



CYTOWAVE

CONTROLLER

OPERATOR MANUAL 2.0

© Copyright 2014 by
CytoWave LLC
1201 Jupiter Park Drive.
Jupiter, FL 33458
All rights reserved.





OPERATOR MANUAL

FOR CYTOWAVE CONTROLLER 2.0

Congratulations on acquiring a Cytowave Equine Therapy System! This electronic controller generates the proprietary Squid Therapy Signals™ which are designed to greatly increase the natural repair processes of the body.

We thank you for your business and look forward to helping you and your horse.



Table of Contents

Safety and Warnings	5
Features of Cytowave Controller	7
Operating the Cytowave Controller 2.0	8
Available Treatment Programs	14
Extending Expiration Date	15
Software Updating	17
Care and Maintenance	23
Troubleshooting	24
Contact Us	30

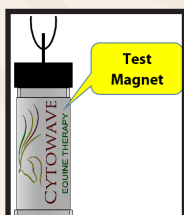
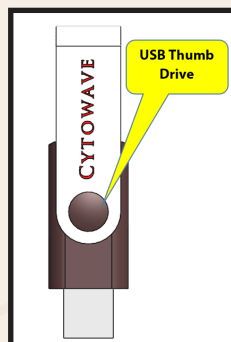
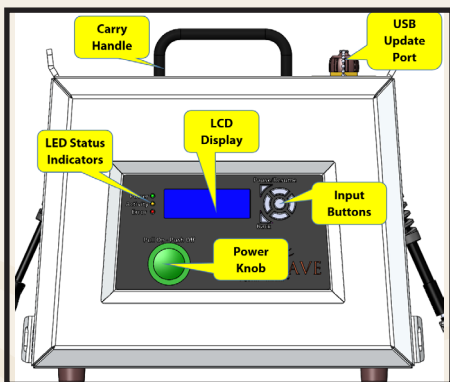
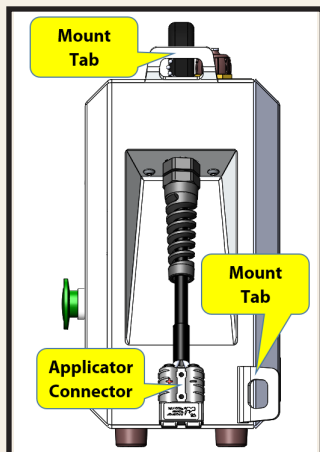
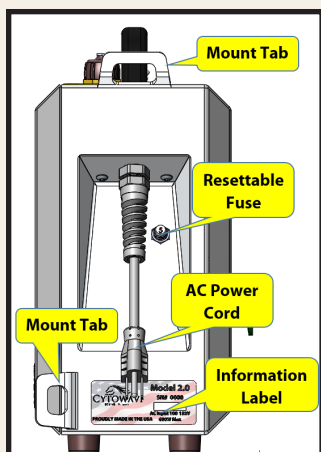
SAFETY and WARNINGS



- Plug Controller into a properly ground AC power outlet.
- Input voltage range from (100AC-132V AC). Exceeding this range will damage the system and void your warranty.
- To reduce the risk of fire or electrical shock, do not expose the Controller unit to rain or excessive moisture.
- The Controller should not be located in a hazardous environment, such as high temperatures, exposed flammable liquids, or fumes.
- Make sure external AC power source's safety devices (such as fuses, breakers and ground fault circuit interrupters (GFCI)), are working correctly.
- Make sure the controller's power cord does not have any damage, such as cuts in the insulation that expose internal wires.
- If the unit will not be used for a long period, unplug from the AC power source.
- Do not use the unit during lightning storms.
- Do not place this unit on unstable or uneven surfaces.
- Hang the unit outside of the stall—never place the controller on the ground in the stall with the horse during operation.
- Never allow your horse to chew on the primary AC power cable due to risk of shock.
- The breakaway cables connected to the applicator coils will not shock the horse if chewed through but they are expensive to replace.
- Route cables away from the hoofs to avoid a horse stepping on and severing a cable.
- CytoWave recommends that a veterinarian supervise the treating of severe acute equine injuries.
- Do not use a dual applicator program with a single applicator set-up.

- It is normal to see some copper showing through the applicator coil casing—there is no risk of shock from the exposed copper wire.
- Do not attempt to service this unit. Any attempt to service or tamper with this unit will automatically void the product warranty.
- Do not use the System with USB cap removed.

FEATURES OF THE CYTOWAVE CONTROLLER



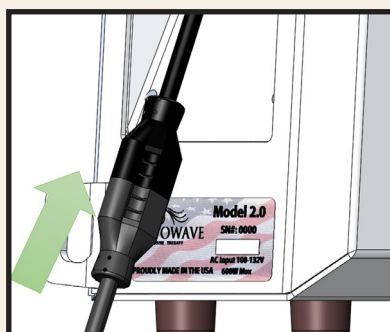
Briefly hold the test magnet near the coils during a treatment. The magnet should rapidly vibrate and this indicates that the coils are working. If the magnet does not respond, contact customer support at 844-298-9283

OPERATING THE CYTOWAVE

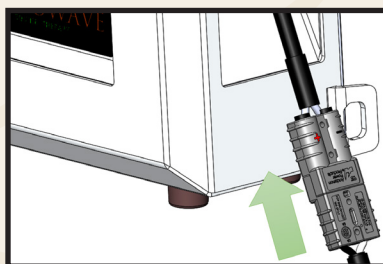
CONTROLLER 2.0

Starting & Running a Treatment Cycle

- 1) Apply the required applicator to the horse as defined in the applicator setup guides.
- 2) Route the applicator cable outside the stable area or a safe distance away from the horse.
- 3) Secure the controller unit during the treatment cycle.
- 4) Attach the supplied AC power extension cord to Power Cord Connector on the side of the Controller unit.



