Reloaded™ Board
for Shocker™ and Nerve™

Buzzer

27 BPS

No Bounce

Vibrator

Extension port

Fully legal
in PSP, NXL,
Millennium & NPPL

Tri-color LED

9 firing modes

Inverted switch

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French Connection
Paintball

Reloaded™ Board for Shocker™ and Nerve™

Software version 2.00

PERFORMANCE

HIGHLIGHTS

- Developed for hard gamers. Sustained rate of fire in all situations!
- High Trigger scan priority for maximum sensitivity.
- Automatic filtering of trigger bounces. No need to consider it!
- Just drop in and PLAY! No need for mechanical mods of the Shocker.
- Seamless setup through the XTEND board

FEATURES

- High Trigger poling rate
- Up to 24 bps while the eyes are enabled
- Automatic Drop Off Control (ADOC).
- Automatic Trigger Debounce (ATD).
- Power Aware Design (PAD) for maximum battery life.
- Exclusive Auto-Adaptive Loader Delay (A^2LD)
- Automatic Force Fire (AF^2) in case of obstructed barrel and empty breech while eyes are on.
- First shot boost (ADOC) after inactivity in FCP mode
- Automatic eyes de-activation in case of loader problem
- New **ROF Concept**
- All Adjustment parameters stored in non volatile memory.
- On board buzzer, vibrator and Tricolor led.
- Reloaded Xtend™ LCD extension port
- 9 Fire Modes available

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RELOADED® Board -firmware 2.00 for Shocker® and Nerve®

This board is a French Connection Paintball product.

FCP has developed a new board for the popular Smart Part® SHOCKER® and NERVE®.

The ***RELOADED*®** board process data from the trigger and the eyes using a unique combination of hardware and software improvements. Its objective is to provide a repeatable and accurate rate of fire, whatever the situation in the field.

The ***RELOADED*®** is a flexible and state of the art electronic board that will ensure a sustained rate of fire while the player is under pressure, therefore allowing him to concentrate on the action instead of on his finger.

The ***RELOADED*®** allows for fast programming through its unique GAME TYPE parameter. Nine GAME TYPES are available: **NPPL, SEMI AJUSTABLE, MILLENNIUM, PSP & PSP Burst, FCP Ramp Mode, NXL mode, Breakout mode & Laser Beam Mode**.

We added a **ROF concept**, that automatically compensates for DWELL adjustement to guaranty an accurate "ball per second" adjustement.

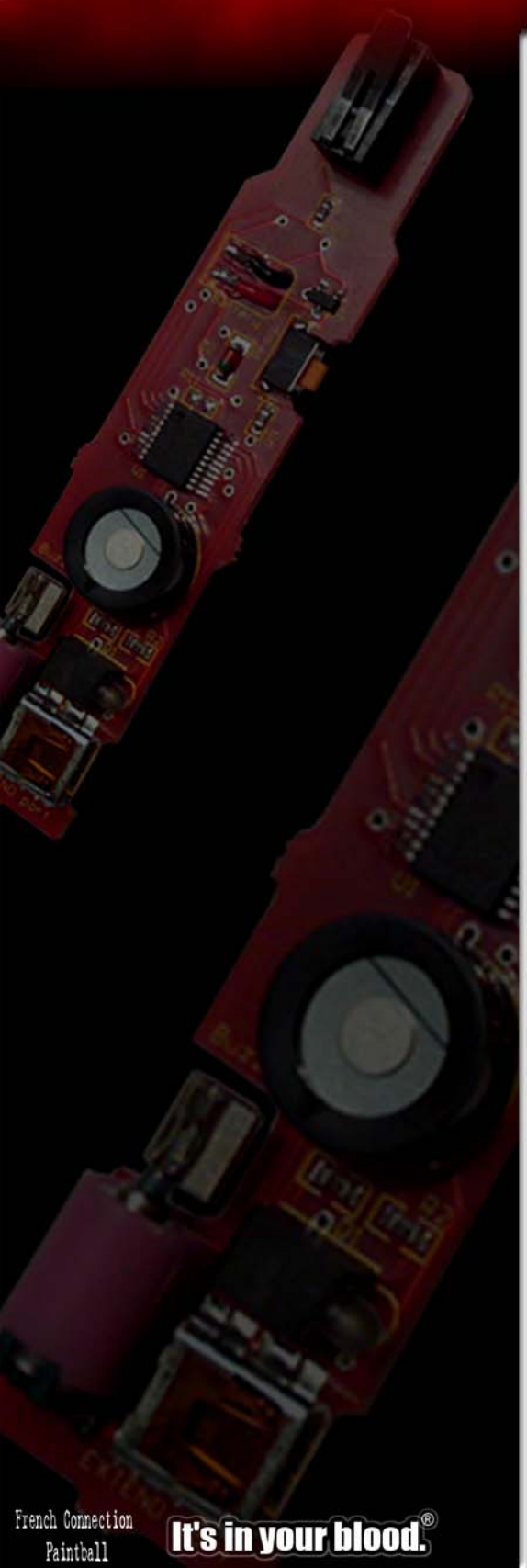
The ***RELOADED*®** board can be extended through its on board ***RELOADED XTEND*®** port.

The ***RELOADED XTEND*®** board is a remote control with an embedded LCD matrix.

The ***RELOADED XTEND*®** remote control offers a valuable advantage over other SHOCKER® boards.
It allows you to seamlessly program your favorite modes with crystal clear messages displayed on the LCD matrix.

Reloaded™ Board for Shocker™ and Nerve™

Software version 2.00



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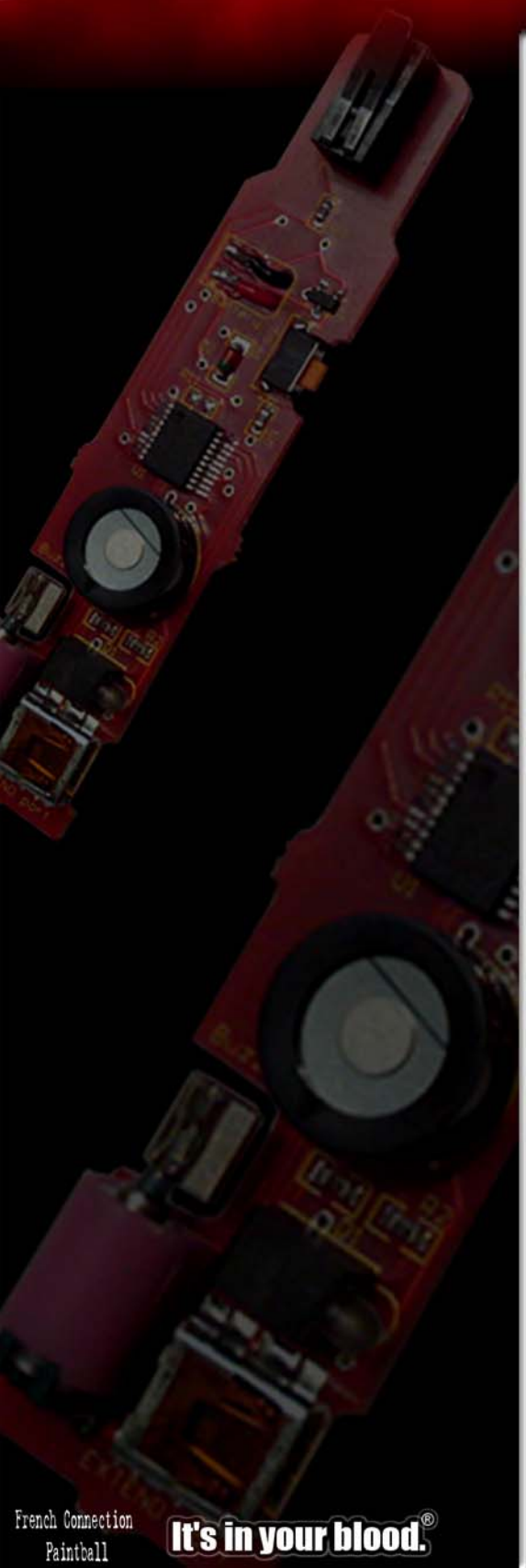
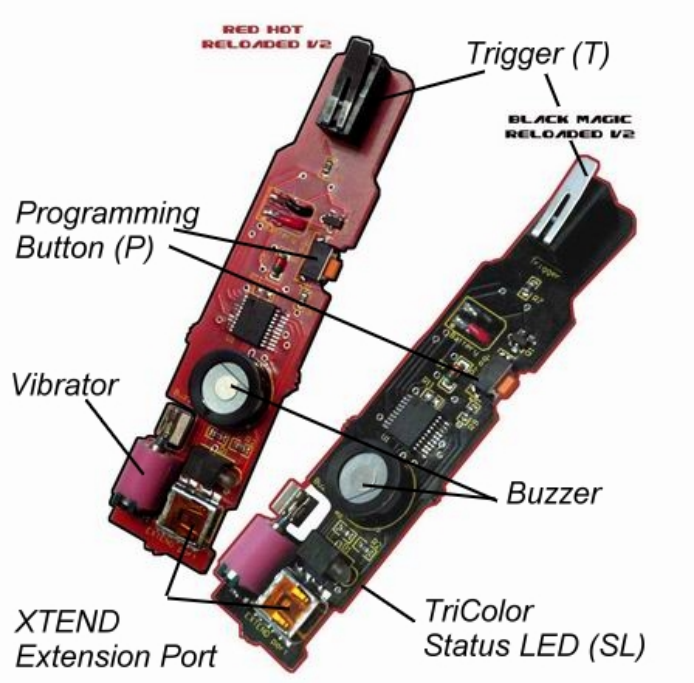


1 Overview of the Board

The drawing below shows the different buttons and peripheral of the ***RELOADED®***.

In the future we will refer to the buttons using the capital letters given within brackets.

This drawing does not represent the upper stock board of the SHOCKER™. The **On / Off button referred as (O)** is located on this second board. It lights in blue and can be found at the back of the grip frame when the stock board is in place.



