



WaveRider Trouble Shooting Guide

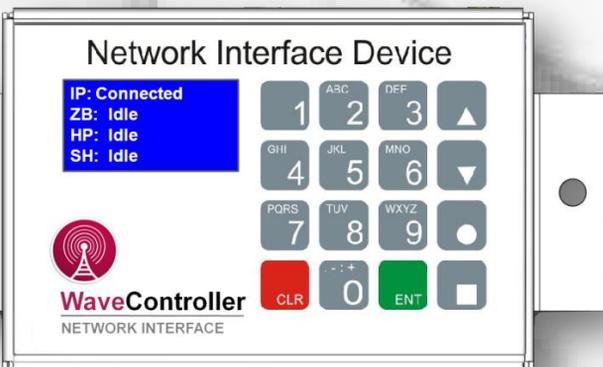


Table of Contents

1. Welcome.....	Page 3
2. Introduction.....	Page 4
3. System Errors and Corrective Actions.....	Page 5
A. WaveReaders.....	Page 5
B. WaveControllers.....	Page 8
C. WaveControllers to WaveReaders.....	Page 9
D. WaveReaders to WaveCentral.....	Page 11
4. Customer Service & Escalation Process.....	Page 13
5. Returning Equipment for Repair Service.....	Page 14
6. Warranty Policy.....	Page 15

Welcome to Heartland MicroPayments

Heartland has been the leader in the electronic cash industry for more than twenty years. We are dedicated to providing you superior service, competitive pricing, and quality products.

Your new **WaveRider Laundry System** is designed and developed to improve convenience and reduce operating costs for your customers.

This Trouble Shooting Guide has been provided to answer general questions regarding your new system. In the event that your question is not addressed in this document, complete details for contacting us are on page 13.

Your complete satisfaction is our first priority! We are delighted that you are a Heartland customer and look forward to serving you.

INTRODUCTION

Ensuring that a WaveRider Laundry System is functioning properly is a many step process.

- Does the WaveController work?
- Is the WaveController linked up to the readers?
- Are the readers connected to the laundry machines?
- Are the readers configured to match the laundry machines?
- If I swipe a card does my card get charged?
- Will the machine start?
- If I drop in coin, does the machine recognize the coin?

If any one of these steps is not correct, then the room is not working as it is intended and cannot be put into service until all of these elements are corrected.

System Errors and Corrective Actions for: WaveReaders



INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
Display is dark (pulse/hybrid models)	<p>WaveReader is not getting power. Follow these steps in order:</p> <ol style="list-style-type: none"> 1. Make sure power is applied to the machine. Connect machine power. 2. Make sure all WaveReader harness connectors have male spade connectors properly inserted into female receptacle connectors. 3. Check crimp connections for all WaveReader harness connectors. 4. Exchange WaveReader with known-good reader. 	<p>The following are the actions for each step:</p> <ol style="list-style-type: none"> 1. No further action if problem corrected. 2. Reconnect any improperly inserted connectors. No further action if problem corrected. 3. Re-crimp connector, if possible or replace WaveReader cable harness . 4. Return original WaveReader to HMP if problem corrected.
Display is dark (Quantum/MDC/PR models)	<p>WaveReader is not getting power. Follow these steps in order:</p> <ol style="list-style-type: none"> 1. Make sure power is applied to the machine. Connect machine power. 2. Make sure WaveReader cable harness 2-position power connector is connected to machine board 2-position connector. Connect power connector. 3. Make sure 4-position connector from machine transformer (red wires) has all 4 positions loaded with wires. If only 2 positions are loaded (as in picture), there is no power to the reader.  <ol style="list-style-type: none"> 4. Exchange WaveReader cable harness with known-good harness. 	<p>The following are the actions for each step;</p> <ol style="list-style-type: none"> 1. No further action if problem corrected. 2. No further action if problem corrected. 3. Using blue splice connectors, included with the WaveReader cable harness, splice together like-colored wires on the machine side of the 4-position connector (red/blue-red/blue & white/blue-white/blue). 4. No further action if problem corrected. <p>Return WaveReader to HMP if problem is not corrected.</p>
Display has text but no backlight	This requires internal troubleshooting.	Return to HMP
Display has backlight but no text	This requires internal troubleshooting.	Return to HMP
Display remains on version number	This requires internal troubleshooting.	Return to HMP

System Errors and Corrective Actions for: **WaveReaders** (continued)



INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
Display reads "Waiting for Config Data"	Unit may not be receiving proper configuration for machine in which it is installed	See WaveReaders to WaveCentral for further assistance or contact your site administrator for assistance
Display reads "In Use" when machine is idle (pulse/hybrid models only)	The 2-position connector (orange & brown wires) may not be connected properly to the 2-position header at the bottom of the machine board.	Reposition connector on 2-position header so that connector fits snugly over both pins.
Display reads "In Use" when machine is idle (Quantum /MDC/PR models only)	Unit may not be receiving proper configuration for machine in which it is installed	See WaveReaders to WaveCentral for further assistance or contact your site administrator for assistance
Reader authorizes sale, momentarily displays "In Use" and then returns to "Insert Card" (pulse/hybrid models only)	<p>Check connection to coinbox switch connectors:</p> <ol style="list-style-type: none"> 1. Make sure WaveReader cable harness male spade connectors are properly inserted into the coinbox switch female connector. 2. Check crimp connections for WaveReader cable harness 	<p>The following are the actions for each step:</p> <ol style="list-style-type: none"> 1. Reconnect harness to coinbox switch connectors, making sure spade is properly inserted. 2. Re-crimp connector, if possible or replace WaveReader cable harness
Reader alternates between "Insert Card" and "In Use"	WaveReader may not have correct configuration for machine in which it is installed	See WaveReaders to WaveCentral for further assistance or contact your site administrator for assistance
Machine display reads "EC19" (Quantum/MDC/PR models only)	<p>WaveReader is not communicating with machine. Follow these steps in order:</p> <ol style="list-style-type: none"> 1. Cycle power to the machine. 2. Exchange WaveReader with known-good reader. 3. Make sure jumper is properly installed on the machine board. If so, exchange jumper with a known-good jumper. 4. Disconnect power to machine. Remove 6-position connector and manually scrape header pins on machine board. (The coating used to protect the board sometimes gets on pins and causes a poor connection.) Replace 6 position connector. 5. Exchange WaveReader cable harness with a known-good harness. 6. Exchange machine board. (NOTE: Occasionally, machine boards will not work with the WaveReader and exchanging the boards will correct the problem.) 7. Problem is not corrected. 	<p>The following are the actions for each step:</p> <ol style="list-style-type: none"> 1. No further action if problem corrected 2. Return original WaveReader to HMP 3. No further action if problem corrected 4. No further action if problem corrected 5. No further action if problem corrected 6. No further action if problem corrected 7. Contact Customer Service for further assistance

System Errors and Corrective Actions for: **WaveReaders** (continued)



INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
<p>WaveReader reads “Declined Low Balance”</p>	<p>Follow these steps in order:</p> <ol style="list-style-type: none"> 1. Verify credit card has sufficient balance available to start machine. 2. Verify the vend price is equal to or less than the Max Vend Price set in WaveCentral. 3. Problem is not corrected. 	<p>The following are the actions for each step:</p> <ol style="list-style-type: none"> 1. If card has insufficient balance, try again with another credit card. No further action if problem corrected. 2. See WaveReaders to WaveCentral for further assistance or contact your site administrator for assistance. 3. Contact Customer Service for further assistance.

System Errors and Corrective Actions for: WaveControllers



INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
<p>Display remains on version number or</p> <p>“IP:” reads “NONE”</p>	<p>This may indicate the cellular signal strength is too low or not present. Move WaveController to location near a window or door and re-power. Check for connectivity, using these steps:</p> <ol style="list-style-type: none"> 1. “IP” reads “CONNECTED”. Use the following steps to check for signal strength: <ol style="list-style-type: none"> a. On WaveController keypad, press the bottom right button with the square. b. Watch the line under “IP” for a number followed by “,99”. The number to the left of the “,” indicates the signal strength. For example, “15,99” would indicate a signal strength of 15. c. Press the square button again to return to regular operation. 2. “IP” still reads “NONE”. This may indicate that the modem is not working properly. 	<p>The following are the actions for each step:</p> <ol style="list-style-type: none"> 1. If the signal strength is: <ol style="list-style-type: none"> a. “0,99” to “10,99”, a cell booster maybe be necessary. Refer to “WaveRider Connectivity Tutorial” b. “11,99” or higher, the WaveController would best be mounted in its present location. 2. Contact Customer Service for further options.
<p>Display blank</p>	<p>The display needs to be initialized again. Re-power WaveController.</p>	<p>No further action if problem corrected</p>

