintenance Information Readouts	**Repair #:** Displays the number of repairs.
	Type: Displays the type of repairs.
	Time Stamp: Displays the date and time of the occurred repairs.
	Total System Repairs: Displays the total repairs registered by the system.
	Details: Display the repair details.
Clear System Repairs Button	Displays a pass code entry pop-up and allows the user to enter a correct pass code entry which will allow the system to wipe out all registered system repairs.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Usage Log Report

User Interface



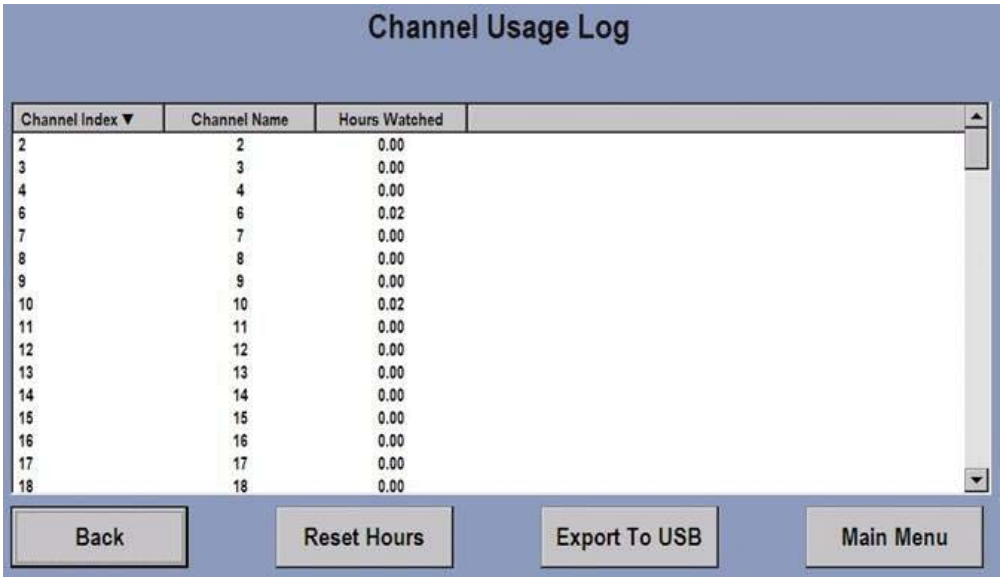
Object Table

LABEL	DESCRIPTION
Usage Log Readouts	**MPH:** Displays and report records of speed usage in mile per hour from 0 – 15 MPH.
	Weight 0 – 400: Displays and report records of weight usage ranges from 0 – 400 pounds.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: This log reports the number of minutes a workout has been used at a given speed range (i.e. 2 mph = workout speeds between 1.1 mph to 2.0 mph, 3 mph = 2.1 to 3.0 mph, etc.) at a given user weight.

Engage / Inspire Console Diagnostic: Channel Usage Log

User Interface

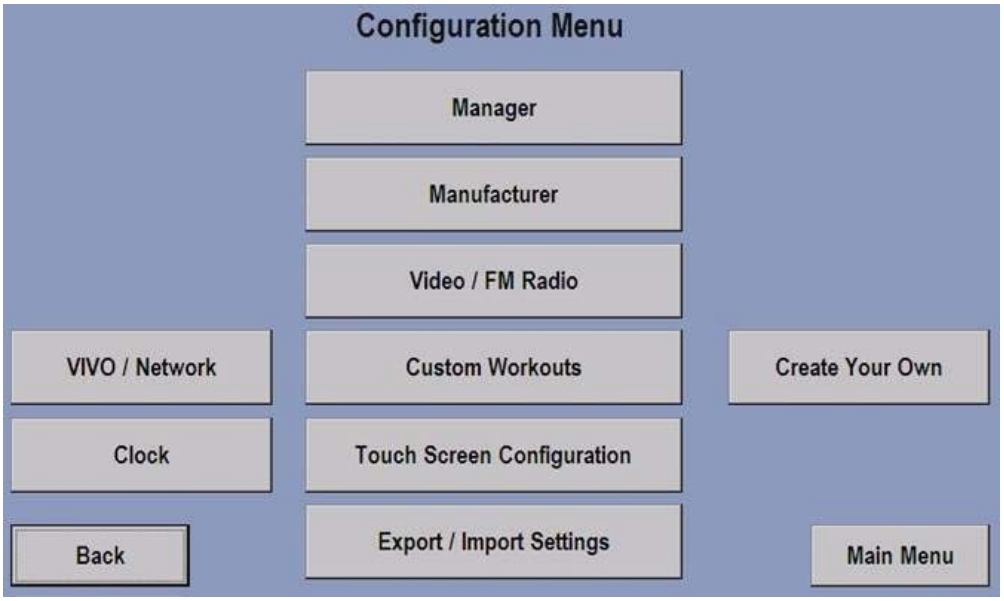


Object Table

LABEL	DESCRIPTION
Channel Usage Log Readouts	**Channel Index:** Displays and report records of all available channels.
	Channel Name: Displays and report the name/number of all available channels.
	Hours Watched: Displays and report the number of hours watched per channel for all available channels.
Reset Hours Button	Resets all the hours watched to zero.
Export To USB Button	Export all the information on the screen to a USB stick in a .CSV (comma separated value) file.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Configuration Menu

User Interface

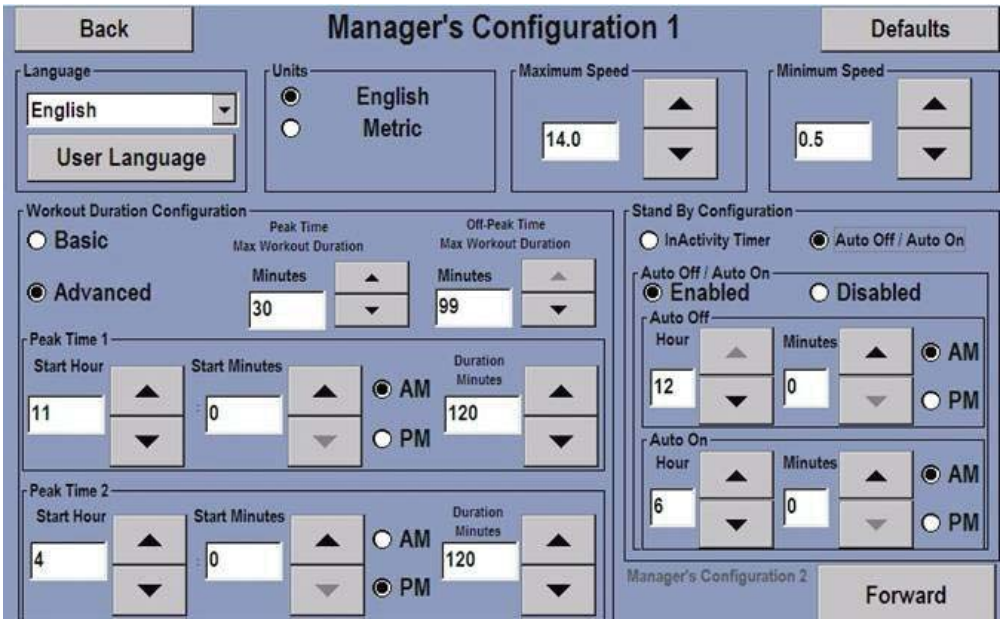


Object Table

LABEL	DESCRIPTION
Manager Button	Displays the Manager Configuration 1 Screen.
Manufacturer Button	Displays the Pass Code Entry screen. If a valid pass code is entered the system will display the Manufacturer's Configuration screen.
Video / FM Radio Button	Displays the Video / FM Radio Configuration Menu Screen.
Custom Workouts Buttons	Displays the Custom Workouts Setup Screen.
Touch Screen Configuration Button	Executes and displays the Touch Screen Calibration program.
Export / Import Settings Button	Displays the Export / Import Settings Screen.
VIVO / Network Button	Displays the Network Configuration Screen.
Clock Button	Displays the Date and Time Information Screen.
Create Your Own	Displays the Create Your Own Screen.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Manager Configuration 1

