**Installation:**

**MAKE SURE THE MARKER IS NOT CONNECTED TO AN AIR SOURCE AND DOES NOT HAVE PAINTBALLS IN THE BREACH DURING INSTALLATION!!!!!!**

1. Remove the screws that secure the grips. This will expose the board.
2. Unplug the eye ribbon, solenoid wires, and power wires.
3. Wiggle your old board out.
4. Slide your new HATRED board in. It’s purposely a tight fit so you may have to use some force.
5. Plug in your eye ribbon, power, and solenoid wires.
6. Replace grips.

**Power:**

**Power On:** The HATRED board comes equipped with an Instant On feature. Simply press the power button (top button) and your marker will instantly power on. As long as the power button is depressed, you will see a flashing GREEN or RED led. The GREEN indicates a good battery and the RED means replace the battery as soon as possible. Regardless of GREEN/RED battery indication, your marker WILL REGISTER YOUR FIRST TRIGGER PULL! Please be careful!

**Power Off:** To turn the marker off, press and hold the power button until the LED goes through a rainbow power down sequence. Please note that this particular rainbow LED sequence does NOT indicate that you’re entering the programming menu.

### Programming Examples:

1. **To set the firing mode to PSP mode.**
   1. Turn the marker off.
   2. Hold the trigger down; then turn the marker on. Once the LED flashes many colors, release the trigger.
   3. Tap the trigger until the LED turns purple.
   4. Hold down the trigger until the LED goes blank.
   5. Tap the trigger twice.
   6. Once the LED flashes many colors, turn the marker off.

2. **To set the max ROF to 15 bps.**
   1. Turn the marker off.
   2. Make sure the top dip-switch (dip-switch 1) is in the ON/UP position.
   3. Hold the trigger down; then turn the marker on. Once the LED flashes many colors, release the trigger.
   4. Tap the trigger until the LED turns blue.
   5. Hold down the trigger until the LED goes blank.
   6. Tap the trigger 5 times.
   7. Once the LED flashes many colors, turn the marker off.

**Eye Sensor Operation:**

When the HATRED Board is powered on, the eyes are enabled by default. To disable the eyes, press and hold the eye button on your marker.

1. **When the eyes are disabled (blinking red LED), your ROF will default to the user programmed global ROF cap.**
2. **When there is an EYE FAULT (blinking blue LED), your ROF will automatically default to 15 cps.**

**Firing Modes:**

(Please note the firing mode order on the back of the HATRED box does not correspond the actual order.)

1. **Semi Auto/NPPL:** 1 trigger pull = 1 shot fired.
2. **PSP Mode:** The first three shots are semi-auto. On the 4th shot, the gun will shoot in 3 shot bursts. This burst mode will continue as long as the trigger is being pulled. After a one second delay of trigger inactivity, the 3 shots semi-auto sequence will restart.

**LED Representation:**

| Solid Blue | LED Representation: Eyes on; Paint in breach. |
| Blinking Blue | Eyes on w/ blocked/dirty error. |
| Solid Red | Eyes on; No paint in breach. |
| Blinking Red | Eyes disabled. |

### Programming Modes:

<table>
<thead>
<tr>
<th>Switch 1 (top)</th>
<th>DOWN</th>
<th>UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROF Cap ON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROF Cap OFF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tournament Lock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programming Mode</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Programming Table:

<table>
<thead>
<tr>
<th><strong>LED Color</strong></th>
<th><strong>Setting</strong></th>
<th><strong>Default Setting</strong></th>
<th><strong>Adjustable Range</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple</td>
<td>Fire Mode</td>
<td>1</td>
<td>1-22</td>
</tr>
<tr>
<td>Green</td>
<td>Debounce</td>
<td>5 ms</td>
<td>1-50 ms</td>
</tr>
<tr>
<td>Red</td>
<td>Max DROF</td>
<td>15 ms</td>
<td>5-35 ms</td>
</tr>
<tr>
<td>Blue</td>
<td>AMB</td>
<td>1 ms (1 + AMB Disabled)</td>
<td>1-60ms</td>
</tr>
<tr>
<td>Teal</td>
<td>Wireless Address</td>
<td>1</td>
<td>1-32</td>
</tr>
<tr>
<td>Yellow</td>
<td>Eye Delay</td>
<td>4 ms</td>
<td>1-20 ms</td>
</tr>
<tr>
<td>White</td>
<td>ABS</td>
<td>10 ms</td>
<td>1-20 ms</td>
</tr>
<tr>
<td>Flickering Purple</td>
<td>Ramp Activation</td>
<td>9 bps</td>
<td>6-15 bps</td>
</tr>
<tr>
<td>Flickering Green</td>
<td>Ramp Percent</td>
<td>10%</td>
<td>1-20 (10-200%)</td>
</tr>
<tr>
<td>Flickering Blue</td>
<td>Reset Defaults</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