INFORMATION

*Upon power-up, the WaveReader will display the version number, then change to an information screen that will remain until the reader connects to the WaveController. On the top line of the information screen, the “P:24xx” refers to the PAN that the WaveReader has either joined or is trying to join. Once this number matches the PAN of the WaveController, the display should change to “Insert Card”, if the reader has been linked properly to the controller. **There are 8 possible PAN numbers – 2425, 2426, 2427, 2428, 2429, 242A, 242B, & 242C.** Generally, if there is only one laundry room at a location, the default WaveController PAN is 2425, so as the WaveReader scrolls through the PAN numbers, it should stop on 2425 and connect, again, if the reader has been properly linked to the controller.*

*For more complete information about linking WaveReaders to WaveControllers, refer to the document entitled, **DOC-WaveControllerLink**. The WaveReader to WaveController Troubleshooting Guide assumes that the readers have been previously linked to the controllers.*

System Errors and Corrective Actions for : WaveControllers to WaveReaders



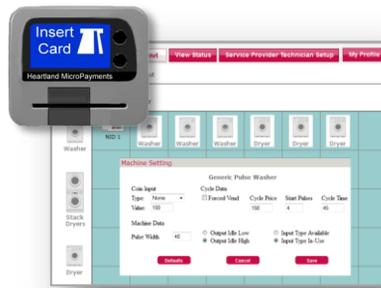
INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
<p>WaveReader display stays on information screen</p>	<p>Follow these steps in order:</p> <ol style="list-style-type: none"> 1. On the top line of the information screen, locate the "P:24xx". If the WaveReader is scrolling fast (10 seconds or less between PAN numbers), re-power the reader. 2. If the WaveReader passes the PAN for the WaveController more than twice, re-power the reader. 3. If the WaveReader continues to pass the WaveController PAN, confirm the reader is actually linked with the machine in the WaveController. Follow the steps below to verify: <ol style="list-style-type: none"> a. With the WaveController on the "CONNECTED" screen, press any number to enter the configuration screen. b. When prompted for the PIN, press "1 2 3 4" and then press enter. c. In configuration mode, press the down arrow button to go to the second menu. d. Press "1" to enter "Reader Names". e. Use the "2: Next Reader" button until the machine number for the reader appears beside the "1". f. Press "1". On the top line, the machine number and the 4-character "ZB" should be present. 	<p>The following are the actions for each step:</p> <ol style="list-style-type: none"> 1. No further action if problem corrected 2. No further action if problem corrected

System Errors and Corrective Actions for: WaveControllers to WaveReaders (continued)



INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
<p>WaveReader display stays on information screen</p>	<p>g. If the machine number and the ZB are correct, allow more time for the WaveReader to connect. It can take from 10-30 minutes, at times, depending on several factors, including the number of machines in the room.</p> <p>h. If the line reads “NO ZB”, the reader is not properly linked to the WaveController.</p> <p>4. WaveReader refuses to connect after all of the above</p>	<p>3. g. No further action if WaveReader connects within 30 minutes. If reader fails to connect in 30 minutes, contact Customer Service for further assistance</p> <p>3. h. If the WaveReader is not properly linked to the WaveController, follow these steps in order:</p> <ol style="list-style-type: none"> i. Press “Clear” button to escape to the previous menu. ii. Press “Clear” button once more to escape to the second menu. iii. Press “2: Configure ZB” iv. “1” should show any 4-character reader ZB that is not currently linked. v. Press “1” if this is the correct reader ZB. Otherwise, use the “2: Next ZB” button to scroll through all reader ZBs and press “1” when the correct ZB is reached. vi. “1” should show any machine ID that is not currently linked. Once the correct machine ID is reached, press “1” to link the reader and the controller. vii. Press “2: Save” and the display will return to the main “Configure ZB” screen. viii. Press “3: Save All” NOTE: This step is very important. Failure to “Save All” will result in a linking failure and the WaveReader will continue to search for the WaveController. ix. Once all linking is complete, press “Clear” to exit back to the “Connected” screen. <p>4. Contact Customer Service for further assistance</p>

System Errors and Corrective Actions for: WaveReaders to WaveCentral



⚠ INFORMATION ⚠

All machines must be set up and configured in WaveCentral prior to the installation. In the event that something has been configured incorrectly, changes must be made in WaveCentral by the individual with administrative access. In some cases, this may be the technician servicing the location. The following information is intended to assist in troubleshooting problems between the reader and WaveCentral.

INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
WaveReader display reads "Waiting for Config Data"	Reader may be configured incorrectly for type of machine.	No further action if problem corrected
Or	Check machine type in "Room Layout" on WaveCentral. If incorrect, right-click on machine and select "Delete". Add machine back into the room layout with the correct machine type and configuration information.	If problem persists, contact Customer Service
Display reads "In Use" when machine is idle (Quantum/MDC/PR models only)	NOTE: All readers in the room will have to be re-linked to the WaveController. Follow the steps below in order:	
Or	<ol style="list-style-type: none"> 1. Disconnect power to all machines in laundry room but leave WaveController powered. 2. With the WaveController on the "CONNECTED" screen, press any number to enter the configuration screen. 3. When prompted for the PIN, press "1 2 3 4" and then press enter. 	
WaveReader alternates between "Insert Card" and "In Use"	<ol style="list-style-type: none"> 4. In configuration mode, press the down arrow button to go to the second menu. 5. Reconnect power to all machines in laundry room. 6. Wait 5 minutes to give the readers time to attempt connection to the WaveController. 7. On WaveController, press "2: Configure ZB" <p>Repeat the linking process accomplished before the change.</p>	

System Errors and Corrective Actions for: WaveReaders to WaveCentral (continued)

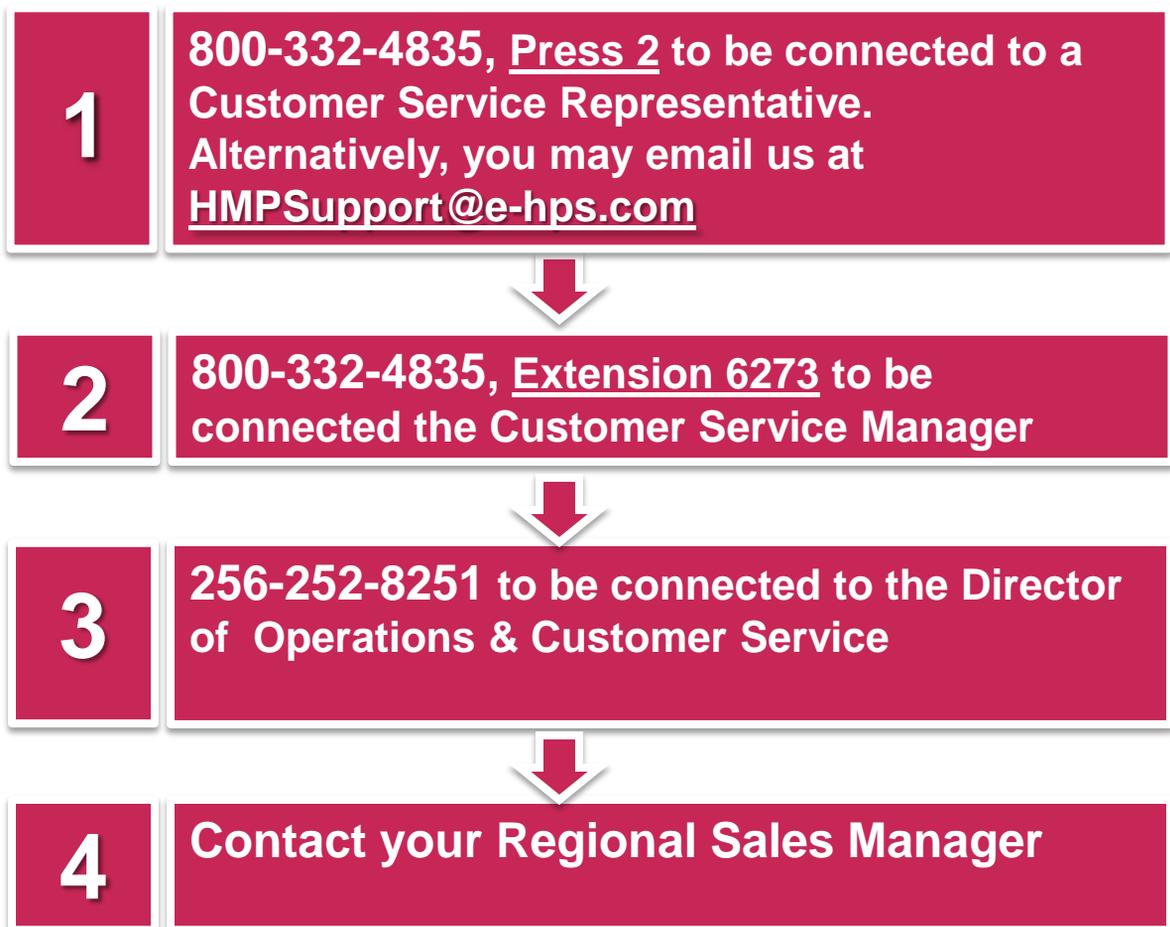


INDICATION	TROUBLESHOOTING PROCEDURES	ACTION
<p>WaveReader reads “Declined Low Balance”</p>	<p>The vend price for the reader may be set to a value greater than the Max Vend Price set on the Room Set-up page.</p>	<p>Verify the Max Vend Price:</p> <ol style="list-style-type: none"> 1. On the Room Set-up page, select the room you wish to verify and select the “Edit” button. 2. Scroll down to “Max Vend Price” and ensure the price is equal to or greater than the maximum vend price in the laundry room. 3. Save any changes. 4. Cycle power to the WaveController. This will force the controller to reconnect to WaveCentral and get the new Max Vend Price. 5. If this does not correct the problem with the reader, contact Customer Service for further assistance.

Customer Service Process & Escalation

If you require support for any component of your card payment system, Heartland MicroPayments has a team of dedicated Customer Service Representatives to assist you.

Please use the following steps to contact our team. If the issue has not been resolved to your satisfaction in Step-1, please escalate the issue to the next step, detailed below:



Returning Equipment for Repair Service

1

Obtain a description of the item to be returned, a description of the problem the item has, and the serial number of the item.



2

Call 800-332-4835, Press 2 to be connected to a Customer Service Representative (CSR)



3

The CSR will help determine warranty status and advise you of options



4

If item is to be returned for repair, the CSR will issue a Return Materials Authorization Number (RMA#) to you.**



5

Return the item to:
Heartland MicroPayments
Attn: RMA# _____ (include RMA # here)
2115 Chapman Road, Suite 159
Chattanooga, TN 37421