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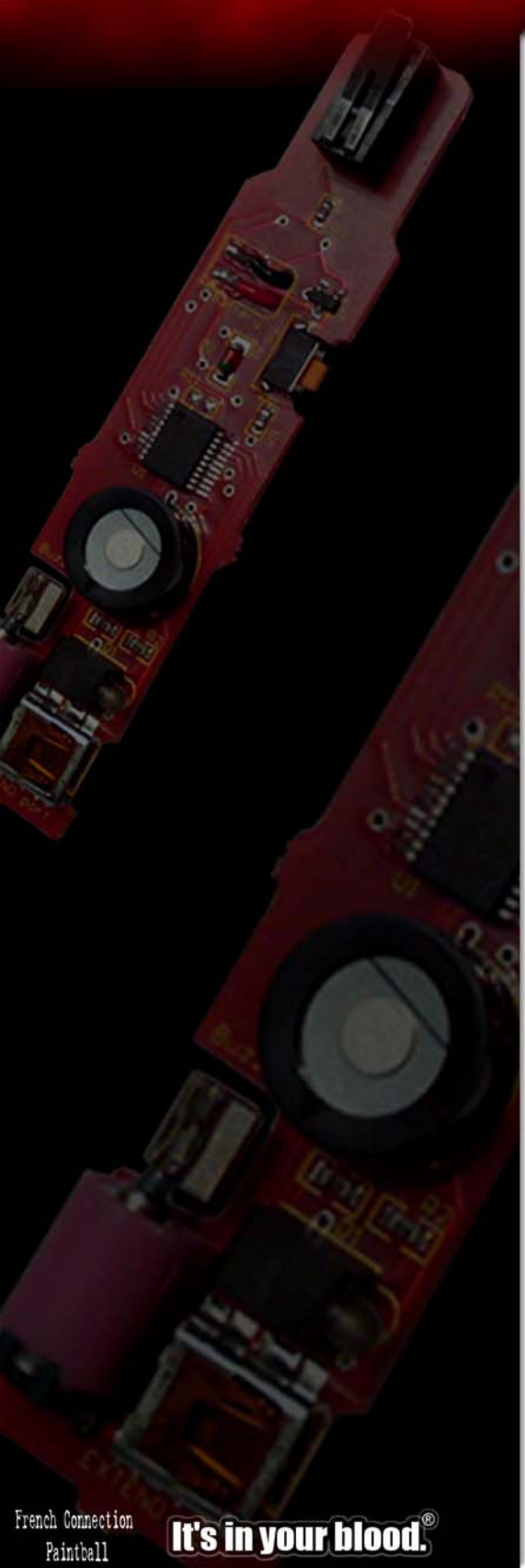

2 How to install your board?

1. Unscrew the grips and lift up the left part.
2. Unplug the 10 wire connector from the back of the stock board. Unplug the 9v battery from the stock board, if any.
3. Remove the two metal pins that retain the trigger switch and board in the frame.
4. Pull back on the top half of the stock board so the trigger switch can clear the frame then extract the stock board out of the frame, finishing with the bottom half.
5. Do the exact same step in reverse order with the ***RELOADED®***. Starting with the bottom half and trigger switch facing the trigger, gently insert the board in the retaining slot at the bottom of the grip frame.
6. Line up the trigger switch with the two pin holes then insert the two retaining pins back into the frame and through the trigger switch mounting holes.
7. Plug the 10 wire connector into the ***RELOADED®*** board. Plug the 9V battery in the power socket beginning with the negative pole. Then gently insert in the remaining space of the grip frame.
8. Put the grips back in place or proceed to programming steps...

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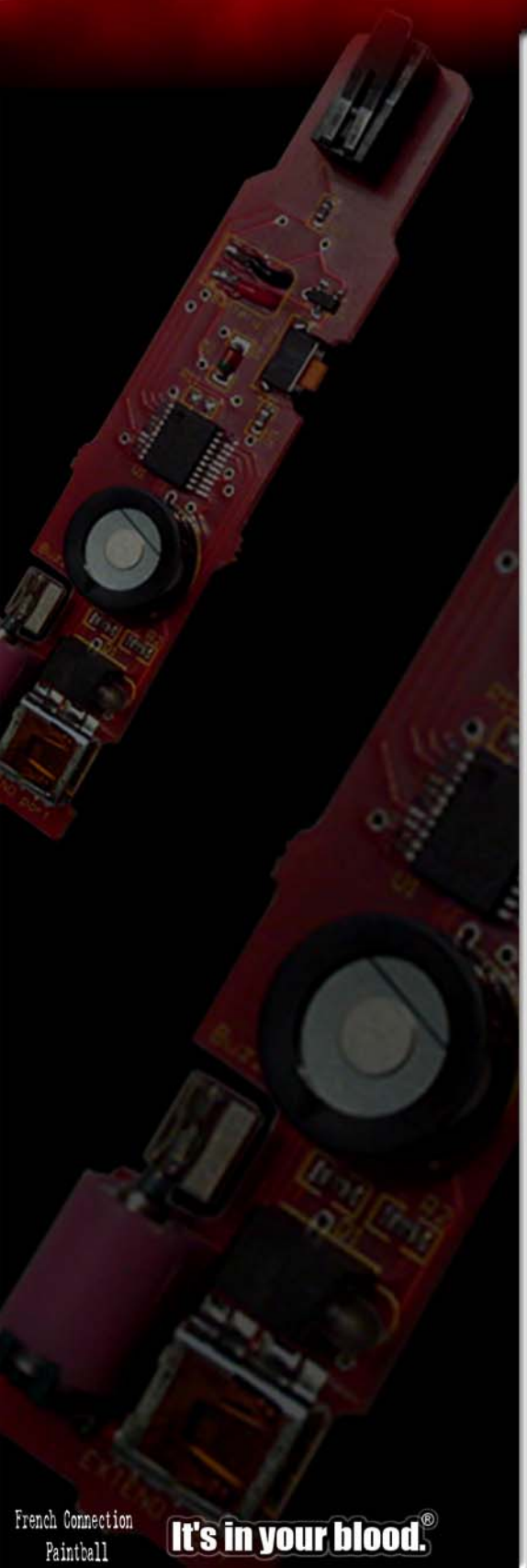

3 Starting instructions

First install the reloaded in the frame grip of the gun and plug the ribbon cable in the Reloaded to connect the Dwell board to the Reloaded.
Only, connect a *good* 9v battery (PP3 type) to the battery socket of the ***RELOADED®***. The reloaded board tolerates down to 5.6v. To prevent bad battery, you must connect your battery beginning with the negative pole or the positive pole, not both at the same time. Not respecting that will lock the board in an alarm cycle. The board flashes its LED until you properly insert the battery.

Right after you correctly plugged the battery, the board will perform a complete peripheral check.
The Tricolor LED will flash green, then red. The blue LED will flash and the buzzer emit a three tone beep. Finally the board vibrates once to complete the boot sequence. This means the battery is correctly connected and has enough power. From this point, the ***RELOADED®*** is asleep and ready to serve (Sleep mode). The Power Aware Design (PAD) of the ***RELOADED®*** ensures more than 2 months in this mode.

4 Turning the *RELOADED®* ON

To turn the ***RELOADED®*** board ON, just press and hold the power button (O) located on the back of the Frame Grip for more than two seconds.
The Blue LED on the back of the frame will flash rapidly and stop on solid. The board will vibrate once and play the welcome music.

You are now in **ON-STATE**. From this point you have three possibilities.

1. Quickly Press and Release the trigger (T) once to go to **GAME mode**.
2. Quickly Press and Release the orange button (P) once to go to **PROGRAMMING mode**.
3. Press and hold the ON/OFF button (O) for more than two seconds to switch the gun back off (Sleep mode)

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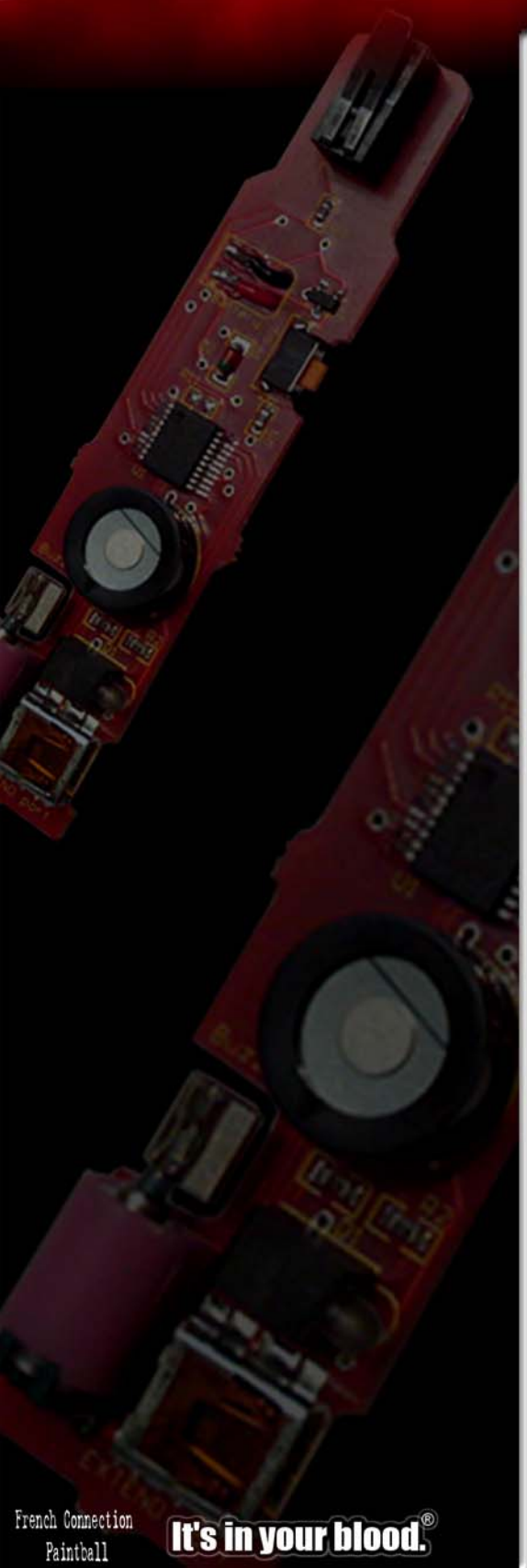

5 Going to GAME mode

Entering **GAME mode** is signaled by a three tone beep. In this mode, your gun is ready to fire. Just pull the trigger!

The ***RELOADED®*** will automatically take care of the recharge time, debounce, eyes activation and deactivation. This ensures no drop off during sustained sequences of fire. No need for you to manually handle the eyes. No need for fuzzy debounce considerations.

Just play, shoot and enjoy!

While in **GAME mode**, you can turn the gun OFF at any time by pressing and holding the power button (O) for more than two seconds. At this point, the Gun will vibrate twice, the “Good bye” music will sound and all LEDs will turn off.

In **GAME mode** the blue led located on the back of the grip frame, is blinking. How fast it blinks depends on Eyes options. See below for more in depth explanations.

5.1 EYES OPERATION

By default, the Eyes are systematically enabled when the marker is first turned on.

Due to its unique Auto Adaptive Loader Delay (AALD) feature the ***RELOADED®*** board will adjust its Eyes setting to the loader delivery rate.
If no ball is presented to the eyes after a short delay, the board will automatically deactivate the Eyes feature for a very short period of time. This is the Automatic Forced Fire (AF^2) feature.

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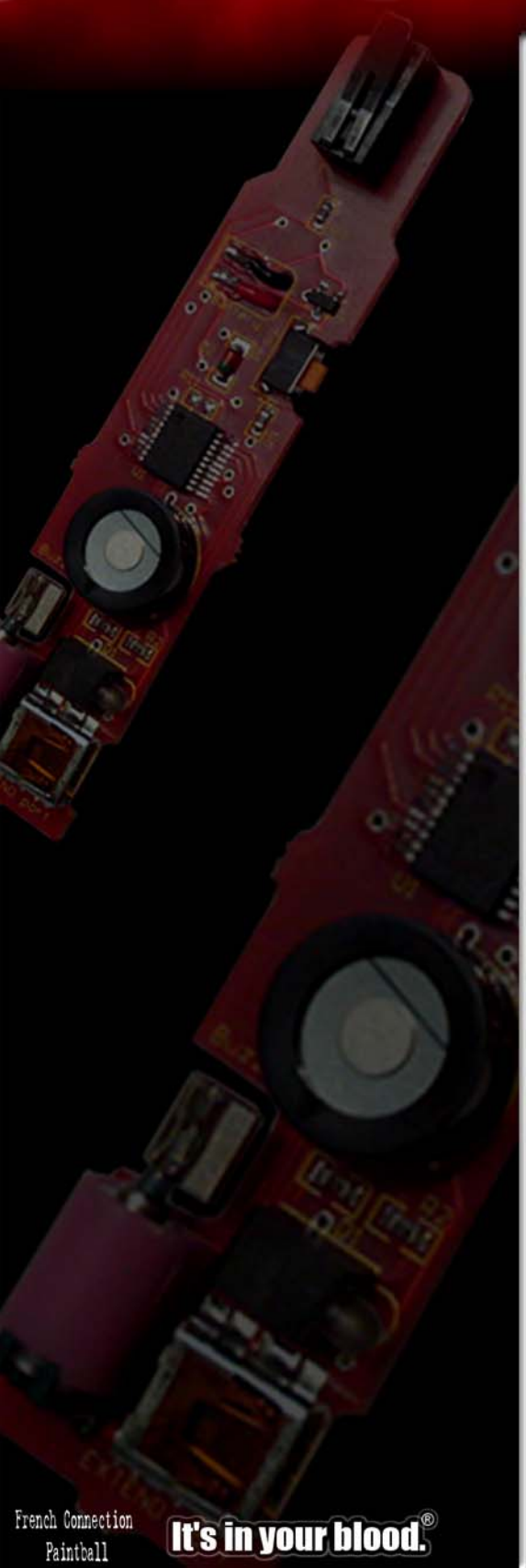

This allows an incredible flexibility when in the middle of a strategic move. If a ball is blocked at the entrance of the barrel and the breech is empty while Eyes are on, the ***RELOADED®*** will automatically disconnected the eyes, for this single shot. You won't even notice it! Just concentrate on the action! The ***RELOADED®*** is in charge!