1. Pulling and releasing the trigger will allow the user to toggle through the different programming options.
2. Once the desired setting/LED color is reached, pull and hold the trigger to select that setting. The LED will then go blank.
3. Once the LED goes blank, pull the trigger for the desired setting. For example, if the user wishes to set the debounce to 2, he or she must pull the trigger two times.
   - If the user wants to view their current value for a particular setting, he or she need only to continue holding the trigger in after the setting is selected from the menu. The software will then blink back the user’s current value for that particular setting.
4. The software will indicate that the new value has successfully been entered by blinking the value back to the user then rapidly flashing the LED through a spectrum of colors.
   - As the software blinks back the new setting, the user may abort this process by simply clicking the trigger once. The new settings will still be saved.
5. After a setting has been changed, the user may change another option or power the gun off to save the settings.

**NOTE:** All “programming clicks” correspond exactly to their settings. If you want to cap the ROF at 15, pull the trigger 15 times. If the user sets the value too low (2 cps ROF cap for example), the software will automatically default to the lowest accepted value. The inverse is also true for user inputs which are beyond the adjustable range.
The ROF transmissions allow your load board:

1. **First.** The ROF cap must be set to 13 to cap the marker at 13.33 bps to comply with NXL rules.

2. **Millennium.** Ramping mode specifically designed for Europe’s Millennium Series.

3. **Ramping.** Uses a linear ramping algorithm to increase your rate of fire. You can choose when you want your marker to start ramping and how fast your marker will ramp.

4. **Set your HATRED gun board to the desired wireless address.**

5. **Enter the white.** Release the button; the LED should now be solid white.

6. **Make sure your SYMBIO is fully powered off.** Press and continue to hold the SYMBIO loader board’s button in until the LED flashes white. Release the button; the LED should now be white.

7. **Press and continue to hold the SYMBIO loader board’s button in until the LED flashes white. Release the button; the LED should now be white.**

8. **Release the button; the LED should now be solid white.**

9. **The ramp deactivation is always 2 bps lower than the ramp activation.**

10. **Each “programming click” corresponds to a 10% increase in ramping speed. E.g: 1 click = 10%, 10 clicks = 100%, 20 clicks = 200%.**

11. **The ramping percentage and ramp activation settings in the programming menu are GLOBAL settings.** Any other firing mode which has a ramping subroutine will use the ramp activation and percentages as dictated by the programming menu.

12. **PSP Style Ramping – The first three pulls are semi auto.** On the 4th shot, the marker will fire in ramping mode. After a one second delay of trigger inactivity, the three shot semi-auto will restart.

13. **PSP Style Auto Response - The first three pulls are semi auto.** On the 4th shot, the marker will fire in Auto Response mode. After a one second delay of trigger inactivity, the three shot semi-auto will restart.

14. **Semi/Ramping Transition – The first three shots are semi auto; the marker then converts to ramping mode.**

15. **Ramping/Semi Transition – For the first 300 pulls, the marker will be in ramping mode; after the 300th pull, the marker will convert to semi auto.**

16. **Musket Ball Mode – This is essentially a dwell ramp mode. The user must hold in the trigger to “charge” their marker. The gun actually fires on the trigger release. When the trigger is first pulled and held down, the software will start at the user set dwell (8 ms default) minus 10 ms. Over the course of five seconds, the software will add 2 ms of dwell up to the user set dwell for every second the trigger is continually depressed. After 5 seconds, the marker will be fully charged.

17. **Max ROF – This feature allows the user to cap the maximum rate of fire of their marker.** Some leagues, such as the PSP, require that guns not exceed 15.4 bps. The Max ROF feature is adjustable from 10-35 bps in 1 bps increments. **Note:** Dip switch 1 must be ON for your ROF cap to be enabled.

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19. **IMPORTANT:** We highly recommend leaving your Max ROF at 20 cps or below. Anything higher than this CAN blow your solenoid. Hater Paintball simply cannot be responsible for damaged solenoids.

20. **Forced Shot – If the eyes are enabled, but the breach is empty, the user may force a shot by holding in the trigger for approximately one second.** This feature is useful in the event that a ball has been pushed into the detents and is unreadable by the eyes. A forced shot will clear the breach and load the next paintball as normal.

21. **Ramp Activation – This feature sets your ramp activation for all ramping modes. Your ramping will not kick in until this activation point has been reached. A lower ramp activation “kicks in” easier than a high activation.**

22. **Ramp Percentage:** This applies to all ramping modes and tells your gun how fast to ramp. The higher the setting, the faster your marker will shoot.

23. **Factory Default Reset:** To reset all settings back to their factory defaults, go into your programming menu and select the flickering blue LED. Click the trigger once to reset everything back to its factory default value.

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