

Equatorial Mount

Temma 2 *Temma 2 Jr.*

INSTRUCTION MANUAL



TAKAHASHI

Thank you for your purchase of the Temma2/Temma2Jr. equatorial mount, into which a sophisticated go-to system is built. Before attempting any go-to operation, please read this instruction manual carefully, and familiarize yourself with every part and its functions. Then, you can enjoy a lifetime of comfortable observation with the mount.

[Note]

This manual explains how to operate the Takahashi Temma2/Temma2Jr. Go-To System. Concerning how to operate Takahashi equatorial mounts mechanically, please refer to their own attached manuals.



WARNING

NEVER ATTEMPT TO LOOK AT THE SUN DIRECTLY THROUGH THE TELESCOPE OR FINDER. DOING SO WILL CAUSE INSTANT BLINDNESS DUE TO THE INTENSE LIGHT AND HEAT OF THE SUN.



CAUTION

- When you attach the tube assembly onto the mount, do it very carefully so as not to drop it or pinched. It could result in accidental pain.
- Do not set the mount in a unsteady place. Doing so may possibly cause the mount to fall down, resulting in injury.
- The counter-weight is rather heavy, so be careful not to injure yourself when setting it in place.
- Be careful not to be pinched by the clamps when turning the mount.
- Do not use on rainy days. No water proofing is provided with the mount, so water may cause damage to the electronics. Dry it completely before using it.

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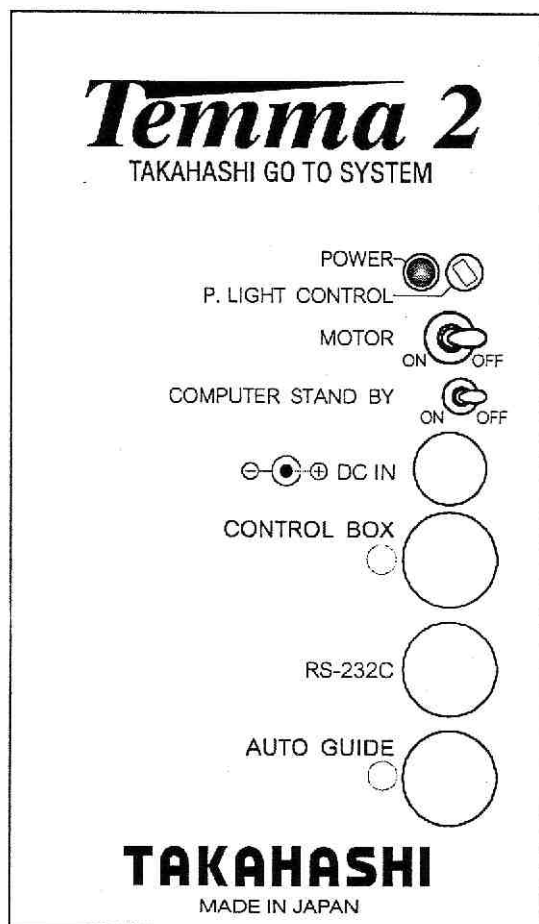
Specifications

Application :	EM-10 Temma2Jr., EM-200 Temma2Jr. EM-200 Temma2, NJP Temma2 EM-500 Temma2		
Drive System :	Dual axes, quartz control Driving frequency: 100pps (200pps for NJP)		
Usable Area :	All over the world, but with limit for the latitude for some models		
High Speed Drive :	Working voltage	DC12V	DC24V
	EM-10 Temma2Jr.	120X	250X
	EM-200 Temma2Jr.	120X	250X
	EM-200 Temma2	350X	700X
	NJP Temma2	175X	350X
	EM-500 Temma2	260X	520X
Correcting speed :	RA: 0.1 ~ 1.9x to the sidereal rate by 0.1x increments		
(manual operation)	Dec: $\pm 1.5 \sim 13.5$ arc sec/sec by 1.5 arc sec/sec increments		
Power Source :	DC12V or DC24V		
Power Consumption (sidereal rate/ high speed)	Working voltage	DC12V	DC24V
	EM-10 Temma2Jr.	0.25/0.88A	0.22/0.9A
	EM-200 Temma2Jr.	0.28/0.94A	0.26/1.94A
	EM-200 Temma2	0.42/0.94A	0.35/1.07A
	NJP Temma2	0.44/0.71A	0.35/0.84A
	EM-500 Temma2	0.52/0.73A	0.39/0.76A
Go-To Operation :	By a PC or THC hand controller optionally available.		
Accessory :	Pegasus 21 disk , RS232C cable		

These specifications are subject to change without notice.

Layout of the Control Panel

◆ Control Panel



Power:

When the power switch and the Computer Stand By switch are flipped at the ON position, the power light turns orange. When the Computer Standby switch only is flipped to the ON position, the light turns green. When both switches are off, the light turns off.