Note: In order to be able to "dry fire", the eyes system *does not need to be turned off*. Simply remove the loader, and the ***RELOADED®*** will adapt to the new situation.

If for some reason (you fool!), you want to turn the Eyes, and all associated actions, off or back on, just push and release the power button quickly. This will toggle the Eyes on or off.

When the Eyes system is active, the blue led at the back of the frame grip blinks rapidly. When it is disabled the blue led will change to a slow blinking sequence.

6 Going to PROGRAMMING Mode

Entering the **PROGRAMMING mode** is signaled by a "welcome" music. In this mode, you can adjust the parameters for your particular gun and game style.

The Programming Button is the only button on the **RELOADED®** board. To access it, open the left side of the grip, and look at the edge of the board. The button is right there, orange. You can't miss it!

Once, in this mode the board LED will light up GREEN. This means first parameter is selected.

Because the **RELOADED®** exhibits an incredible level of sophisticated auto adaptive functions, there are very few parameters to set…

… **It's a crystal clear 1, 2, 3 philosophy.**

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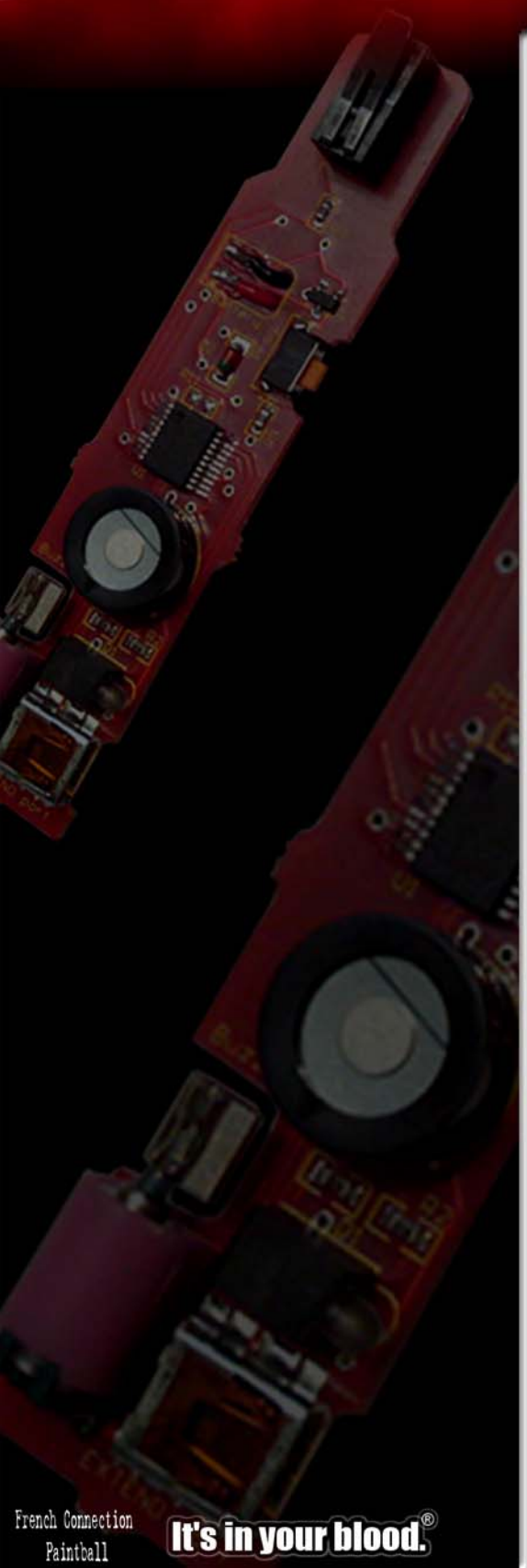

There are actually six different parameters that can be adjusted. Game Type, Rate of Fire, Sensitivity, DWELL , Timers Alarm and ADOC are set once for all. The **RELOADED®** will automatically modulate those settings to ensure an appropriate service of the gun.
In the same time, you just have to set the GAME type parameter to drastically change the behavior of the gun.

Possible parameters are shown below and explained in the following sections:

1. Game type.
2. ROF.
3. Sensitivity.
4. Dwell.
5. Timers Alarm.
6. Automatic Drop-Off Control.

6.1 PARAMETERS DESCRIPTION

6.1.1 GAME TYPE

GAME TYPE is used to rapidly set the game style.
Depending on the Game type selected, it will automatically adjust all inside parameters of the **RELOADED®** board so you have nothing else to do!

GAME type parameter has 9 states:

1. NPPL Semi
2. SEMI Ajustable
3. MILLENNIUM Mode
4. PSP Mode
5. PSP Burst
6. FCP Enhanced
7. NXL mode
8. BREAKOUT
9. Laser Beam

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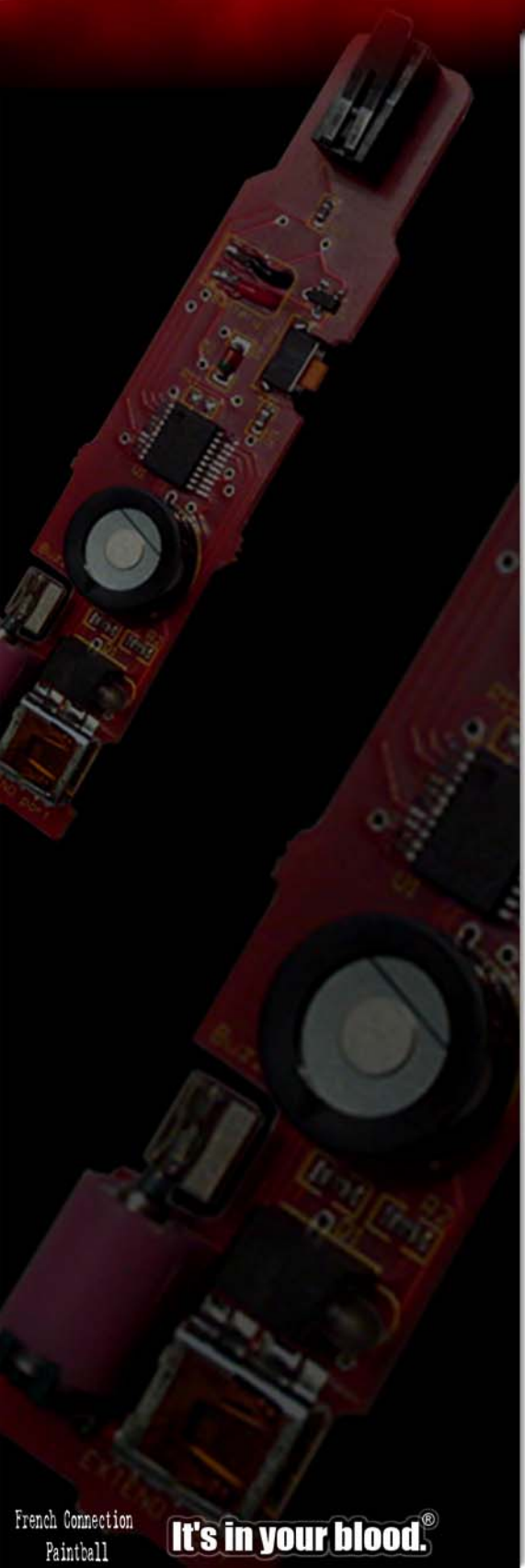

NPPL semi Tournament type is the default setting. This mode is used for NPPL game type. In this mode, one trigger action will end up with one shoot. The rate of fire is the exact same rate as the player's finger. Even debounce timings are automatically adjust by the board to get a fully legal shoot behavior.

In this mode, the ROF & sensitivity parameters are ignored, but all other advanced features hereafter are available:

- Automatic Trigger Debounce (ATD)
- Auto-Adaptive Loader Delay (A^2LD)
- Automatic Force Fire (AF^2)
- Automatic Eyes De-activation (AEDA) in case of loader problem

Please see glossary for further explanation of funny acronyms!

AJUSTABLE semi mode : In this mode, one trigger action will end up with one shoot but the rate of fire will be capped by the ROF value set in the ROF parameter. In this mode, the sensitivity parameter is ignored, but all other advanced features hereafter are available.

Millennium Mode : Semi-auto with caped ROF of 15 bps, defined as no consecutive shots maybe timed shorter than 65 ms apart, ramping starting over 7.5 bps and is maintained while 7.5 bps is achieved. Once the trigger is released, only a single shot is discharged thereafter.
Of course, Sensitivity and ROF parameters are ignored in this mode.

PSP Mode : Semi-auto with caped ROF of 15 bps, ramping allowed after 3 shots, ramping starting over adjustable SENSITIVITY.
ROF parameter is ignored.

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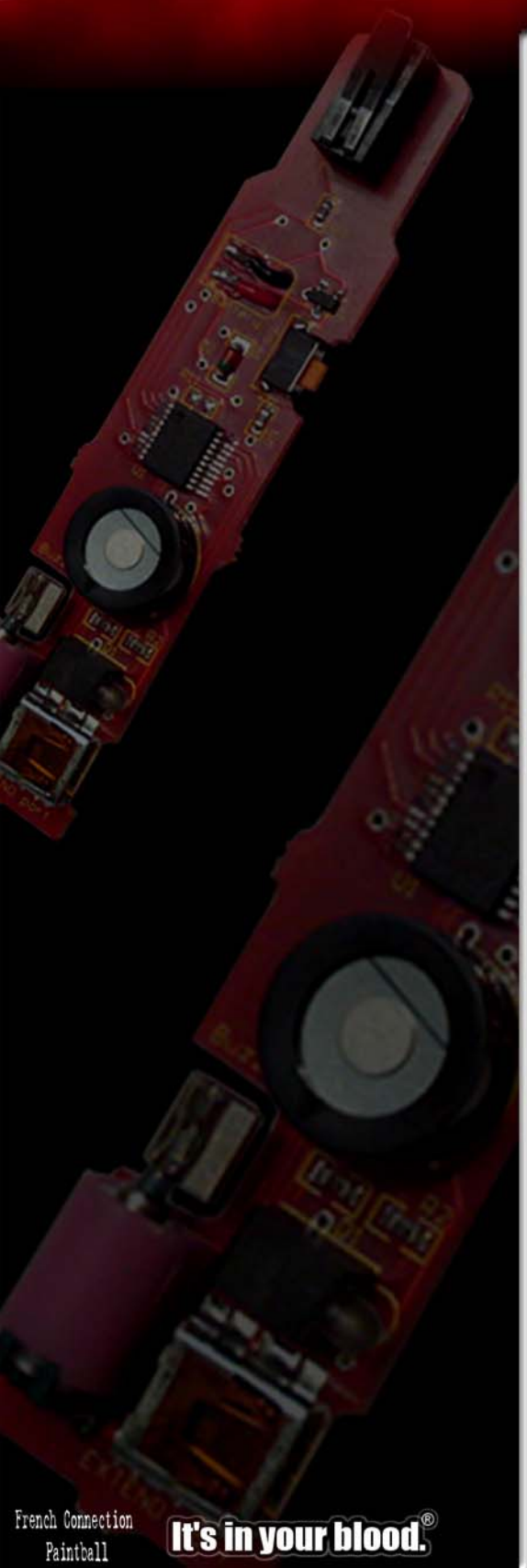

PSP Burst : Semi-auto with caped ROF of 15, EXTRA ramping allowed after 3 shots, EXTRA ramping is a modified ramping that fires 3 shots after each real trigger action.
Sensitivity and ROF parameters are ignored.

