NCTB800 User's guide

Ver 2.2 (2016)
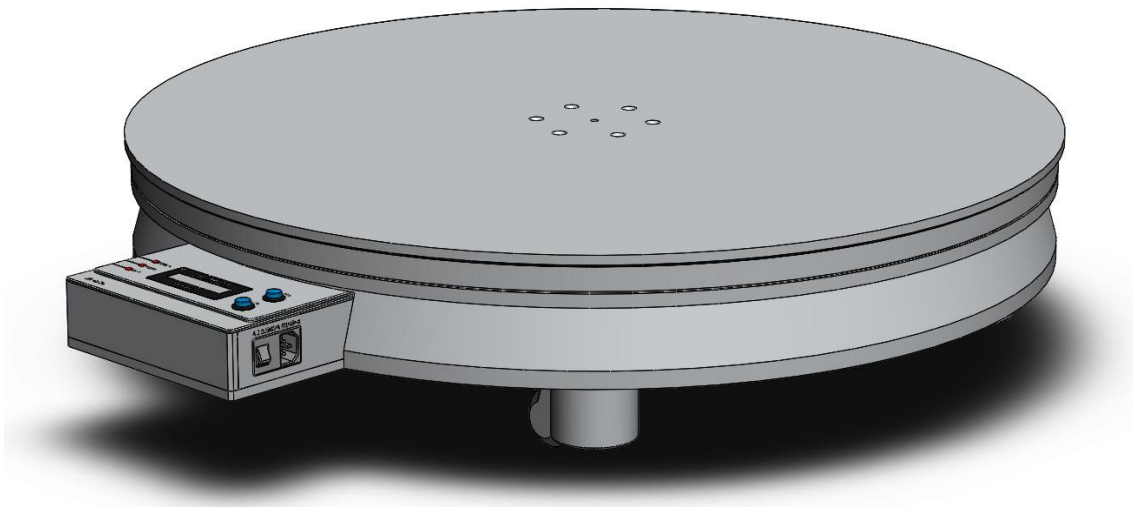
Contents

1. General description

2. General precautions

- Avoid using the machine in extremely dusty place, and keep it out of both direct sunlight and rain.
- Do not expose the machine to high temperature or high humidity.
- Do not clean the machine with other organic solvents. Use a soft, dry cloth only with alcohol.
- Use only rated voltage AC220V in 50/60Hz.
- Use only enclosed USB interface cable. Use of any other cable will void the warranty.
- When then machine is not being used for a long period of time disconnect the AC code.
- Do not try to disassemble the NCTB.
- Place the center of weight of subject on the center of tumblers as possible as you can. If not, Payload will be reduced.
- The maximum for length of USB Cable is 3m.
  Use external USB Hub when you need longer one than 3m.
- Be careful not to be impacted when moving.
- Install tumblers horizontally.

3. Getting started

(1) Connecting the AC power

Connect the AC code to the NCTB as described below.

Turn on the Power switch of the NCTB.

(2) Connecting the USB interface cable

Connect the NCTB to the computer as described below.

When connecting then NCTB to an IBM-compatible computer, no need to install any USB driver. NCTB is recognized as HID (Human Interface Device).

Insert the flat connector (A type USB connector) on the enclosed USB interface cable into the USB port on the computer.

Insert the square connector (B type USB connector) on the enclosed USB interface cable into the USB port on the NCTB.

(3) Software install

Install the following program with enclosed CD-ROM.

- OVR win v1.5 later

[Before installation]

Check that your system configuration meets the following requirements.

Computer: IBM PC or compatible

Operating system: Pre-installed with Microsoft Windows XP, Vista, Windows 7, Windows 10

Hard disk free space: At least 20MB

Available memory: Minimum 32MB

Monitor: VGA or higher graphics card

USB port (installed as standard equipment)

[Installing OVR win]

Install **OVR win** software on a PC as described below.

- Insert the enclosed CD-ROM into the computer's CD-ROM driver.
- A dialog box automatically appears. If the dialog box does not automatically appear, click "My computer" on desktop, find out CD-ROM drive and then double-click "Setup.exe".
- During installing, check the new version of **OVR win** in our web site. (Any information about the user does not be transmitted.)

- Install and ignore of warning.