P-Light Control:

The brightness of the illuminator can be adjusted by turning the P-light set screw. Turn the adjuster screw slowly to get proper brightness. Adrupt turning may cause the adjuster damaged.

Computer Stand By:

This is the switch that can momorize the current position of the mount when the motor is turned off. Before starting observation, turn the Computer Stand By switch on and then flip the motor switch to the ON position.

DC IN:

Power connector for 12V DC or 24V DC power source.

Control Box:

Hand control box connector receptacle.

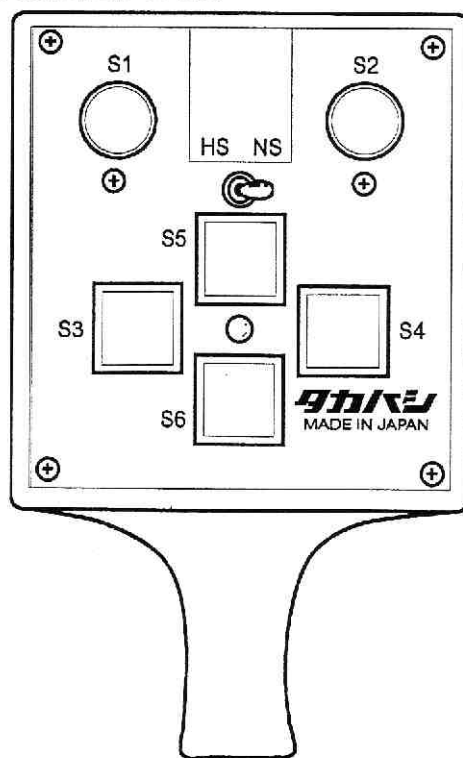
RS-232C:

RS-232C cable, which connects the go-to mount to a PC, connector receptacle.

Auto Guide:

Auto guider cable connector.

◆ Control Box



S1, S2 [Shift Keys]:

These buttons are used to change the motor driving mode.

Motor Driving Mode Switch [HS/NS]:

These buttons are used to switch the motor speed: HS = High Speed NS = Normal Speed

S3, S4 [R.A. Direction Button]:

These buttons are used to drive the mount in the R.A. direction and to change the motor driving mode as well.

S5, S6 [Dec. Direction Button]:

These buttons are used to drive the mount in the Dec. direction and to change the motor driving mode as well.

Driving Mode Indicator: This is an LED located at the center of the R.A. and Dec. correction buttons. It turns on red at High Speed Mode and green at Normal Mode or correcting operation.

◆ Motor Drive Switching Operation

● Sidereal / Solar

When the power switch is on, the motor drives at the sidereal rate.

*Sidereal Rate: Flip the Driving Mode Switch at the HS position. Press the button S6 while holding the button S1.

*Solar Rate: Flip the Driving Mode Switch at the HS position. Press the button S5 while holding the button S1.

● Correction Speed Switching

When the power switch is on, the motor drives at the sidereal rate. When each correction button is pressed, speed up to the R.A. direction by 1.9X and slow down by 0.1X, and to the Dec. direction by 13.5 arc sec/sec.

Slow down to the R.A. direction:

Flip the Driving Mode Switch at the NS position. While holding the button S1, press the button S4. Every time the button S4 is pressed, the motor speed is slowed down by 0.1X to the sidereal rate.

Speed up to the R.A. direction:

Flip the Driving Mode Switch at the NS position. While holding the button S1, press the button S3. Every time the button S3 is pressed, the motor speed is up by 0.1X to the sidereal rate. The maximum speed up will be 1.9X and slow down 0.1X to the sidereal rate.

Slow down to the Dec. direction:

Flip the Driving Mode Switch at the NS position. While holding the button S1, press the button S6. Every time the button S6 is pressed, the motor is slowed down by 1.5 arc sec/sec.

The minimum driving speed will be 1.5 arc sec/sec either on speed-up or slow-down.

Speed up to the Dec. direction:

Flip the Driving Mode Switch at the NS position. While holding the button S1, press the button S5. Every time the button S5 is pressed, the motor speeds up by 1.5 arc sec/sec. The maximum speed up will be 13.5 arc sec/sec either on speed-up or slow-down.

