NEON-SS FM

NEON
FM

**NEON-SS FM
INSTRUCTION MANUAL**

NEON-SS FM
Single stick radio

HiTEC

HiTEC

1 | Introduction

Congratulations, you now own one of the most unique and revolutionary radio control systems in the world. The Neon 3 was created for the beginner and seasoned R/C enthusiast to grow with your needs and skill level. The basic Neon can be upgraded with a variety of features like;

- A 4th channel two position switch
- Dual Rates
- ATV's on ch. 1 and 2
- A trainer port and switch package

Any way you customize the Neon, we are sure you will be satisfied with the performance of the radio system. Good luck and good flying!

2 | Features and Specifications:

Transmitter
Single Stick 3 channel, (upgradeable to 4 channel) FM proportional system
Dual axis precision gimbal
Adjustable gimbal stick length
Adjustable gimbal stick tension
3 LED battery status indicators
Charging jack for internal Nicad battery
Servo reversing function for channels 1, 2, 3 and 4
Elevon or V-tail mixing function
Proportional 3rd. channel slide switch
Channel 1 and 2 trim levers

Options
- Channel 4 three position switch, part # 54301
- Channel 1,2 and 3 ATV function. part # 54302
- Trainer plug and switch, part # 54303
- Channel 1 and 2 Dual Rate function # 54304
  (must use optional part 54304, ATV function, in addition to this option)

System Components

Receiver

Standard version includes Electron 6 channel Dual Conversion 6 channel FM receiver

- **- Size: 45.5 x 22.5 x 15.0 (mm) / 1.79 x 0.88 x 0.59 (inch)**
- **- Weight :17g(0.6oz) without X-tal / 13g(0.4oz) without case**

Micro version includes HFS-04MG 4 channel Single Conversion 4 channel FM receiver

- **- Size: 25 x 37.5 x 16 (mm) / 0.98 x 1.47 x 0.62 (inch)**
- **- Weight : 15.9**

Servo

Standard version includes two HS-81 micro servos

- **- Speed : .17(4.8V) /.14sec(6.0V)**
- **- Torque : 1.1(kg/cm) / 15oz at 4.8V**
- **   1.3(kg/cm) /18oz at 4.8V**
- **- Size   : 23 x 12 x 24(mm) / 0.90 x 0.45 x 0.94(inch)**
- **- Weight : .28oz/8.0g**

Micro version includes two HS-55 sub-micro servos

- **- Speed   : .11(4.8V) /.10sec(6.0V)**
- **- Torque : 2.6(kg/cm) / 36oz at 4.8V**
- **   3.0(kg/cm) / 42oz at 6.0V**
- **- Size   : 30 x 12 x 30(mm) / 1.2 x 0.47 x 1.2(inch)**
- **- Weight : .58oz/16.6g**

Accessories, all systems

One CG-25 or CG-22A overnight wall charger, part # 43025 or # 43022
One Switch harness, part # 54403
One AAA receiver battery box, part # 54402

## 3 Set-up and Operation

Transmitter

Opening the case

The case of your Neon is unique because it does not have
the traditional screws holding it together.
Instead we have created a "pull apart" case to facilitate
access to the inside components.
To open your case, slide the tabs located at the bottom
corners off and gently pull the bezel at the base of the
antenna up.
Now separate the two case half's while being careful of the
internal wiring harness to the throttle switch, unplug the wires
leading to the throttle switch, and you can now access the
internal components to add optional feature packages,
reverse your servos, or change the battery out.

OPEN   OPEN

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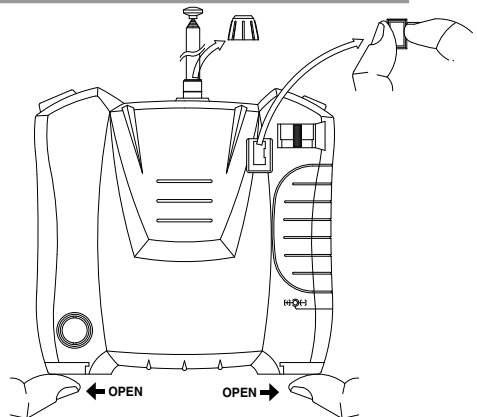
Reading the LED Battery Indicators

There are three indicator lights on the face of the radio marked High (green), Mid (amber) and Low (red).
These relate to the condition of your transmitter battery. Please pay attention to these LEDs and stop flying when
the red "Low" light is on.

Full Power : Green

Normal : Amber

Warning : Flashing Red
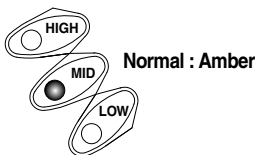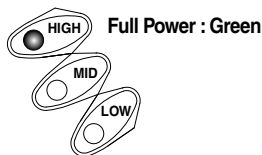
Recharging Nicad batteries

Your Neon transmitter is supplied with rechargeable Nicad batteries.
Before using the radio, plug the supplied CG-25 or CG-22A overnight wall charger into a normal household
120V or 220V.   AC wall socket. There are two leads on the CG-25 or CG-22A, the round one plugs into the
socket on the lower left side of the transmitter.   The green light on the CG-25 or CG-22A should glow, confirming
charging is taking place, leave it on charge for at least 18 hours. Once fully charged, the transmitter should
operate for about 120 minutes.   Typically you will charge the radio up overnight before flying the next day.
Do not leave the radio connected to the CG-25 or CG-22A charger for over 36 hours or permanent damage to
the transmitter battery pack may occur.

CG-25 or CG-22A

#54403 MICRO S/W HARNESS

#54402 AAA size RX Battery box

#57401 RX Nicad (Not included)
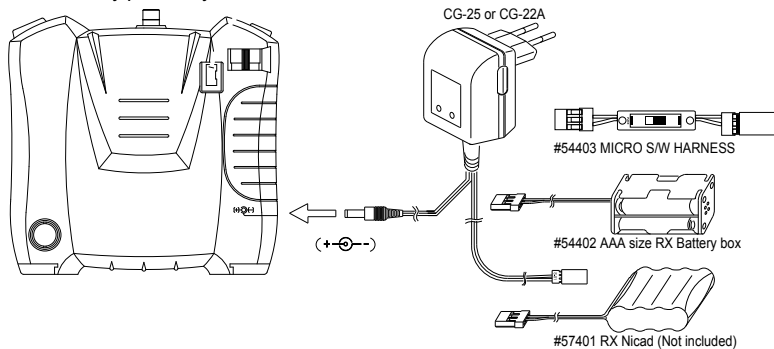
Transmitter antenna

Always have the antenna screwed in securely and fully extended when the transmitter is on,
except when doing a range check.

Elevon/V-tail mix

Your Neon transmitter has a "built-in" ch. 1 and 2 mix for flying wing
"elevon" controls and "V-tail" ruddervator controls.
This function is activated with the slide switch on the face of the radio.
There are two factors that determine what direction the servo will
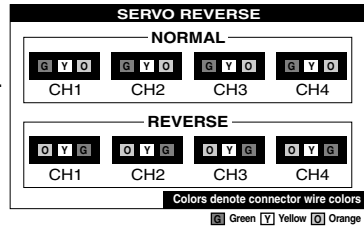move when the Elevon or V-tail mixing is selected.
-   Whether the servo is plugged into the ch. 1 or 2 port on the receiver
-   The servo "direction of rotation", selectable within the transmitter case.
Using these two functions it is possible to have the two servos move
in the directions required for Elevon or V-tail/Ruddervator control.
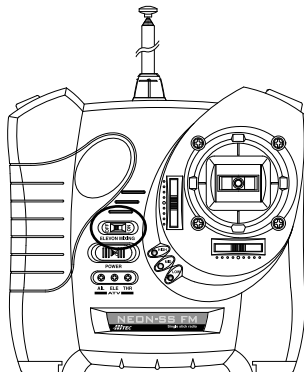
Servo Reversing

After removing the back of the case you will find three plugs
(there are four plugs if you have the optional 4th channel feature).
Simply unplug and rotate the connector 180 degrees,
plug it back onto the board and the servo throw for that servo,
is now reversed.

SERVO REVERSE

NORMAL

G Y O	G Y O	G Y O	G Y O
CH1	CH2	CH3	CH4

REVERSE

O Y G	O Y G	O Y G	O Y G
CH1	CH2	CH3	CH4

Colors denote connector wire colors

G Green Y Yellow O Orange

Gimbal stick length adjustment

The gimble stick is adjustable to suit your personal preference.
Hold the bottom half of the knurled knob and twist the
top half counterclockwise to loosen, adjust the length to your
satisfaction and twist the two pieces to lock them together.

A B
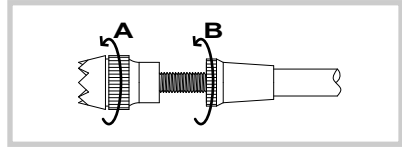
Throttle Function

The Neon 3 features a slide switch located on the back of the
transmitter, it is adjusted with your left index finger as your hand
naturally wraps around the radio case. Use this switch to get
 proportional control of your throttle servo, or ESC,
(Electronic Speed Control.)
Note: All ESC's connect to your receiver in the ch. 3 port.
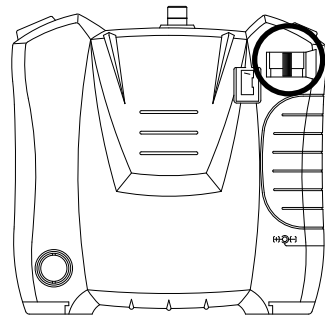
Installation of Receiver and Servos

Please refer to the aircraft manufacturers instructions on servo, receiver and battery placement within your aircraft.
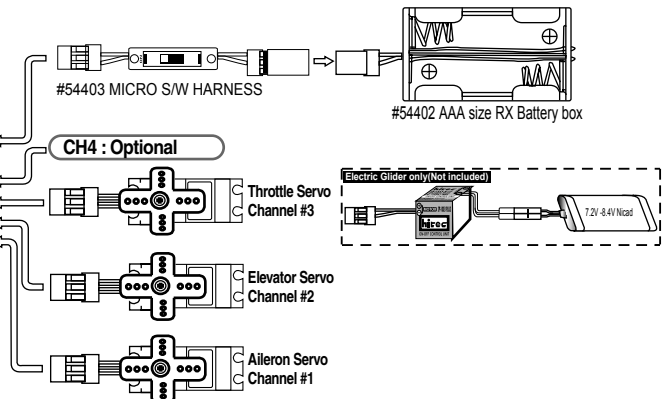
Channel 1 is Aileron or Rudder
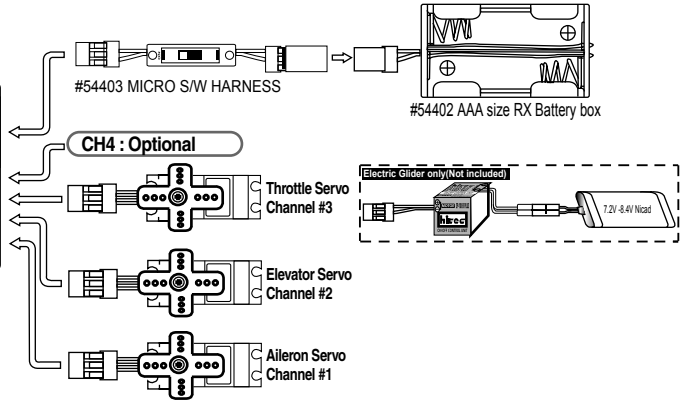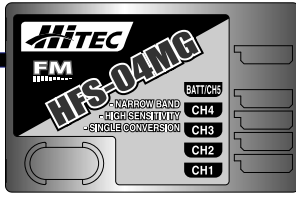Channel 2 is Elevator
Channel 3 is Throttle
Channel 4 is optional

GLIDER VERSION

#54403 MICRO S/W HARNESS

#54402 AAA size RX Battery box

ELECTRON 6
•MICRO RECEIVER •DUAL CONVERSION
FM
X-TAL
HiTEC

BATT/CH6
CH5
CH4
CH3
CH2
CH1

CH4 : Optional

Throttle Servo
Channel #3

Electric Glider only(Not included)

7.2V -8.4V Nicad

Elevator Servo
Channel #2

Aileron Servo
Channel #1

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MICRO VERSION

#54403 MICRO S/W HARNESS

#54402 AAA size RX Battery box

CH4 : Optional

Throttle Servo
Channel #3

Electric Glider only(Not included)

7.2V -8.4V Nicad

Elevator Servo
Channel #2

Aileron Servo
Channel #1

HiTEC
FM
HFS-04MG
- NARROW BAND
- HIGH SENSITIVITY
- SINGLE CONVERSION

BATT/CH5
CH4
CH3
CH2
CH1

Turning on your system

Before turning on your transmitter when at a flying field, ask about frequency control. If you turn on your transmitter when another person is flying on your frequency, the other plane will crash.

Always turn the transmitter on first, then turn on the receiver. Do the opposite to power down your system, doing this will avoid damage to your servos and linkages.

Servo trim settings

There are two trim levers on the face of the transmitter associated with channel 1, the aileron or rudder and channel 2, elevator. Center these trim levers before installing your servos. These trim levers are used to make minor trim adjustments while in flight, so the aircraft can fly straight and level. Do not use these trims to center a flight control surface while the plane is on the ground or before the first flight, those adjustments should be made with the control linkages before the plane fly's.