- 5) Next plug the power cord into a properly ground AC power source. The Cytowave Controller Unit must also be properly grounded.
- 6) Attach an Applicator cable to the Applicator connector on the Cytowave Controller unit.



7) Turn on Controller by pulling the green On/Off button forward. A “Please wait...System Boot” message will appear onscreen as the system boots up.



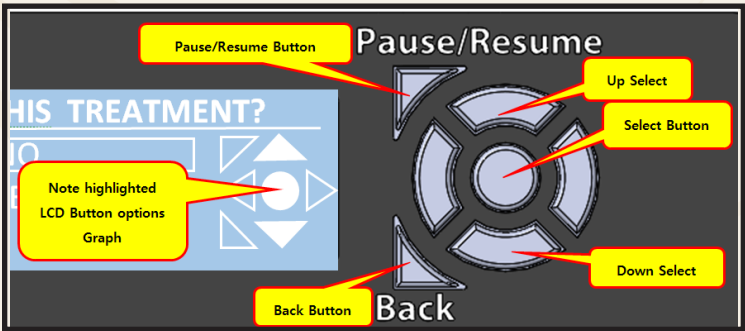
8) A second message, “Press any key to continue” will appear next. When the controller is ready, press any menu button to continue.



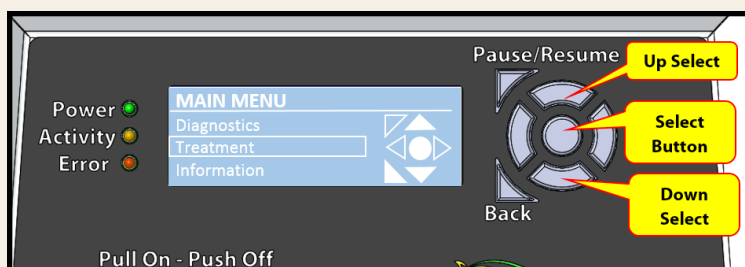
Rev = is the software version the system is running
EXP: is the expiration date for rental systems

9) LCD Keypad Display Options

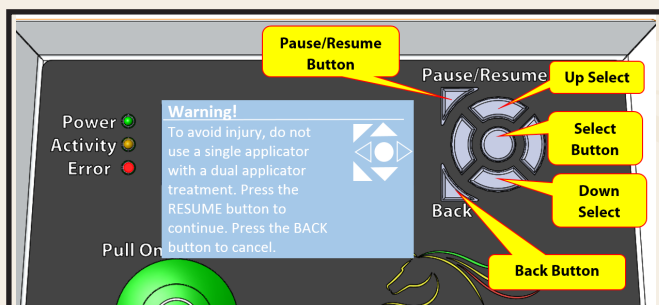
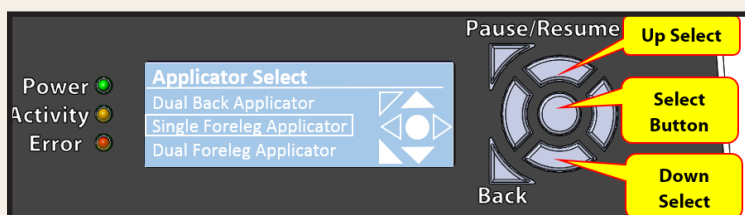
The System’s LCD has a keypad display graph. This graph will display the keypad buttons that are active for each menu. Highlight keys are shown as active. The image is matched to the physical input buttons. See below



10) The main menu default is “TREATMENT.” Press the Select Button on the keypad to enter Treatment Menu. The up and down keys allow for toggling the menu selection.

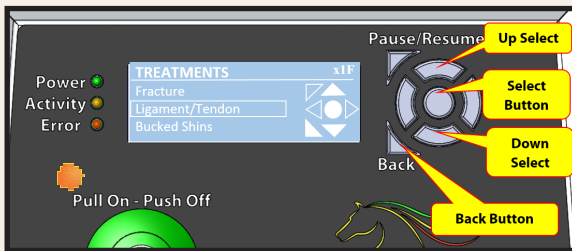


11) Using the Up/Down buttons on the keypad, select the matching applicator configuration that is currently applied to your horse. The selected treatment will be outline by a white box.



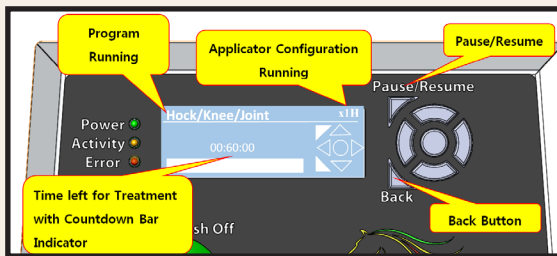
After selecting the Applicator, a warning message will appear. This message prompts you to confirm that you have selected the correct configuration. Selecting a “Dual” Applicator configuration for a single Applicator or vice versa can cause the Applicator Coils to exceed normal operating temperatures during the treatment cycle. To confirm the correct selection, press the “Pause/Resume” button.

