Safety Direction

This model is not a toy! Error operation will cause danger! In order to operate safely please read followings:

Notice Before Installation

1. Make sure you have connected the battery polarity between transmitter and receiver correctly or you will damage the model.
2. You should use corresponding produces (such as transmitter, receiver, ESC and other optional parts) produced by PERFECT company. We don't take any duty on the losing by using other company's products.

Installation Precaution

1. The product is designed for remote control model only. Never use for other settings.
2. Make sure to use transmitter crystal and receiver crystal only produced by PERFECT company. Other crystal may cause losing control if you change frequency.
3. If you are using Nicad batteries, charge before using. Otherwise it will lose control for shorting electricity.
4. Make sure you have connected all installation correctly. The loosen connection will cause the model losing control.
5. Install the receiver with thick double glue. Intensive oscillation and strike will cause the model losing control.
6. Never cut the antenna or truss it with other wire. Otherwise the sense of the receiver will reduce and the servo will get damaged.
7. Make sure to use the shockproof washer while installing the servo. The oscillation will damage the servo and cause it losing control.

Operation Precaution

1. Ensure the frequency before turning on power switch. Some models using the same frequency will result in running out control.
2. Avoid using it at thunder storm day. The lightning may strike the fittings through the antenna.
3. Avoid using it in swamp place. Serious damp will cause the model losing control.
4. Never use the model in following surroundings:
   Near other telecontrol vehicle circuit (in 10 meters).
   Near the crowd or run on the pavement.
   Near the wire and other communication installation.
   Once the model loses control it will cause danger.
5. Extend the wire to the longest place or the signal will reduce and cause the model losing control.
6. Make sure you have stopped engine operation and cut the motor wires off before test and modify the function setting.
7. Remember to turn on the transmitter and receiver orderly while starting. And oppositely while turnoff. Otherwise you may cause the model losing control.
8. Let other people know your frequency while operation.
9. Never touch the engine, motor and ESC if they are heat or you will burn yourself.
10. The transmitter sends high frequency signal. Never touch the antenna while using.

Notice After Operation

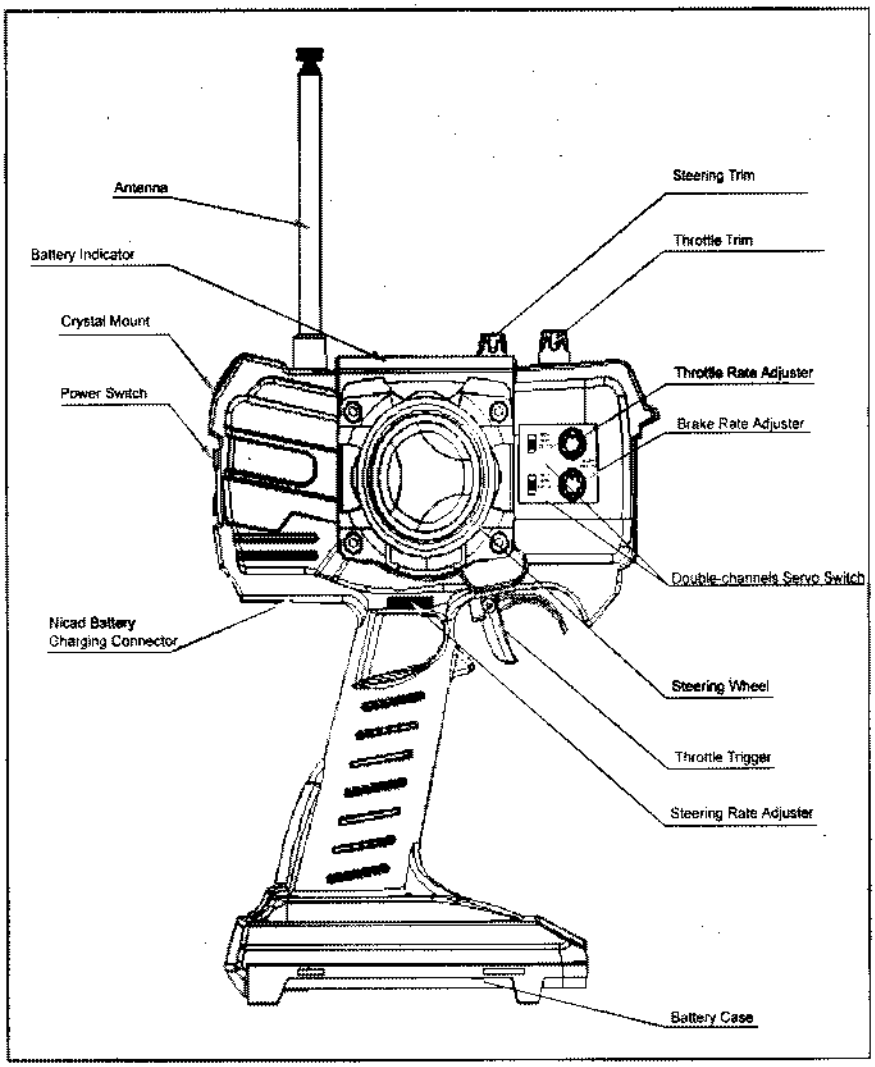
1. Make sure to cut off the Nicad batteries after using the electric model vehicle. Otherwise the power switching on will cause fire and the model will lose control.
2. Put the transmitter, battery and the model out of children's reach! Otherwise the chemical material will hurt them.
3. Take the batteries out if you don't want to use them for a long time.
4. Never store the transmitter in following places:
   ① Tempreture over 40℃ and below -10℃.
   ② The sun shines directly.
   ③ High dampness.
   Storing the model in the surrounding above will cause incorrectly operating and cause the model losing control.