FCP Enhanced : Semi-auto with adjustable ROF, ramping allowed right after the first ball, ramping starting over adjustable SENSITIVITY and stopping with adjustable sensivity.

NXL mode is **LEGAL in NXL league**. It will allow a full mode after 3 balls in tournament mode (for safety reasons). Once those balls have been fired, the gun is set to full, with a legal limitation of 15 bps. This mode is maintained for 1 second after the last shoot. Pressing the trigger within this second will continue to fire in full. If one second elapses without any shoot, the full mode is lost and a 3 balls sequence must be fired again.
The Sensitivity & ROF parameters are ignored in this mode.

WARNING: FCP MODE, BREAKOUT MODE AND FULL MODE ARE NOT ALLOWED IN NPPL, NXL, MILLENNIUM AND PSP TOURNAMENTS. THOSE MODES ARE HERE FOR FUN AND EXTREME SENSATIONS!
IT IS THE PLAYER'S RESPONSIBILITY TO SET THE APPROPRIATE MODE COMPLYING WITH THE KIND OF TOURNAMENT HE PARTICIPATS. THE RELOADED® CAN NOT DO THIS FOR YOU!

BreakOut Mode : after 3 shots of semi-auto you get the F/A with adjustable ROF for one trigger action. As soon as you release the trigger you jump to FCP ENHANCED mode (this can be setup differently on request, but FCP ENHANCED is so flexible that it can be setup to mimics any other gametypes!!).

Laser Beam mode is dedicated to those sci-fi fans who ever wanted to posses a laser beam! In this mode, pulling and holding the trigger will fire the gun at the **rate of fire set in the ROF param**.
The SENSITIVITY parameter is ignored in this mode.

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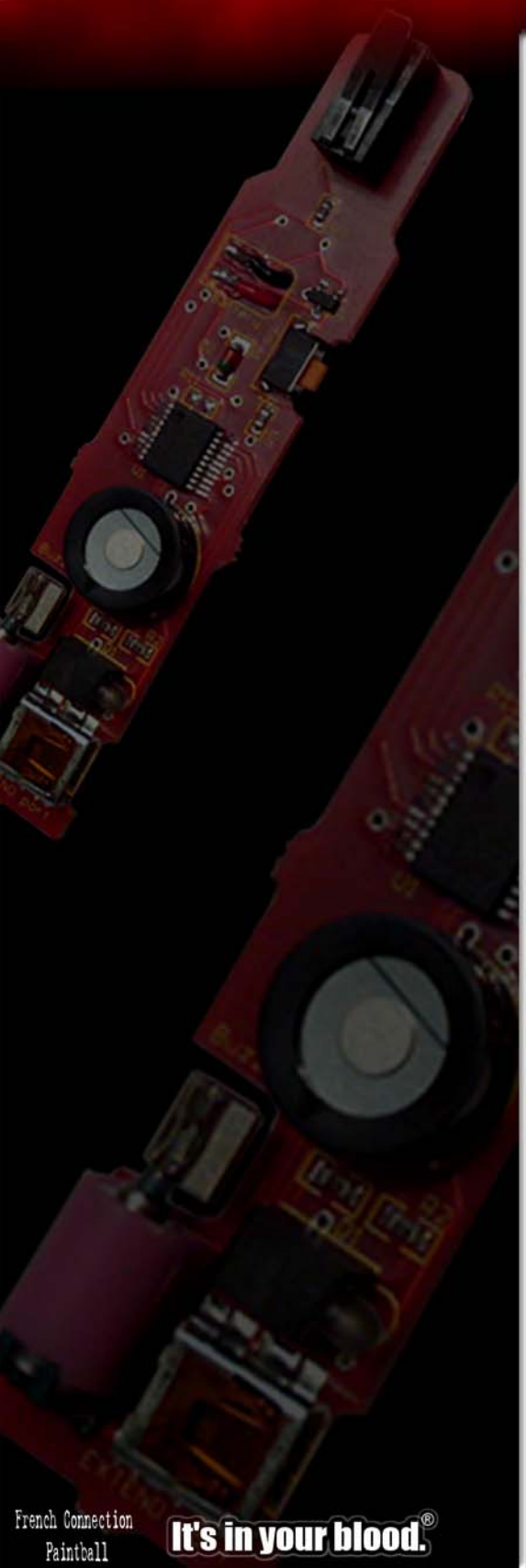

6.1.2 ROF

ROF, or Rate Of Fire, can be set between 4 and 23.
It is a Ball Per Second value. 4 meaning 4 bps, and 23 meaning 23bps.
It is automatically compensate for DWELL adjustement to guaranty an accurate "ball per second" adjustement. This has nothing to do with velocity ramping. The RELOADED does not allow such thing.

6.1.3 SENSITIVITY

SENSITIVITY can be adjusted between 1 to 4. 1 being the most sensitive mode and 4 being the less. 1 sets the threshold to 2.5 Trigger Actions Per Seconds (Taps), 2 sets the sensitivity to 5 taps, 3 sets to 7.5 taps and 4 sets to 10 taps. We used the taps terminology to clearly differenciate a Trigger action (when you push on the trigger and release it) and the result, which is how many balls are fired in 1 second (the Bps). This because when ramping is activated, you have less taps than bps. The Threshold AND the rules of the tournaments define there threshold referring to the taps. Therfore only the actual trigger action are taken into account when ramping...

6.1.4 DWELL

DWELL is used to set the opening time of the solenoid of the gun. You must set this parameter accordingly with your gun technology.
We have noticed that many things can influence this setting. First be sure that your Regulator is sufficiently and correctly greased. Second, depending on your Bolt weight, you will have to tune this value.
The **RELOADED®** board handles automatically all associated recharge time to properly service the gun.
The range of settings is limited to truly usable and stable values.

No fooling around with fuzzy option tuning!

Explanation: Experiencing drop off or bolt not completely cycling are symptoms of poor adjustments. In this case you should turn the opening time up (the DWELL parameter).

DWELL can be set between 6 and 30, and is expressed in steps of 0.5ms for fine tuning the balls velocity.

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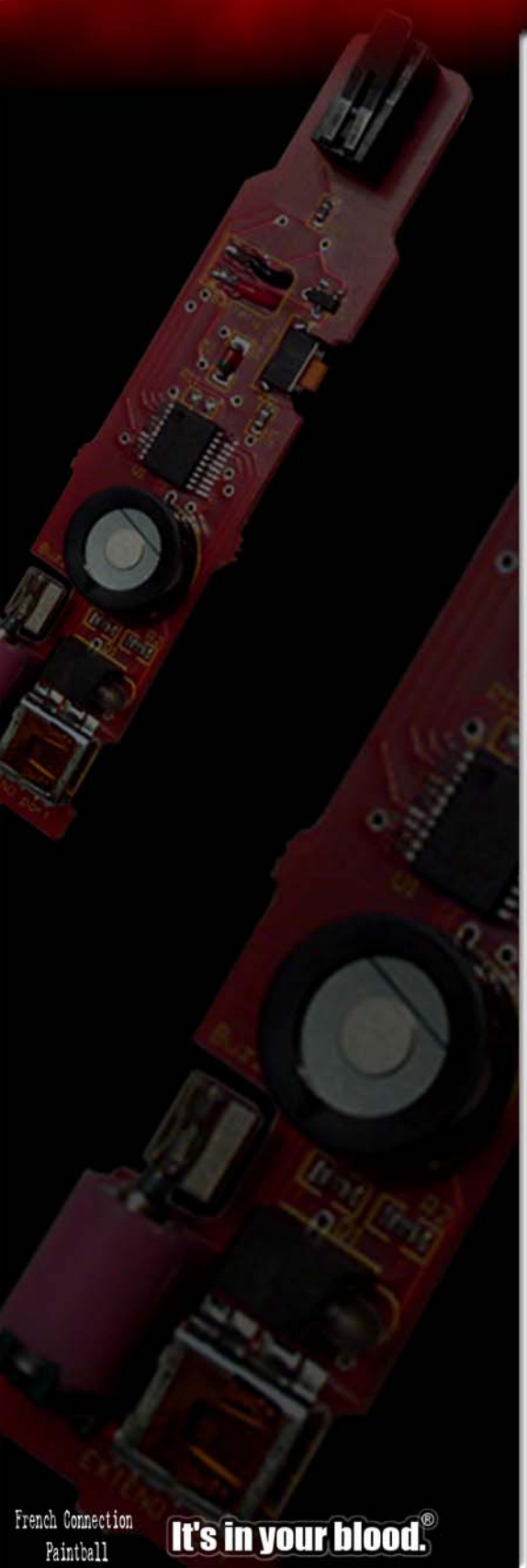
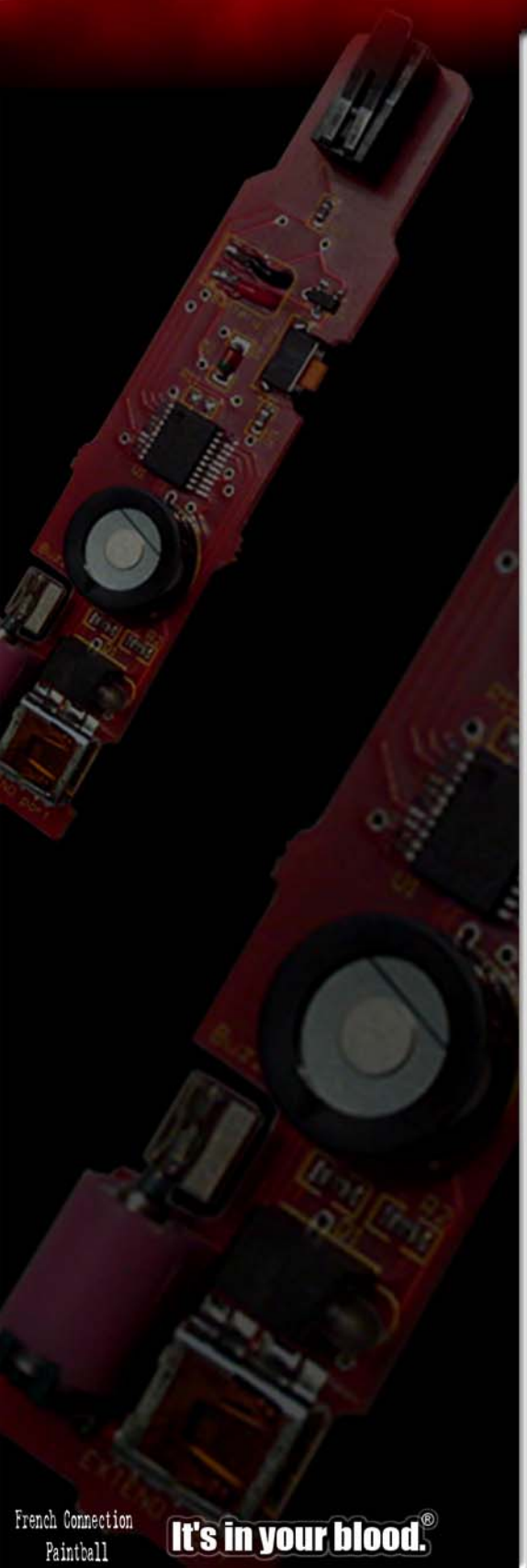


6.1.5 TIMERS ALARMS

Timers alarm has a range of 0 to 20. It express the time that elapses between two Vibrator alarms, by steps of 30 seconds. 0 meaning OFF and 20 meaning 10 minutes (30x20 = 600 sec = 10 min).
The Alarm counter starts immediately when you enter the GAME mode. If you want, you can wait for the beginning of the game in ON-STATE mode and press the trigger (T) to enter the GAME mode in the very last seconds of the OFFICIAL count down. When the Alarm timer duration has elapsed the gun vibrates three times and automatically restarts its count down.