12) In the “Treatments” menu, use the Up/Down Select Arrow Buttons to browse the Treatment Menu Programs. Find the desired Treatment Program and press the Keypad Select Button.



Press the Keypad Selct Button to start the treatment cycyle. Back Button will bring you back to the Applicator Select menu.

13) On the LCD screen a message will show the Treatment selected and the type of applicator and single or dual status.



Applicator Cnfiguration Definition

- I. x1F = Single Foreleg Applicator
- ii. x2F = Dual Foreleg Applicator
- iii. x1H = Single Hock Applicator
- iv. x2H = Dual Hock Applicator
- v. x1B = Back Applicator Single Coil Set
- vi. x2B = Back Applicator Dual Coil Set

During the treatment cycle the Activity Status LED will be illuminated steady orange

TREATMENT POWER CONFIRMATION

When held cllost to the applicator coils, the Test Magnet should vibrate, indicating the unit is functioning correctly.

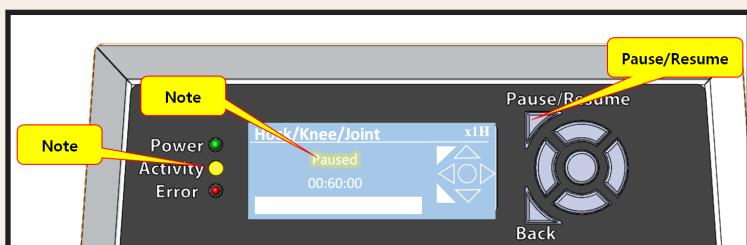
Treatment Cycle Completion

At the end of the treatment cycle, a beeping sound will indicate the treatment has finished. A message on screen will read “Treatment completed.”



Pausing a Treatment Cycle

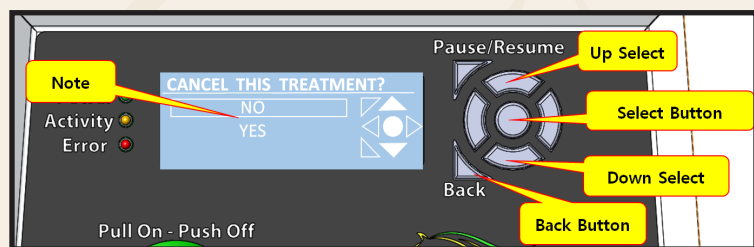
To pause a treatment, press the Pause/Resume button.



LCD will post a flash “Paused” in the center of the screen. The counter will stop & the Activity LED will flash orange. To Resume, press the Pause/Resume button again.

Canceling a Treatment Cycle

To stop the treatment, push the Back button on the keypad.



The display will read, “CANCEL THIS TREATMENT?”

Use the Up/Down Arrow button to scroll. Select “YES” to stop the treatment or “NO” to resume the treatment.

Once action is selected, press the center select button to commit action

DEFINING MAIN MENU SELECTIONS

1) Diagnostics: Used for servicing and troubleshooting the system

a. Display/LED Test: Used for testing and troubleshooting the display and LED’s

i. System will run a LCD and LED test

b. Keypad Test: Used for testing and troubleshooting the keypad

i. Can test the button input action for the keypad

2) Treatment: Where the treatment programs are accessed

a. Applicator Select: Where the treatment programs are accessed for the applicator configuration

i. Single Foreleg Applicator: Intended for treatments supporting a Single Applicator Use

ii. Dual Foreleg Applicator: Intended for treatments supporting a dual Foreleg Applicator use.

iii. Single Hock Applicator: Intended for treatments supporting a single Hock Applicator use.

iv. Dual Hock Applicator: Intended for treatments supporting a dual Hock Applicator use.

v. Single Back Applicator: Intended for treatments supporting a single Back Applicator coil configuration use.

vi. Dual Back Applicator: Intended for treatments supporting a dual Back Applicator coil configuration use.

3) Information: Where to access System Information

a. System's internal set Date & Time

b. Exp. Date: System's expiration date

c. S/N: System's serial number

d. PCB S/N: System's Motherboard Serial Number

e. SW Reb: System's current software version

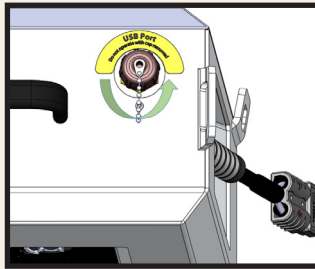
g. Internal Temp: System's current Motherboard temperature reading