-When your plane does this   - Move trim like below
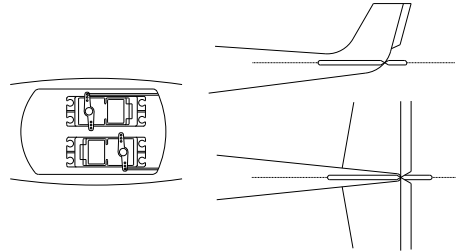
Checking servo operation

Proper servo linkage geometry is important, all control rods should be at a 90 degree angle to the servo case.
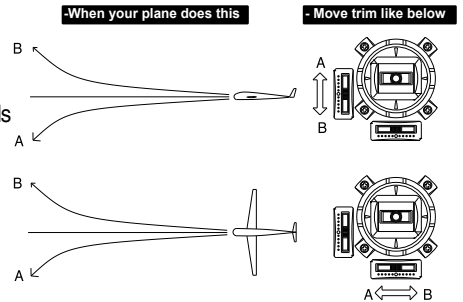
Range Check

Before flying your model conduct a range check.

Turn everything on and collapse the transmitters antenna so that one section remains sticking out.

While holding the transmitter, walk away from the model, you should have full control over the model without any glitching at least 65 to 75 feet away. If your range is less than this, do not fly, as there would appear to be a problem! Contact the Hitec service department and we will try to help you.

4   Neon Transmitter Options

Hitec offers several feature "up-grades" for the Neon radio transmitter.

### Trainer Port and Switch

Use:

The Neon can be upgraded with a trainer port and switch to help
with training new pilots. Using another Hitec radio and the Hitec
"trainer cord", part #58310 the two radios are linked together allowing
an instructor to safely teach a student how to fly. The trainer port is
also required to make the Neon compatible with Computer based
Flight Simulator programs.

Trainer switch

Installation:(#54303)

Remove the Transmitter antenna / Remove the back half of the case
Lay the trainer PCB in and screw to secure it.

Trainer jack

Install the trainer Switch and connect the wires to the trainer PCB (see picture).
Re-assemble
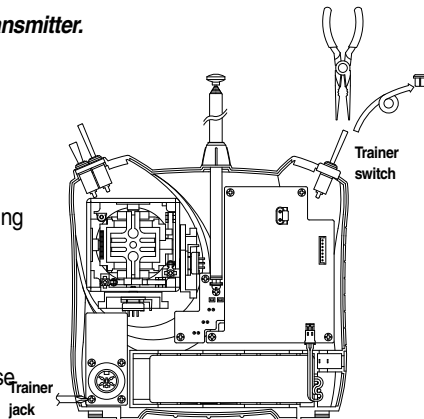
Ch. 1, 2 and 3 ATV (Adjustable Travel Volume) board

Use:

ATV pots are useful in setting-up new aircraft. Using the ATV option
allows you to adjust the "throw" or range of servo travel movement,
by turning the small "pot" on the face of the radio.
The Neon ATV function will work with ch. 1,2 and 3.

Screws

Installation:(#54302)

Remove the Transmitter antenna
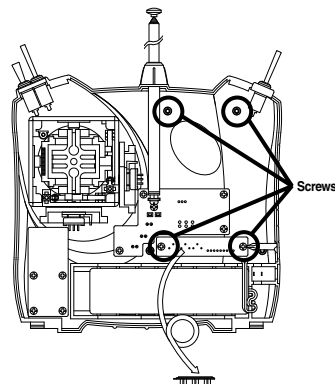
Remove the back half of the case

Remove the four screws holding the large brown circuit board

Shift the large brown circuit board up ¨ú of an inch

Lay the ATV pot board in and use the supplied screws to secure it

Route the wire harness up to the left and plug it into the large brown circuit board

Re-assemble

Ch. 1 and 2 Dual Rate Switch

Use:

Dual rate switch

A Dual Rate function that provides two different "rates" or
"servo travel throw" is available for ch. 1 and 2, this is
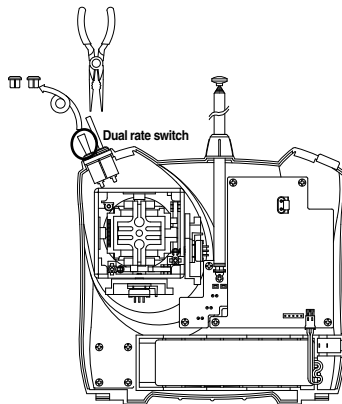useful to de-sensitize or limit the throw or travel of a servo.
*NOTE: The ATV option is package, part # 54302 is required to use
the optional Dual Rate function.*

Installation:(#54304)

Remove the Transmitter antenna

Remove the back half of the case

Install the dual rate switch and connect the wires to the main board
(see picture). Re-assemble

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4th ch. Switch

Use:

The Neon has an optional 4th channel, three position switch available

for a variety of functions including flap or spoiler deployment, bomb drop mechanisms and retracts.

Installation: (#54301)

Remove the Transmitter antenna

Remove the back half of the case

Install the 4th Ch. Switch and connect the wires to the main board (see picture)

Re-assemble

www.hitecrcd.com

English (영어)

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