User Interface

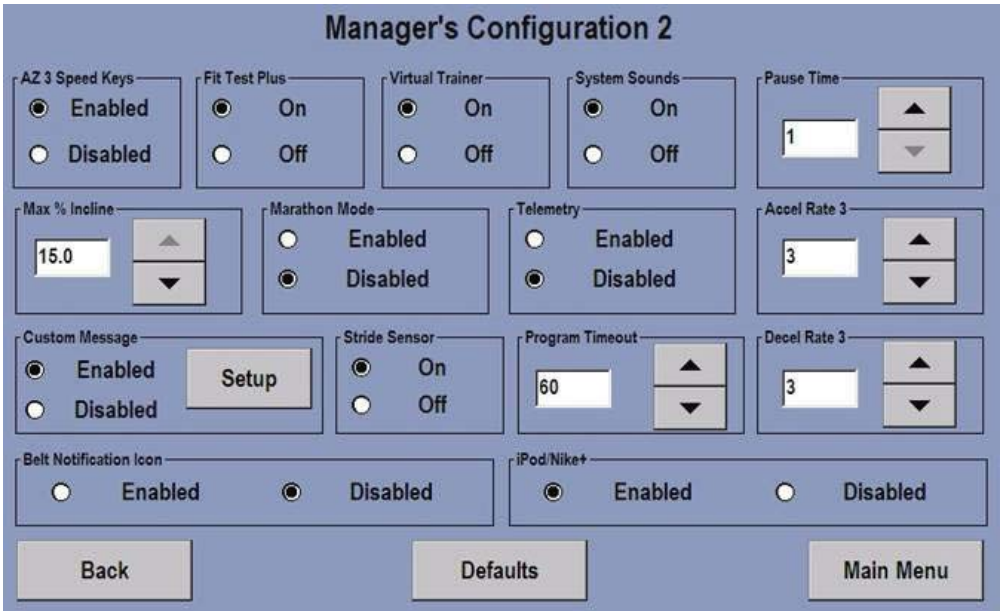


Object Table

LABEL	DESCRIPTION
Language	Allows the manager to select, specify, re-order, enable/disable and set the language flag for the user.
Units	Allows the manager to set the unit of measurement for the system. Note that if the units are changed the Maximum and Minimum Speed settings are reset to defaults.
Maximum Speed (TR only)	Allows the manager to set the maximum speed for the system.
Minimum Speed (TR only)	Allows the manager to set the minimum speed for the system.
Workout Duration Configuration	**Basic Mode:** Allows the manager to set the Max Workout Duration (1 – 99).
	Advanced Mode: • Peak Time Max Workout Duration: Allows the manager to specify the max workout duration in minutes during peak time. • Off-Peak Time Max Workout Duration: Allows the manager to specify the max workout duration in minutes during off-peak time. • Peak Time 1 & 2: Allow the manager to specify the starting hour/minutes in the AM/PM
Stand By Configuration	**Inactivity Timer:** Allows the manager to enable/disable and set the Inactivity Timer in hours and minutes.
	Auto Off / Auto On: Allows the manager to specify the AM/PM hour and minutes at which the unit should be automatically turn on/off.
Back Button	Goes back to the previous screen.
Defaults Button	Reset all settings to the manufacturer's defaults.
Forward Button	Displays Manager's Configuration 2 Screen.

Engage / Inspire Console Diagnostic: Manager Configuration 2

User Interface

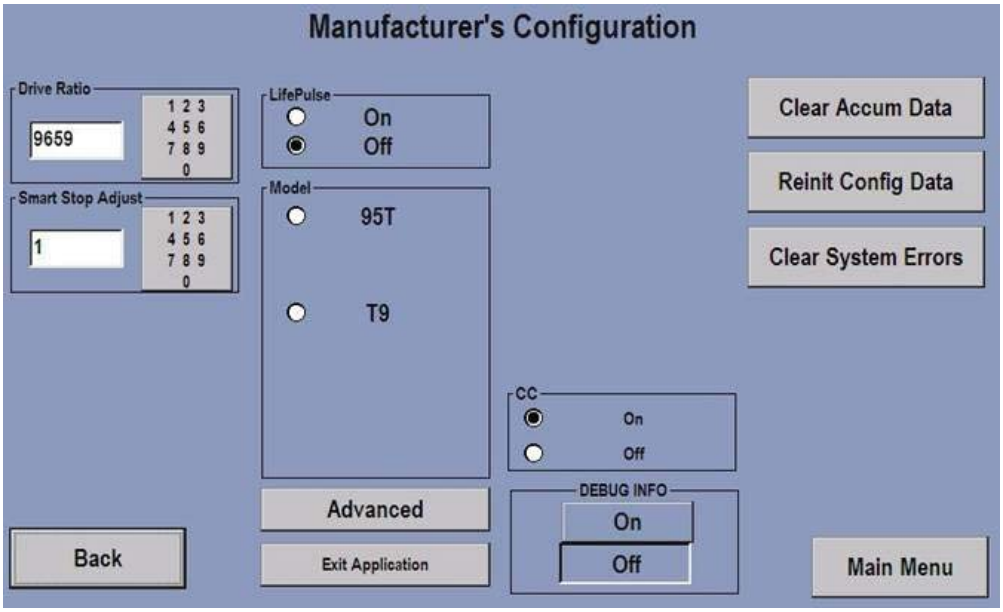


Object Table

LABEL	SPECIFICATION
Activity Zone 3 Speed Keys (TR only)	Allows the manager to enable and disable the Activity Zone speed keys (TR only).
Fit Test Plus	Allows the manager to turn on/off the Fit Test Plus programs. If On the Militray, Gerkin and PEB fit test workouts are shown and available to the user.
Virtual Trainer	Allows the manager to turn on/off the virtual trainer feature.
System Sounds	Allows the manager to turn on/off the system sounds.
Pause Time	Allows the manager to set the pause time of the workout program from 1 – 60 minutes.
Max % Incline	Allows the manager to specify the maximum incline percentage.
Marathon Mode	Allows the manager to enable or disable the Marathon Mode during a workout setup.
Telemetry	Allows the manager to enable or disable the telemetry reading.
Accel Rate 3	Allows the manager to specify the acceleration rate of the belt (TR only). Range = 1 to 5 where 1 = slower acceleration rate and 5 is faster acceleration rate.
Decel Rate 3	Allows the manager to specify the deceleration rate of the belt (TR only). Range = 1 to 5 where 1 = slower deceleration rate and 5 is faster deceleration rate.
Custom Message	Allows the manager to enable or disable the scrolling custom message on the Attract Screen. **Setup button:** Displays the custom message setup screen and allows the manager to add new or modify existing custom scrolling message.
Stride Sensor	Allows the manager to turn on/off the stride sensor (TR Only).
Program Timeout	Allows the manager to specify the time out of a workout program from 20 – 255 seconds.
Belt Notification Icon	Allows the manager to enable or disable the belt notification icon (TR only).
iPod® /Nike+	Allows the manager to enable or disable the iPod®/Nike+ feature.
Defaults Button	Reset all settings to the manufacturer's defaults.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Manufacturer's Configuration

