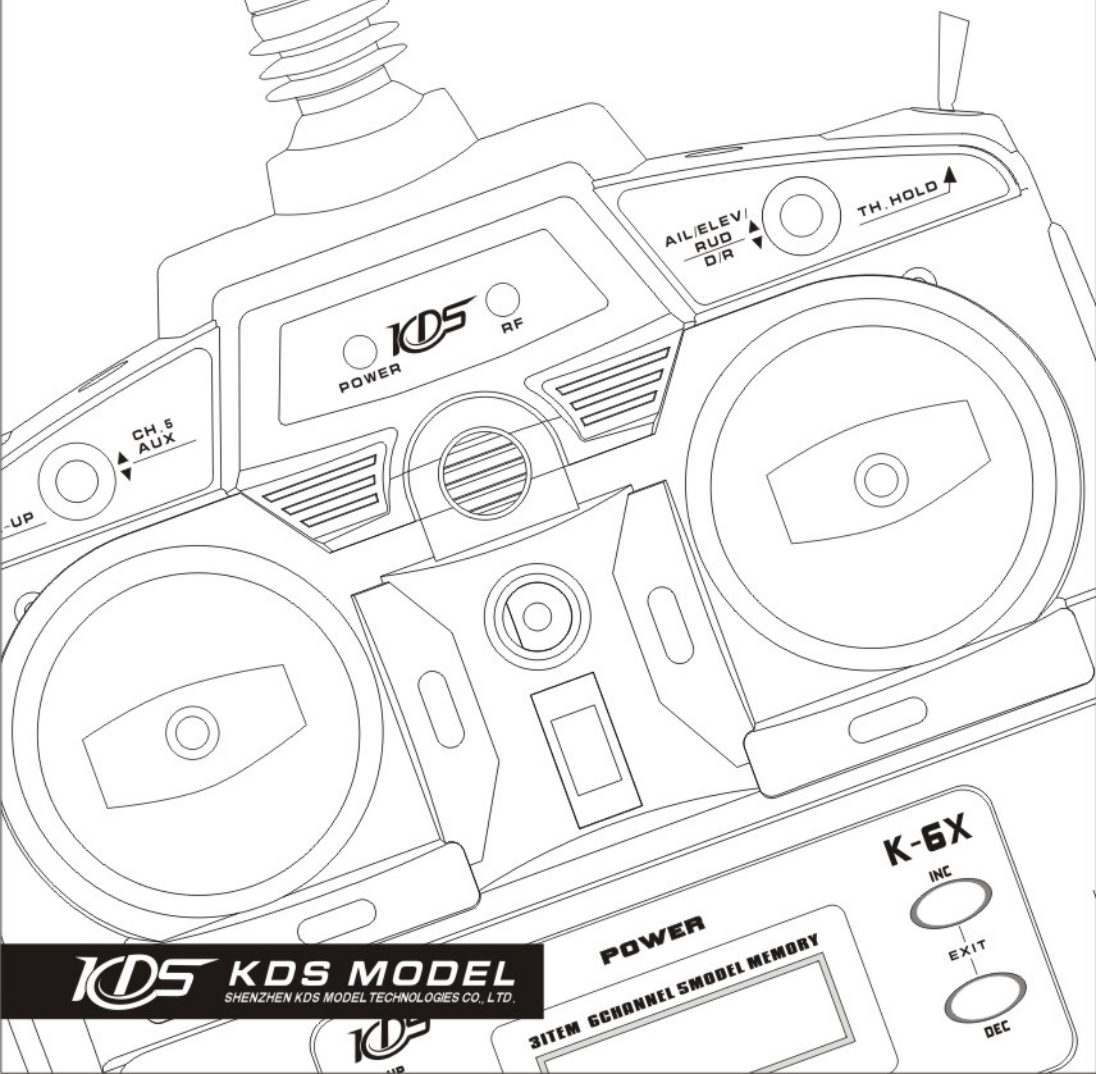


K-6X 2.4GHz **Remote controller** **System Manual**



KDS **KDS MODEL**
SHENZHEN KDS MODEL TECHNOLOGIES CO., LTD.