TREATMENT PROGRAMS

- ▶ **Fracture:**
 - Length of Time for Treatment: (60min)
 - Applicators Supported:
 - ⊙ Hock Applicator (Single & Dual)
 - ⊙ Foreleg Applicator (Single & Dual)
- ▶ **Ligament/Tendon:**
 - Length of Time for Treatment: (60min)
 - Applicators Supported:
 - ⊙ Hock Applicator (Single & Dual)
 - ⊙ Foreleg Applicator (Single & Dual)
- ▶ **Back:**
 - Length of Time for Treatment: (60min)
 - Applicators Supported:
 - ⊙ Back Applicator (Single & Dual)
- ▶ **Hock/Knee/Joint:**
 - Length of Time for Treatment: (60min)
 - Applicators Supported:
 - ⊙ Hock Applicator (Single & Dual)
 - ⊙ Foreleg Applicator (Single & Dual)
- ▶ **Buck Shins:**
 - Length of Time for Treatment: (60min)
 - Applicators Supported:
 - ⊙ Foreleg Applicator (Single & Dual)
- ▶ **Maintenance/Inflammation:**
 - Length of Time for Treatment: (30min)
 - Applicators Supported:
 - ⊙ Hock Applicator (Single & Dual)
 - ⊙ Foreleg Applicator (Single & Dual)
 - ⊙ Back Applicator (Single & Dual)

EXTENDING THE EXPIRATION DATE

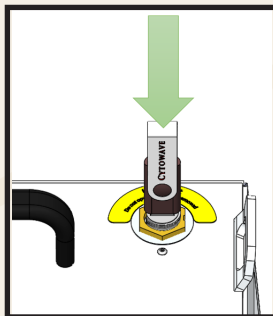
- 1) Attach AC power to the system.
- 2) Power the System off.
- 3) Access the USB programming port found on the topside of the Controller by removing the port's protective cap. Turn counter clockwise to remove.



- 4) The update software file created by Cytowave will need to be copied to the root directory of a USB thumb drive.

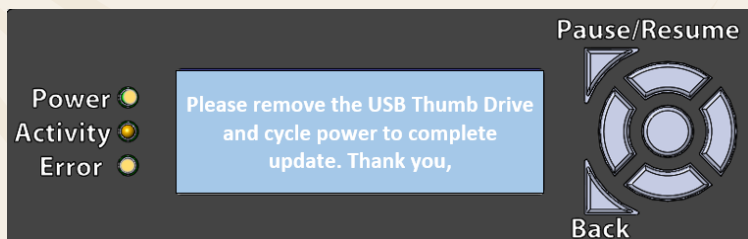
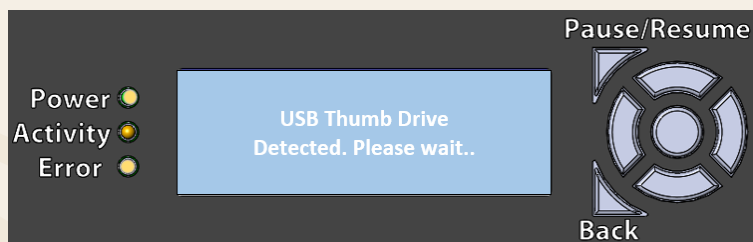
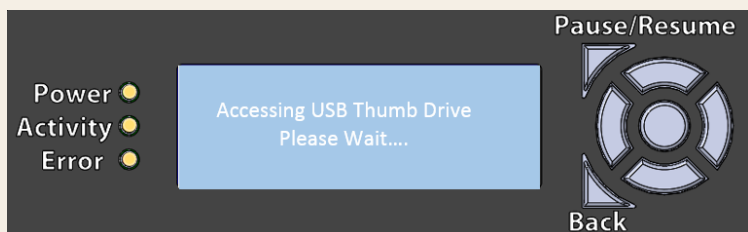
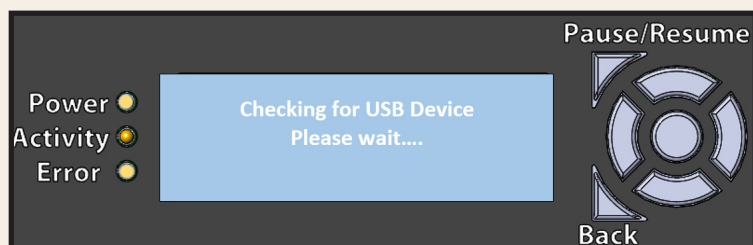
Some 2.0 compliant USB drives might not be compatible with the system. It is suggested that the provided Cytowave USB drive be used for the update process.

- 5) Plug the Thumb Drive into the USB port.

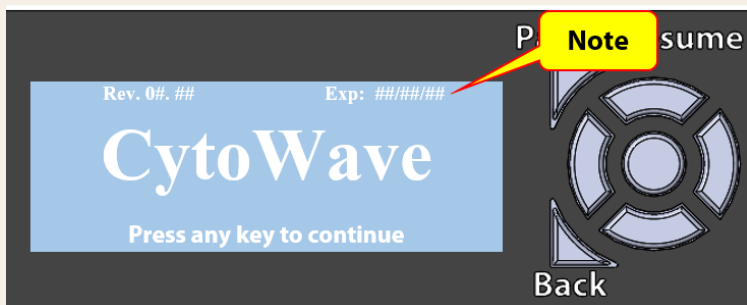


Powering up the System

The system will automatically scan the USB Drive for software upgrade files. The display sequence should follow the images below.