Charging Precaution

1. Never let the battery short circuit or put it into fire or you will cause fire and danger.
2. Never let the batteries shake fiercely. Otherwise the batteries will be damaged and cause short circuit and fire.
3. Never let the batteries get wet or charge while the batteries are wet. Otherwise it will make them too heat and cause damage.
4. Make sure to use the PERFECT charger correctly and use proper charging current. Avoid over-charging. Otherwise you may damage the batteries and cause fire and serious accident.

Catalogue

1. Whole Model Introduction Diagram



Welcome to use SMARTECH series. With high quality and advanced technology, 30133 product will make your model optimal performance.

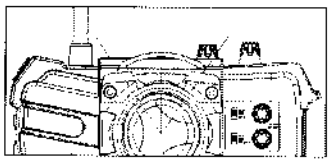
2. Character and Function

FM double-channels R/C system
Double-channels servo front&rear switch
Three battery indicator lights
Steering rate adjuster
Steering trim
Throttle rate adjuster
Brake rate adjuster
Throttle trim
Nicad battery charged interface
Steering adjusting wheel position can be transposed into left hand and right hand expediently.

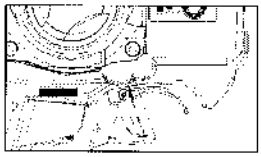
(1) Steering wheel
The steering wheel can be rotated 35 degree from left and right. (See picture 1)

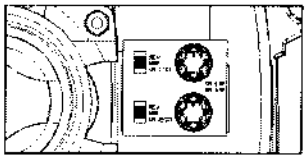
(2) Throttle trigger
Throttle trigger can move 20 degrees forwards and backwards. (See picture 2)

(3) Servo reverse
The servo can reversely revolve with its reversed switch.
The servo can revolve clockwise when the switch is on the 'NOR' position.
The servo can contrarotate when the switch is on the 'REV' position. (See picture 3)



Picture 1

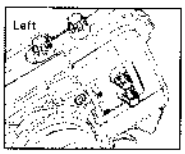

Picture 2


Picture 3

(4) Steering trim
Rotating the left button on the top can obtain neutral position of the steering servo. (See picture 4)

(5) Throttle trim
Rotating the right button on the top can obtain neutral position of the throttle servo. (See picture 5)

(6) Steering rate adjuster
The steering servo routing can be adjusted between its 30% -100% approximately.
Adjusting knob can rotate 300 degrees.
The routing of the potentiometer will increase when revolving right and will decrease when revolving left. (See picture 6)



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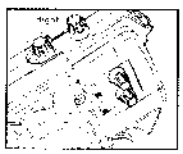
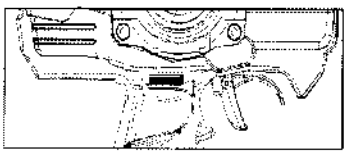

Picture 5


Picture 6

(7) Throttle rate adjustment
The throttle servo routing can be adjusted between its 30% and 100%.
Adjusting knob can rotate 300 degrees.

