

## Introduction

Thanks for your purchase of LF2 flashlight .A new designed 2-stage switch mechanism and MCU control circuit are included . LF2 supports 4 operation modes and 5 useful functions . You can access any operation mode by few times of switching action , didn't need to pass through the useless mode . You can adjust intensity from very dim to brightest easily by using **user adjusted** mode . All the intensity of operation modes can be adjusted and stored settings into **EEPROM** in **MCU** ( Standard , Strobe and SOS mode only ) . Strobe mode can be adjusted into many kinds of strobe format by setting ON and OFF periods to meet what you want further . You will find that LF2 is powerful and useful to meet any application .

## Battery Replacement

1. Remove the head cap by completely unscrewing it counter-clockwise .
2. Install AAA battery with the positive (+) end up , toward the head cap .
3. Replace the head cap and turn clockwise to secure .

## Definition

1. Shut down position : Turn head cap clockwise or tube body anti-clockwise to secure .
2. Position 1 (abbreviation : **PI**) : 1/4 turn from shut down position to loosen .
3. Position 2 (abbreviation : **P2**) : More 1/4 turn from Position 1 to loosen .
4. Switch cycle (abbreviation : **SW**) :
  - (1) From **PI** to **P2** and back to **PI** , all the periods must less than 1 second .
  - (2) From **P2** to **PI** and back to **P2** , all the periods must less than 1 second .

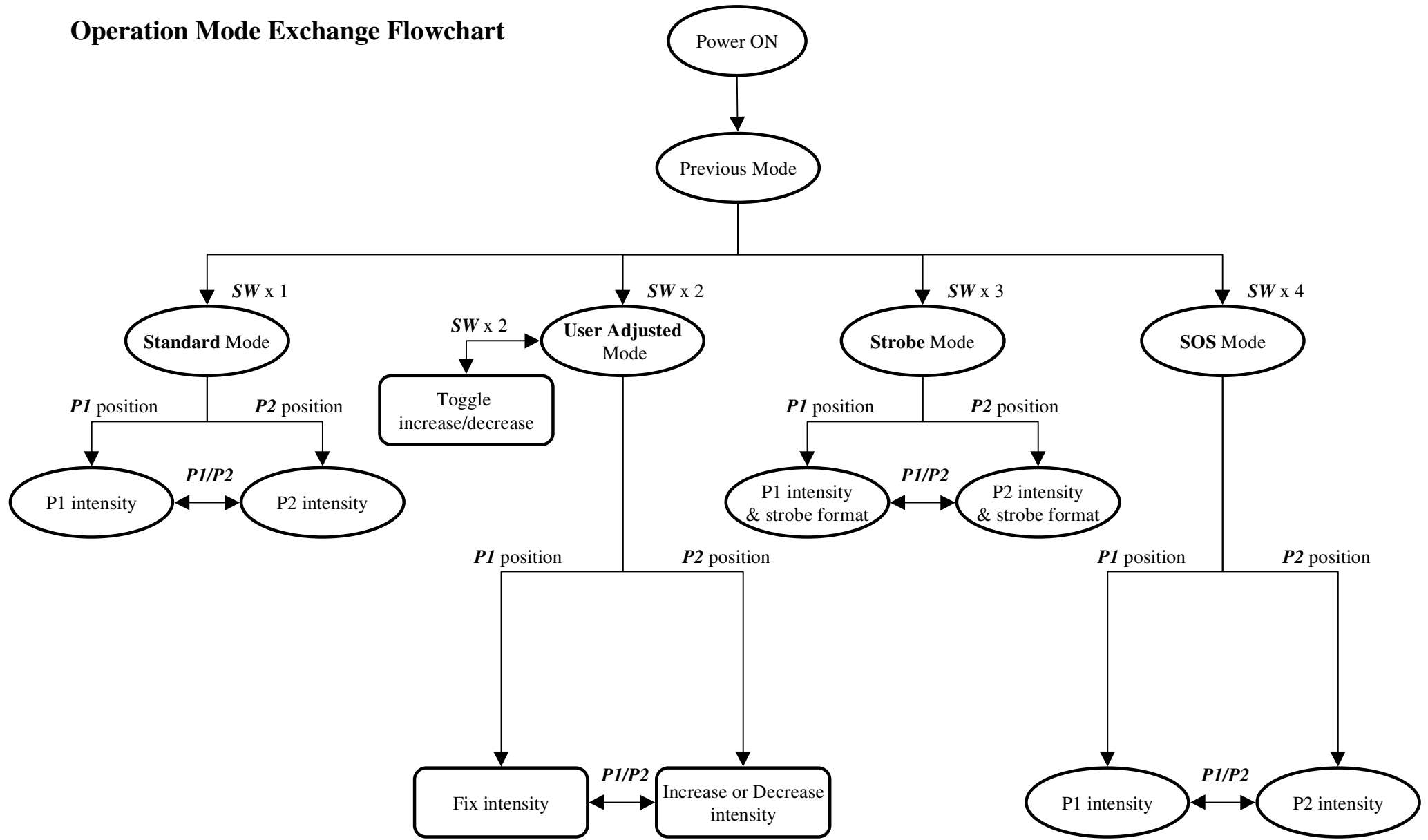
## Operation modes exchange and description