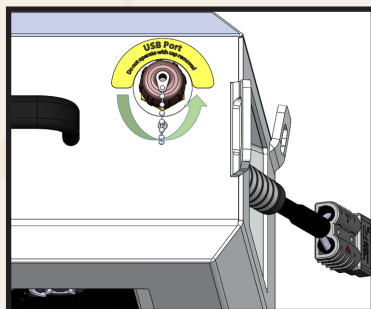
When the system reboots, confirm correct expiration (below).



Expiration date extension is now complete.

SOFTWARE UPDATING

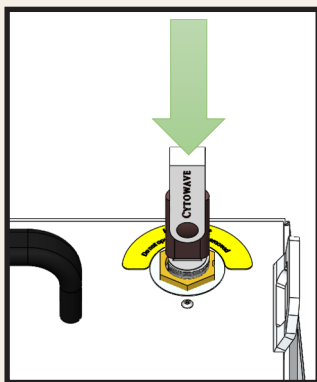
- 1) Attach AC power to the system.
- 2) Power the system off.
- 3) Access the USB programming port found on the topside of the Controller by removing the port's protective cap. Turn counter clockwise to remove.



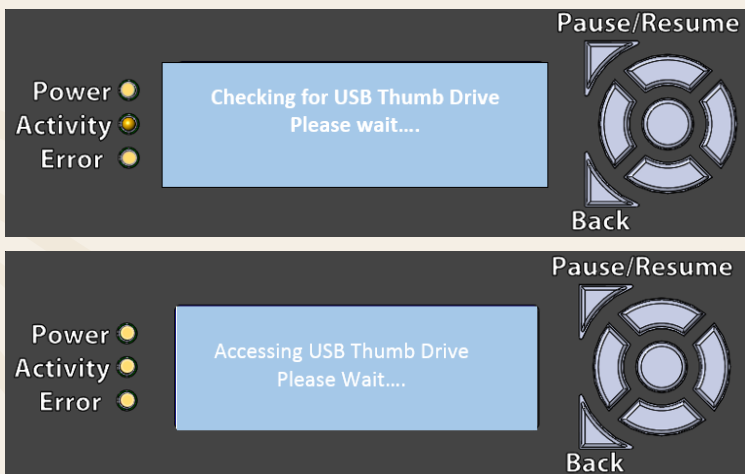
4) The update software file created by Cytowave will need to be copied to a 2.0 USB Thumb Drive's root directory.

Some 2.0 compliant USB drives might not be compatible with the system. It is suggested that the provided Cytowave USB drive be used for the update process.

5) Plug the Tumb Drive into the USB port.

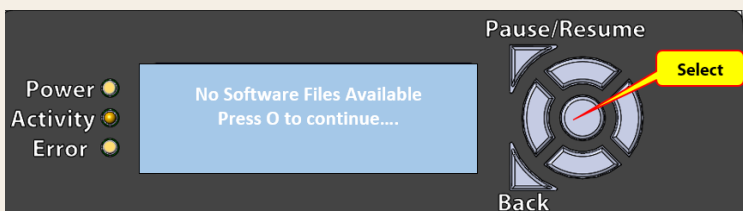


6) Power up the system.

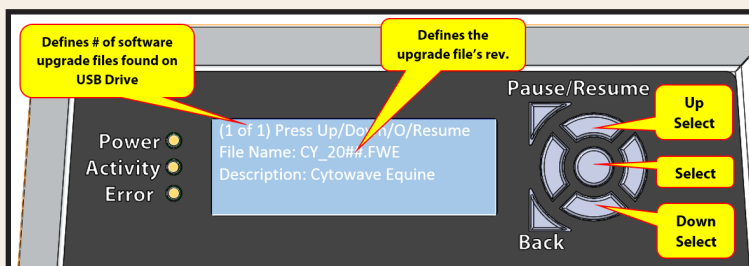


Based on the data size of the USB Thumb Drive, the time for this process to complete could be up to a minute or more.

If the system boots to the screen stating “No Software Files Available - Press O to continue” remove the USB Thumb Drive and confirm the correct files are loaded to the USB Thumb Drive’s root directory. See troubleshooting for further details if poroblem persists.



7)The system will automatically scan the USB Thumb Drive for software upgrade files. It will display the Software Upgrade file as shown.



17) Select the “Select” button to start the upgrade.

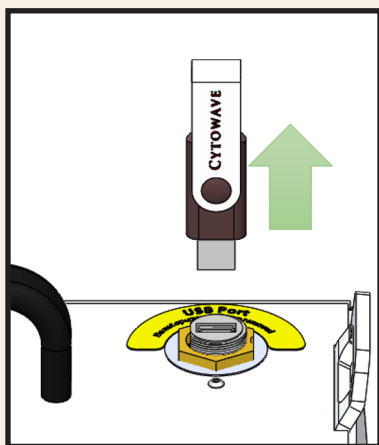
18) Confirm the upgrade information on the screen. Once confirmed, press the Select button again.

19) The system will display the software upgrade status on % #.

20) Once the System’s main software file is updated, it will show 100% complete. If the system’s LCD display file requires updating, the following message will be displayed:

The display image update may take several minutes to update, do not turn power off during update.
Press O to continue.