- Now you can see, **OVR win** is running.
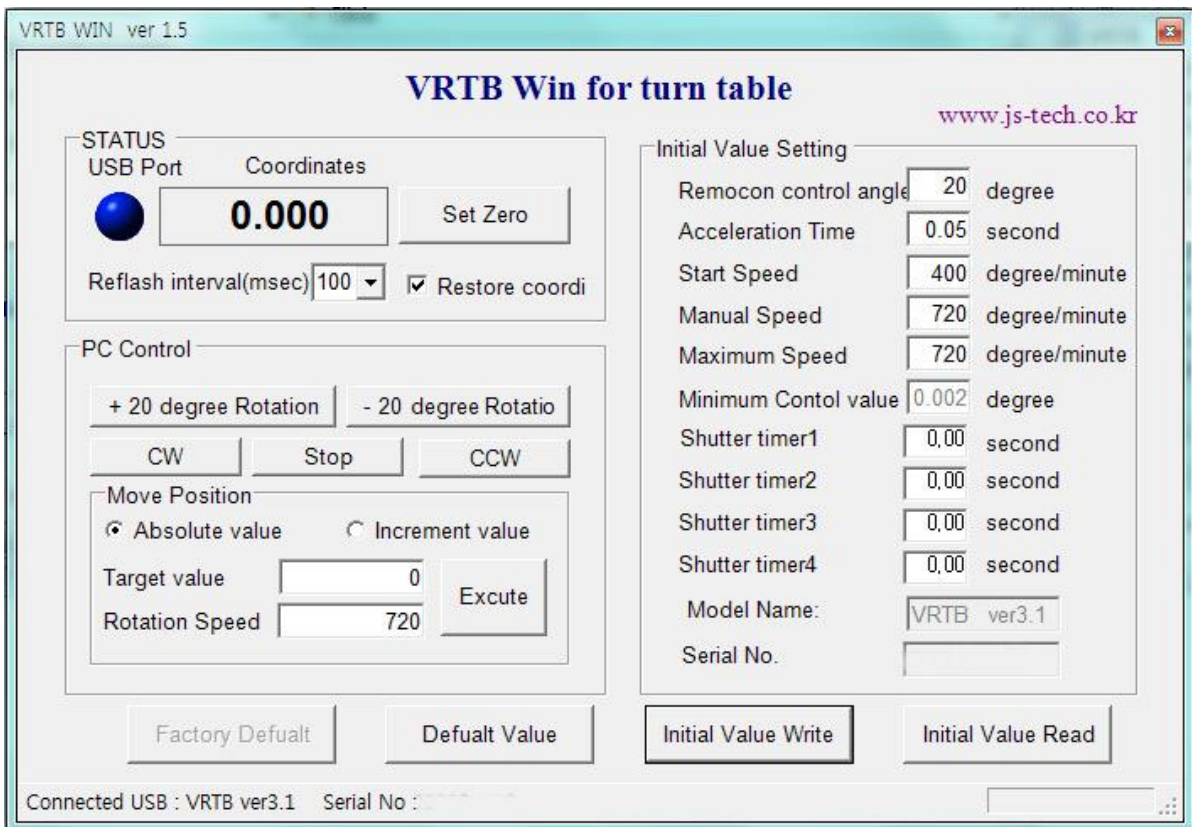
[NCTB Initial Value]

If you operate OVR Win, you can see the picture as above.

The explanation of Initial Value Setting on the right is following as below.

Remote control angle	The turning angle when pressing once the button of remote control.
Acceleration time	The time from the beginning of operating to the maximum speed.
Start Speed	Starting speed of the motor.
Manual Speed	The speed of operating by the remote control.
Maximum Speed	The highest speed of operating
Minimum Control value	The smallest angle of controlling
Shutter timer 1	Shutter release output control timer : T1
Shutter timer 2	Shutter release output control timer : T2
Shutter timer 3	Shutter release output control timer : T3
Shutter timer 4	Shutter release output control timer : T4

* The speed of operating cannot be faster than Maximum speed and slower than Start speed.

* T1~T4 = 0 : not use shutter release out

Shutter release time flow chart

ϕ3.5 audio jack
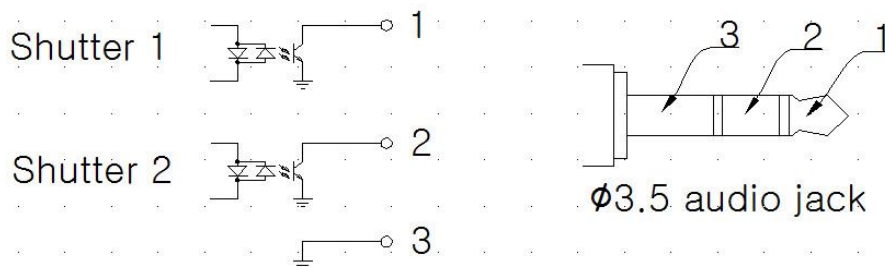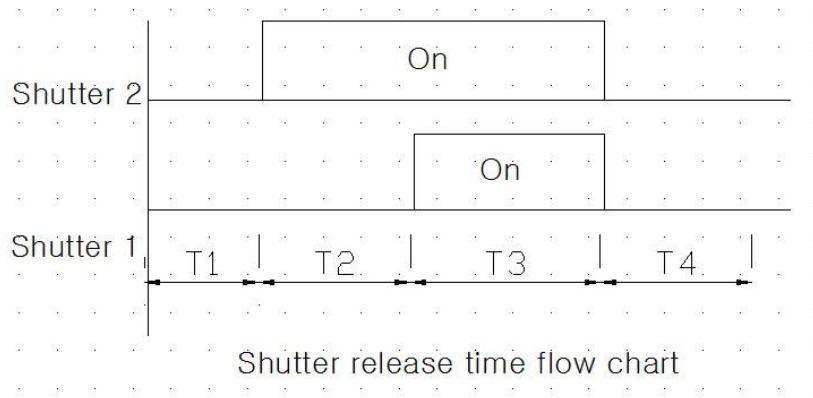
4. Using the machine

● If you connect the designated AC code and turn on the Power s/w, Ready LED will be working with the sound 'beep".