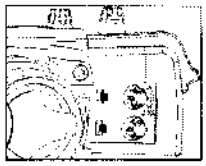
When revolving clockwise the routing of the knob will increase.
The routing will decease while contrarotating. (See picture 7)

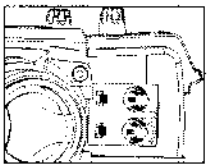
(8) Brake rate adjustment

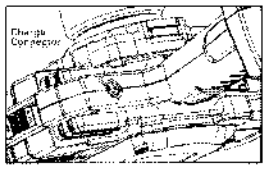
The throttle brake servo's routing can be adjusted between its 30% and **100%.**
Adjusting knob can rotate 300 degrees.
When revolving clockwise the routing of the knob will increase.
The routing will decease while contrarotating. (See picture 8)

(9) Charging connector

Notice: You can charge only when the power is turned off. Slide the switch downwards to turn off the power. The charger can only charger to the chargerable batteries. Using other type of batteries will damage the equipment or be dangerous to the person. (See picture 9)
Never charge to the unchargerable batteries.


Picture 7


Picture 8



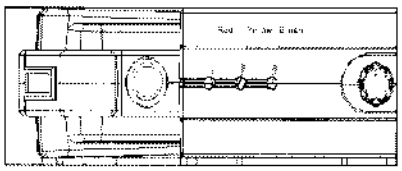
Picture 9

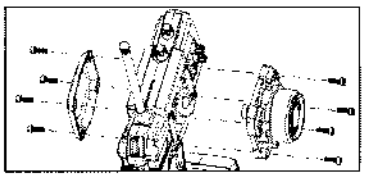
(10) Power indicator lights

You need to change or charge the batteries **when the LED** only shows **yellow and red.**
Never operate the batteries when the LED only shows red since the electricity is very **weak** when the yellow and green lights isn't lightened. (See picture 10)

(11) Transpose wheel direction

You can change steering wheel position if you want to operate by your left hand. (See picture 11)

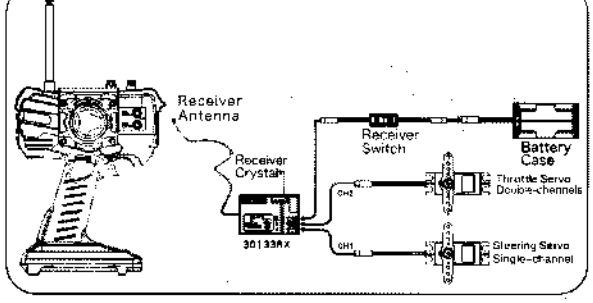

Picture 10


Picture 11

3. System Configuration

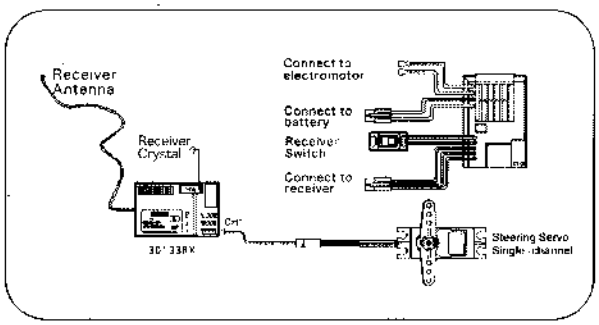
Configure and connect the system by following figures.