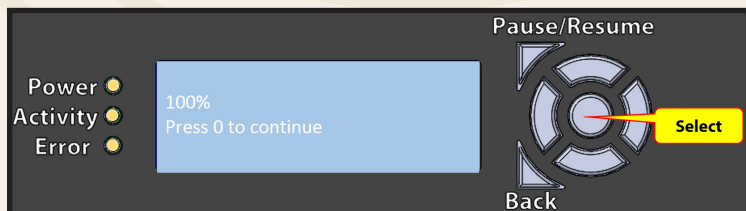
- 21) Follow the display image update prompts.
- 22) Once update is complete, remove the USB Drive.



Display image will indicate 100% when file load is complete (below image).

100%
Press O to continue

- 23) Once USB Drive is removed, press the Select Button.

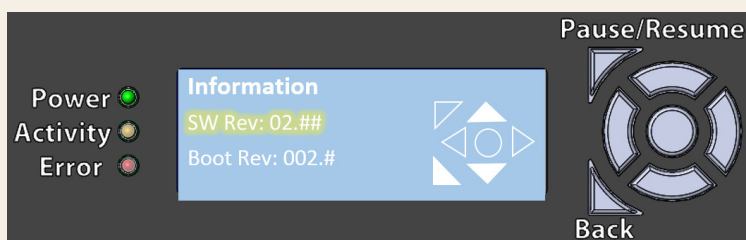


24) Let the system reboot.

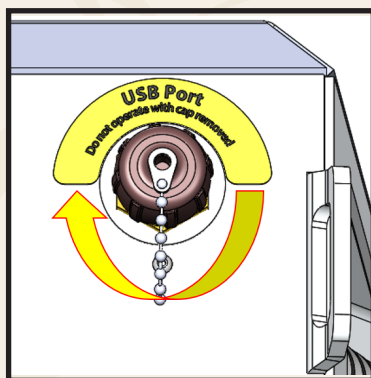
25) Once booting is complete, press the select key to enter main menu.

26) Using the Up/Down menu keys, select “Information.”

27) In the information screen using the Down key, scroll down to SW Rev: & Boot Rev. Confirm the SW Rev matches the one selecte for the upgrade.



28) Once upgrade rev is confirmed, reinstall the USB Programming Port Cap.



Make sure cap threads are not crossed before tightening. Once Cap threads are properly seated, turn clockwise untill hand tight.

CARE & MAINTENANCE

Operating Specifications:

Operating temperature range (0C – 35C / 32° - 95°). Exceeding this range will damage the system and void the warranty.

Cleaning:

Unplug the unit before cleaning.

Use a soft, damp cloth with water, or a mild cleaner to remove dirt and dust, followed by a clean cloth to wipe dry. Use a dry soft cloth to dust off unit.

Do not spray cleaners directly onto units surface.

Do not use any petroleum based cleaners, as they could damage the input panel labeling.

Storage:

Always remove System from AC power source when not in use.

Store System in areas between 0C-55C (32F – 131F). Exposing the System to extreme temperatures could affect performance of the unit.

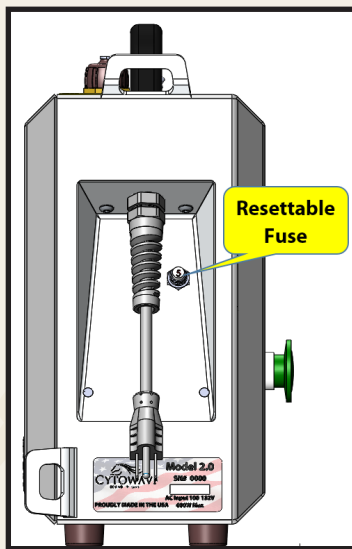
Impacts:

Drops or falls can induce non-warrantable damage.

TRUBLESHOOTING

System will not power on:

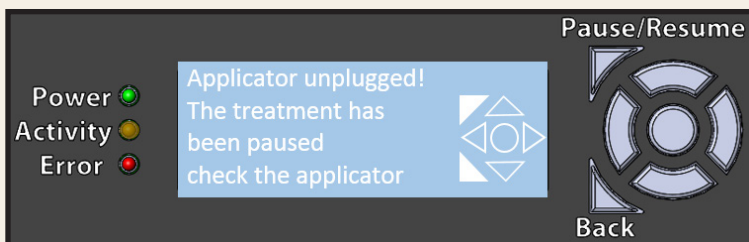
- 1) Check external AC power source is active.
- 2) Check AC power cable is connected and has no damage.
- 3) Check to see if System's AC power fuse is not reset. Press "reset" button.



- 4) If System still fails to boot, contact CytoWave Service Department.

System posts Error “Applicator Unplugged”

1) Check to confirm the applicator cable is secured between the System & Applicator Coils.



2.) Disconnect and inspect all cable interconnects for all Applicator Cables. Note any recessed connect pins or any damage to the cables or connector, and replace if necessary.

3) If possible, use another coil set to determine if coil is faulty. Run a Single Applicator if Dual configuration is posting the error. Swap coils in Single Applicator to determine if there are issues between the coil sets.

4) Treatment cycle will resume at the point it was interrupted.