6.1.6 DROP OFF CONTROL

AUTOMATIC DROP-OFF CONTROL (ADOC) is provided for fine tuning the gun. Depending on Bold characteristics, dwell mechanics and whether your regulator in greased or not, the gun can experience some drop-off, especially on the first shot and after a period of inactivity. So, you can therefore indicate the gun what “bonus dwell” should be added to this particular ball.
Automatic Drop Off Control can be set between 0 and 20 in steps of 0.5ms. This parameter gives a bonus to the DWELL after 20 seconds of inactivity to ensure that the first ball will get out of the barrel. **Beware of too much ADOC. Since the more you open the DWELL the riskier you break a ball!**



7 Switching the GUN OFF

Switching the gun off can be done while in **ON-STATE** or in **GAME mode**.

Turning it off from **PROG. mode** is not possible since you first must save your parameters. If you want to do so while in **PROG. mode**, first exit the **PROG mode** (see PROG mode section to learn more on how to do that) then switch off from the **GAME mode**.

To switch the gun off, just press and hold the **ON / OFF** button **(O)** for more than two seconds.

The gun will vibrates twice and the goodbye music will sound. All LED are now off and the board is asleep.

8 Auto-OFF Switching of the GUN

The 2.00 software has an automatic long inactivity detection that will automatically switch the gun off after 20 minutes in iddle state.

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EXAMPLES

Setting the Game type to Millennium Mode if the former game type was NPPL mode :

1. **Open the left side of the grip**
2. **Turn on the marker.**
3. **Push the Prog. Button once to enter Programming mode.**
4. **Push the prog button twice to set value of game type to Millennium Mode.**
5. **Press and hold the on / off button for 2 seconds to save and exit AND enter the GAME mode**

Your Game type is programmed and ready to be tested

9 How to program the board?

The **RELOADED®** board sets a new standard in Gun programming behavior. Forget what you have been doing for years with other boards. You've entered the RELOADED® world.

Three things to know:

- Each action in acknowledged by a beep.
- The programming mode acts in a cycle manner. Pushing buttons will jump to next value. Each time you reach the maximum value; the RELOADED® adds one different beep and brings you back to the minimum value.

9.1 IN PROGRAMMING MODE

In **PROGRAMMING mode** you have four possible actions:

- The programming button is used to increment the value of parameters.
- The on/off button is used to change the active parameter if you quickly press and release it.
- The on/off button is ALSO used to **Save & Exit** the **PROGRAMMING mode**. If you press and hold it for more than 2 seconds.
- The trigger is used to **read** the **current value**, if you quickly press and release it.

The board LED color will help you to figure out which parameter is selected.

Solid Green	→	Game type
Solid Orange	→	ROF
Solid Red	→	Sensitivity
Blinking Green	→	DWELL
Blinking Orange	→	Timers Alarm
Blinking Red	→	ADOC

NOTE: FOR SAFETY REASONS, PROGRAMMING THE GUN SHOULD BE DONE WITHOUT ANY BALL IN THE FEEDER SINCE YOUR GOING DIRECTLY TO GAME MODE AFTER PROGRAMMING.

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Programming Example 2:

Setting the Sensitivity to 1:

1. **Open the left side of the grip**
2. **Turn on the marker.**
3. **Push the Prog. Button once to enter Programming mode.**
4. **Push the On/Off button twice to select the SENSITIVITY parameter.**
5. **Starting from a sensitivity of 2,for example, push the programming button 3 times to set value of SENSITIVITY to 1. You have cycled trough the whole range and jumped back to the min value.**
6. **Press and hold the trigger for 2 seconds to save and exit AND enter the GAME mode.**

Your Sensitivity is programmed.

❶ First you need to select the parameter you want to set.

Push and release the on/off button to cycle through parameters. Push and hold the on/off button to cycle faster and automatically through the parameters.

❷ You now need to change the value of the parameter.

Push and release the Programming button to cycle through values.
Push and hold the Programming button to cycle faster and automatically through the values.

Remember: Each time you reach the maximum value, you jump to the minimum value. This situation will be indicated by a second and different beep.
Each time the value is incremented, a beep is emitted making the tuning very easy.

❸ If you don't remember the value of a parameter, just quickly press & release de Trigger (T). The board will play one beep per increment of the parameter (10 beeps for a value of 10) AND the Blue LED will light once per increment of the parameter (this is a new feature). You see and hear the value.

❹ Once you are all set and satisfied with your tunings, just press and hold the on/off button (O) for more than 2 seconds.

Your parameters are saved in the non volatile memory of the board so that you don't need to reprogram everything, next time you turn your gun on.

You are now ready to test the new settings...
...Enjoy!

Note : Pressing the on/off for more than 2 seconds saves and exits **AND** gets you to the GAME mode with the parameters you just set. No need to turn the gun OFF and ON.

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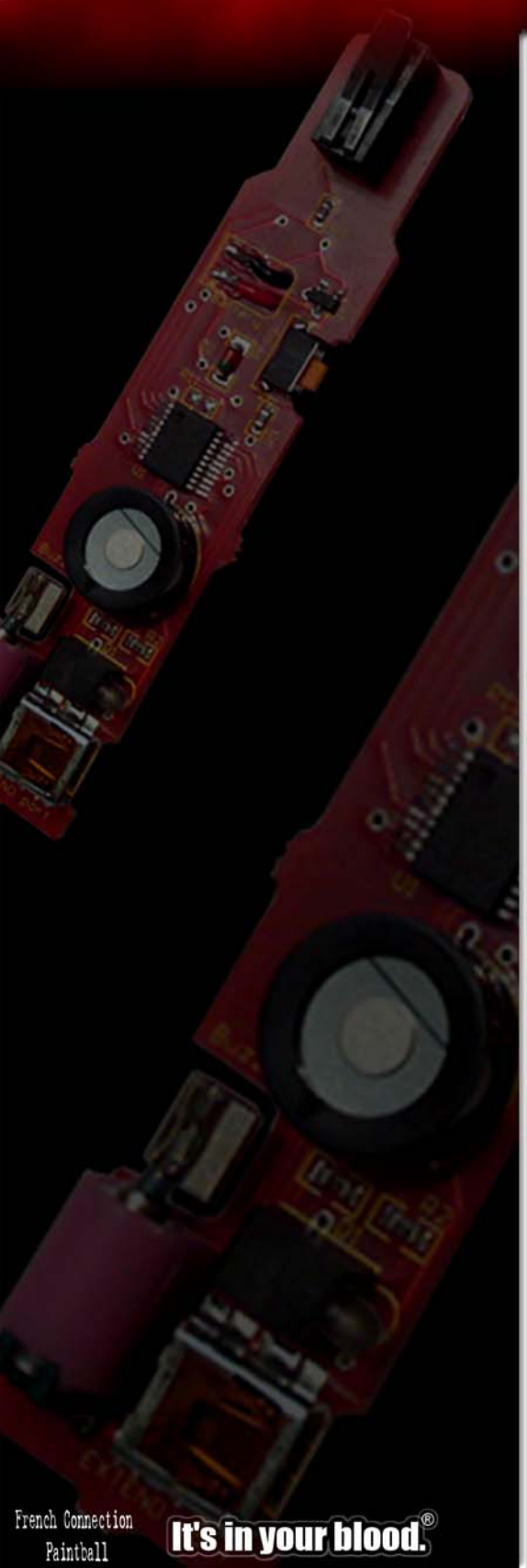

9.2 SAFETY

The Saving of your parameters in the memory is acknowledged by the Blue LED blinking and a GAME mode welcome music.

For safety reason there is also a one second latency when you jump from PROG mode to GAME mode added to blue led blinking and music.

9.3 MEMORY CORRUPTION

WARNING : Unpowering the board during save sequence will corrupt your parameters.

If this happens, just go back to prog mode, and press and hold the prog button UNTILL you hear the two tone beep (it can be long, but no more than 255 beeps, so be patient!) of the board indicating that you have cycled to a correct value.

Repeat this for each parameter. Once you are done, save all your parameters by pressing and holding the trigger for more than 2 seconds.

During **PROGRAMMING mode**, powering the gun off is not allowed (nor advised) because of memory access. To turn your gun off, simply press and hold the on/off button to **Save & Exit**, then press and hold the on/off button as usual, to switch off.

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9.4 PROGRAMMING VISUAL HELP

Here are some visual helps for better comprehension.

9.4.1 POWERING THE GUN

Action	What happens?
❶ Plug the battery into the socket.	✓ The board vibrates once and emits a two tone beep. ✓ The gun is ON but asleep!

9.4.2 TURNING THE GUN ON

First, power the gun. Then…

Action	What happens?
❶ Press & hold on/off for 2 sec.	✓ The Green, Blue and Red LED flash once. ✓ The gun vibrates once and plays the welcome music.

9.4.3 SELECTING GAME MODE

First, power the gun and turn it ON. Then…

Action	What happens?
❶ Press and release the trigger.	✓ The gun plays a three tone beep ✓ The gun is in GAME mode. ✓ The BLUE LED blinks rapidly.
❷ Pull the trigger to fire as many times as you want!	✓ The gun fires. ✓ Rate of fire depends on programmed parameters. ✓ Each time you fire the BLUE LED flashes.
❸ Press & release the On/Off button	✓ The EYES are OFF. ✓ The BLUE LED blinks slowly.
❹ Press & release the On/Off button	✓ The EYES are ON. ✓ The BLUE LED blinks rapidly.