POWER
3ITEM 6CHANNEL 5MODEL MEMORY

K-6X

INC

EXIT

DEC

W
G
M
G
U
E
I



KDS MODEL

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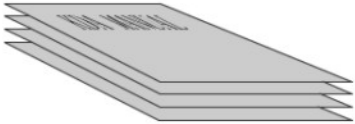
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W
G
M
G
U
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I

Contents

Please check that you have all of the following items before using the product. If any item is missing, please contact local dealer

| Name | Amount | Picture |
|-------------|--------|------------------------------------------------------------------------------------|
| Transmitter | 1 |  |
| Receiver | 1 |  |
| Manual | 1 |  |

Introduction

Thank you for purchasing KDS-6X digital proportional R/C system. This system is extremely versatile and can be used by beginners and pros alike. In order for you to make the best use of your system and to fly safely, please read this manual thoroughly. If you have any difficulties while using your system, please contact your hobby dealer.

Due to unforeseen changes in production procedures, the information contained in this manual is subject to change without notice.

Warning

- Always keep electrical components away from small children.
- Stop flying long before your batteries become low on charge. Do not rely on your radio low battery warning systems, intended only as a precaution, to tell you when to recharge. Always check your transmitter and receiver batteries prior to each flight.
- Before flying, be sure that the frequency you intend to fly with is not in use, and secure any frequency control device (pin, tag, etc.) for that frequency before turning on your transmitter. It is never possible to fly two or more models on the same frequency synchronously. Even though there are different types of modulation (AM, FM, PCM), only one model may be flown on a single frequency at any one time.
- While you are getting ready to fly, if you place your transmitter on the ground, be sure that the wind won't tip it over. If it is knocked over, the throttle stick may be accidentally moved, causing the engine to speed up. Also, damage to your transmitter may occur.
- Before taxiing, be sure to extend the transmitter antenna to its full length. A collapsed antenna will reduce your flying range and cause a loss of control. It is a good idea to avoid pointing the transmitter antenna directly at the model, since the signal is weakest in that direction.
- Don't fly in the rain! Water or moisture may enter the transmitter through the antenna or stick openings and cause erratic operation or loss of control. If you must fly in wet weather during a contest, be sure to cover your transmitter with a plastic bag or waterproof barrier. Never fly if lightning is expected.

1. Precaution of safety

It requires professional skills and technical knowledge to install and operate R/C model properly. Incorrect installation and operation will result in severe property loss and personal injuries.

KDS-6X 2.4GHz control system is exclusively designed for civil use of R/C models. Don't use it in any other flying machines.

The government for R/C model is different in different place, therefore, please consult your local regulatory body and follow the rules and regulations to operate legally.

Radio wave transfers almost in straight routine in 2.4GHz, please make sure there is no any obstacle when you are operating the product. The antenna tube should point at the controlled model to ensure efficient control, and keep conductive materials away from receiver and transmitter.

If there is prang, collision, walter and other accidents when operating, please test all the things before next operating.

2. Liability declaration

KDS model company has the right to change the product, including the exterior, the functions parameter, and use request, but no notice.

KDS model does not provide any guarantee, declaration and promise for special use of any KDS products.

The recommended or text technologies data in the technology introduction for KDS model company only indicates the test result at that time, but it does not mean KDS model company acknowledges the result in law.

KDS model company will not be responsible for the result made by using any product or circuit, including the incidental or indirect compensation.

The parameters of KDS electronic products will be changed under different conditions. The products will work only after all the functions parameters are approved by each use intension.

3. KDS-6X 2.4Ghz control system introduction

KDS-6X 2.4Ghz control system units advanced electronic device, and features wide use. It can support multi-users and multi-equipment simultaneously, and features quick reponse, high precision, and strong capability for anti-jamming.

KDS-6X 2.4Ghz sustain one transmitter and several receivers, and makes it possible that single radio can control several models simultaneously.

KDS-6X 2.4Ghz support different brand gyro

KDS-6X 2.4Ghz reacts quickly and precisely

4. The installation of receiver

Installation position shall follow these conditions:

- 1) Keep the receiver away from engine, motor, ESC, battery, and other metal parts
- 2) The antenna can not be covered by metal, carbon material or the other electronic conduction material

5. Wiring

Connect all devices and parts to the corresponding channels. Take notice of 3P signal wire must be connected in right way, or it will cause the severe damage to certain device or fail to work. There are some corresponding symbols of 3P on one side of the receiver:

- (-) means cathod of power connected to the earth, usually links to the black line or brown line of 3P signal wire
- (+) means the anode of power, usually links to the red wire of 3P signal wires.
- (S) means signal wire, usually links to the white or yellow wire of 3P signal wires.

Notice : please assess the power demand of the receiver of model when selecting the electricity supply style, ensure the receiver can get enough power supply when using, the voltage of the receiver not less than 4.2v at any time.

6. The intallation of Antenna

Keep the antenna in 90 degrees with installed frame or bottom plate, it means that try to keep the antenna visible, see the illustation



7. Scaning:

- 1) open the transmitter by holding down the BIND, the blue LED of the transmitter will glitter once at this moment, it means that the transmitter has entered scanning.
- 2) Insert the BIND into the BIND socket of the receiver.
- 3) Turn on the power of the receiver, the red LED will glitter twice in 3 seconds, it indicates that it has been in the mode of signal scanning, then the LED will glitter quickly in 1 second, it means it is scanning, if the LED turn off, it means the scanning is finished. Then you can pull out the wire and remove the BIND.
- 4) Turn off the transmitter and turn it on again, connect the receiver power, the LED is eternal sparkling. (note: if you have a few KDS-RX8CH receivers which need to be checked, pls don't turn off the transmitter, repeat the procedure 2 and procedure 3 as you press the BIND button each time, the signal scanning content will be deleted by the system automatically)

8. Instruction :

Time for scanning: KDS-6X 2.4GHz control system will need several to tens of seconds in different locale situations and circumstance.

Scanning failure: because KDS-6X 2.4GHz R/C control system put control reliability at the top important position, when meet some special circumstances in using locale, scanning may fail. Detailed performance will be: LED on receiver can't crush out after glitter twice, or can't glitter quickly.

Operation after failed scanning: When system signal scanning failed, you can solve problem refer to the following method: turn off power supply of radio and receiver, and then restart scanning process. If scanning failed continuously for five times, please change field and wait for a while to try again.

9. Notice proceeding during scanning process :

KDS-6X 2.4GHz remote control system sustain multiple receivers operation and long-distance scanning, so please make sure there's only your radio scanning. If there is any person who also use KDS-6X 2.4GHz remote control system in locale, please operate only after other users pare the signal.

10. Control distance

All remote control equipment has an effective range. It's not the same on the ground, water surface or fly in the sky; it's not the same on flat ground and complicated layout; it's not the same in rainy days or sunny days; and besides, the external electrical environment is changing continuously. It's quite necessary for the users who want to control at a long distance to test effective distance beforehand.

Radio wave transfers almost in a straight line, please make sure there's no object between antenna and the controlled model. And the antenna should point at receiver's antenna, and keep the controlled model in certain distance where you can see the model.

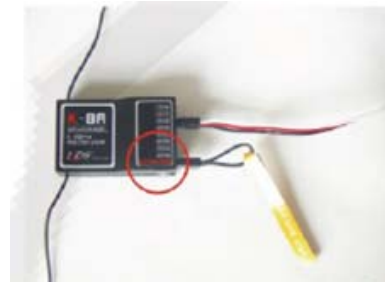
Scanning:

Pin(or press) the switch on the back of transmitter fo, see picture 1, and turn on the power at the same time. The blue light on the panel of transmitter will blink. Then you plug the scanning wire into the scanning chanel of Receiver, see picture 2, then connect the power. The red light of the receiver will light for 2 times, then the red light will blink. Then there will be fast blinking because it is doing scanning. After scanning, the red light will be dark. Then turn off the power of receiver, and remove the scanning wire. And then turn off the power of transmitter.

Now you re-start the transmitter: first, turn on the power of transmitter, then connect the power of receiver (the red light will light for some time, and no blinking). Third, ensure all channels can work properly. Now everything is ok.



Picture 1



Picture 2



Manual

1 Features

- LED display, Show model type and battery voltage on normal status.
- 5 models parameters store supported
- Support 5 points throttle(THR) curve on NORMAL mode and IDLE mode.
- Support 5 points pitch(PIT) curve on NORMAL mode, IDLE mode and HOLD mode.
- Support HELI(helicopter) mode and AERO mode. Following mode is supported in each mode:

| | |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HELI mode | <ul style="list-style-type: none"> ✓ HP1: Normal helicopter with 1 servo ✓ HP2: Swash helicopter with 2 servos ✓ HP3: CCPM 120° swash helicopter with 3 servos |
| AERO mode | <ul style="list-style-type: none"> ✓ AP: Normal aero plane ✓ VP : V-tail plane ✓ DP: Delta wing plane |

TABLE1 - Model type list

- 6 channels standard servo signal output
- Set reverse (REV), sub trim (SUB) and travel by LED and button.
- Dual rate (DR) control supported
- Throttlehold supported
- Gyro sensitivity adjust supported
- Return to battery voltage display after no operation till 30 seconds.
- Beep when battery voltage low than 8.6V (Once per second).

2 Features



2 Features

| Switch & Button | Description | Detail |
|-----------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| IDLE | In HELI mode, it is used for switching NORMAL mode and IDLE mode. In AERO mode, it controls channel6. | See Section-6.6 Section-6.7 Section-6.8 Section-7 |
| DR | It is used for controlling dual rate of aileron, elevator and rudder. | See section-6.4 |
| HOLD | THR hold switch. | See section-6.5 |
| GEAR | In AERO mode, it controls channel5. Unused in HELI mode. | See section-7 |
| UP | Page up button | |
| DN | Page down button | |
| INC | Increase button | |
| DEC | Decrease button | |

TABLE2 - Button list

3 Batteries Charging

If you are using NiCd or NiH batteries, you can charge it with a external power without getting batteries out.

You can find the power slot in the right side of transmitter, use a power with the plug shown as CHART20.



Warning:
The power should be 11.6V, the current should be at least 50mA. Other style may be dangerous!

CHART20 - External Power

4 Stick Adjusting

To adjust the stick length, you should use a 1.5mm inner hexagonal screwdriver. Use the screw driver rotate anticlockwise one or two cycles to release the stick head, then you can rotate the stick head to adjust the length (see CHART21). When finish, tighten the screw.

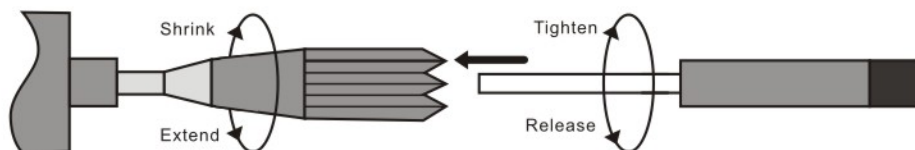


CHART21 - Stick Adjusting

5 System setting

Hold **UP** and **DN**, turn on transmitter, it will enter system setting mode like following:



CHART2 - System setting interface

There are three items "S1", "S2" and "S3".

- ✓ Press **INC** or **DEC** will change setting index from S1 to S3
- ✓ Press **UP** or **DN** will change setting content as TABLE3
- ✓ Press **INC** and **DEC** synchronously will exit system setting mode

| Index | Content |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S1. Model type choice | <ul style="list-style-type: none"> ✓ AP : Normal aero plane ✓ VP : V-tail plane ✓ DP : Delta wing plane ✓ Hp1: Normal helicopter with 1 servo ✓ HP2: Swash helicopter with 2 servos ✓ HP3: CCPM 120°swash helicopter with 3 servos |
| S2. Stick type choice | <ul style="list-style-type: none"> ✓ D1: Right hand mode ✓ D2: Left hand mode |
| S3. Model choice | Support five models, see Section-10 |

TABLE3 - Details of system setting

6 Helicopter Mode

HP1, HP2 and HP3 are HELI mode, in this mode, the LED will display like CHART3:



CHART3 - HELI mode

In HELI mode, the channel is:

| Channel | Control | Detail |
|---------|---------|----------|
| 1 | AIL | Aileron |
| 2 | ELE | Elevator |
| 3 | THR | Throttle |
| 4 | RUD | Rudder |
| 5 | GY | Gyro |
| 6 | PIT | Pitch |

TABLE3 - HELI Channels list

In HELI mode, there are 9 items which can be set, during configuration, you can press **INC** And **DEC** synchronously to exit setting and return to using mode.

6.1 Reverse setting

Set normal or reverse for 6 channels, default is normal. To enter reverse setting, turn on transmitter, then press **UP** and **DN** synchronously, you will see "r1 xxx" like CHART4.

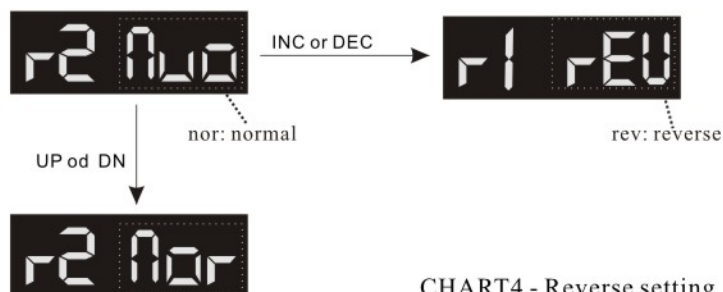


CHART4 - Reverse setting

Press **UP** or **DN** will change channel number, seems like "r2 xxx" "r3 xxx", etc. Press **INC** or **DEC** will change reverse status.

6.2 End point setting

Set travel(end point) between 0~120 for 6 channels, default is 100. To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for twice, you will see "E1 xxx" like CHART5.

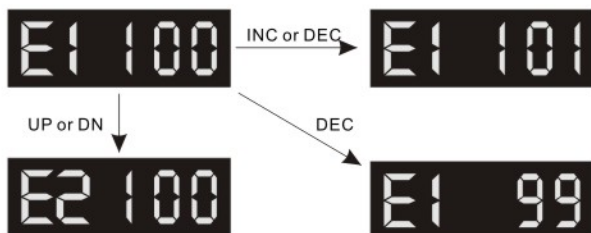


CHART5 - End point setting

Press **UP** or **DN** will change channel number, seems like "E2 xxx" "E3 xxx", etc. Press **INC** or **DEC** will increase or decrease the travel value.

6.3 Sub trim setting

Set sub trim between -100~+100 for 6 channels, default is 0. To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for three times, you will see "T1 xxx" like

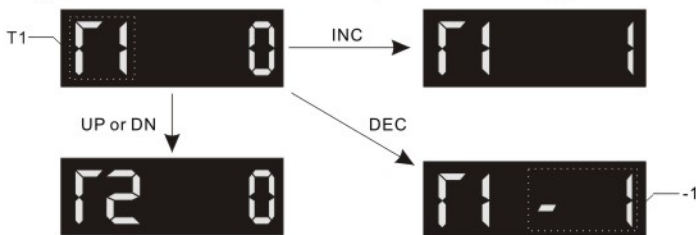


CHART6 - Sub trim setting

Press **UP** or **DN** will change channel number, seems like "T2 xxx" "T3 xxx", etc. Press **INC** or **DEC** will increase or decrease the sub trim value.

6.4 Dual rate setting

DR switch (see CHART1) controls the dual rate of aileron, elevator and rudder. And the rate of aileron, elevator and rudder can be set separately. There are two rates for DR SW=0 and DR SW=1, the two rates can be set between 0~120. Default value is 100 for DR SW=0, 70 for DR SW=1.

To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for four times, you will see "dA0 xxx" like CHART7.

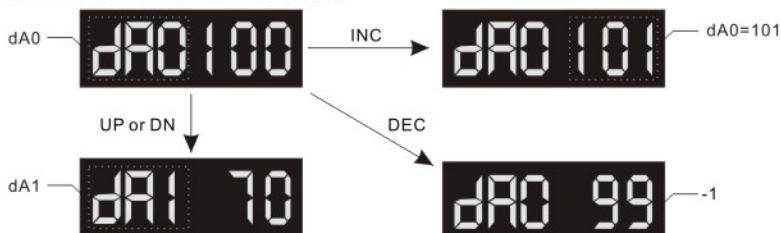


CHART7 - Dr for Ail setting.

6.4 Dual rate setting

Press **UP** or **DN** will change the channel as TABLE4. Press **INC** or **DEC** will increase or decrease the rate value.

| LED Display | Text | Meaning |
|-------------|------|---------------------|
| | dA0 | Ail rate on DR SW=0 |
| | DA1 | Ail rate on DR SW=1 |
| | De0 | Ele rate on DR SW=0 |
| | De1 | Ele rate on DR SW=1 |
| | Dr0 | Rud rate on DR SW=0 |
| | Dr1 | Rud rate on DR SW=1 |

TABLE4 - Dr setting turn

6.5 Throttle holding setting

Throttle holding will lock the throttle at setting value, in lock status, the throttle signal will not change even if the throttle stick is changed. It is controlled by HOLD switch (see CHART1). When HOLD switch to 1, the throttle signal is locked (holding status), when HOLD switch to 0, the throttle signal is normal (change by throttle stick).

The holding value is between -20~+20, default is 0.

To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for five times, you will see "H1 xxx" like CHART8.

Press **INC** or **DEC** will increase or decrease the holding value.

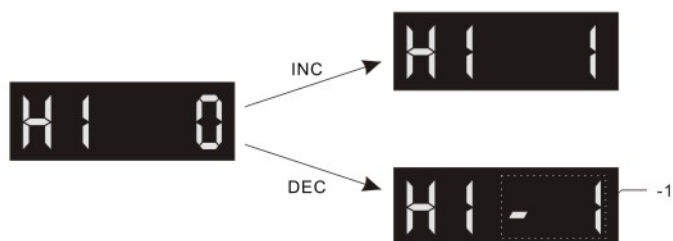


CHART8 - Throttle holding setting

6.6 Gyro sensitivity adjusting

To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for six times, you will see "G1 xxx" like CHART9.

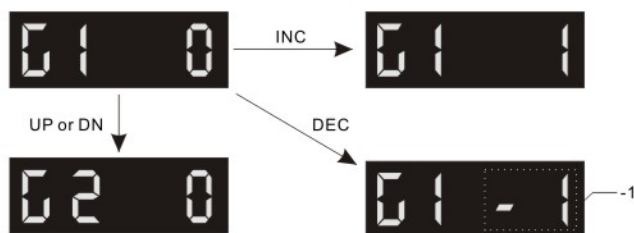


CHART9 - Gyro sensitivity setting

There are two sensitivities for gyro -- G1 and G2. The gyro signal is one of the two values decided by IDLE switch (see CHART1). When the IDLE switch in IDLE mode, the gyro signal is G2, when IDLE switch in NORMAL mode, the gyro signal is G1.

The sensitivity value can be set between -100~+100. When it is more than 0, the gyro is in head-lock mode, when the value is less than 0 or equal, the gyro is in non-lock mode. The default value is G1=G2=0.

6.7 Throttle curve setting

There are two throttle curves, one is for NORMAL mode, the other is for IDLE mode. Every curve has 5 points. Each point means the relation between signal and stick position as TABLE5.

To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for seven times, you will see "CN1 xxx" like CHART10.

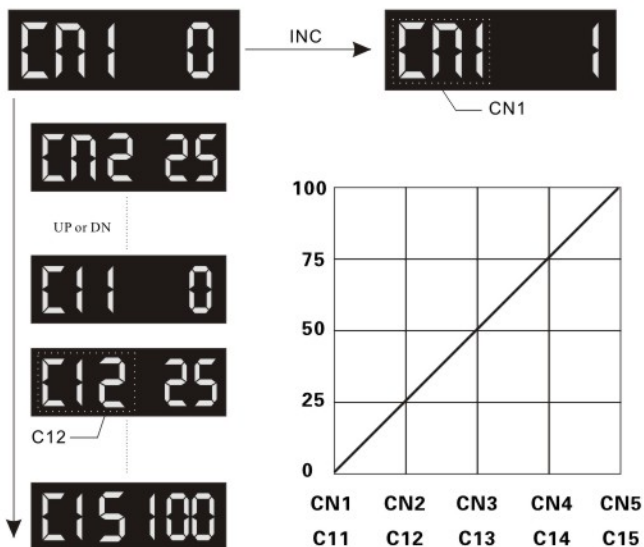


CHART10 - Throttle curve setting

6.7 Throttle curve setting

Press **UP** or **DN** will change setting from CN1 to CN5 and CI1 to CI5. Press **INC** or **DEC** will increase or decrease the value of the point.

CN1~CN5 is the five points for NORMAL mode, CI1~CI5 is the five points for IDLE mode.

| Point index | Stick position | Default signal value |
|-------------|---------------------------|----------------------|
| 1 | Stick at lowest position | 0 |
| 2 | Stick at 25% position | 25 |
| 3 | Stick at center | 50 |
| 4 | Stick at 75% position | 75 |
| 5 | Stick at highest position | 100 |

TABLE5 - Throttle curve stick value

6.8 Pitch curve setting

There are three pitch curves, the first is for NORMAL mode, the second is for IDLE mode, the third is for HOLD mode. Each point means a stick position as TABLE5.

To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for eight times, you will see "PN1 xxx" like CHART11.

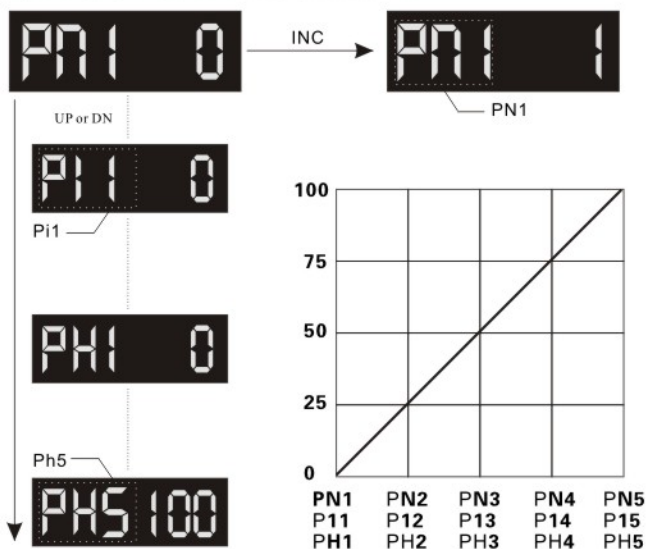


CHART11 - Pitch curve setting

Press **UP** or **DN** will change setting from PN1 to PN5, then P11 to P15, then PH1 to PH5. Press **INC** or **DEC** will increase or decrease the value of the point.

PN1~PN5 is the five points for NORMAL mode, P11~P15 is the five points for IDLE mode, PH1~PH5 is the five points for HOLD mode,

*Signal and Curve

The output signal of transmitter is related to "Curve" and "End point". For example, if the transmitter in HELI NORMAL mode, and THR curve of NORMAL mode is 0,30,75,80,100 (show as CHART12), and THR end point is 110. Then, if the THR stick is in 25% position, the curve value is 30, the output signal is $110 \times 30\% = 33\%$.

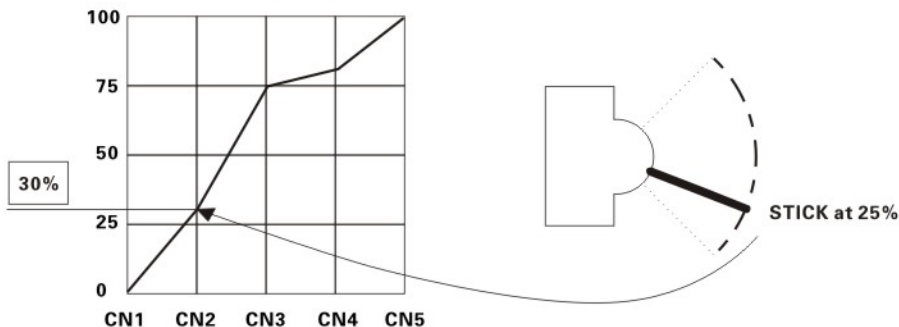


CHART12 - Signal and Curve

6.9 Swash mixture setting

There are three items in swash mixture: AIL, ELE, PIT. All of three mixture percent values are between -100~+100, default values is 50.

To enter this setting, turn on transmitter, then press **UP** and **DN** simultaneously for nine times, you will see "PA xxx" like CHART13.

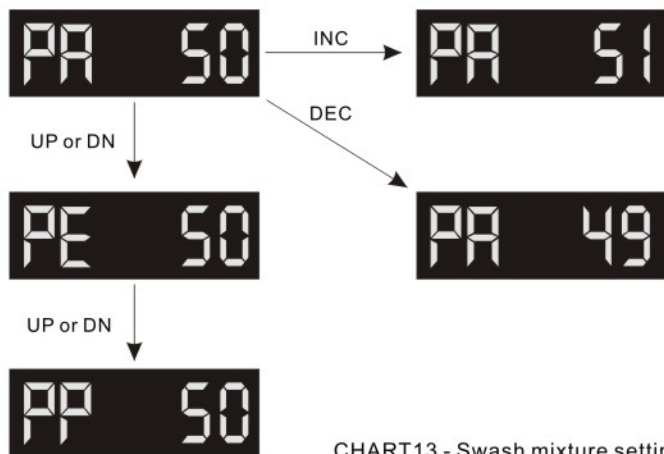


CHART13 - Swash mixture setting

Press **UP** or **DN** will change setting from PA to PE to PP, which means the "Mixture percent" of AIL, ELE and PIT.

Press **INC** or **DEC** will increase or decrease the value of the point.

7. Aero Mode

AP is AERO mode. In AERO mode, the LED will display like CHART14:



CHART14 - AERO mode

In AERO mode, the channel is:

| Channel | Control | Detail |
|---------|---------|------------------------------|
| 1 | AIL | Aileron |
| 2 | ELE | Elevator |
| 3 | THR | Throttle |
| 4 | RUD | Rudder |
| 5 | GER | Gear, control by GEAR switch |
| 6 | FLA | Flap, control by IDLE switch |

TABLE6 - AERO Channels list

There are five settings in AERO mode. To enter setting, press **UP** and **DN** simultaneously for special times, and the operations are the same as in HELI mode. See TABLE7 for details. You can press **INC** and **DEC** simultaneously to exit setting and return to using mode.