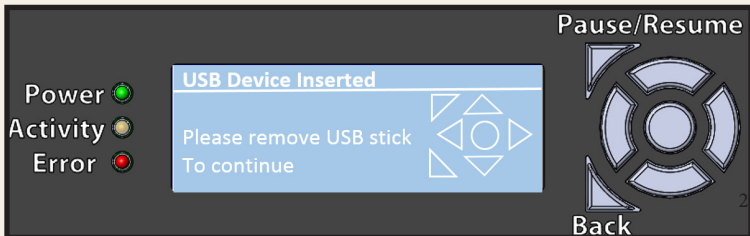
5) If error persists, call Cytowave's Service Department at 844-298-9283

System posts Error “Wrong Applicator Attached”



1. Confirm Applicator Configuration selection matches attached Applicator/Applicators.
2. Check Applicator Cables and connections.
3. Use the Test Magnet to check if the coils are operating.
- 4) If problem persists, contact Cytowave’s Service Department at 844-298-9283.

SYSTEM POSTS ERROR “USB Device Inserted”



1. Remove USB Drive/Stick and reinstall USB Port Cap.
2. If problem persists, contact Cytowave’s Service Department at 844-298-9283.

ERROR MESSAGE TABLE

ERROR NOTIFICATION	MESSAGE	ACTION
If no USB stick, no image available or USB error	The current display image is out of date, please contact Cytowave	1. Retry update 2. Call customer service
If a USB stick is placed in the machine after running the application	USB Thumb Drive inserted please remove USB Thumb Drive to continue	1. Follow message directions
temperature above 65C or 149F	Temperature Error Controller overheating. Please move to a cooler environment or provide adequate ventilation. Press BACK button to continue	1. Follow message directions 2. Note max temperature specs
Temperature below -10c or 14F	Temperature Error Controller reaching Minimum operating temperature. Please move to a warmer environment. Press BACK button to continue	1. Follow message directions Note max temperature specs
Applicator is shorted	Applicator Shorted. The treatment has been paused. Check the applicator and attachments, then press the RESUME button to continue. Press BACK button to cancel.	1. Follow message directions 2. Swap coils 3 Swap applicator cable 4 Call service if problems persist
Applicator is not connected	Applicator unplugged. The treatment has been paused. Check the applicator and attachments, then press the RESUME button to continue. Press BACK button to cancel.	1. Follow message directions 2. Swap coils 3 Swap applicator cable 4 Call service if problems persist
The wrong applicator is attached	Wrong applicator attached. The treatment has been paused. The wrong applicator has been detected please change applicators. Press the RESUME button to continue. Press the BACK button to cancel.	1. Follow message directions 2. Swap coils 3 Swap applicator cable 4 Call service if problems persist
EEPROM read/write and corruption error	Internal Error. Please power off for 20 seconds. Restart controller. If persists, please contact Cytowave.	1. Follow message directions

ERROR NOTIFICATION	MESSAGE	ACTION
Internal Amp driver fault	Internal Error. Please power off for 20 seconds. Restart controller. If persists, please contact Cytowave.	1. Follow message directions
Attempting to run a treatment with expired time	Time Expired Authorized treatment time of use has expired. Please contact Cytowave to purchase more time. Press BACK button to continue	1. Follow message directions
If a bad boot loader is detected	USB Thumb Drive inserted please remove USB Thumb Drive to continue	1. Follow message directions
If a bad mount of USB stick or can't open root directory	Temperature Error Controller overheating. Please move to a cooler environment or provide adequate ventilation. Press BACK button to continue	1. Follow message directions 2. Call service if problems persist

ERROR NOTIFICATION	MESSAGE	ACTION
Status: if a USB device is detected and a display image is available	The display image update may take several minutes to update. Do not turn power off during update. Press O to continue	1. Follow message directions
Status: If a USB stick is detected the following message is displayed	USB Thumb drive detected. Please wait.	1. Follow message directions
Status: if no master key and an Expiration date file for this unit is later than the current expiration date	Expiration date update complete. Please remove USB Thumb drive and restart controller.	1. Follow message directions
Status: If no master key and no expiration date file	Please remove USB Thumb drive and restart controller	1. Follow message directions 2. Call service if problems persist
Status: if the unit has more than 10 days expiration time	SW Rev: x, yy Exp: a/b/c/ Cytowave logo Press any key to continue	None
Status: if less than 10 days and greater than 0 days	This controller will expire in XX days on (Date). Please Contact Cytowave customer service at: 844-298-9283. Press resume button to continue.	1. Follow message directions
Status: if no days left	Authorized treatment time has expired. Please Contact Cytowave to purchase more time. Press BACK button to continue	None
Status: if no USB stick detected	Checking for USB Thumb drive. Please wait	1. Follow message directions
Status: program load successful	Update Complete, Press O	1. Follow message directions
Status: program load successful	Update Complete, Press O	None

CONTACT US

CUSTOMER, TECHNICAL SERVICE & SALES SUPPORT

CUSTOMERSERVICESUPPORTCS@CYTOWAVE.COM

TECHNICALSERVICETS@CYTOWAVE.COM

SALES@CYTOWAVE.COM

(844) 298-9283

REGULATORY INFORMATION: FCC

FCC CLASS B WARNING THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS B DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE IN A RESIDENTIAL INSTALLATION. THIS EQUIPMENT GENERATES USES AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. HOWEVER, THERE IS NO GUARANTEE THAT INTERFERENCE WILL NOT OCCUR IN A PARTICULAR INSTALLATION.