EXAMPLES

Typical sequence example:

Power the gun
↓
Turn the gun ON
↓
Select GAME mode by pushing the trigger
↓
PLAY!
↓
Turn the gun OFF

Examples of possible sequences in GAME mode:

Examples of possible sequences in GAME mode:

You can do this:

❶→❷→…→❷→❷→…→❷→❺

or this…

❶→❸→❷→…→❷→❹→❷→❺

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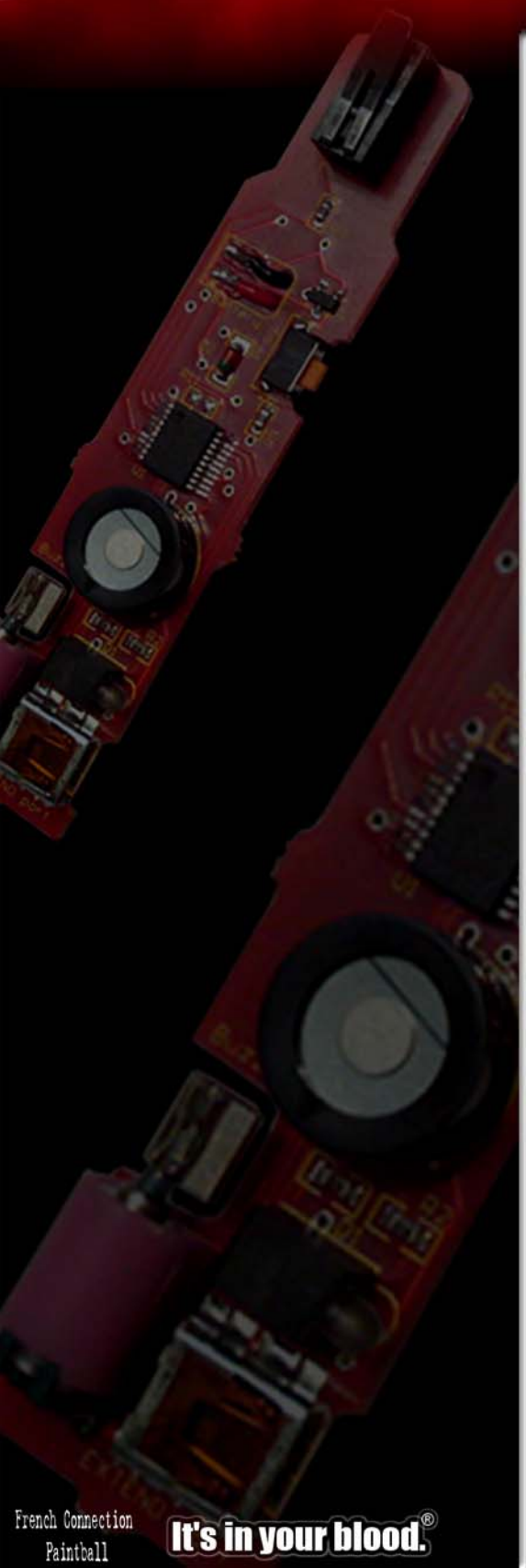

9.4.4 TURNING THE GUN OFF

This is not possible while in Prog. mode.

Action	What happens?
❶ Press & hold the On/Off button for more than 2 seconds	✓ The gun vibrates twice and plays the Goodbye music. ✓ The gun is asleep and can remain so for months.

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9.4.5 GOING TO PROGRAMMING MODE

EXAMPLES

Typical sequence example:

Power the gun
↓
Turn the gun ON
↓
Select PROG. mode
by pushing the Programming button
↓
Save & Exit
to GAME mode
↓
Test settings.
↓
Close the grip
and/or
Turn the gun OFF

Examples of possible sequences in PROG mode:

You can do this to set you gun to Full auto:

❶→❸→❸→❸→❹

You can do this to change Dwell from 8ms to 9ms (by steps of 0.5ms) and Sensitivity from 1 to 4:

❶→❷→❷→❸→❸→❷→❸→❸→❹

Action	What happens?
❶ Press and release the Programming button.	✓ The gun plays a Welcome Prog. music. The gun is in PROGRAMMING mode. ✓ The GREEN LED is ON, meaning “Game type” parameter is selected.
❷ Press and release the On/Off button or press & hold the On/Off button to cycle trough parameters.	✓ The gun beeps once for each action or beeps rapidly if you hold the button. The LED will cycle accordingly. SOLID GREEN→SOLID ORANGE→SOLID RED→ BLINKING GREEN→ BLINKING ORANGE→ BLINKING RED for each action. ✓ When you reach the parameter you want to set, stop your action. ✓ Press and release (T) to hear one beep per unity (see 4bis). ✓ If you reach the last parameter the gun plays a different beep once and jumps to the first parameter.
❸ Press and release the Programming button or press & hold the programming button.	✓ The gun beeps once for each action or beeps rapidly if you hold the button. The LED is ON and its color indicates the active parameter you are setting. ✓ If you reach the last value the gun vibrates once and jumps to the first value.
❹ Press & hold the on/off button for 2 seconds	✓ The gun “Saves & Exits” the programming mode and Jumps to GAME mode where you can instantly test the new setup.
❹ bis Press & release the trigger	✓ The gun will “read” the current value of the parameter. It sounds once for each increment of the value. • 1 beep for NPPL Mode • 2 beeps for Ajustable semi • 3 beeps for Millennium • etc...

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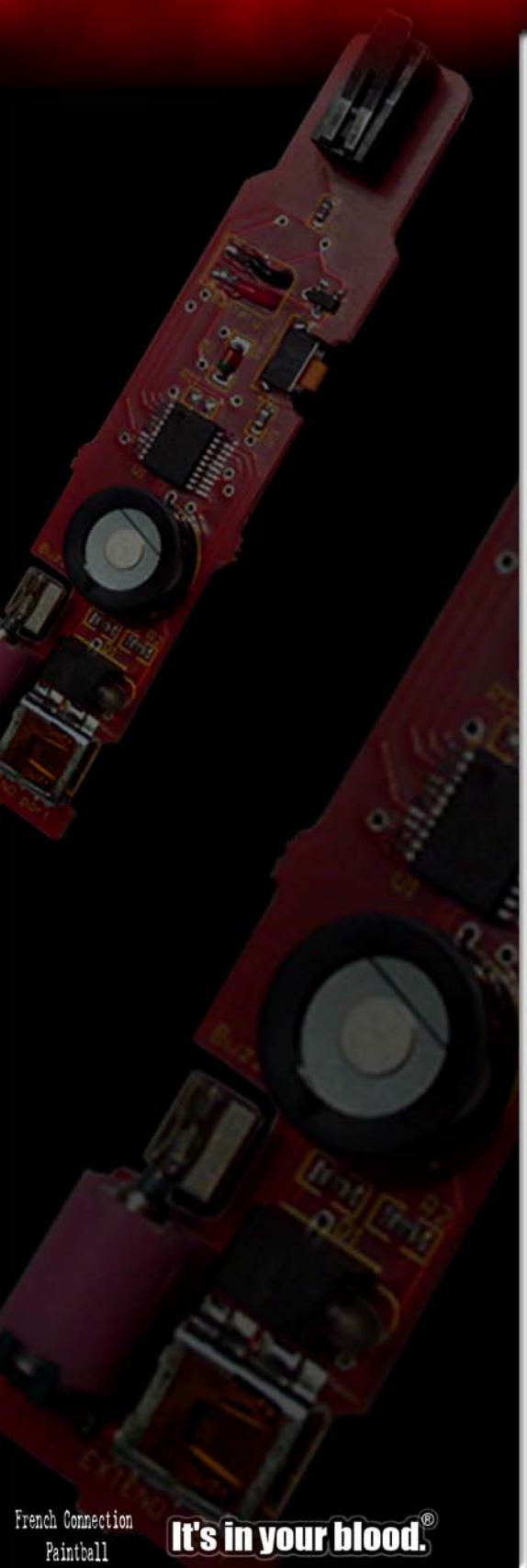

10 Game Types at a glance

Below you can find a matrix that quickly explaines how the game types use the parameters you set and how the board will react…

GAMETYPE	ROF	SENS start	SENS stop	Full	Header	Comment
NPPL	No limit !	Ignored	Ignored	No	No	No limit = Max of 23 bps
Semi	Adjustable	Ignored	Ignored	No	No	-
MILLENNIUM	15 Capped	7.5	Same as start	No	Yes(1)	15 beeing defined as 65ms max between balls
PSP	15 Capped	Adjustable	Same as start	No	Yes(1)	
PSP Burst	15 Capped	Adjustable	Same as start	No	Yes(1)	EXTRA balls mode: when Ramping, each trigger action fires 3 balls instead of 2.
FCP	Adjustable	Adjustable	Same as start -1	No	No	
NXL	15 Capped	Ignored	Ignored	Yes	Yes(1)	
Breackout	Adjustable	Ignored	Ignored	Yes	Yes(1)	Full is granted for one single trigger push, then you jump to FCP mode. (2)
Full	Adjustable	Ignored	Ignored	Yes	No	

Notes:

(1) A header is a semi-auto sequence that you have to perform prior to anything. This header is reactivated each time you don't fire for more than 1 second.

(2) Full is obtain only once in the game. Once you have performed the security header , and pushed the trigger within the next 1 second, you get the Full. As soon as you release the trigger, you jump to FCP mode.

Remember that FCP, Breackout and full are not legal in tournaments… So reprogrammed your board before entering the fields… Or you will be outlaw!

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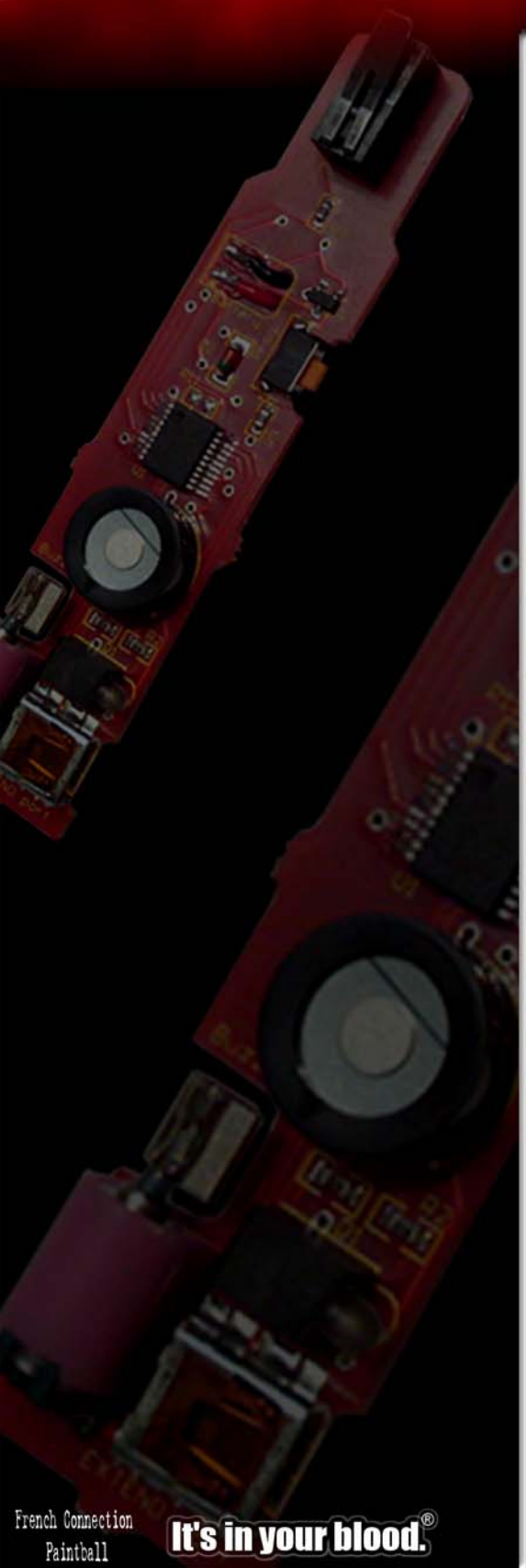

11 Troubleshooting

Below text in italic is extracted from the SHOCKER® *user manual.*

11.1 SHOCKER® IS DIFFICULT TO SWITCH ON/OFF

- ✓ *Check the solenoid wiring harness. It is maybe in the way of the on/off button. To do so, remove the grip frame. Relocate wires away from switch and check for damage.*
- ✓ Check if battery is not low (V < 5.5V) or dead.
- ✓ We have noticed that the switch on the solenoid board is sometime soldered to far from the frame. In this case contatc your Smart part dealer for adjustement…

11.2 BREACKING PAINT

Most of the time Breaking paint is due to mechanical problems. *The Shocker® Users manual says:*

- ✓ *Paint to barrel match is wrong. The paint you are using is too large for the barrel you are shooting it through.*
- ✓ *Ball Detents are damaged or missing. Check to make sure white delrin ball is intact and reactive on both sides. Replace if damaged or missing.*
- ✓ *Paint is too low quality or too brittle. Switch to a name brand, high quality manufacturer.*
- ✓ *Loader may not be keeping up if you deactivate the eye system in this case, check loader batteries or use a faster loader.*

- ✓ Check Reloaded battery. It may be low, causing incomplete cycling.