6

After repair charges (if applicable) have been determined and approved, the repairs will be conducted and the item returned to the client.

****Note: Items returned without an RMA# may be refused, or their processing will be significantly delayed.**

Warranty Policy

Heartland MicroPayments standard warranty period is one year from the date of shipment. Heartland MicroPayments warrants that during the warranty period equipment shall be free from defects in materials, workmanship, and fabrication, and shall conform to applicable specifications, drawings, samples and/or description. Heartland MicroPayments hardware products are warranted against defects in materials and workmanship when purchased from Heartland MicroPayments or an authorized Heartland MicroPayments dealer and subject to normal use and service during the warranty period. If Heartland MicroPayments receives notice of such defects during the warranty period, Heartland MicroPayments will, at its option, either repair or replace without charge, hardware products which prove to be defective, except as set forth below. All replaced parts become the property of Heartland MicroPayments.

This Limited Warranty shall not apply to equipment failure resulting from:

1. Improper or inadequate maintenance by purchaser, including failure to follow published cleaning schedules. Heartland MicroPayments recommends that the card reader units and bill validators be cleaned every two weeks (minimum). Due to environmental conditions, the cleaning procedure may be required more frequently. Card reader cleaning cards and bill validator cleaning cards may be purchased from Heartland MicroPayments.
2. Purchaser supplied software, hardware or interfacing, including reprogramming, which may cause excessive repetition of electro-mechanical or electronic drive components.
3. Unauthorized or non-Heartland MicroPayments modifications to the product or misuse of the product.
4. Operation outside the following environmental or electrical specifications for the product:
 - 41 to 104 degrees Fahrenheit (+5 C to +40 C)
 - 20% - 80% relative humidity, non-condensing
 - 90 - 125 Volts AC, 50/60 Hz
5. Improper site preparation and maintenance.
6. Accident, disaster or vandalism.

The foregoing warranties shall be subject to purchaser's installing and maintaining the equipment in accordance with the specifications and directions supplied by Heartland MicroPayments, and the customer shall be responsible for all transportation charges on warranty replacement or repair items returned to Heartland MicroPayments.

Heartland MicroPayments makes no representations or warranties other than those set forth. The warranty stated herein is expressly in lieu of all other warranties, express or implied, including, but not limited to, any express or implied warranty of merchantability or fitness for a particular purpose, or against infringement, and such warranty constitutes the only warranty made by Heartland MicroPayments with respect to this agreement to the Heartland MicroPayments products listed, articles, materials, replacement parts, or services to be supplied hereby. Heartland MicroPayments shall not be liable for any incidental or consequential damages of any kind.