TRADEMARK AND COPYRIGHT

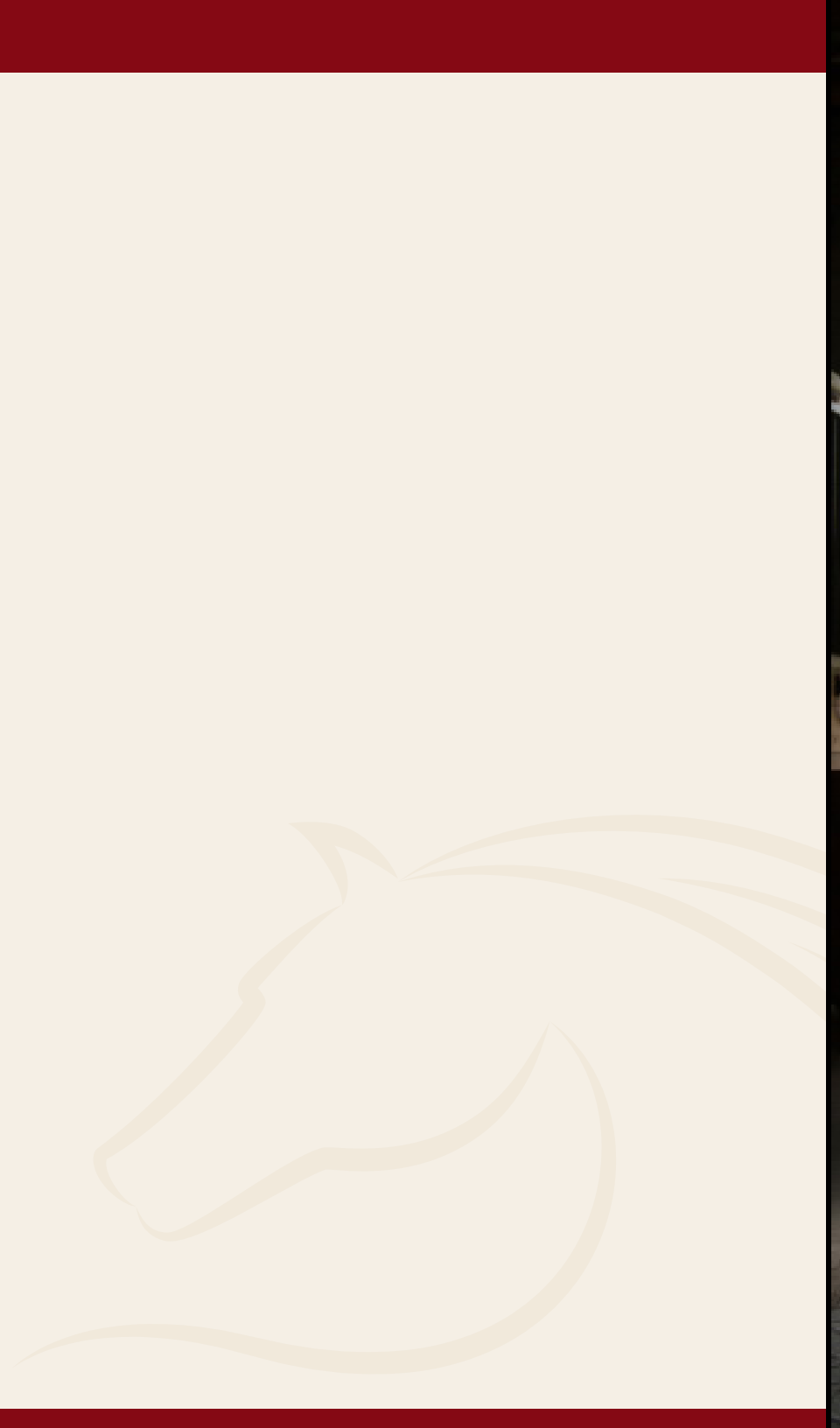
NO PORTION OF THIS MANUAL MAY BE REPRODUCED OR COPIED BY ANY MEANS WITHOUT THE PRIOR CONSENT OF CYTOWAVE LLC. REPRODUCTION OF THIS MATERIAL IN PART OR WHOLE, IS STRICTLY PROHIBITED WITHOUT WRITTEN PERMISSION OF CYTOWAVE LLC.

WHILE EVERY PRECAUTION HAS BEEN TAKEN IN PREPARATION OF THIS MANUAL, CYTOWAVE

LLC ASSUMES NO LIABILITY TO ANY PARTY FOR ANY LOSS OR DAMAGE CAUSED BY ERRORS OR OMISSIONS OR BY STATEMENTS RESULTING FROM NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE. CYTOWAVE LLC FURTHER ASSUMES NO LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS DOCUMENT. CYTOWAVE DISCLAIMS ALL WARRANTIES OF MERCHANDISE OF FITNESS FOR A PARTICULAR PURPOSE.

CYTOWAVE RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCT OR SYSTEM HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN.

.....



The background of the entire page is a photograph of a person in silhouette using a Cytowave Controller on a horse. The person is standing in a stable, holding the horse's lead rope. A device, the Cytowave Controller, is placed on a wooden surface to the left, with a cable connecting it to the horse's leg. The scene is backlit by a bright light from a large stable door, creating a strong silhouette effect. The floor is made of dark, interlocking rubber mats.

Cytowave Controller
Operator Manual