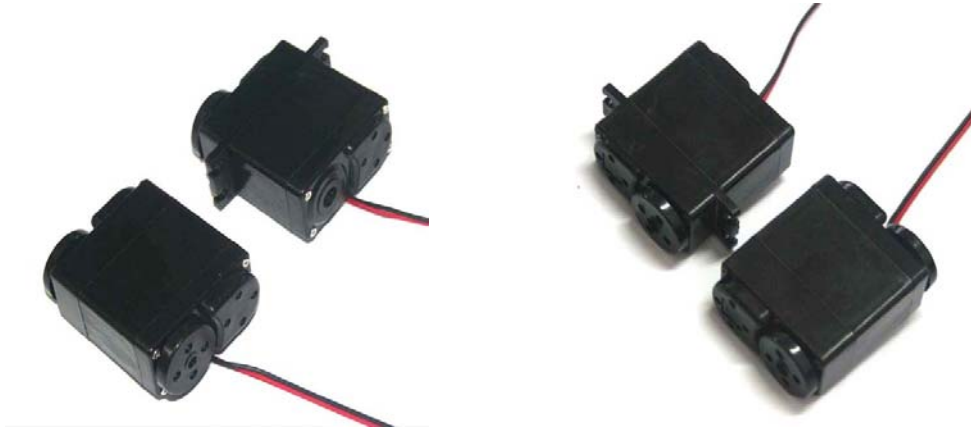


# RBZ-606MG RF DIGITAL SERVO MOTOR MANUAL V0.9

## 1. 제품 설명

RBZ-606MG is the RF Digital Servo Motor with the Zigbee wireless Module used when controlled by the 1 : n. one group can constitute 255 Servo Motors and control them owing to the possibility to alter the RF channel into 16 channels and to be changed up to 255 IDs. **Communication speed is 9600bps, No Parity, 8 data bit, 2 stop bit.**



## 2. How to set

A user can set up ID, RF Channel, and RX mode of this product as he or she likes.

Let's check each term

**\*\* RF Channel** : RF Channel indicates it is possible to be used as 16 groups in a space. The Channel that you can choose ranges from 0B to 1A (0B, 0C, 0D, 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A)

**\*\* RX mode** : This Motor has the RX(reception mode) you can choose. "02" does the reception mode.

**\*\* ID :** ID signifies the figures which can be set in a RF Channel. 254 IDs can be set in total, that is to say, ID can be set from 0x00 to 0xFE, and if there are a few modules that share the same ID, they operate simultaneously.

## Setting

1. By USB cable between the RF Motor USB Port and a computer
2. Installing the driver of the RF Motro to PC (The driver is available by the download)
3. Executing the communication program (Hyper-terminal) in a PC
4. There are three commanding values in the RF Servo Motor

Instruction words (Capital letters are required)

**S:** The value for setting module

**G:** The value for conforming the present state of module

**X:** The value for resetting

**H:** The value for the menu of help

First of all, in the terminal window,

**>> G → Press the Enter key**

1234 FFFF FF 0B 01 00 02

Please utilize the part of 1234 as the Fan ID Default.

Utilize the part of FFFF as the Short Address Default,

Utilize the part of the FF as the REV Default.

“ 0B ” mentioned above indicates the RF Channel and it can be set from 0B to 1A.

“ 01 ” is the setting part of TX or RX (If you want TX mode, set "01" or if RX, set "02": fixed Value of servo motor ). Although you set other values that can be seen as different forms of value on the monitor, only "01" or "02" is fixed as value beforehand.

“ 00 ” is the part in which the SUB-ID is set from 00 to FE (not used)

“ 02 ” is for ID setting ranging from 00 to FE

>> S → It is used when you set the key for the sake of your convenience according to a certain form

After setting in the following order of ASCII (American standard code for information interchange) style below, Please click the Enter

>> S1234FFFFFF0B0015510000020002 → Enter

#### << Part description >>

S 1234      FFFF      FF      0B      0015510000      02      00      02

(Fan\_ID) (Short Addr) (REV) (RF Channel) (Setting Value) (RX/TX) (Sub\_ID) (ID)

- \* The part of RF Channel can be set in the range of 0B to 1A
- \* In RX/TX mode, "01" means TX, and "02" is RX mode(servo motor value)
- \* The part of SUB\_ID Part can be used from 00 to FE(not used)
- \* ID Part can be utilized from 00 ~ FE

### 3. Instruction Packet

Instruction Packet is the packet which the main controller sent through the TX module(ZBS-200). The structure of Instruction Packet runs as follows.



