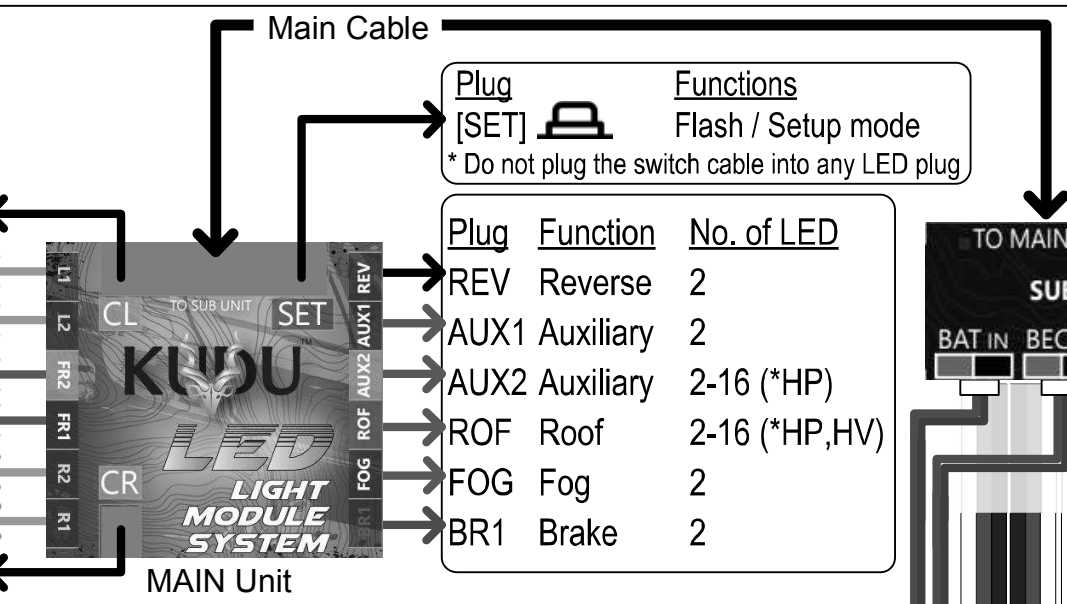




KUDU™ LED Light Module System for BRX02 Series Land Rover

How to Install :

Plug	Function	No. of LED
CL	Chassis Left	2-16 (*HP)
L1	Blinker Left	1
L2	Blinker Left	2
FR2	Front	2-16 (*HP)
FR1	Front	2
R2	Blinker Right	2
R1	Blinker Right	1
CR	Chassis Right	2-16 (*HP)



Plug	Function	No. of LED
CF	Chassis Front	2-16 (*HP)
⚡ (Buzzer)	Reverse Beeper (LVD Alert)	- (All LED flash)

Plug	Function	No. of LED
[SET]	Flash / Setup mode	-
REV	Reverse	2
AUX1	Auxiliary	2
AUX2	Auxiliary	2-16 (*HP)
ROF	Roof	2-16 (*HP, HV)
FOG	Fog	2
BR1	Brake	2

(*4) HP (Orange): High Power plug
HV (Red): High Voltage plug

Optional functions	Requirements
Low Voltage Detection (LVD Alert)	Battery Required (⚡ Buzzer)
Additional Power Supply	Battery and External BEC Required

Start to use :

- Connect all desired Channels (CH1-4), then ESC, Servo before Power ON ESC
- Power ON ESC, the LED System (BR1) will flash for around 5 seconds (Channel 2 (TH) AUTO-CALIBRATE)
- PLEASE KEEP Channel 2 in NEUTRAL POSITION during this Period UNTIL BR1 STOPS FLASHING
- See below table for all operations :

The kit includes :

