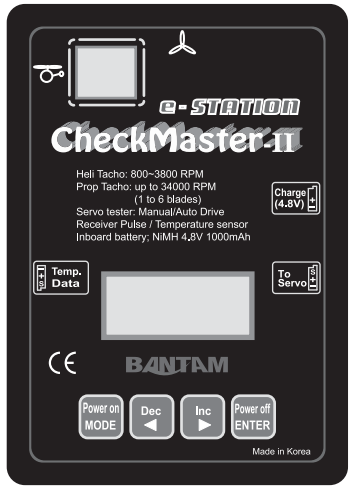
Operating Instructions

CheckMaster-II



Servo operation tester: auto/manual, servo load current(Amp.)
ATV 10~100% adjustable
Tachometer: 1 to 6 blades, up to 10 data memories
Rotor blades tachometer: 800 to 4000 RPM
up to 10 data memories
Temperature sensor: 0 to 120 degree (C)
On-board battery: NiMH 4.8V 1000mAh

BANTAM
Hobby Technology

Thank you for purchasing the 'CheckMaster-II which has every function you desire to check out at your applications. With new 'CheckMaster-II', you can test any brands of servo for the pulse sent to the receiver, current-load and proper movement. And it has very accurate optical tachometer to read out the RPM of running propeller or helicopter rotor blades.

Please read this entire operating instructions completely and attentively as it contains a wide variety of specific programming and safety information.

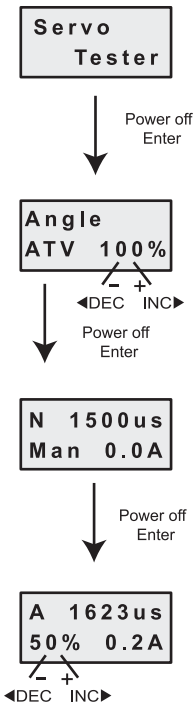
You need to keep this manual in a safe place, and be sure to pass it on to the new owner if you ever dispose of the device.

Charging the unit

The unit has its own internal NiMH battery pack of 800mAh, 4.8V to supply the power to the circuit. It is essential power source to perform the servo test, tachometer. The charging port is located at the left-side of the unit and is designed to accept Futaba-type male jack. The charging port contains a diode that can prevent from short-circuit. Before using the unit, charge it with any rapid charger capable of charging a 4 cells of NiMH battery at about 1.0A of charging current.

The unit has automatic power-off function after 10 minutes of inactivity. In one minute of inactivity, the back-light will go off to save the energy of internal battery.

Servo Test



Press Power off / ENTER button to execute.

Set ATV(Adjustable Travel Volume)

Set ATV using ◄DEC or INC► button. To operate the servo at its maximum travel set it 100%.

Manual movement mode

a. You can operate the servo by pressing ◄DEC or INC► button manually.

b. Press ◄DEC button to move the servo to the left end point. The value should be 2100us at the end. Or, press INC► button to move the servo to the right end point. The value should be 900us at the end.

c. To test the neutral point, press ◄DEC or INC► button until the movement stops. The value will be 1500us.

Automatic movement mode

a. Press Power off / ENTER button once to change the mode to 'Automatic'.

b. You can start to move the servo by pressing ◄DEC or INC► button. The servo will move from the right end point to the opposite end point automatically.

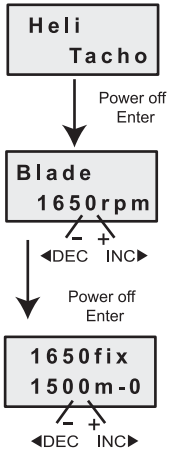
c. By pressing ◄DEC or INC► button, you can increase or decrease the speed of movement.

d. To stop the movement of servo, press Power off / ENTER button once. The program goes back to 'manual mode' and the servo stops to move.

Measuring Receiver Pulse

Because of limited circuit and microprocessor, this function has been suppressed at this verion of unit.

