



™, LLC

## “Malicious Intent Code” Instruction Manual

### Features:

- Designed for all DM4, DM5, and DMC markers. The Malicious Intent Code chip also works with all Lucky™ Un1 Boards and various other boards which accept DM chips.
- Includes seven firing modes: NPPL Semi, PSP, Auto Response, Fast Ramping, Discrete Ramping, NPPL Breakout, and PSP Breakout.
- 15 bps compatible!
- Blazing fast trigger logic! The Malicious Intent Code constantly monitors the trigger switch to ensure that all pulled shots register and are processed. There is simply not a more responsive software upgrade available.
- ABS features add to the marker's dwell to eliminate that pesky first shot drop-off.
- Anti-mechanical bounce (AMB) algorithms solve the problem of physical switch bounce. No need

to worry when the refs pull that old slow trigger pull trick on your gun.

- The Malicious Intent Code sports the most power efficient software in the industry. The days of perpetual battery changing are over!
- A “forced shot” feature allows the user to fire the marker even when the eyes are enabled.
- Instant on feature. After all, you wanna play now!
- Tournament lock feature allows the user to “lock out” the programming mode in order to meet specific field/tournament guidelines.

### Installation:

**Note:** These installation instructions are for DM markers. Lucky™ Un1 Board installation may differ slightly. **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. Remove your existing microchip. To do this, take a small Allen Wrench and pry up each corner in small increments until the chip is ready to be removed by hand. Be very careful! You can bend your existing chip's pins during this process.

3. Install your new Hater Chip into the socket. The half-moon on the edge of the Hater Chip should align with the corresponding half-moon in the socket. For DM guns, the half-moon on the Hater Chip should point towards the trigger frame. Be careful not to bend or break the pins!
4. Replace grips.
5. Enter you desired programming.

### Power:

The Hater Chip comes equipped with an Instant On feature. Simply press the power button and your marker will instantly power on. To turn the marker off, press and hold the power button until the LED display goes blank.

### Eye Sensor Operation:

When the Hater Chip is powered on, the eyes are enabled by default. To disable the eyes, press and hold the eye button on your marker. When the eyes are bypassed, the ROF is capped at 20 cycles per second. When paint and air are added to the marker and the ROF cap is disabled, the marker will shoot as fast as your loader can feed.

### LED Representation:

**Solid Blue** 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

The fourth dip switch must be in the UP/ON position in order to enter the programming menu. If the fourth dip switch is off, "tournament lock" will be enabled and the user will be unable to program the marker.

To enter the programming menu, hold the trigger down and THEN turn the marker on. The LED will inform the user that the programming mode has been accessed by flashing several colors rapidly.

LED Color	Setting	Default Setting	Adjustable Range
Green	Debounce	5 ms	0-50 ms
Red	Dwell	18 ms	1-35 ms
Blue	Max ROF	20 bps	11-20 bps
Teal	AMB	10 ms	1-40 ms
Yellow	Eye Delay	1 ms	0.5-20 ms
Purple	Fire Mode	See Firing Modes	

Pulling and releasing the trigger will allow the user to toggle through the different programming options. Once the desired setting/LED color is reached, pull and hold the trigger to select that setting. The LED will then go blank. 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. The software will indicate that the new value has successfully been entered by rapidly flashing the LED through a spectrum

of colors. To exit the programming menu, turn the gun off and back on.

## Programming Examples:

### 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 two times.
6. Once the LED flashes many colors, turn the marker off.

### To set the eye delay to 5 ms.

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 yellow.
4. Hold down the trigger until the LED goes blank.
5. Tap the trigger ten times. (Eye delay is measured in ½ ms increments. Ten trigger pulls = a 5 ms eye delay.)
6. Once the LED flashes many colors, turn the marker off.

### To set the max ROF to 15 bps.

1. Turn the marker off.
2. Make sure the 3<sup>rd</sup> dipswitch is in the UP/ON 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 five times. (Max ROF's lowest value is 11bps. Therefore, 1 pull = 11 bps, 5 pulls = a 15bps cap.)
7. Once the LED flashes many colors, turn the marker off.

**Programming Note:** All settings are incremented from the lowest value in the range in 1 bps or 1 ms increments. Eye delay, however, is incremented in ½ ms increments.

## Dip Switch Settings:

Switch	UP	DOWN
1	ABS On	ABS Off
2	AMB On	AMB Off
3	ROF Cap On	Unlimited ROF
4	Programming Mode	Tournament Lock

## Firing Modes:

1. **Semi Auto/NPPL** – 1 trigger pull = 1 shot fired.
2. **PSP Mode** – The first three shots are semi auto. On the 4<sup>th</sup> shot, the gun will ramp to the max ROF. This ramping 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.

3. **Auto Response Mode** – The gun will fire once when the trigger is pulled and once when the trigger is released.
4. **Fast Ramping** – Uses a parabolic algorithm that ramps proportionately to trigger pull speed. As the user pulls the trigger faster, the software adds more shots. This is a fast, but smooth ramping mode.
5. **Discrete Ramping** – Uses a mild parabolic algorithm with a high activation point. This mode is a “quick semi-auto” mode and the ramping is virtually undetectable by pull tests.
6. **Semi-Auto Breakout** –
  - a. First shot full auto
  - b. The next 150 pulls use “fast ramping”
  - c. Semi-Auto/NPPL legal. (The 151<sup>st</sup> pull will be NPPL legal.)
7. **PSP Breakout** –
  - a. First Shot Full Auto
  - b. The next 150 pulls are PSP mode + 3 bps.
  - c. PSP legal. (The 151<sup>st</sup> pull will be PSP legal).

### Definitions:

**Debounce** – The Hater Chip debounce algorithm assists in eliminating unwanted shots caused by “trigger noise,” while simultaneously ensuring that every pull is read. If the marker has intermittent or continuous “full auto” like fire, increase the debounce setting.

**Dwell** – Dwell is the amount of time that the solenoid is “charged.” A dwell that is too low may result in a gun that doesn’t fire, is inconsistent and/or had drop off. If the dwell is set too high, the overall rate of fire will decrease and the marker may become less air efficient. **Note: If using the Hater Chip in a Lucky™ Un1 or similar board, the user must set the dwell accordingly before using. Some markers, such as the Ego, run at a lower dwell than the default dwell setting on the Hater Chip.**

**Eye Delay** – The eye delay is the amount of time the gun will pause after sensing a ball before it will fire. The stock eye delay of 1 ms should suit most markers which use a force fed loader. If the user experiences chopping while using an agitated loader, the eye delay should be set to 4 ms or higher. The higher the eye delay, the slower the marker.

**ABS** – The Anti-Bolt Stick feature increases the dwell of the marker’s first shot after a period of inactivity. The ABS feature assists in eliminating first shot drop-off. To turn ABS on, set the first dip switch to the ON position.

**AMB** – Anti-Mechanical Bounce feature assists the user in eliminating mechanical bounce. Mechanical bounce is caused by the marker recoiling. Increasing the AMB will assist in tuning your marker to pass those pesky slow pull tests.

**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 bps. The Max ROF feature is adjustable from 11-20 bps in 1 bps increments. Note: The user must set both the fire mode to PSP **AND** the ROF Cap to 15 bps to comply with PSP rules.

**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.

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