11.3 VELOCITY IS INCONSISTENT

Warning: Velocity is very related with weather conditions. Outside temperature and humidity can drasticaly modify pressure regulation and paints diameter.

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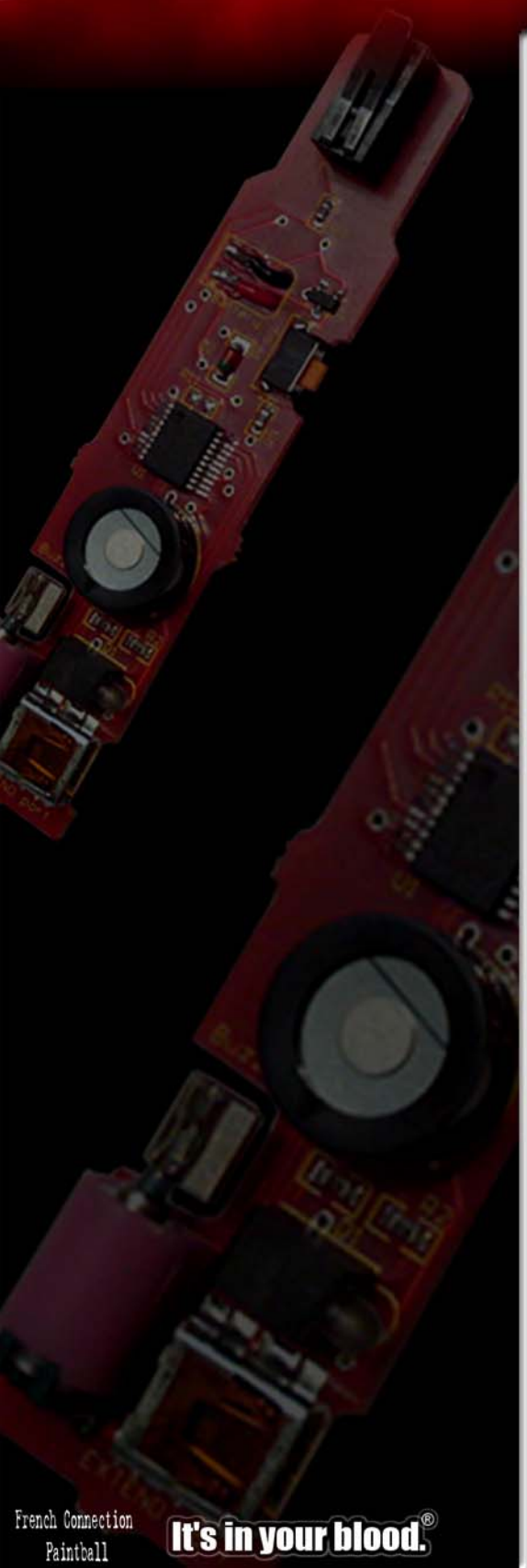

Most of the time inconsistent velocity is due to mechanical problems. *The Shocker® Users manual says:*

- ✓ *Clean regulator and inspect seat assembly. (See separate Max-Flo manual)*
- ✓ *Check paint to barrel match. Paint may be too large or too small for the barrel you are shooting it through. Find a paintball that fits your barrel properly.*
- ✓ *Check the Shocker® and Max-Flo regulator for leaks.*

11.4 THE SHOCKER® EXHIBIT LOW VELOCITY

- ✓ *Your Reloaded battery is low. Replace with fresh name brand battery.*
- ✓ *Turn the on/off valve on all the way.*
- ✓ *Check your operating pressure so that it is at @190psi. Increase to 190psi if lower.*
- ✓ *If pressure is at @190psi, slowly increase dwell setting.*

11.5 THE SHOCKER® IS DROPPING OFF

- ✓ *FIRST OF ALL, clean and grease the Shocker®-**and** the regulator and ckeck again.*
- ✓ *Increase the dwell slightly.*

11.6 THE SHOCKER® IS GASSED UP, BUT DOES NOT SHOOT

- ✓ Turn the Reloaded board on.
- ✓ *Battery may be dead. Replace with fresh name brand battery.*
- ✓ *Check to see if solenoid wiring harness has come free from either end of the circuit board. If yes then reconnect.*

11.7 THE GUN FIRES AT A VERY LOW ROF WHATEVER THE RATE OF MY FINGERS

Due to its AFF feature, while in Vision mode, the gun will fire wheter there are balls present or not.

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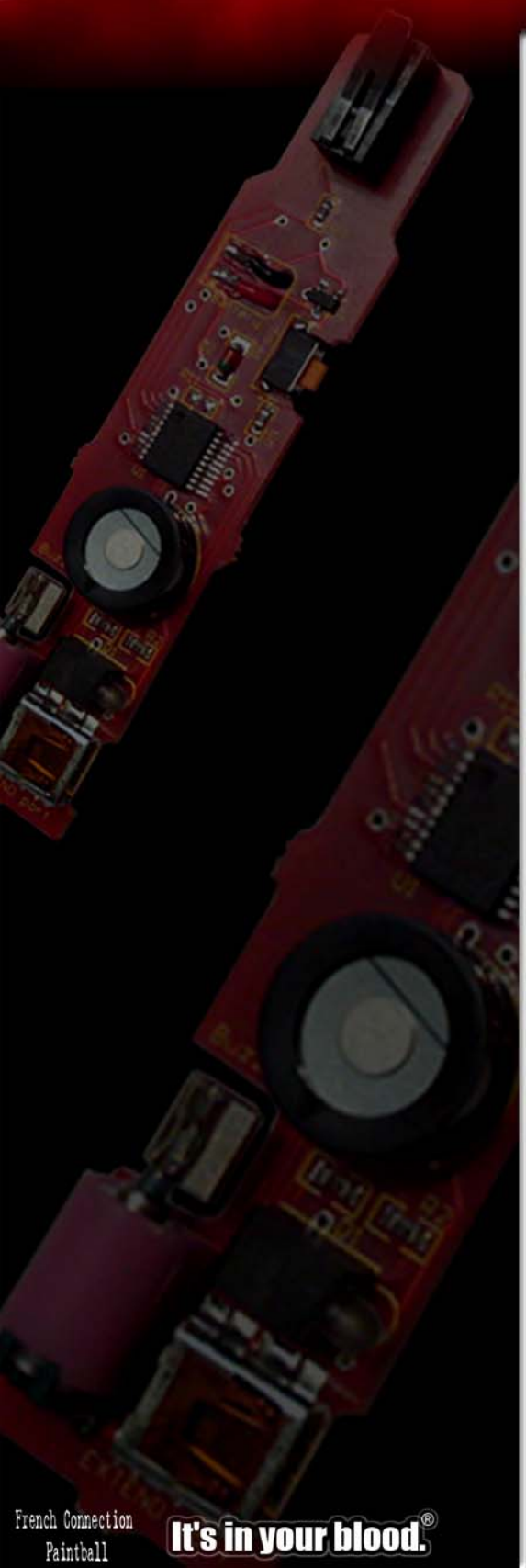
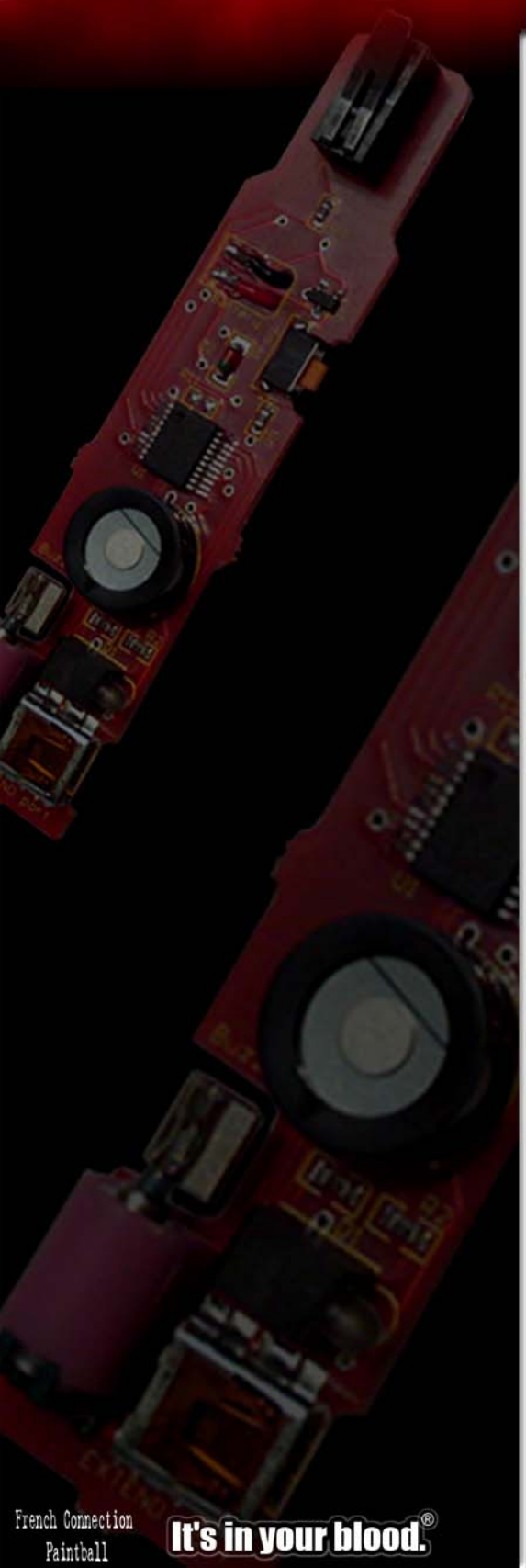


- But if balls have odd shapes or are badly discolored. Each ball detecttion will have a penalty causing the gun to lower its ROF to 9 bps. You can remove the Vision eye or choose a different type of ball *or check to see if you have previously broken a ball. Broken paint may cover the actual Vision eye and cause it to misread. Clean it with a paper towel and a small amount of alcohol. If this does not work, the eye may be damaged and will need to be replaced. Call Smart Parts or your local Smart Parts dealer for parts.*
- *The Vision may not read certain dark shell paints, such as black. While it is not a given that the Vision does not see black shell paint, continued failure of the Vision system with black shell paints should indicate for you to try a bit of a brighter shell paintball.*



12 Funny acronyms glossary

Automatic Intelligent Trigger Debounce (AITD) – Each time you press the trigger, the switch is activated. The switch is made of metal plates that will bounce for a short period of time. At the Board level those bounces are considered as independent trigger actions. Therfore the board must be abble to filter those “false events”. In the case of the **RELOADED®** board, the player has ***NOTHING to set up*** to handle this inherent property of a switch. The **RELOADED®** board knows exactly what to do with this intrinsec characteritic of the switch.

Auto Adaptive Loader Delay (A^2LD) – After each shot, the gun must make sure a slight delay is added to the cycle to ensure you won’t chop the next ball.
Thanks to its unique A^2LD technology, the **RELOADED®** ***sets the appropriate delay for each ball, without any user action!***

Automatic Drop Off Control (ADOC) – Due to electrical and pneumatic leakages of the solenoid, when the marker has been left sitting for a long period (approx. more than 30 seconds), the first shot suffers of drop off.
To avoid this, The ADOC feature will add an additional dwell boost to the first shot after such a long inactivity.