User Interface

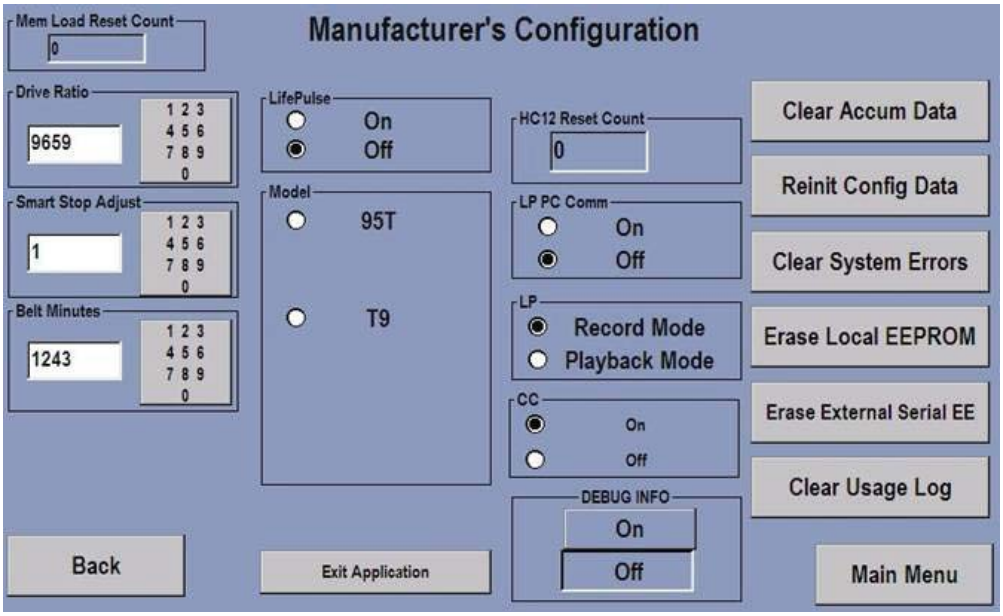


Object Table

LABEL	DESCRIPTION
Drive Ratio	Used to change or enter the drive ratio between 7000-9999.
Smart Stop Adjust (TR only)	Used to change or enter the smart stop (Stride Sensor trigger point) adjustment between 0 – 100 (TR only). Default = 0.
LifePulse®	Used to turn on/off the LifePulse® detection.
Model	Used to select the model number for the unit.
CC	Used to turn the CC (Closed Captioning) on/off.
DEBUG INFO	Used to turn on/off debugging information.
Advanced Button	Displays the pass code entry screen and if a correct pass code is entered, the system will display the Advance Manufacturer's Configuration Screen.
Exit Application Button	Shutdown the console application and return to the desktop.
Clear Accum Data Button	Used to clear the accumulated data in the system.
Reinit Config Data Button	Used to reinitialize the system configuration data and reset the console when the operation is completed.
Clear System Errors Button	Used to clear all system errors.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: These options are mainly for production use and shouldn't be used unless directed to do so.

User Interface



Object Table

LABEL	DESCRIPTION
Mem Load Reset Count	Displays the memory load reset count.
Drive Ratio	Used to change or enter the drive ratio between 7000-9999.
Smart Stop Adjust (TR only)	Used to change or enter the smart stop adjustment between 0 – 100 (TR only).
Belt Minutes	Used to read, change or enter the belt minutes (TR only).
LifePulse®	Used to turn on/off the LifePulse® detection.
Model	Used to select the model number for the unit.
CC	Used to turn the CC (Closed Captioning) on/off.
DEBUG INFO	Used to turn on/off debugging information.
HC12 Reset Count	Displays the HC12 reset count.
LP PC Communication	Turns the LP (Life Pulse) PC Communication on/off.
LP	Used to select the Life Pulse Record or Playback mode.
Advanced Button	Displays the pass code entry screen and if a correct pass code is entered, the system will display the Advance Manufacturer's Configuration Screen.

Object Table

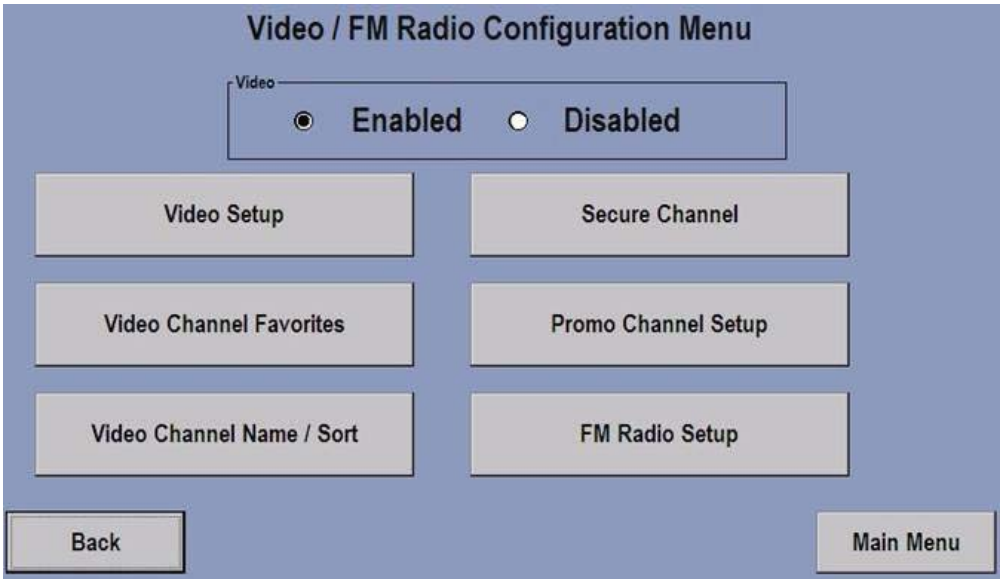
LABEL	DESCRIPTION
Exit Application Button	Shutdown the console application and return to the desktop.
Clear Accum Data Button	Used to clear the accumulated data in the system.
Reinit Config Data Button	Used to reinitialize the system configuration data and reset the console when the operation is completed.
Clear System Errors Button	Used to clear all system errors.
Erase Local EEPROM Button	Used to erase the Electrically Erasable Programmable Read-Only Memory (Application settings and logs stored in the console) and automatically reset the console after the operation is completed.
Erase External Serial EE Button	Used to erase the frame Electrically Erasable Programmable Read-Only Memory (Application settings and logs stored in the motor controller) and automatically reset the console after the operation is completed.
Clear Usage Log Button	Used to clear the usage log under Information Menu.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: These options are mainly for production use and shouldn't be used unless directed to do so.

Engage / Inspire Console Diagnostic: Video / FM Radio Configuration Menu

This will be changed to Media Center Configuration Menu

User Interface

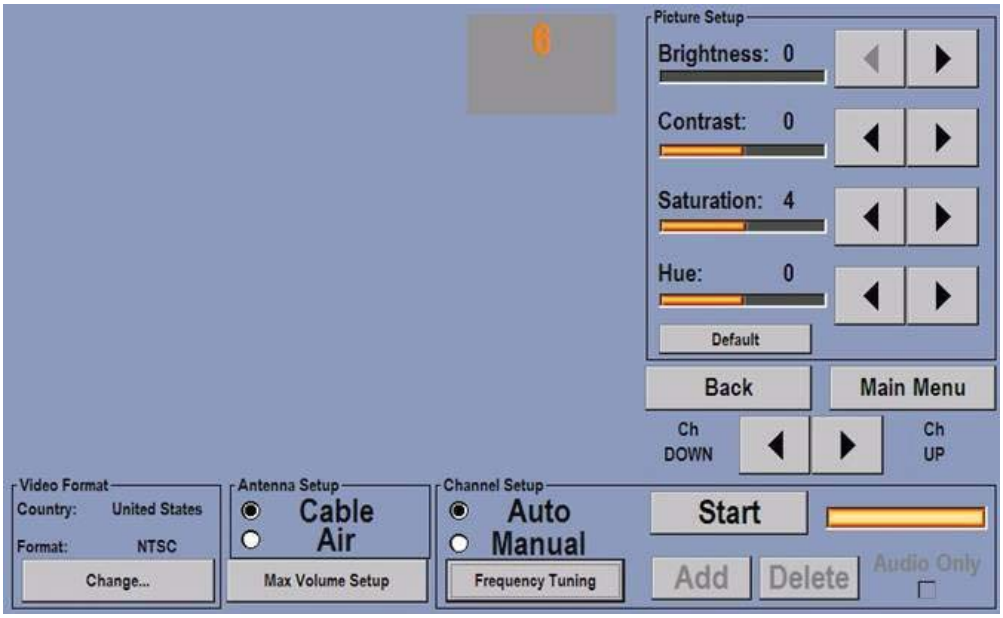


Object Table

LABEL	DESCRIPTION
Video	Allows the manager to enable or disable the TV Video.
Video Setup Button	Displays the Video Setup Screen if the Video option is enabled.
Video Channel Favorites Button	Displays the Video Channel Favorites Screen if the Video option is enabled.
Video Channel Name / Sort Button	Displays the Video Channel Name / Sort Screen if the Video option is enabled.
Secure Channel Button	Displays the Secure Channel Screen if the Video option is enabled.
Promo Channel Setup Button	Displays the Promo Channel Setup Screen if the Video option is enabled.
FM Radio Setup Button	Displays the FM Radio Setup Screen.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Video Setup Screen

