Fire Control Unit Instructions
Firmware Revision 1.1

The FCU operates on an input voltage of 6.8 - 12VDC. A small 7.4V battery with JST RCY connector is recommended, however a standard 7.4V or 8.4V Airsoft battery pack will work with the proper adapter.

FCU Adjustment Procedure:
The FCU adjustment procedure uses a combination of short (quick) and long (slow) LED flashes to provide feedback to user and all values are input directly via the trigger.

Entering Programming Mode:
To enter Programming Mode, hold down the trigger while plugging in the battery.
Holding the trigger for less than 5 seconds allows for entry into Programming Mode.
Holding the trigger for more than 5 seconds will allow entry into Programming Mode and resets the board to factory defaults.

The LED will quickly flash 2 times to signify entry into Programming Mode or will quickly flash 5 times to signify a reset to factory defaults while entering Programming Mode.

Selecting a Menu:
Once in Programming Mode, pull the trigger "X" number of times to select which Menu to adjust. The LED will slowly flash the corresponding number of times to provide positive feedback as to which Menu you have chosen to adjust.

If you do not touch trigger for 2 seconds after selecting the Menu, the LED will quickly flash the chosen Menu's currently stored value.
The LED will repeatedly flash the currently stored value until the user either enters a new value or exits Programming Mode by un-plugging the battery.

Adjusting Menu Settings:
All values are input directly.
You adjust the chosen Menu's setting by pulling the trigger "X" number of times to input the settings new value.

Wait at least 2 seconds after adjusting the Menu's setting to allow the FCU to store the new value. Once the setting's new value is stored, the LED will quickly flash the Menu's new setting. You must unplug the battery to permanently save the new setting.
To adjust another Menu, you must re-enter programming mode by un-plugging, then re-plugging in the battery while holding trigger for less than 5 seconds.

User adjustable menus:

1 : Nozzle Dwell. (Default 20)

The Nozzle Dwell setting controls how long power is applied to the solenoid.

The Higher the value, the longer the nozzle is held in the retracted position.

This is used to adjust for slower feeding magazines.

This setting is highly dependent on the Magazine, BB and Hop-Up used.

Setting this value too low will result in non/inconstant feeding and jams.

Setting this value too high can result in double feeds.

Min = 10

Max = 50

2: Semi Auto Max Rate of Fire. (Default 1)

1 = Normal Semi Auto. 1 shot per trigger pull. The maximum rate of fire is unrestricted.

2 = 1 shot per 2 seconds maximum*

3 = 1 shots per second maximum*

4 = 10 shots per second maximum*

*Once a shot is fired the FCU will ignore any additional trigger pulls until the settings time has elapsed.

3: Full Auto / Burst Mode. (Default 1)

1 = Normal Full Auto. The gun fires at the set rate of fire until trigger is released.

2 = 3 round burst

3 = 5 round burst

4 = 7 round burst

5 = 9 round burst

6 = 1 round burst *

*Makes the Full Auto/Burst switch position equal to Semi Auto. Semi Auto Max Rate of Fire Menu settings will apply.

4: Full Auto Rate of Fire. (Default: 18)

Minimum: 10

Maximum: 40*

 *If the ROF setting exceeds the maximum possible cyclic rate (as determined by the Dwell setting) it will automatically be set to the maximum possible ROF.

5: Anti Stiction Pulse. (Default: 1)*

Minimum: 1

Maximum: 25

*The Anti Stiction pulse is added to the dwell after the FCU's internal Anti Stiction timer has elapsed.

This is used to counter static friction. You will want to Increase this number if you are experiencing dead first trigger pulls or no bb on the second shot after sitting for a time between shots.

6: Selector position. (Default: 1)*

Normal: 1

Reverse: 2

*Allows you to reverse the Semi Auto and Full Auto/Burst switch positions.

Data entry errors:

Menu selection:

For example, the user is in Programming Mode but pulls the trigger 7 or more times when attempting to select a Menu to edit.

Since there are only 6 selectable Menus, 7 or more is an invalid input. The LED will alternately flash long-short-long-short-long-short to alert the user to the input error.

The FCU will stay in Programming Mode and the user can select a Menu to edit.

Menu data entry:

For example the user selects Menu "2" (Semi Auto rate of fire) to adjust.

The Menu's currently stored value is "3" which is equal to 2 shots per second max rate of fire.

The user attempts to enter an "8" and pulls trigger 8 times. Since there is no "Parameter 8" in that Menu, **the Menu's value remains unchanged** and the LED will quickly flash 3 times to provide feedback to the user as to the Menu's currently set value.