(1) Tank vehicle configuration(BEC function) (See picture 12)



Picture 12

(2) Electrical vehicle configuration with electron speed adjuster (See picture 13)



Picture 13

4. Installing Operation

To avoid unnecessary lose, please read following instruction carefully before installing.

a. Install batteries

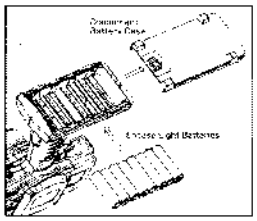
You need 8 alkaline batteries or Nicad batteries.

1. Open the battery cover by the picture.
2. Fix on 8 batteries and take care to the polarity.
3. Push down the battery cover to close it.

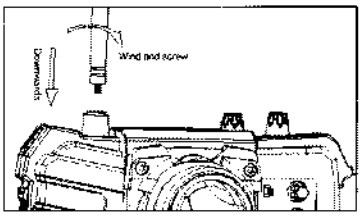
If you use Nicad batteries, please use SMARTECH intelligent charger (NO.40108) to charger for 1-5 hours. (See picture 14)

b.Antenna installation

Install the antenna by the picture and screw it tightly.
Make sure you have installed the antenna correctly and pulled to the longest position before using. Or the controlling distance will be affected and your model will be damaged. (See picture 15)



Picture 14



Picture 15

c. Install the receiver and servo

30133RX Receiver

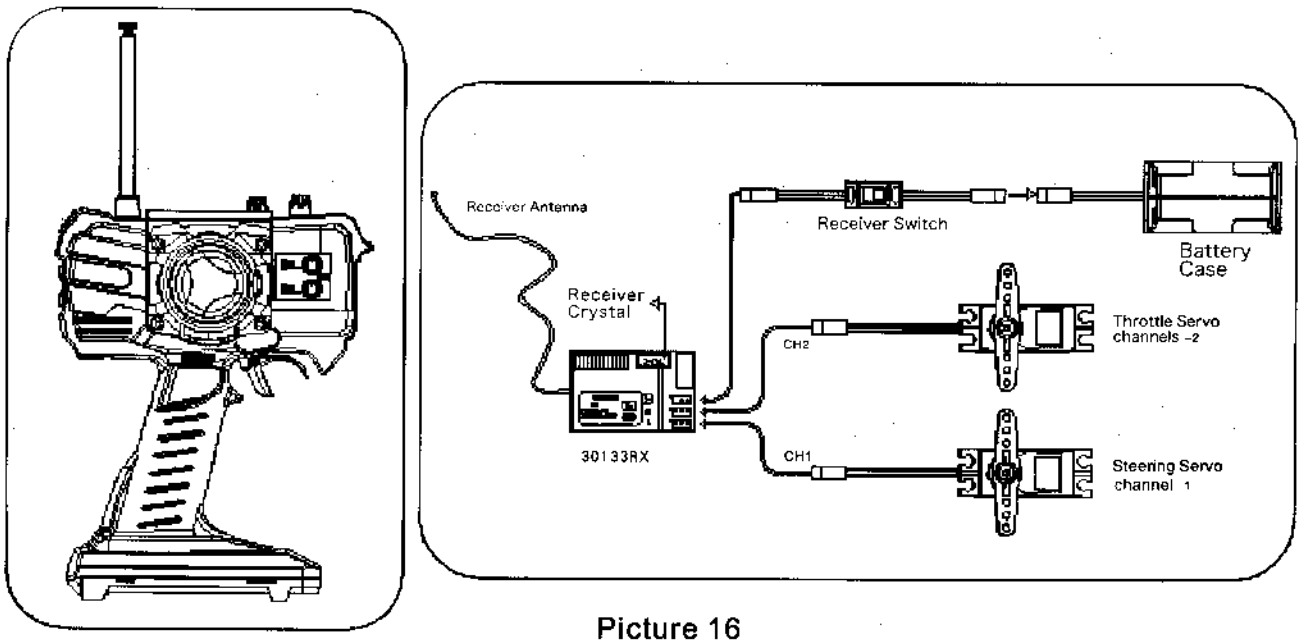
Without Battery Elimintor Circustry (BEC) system, the receiver only need 4 dry cells and 5 Nicad piles (6V). Too high voltage will damage the receiver and servo.