User Interface

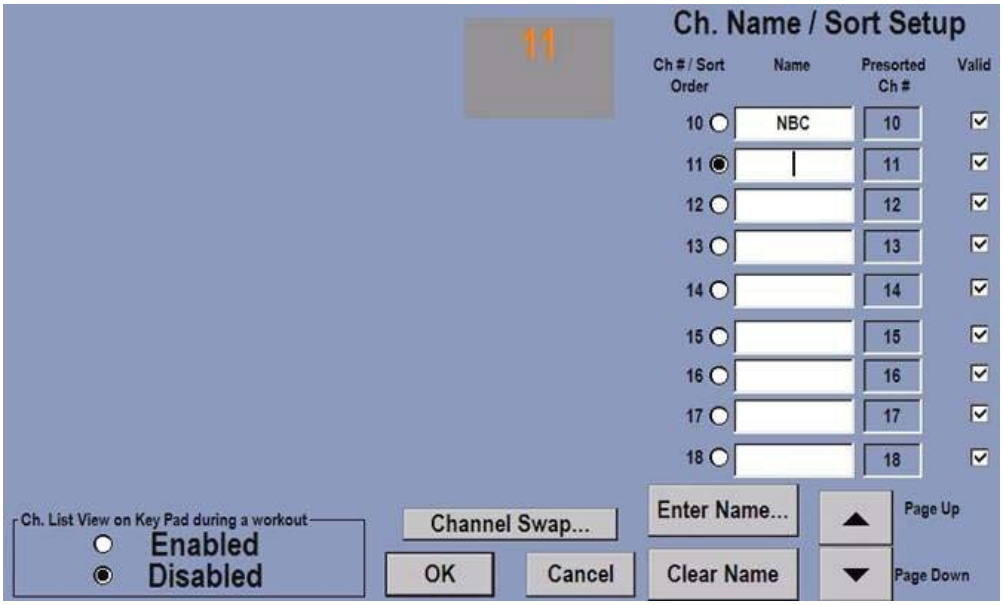


Object Table

LABEL	DESCRIPTION
Picture Setup	Allows the manager to setup the TV picture by adjusting the Brightness, Contrast, Saturation and Hue using the arrow keys or the Default.
Channel Up/Down	Allows the manager to scroll up/down to available channel(s).
Video Format	Allows the manager to change the video format by selecting the country, format of the tuner (NTSC, PAL, etc.) and sound format.
Antenna Setup	Allows the manager to select either Cable or Air for the antenna source.
Channel Setup	Allows the manager to select either Auto or Manual Frequency Tuning. **Start Button:** Enables if the Auto radio button is selected and allows the manager to select Start to automatically detect the available channel(s). **Frequency Tuning Button:** Displays the Frequency Tuning Screen and allows the manager to scan for available frequency and automatically add channel(s) or manually add/delete channel(s). **Add Button:** Allows the manager to add a channel. This button will enable only if the channel is not already in the list of added channel(s). **Delete:** Allows the manager to delete a channel. This button will enable only if the channel is already added in the list of available channel(s). **Audio Only:** Allows the manager to turn on audio only for the selected channel.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Channel Name / Sort Setup Screen

User Interface

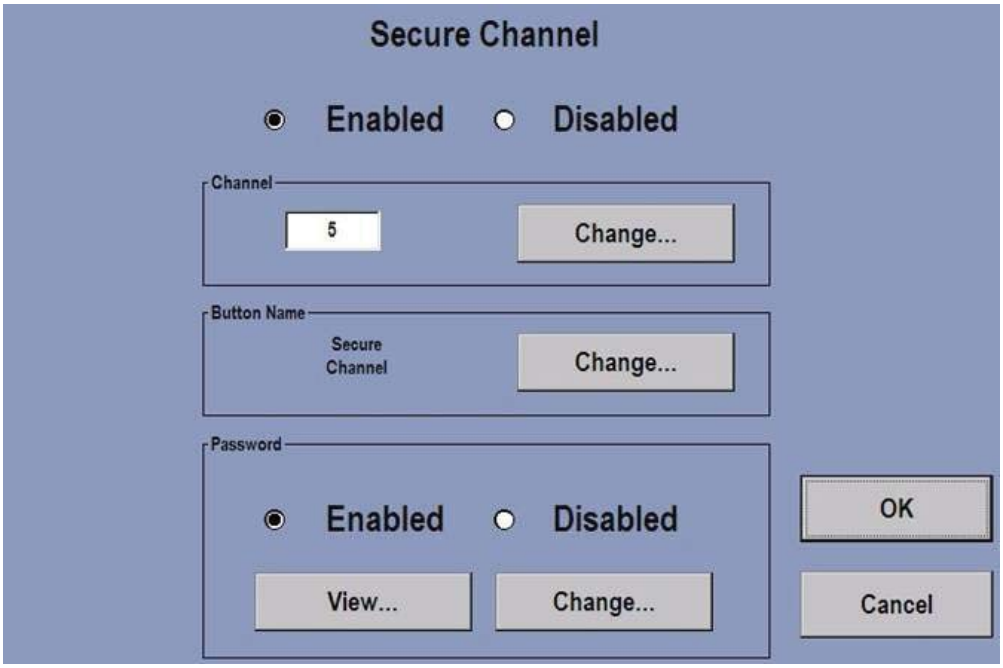


Object Table

LABEL	DESCRIPTION
Channel Name / Sort Setup	**Ch # / Sort Order:** Displays the channel number in a sort order from low to high and allows the manager to select the radio button and enter the name of the channel.
	Name: Allows the manager to enter the name of the channel.
	Presorted Ch #: Displays the channel # that are presorted by the system
	Valid: Allows the manager to check for valid or uncheck the box for invalid channel. Invalid channel will not be displayed.
	Page Up/Down: Page up and down the list of sorted channel(s).
Enter Name Button	Displays the Enter Channel Name keyboard and allows the manager to enter a channel name.
Clear Name Button	Clear the name of the selected channel.
OK Button	Goes back to the previous screen and saves all changes.
Cancel Button	Goes back to the previous screen and cancels all changes.

Engage / Inspire Console Diagnostic: Secure Channel Setup Screen

User Interface

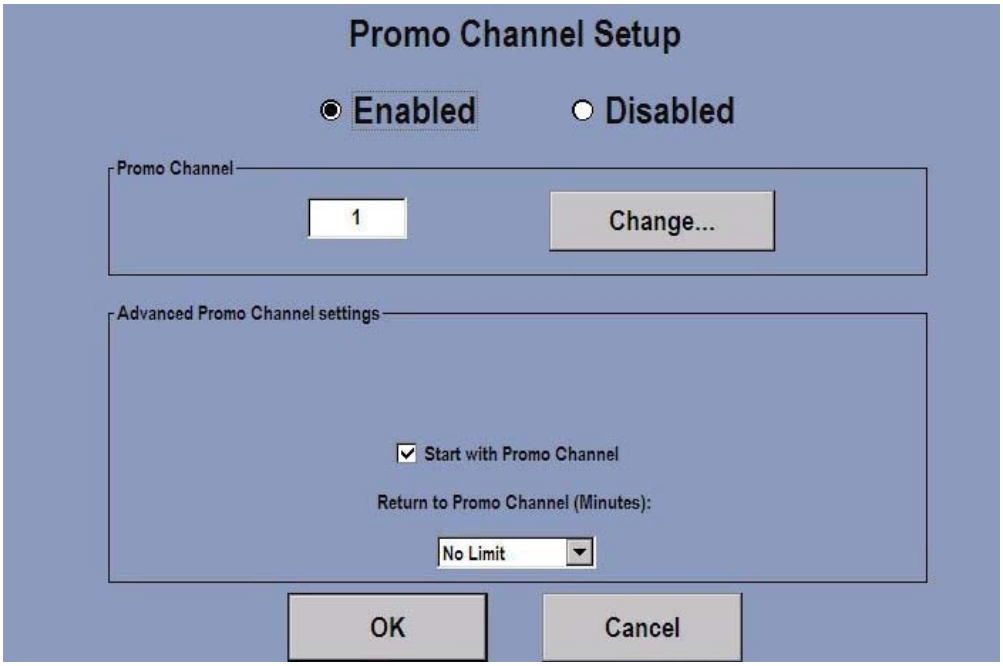


Object Table

LABEL	DESCRIPTION
Secure Channel	Allows the manager to enable/disable the secure channel.
Channel	Allows the manager to specify the secure channel number or change an existing secure channel.
Button Name	Allows the manager to specify the name of button. By default, the name is set to “Secure Channel”.
Password	Allows the manager to specify/change a password required to view the secure channel or enable/disable the password protection.
OK Button	Goes back to the previous screen and saves all changes.
Cancel Button	Goes back to the previous screen and cancels all changes.

Engage / Inspire Console Diagnostic: Promo Channel Setup Screen

User Interface

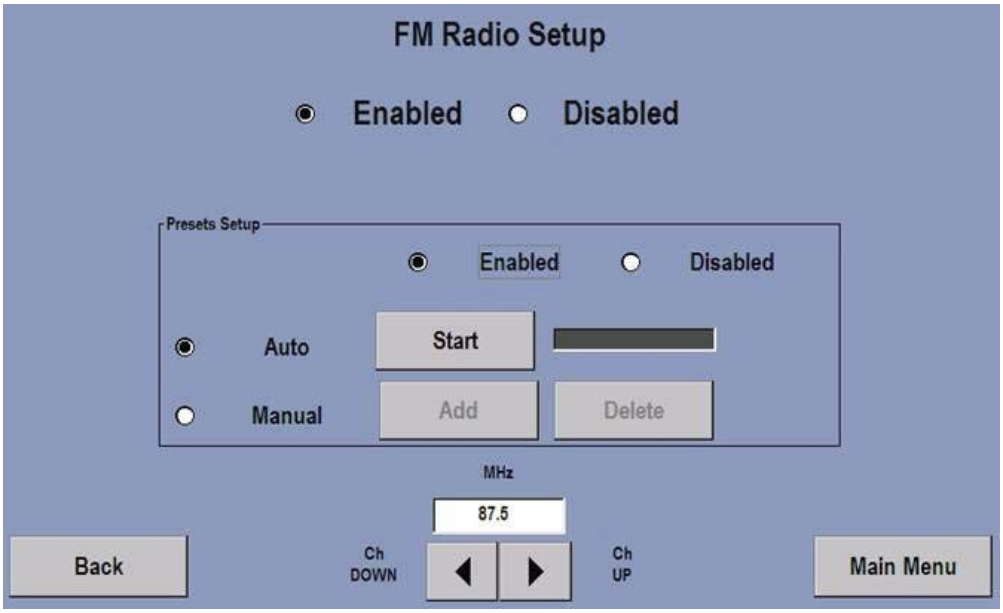


Object Table

LABEL	DESCRIPTION
Promo Channel Setup	Allows the manager to enable/disable the promo channel setup feature.
Promo Channel	Allows the manager to change/specify the promo channel number.
Advanced Promo Channel Settings	Allows the manager to select Promo Channel as the starting channel or specify the time limit for returning to the promo channel in minutes.
OK Button	Goes back to the previous screen and saves all changes.
Cancel Button	Goes back to the previous screen and cancels all changes.

Engage / Inspire Console Diagnostic: FM Radio Setup Screen

User Interface

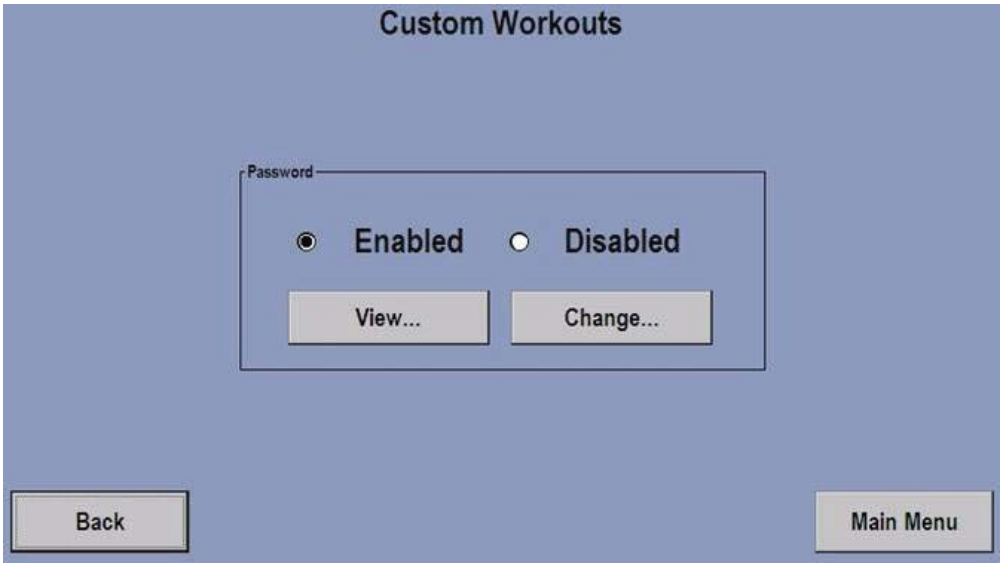


Object Table

LABEL	DESCRIPTION
FM Radio Setup	Allows the manager to enable/disable the FM radio.
Preset Setup	Allows the manager to enable/disable the preset or to set the preset to Auto or Manual setup. • **Start:** Pulls the preset channel automatically if the Auto option is checked. • **Manual:** Allows the manager to manually select the add/delete button, to add or delete a preset. • **Ch UP/DOWN arrow keys:** Scans the available FM radio frequencies.
Back Button	Goes back to the previous screen and saves all changes.
Main Menu	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Custom Workouts Screen

User Interface

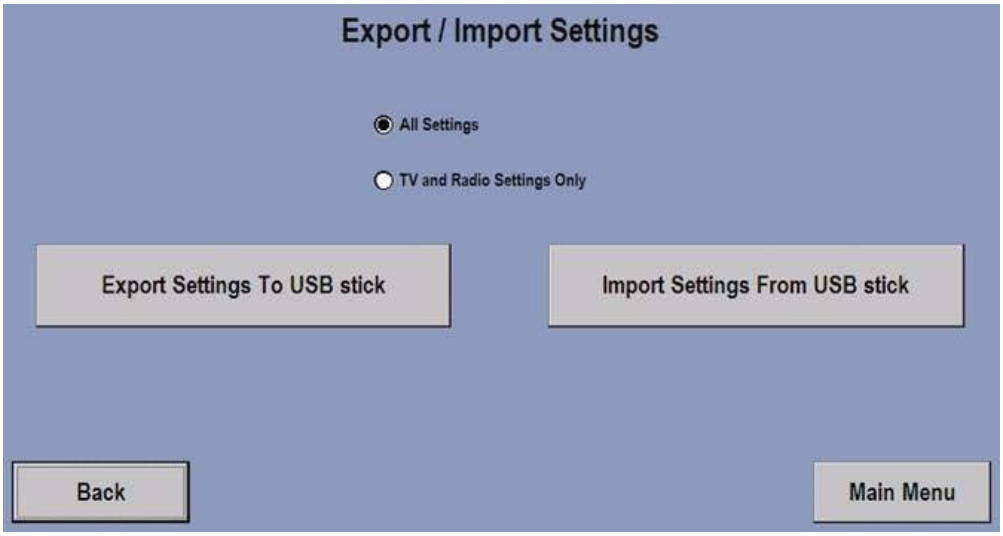


Object Table

LABEL	DESCRIPTION
Password	Allows the manager to enable/disable the password protection for gaining access to the custom workout programs. • **View button:** Views the current password. • **Change button:** Allows the manager to change the current password.
Enter Name Button	Displays the Enter Channel Name keyboard and allows the manager to enter a channel name.
Back Button	Goes back to the previous screen and saves all changes.
Main Menu	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Export / Import Settings

User Interface

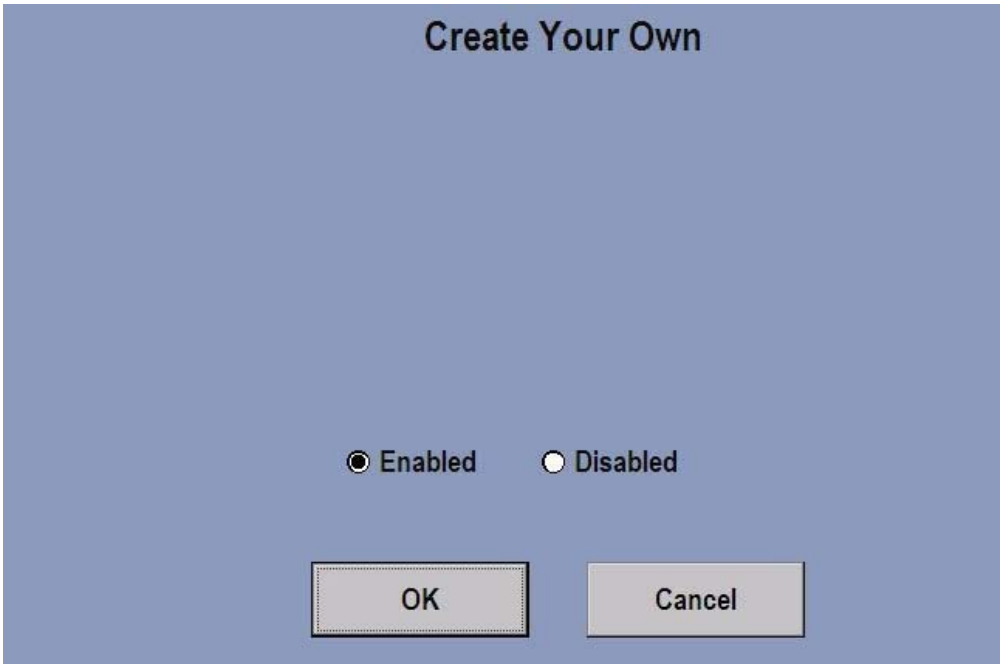


Object Table

LABEL	DESCRIPTION
Settings	Allows the manager to select All Settings or TV and Radio Settings Only to be exported to or imported from a USB stick. • **Export Setting To USB Stick Button:** Exports all settings or TV and Radio Settings Only to the inserted USB stick. • **Import Settings From USB Stick:** Imports all Settings or TV and Radio Settings Only from the inserted USB stick and restores those settings to the system. Once the import operation is completed the system will automatically be rebooted.
Back Button	Goes back to the previous screen and saves all changes.
Main Menu	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Create Your Own Screen

User Interface

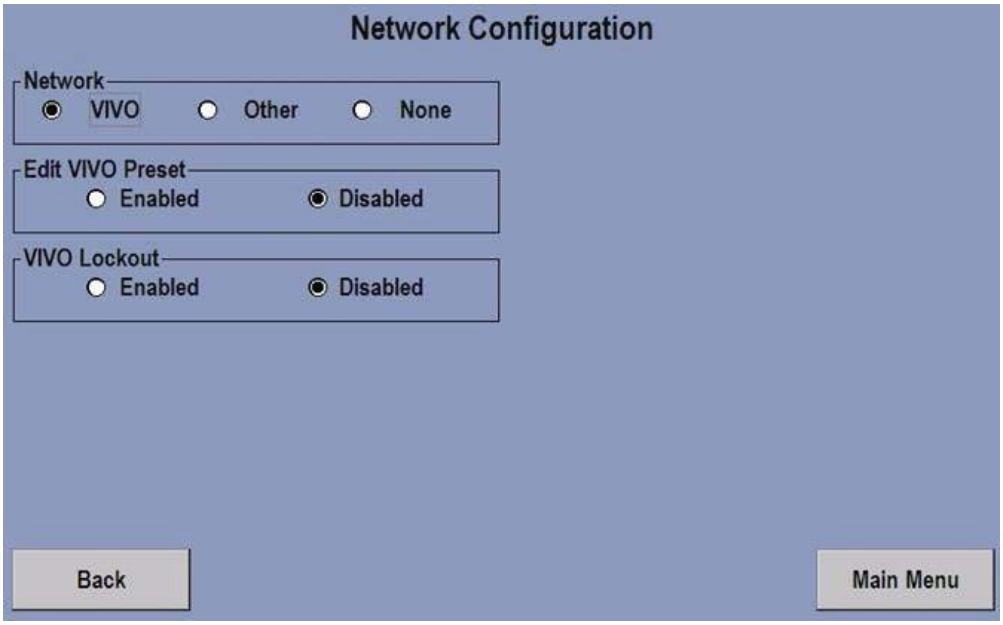


Object Table

LABEL	DESCRIPTION
Create Your Own	Allows the manager to enable/disable the Create Your Own workout programs.
Back Button	Goes back to the previous screen and saves all changes.
Main Menu	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Network Configuration