1. Standard mode : In any operation mode **SW** x 1 will change to standard mode . There are two positions indicated two different intensity output ( **PI** & **P2** ) . Both of the intensity can be set by using programming function .
2. User adjusted mode : In any operation mode **SW** x 2 will change to user adjusted mode . In user adjusted mode , **PI** position means fixed intensity and **P2** means a changing intensity position . In **P2** position will increase or decrease intensity . Inc or Dec are depend on the setting flag which is Inc initially and can be toggle to Dec by **SW** x 2 .
3. Strobe mode : In any operation mode **SW** x 3 will change to strobe mode . There are two positions indicated two different intensity and strobe format output ( **PI** & **P2** ) . Intensity and strobe format can be set by using programming function .
4. SOS mode : In any operation mode **SW** x 4 will change to SOS mode . There are two positions indicated two different intensity output ( **PI** & **P2** ) . Both of the intensity can be set by using programming function .

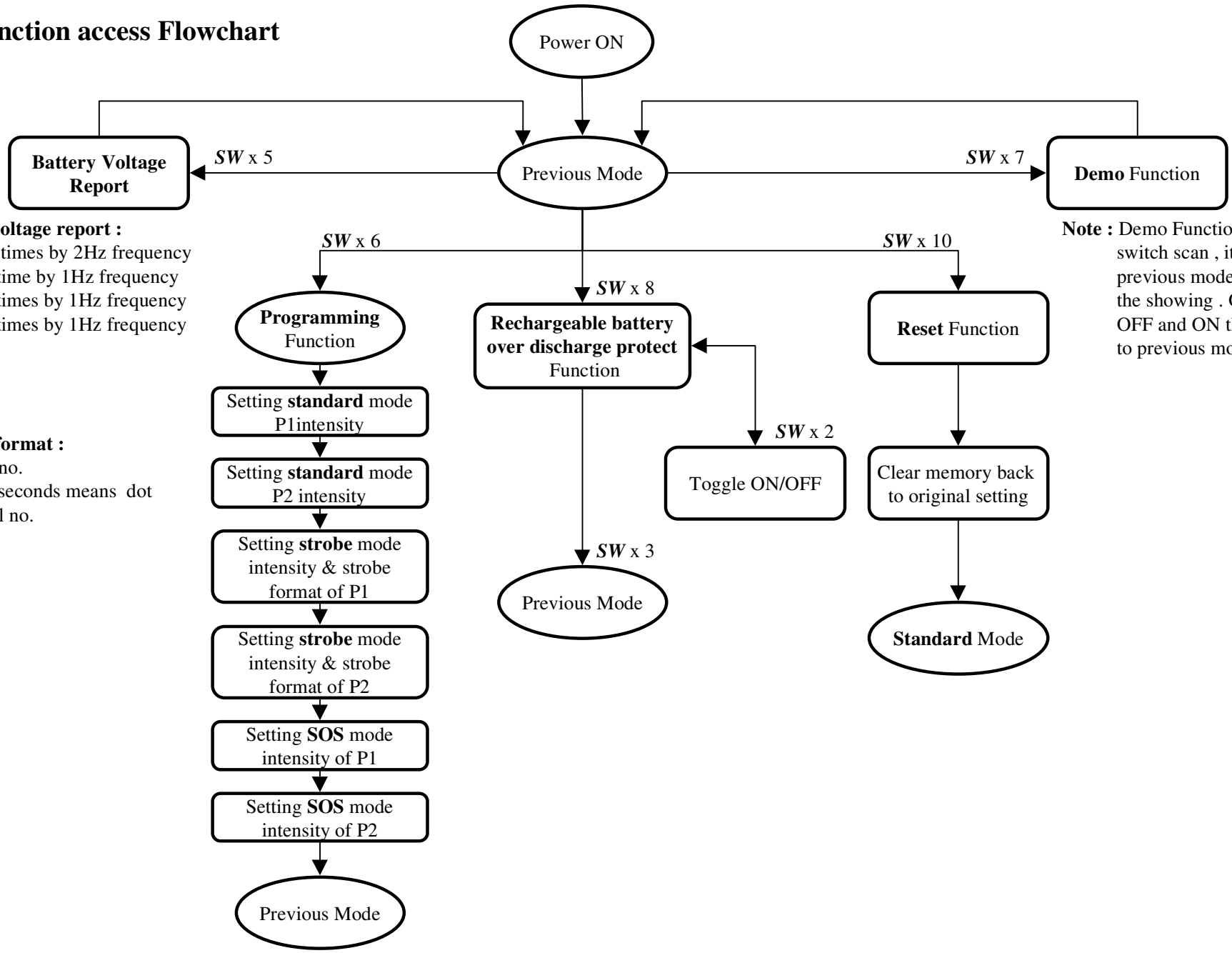
## Function description and operation

1. Battery voltage report : In any operation mode **SW** x 5 will go into battery voltage report function . On the beginning turn off output and measure the voltage of battery after that begin to flash indicated voltage in format -- integer no. - blank 2 seconds - decimal no . When finish showing will back previous operation mode .
2. Programming function : In any operation mode **SW** x 6 will go into programming function ,there are 6 parameter needing to set (standard mode P1 - standard mode P2 - strobe mode P1 - strobe mode P2 - SOS mode P1 - SOS mode P2 in serials ) .
  - (1) standard mode P1 : Setting the intensity of standard mode P1 position , method is similar to user adjusted mode . **SW** x 2 toggle Inc/Dec (default is Inc ) , in **P2** position Inc or Dec intensity and in **PI** position fix the intensity . After setting the intensity what you want **SW** x 3 will save the setting and go next setting .
  - (2) standard mode P2 : Setting the intensity of standard mode P2 position , method is the same as (1) .
  - (3) strobe mode P1 : Setting intensity and strobe format of strobe mode P1 position .