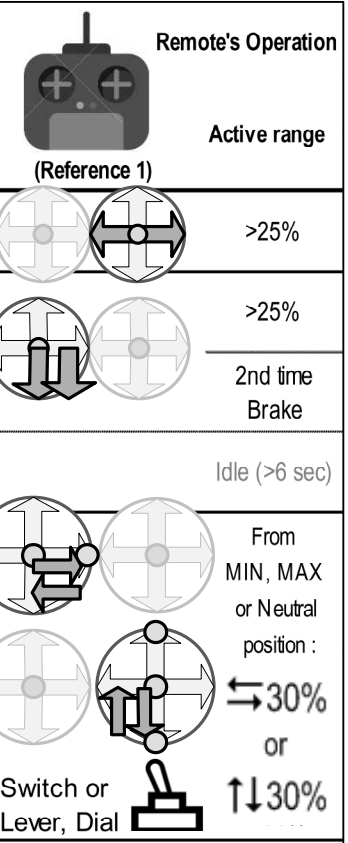
Item	QTY
1) MAIN unit	1
2) SUB unit	1
3) Main cable	1
4) SET Switch cable	1
5) Battery cable (LiPo 2S)	1
6) Buzzer	1
7) User manual (EN)	1
LED cables :	
8) Left & Right - 3mm Yellow (1P)	4
9) Front 1 - 5mm Warm White (2P)	1
10) Front 2 - 3mm Warm White (2P)	1
11) Reverse - 3mm Warm White (2P)	1
12) License Plate - 3mm Warm White (2P)	1
13) Brake - 3mm Red (2P)	1
14) Fog - 3mm Red (2P)	1

Specification :

- Input Voltage : 5 - 7.4V (Powered by ESC's BEC)
- Battery type for LVD : LiPo 2S (User define: MAX 25.2V)
- Support RC System : All Normal Response RC Systems: PCM/ PPM (FM)/ AM
Some High Response RC Systems, for example :
Futaba : FASST-C1, C2 / S-FHSS / T-FHSS (SR)
Sanwa : NOR / SHR Mode
- Dimension (Excludes cables) :
Main Unit : 45mm (L), 41.3mm (W), 11.7mm (H)
Sub Unit : 24.5mm (L), 18.5mm (W), 12mm (H)
- Weight : MAIN/ SUB Unit : 14g / 10g

Input Channel VS FUNCTIONS :

Input Channel (* 1)	Function	LED Output	Detail Functions										
CH1 ST (Steering)	Left / Right Blinkers	L1, L2, R1, R2	Left / Right turns signal										
CH2 TH (Throttle)	Brake	BR1	LED 100% ON when braking, otherwise = Idle stage										
	Reverse	REV	ON when 2nd time brake										
	Auto Hazard	L1, L2, R1, R2	Enable when TH idle over 6 secs (Manual hazard NOT selected)										
CH3 ON / OFF Switch	Manual Hazard	L1, L2, R1, R2	L1, L2, R1, R2 Flashing										
CH4 TOGGLE Switch	Smart Toggle Switch LED ON / OFF	BR1, AUX1-2, ROF, FOG, FR1, FR2, CF, CL, CR	<table border="1"> <tr> <th>Toggle 0:</th> <th>Toggle 1:</th> <th>Toggle 2:</th> <th>Toggle 3:</th> <th>Toggle 4:</th> </tr> <tr> <td>BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR</td> <td>BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR</td> <td>BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR</td> <td>BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR</td> <td>BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR</td> </tr> </table>	Toggle 0:	Toggle 1:	Toggle 2:	Toggle 3:	Toggle 4:	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR
Toggle 0:	Toggle 1:	Toggle 2:	Toggle 3:	Toggle 4:									
BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR	BR1, AUX1, 2, ROF, FOG, FR1, 2, CF, CL, CR									
[SET]	Flash Mode	All	Press SET anytime after Power ON, total 10 flashing styles										



Reference 1 :

Connection example :

Futaba T6EX (Stick Mode 2)

T6EX	V4-TR	Function
CH1 Aileron	CH1	Left, Right
CH2 Elevator	CH4	Toggle
CH3 Throttle	CH2	Throttle
*CH4 Rudder	CH3	ON/ OFF
CH5 / 6	CH3/ CH4	ON/ OFF, Toggle