● If you press once the button of RF Remote control, the angle which is already made (a unit is 20) will turn by the designated unit. But if you press the continuously, the angle will also turn constantly by the designated unit.

● The speed of turning and the basic angle can be changed on OVR Win program.

● When the computer is being connected with USB and OVR Win is running, you can see the changed coordinate by handling the remote control and the PC control.

[Function description]

● S type symmetry acceleration

The acceleration of speed graph has the shape of S type curve.

● Prohibition for chopping wave of speed graph

When moving at short distance between acceleration and retardation, chopping wave of speed graph is prohibited

● Function of Ring Count (0~360 degree)

The coordinate of **NCTB** will be changed from 359.990 to 0.000. The reverse is the same.

● The function of mobile for the shortest distance

If there is a way of moving from a present angle position of 10 degrees to 350 degrees, it does not turn 340 degrees clockwise, but turn 20 degree counterclockwise.

Accordingly, if the amount of turning is larger than 180, it will turn in the opposite direction.

5. Maintenance

NCTB is needed to be checked at least once a year and supplied with grease on the designated place as following drawing.

Dissemble the tumbler

● When dissembling, clean up at the clean place to keep the internal of product from dust.

● Turn off the Power, wait one minute until the voltage can be discharged and then dissemble.

● Loosen the bolt with Wrench (4mm).

● Dissemble the tumbler.

● Supply with the grease on the designated place (Worm gear).

Greace injection
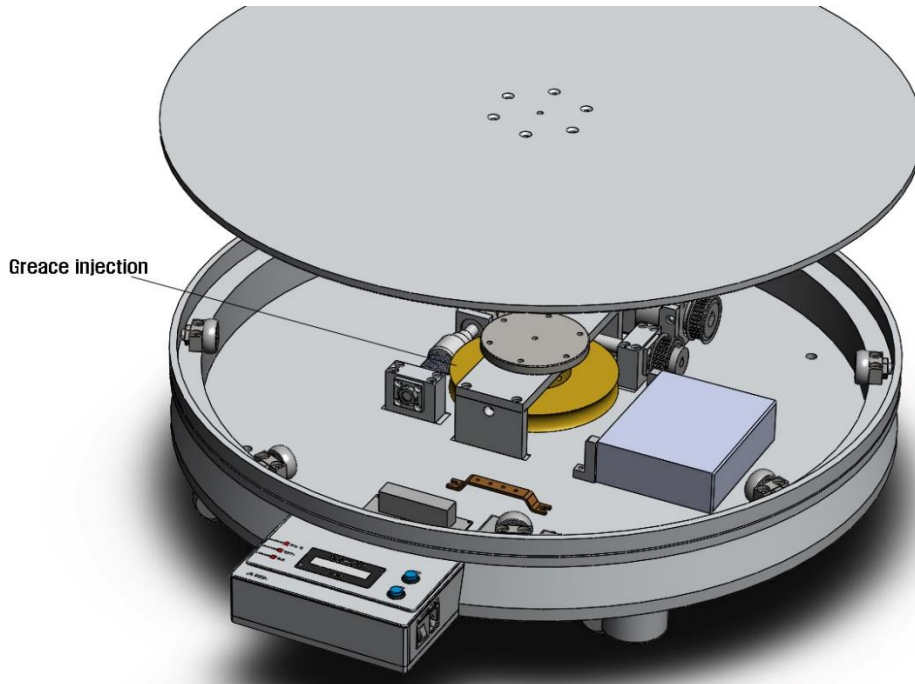
6. Troubling shooting

‐ Bearing checking (Bearing life cycle : 20,000 ~30,000 hour)

‐ Worm gear checking (Greece injected once a year.)

‐ If the buzzer sounds within one second after turning on the power s/w and the READY LED is not working, that would be an electronic circuit error. Please request A/S.

‐ When the motor is turning, there is only sound or it is not working smoothly,
If there is no mechanical problem, modify Start speed, Maximum speed and Acceleration time on OVR win.

7. Machine specification

1	Power	AC 220V/2A, 50/60Hz
2	Weight	60Kg
3	Dimension	800 * 895 *190mm(h)
4	Payload	300Kg
5	Gear Type	Worm Gear (Zero Backlash, double gear)
6	Gear Ratio	60:1 + 10:1
7	Motor	BLDC Servo motor (200W)
8	Max Speed	5 turn/min (RPM)
9	Accuracy	$4/1000^O$
10	Repeatability	$1/10^O$
11	Controller	1 axis NC Controller (iCAM1 USB)
12	Communication	USB 2.0
13	Order Code	ISO6983 NC Code (G code, M code)
14	Include Parts	USB Cable(3m), Remote S/W AC cable

8. Machine dimensions