With Battery Elimintor Circustry (BEC) system, the circuit have voltage regulators. You can use 4 dry cells or 4-7 Nicad piles (4.8-8.4V) to charge for the receiver. When the receiver has voltage regulators it will charge for the servo. Too high voltage will damage the receiver and servo.

Avoid using one power for receiver, motor and engine at the same time.

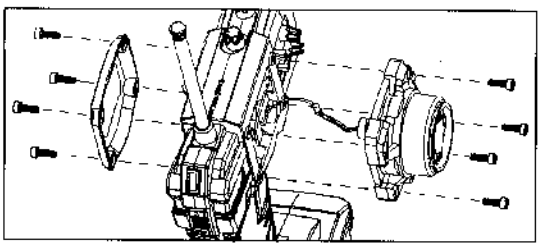
(1) Push the connecting switch on OFF position.
(2) Insert the switch connector into the receiver BATT groove.

(3) Plug throttle servo connector into CH2 channel.
(4) Plug direction servo into CH1 channel.
(5) Install 4 AA alkaline battery into battery case (or BEC system : 4-7 CELL Nicad piles; without BEC system: 5 CELL Nicad piles) and connect the port with the receiver switch interface.
(6) Check whether the receiver crystal suit with transmitter crystal.
(7) Turn on the transmitter.
(8) Put servo switch on "ON" position. (See picture 16)

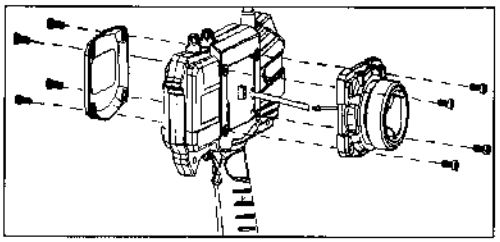


Picture 16

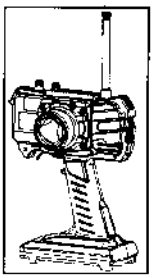
d. Transposing direction and steering wheel position
(1). Tweak 4 inner hexagon screws on steering wheel fixer.
(2). Take out steering wheel slightly and plug out the pin by picture. (See picture 17)
(3). Tweak 4 inner hexagon screws on rear fixing board.
(4). Insert adjusting wheel pin into CH1 socket and fix the screw. (See picture 18)
(5). Fix the rear board on the steering wheel position. (See picture 19)



Picture 17



Picture 18



Picture 19

5.Technical spec

Transmitter 30133TX	Output power	<100mw
	Frequency	27MHz
	Modulation	FM
	Power supply	12V
	Current drain	<250mA
	Dimension	178x95x230mm
	Weight (Battery not included)	390g
Receiver 30133RX	Receiver sensivitity	<2uV
	Channel selectivity	50dB
	Intermediate frequency	455KHz
	Power (with BEC system)	DC (6V) or (4-7 Nicad)
	Power (without BEC system)	DC (6V) or (5 Nicad)
	Current drain	<30mA
	Dimension	53x34x26mm
	Weight	26g
Servo 30102	Torque	3.0kg.cm
	Speed (6V)	0.34 sec/60°
	Dimension	56x20.2x42.5mm
	Weight	42g

6. Packing accessaries

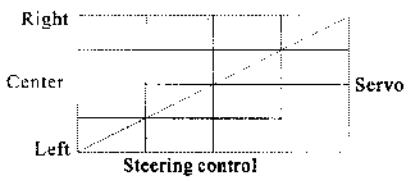
Transmitter	30133TX 27MHz	1PCS
Receiver	30133RX 27MHz(with BEC system)	1PCS
Servo	30102	2PCS
Switch case		1 set
Servo rocker		4PCS
Receiver battery case		1PCS

7. Product service and guarantee

Our product have tested strictly before shipment. If the product is damaged not by manmade actor please contact with our dealer. The customs will take responsibility for the damage caused by your error operation. If you have any question while installing and debugging please contact with our dealer. We will warmly service for you. We will constantly improve and upgrade SMARTECH product without prior notice. Finally, we hope that you can enjoy yourselves with our R/C products.

30133TX

User's Manual



Digital Proportional Double-channels R/C System

SMARTECH®