User Interface

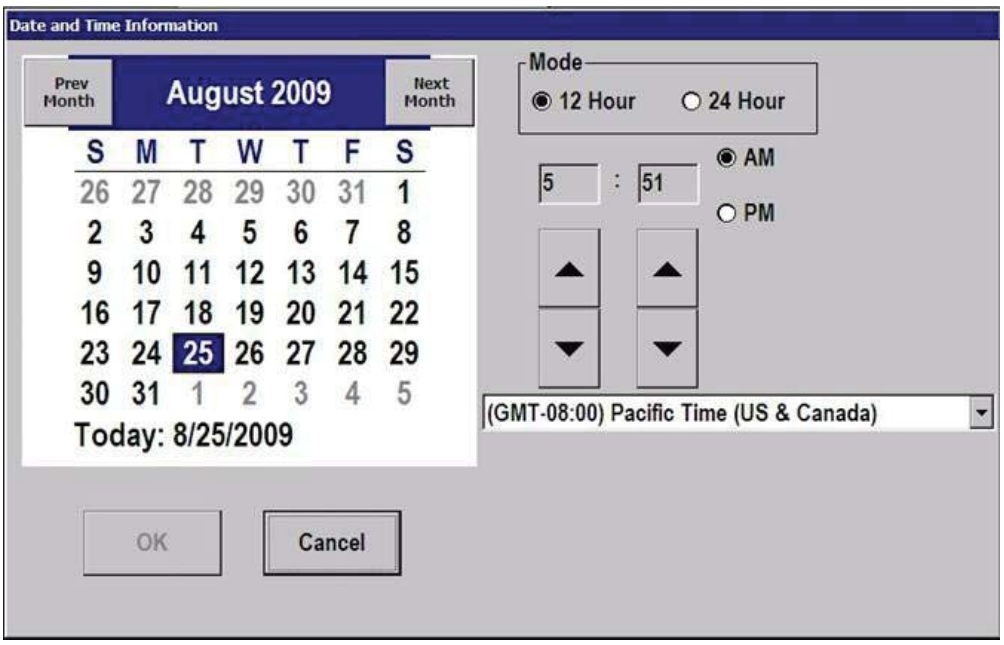


Object Table

LABEL	DESCRIPTION
Network	Allows the manager to select either VIVO, Other or None for the network setup.
Edit VIVO Preset	Allows the manager to enable/disable the ability to edit VIVO preset if the VIVO Network is selected.
VIVO Lockout	Allows the manager to enable/disable the VIVO Lockout feature if the VIVO Network is selected.
Other	Allows the manager to specify other as the Network of choice.
None	Allows the manager to specify none for no network is available.
Back Button	Goes back to the previous screen and saves all changes.
Main Menu	Goes back to the System Options – Main Menu.

Engage / Inspire Console Diagnostic: Clock Setup (Date and Time Information)

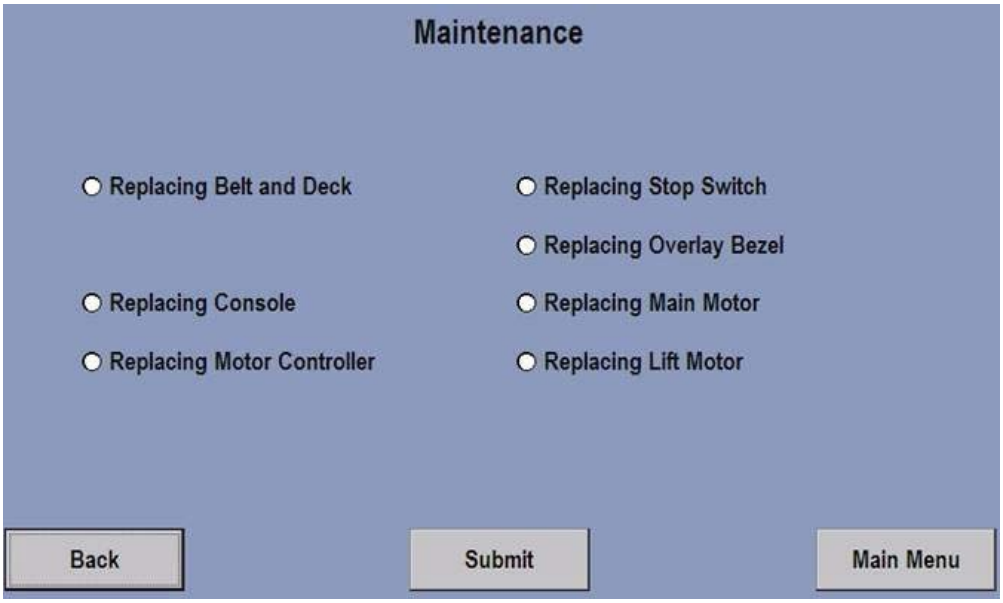
User Interface



Object Table

LABEL	DESCRIPTION
Date and Time Information	**Calendar:** Shows and allows the manager to change the current system date and time
	Mode: Indicates and allows the manger to change the current time format in 12 Hour or 24 Hour mode.
	AM/PM: Indicates and allows the manager to change the current time in AM/PM.
	Time Zone: Shows the set time zone for the system and allows the manager to view or change the timezone.
OK Button	Accept all the changes and returns to the previous screen.
Cancel Button	Closes the Date and Time Information pop-up and returns to the previous screen.

User Interface



Object Table

LABEL	DESCRIPTION
Replacing Belt and Deck	Allows the technician to indicate the replacement of belt and deck (TR only).
Replacing Console	Allows the technician to indicate the replacement of the unit's console.
Replacing Motor Controller	Allows the technician to indicate the replacement of the unit's motor controller (TR only).
Replacing GBC	Allows the technician to indicate the replacement of the unit's generator break controller (Non TR only).
Replacing Stop Switch	Allows the technician to indicate the replacement of the unit's emergency stop switch.
Replacing Overlay Bezel	Allows the technician to indicate the replacement of the unit's overlay bezel.
Replacing Main Motor	Allows the technician to indicate the replacement of the unit's main motor (TR Only)
Replacing Lift Motor	Allows the technician to indicate the replacement of the unit's Lift Motor (TR only)
Telemetry	Allows the manager to enable or disable the telemetry reading.
Submit Button	Submit and save the maintenance activity to the maintenance log.
Back Button	Goes back to the previous screen.
Main Menu Button	Goes back to the System Options – Main Menu.

NOTE: For proper operation of some features technicians must submit repairs on this screen (i.e. Must submit a "Replacing Belt and Deck" to get the belt wear notification feature (see Belt/Deck Info) to work properly as well as the belt hours and mileage readouts).

Error / Info Messages

Overview

The following table lists the error or informational messages a user or service can see including a description of what they mean. Applies to the current Elevation based treadmill products (Engage, Inspire). This information is intended to be used in the service manuals with input from the software and hardware group. It is based on the current SBC (v1.10), MIB (w/ Rev E support) and DSP motor controller software releases.

MESSAGE	DESCRIPTION	POSSIBLE CAUSE	SECTION	PAGE
“Error launching application. Please reload using USB memory stick.”	SBC application was unable to launch.	Application missing	Reload application using USB setup utility.	
"Interface board in Boot mode - please start Flash update now"	MIB application checksum error detected.	Software update was interrupted via a power failure or bad connection with the USB stick, PC update application or widget box.	Re-flash/update the MIB software.	
"Motor controller in Boot mode - please start Flash update now"	Motor controller checksum error detected.	Software update was interrupted via a power failure or bad connection with the USB stick, PC update application or widget box.	Re-flash/update the motor controller software.	
"Stuck hard key detected"	Indicates at least one hard key on any of the keypads is being detected as closed when the MIB initially powers up. Intent is to detect a faulty keypad and prevent any subsequent key events from being sent to the SBC.	One or more keys are either shorted closed or are being held down at power up.	Replace keypad(s) or if user is purposely holding down a key at power up then cycle power to recover.	
"Interface board not detected"	Communications between the SBC and MIB board were not able to be established .	Faulty connection between SBC and MIB boards.	Check board to board connection.	
"Module communication error" [2]	MIB (or Achieve console) is unable to communicate with the motor controller module (i.e. module no communication).	Power up communication test to base failed or lost communication with base.	Check/replace cabling down to the M/C.	

Error / Info Messages

MESSAGE	DESCRIPTION	POSSIBLE CAUSE	SECTION	PAGE
"Module communication error. RetroFit DSP MC detected"	SBC has detected that a "RetroFit" DSP motor controller has been installed. RetroFit controllers are not to be used on Elevation products.	SBC has detected that an invalid DSP motor controller has been installed.	Replace the M/C with one with the correct assembly number.	
"Edit base assembly serial #"	This is a prompt to enter in the base serial number and then the product type.	The prompt will occur if there is no valid configuration data in both the SBC registry and the motor controller. This will also occur if both the console and motor controller are replaced at the same time.	Enter the base serial number located on the label attached to the frame and set the correct product type when prompted.	
"Maintenance" at the top of the screen	This is a data entry prompt that will ask the tech. to select either "Replacing Console" or "Replacing Motor Controller".	This prompt occurs if the basic configuration data stored in both the registry and motor controller doesn't match. This will occur if the console or motor controller is replaced with assemblies that already have configuration data stored in them (These assemblies are typically sent out with blank basic configuration data in which case you wouldn't see this prompt).	If you replaced the console, then select "Replacing Console". Otherwise select "Replacing Motor Controller".	
"Please pedal" [2]	Initialization does not finish (stuck in this mode) due to lack of communication between MIB & motor controller.	**Most likely:** JW3 installed on DSP M/C. **Less likely:** Broken Rx/Tx lines in cable, MIB or M/C.	Remove JW3. Check/replace cabling down to the M/C.	