Instruction Packet → Start, LENGTH, Fan\_ID, ID, Sub\_ID, INSTRUCTION, Value, Check\_SUM, End

→ The signification of each byte constituting Packet runs as follows. (Fan\_ID is 16bit)

ex) Start, Length, Fan\_ID, ID, sub\_id, command, value, check\_sum, End

0xAA 0x06 0x12 0x34 0x02 0x00 command, value, check\_sum, 0x55

ex) 0xAA 0x06 0x12 0x34 0x02 0x00 0x41 value(0xDD) 0x6E 0x55

(The TX module → Transmission through the RF Servo Motor)

#### Command

0x40(speed) : The RC servo motor-speed-controlling value

0x41(degree) : RC servomotor-angle-controlling value

0x43(Motor Position) : When reading the analogue value(Position) coming from the RF Servo Motor

0xff(Broadcast) + 0x00 ~ 0xfe → Setting the angle of the RC servomotor connected to every module

ex) When read Motor Position from RF Servo Motor

0xAA 0x06 0x12 0x34 0x02 0x00 0x43 value(0x00) 0x6E 0x55 (TX Module)

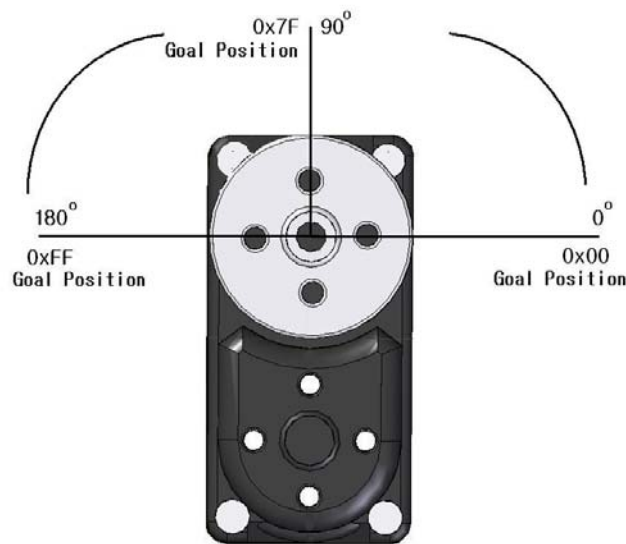
### ex) Return Value (Motor Position)

0xAA 0x06 0x12 0x34 0x02 0x00 0x42 value(position) 0x6E 0x55 (Received Value)

0x42(status command) : signifies the Motor Position Command coming from the RF Servo Motor

0x02(ID) : Motor ID

Value(Position) : Motor Position Value ( 0x00 ~ 0xff)



### Command + Value

0x40(speed) + Value → 10ms + Value

0x41(degree ) + 0x00 ~ 0xfe → Setting the angle from 0 ~ 180 degree(For Servomotor)

0xff(Broadcast) + 0x00 ~ 0xfe → Setting the RC-servo-angle connected with every module

0x43(Motor Position) : The instruction word when reading at the RF Servo Motor

Packet Instruction >>

0xAA 0x55 --> The foremost 0xAA is the starting sign of Packet, 0x55 is End Packet

ID --> The ID of Motor. The ID of motor can be made to 254 from 0x00 through 0xFD

Broadcasting ID --> ID 0xFF is Broadcast ID that sets the whole connected motors

The Packet whose ID is set as 0xFE is very beneficial to every connected motor. At

this time, the Status Packet do not return.(if you want to read the Status Packet

from the RF Servo Motor, you can use command(0x43)

LENGTH --> The length of Packet.

Check\_Sum = Length + Fan ID\_H + Fan ID\_L + ID + sub\_id + command + value

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\* Reference: TX mode is ZBS-200 when you control the RF Digital Servo Motor. ZBS-200 is not included in this RF Servo Motor Product.