Heli Rotor blade RPM



There should be no obstacles between the helicopter and the optic sensor. The helicopter needs to be hovering steadily during the measurement. Pay attention to rotating rotor blades, do not get closer to the helicopter unnecessarily. Keep your hands and all equipment away from the rotating rotor blades.

Press Power off ENTER button to start the procedure.

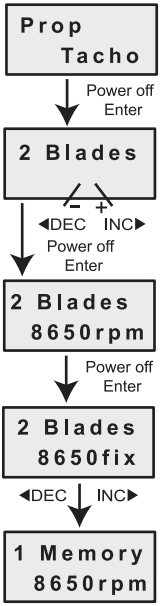
a. Look at rotating rotor blades through the view finder. The image may flickering because the timing of rotating drum is not matched with the RPM of rotor blades. The initial value is 1500RPM. Adjust the timing until the image stays in still using ◄DEC or INC► button.

c. When the image does not flicker press Power off ENTER button once to store the RPM to the memory. The memory can hold up to 10 data.

d. Using ◄DEC or INC► button, you can read out the data from the memory by number. These data will automatically be cleared by terminating the procedure.

e. Press Power on MODE button to finish the procedure.

Propeller Tachometer



There will be no obstacles in front of the sensor. Pay attention to rotating propellers, keep your hands and all equipment away from the rotating propellers. The RPM may not be checked at the environment of dim light or indoor. Fluorescent lights in the vicinity of the propeller can commit erroneous readings. If you can not make the procedure outdoors, use an incandescent light or flashlight to get a true readings.

Press Power off ENTER button to start the procedure.

a. Set the number of propeller blades being measured by pressing ◄DEC or INC► button.

b. Start to read RPM by pressing Power off ENTER button.

c. During the reading, the incidental data can be stored to the memory by pressing Power off ENTER button once. The memory can hold up to 10 data.

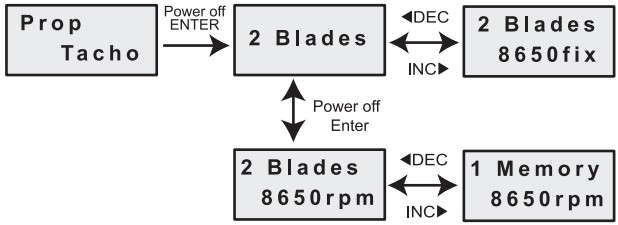
d. Using ◄DEC or INC► button, you can read out the data from the memory by number. These data will automatically be cleared by terminating the procedure.

e. Press Power on MODE button to finish the procedure.

Read Data from 'FlightRecorder'

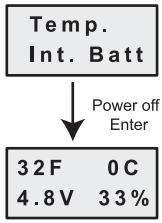
This program is for reading the data from 'FlightRecorder' that can be purchased separately.

a. Connect 'Data in' port of this unit to 'Data link' port of 'FlightRecorder' using 3-pin cable.
Press Power off ENTER button to read out data which are recorded at the memory of 'FlightRecorder'.
b. You can see the first data had been stored by time sequence. They are current consumption(A) and volt(V). Use ◄DEC or INC► button, to see the next or previous data.
c. Press Power off ENTER button, to read the data of RPM and temperature. Also use ◄DEC or INC► button to see the next or previous data.
d. To finish the program, press Power on MODE button once at any time.



** FlightRecorder is not available for the time being.
It will be released soon.

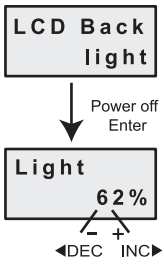
Temperature Sensor and On-board Battery



You can read the temperature of battery, engine head or your speed controller etc. using the 'surface-contact-sensor'. The temperature will be displayed in Centigrade and Fahrenheit degree.
The voltage and the capacity residue of inboard battery also are showed at the display simultaneously. If the voltage is less than 4.5V you need to charge the on-board battery by anyway.
Press Power off ENTER button to start.

a. Connect the sensor cable to the port of 'Temp. sensor' on the left side of the unit.
b. The sensor should contact the surface of the thing you are going to read the temperature.
c. To stop the program, press Power on MODE button once.