WARNING: After 20 seconds of inactivity, the first ball velocity will be slightly higher. Don’t forget to fire at least once before a chrony check if you want to setup your gun! ADOC is not available in tournament modes.

Recharge time – This is the amount of time needed to recharge the gun after a shoot.
This includes: waiting for a ball to be present, let the air flow to the regulator, debounce the trigger, wait for the bolt to be pulled backward, etc…
Some of those delays take place at the same time, some are unavoidable.

The **RELOADED®** board ***automatically adjusts the different delays*** to service the gun at his optimum performance, ***what ever the circumstances***.

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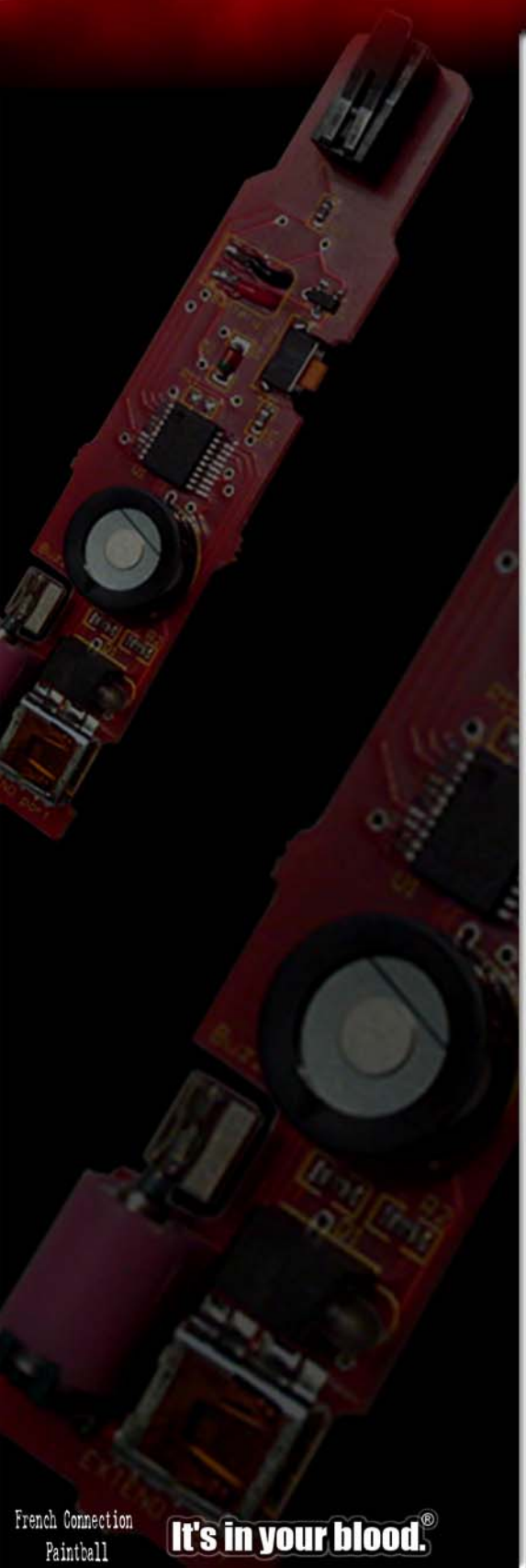

Auto Force Fire (AF²) – This feature will force the fire in the event a ball has been pushed slightly into the detents where the Eyes are unable to detect it.
In this situation the **RELOADED®** will automatically handles the situation and corrects the problem so you can continue firing normally. ***You won't even notice the problem as occurred.***

Automatic Eyes De-activation (AEDA) – In case of repetitive loading problem the **RELOADED®** will instantly activate its AEDA feature. This allows jumping from an HALO feeding rate to a "dry shoot" mode, in a snap, without any user action.

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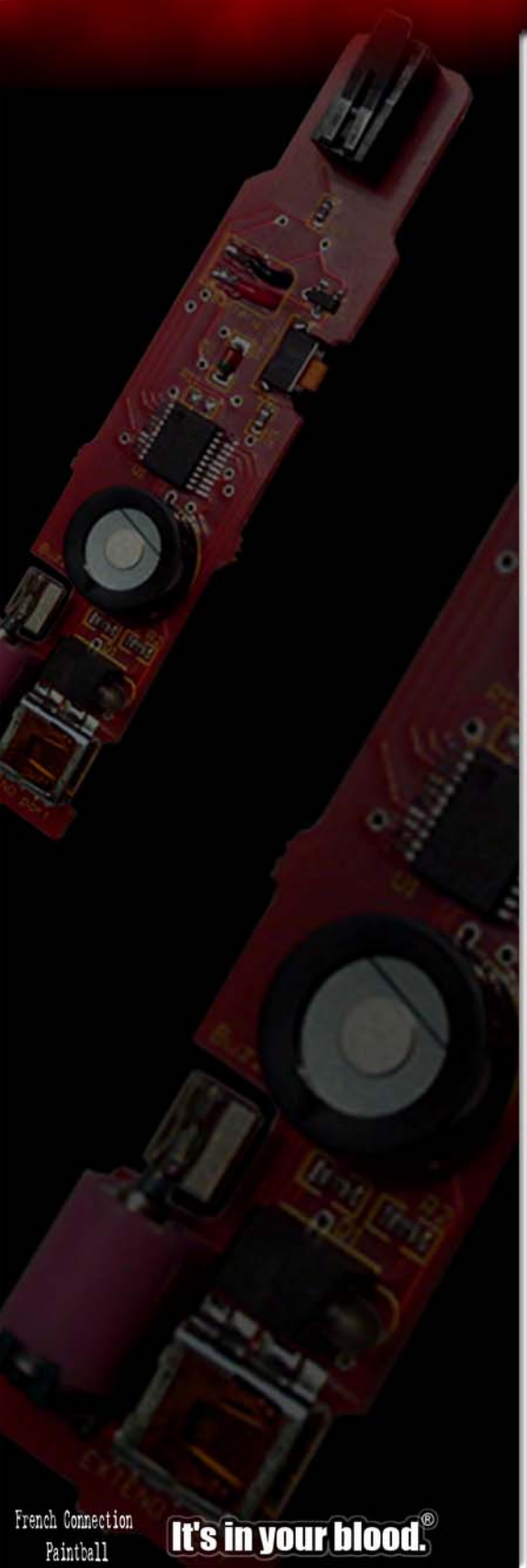

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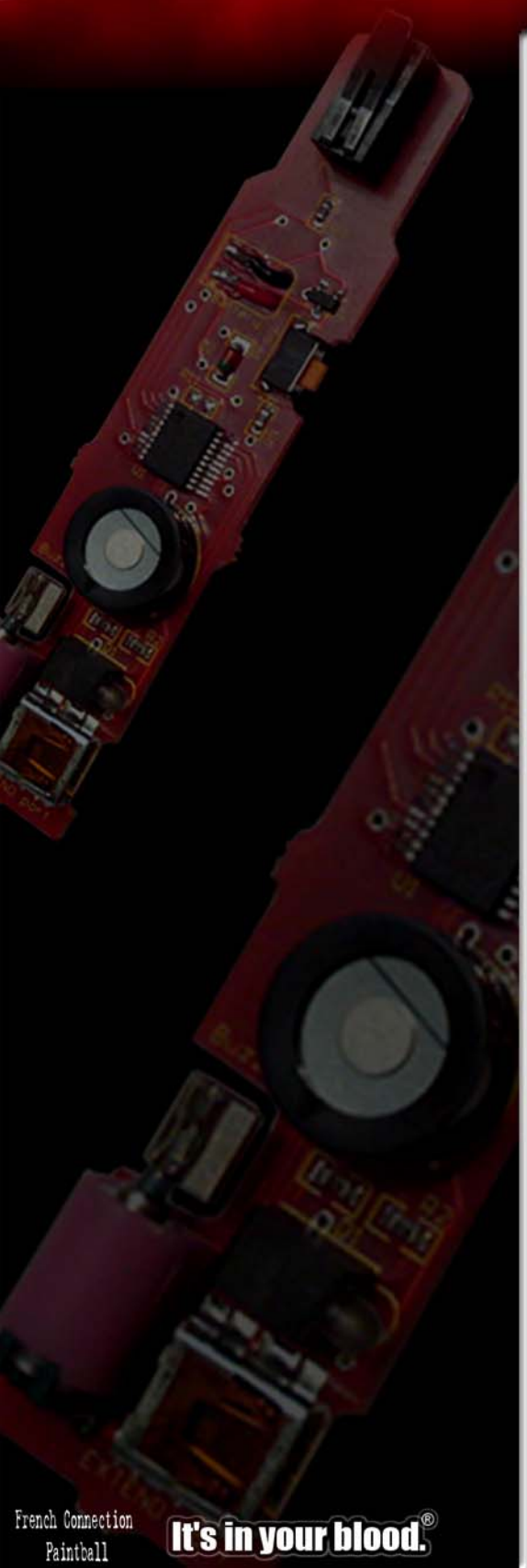

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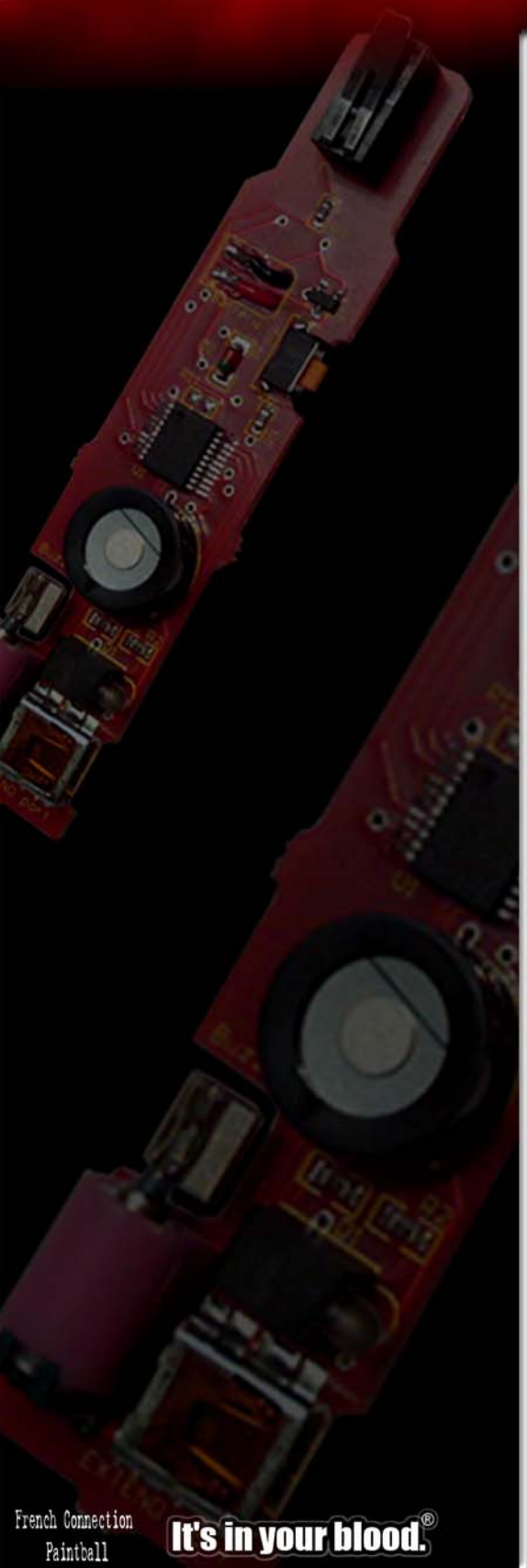

Personal notes: