walkera

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Welcome to use the ***WK-2801 PRO*** transmitter

# WK-2801 PRO

# User Manual

**Note:** Please read throughly the manual before using and keep it in a safe place for the future reference.

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# Part one: general information

## 1.0 Foreword

The WK-2801 adopts the 2.4G spectrum technology with the functions of automatic code pairing, ID assignment and high capability of anti-jamming. It also has the function of wireless copy so that you will get out of the trouble of wire connection. 4 hotkeys can be set to get fast access to the desired screen. It has modes for both helicopter and plane to meet your requirements for different models.

You must enter the Function Menu to select the correct model before making other settings. (See 7.2.2 Model selection.)

### 1.1 Important Statements

(1) The transmitter is suitable for experienced radio controlled helicopter modelers beyond 14 years old.

(2) Using legal ground for operating the model plane is a must.

(3) We assume no liability for the use of this product.

(4) Please contact our local distributor for technical support and after service.

### 1.2 Satety Needing Attention

(1) Far away from obstacle and people

RC helicopter in flight is uncertain of flight speed and status, which potential risk exists in. when flying, please keep your RC helicopter far away from people, high buildings, high-tension line, etc, and avoid operating in rain, storms, thunder and lightening.

(2) Away from humidity environment

RC helicopter should be kept away from humidity and vapor because it is composed of complicated precise electronic elements and mechanic parts.

(3) Proper operation

Please use Walkera original spare parts to upgrade, modify or maintain your helicopter in order to assure its safety. Please operate your helicopter within the range of functions permitted. It is forbidden to use out of the safety laws or regulations.

(4) Safety operation

Please fly your helicopter according to your body status and flight skills. Fatigue, listlessness and miss-operation will increase the possibilities of accidental hazard.

(5) Away from heat source

The inside of the transmitter is composed of many precise electronic components and mechanical parts. Keep it far away from heat sources and sunshine to avoid distortion, or even damage caused by high temperature.

(6) Correct Charging Method

When using the nonrechargeable battery, it is prohibited to charge the battery by the CHG jack.

### 1.3 Attention before flight

(1) Ensure the battery packs of both transmitter and receiver are fully charged (saturated).

(2) Ensure both the throttle stick and the throttle trim of your transmitter stay at the lowest positions before operation.

(3) Please strictly obey the order of turn-on and turn-off before operation. When starting your flight, turn on your transmitter first, then connect the battery to the heli. When turning off the heli, disconnect the battery first, then turn off the transmitter. An upset in the order of connection may cause your helicopter to lose control. Please cultivate a correct habit of turn-on and turn-off.

(4) Ensure the directions and actions of the servos are correct when executing commands of the transmitter. Using a broken servo will result in unforeseen dangers.

## 2. 0 Features

### 2.1 Transmitter WK-2801 PRO

1. The WK-2801 PRO adopts 2.4G spectrum technology and features automatic code pairing and ID assignment. It can also be customizedly set as fixed ID code.
2. LCD display of the WK-2801 PRO is simple to understand and easy to set.
3. The transmitter appearance is ergonomically designed and its large LCD display has white backlight with easy-to-read graphics.
4. That the length and tension of the control sticks can be adjusted and it is convenient to switch among four types of stick control modes.
5. The WK-2801 supports both helicopter and plane. In helicopter mode, there offers three flight modes, each of which is capable of free setting and adjusting parameters in order to suit the various requirements for F3C or 3D aerobatic flights.
6. Capable of wireless data transfer between two transmitters and of training function.
7. Four adjustable hot keys facilitate easy entry into the set menu.
8. Eight model memory storage.
9. Gyro sensitivity adjustment set by transmitter, and convenient programmed hover and aerobatic flights.

### 2.2 Receiver RX-2801 PRO

1. RX-2801 PRO adopts 2.4G spectrum technology that features fast reaction and strong anti-jamming protection.
2. Double reveiving circuits effectively assure the stability of receiving singal.
3. The Single Chip Micyoco as CPU provides super-strong analysing ability.
4. The RX-2801 PRO maintains the frequency and the ID memories when it's changing a new battery pack with the transmitter powered on.
5. It can be customizedly set as fixed ID and automatic ID assignment.

## 3. 0 Specifications

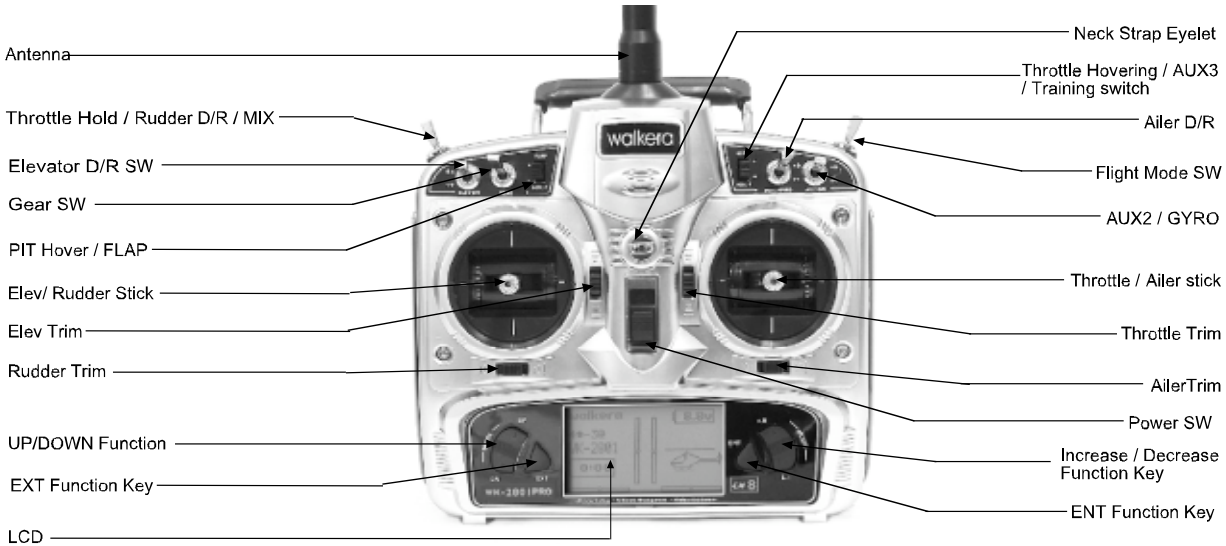
### 3.1 Transmitter Specification:

| | |
|---|---|
| Encoder | 8-channel micro computer system |
| Frequency | 2.4G spread spectrum |
| Output Power | ⩽10Mw or ⩽100mW |
| Current Drain | ⩽120mA (at 10mW) or ⩽230mA (at 100mW) |
| Power Source | 1.2V × 8NiCad(9.6V600mAh) or 1.5V × 8 AA dry batteries |
| Output Pulse | 1100-1900Ms(1500 Neutral) |

### 3.2 Receiver Specification:

| | |
|---|---|
| Type | Type: 2.4G 8 channel |
| Sensitivity | 95dbm |
| Frequency Interval | ⩾4M |
| Weight | 10g |
| Dimension | 39 × 28.5 × 14.5mm |
| Receiver Battery | 4.8V 110mAh |

## 4.0 Face


Antenna
Throttle Hold / Rudder D/R / MIX
Elevator D/R SW
Gear SW
PIT Hover / FLAP
Elev/ Rudder Stick
Elev Trim
Rudder Trim
UP/DOWN Function
EXT Function Key
LCD
Neck Strap Eyelet
Throttle Hovering / AUX3 / Training switch
Ailer D/R
Flight Mode SW
AUX2 / GYRO
Throttle / Ailer stick
Throttle Trim
AilerTrim
Power SW
Increase / Decrease Function Key
ENT Function Key

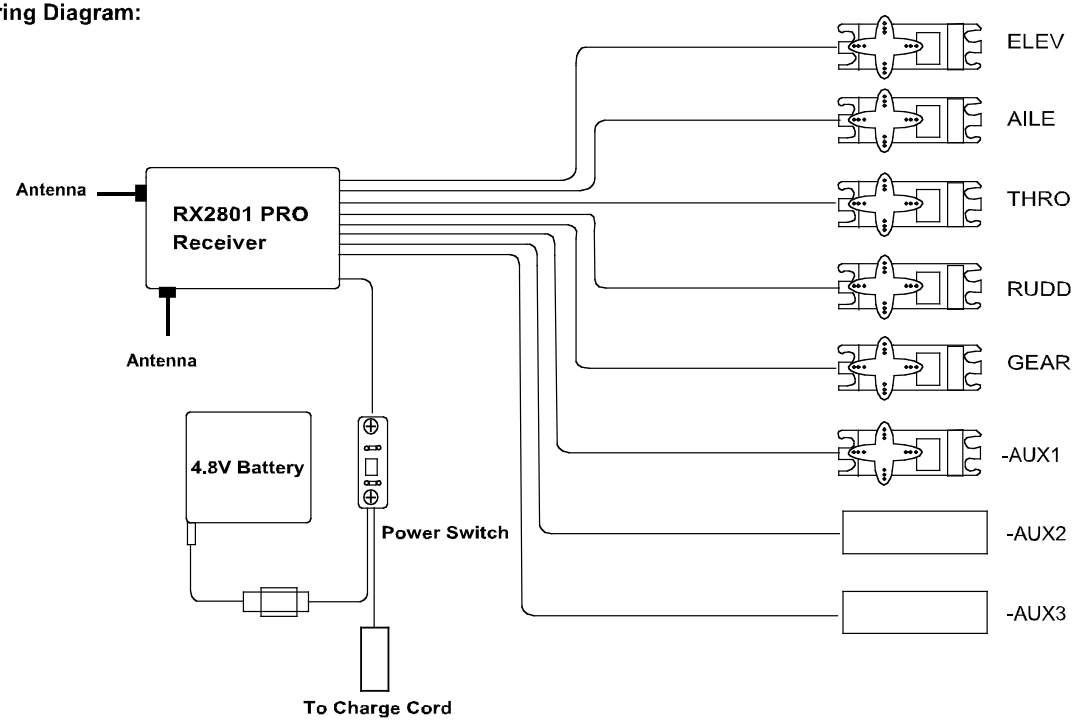
### 4.1 Back

Charging Jack: Input Voltage: 12V; Current: 50-100mA

**It's only fit for the rechargeable batteries. The charging function is prohibited when using the non-rechargeable batteries.**

Analog signals output jack/ training jack (DSC): for simulator flight practice via computer (You need a software and its dongle which are available in hobby stores), and for training.

**4.2 Wiring Diagram:**



### 4.3 WK-2801 PRO Input Key Function

**EXT:** Resetting key. Press EXT to exit the main menu.

**ENT:** Confirmation key. Press ENT to access the system or the function mode.

**·UP:** Moves the cursor up to the next Function selection.

**·DN:** Moves the cursor down to the next Function selection.

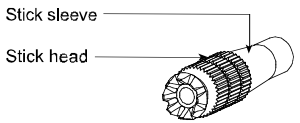
**+R:** Moves the cursor right to increase the setting value.

**L-:** Moves the cursor left to decrease the setting value.

## 5.0 Control Stick Length Adjustment

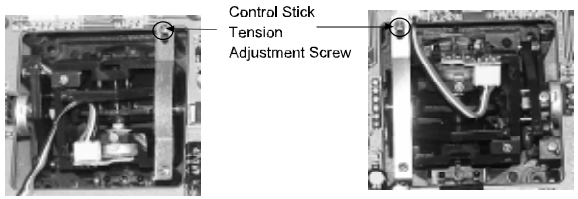
Prolong the stick length: CCW rotate the sitck head until the length you hope, and then CCW tighten the stick sleeve;

Shorten the stick length: CW rotate the stick sleeve until the length you hope, and then CW tighten the stick head.




### 5.1 Control Stick Tension Adjustment

Remove the 6 screws in the back cover of WK-2801 PRO, and remove the transmitter back cover (Be careful not to break the wires). Then use a Phillips screwdriver to adjust each screw on the throttle arresting spring for the desired tension (Note: CW rotate to tighten the stick and CCW rotate to loosen).

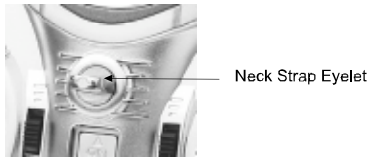



Right Throttle Stick

Left Throttle Stick

### 5.2 Neck Strap Usage

The neck strap can be hooked on the face of the WK-2801 PRO transmitter. The Hook located at the center helps to get optimal balance of the transmitter.

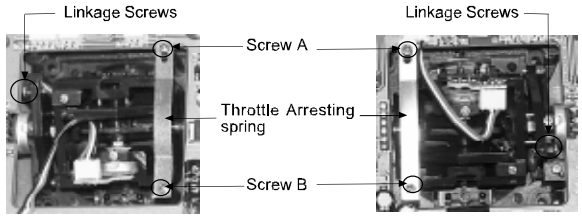


## 5.3 Throttle stick switch (mechanical method)

### 5.3.1 Right-hand throttle swtiched to left-hand throttle

A. The stick position change

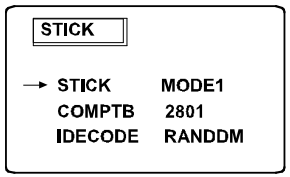
Remove the battery pack and the 6 fixing screws in the back of transmitter, and then remove the transmitter back case (Be careful not to break the wires inside). Use a Phillips screwdriver to loosen the linkage screws, screw A, screw B and the throttle arresting spring in the right throttle position. Then mount them to the corresponding positions in the left throttle position. Adjust screw A according to the personal hand feeling (adjust the tension of the throttle stick). Then install the transmitter back case.

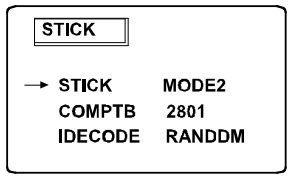



Right Throttle Position　　Left Throttle Position

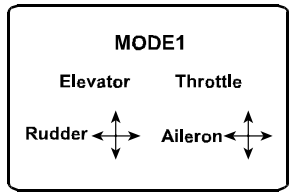
B. The data switch

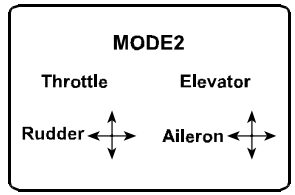
Press UP or DN to select STICK at Func. Menu and then press ENT to enter the STICK screen. Press UP or DN to move cursor to STICK at the sub menu of STICK. Press +. R or L. – to select the stick control mode and press to confirm.

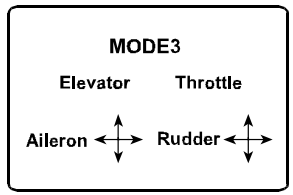


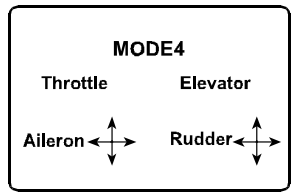




The right-hand throttle includes two modes: MODE 1 and MODE 2; The left-hand includes another two modes: MODE 2 and MODE 4. Refer to the following sketch map:



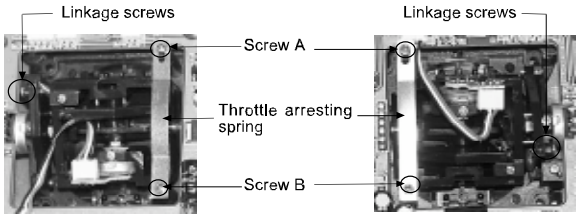




The switch from right hand throttle to left is completed and your WK-2801 PRO is ready for normal flying.

### 5.3.2 Left-hand throttle swtiched to right hand

A. The stick position change

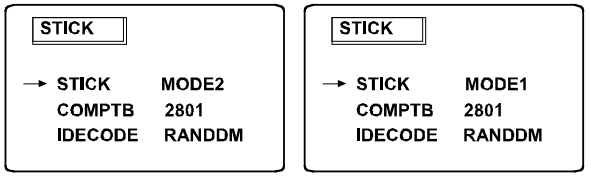
Remove the battery pack and the 6 fixing screws in the back of transmitter, and then remove the transmitter back case (Be careful not to break the wires inside). Use a Phillips screwdriver to loosen the linkage screws, screw A, screw B and the throttle arresting spring in the left throttle position. Then mount them to the corresponding positions in the right throttle position. Adjust screw A according to the personal hand feeling (adjust the tension of the throttle stick). Then install the transmitter back case.



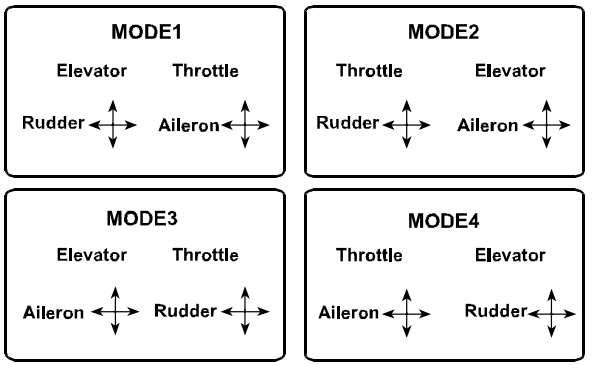

Right Throttle Position

B. The data switch

In Func. Menu press UP or DN to select STICK and press ENT to access the STICK screen. Then press UP or DN to move cursor to STICK and press +. R or L. – to select the stick control mode.




The left-hand includes two modes: MODE 2 and MODE 4; The right-hand throttle includes another two modes: MODE 1 and MODE 2. Refer to the following sketch map:



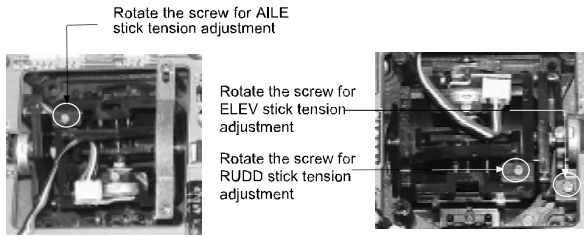

The switch from left hand throttle to right is completed and your WK-2801 PRO is ready for normal flying.

**Note:** Pay attention to the strength when removing and adjusting the screws. Excessive strength may damage them.

### 5.4 Stick tension adjustment

A. Stick tention adjustment of right-hand throttle (take MODE 1 as an example)

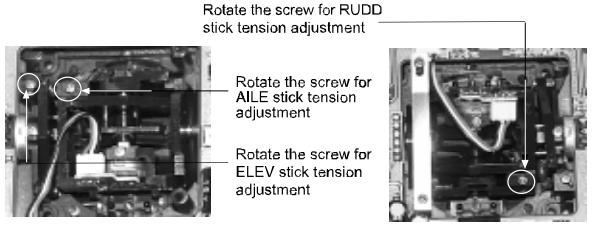
Remove batteries and fixing screws in the cover of WK-2801PRO and open the cover (don't break wires inside). Use a Phillips screwdriver to rotate the screw which is corresponding to the relative stick shown as the pictures below: clockwise rotation increases the tension and counterclockwise rotation decreases the tension.




Adjustment method of right-hand throttle

B. Stick tention adjustment of left-hand throttle (take MODE 2 as an example)

Remove batteries and fixing screws in the cover of WK-2801 PRO and open the cover (don't break wires inside). Use a Phillips screwdriver to rotate the screw which is corresponding to the relative stick shown as the pictures below: clockwise rotation increases the tension and counterclockwise rotation decreases the tension.



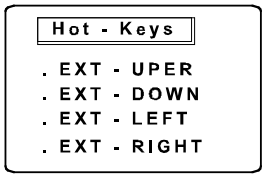

Adjustment method of left-hand throttle

### 5.5 Hot-Key Setting

The WK2801 offers the Hot-key function to handle the frequent setting pages as hot keys (shortcut key). If the pilot, for example, wants to set the servo Travel Adjustment (refer to Travel Adjustment) as a Hot Key, he just presses EXT and the corresponding hot key to get the desired page after the servo Travel Adjustment is set up. The function is capable of setting up to 4 Hot Keys. The correct method of setting hot keys is shown as follows:

In Func. Menu select MDSET and press ENT to enter its submenu. Press UP or DN to move the cursor to the appointed item and press ENT to enter its function page. Two fingers simultaneously press UP or DN to enter Hot Keys page, and press UP or DN to select the hot key and press ENT to confirm. The corresponding relationship of hot keys to the physical keys in WK-2801 is shown as below:

| Hot keys | EXT-UPER | EXT-DOWN | EXT-LEFT | EXT-RIGHT |
|---|---|---|---|---|
| Physical keys | UP | DO | L.- | +.R |




## 5.6 Training function

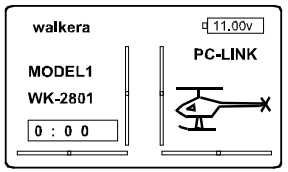
The training function can be implemented between two WK-2801PRO transmitters to meed the demand for the beginer studying. The setting method is shown as below:

### 5.6.1 Data copy

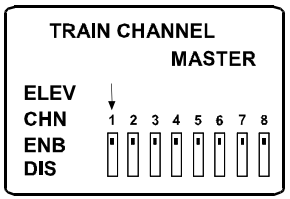
Use the wireless copy function between two WK-2801PRO transmitters to copy the data from the master's transmitter to the trainee's and ensure the data of the two transmitters are exact same. The copy method is shown in 7.2.5 or 9.2.3.

### 5.6.2 Connection

Connect the training cable to the DSC jack of trainee's WK-2801PRO and turn on its power. The interface of trainee's transmitter is shown as below. The characters of PC-LINK appear at the right hand and then set the model which you want to control over.

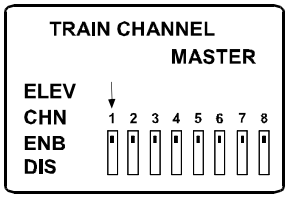


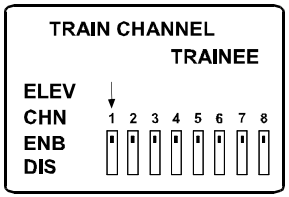

Turn on the power of master's WK-2801PRO and bond the ID code with the model which will be flied and make a fine adjustment to the model for normal flight. Insert the training cable to the DSC jack of master's WK-2801PRO which is shown as the following picture. TRAIN CHANNEL will appear on the screen of master's transmitter. Press UP or DN to move cursor and press L.- or +.R to select the controlled channel. It is recommended that all the 8 channels are set as ENB during usage.




### 5.6.3 The usage method

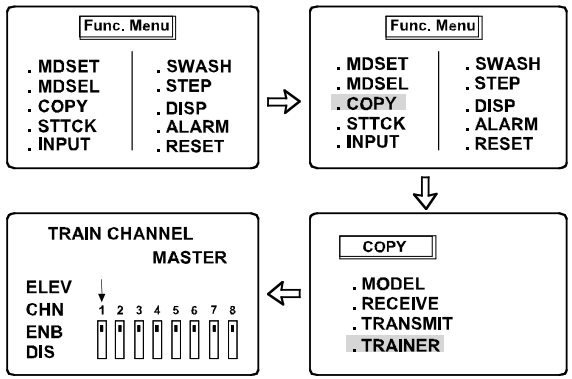
AUX3 is the training switch located at the right top angle of the transmitter face. Push on AUX3 once and the interface will show the working status: MASTER means trainer is the governer, and TRAINEE means the trainee is working.



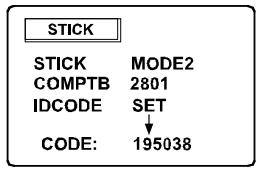

There is another method to access the training interface:

In Func. Menu press UP or DN to move cursor to COPY, and press ENT to enter; Press UP or DN to move cursor to TRAINEE, and press ENT to access TRAIN CHANNEL and set the training function.



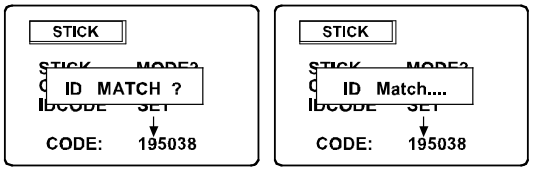

### 5.7 Customized fixed ID

Setting method: in Func. Menu press UP or DN to move cursor to STICK and press ENT to enter; Press UP or DN to move cursor to RANDON, and press L.- or +.R to set the ID code.



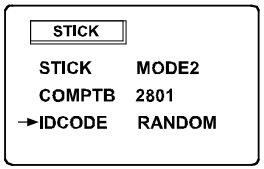
**Note:** when setting ID, the data of 000000-000009 and 123123 are not available because they have been used as default settings in Factory.

Press UP or DN to move cursor to the digits which you want to modify, and press L.- or +.R to change the numbers and press ENT to confirm and the enquiry screen "ID MATCH" appears shown as the picture. Press EXT to exit and press ENT to enter the ID match status when the red LED will quickly flash to search the ID code as the receiver connects to the 5V power supply. After the ID is matched, the red LED turns to constant lighting. Repeat the previous ID matching process. The ID is locked when the receiver is matched secondly. That is to say "one ID, twice matching".




The method, for changing the fixed ID code or resuming automatic ID assignment, is shown as below:

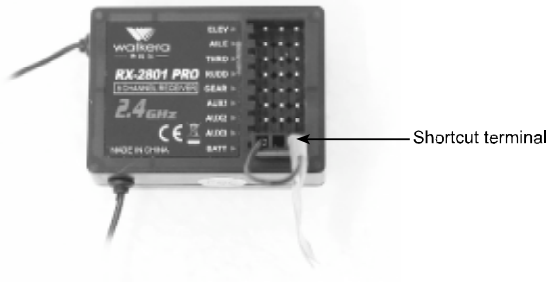
In Func. Menu press UP or DN to move cursor to STICK and press ENT to enter. Press ENT or DN to move cursor to IDCODE, and press L.- or +.R once to change the item behind IDCODE to RANDOM.




The receiver need clear the ID memory and the method is shown as below:

Insert the shortcut terminal into the channel BATT of receiver, and the 5V power supply connects to one of the other channels in receiver. Meanwhile, the LED in receiver begins to slowly flash to clear ID memory.

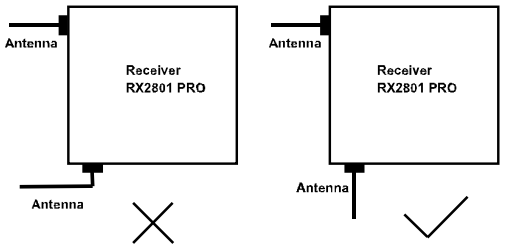
WK-2801PRO can save 8-model data. Each model's fixed ID can be set to different ID codes, which are convenient for multi receivers to use different ID.



## 6. 0 Installation Requirements

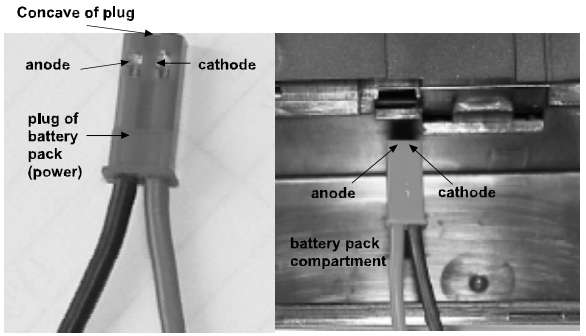
It is important to correctly mount your radio system in your model. Below are some advices on how to install your equipments.

1. Wrap the receiver with 10mm thick foam and fix it with a rubber band or string on your helicopter or plane. It helps protect the receiver.
2. It is necessary for you to use rubber grommets and copper sleeves to isolate the vibration from the main body. The mounting screws cannot be over-tightened. Otherwise, the rubber grommets will be distorted and decrease the vibration absorption effect.
3. When mounting the servos, make sure the servos' bellcranks can move freely over their whole travel range and ensure the control linkages don't touch or impede the movement of the servos.
4. If installing various switches, keep them far away from the engine tuned pipe and high vibration sources. Ensure all the switches move freely over their whole range.
5. Don't make the receiver antennas wrapped or parallel.




6. Mount the transmitter battery pack as the following picture:

When inserting the plug of battery pack, aim the concave of the plug at the concave of socket.

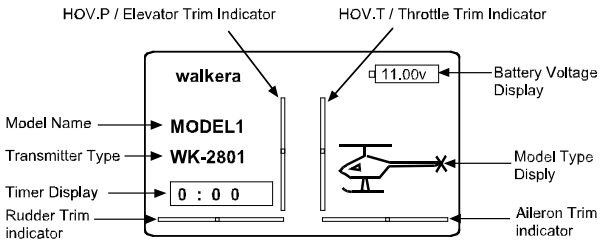


# Part two: helicopter

## 7.0 Parameter Setup for Helicopter

### 7.1 Function Menu

#### 7.1.1 Main Menu




Switch on the transmitter and the startup screen appears in seconds. Press ENT to access the Func. Menu (main menu), which includes the following contents:

1. MDSET: model setup where various parameters of helicopter set up. Please refer to "8.0 Function Setup for Helicopter".
2. MDSEL: Model Selection. The WK-2801 PRO can keep the settings of up to 8 models in memory. In order to avoid confusion, it is recommended to input a model name for each helicopter.
3. COPY: Copy function allows the data to be copied inside the WK-2801 PRO. The data between two WK-2801 PRO also allows to be copied.
4. STICK: stick mode includes four modes from MODE1 through MODE4.
5. INPUT: input setup. Switch control of part parameters can be set by pilot.
6. SWASH: swashplate type includes 1 SERVO、2 SERVO and 3 SERVO.
7. STEP: Trimming step setup can finely adjust the pitch.
8. DISP: displays and sets up the LCD contrast, and turns on or off the backlight.
9. ALARM: alarm setting. It can independently set up the flight time, battery voltage and alarm tone.
10. RESET: re-sets the factory default settings.

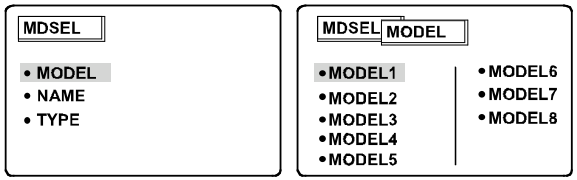
## 7.2 Function Menu Setup

### 7.2.1 Model Setup

Select the model in MDSEL before accessing MDSET to set up the parameter (refer to7. 2.2 MDSEL).

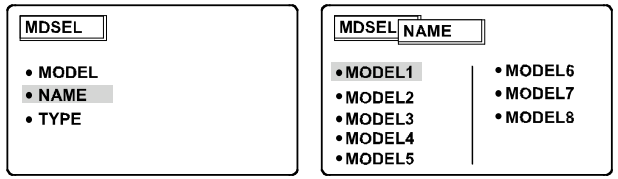
### 7.2.2 Model Selection

In the Function Menu, press UP or DN to select MDSEL and access it by pressing ENT. In MDSEL, press UP or DN to select the appointed one from MODEL 1 to MODEL 8 and Press ENT to save and then return to the main menu, where the selected model is shown.

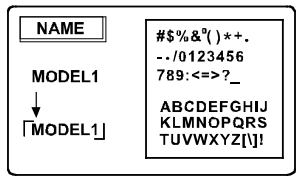



### 7.2.3 Model Name

WK-2801 PRO can keep data of up to 8 models in memory. In order to avoid confusion, it is recommended that you input a name for each model. Naming methods: in MDSEL, press UP or DN to select NAME and access by pressing ENT. Press UP or DN to select one from 8 MODELs and access it by pressing ENT.

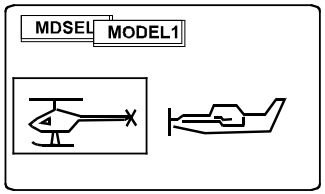



Press UP or DN to move the cursor to the appointed character. Then press the +. R or L. - key to select the character and press ENT to save. Then press the EXT key to return to the MDSEL to select the model TYPE.




### 7.2.4 Model Type Selection

In MDSEL, press UP or DN to select TYPE and access by pressing ENT. Press +. R or L. - key to select graphic helicopter and save by pressing ENT. Then press the EXT key to exit to set up other items.

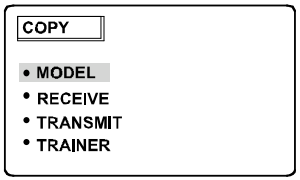


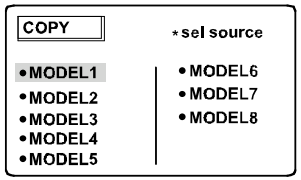

### 7.2.5 Data Copy

COPY allows the data of 8 models in memory to be copied between each other inside the WK-2801PRO. The data between two WK-2801 PRO equipments also allows to be copied via wireless data transfer technology.

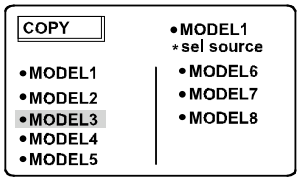
#### 7.2.5.1 Data copy inside WK-2801 PRO

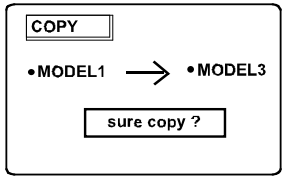
In Func. Menu, press UP or DN to select COPY and access by pressing ENT. In COPY menu, press UP or DN to select MODEL, and the characters of "*sel source" appear on the top right angle of screen. Access by pressing ENT and then press UP or DN to select the desired model and then press ENT to confirm. At the same time the characters of "*sel destin" appear on the top right angle of screen.



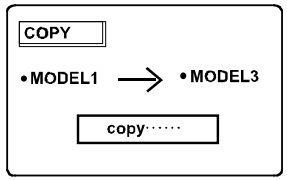




In the "*sel destin" screen, Press UP or DN to select the model you wish to store the copy to. Then press ENT and a confirmation message "sure copy?" appears.




Press ENT to confirm if you ensure it is correct. The copy process will last for few seconds. The system automaitcally returns to Function Menu as soon as the copy is finished. Press the EXT key to exit.

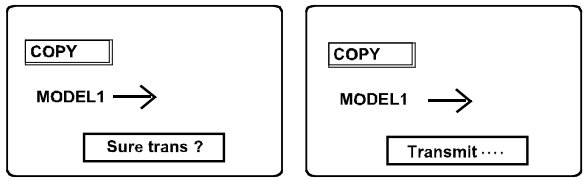



#### 7.2.5.2 Data transfer betweeen two WK-2801 PRO

Copy between two WK-2801 PRO uses the wireless data transfer technology.

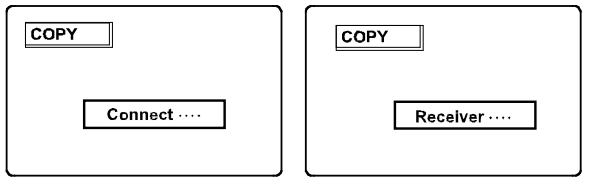
#### 7.2.5.2.1 Setup of the sending transmitter

In Func. Menu press UP or DN to select COPY and access by pressing ENT. In the COPY screen, press UP or DN to select TRANSMIT and access by pressing ENT. Press UP or DN to select the desired model and press ENT to enter the enquiry screen, and the characters of "sure trans?" appear. Press ENT to confirm. Then the sending screen appears with the characters "Transmit ....". Press the EXT key to exit after the transfer is done.

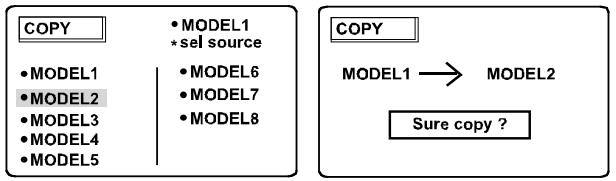



#### 7.2.5.2.2 Setup of the receiving transmitter

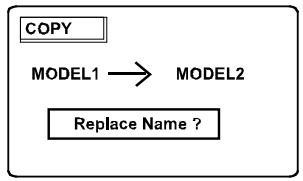
In Func. Menu press UP or DN to select COPY and access by pressing ENT. Press UP or DN to select RECEIVE and access by pressing ENT. The searching screen "Connect...."appears. It changes to "Receive...." when it finds the copy signal.




The following screen will appear when the receiving transmitter gets the copy information. Press UP or DN to select the model you want to save the copy to and press ENT to enter the enquiry screen.



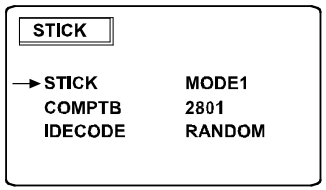

Press ENT to enter the enquiry screen. And press ENT to confirm. It will go back to the main menu after the copy finished.



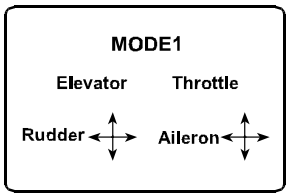
### 7.2.6 Stick Setup

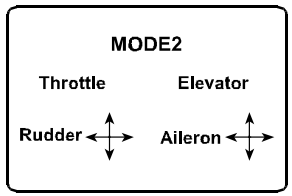
#### 7.2.6.1 Throttle stick switch (electronic method)

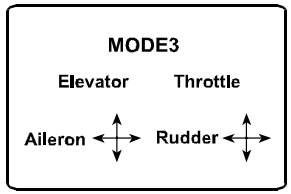
In Func. Menu press UP or DN to select STICK and access by pressing ENT. In STICK press UP or DN to select STICK and then press the +. R or L. - key to select MODE1 through MODE4. Then press ENT to save. At the same time, you must accordingly make a mechanical change in the transmitetr (refer to "5.3 Four types of stick switch between left-hand throttle and right-hand throttle (mechanical method)").

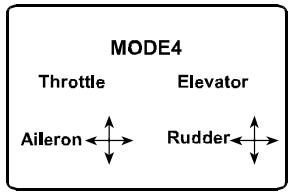



The stick assignment of MODE1 through MODE4 is shown as below:



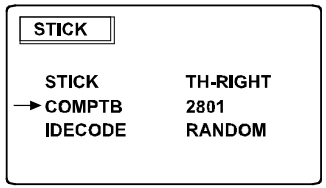




7.2.6.2 Compatibility Selection

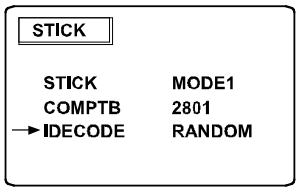
In the Func. Menu press UP or DN key to select STICK and access by pressing the ENT key . In the STICK menu press UP or DN key to select COMPTB. Press the +. R or L. - key to select 2801 (which equals to WK-2801PRO, the Walkera 8-channel transmitter), or 2601 (which equals to WK-2601, the Walkera 6-channel transmitter), or 2401 (which equals to WK-2401, the Walkera 4-channel transmitter). Then press the ENT key to save the change.

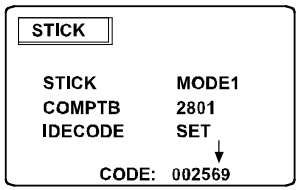
**Note:** When COMPTB is set to 2401 or 2601, the throttle trim must be set to the lowest position to avoid the rotor head automatic rotating.



### 7.2.7 ID Code Setup

In Func. Menu press UP or DN to select STICK and access by pressing ENT. Press UP or DN to select IDECODE. Then continuously press the +. R or L. – key twice to activate the SET, and a downward cursor appears under SET. Press UP or DN to move the cursor to the desired digital position. Press the +. R or L. - key to set the data. Then press ENT to save. If IDECODE remains unset (RANDOM), the system will automatically assign an ID code. Regarding the ID code setting, refer to "5.7 Customized fixed ID".

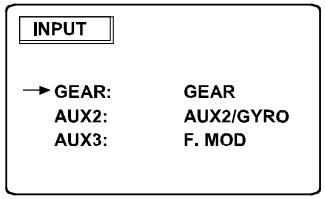



### 7.2.8 Input Setup

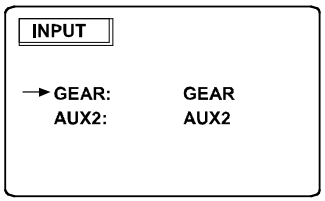
A. when the transmitter type is set as WK-2801 PRO

In Func. Menu press UP or DN to select INPUT and access by pressing ENT. Press UP or DN to move the cursor to the desired item, and then press the +. R or L. - key to set the control switch or its status. INPUT submenu contains GEAR, AUX2 and AUX3. Settings of GEAR include GEAR, HOV.P and INH, settings of AUX2 include HOV.P, AUX2 and INH. While Settings of AUX3 include HOV.P, F.MOD and INH.




B. when the transmitter type is set as WK-2601

In Func. Menu press UP or DN to select INPUT and access by pressing ENT. Press UP or DN to move the cursor to the desired item, and then press the +. R or L. - key to set the control switch or its status. INPUT submenu contains GEAR, and AUX2. Settings of GEAR include HOV.P, GEAR and INH, settings of AUX2 include HOV.P, AUX2 and INH.




C. when the transmitter is set as WK-2401

No contents.

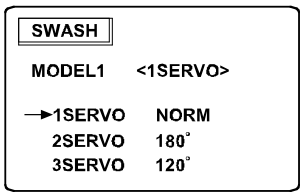
### 7.2.9 Swashplate Type

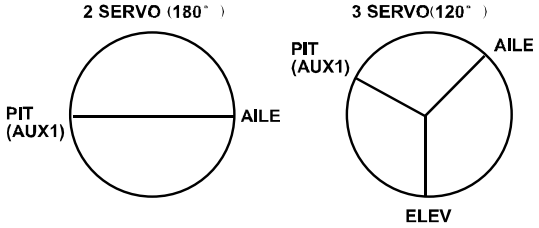
In Func. Menu press UP or DN to select SWASH and access by pressing ENT. Press UP or DN to select the mode. 3 modes are available: 1 servo (NORM)、2 servo (180˚) and 3 servo (120˚).

(1)1 servo (NORM)
This is the common type which uses one servo to drive the pitch.

(2) servo 180 degrees
It uses two servos spaced at 180˚ to drive the swashplate and to alter the pitch.

(3) 3 servo 120 degrees
3 servos are used to run CCPM mode (cyclic-collective-pitch-mixing mode). It utilizes three servos to operate the swashplate in the form of mixing manner to control over the functions of aileron, elevator and pitch.CCPM is the most popular control manner at present because the transmission structure is simplest and coordianted operation of three servos relieves the servos' load.

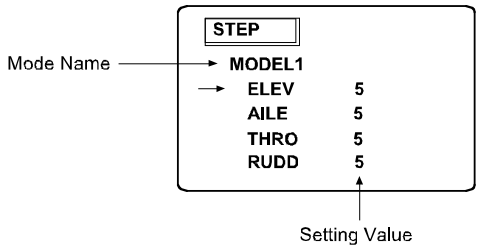



### 7.2.10 Step Setup

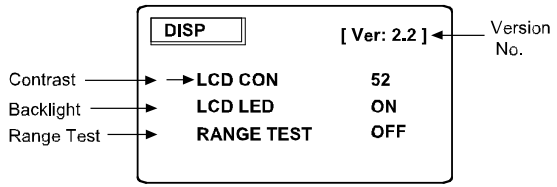
In Func. Menu press UP or DN to select STEP and access by pressing ENT. Press UP or DN to select the current model and access by pressing ENT.

Trim range of step is set from 1 to 15. Press UP or DN to move the cursor to the channel that you want to modify (ELEV, AILE, THRO, and RUDD). Press the +. R or L. - key to modify the setting value. The larger the number is, the bigger the trim step will be. Press ENT to save the change and exit when the adjustment is finished. The default value for each channel is set at 5.



### 7.2.11 Display

In Func. Menu press UP or DN to select DISP and access by pressing ENT.




#### 7.2.11.1 LCD Contrast Adjustment

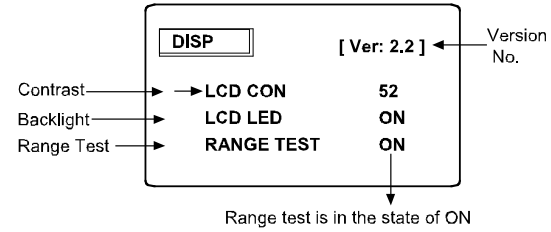
Press UP or DN to select LCD CON. The screen contrast will be changed accordingly by pressing the +. R or L. - key.

#### 7.2.11.2 Backlight Switch

Press UP or DN to move the cursor to LCD LED, then change into ON or OFF by pressing the +. R or L. - key.

#### 7.2.11.3 Range Test

In order to assure the control range during flight, you can use this function to verify. Method: put your helicopter which is adjusted well in a spacious ground and disconnect its main motor from the battery pack to avoid people being hurt by sudden highly spinning main rotor blades. Move the cursor to RANGE TEST. Press the +. R or L. - key to change RANGE TEST into ON. Move the servo sticks as you walk backward with the transmitter. Observe the movements of the helicopter. If servos are working properly at a distance of more than 30 meters, the control range has met the requirements. Press the EXT key to exit.

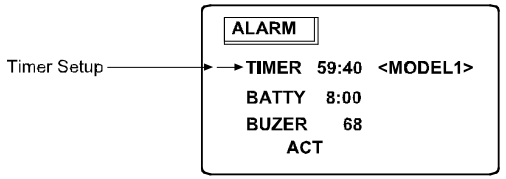



### 7.2.12 Alarm Setting

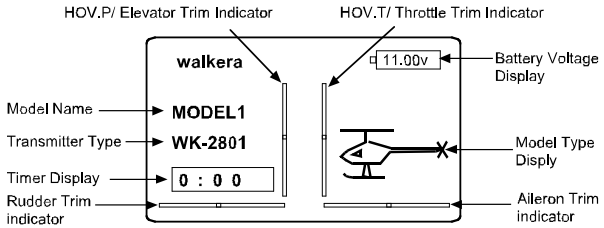
In Func. Menu press UP or DN to select ALARM and access by pressing ENT. WK-2801 PRO offers such alarm functions as flight time, battery low voltage and alarm sound.

#### 7.2.12.1 Timer

Press UP or DN to move the cursor toTIMER. Then press the +. R or L. - key to set the data.
The Maximum amount is 59'50" (59 minutes 50 seconds).

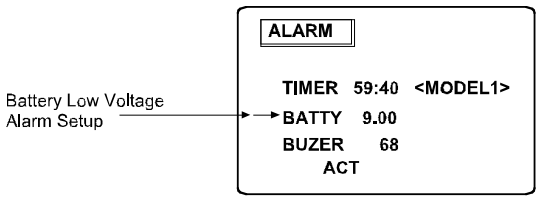



When you want to use the Timer function, please return to the home page of WK-2801. Press the +.R key to start timing and press the +. R key again to pause. Pressing the L. – key clears timing.



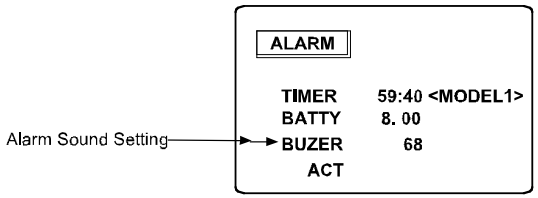

### 7.2.11.2 Battery Low Voltage Alarm

Press UP or DN to move the cursor to BATTY. Then press the +. R or L. - key to set the amount. The Maximal, minimal and factory default values are 10.80V, 7.8V and 7.8V, respectively. The suggested value is 9.0V.

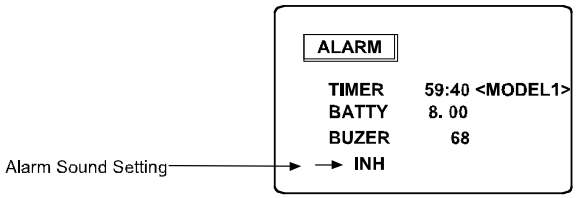



### 7.2.12.3 Buzer

Press UP or DN to move the cursor to BUZER. Then press the +. R or L. - key to set the data and press ENT to save. According to the personal favor, the adjustable value is ranged from 50 to 100.



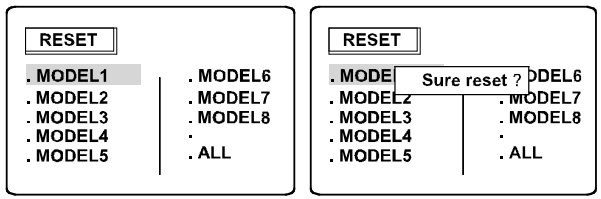

If you don't want the BUZER, press UP or DN to move the cursor to ACT. Then press the +. R or L. - key to change it into INH and then press ENT to confirm.



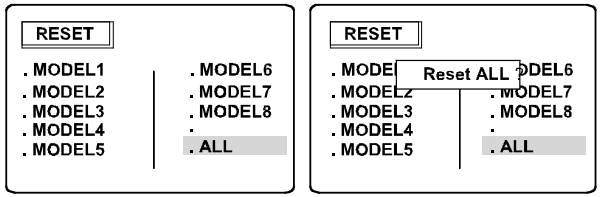

### 7.2.13 Reset

In Func. Menu press UP or DN to select RESET and access by pressing ENT. Model setting parameter can be reset to the factory default by RESET.

Method: In RESET menu press UP or DN and move the cursor to select the model you want to reset, and access by pressing ENT. Then a confirmation message of "Sure reset?" appears on the screen. Then press ENT and a message of "wait...." appears for few seconds. When "Reset NAME?" appears, press ENT to confirm.

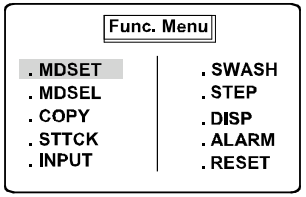



If you want to restore all the models to the factory default, press UP or DN to select ALL and press ENT. Then a confirmation message of "Reset All?" appears on the screen. Press ENT to restore. Otherwise, press EXT to exit.



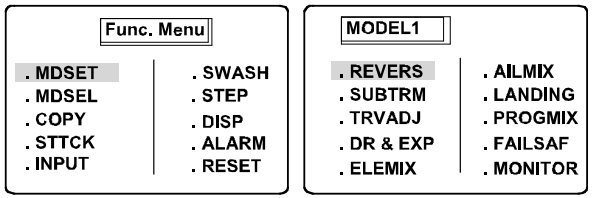

# 8. 0 Function Setup for Helicopter

Switch on WK-2801 PRO, and press ENT to enter the Func. Menu.



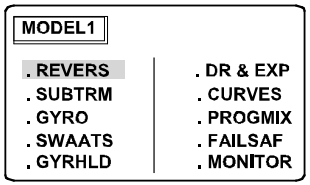

## 8.1 Model Setup

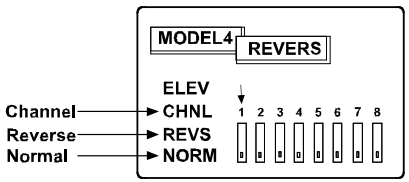
In MDSEL select the model whose parameters you want to modify or adjust (refer to 7.2.1 Model Setup), and then return to the Func. Menu press UP or DN to select MDSET and press ENT to enter.



## 8.2 REVERS (servo reverse switch)

Press UP or DN to select REVERS and enter by pressing ENT. In the sub menu of REVERS, move UP or DN to select the desired channel, and then press +. R or L. - to change its direction. The function allows to reverse the servo throw direction in an electronic way. All 8 channels have servo reversing function making it more convenient to set up the servos.



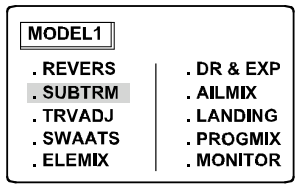



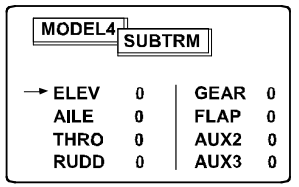

## 8.3 Subtrim

In Func. Menu press UP or DN to select the MDSET and access by pressing ENT. Then press UP or DN to select SUBTRM and access by pressing ENT. Press UP or DN to select the appointed channel. And press the +. R or L. - key to adjust the direction and data of the channnel. Press ENT to save and exit when the adjustment is finished.

The subtrim function allows you to electronically fine tune the neutral points of your servos. All the eight channels can be individually adjusted with a range of +/- 250.

It is recommended to set up the neutral point by mechanical adjusting the angle of servo bellcrank as well as possible.



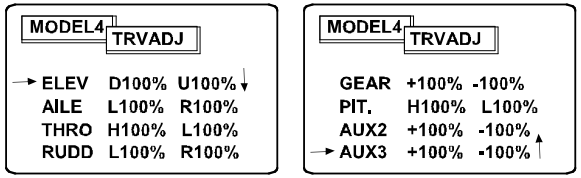




**Note:** excessive using the subtrim may exceed the maximal travel range of servos.

## 8.4 Servo Travel Adjustment

In Func. Menu press UP or DN to select the MDSET and access by pressing ENT. Then press UP or DN to select TRVADJ and access by pressing ENT. Press UP or DN to select the appointed channel. And then press the +. R or L. - key to modify the setting value. Press ENT to save and exit.

The travel adjustment function can precisely set the maximum rotation angles of the servos.The travel adjustment is ranged from 0% to 150% (0° to 60° ). All the factory default settings are 100%. There are two pages, which are switched by pressing DN or UP key, for travel adjustment settings.




## 8.5 Mixing

In Func. Menu press UP or DN to select the MDSET and access by pressing ENT. Then press UP or DN to select SWAATS and access by pressing ENT. Press UP or DN to select the appointed mixing program. The types of SWAATS include both Swashplate Mixing and Acceleration Mixing.

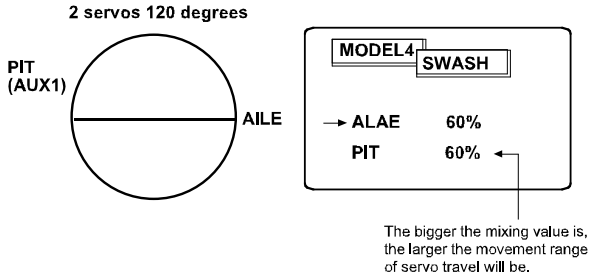
### 8.5.1 Swashplate Mixing

In the SWAATS menu select SWASHMIX and access by pressing ENT. Then press UP or DN to select the appointed item and press the +. R or L. - key to modify the mixing value. The mixing value is adjustable from -100% to +100%. This function setup is available only if 2 or 3 servos are selected in the SWASH in Func. Menu (refer to "7.2.9 Swashplate type").

CCPM is a type of pitch mixing. Several servos connect together to the swashplate to coodinatedly drive the pitch. Two types of swashplate are available.

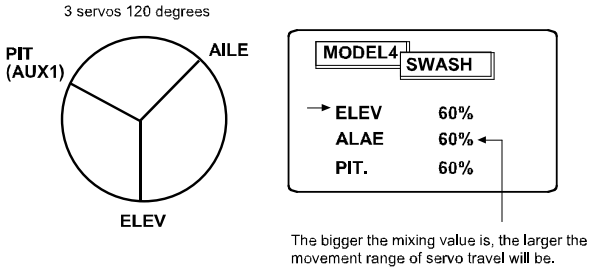
(1). 2 servos 180 degrees

It uses two servos spaced at 180° to drive the swashplate and to alter the pitch,




(2) 3 servos 120 degrees

It uses three servos spaced at 120° to drive the swashplate and to alter the pitch.



## 8.6 Acceleration Mixing

In SWAATS menu select ATSMIX by pressing UP or DN and press ENT to enter.

Revolution Mixing function tail rotor input with the Throttle/ Collective pitch to counteract the main rotor blades torque. If the function is set properly, the helicopter will not yaw during ascent or descent. The changes of both main rotor RPM and pitch will result in a torque change, so the tail rotor pitch should alter to compensate for this torque.

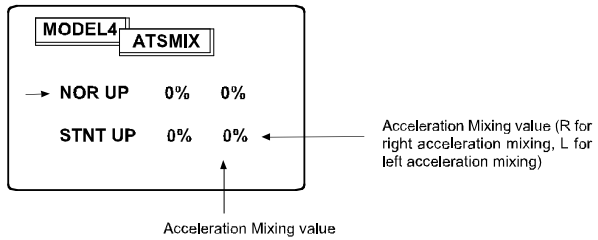
There are two revolution mixing programs in the WK-2801 PRO: NORM and STNT. NORM is corresponding with the flight mode NORMAL, and STNT corresponding with the flight modes of ST-1 and ST-2. Each revolution mixing program offers two independent adjustment points: Up and Dn. Up is used for the tail rotor compensation for the throttle stick settings from the neutral piont to the highest. Dn adjusts the tail rotor compensation for the throttle stick settings from the neutral point to the lowest. L and R show the compensation direction: L means leftside and R means rightside

**Revolution Mixing Setup**

The following setup method is based on the helicopter whose rotor blade is rotating clockwise. Set both the rudder trim (refer to "1.1.1 Main Menu") and acceleration mixing (refer to ACC. MIX") to zero. Adjust throttle and pitch curve (refer to "2.9 Curve") so the throttle stick will be in the neutral position when helicopter is hovering. If the tail rotor yaws, adjust the linkage length of the rudder servo until the rudder is stable and doesn't yaw.

When the helicopter's hover is stable, increase the throttle stick gradually to make the helicopter vertically ascend. If the helicopter (with the tail facing the pilot) yaws left, increase the R value in Up item. If the helicopter yaws right, decrease the R value in Up item. Repeat this step until the helicopter doesn't yaw.

Next step is to hover the helicopter at a safe height, pull down the throttle stick to the lowest position to descend helicopter. During the descending process, if the helicopter yaws right, increase the R value in Dn item. If the helicopter yaws left, decrease the R value in Dn item. Repeat the step until the helicopter doesn't yaw.

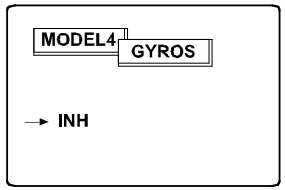


## 8.7 Gyro Sensitivity Adjustment and Throttle Hold

In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Then press UP or DN to select GYRHLD and press ENT to enter. There are two selections on GYRHLD screen: GYROSENS and THRHLD.

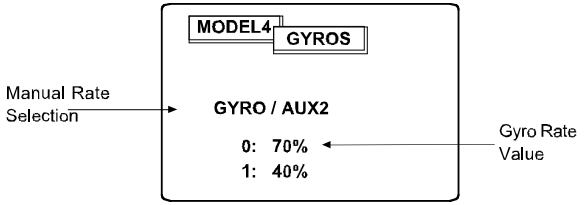
### 8.7.1 Gyro Sensitivity Setup

Press UP or DN to select GYROSENS and access by pressing ENT. Then press the +. R or L. - key to open the setting screen on which 3 items: GYRO/ AUX2, AUTO, and INH exist.




#### 8.7.1.1 Manual Gyro Sensitivity Adjustment

In GYROSENS press L. – or +. R to enter GYRO/ AUX2 screen. Press UP or DN to move the cursor to the positions 0 or 1, and then press L. – or +. R to adjust the percentage. Postion 0 is suitable for static flight and its recommended value is about 70%; position 1 suitable for aerobatic flight and its recommended value is approximately 40%. The mechanic toggle switch GYRO/ AUX2 on the right top angle of transmitter panel is linked to the electronic switch GYRO/ AUX2 in the screen, and the positions of 0 and 1 in the mechanical toggle switch are corresponding to the positions of 0 and 1 in electronic screen.



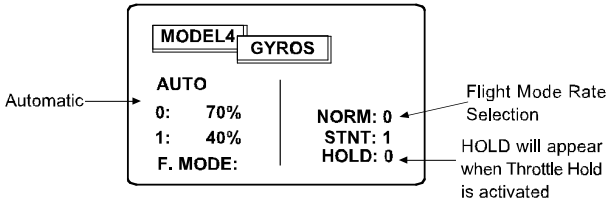

#### 8.7.1.2 Automatic Gyro Sensitivity Adjustment

In GYROSENS press L. – or +. R to enter AUTO screen where three status: 0, 1, and F. mode exist. Press UP or DN to move the cursor to the positions 0 and 1, and then press L. – or +. R to adjust their percentage. Position 0, whose amount recommended is around 70%, is suitable for static flight, and position 1, whose amount is about 40%, suitable for stunt flight.

Press UP or DN to move the cursor to F. MODE when the cursor automatically jumps to NORM. Press DN to move it to NORM, STNT, HOLD, respectively, and then press L. – or +. R to change their amount to 0 or 1.

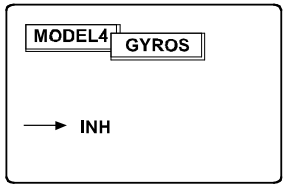
When the Flight Mode is switched to different flight modes (NORM, STN 1, STNT 2), two kinds of preset gyro sensitivity (AUTO 0, AUTO 1) will be synchronous with the Flight Mode.

When the the function of HOLD/ RUDD/ D/R MIX is used, the preset gyro sensitivity (AUTO 0, AUTO 1) wil be automatically synchronous with the switch of HOLD/ RDD/ D/R MIX. Please refer to “2.8.5 Throttle Hold”.




### 8.7.1.3 Inhibiton

In GYROSENS press the +. R or L. - key until the mode is changed into INH. Please use this function when the gyro sensitivity adjustment is inhibited.

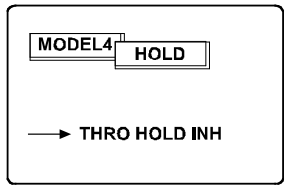



### 8.7.2 Throttle Hold

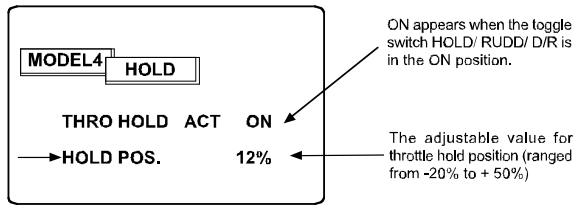
In GYROHLD press UP or DN to select THROHOLD and access by pressing ENT. Then press L. – or +. R until THRO HOLD appears on the screen, which means the function of Throttle Hold is activated. If the characters of THRO HOLD INH appears, the function of throttle hold is inhibitted.

As soon as the characters of HOLD Pos (Hold position) appears under THRO HOLD ACT, the throttle is locked that position, where idle running of the engine is set. The range of throttle hold is –20% to +50%.

Adjustment of HOLD Pos.: press UP or DN to move the cursor to HOLD Pos., and press L. – or +. R to modify its percentage.




The purpose of executing "THROHOLD (Throttle Hold)" is to offer the pilot with autorotation landing protection. Push the toggle switch HOLD/ RDD/ D/R forward to turn ON and pull it backward to turn OFF.

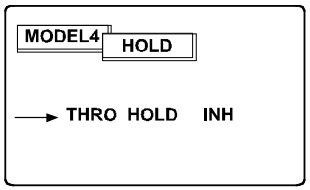


**Adjustment Steps:**

1). Start the engine, and keep your helicopter on a spacious ground. Ensure the throttle stick is at the lowest position. The engine is running at idling speed and the main rotor blades are not rotating.

2). Push the toggle switch HOLD/ RUDD/ D/R to the ON position and the THRO HOLD is activated. If a flameout of the engine happens, please increase the value of HOLD Pos and repeat Step 1.

3). If the engine RPM at idling speed is too fast, please decrease the value of HOLD Pos.




Throttle Hold switch is in the state of inhibition.

## 8.8 Dual Rate and Exponential Function

Dual Rate and Exponential

In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Press UP or DN to select DR & EXP and access by pressing ENT. Then continuously press UP or DN until ELEV, AILE, RUDD and AUTO show on the screen respectively, which are corresponding to the helicopter's servos of elevator, aileron, rudder, and automatic control.

Under ELEV shows Pos-0, D/R, and EXP.

Dual Rate can be defined as the ability to alter the travel or throw rate of a servo from a switch. Due to various travel rates, you will find the sensitivity of the stick will increase or decrease accordingly. When the dual rate is set high, the sensitivity will accordingly increase. Dual rate running in conjunction with the exponential function will help you more precisely adjust your control throws.

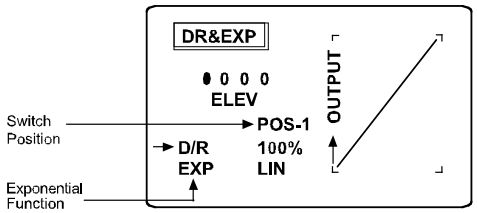
1. Pos-0 is corresponding to the toggle switch ELEV D/R in the face of WK-2801 PRO. When the toggle switch is pushed to the position 0, Pos will show Pos-0; when it is pulled to the position 1, Pos will show Pos-1.

2. In ELEV screen when ELEV D/R in position 0, press UP or DN to move the cursor to D/R and press L. – or +. R to ajust its percentage which is adjustable from 0% to 125%, the curve in the right side of screen will also change accordingly.

When ELEV D/R in position 1, repeat the previous step and adjust its percentage.

EXP express the change of servo exponetial function which just affects the sensitivity near the neutral point of sticks and doesn't change the travel. The stick will make mild change around the neutral position when EXP is set as a positive percentage. In ELEV screen when the toggle switch ELEV D/R is put in position 0, press UP or DN to move the cursor to EXP, and press L. – or +. R to adjust its percentage which is adjustable from -100% to +100% in 1% increment, the curve in the right side of screen will change accordingly.

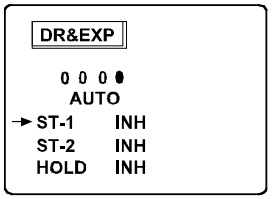
When ELEV D/R in position 1, repeat the previous step to adjust the percentage.




The setting methods of Pos, D/R, and EXP in AILE, RUDD are the same as the above.

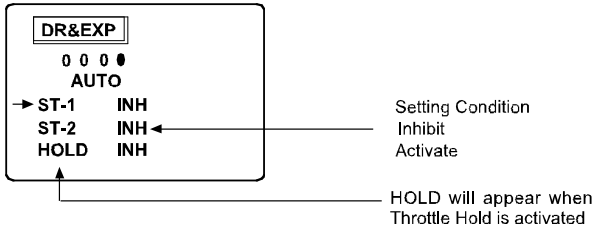
### 8.8.1 Automatic Dual Rate and Exponential Function

Press UP or DN to access the following graphics.



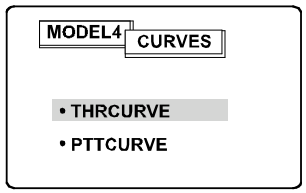

When Automatic Dual Rate function is activated (ACT), switching the Flight Mode switch to ST-1, ST-2, or switching the Autorotation Landing to ON, the Dual Rates of the aileron, elevator and rudder should be switched to the Position 1. If the Automatic Dual Rate function is set as one flight mode, when you switch to the flight mode, the AUTO will appear on the D/R screen.

Press UP or DN to move the cursor to the desired model, and press the +. R or L. - key to change the current status into ACT or INH.



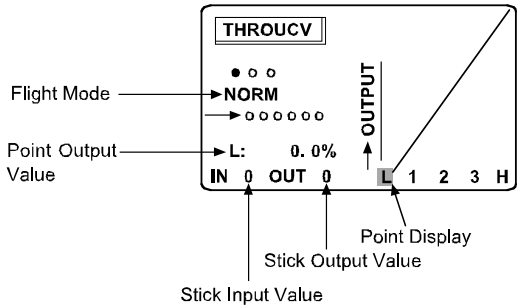

## 8.9 Curve

In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Then press UP or DN to select the CURVE and enter by pressing ENT. Two kind of curves are available: Throttle Curve (THRCURVE) and Pitch Curve (PITCURVE).



### 8.9.1 Throttle Curve

Press UP or DN to select THRCURVE and access by pressing ENT.



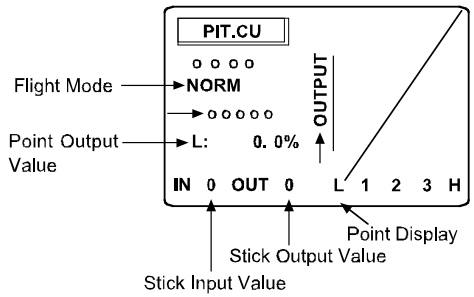

The WK-2801 PRO offers three flight modes: N (Normal is suitable for hover flight and static flight), ST-1 and ST-2 (ST-1 and ST-2 are suitable for altitude and aerobatic flights), respectively. Each flight mode is in possession of separate throttle curves with five adjustable points per curve: L (Low, the throttle stick is at the lowest position), stunt 1 (percentage amount of the throttle stick position), stunt 2 (idem), stunt 3 (idem), and H (High, the throttle stick is at the highest position). Press UP or DN to move between the adjustment points, and press the +. R or L. - key to alter the setting value whose adjustable range is from 0 through 100%.

### 8.9.2 Pitch Curve

In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Press UP or DN to select the CURVE and enter with ENT. Press UP or DN to select the PITCURVE and access by pressing ENT.

The method for setting Pitch Curve is very similar to that for the Throttle Curve. There are four flight modes: N (Normal), ST-1、Stunt-1, ST-2 (Stunt-2), and HOLD (Throttle Hold). Every flight mode has a separate pitch curve with 5 adjustable points: L (Low, the throttle stick is at the lowest position), stunt 1, stunt 2, stunt 3, and H (High, the throttle stick is at the highest position). Use UP or DN to move to the setting point and press the L.- or +.R key to alter the value whose adjustable range is from 0 through 100%.

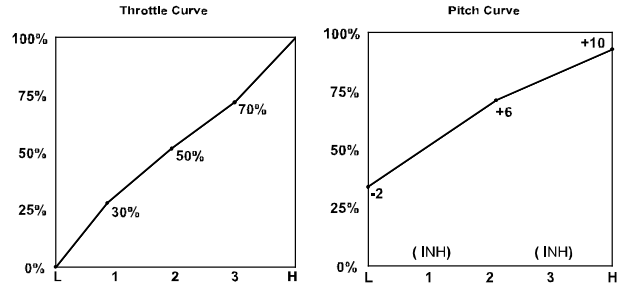
**Note:** when setting pitch curve for throttle hold, make sure that the throttle hold function is set to be ACT. This operation will be invalid if the throttle hold function is set to be INH.



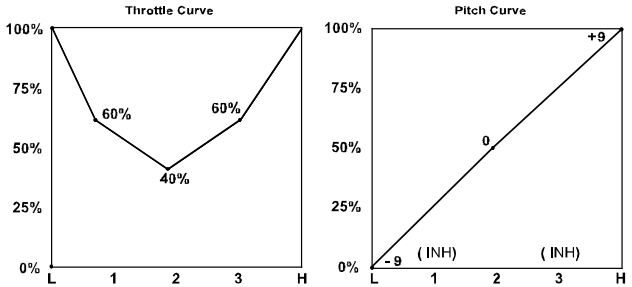
### 8.9.3 Examples of the Throttle Curve and Pitch Curve

The basic examples are only for your reference. Adjustment to the real flights is a must.

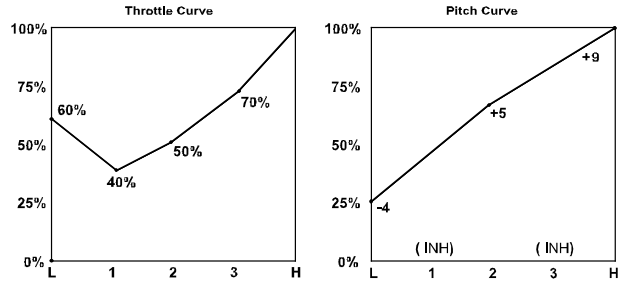
**Flight Mode : Normal**



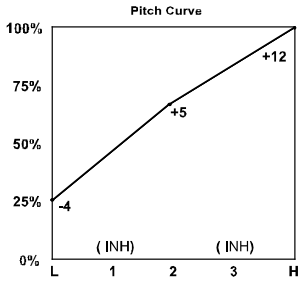

**Flight Mode 2**




**Flight Mode 1**



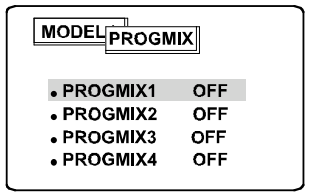

**Autorotation Landing**



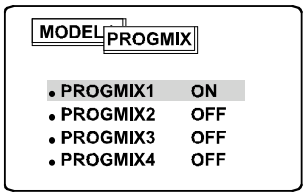
## 8.10 Program Mixing

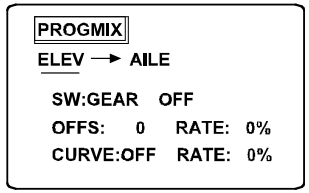
Four sets of program mixing allow you to accurately combine and adjust the mixing value.

In the Function Menu, press the UP or DN key to select MDSET and access by pressing the ENT key. Then press the UP or DN key to select PROGMIX, and press the ENT key to enter. There are four sets of program mixing in total.

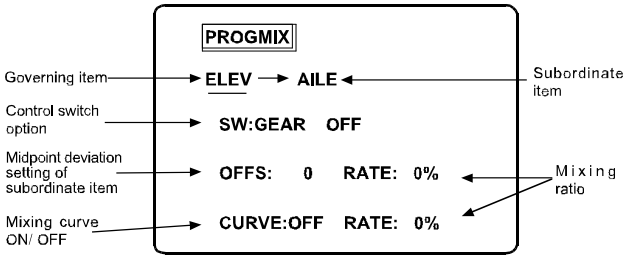



Press the UP or DN key to select the desired program and press the +. R or L. – key to change OFF into ON and access the mixing setting screen by pressing the ENT key.




Setting method for program mixing: (each item is shown as the following picture)



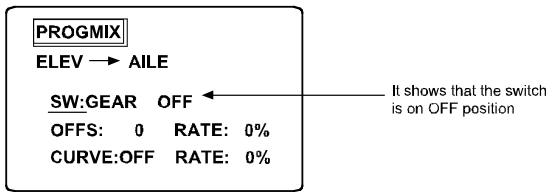

1. Setting for gorverning and subordinate items: press UP or DN to move the underline to select the governing item, which needs to be mixed, and press +R or L.- to set. The mixing procedure can take place among the 8 channels and be stopped by pressing +.R or L.- after confirmed.

Press UP or DN to move the underline to the subordinate item and press +.R or L.- to set. The mixing procedure can be made among the 8 channels and stop by pressing +.R or L.- after confirmed.

2. Control switch option: continue step 1 and press UP or DN to move the underline to SW. Press +. R or L. – to set the control switch option which includes ELEV, GEAR, F-S2, F-S12, F-NR, and ON. The relationship of Control switch option in screen to that in physical panel of transmitter is shown as below:

| Control switch option in screen | ELEV | GEAR | F-S2 | F-S12 | F-NR | ON |
|---|---|---|---|---|---|---|
| Switch in physical panel | ELEV D/R | GEAR | ST-2 at flight mode | ST-1 and ST-2 at flight mode | NOR at flight mode | All the control switch option are shut down |

ON will be shown after the swtich name when the switch is turn on; OFF will be shown after the switch name when the switch is shut down.

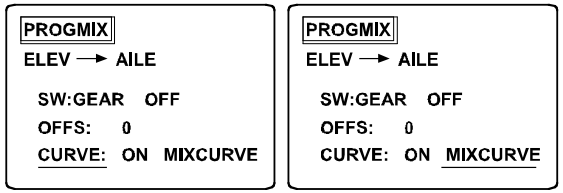



3. Midpoint deviation setting for subordinate item: continue step 2 and press UP or DN to move the underline to OFFS. Press +.R or L. – to set the data whose adjustable arrange is from -250 to +250. Note: the data adjusted here functions only when the control switch of SW is in the status of ON.

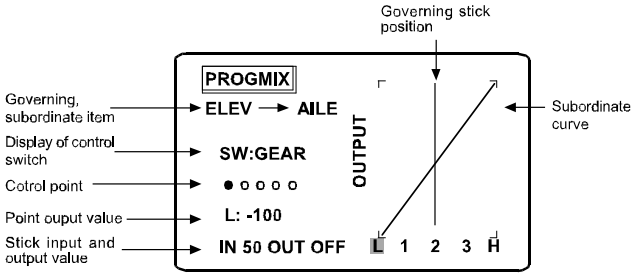
4. Setting for mixing ratio: continue the step 3, and press UP or DN to move the underline to RATE. Keep the stick of governing item in one side and the underline will appear under the corresponding RATE item. Press +.R or L.- to modify the percentage whose range is spanned from -100% to +100%. Keep the stick of governing item in the other side and the underline will move to the other corresponding RATE item. Press +.R or L.- to modify the percentage whose range is also spanned from -100% to +100%.

**Note:** the modified data works well only when the control switch of SW stays at the status of ON.

5. Setting for mixing curve: continue step 3 and press UP or DN to move the underline to CURVE. Press +. R or L. – to set OFF as ON. Press UP or DN to move the underline to MIXCURE and access by pressing ENT.



Press ENT to enter the interface of mixing curve.




Set the governing item and subordinate item like the step 1 and 2. Press UP or DN to move the underline to L, and press +, R or L. – to set the value of the dot L, whose adjustable range is from -100% to +100%. The control point value will show the change of data while setting, and the subordinate curve will also change. Press UP or DN to the next point after setting. The methods for 1, 2, 3, and H are exactly same. Press ENT to confirm after the setting is finished. Note: the data will be activated only when the control switch of SW stays at ON position.

Any two among the 8 channels can be mixed. The setting methods for the 4 sets of mixing are same.

## 8.11 Fail-safe

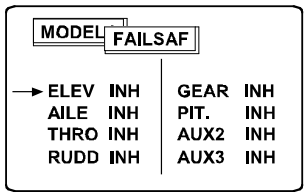
In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Press UP or DN to select FAILSAF and enter by pressing ENT.

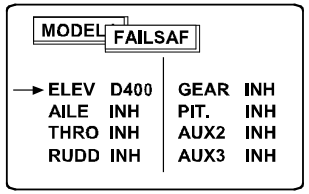
There are two methods for the setting:

In FAILSAF set all the channels as the status of INH by continuously pressing EXT 2 seconds for once or twice. Put the stick of the desired channel to the position you hope and continuously press EXT 2 seconds. Then WK-2801PRO will automatically show the set dada, which can be modified again via the previous method 1 or the previous method 2. Finally press ENT to confirm after setting.

method 1 – direct setting approach: press UP or DN to select the desired channel and press the +. R or L.- key to modify the setting value.

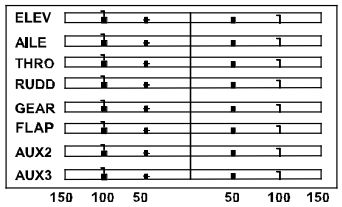
Method 2 – stick-setting approach: press UP or DN to move the cursor to the appointed item and press EXT to assure this item in INH status. Move the corresponding stick to the desired position and hold the stick at that place. Then press EXT to get the amount and press ENT to confirm.






### 8.12 Monitor

In Func. Menu, press UP or DN to select MDSET, and access by pressing ENT. Then press UP or DN to select MONIT and enter by pressing ENT. At this time, the output value of each servo appears. Each bar center displays the neutral position. Left or right dots indicate 50%, 100% and 150%.

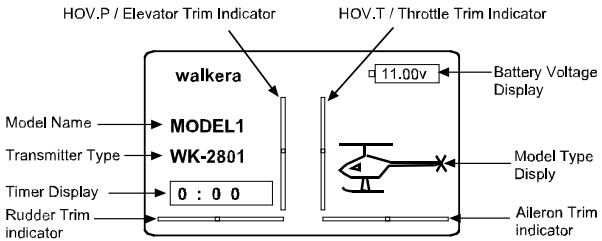


# Part three: plane

## 9.0 Parameter Setup for Plane

### 9.1 Function Menu

#### 9.1.1 Main Menu




Switch on the transmitter and the startup screen appears in seconds. Press ENT to access the Func. Menu (main menu), which includes the following contents:

1. MDSET: model setup where various parameters of helicopter set up. Please refer to "8.0 Function Setup for Helicopter".
2. MDSEL: Model Selection. The WK-2801 PRO can keep the settings of up to 8 models in memory. In order to avoid confusion, it is recommended to input a model name for each airplane.
3. Copy function allows the data to be copied inside the WK-2801PRO. The data between two WK-2801PRO also allows to be copied.
4. STICK: stick mode includes two modes from MODE1 through MODE4.
5. INPUT: input setup. Switch control of part parameters can be set by pilot.
6. SWASH: swashplate type includes 1 SERVO、2 SERVO and 3 SERVO.
7. STEP: Trimming step setup can finely adjust the pitch.
8. DISP: displays and sets up the LCD contrast, and turns on or off the backlight.
9. ALARM: alarm setting. It can independently set up the flight time, battery voltage and alarm tone.
10. RESET: re-sets the factory default settings.

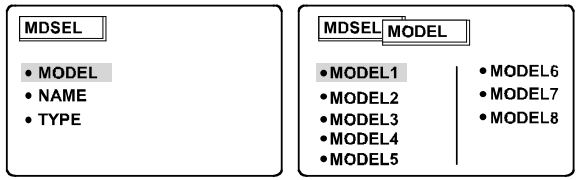
## 9.2 Function Menu Setup

### 9.2.1 Model Setup

Select the model in MDSEL before accessing MDSET to set up the parameter (refer to7. 2.2 MDSEL).

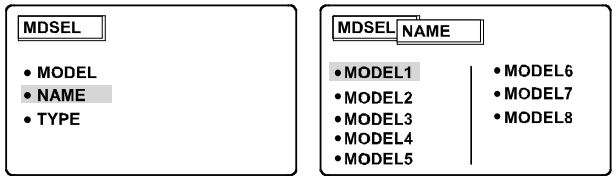
### 9.2.2 Model Selection

In the Function Menu, press UP or DN to select MDSEL and access it by pressing ENT. In MDSEL, press UP or DN to select the appointed one from MODEL 1 to MODEL 8 and Press ENT to save and then return to the main menu, where the selected model is shown.

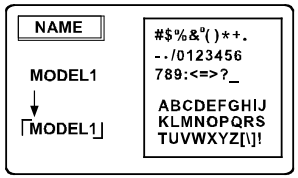



#### 9.2.2.1 Model Name

WK-2801 can keep data of up to 8 models in memory. In order to avoid confusion, it is recommended that you input a name for each model. Naming methods: in MDSEL, press UP or DN to select NAME and access by pressing ENT. Press UP or DN to select one from 8 MODELs and access it by pressing ENT.

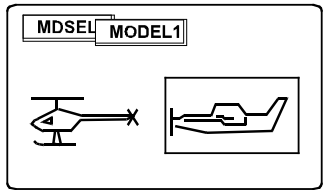



Press UP or DN to move the cursor to the appointed character. Then press the +. R or L. - key to select the character and press ENT to save. Then press the EXT key to return to the MDSEL to select the model TYPE.




#### 9.2.2.2 Model Type Selection

In MDSEL, press UP or DN to select TYPE and access by pressing ENT. Press +. R or L. - key to select graphic plane and save by pressing ENT. Then press the EXT key to exit to set up other items.

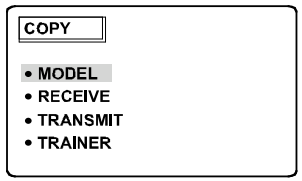


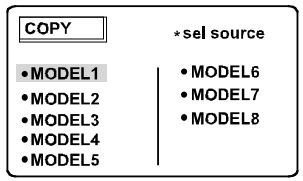

### 9.2.3 Data Copy

COPY allows the data of 8 models in memory to be copied between each other inside the WK-2801 PRO. The data between two WK-2801 PRO equipments also allows to be copied via wireless data transfer technology.

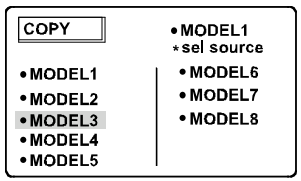
#### 9.2.3.1 Data copy inside WK-2801 PRO

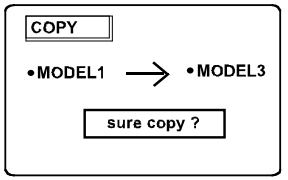
In Func. Menu, press UP or DN to select COPY and access by pressing ENT. In COPY menu, press UP or DN to select MODEL, and the characters of "*sel source" appear on the top right angle of screen. Access by pressing ENT and then press UP or DN to select the desired model and then press ENT to confirm. At the same time the characters of "*sel destin" appear on the top right angle of screen.



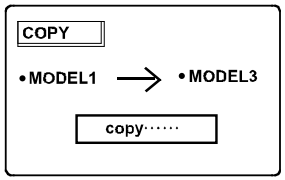




In the "*sel destin" screen, Press UP or DN to select the model you wish to store the copy to. Then press ENT and a confirmation message "sure copy?" appears.




Press ENT to confirm if you ensure it is correct. The copy process will last for few seconds. The system automaitcally returns to Function Menu as soon as the copy is finished. Press the EXT key to exit.

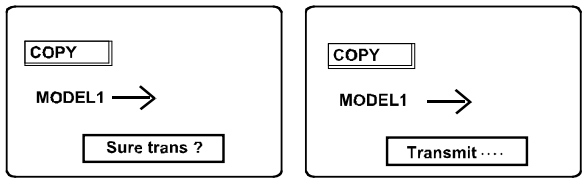



#### 9.2.3.2 Data transfer betweeen two WK-2801 PRO

Copy between two WK-2801 PRO uses the wireless data transfer technology.

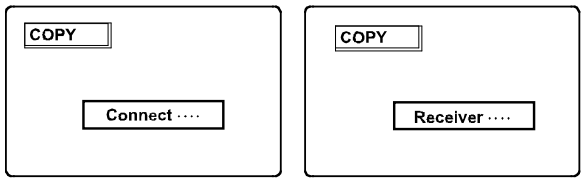
#### 9.2.3.2.1 Setup of the sending transmitter

In Func. Menu press UP or DN to select COPY and access by pressing ENT. In the COPY screen, press UP or DN to select TRANSMIT and access by pressing ENT. Press UP or DN to select the desired model and press ENT to enter the enquiry screen, and the characters of "sure trans?" appear. Press ENT to confirm. Then the sending screen appears with the characters "Transmit ....". Press the EXT key to exit after the transfer is done.

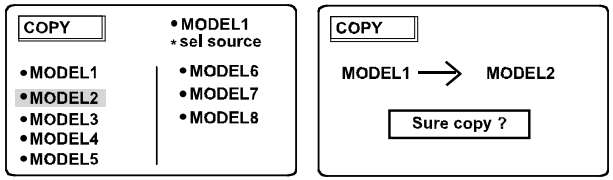



#### 9.2.3.2.2 Setup of the receiving transmitter

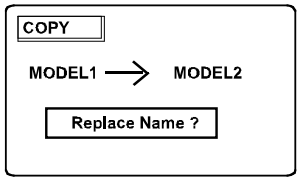
In Func. Menu press UP or DN to select COPY and access by pressing ENT. Press UP or DN to select RECEIVE and access by pressing ENT. The searching screen "Connect...."appears. It changes to "Receive...." when it finds the copy signal.




The following screen will appear when the receiving transmitter gets the copy information. Press UP or DN to select the model you want to save the copy to and press ENT to enter the enquiry screen.




Press ENT to enter the enquiry screen. And press ENT to confirm. It will go back to the main menu after the copy finished.

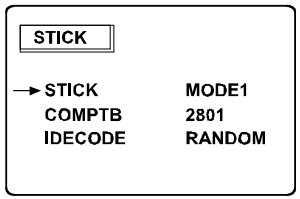



### 9.2.4 Stick Setup

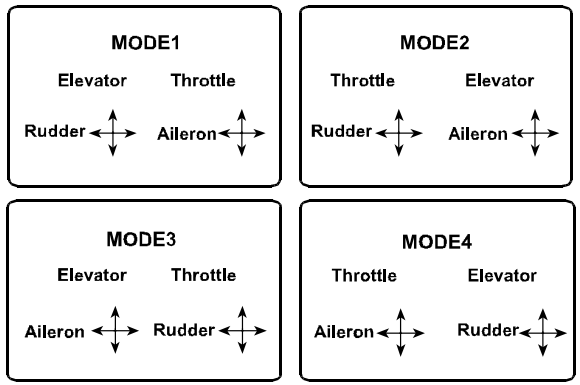
#### 9.2.4.1 Four types of stick selection (Electronic method)

In Func. Menu press UP or DN to select STICK and access by pressing ENT. In STICK press UP or DN to select STICK and then press the +. R or L. - key to change the selection among MODE1 through MODE4. Then

press ENT to save. At the same time, you must accordingly make a mechanical change in WK-2801PRO (refer to "5.3 Four types of stick switch between left-hand throttle and right-hand throttle (mechanical method").

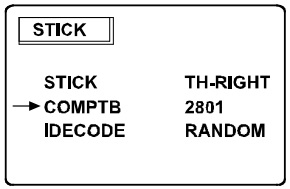



The stick assignment of MODE1 through MODE4 is shown as below:



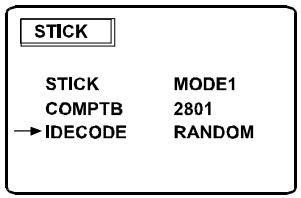

### 9.2.4.2 Compatibility Selection

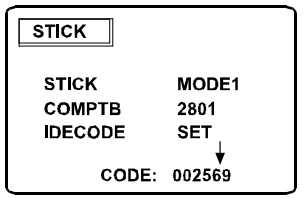
No contents.




### 9.2.4.3 ID Code Setup

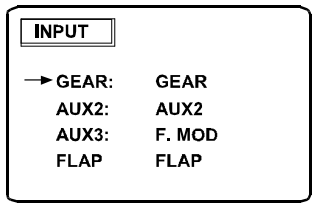
In Func. Menu press UP or DN to select STICK and access by pressing ENT. Press UP or DN to select IDECODE. Then continuously press the +. R or L. – key twice to activate the SET, and a downward cursor appears under SET. Press UP or DN to move the cursor to the desired digital position. Press the +. R or L. - key to set the data. Then press ENT to save. If IDECODE remains unset (RANDOM), the system will automatically assign an ID code.Regarding the ID code setting, refer to "5.7 Customized fixed ID".



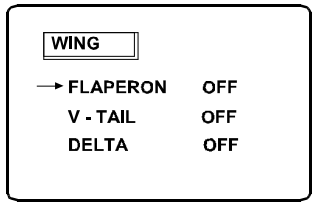
### 9.2.5 Input Setup

In Func. Menu press UP or DN to select INPUT and access by pressing ENT. Press UP or DN to move the cursor to the desired item, and then press the +. R or L. - key to set the control switch or its status. INPUT submenu contains GEAR, AUX2 、AUX3 and FLAP. Settings of GEAR include GEAR、 AUX3 and INH；, settings of AUX2 include FLAP、AUX2、AUX3 and INH； While Settings of AUX3 include AUX3、 F.MOD and INH； settings of FLAP include FLAP、FLAPSYS and INH.



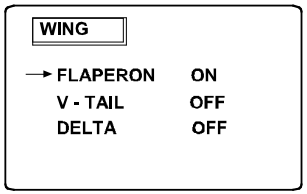

### 9.2.6 Wing Selection

In Func. Menu press UP or DN to select WING and access by pressing ENT. Press UP or DN to select the desired wing. Press the +. R or L. - key to set the control condition of ON or OFF. Three wings are available shown as the following picture.

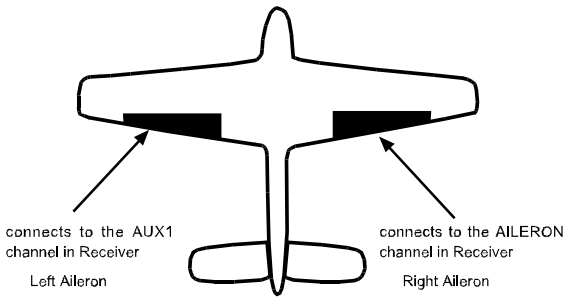



### 9.2.6.1 Flap and Aileron Type

Press UP or DN to select FLAPERON and press the +. R or L. - key to change OFF into ON. Then save by pressing ENT and exit.

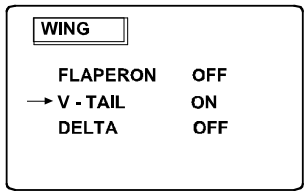



Below is the graphics for the servos location of the Flap and Aileron Type.

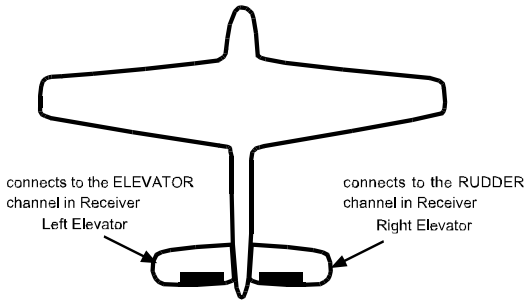


### 9.2.6.2 V-tail Type

Press UP or DN to select V-TAIL and press the +. R or L. - key to change OFF into ON. Save by pressing ENT and exit.

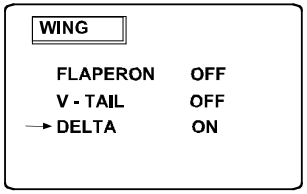



Below is the graphics for the servos location of the V-tail Type.

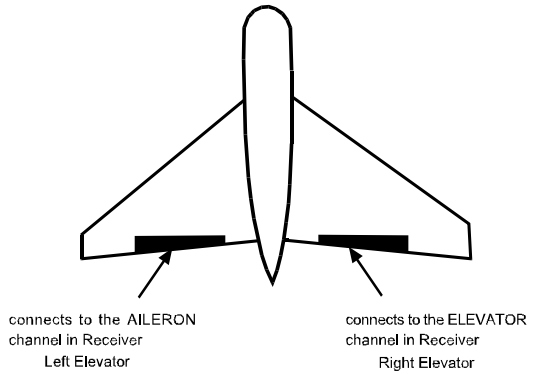



### 9.2.6.3 Delta Type

Press UP or DN to select DELTA (The cursor cannot be reached DELTA when either FLAPERON or V-TAIL is turned ON) and press the +. R or L. - key to change to ON. Save by pressing ENT and exit.



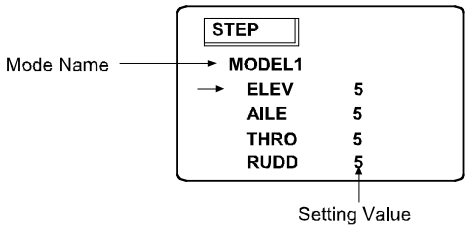

Below is the graphics of the servos location of the Delta Type.



### 9.2.7 Step Setup

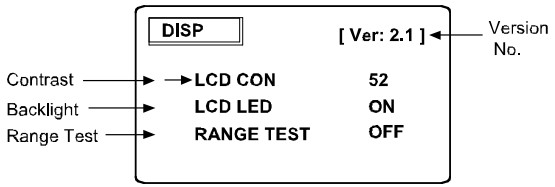
In Func. Menu press UP or DN to select STEP and access by pressing ENT. Press UP or DN to select the current model and access by pressing ENT.

Trim range of step is set from 1 to 15. Press UP or DN to move the cursor to the channel that you want to modify (ELEV, AILE, THRO, and RUDD). Press the +. R or L. - key to modify the setting value. The larger the number is, the bigger the trim step will be. Press ENT to save the change and exit when the adjustment is finished. The default value for each channel is set at 5.




### 9.2.8 Display

In Func. Menu press UP or DN to select DISP and access by pressing ENT.




#### 9.2.8.1 LCD Contrast Adjustment

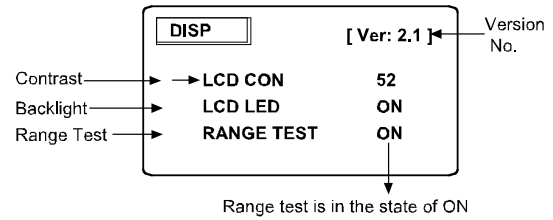
Press UP or DN to select LCD CON. The screen contrast will be changed accordingly by pressing the +. R or L. - key.

#### 9.2.8.2 Backlight Switch

Press UP or DN to move the cursor to LCD LED, then change into ON or OFF by pressing the +. R or L. - key.

#### 9.2.8.3 Range Test

In order to assure the control range during flight, you can use this function to verify. Method: put your helicopter which is adjusted well in a spacious ground and disconnect its main motor from the battery pack to avoid people being hurt by sudden highly spinning main rotor blades. Move the cursor to RANGE TEST. Press the +. R or L. - key to change RANGE TEST into ON. Move the servo sticks as you walk backward with the transmitter. Observe the movements of the helicopter. If servos are working properly at a distance of more than 30 meters, the control range has met the requirements. Press the EXT key to exit.

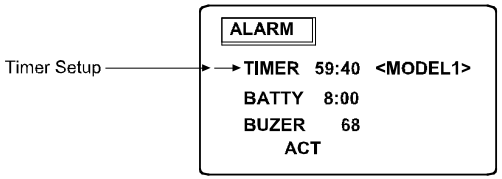


### 9.2.9 Alarm Setting

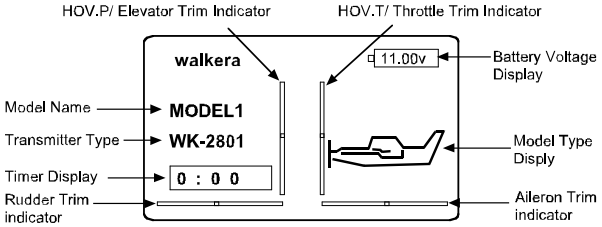
In Func. Menu press UP or DN to select ALARM and access by pressing ENT. WK-2801 PRO offers such alarm functions as flight time, battery low voltage and alarm sound.

#### 9.2.9.1 Timer

Press UP or DN to move the cursor toTIMER. Then press the +. R or L. - key to set the data.
The Maximum amount is 59'50" (59 minutes 50 seconds).

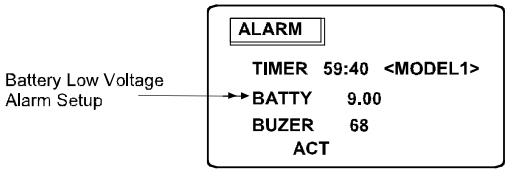



When you want to use the Timer function, please return to the home page of WK-2801PRO. Press the +.R key to start timing and press the +. R key again to pause. Pressing the L. – key clears timing.



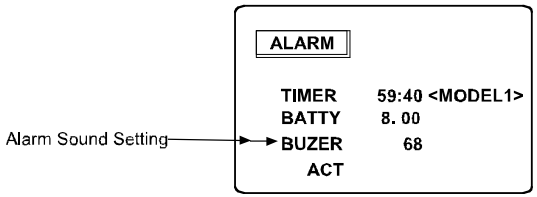

#### 9.2.9.2 Battery Low Voltage Alarm

Press UP or DN to move the cursor to BATTY. Then press the +.R or L. - key to set the amount. The Maximal, minimal and factory default values are 10.80V, 7.8V and 7.8V, respectively. The suggested value is 9.0V.

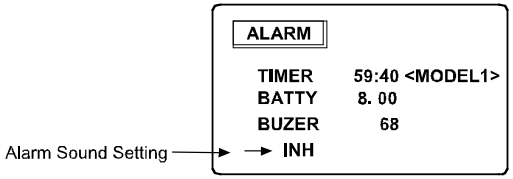



#### 9.2.9.3 Buzer

Press UP or DN to move the cursor to BUZER. Then press the +.R or L.- key to set the data and press ENT to save. According to the personal favor, the adjustable value is ranged from 50 to 100.



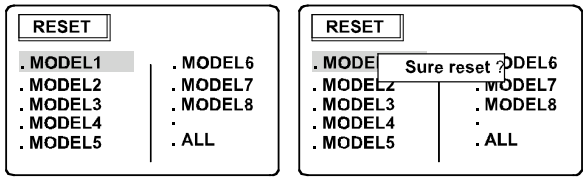

If you don't want the BUZER, press UP or DN to move the cursor to ACT. Then press the +. R or L. - key to change it into INH and then press ENT to confirm.



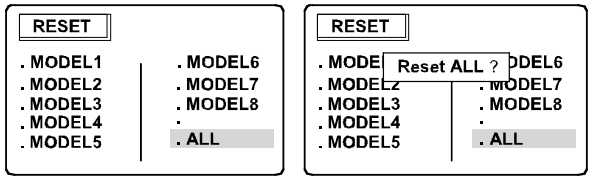

### 9.2.10 Reset

In Func. Menu press UP or DN to select RESET and access by pressing ENT. Model setting parameter can be reset to the factory default by RESET.

Method: In RESET menu press UP or DN and move the cursor to select the model you want to reset, and access by pressing ENT. Then a confirmation message of "Sure reset?" appears on the screen. Then press ENT and a message of "wait...." appears for few seconds. When "Reset NAME?" appears, press ENT to confirm.

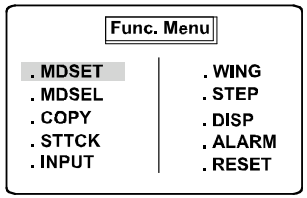



If you want to restore all the models to the factory default, press UP or DN to select ALL and press ENT. Then a confirmation message of "Reset All?" appears on the screen. Press ENT to restore. Otherwise, press EXT to exit.



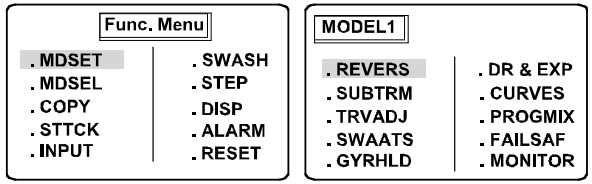

## 9.3 Function Setup for Plane

Switch on WK-2801 PRO, and press ENT to enter the Func. Menu.



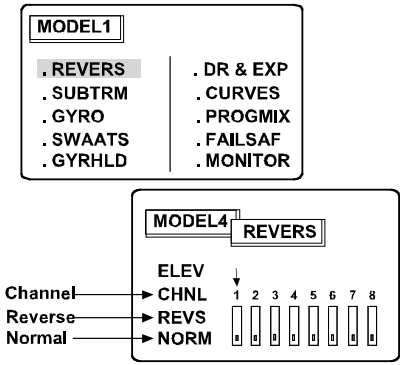

### 9.3.1 Model Setup

In MDSEL select the model whose parameters you want to modify or adjust (refer to9.2.2 Model Setup), and then return to the Func. Menu press UP or DN to select MDSET and press ENT to enter.




### 9.3.2 REVERS (servo reverse switch)

Press UP or DN to select REVERS and enter by pressing ENT. In the sub menu of REVERS, move UP or DN to select the desired channel, and then press +. R or L. - to change its direction. The function allows to reverse the servo throw direction in an electronic way. All 8 channels have servo reversing function making it more convenient to set up the servos.

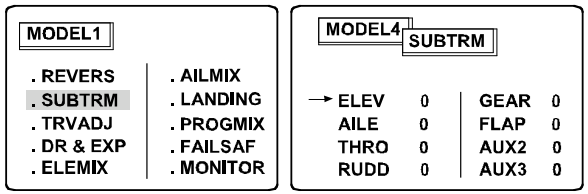



### 9.3.3 Subtrim

In Func. Menu press UP or DN to select the MDSET and access by pressing ENT. Then press UP or DN to select SUBTRM and access by pressing ENT. Press UP or DN to select the appointed channel. And press the +. R or L. - key to adjust the direction and data of the channnel. Press ENT to save and exit when the adjustment is finished.

The subtrim function allows you to electronically fine tune the neutral points of your servos. All the eight channels can be individually adjusted with a range of +/- 250.

It is recommended to set up the neutral point by mechanical adjusting the angle of servo bellcrank as well as possible.

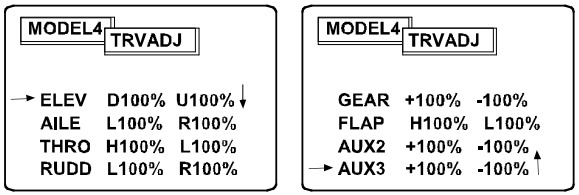



**Note:** excessive using the subtrim may exceed the maximal travel range of servos.

### 9.3.4 Servo Travel Adjustment

In Func. Menu press UP or DN to select the MDSET and access by pressing ENT. Then press UP or DN to select TRVADJ and access by pressing ENT. Press UP or DN to select the appointed channel. And then press the +. R or L. - key to modify the setting value. Press ENT to save and exit.

The travel adjustment function can precisely set the maximum rotation angles of the servos.The travel adjustment is ranged from 0% to 150% (0° to 60° ). All the factory default settings are 100%. There are two pages, which are switched by pressing DN or UP key, for travel adjustment settings.




### 9.3.5 Dual Rate and Exponential Function

Dual Rate and Exponential

In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Press UP or DN to select DR & EXP and access by pressing ENT. Then continuously press UP or DN until ELEV, AILE and RUDD show on the screen respectively, which are corresponding to the helicopter's servos of elevator, aileron and rudder.

Dual Rate can be defined as the ability to alter the travel or throw rate of a servo from a switch. Due to various travel rates, you will find the sensitivity of the stick will increase or decrease accordingly. When the dual rate is set high, the sensitivity will accordingly increase. Dual rate running in conjunction with the exponential function will help you more precisely adjust your control throws.