Error / Info Messages

MESSAGE	DESCRIPTION	POSSIBLE CAUSE	SECTION	PAGE
“Notify maintenance communication timeout (motor controller)” [2]	Lost communications with the motor controller (i.e. module communication timeout).	Broken communication lines, JW3 installed on DSP M/C.	Remove JW3. Check/replace cabling down to the M/C. Vibration is causing intermittent operation from loose connection.	
“Notify maintenance motor controller error (thermal shutdown)”	Motor controller shut down due to excessive temperature.	M/C compartment airflow restricted, hot air is being blown on it, located in direct sunlight. Excessively worn belt/deck.	Clean the M/C compartment, insure adequate ventilation is available and it is not being heated by a heating register, move from direct sunlight. Replace belt/deck if power level is excessive.	
“Notify maintenance motor temperature trip”	Motor shut down due to excessive temperature.	Faulty/intermittent thermal switch in motor. M/C compartment airflow restricted, hot air is being blown on it, located in direct sunlight. Excessively worn belt/deck.	Check motor thermal switch connections. Check clean the M/C compartment, insure adequate ventilation is available and it is not being heated by a heating register, move from direct sunlight. Replace belt/deck if power level is excessive. Replace motor if error keeps occurring after the motor has cooled down and no other solution has worked.	
“Warning - step off belt, maximum voltage trip”	Excessive belt motor bus voltage detected.	User is driving the belt with sufficient energy to raise the bus voltage, most likely at high inclines. Input line has voltage surge problems.	Instruct the user to not drive the belt at high inclines or use a lower incline. Contact an electrician to diagnose/correct a power line problem.	
“Notify maintenance motor controller error (hardware current trip)”	Excessive motor current detected.	Excessive motor current caused by a failed motor, intermittent motor or motor connection(s). A possible but unlikely cause would be a severely worn belt/deck.	Verify that all motor connections and cables are solid. If start-up power is very weak a phase may be faulty. Perform a phase test to verify the system or diagnose a problem.	

Error / Info Messages

MESSAGE	DESCRIPTION	POSSIBLE CAUSE	SECTION	PAGE
“Notify maintenance motor controller error (low voltage detected)	Non-fatal error. Line voltage dropped to an insufficient level to sustain proper operation.	Line cord is not securely plugged into the wall or machine. Loose/intermittent receptacle wiring. Machine is not plugged into a proper dedicated line. Incoming voltage is fluctuating, dipping to an insufficient level.	Confirm that the cord is solidly plugged into the wall receptacle and the machine. Contact an electrician to diagnose/correct a power line problem.	
“Start up error”	Non-fatal error. No/low motor current is detected at start-up.	Motor unplugged or connector loose. A possible but unlikely cause would be the user driving the belt at startup.	Verify that the motor connections are solid. Perform a phase test to verify the system or diagnose a phase problem.	
“Motor disabled”	Non-fatal error. The M/C has detected an open stop switch when operating that the console has not detected.	An intermittent console/motor controller cable or emergency stop switch.	Confirm that all connections are solid, all wires are properly seated into the connector and the cable is not pinched and being shorted/open. Verify proper operation of the emergency stop switch.	
“Incline inoperative - continue if desired”	Indicates the incline system has a problem but system can still be used. Occurs if DSP reports a lift Home Switch error or timeout error.	Improper home or decline switch operation / adjustment / cable. Incline motor connection unplugged / loose. A possible but unlikely cause would be incline motor overheating from excessive operation.	Verify that all motor and switch connections and cables are solid. Verify incline switch operation using diagnostic switch LEDS (LED 9&10). Verify incline motor activation using diagnostic LEDS (LED 4&5). Readjust or replace switches/cables.	

Error / Info Messages

MESSAGE	DESCRIPTION	POSSIBLE CAUSE	SECTION	PAGE
“Unexpected interface board reset”	Indicates the MIB board has gone through an unexpected reset.	MIB board lost and then regained power or was reset. This can be caused by electrostatic discharge.	Verify connection from console’s rear plastic to 92353 Polar Board is tight. Verify that the lower right screw (viewed from rear) that holds the console to the base is tight, has a star washer, and is 8mm long.	
“Activity Zone keypad not detected”	The absence of a loopback signal indicates the Activity Zone keypad is not properly connected.	If it used to work, and now doesn’t, it is likely due to an intermittent or unplugged Activity Zone connector. If it has not worked since the console or MIB was replaced (which automatically enables the Activity Zone detect feature), the console - Activity Zone cable may be out of date.	Confirm that all connections are solid, all wires are properly seated into the connector and the cable is not pinched. If the console (or MIB) has been replaced with a newer, larger MIB (“A080-92334-0001” on Polar Board silk screen), verify that the Console Activity Zone cable is AK65-00043-0001, Rev A2 or later. Replace cable if it is AK65-00043-0000 or AK65-00043-0001, Rev A1.	
“Emergency stop drive trip”	MIB EStop drive circuitry detects a shorted condition.	Tether / magnet loose or not installed; Poly-resettable fuse (PTC2) or Q5 on MIB are open; Over current condition on emergency stop relay on motor controller.	Verify tether / magnet are properly replaced / installed. Replace MIB. Replace Motor Controller.	
"Console over temperature”	MIB has detected an internal console temperature of over 50 degrees celsius.	Console vents may have been blocked by a towel, etc.	This is an informational message and is intended for engineering only.	
"Network voltage driver trip"	MIB voltage drive circuitry to CSAFE port detected a shorted condition.	Faulty accessory plugged into the CSAFE port.	Remove CSAFE accessory.	

Error / Info Messages

MESSAGE	DESCRIPTION	POSSIBLE CAUSE	SECTION	PAGE
“Stop key activated”	MIB has decoded a Stop key press. System aborts workout.	Faulty Activity Zone keypad.	Check proper operation of keypad in diagnostics and replace if necessary.	
“Unable to attain target speed”[1]	Reported if the motor controller was unable to attain the desired user’s speed after a given amount of time.	Line voltage low, unit overloaded; too much weight for speed requested. Worn belt and/or deck.	Check belt & deck for signs of excessive wear and replace if necessary.	
"Miscellaneous interface communication error"	Typically this is reported if SBC was unable to properly activate the belt and/ or incline motors.	Communications error with the motor controller.	See “Module communication error”	
“Workout initialization time-out. Resetting system.....”	System was unable to enable the belt and/or incline motors while starting a workout	Communications error with the motor controller.	See “Module communication error”	
“Please replace emergency stop switch”	Emergency stop (tether) is replaced, but console still gives this message.	Tether / magnet loose or not installed; Poly-resettable fuse (PTC2) or Q5 on MIB are open; Over-current condition on emergency stop relay on motor controller.	Verify tether / magnet are properly replaced / installed. Replace MIB. Replace motor controller.	

[1] When user sees this message the belt speed will decrease automatically. If user is already at minimum speed (i.e. 0.5 mph) then workout will enter Pause mode. If speed is more than one mph/kph below target speed then speed is reduced by ½. If speed is closer to target when an “Unattained…” occurs then speed is decremented between 0.1 to 0.3 mph/kph.

[2] A simple test to determine if console is communicating with the motor controller is to cycle power and listen for beeps from the MIB board. The MIB will beep once after it gets power followed by three additional beeps if it can successfully communicate with the motor controller. This process is done before the main Application on the SBC is up and running (i.e. before you see the “Splash” screen which contains the word “initializing” on it).