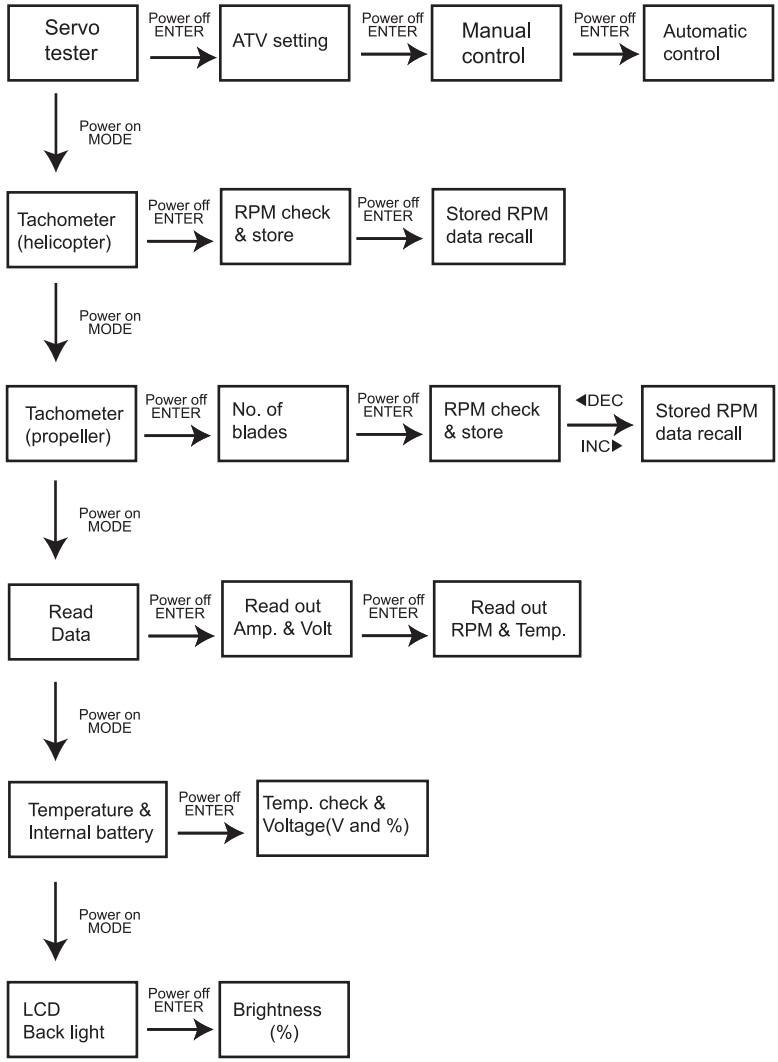
LCD back-light Brightness



You can control the brightness of LCD back-light.
Press Power off ENTER button to start.

a. Using ◄DEC or INC► button, adjust the brightness. (0 to 100%)
b. To end the program, press Power on MODE button once.

Program Flow Chart



Specification

Servo operation tester:	auto/manual servo movement signal pulse 900us~1500us~2100us servo load current (Amp.)
Propeller tachometer:	1 to 6 blades, up to 34000 RPM up to 10 data memories
Rotor blades tachometer:	optical rotating drum, 800 to 3000 RPM up to 10 data memories
Temperature sensor:	0 to 120 degree (C)
On-board battery:	4.8V, 800mAh NiMH
Weight	210 grams
Dimension(WxHxD)	80x113x27 mm

Warranty and Service

We warrant this product for a period of one year (**12 months**) from the date of purchase. The guarantee applies only to such material or operational defects, which are present at the time of purchasing the product. During that period, we will repair or replace without service charge any product deemed defective due to those causes. You will be required to present proof of purchase (invoice or receipt). This warranty does not cover the damage due to wear, overloading, incompetent handling or using of incorrect accessories.

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Electrical equipment marked with the cancelled waste bin symbol must not be discarded in the standard household waste; instead it should be taken to a suitable specialist disposal system.

Date of :

Dealer :

BANTAM