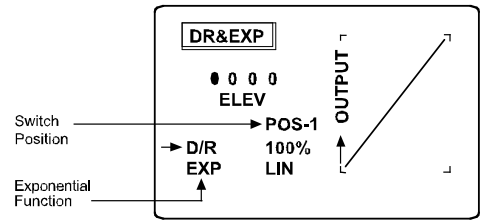
Under ELEV shows Pos-0, D/R, and EXP.

1. Pos-0 is corresponding to the toggle switch ELEV D/R in the face of WK-2801. When the toggle switch is pushed to the position 0, Pos will show Pos-0; when it is pulled to the position 1, Pos will show Pos-1.
2. In ELEV screen when ELEV D/R in position 0, press UP or DN to move the cursor to D/R and press L. – or +. R to ajust its percentage which is adjustable from 0% to 125%, the curve in the right side of screen will also change accordingly.

When ELEV D/R in position 1, repeat the previous step and adjust its percentage.

EXP express the change of servo exponetial function which just affects the sensitivity near the neutral point of sticks and doesn't change the travel. The stick will make mild change around the neutral position when EXP is set as a positive percentage. In ELEV screen when the toggle switch ELEV D/R is put in position 0, press UP or DN to move the cursor to EXP, and press L. – or +. R to adjust its percentage which is adjustable from -100% to +100% in 1% increment, the curve in the right side of screen will change accordingly.

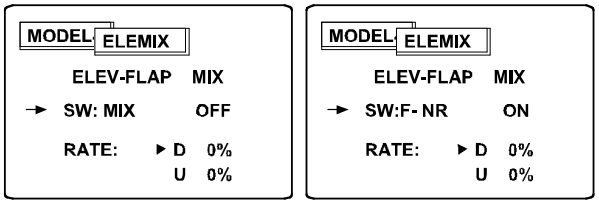
When ELEV D/R in position 1, repeat the previous step to adjust the percentage.




The setting methods of Pos, D/R, and EXP in AILE, RUDD are the same as the above.

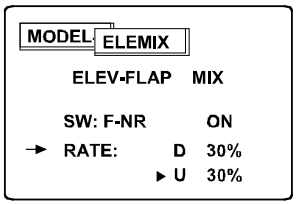
### 9.3.6 Elevator Flap Mixing

In Func.Menu press UP or DN to select MDSET and access by pressing ENT. Then press UP or DN to select ELEAIL and press ENT to enter. Press UP or DN to select ELEMIX and access by pressing ENT. Press UP or DN to move the cursor to SW, then press the +. R or L. - key to select the control switch. Switch it to the position of ON.




Press UP or DN to move the cursor to RATE. Keep the ELEVATOR stick at the highest position and a black triangle cursor will remain at the position of D. Press the +. R or L. - key to set the mixing value.

Keep the ELEVATOR stick at the lowest position and the black triangle cursor will appear on the position of L. Press the +. R or L. - key to set the mixing value. Press ENT to confirm.

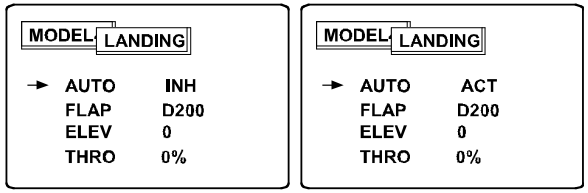



### 9.3.7 Aileron&Rudder

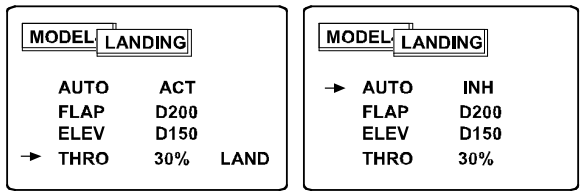
In Func.Menu press UP or DN to select the MDSET and access by pressing ENT. Then press UP or DN to select AILEMIX and access by pressing ENT. Press UP or DN to move the cursor to SW, then press the +. R or L. - key to select the control switch. Switch it to the position of ON. Press UP or DN to move the cursor to RATE, then press the +. R or L. - key to set the mixing parameter and press ENT to save and exit.

### 9.3.8 Landing System

In Func.Menu press UP or DN to select MDSET and access by pressing ENT. Press UP or DN to select LANDING and access by pressing ENT. When you want to use the Landing System, please set AUTO to ACT by pressing L.– or +.R, which is shown as the following picture.



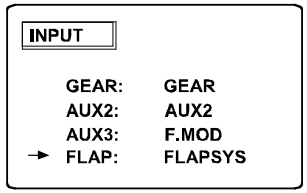
Press UP or DN to move the cursor to FLAP or ELEV, then press the +. R or L. - key to set the position data of FLAP or ELEV. Press UP or DN to move the cursor to THRO and move the throttle stick to the position in which the landing system will act. Press the +. R or L. - key to confirm the current position. Then the item of THRO will show the current setting value of the throttle stick and the state of LAND. When you want to cancel the function, set AUTO to INH.



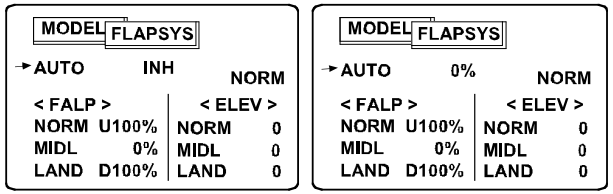

### 9.3.9 Flap System

**Note:** Flaperon System only acts when FLAP is set to be FLAPSYS.

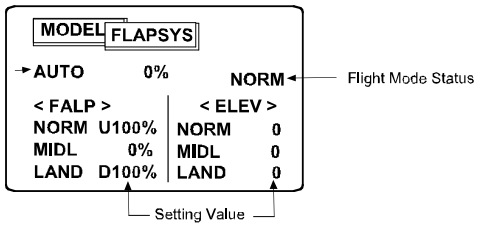
Method: in Func.Menu press UP or DN to select the INPUT and access by pressing ENT. Then press UP or DN to select FLAP and continuously press the +. R or L. – key until the characters of FLAPSYS on the screen.




Flaperon System setup: in Func.Menu press UP or DN to select the MDSET and access by pressing ENT. Press UP or DN to select FLAPSYS and enter by pressing ENT. Then press the +. R or L. – key to set the state of AUTO at 0% (Press +. R or L. – to set the AUTO state into INH when the Flaperon system is not applied).



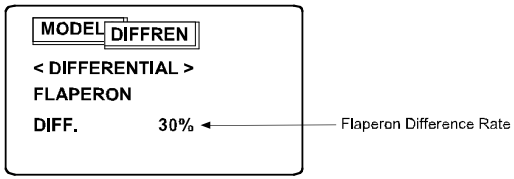

Move the throttle stick to the position in which the flap system will act. Press the +. R to confirm the current position. The AUTO program shows the current setting value of the throttle stick. If you want to cancel the function, set AUTO to INH. Press UP or DN to move the cursor to the desired switch status and press the +. R or L. - key to set parameter for each one which is linked to the toggle switch - Flight Mode. The characters of NORM, MIDL, and LAND will appear on the right corner of the screen when you switch the Flight Mode.



### 9.3.10 Flaperon Difference

To set flaperon difference, keep FLAPERON in the status of ON in WING screen (refer to 9. 2. 10. 1 Flaperon Type).

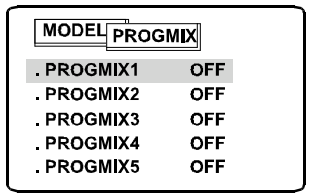
In Func. Menu, press UP or DN to select MDSET and proceed to the MODEL screen by pressing ENT. Press UP or DN to select DIFFREN and enter by pressing ENT. Then press the +. R or L. - key to set the flaperon difference rate.



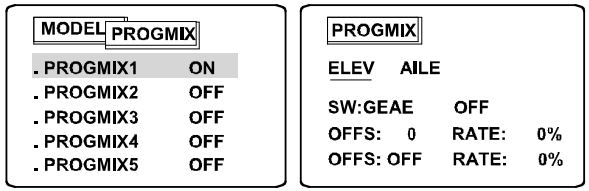

### 9.3.11 Program Mixing

Five sets of program mixing allows you to accurately combine and adjust the mixing value.

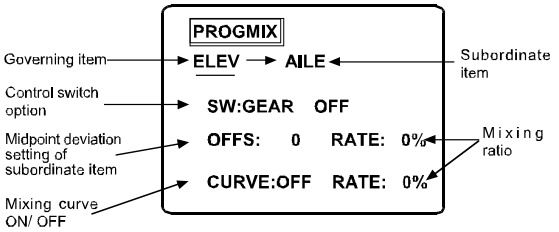
In Func. Menu, press UP or DN to select MDSET and access by pressing the ENT key. Then press the UP or DN key to select PROGMIX, and press the ENT key to enter. There are four sets of program mixing in total.




Press the UP or DN key to select the desired program and press the +. R or L. – key to change OFF into ON and access the mixing setting screen by pressing the ENT key.




Setting method for program mixing: (each item is shown as the following picture)



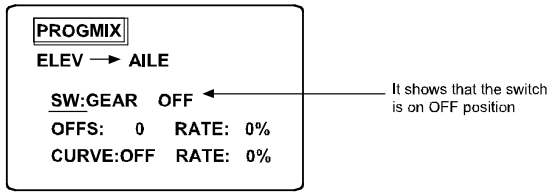

1. Setting for gorverning and subordinate items: press UP or DN to move the underline to select the governing item, which needs to be mixed, and press +R or L.- to set. The mixing procedure can take place among the 8 channels and be stopped by pressing +.R or L.- after confirmed.

Press UP or DN to move the underline to the subordinate item and press +.R or L.- to set. The mixing procedure can be made among the 8 channels and stop by pressing +.R or L.- after confirmed.

2. Control switch option: continue step 1 and press UP or DN to move the underline to SW. Press +. R or L. – to set the control switch option which includes ELEV, GEAR, F-S2, F-S12, F-NR, and ON. The relationship of Control switch option in screen to that in physical panel of transmitter is shown as below:

| **Control switch option in screen** | ELEV | GEAR | F-S2 | F-S12 | F-NR | ON |
|---|---|---|---|---|---|---|
| **Switch in physical panel** | ELEV D/R | GEAR | ST-2 at flight mode | ST-1 and ST-2 at flight mode | NOR at flight mode | All the control switch option are shut down |

ON will be shown after the swtich name when the switch is turn on; OFF will be shown after the switch name when the switch is shut down.

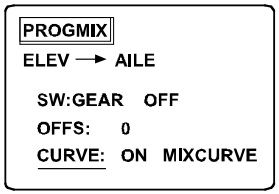


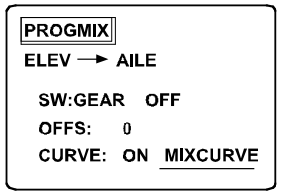

3. Midpoint deviation setting for subordinate item: continue step 2 and press UP or DN to move the underline to OFFS. Press +.R or L. – to set the data whose adjustable arrange is from -250 to +250. Note: the data adjusted here functions only when the control switch of SW is in the status of ON.

4. Setting for mixing ratio: continue the step 3, and press UP or DN to move the underline to RATE. Keep the stick of governing item in one side and the underline will appear under the corresponding RATE item. Press +.R or L.- to modify the percentage whose range is spanned from -100% to +100%. Keep the stick of governing item in the other side and the underline will move to the other corresponding RATE item. Press +.R or L.- to modify the percentage whose range is also spanned from -100% to +100%.

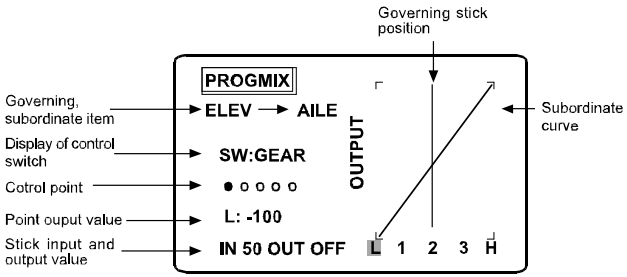
**Note:** the modified data works well only when the control switch of SW stays at the status of ON.

5. Setting for mixing curve: continue step 3 and press UP or DN to move the underline to CURVE. Press +. R or L. – to set OFF as ON. Press UP or DN to move the underline to MIXCURE and access by pressing ENT.



Press ENT to enter the interface of mixing curve.




Set the governing item and subordinate item like the step 1 and 2. Press UP or DN to move the underline to L, and press +. R or L. – to set the value of the dot L, whose adjustable range is from -100% to +100%. The control point value will show the change of data while setting, and the subordinate curve will also change. Press UP or DN to the next point after setting. The methods for 1, 2, 3, and H are exactly same. Press ENT to confirm after the setting is finished. Note: the data will be activated only when the control switch of SW stays at ON position.

Any two among the 8 channels can be mixed. The setting methods for the 4 sets of mixing are same.

### 9.3.12 Fail-safe

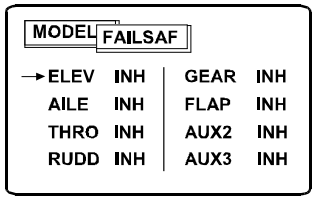
In Func. Menu press UP or DN to select MDSET and access by pressing ENT. Press UP or DN to select FAILSAF and enter by pressing ENT.

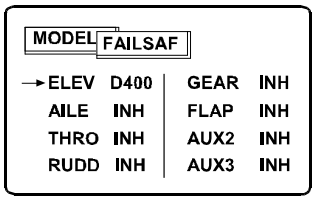
There are two methods for the setting:

In FAILSAF set all the channels as the status of INH by continuously pressing EXT 2 seconds for once or twice. Put the stick of the desired channel to the position you hope and continuously press EXT 2 seconds. Then WK-2801PRO will automatically show the set dada, which can be modified again via the previous method 1 or the previous method 2. Finally press ENT to confirm after setting.

method 1 – direct setting approach: press UP or DN to select the desired channel and press the +. R or L.- key to modify the setting value.

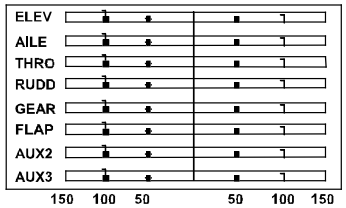
Method 2 – stick-setting approach: press UP or DN to move the cursor to the appointed item and press EXT to assure this item in INH status. Move the corresponding stick to the desired position and hold the stick at that place. Then press EXT to get the amount and press ENT to confirm.






### 9.3.13 Monitor

In Func. Menu, press UP or DN to select MDSET, and access by pressing ENT. Then press UP or DN to select MONIT and enter by pressing ENT. At this time, the output value of each servo appears. Each bar center displays the neutral position. Left or right dots indicate 50%, 100% and 150%.



## Warranty information

**Important:** Take good care of the original dated & itemized sales invoice which must be shown for warranty work.

### Warranty range

The product is free to maintain within one year after purchase(no factitious fault) and you can enjoy life-long warranty (only charge the cost of the replacement parts) upon the original sales invoice .The guarantee is non-transferable and limited to original purchaser.

WALKERA

R/C WALKERA PRODUCT

The specifications of the R/C Product may be altered without notice.