    - (I) In the beginning is set intensity , method is similar to (1) .
    - (II) **SW** x 4 will toggle intensity or strobe format setting .
    - (III) In strobe format setting **SW** x 1 toggle ON period or OFF period . **SW** x 2 toggle Inc/Dec period ( default is Inc ) . **PI** means fix period position and **P2** means changing period position ( Inc or Dec ) .
    - (IV) After set the intensity and strobe format **SW** x 3 will save it and go next .
  - (4) strobe mode P2 : Setting intensity and strobe format of strobe mode P2 position . Method is the same as (3) .
  - (5) SOS mode P1 : Setting intensity of SOS mode P1 position . Method is the same as (1) .
  - (6) SOS mode P2 : Setting intensity of SOS mode P2 position . Method is the same as (1) . **SW** x 3 will save the setting and go back to previous operation mode .
3. Demo function : In any operation mode **SW** x 7 will go into demo function . Demo function will disable SW detection and show all operation modes once . After finish showing modes will back to previous operation mode or you can turn OFF and ON to back to previous mode .
4. Rechargeable battery over discharge protect function : In any operation mode **SW** x8 will go into this function . **SW** x 2 toggle ON/OFF , ON enable rechargeable battery over discharge protect function and indicated flash by 2 Hz frequency , OFF disable this function and indicated flash by 1 Hz frequency . **SW** x 3 save setting and back to previous operation mode .
5. Reset function : In any operation mode **SW** x 10 will go into reset function , and will clear data in EEPROM to original setting . After that will back to standard mode .

# Operation Mode Exchange Flowchart



# Function access Flowchart



**Battery Voltage report :**  
 0 : flash 2 times by 2Hz frequency  
 1: flash 1 time by 1Hz frequency  
 2: flash 2 times by 1Hz frequency  
 3: flash 3 times by 1Hz frequency  
 .  
 .  
 .

**Showing format :**  
 1. Integer no.  
 2. OFF 2 seconds means dot  
 3. Decimal no.

**Note :** Demo Function will disable switch scan , it will back to previous mode when finish the showing . Or turning OFF and ON the power back to previous mode .

# Programming Function Flowchart