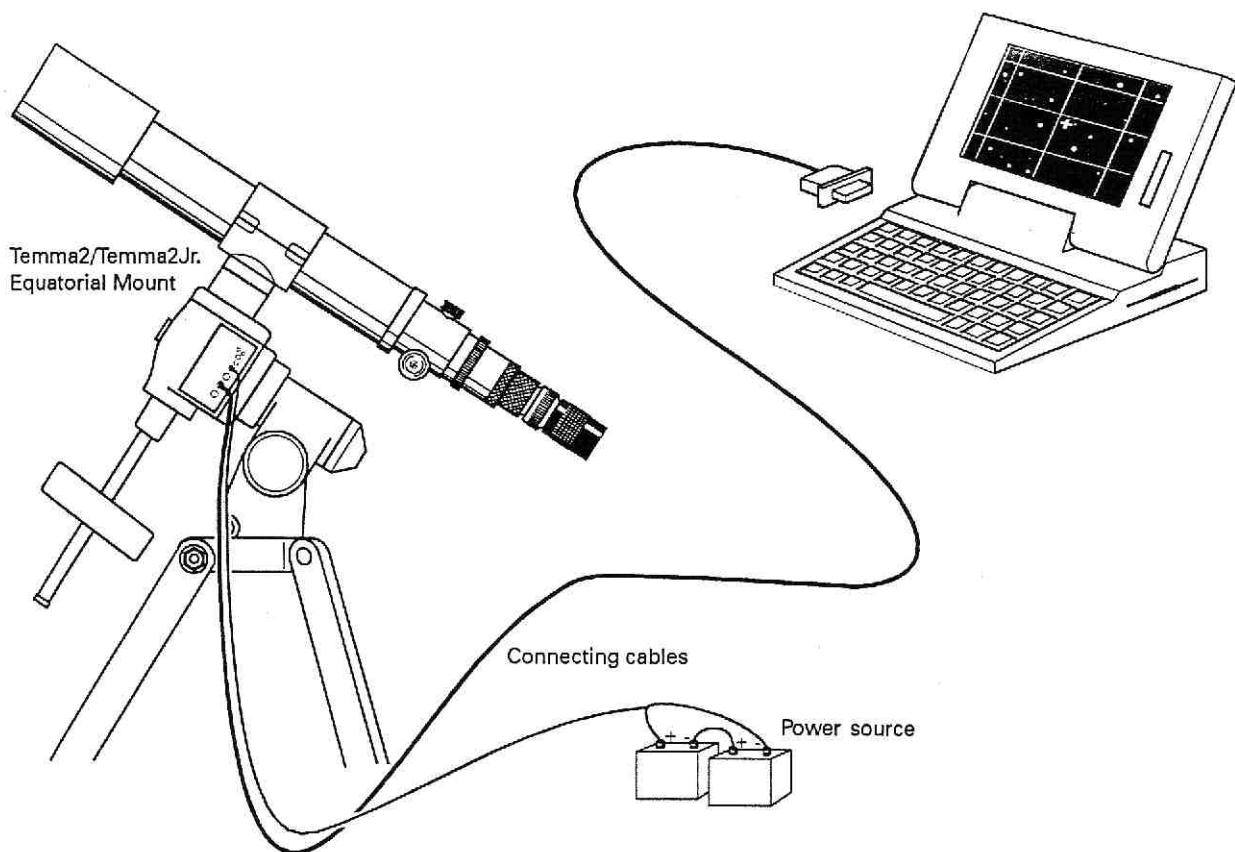
● Southern Hemisphere Operation

When the power turns on, the motor drives for the Northern Hemisphere operation. In order to use the motor drive for the Southern Hemisphere, flip the Computer Stand By Switch at the ON position while holding the button S1. Then, the motor drives for the Southern Hemisphere operation.

Procedures for Go-To Operation

Do go-to operation by Temma2/Temma2Jr.

1. Install the Pegasus21 disc into a PC.
2. Align the go-to mount precisely. When the highly accurate alignment is required, do it as precisely as possible. Go-to accuracy is entirely up to the polar alignment.
3. Connect the go-to mount to a PC with RS-232C cable provided.
4. First, turn on the go-to mount and then turn a PC switch on. Then, actuate go-to disc.
5. Now follow the instructions described in the Pegasus21 manual.



● S2 button

When the direction buttons (S3 ~ S6) are pressed while pressing the S2 button, the encoder signals for the direction given by the direction buttons are cancelled and then the correction drive can be done. This is useful to correct the position of the object brought off the center of the view field by go-to operation, without modifying the coordinate of the object.

* In the R.A. direction, the coordinate of the object can vary due to the backlash of the gearing. In this case, reset the position so that the pointer and the coordinate synchronize each other.



Cautions

- When an object near the zenith is the target, the tube assembly and the observing gears will possibly touch the tripod. Especially when a long tube assembly is used, be certain, before starting go-to operation, that the tube never touch it.
- Be certain, before operation, that go-to can be done safely. You must be always ready for an emergency.
- The go-to mount will give out emission, which may affect medical instruments.

Information

THC (Temma Hand Controller) is optionally available. You can do go-to operation by this controller without a PC. For further details, please refer to the THC instruction manual.

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