Futaba 4YWD

CH1	CH1	Left, Right
CH2	CH2	Throttle
CH3	CH3	Toggle
*CH4	CH4	ON/ OFF

*CH4 may be used for Gear box Servo

Reference 2 :

External BEC (Sell separately)	Part Number
5 - 6V, 3A type	UBEC-3A
5 - 6V, 5A type	UBEC-5A

Flash Style	LEDs
Flash 1:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 2:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 3:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 4:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 5:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1,2, ROF, FOG, CF, CL, CR
Flash 6:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 7:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 8:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR
Flash 9:	BR1, REV, FR1,2, L1,2, R1,2, AUX1,2, ROF, FOG, CF, CL, CR
Flash 10:	BR1, REV, FR1, FR2, L1,2, R1,2, AUX1, AUX2, ROF, FOG, CF, CL, CR

Caution:

This LED system will increase the load of BEC. Some radio control system(s) or ESC(s) MAY NOT work this LED system normally !!

Notes (*1): Function(s) is/are enabled ONLY when the Channel(s) is/are connected BEFORE POWER ON.

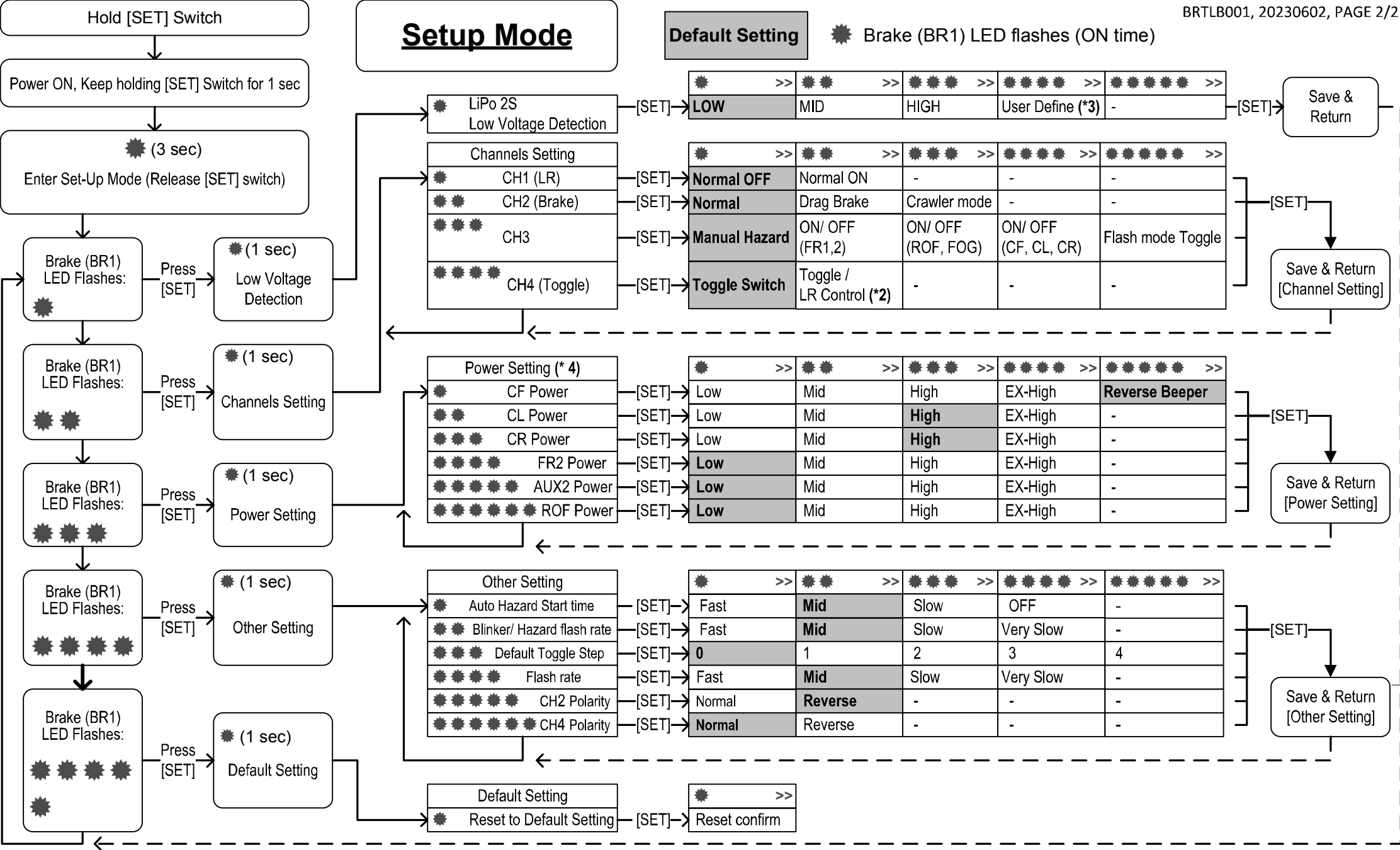


Table 1: Setup Mode **Default Setting** Brake (BR1) LED flashes time

Set up Mode	*	**	***	****	*****		
LiPo 2S Low Voltage Detection	Low 6.2V	Middle 6.8V	High 7.6V	User define MAX 25.2V (* 3)	-		
Channels Setting							
CH1 (LR)	Normal OFF	Normal ON	-	-	-		
CH2 (Brake)	Normal	Drag Brake	Crawler mode	-	-		
CH3	Manual Hazard	OnOff (FR1, 2)	OnOff (ROF, FOG)	OnOff (CF, CL, CR)	Flash Mode TOGGLE		
CH4 (Toggle)	Toggle	Toggle / LR Control (* 2)					
Power Setting (* 4)							
CF Chassis Front	Low Power	Mid Power	High Power	Extra High Power	Buzzer (REV Beeper)		
CL Chassis Left	Low Power	Mid Power	High Power	Extra High Power	-		
CR Chassis Right	Low Power	Mid Power	High Power	Extra High Power	-		
FR2	Low Power	Mid Power	High Power	Extra High Power	-		
AUX2	Low Power	Mid Power	High Power	Extra High Power	-		
ROF	Low Power	Mid Power	High Power	Extra High Power	-		
Other Setting							
Auto Hazard start time	Fast	Middle	Slow	Auto Hazard OFF	-		
Turns / Hazard flash rate	Fast	Middle	Slow	Very Slow	-		
Default TOGGLE step	STEP	0 >>	1 >>	2 >>	3 >>	4 >>	
	AUX1	OFF	ON				
	AUX2						
	ROF			ON		ON	
	FOG						
	FR1			OFF			ON
	FR2				OFF		
	SL					OFF	
SL, SR							
BR1	Idle 0%	Idle 15%	Idle 15%	Idle 15%	Idle 15%		
Flash rate	Fast	Middle	Slow	Very Slow	-		
CH2 Polarity	Normal	Reverse	-	-	-		
CH4 Polarity	Normal	Reverse	-	-	-		
Default Setting							
Default Setting	Reset to Default Setting then Restart						

Notes (* 2):

TOGGLE / LR Control (**/ ****/ **)	Remote's Operation
Function	
TOGGLE Switch / LR Control	Toggle start: >25% (>1 sec) LR Control: 0-25% : OFF >25% : ON

Notes:

(* 3): A DISCHARGED battery can be connected The battery voltage Level will be stored as Low Voltage Detection (LVD) Level, Battery Type will be ignored

(* 4): Power option
 HV: High voltage Plug : 7.4 - 12V
 HP: High Power Plug :

Power	LOW	MID	HIGH	EX-HIGH
Output current	40mA	100mA	150mA	250mA
Drive LED 20mA each	2 pcs	4-6 pcs	8-10 pcs	12-16 pcs
* External BEC	Not MUST		3 / 5A	5A

* If using HIGH / EX-HIGH power option or ESC's BEC output is lower than 3A it's **required** to add a 3 / 5A External BEC (See Reference 2)

Caution:
 Using **OVER** current to drive LEDs will burn or shorten the life of LEDs !