| UP&DN press times | Setting | Detail |
|-------------------|------------------|-----------------|
| 1 | Reverse | See section-6.1 |
| 2 | End point | See section-6.2 |
| 3 | Sub trim | See section-6.3 |
| 4 | Dual rate | See section-6.4 |
| 5 | Throttle holding | See section-6.5 |

TABLE6 - AERO Channels list

8.1 V-tail mixture setting

There are four items in this setting: V1, V2, V3, V4. The value is between -100~+100, default value is V1=V3=V4=50, V2=-50. The output signal is decided by TABLE9.

| Stick \ Signal | Ch2 | Ch4 |
|----------------|-----|-----|
| ELE stick | V1 | V2 |
| RUD stick | V3 | V4 |

TABLE9 - V-tail signal

Press **UP** or **DN** will change setting from V1 to V4. Press **INC** or **DEC** will increase or decrease the value. See CHART16.

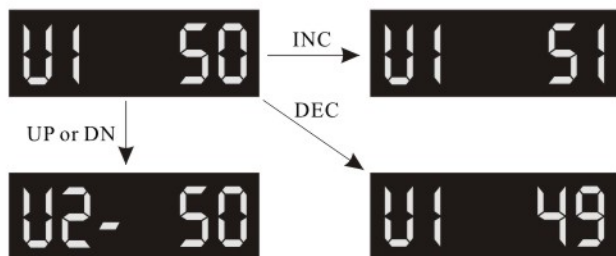


CHART16 - V-tail mixture setting

9 Delta wing Mode

DP is Delta wing mode. In this mode, the LED will display like CHART17:



CHART17 - Delta wing mode

The channels and switches are the same as AERO mode, see TABLE6.

There are six settings in Delta wing mode. To enter setting, press **UP** and **DN** synchronously for special times, and five operations beyond are the same as in HELI mode. See TABLE10 for details. You can press **INC** and **DEC** simultaneously to exit setting and return to using mode.

| | | | | | | |
|-------------------|---|------------------|-----------------|---|--------------------|-----------------|
| UP&DN press times | 1 | Reverse | See section-6.1 | 2 | End point | See section-6.2 |
| Setting | 3 | Sub trim | See section-6.3 | 4 | Dual rate | See section-6.4 |
| Detail | 5 | Throttle holding | See section-6.5 | 6 | Delta wing mixture | See section-9.1 |

TABLE10 - Delta wing settings

9.1 Delta wing mixture setting

There are four items in this setting: d1, d2, d3, d4. The value is between -100~100, default value is d1=d2=d3=100, d4=-100. The output signal is decided by TABLE 11.

| Stick \ Signal | CH2 | CH4 |
|----------------|-----|-----|
| AIL stick | D1 | D2 |
| ELE stick | D3 | D4 |

TABLE11 - Delta wing signal

Press **UP** or **DN** will change setting from V1 to V4. Press **INC** or **DEC** will increase or decrease the value. See CHART18.

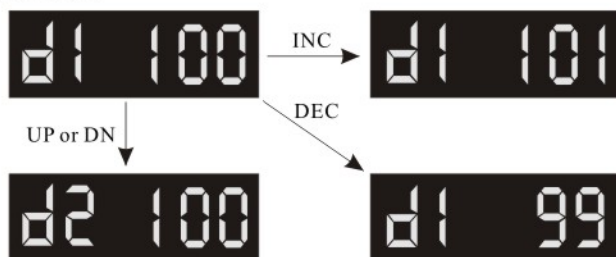


CHART18 - Delta wing mixture setting

10 Model Switch

KDS6X can support five models, each model has its own parameters. To switch among the five models, you should hold **UP** and **DN**, then turn on transmitter, then press **INC** till "S3 xx" is shown like CHART19.

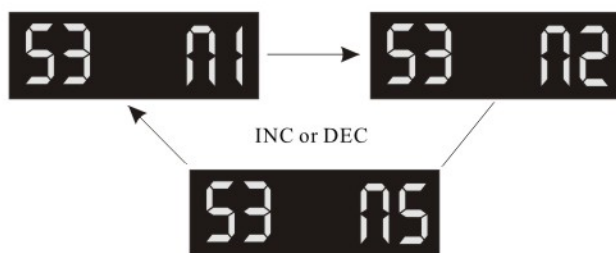


CHART19 - Model switch

Press **INC** or **DEC** will switch from n1 to n5 which indicate each five model. When some model is selected, press **UP** and **DN** simultaneously to return to normal using mode. Now the transmitter will load the parameters of your selection and all your settings will be saved into the model you selected.