Daylight Savings – Keypad v4.19.3 or Earlier

Overview

Many parts of the world observe daylight savings, which requires turning clocks back in the Fall and forward in the Spring. Our keypad does not automatically make this shift.

We offer several options for dealing with these time changes. Please review them all and decide which approach you will use.

AutoConnect Set to NO and You Prefer the Keypad to Display the Local Time

In order to make the Daylight Savings change, you must change BOTH the current local time and the daylight savings setting in order to keep the Keypad's time consistent and correct.

Begin at step 3 in the document below: "Resetting Daylight Savings and Time in the Spring and Fall"

AutoConnect Set to YES and You Prefer the Keypad to Display the Local Time

In order to make the Daylight Savings change, you must change BOTH the current local time and the daylight savings setting in order to keep the Keypad's time consistent and correct. Please refer to the "Resetting Daylight Savings and Time in the Spring and Fall" section below for detailed instructions.

Roland Christen's Approach

Consider this option if you only use the Keypad to control the mount, not in conjunction with a computer.

If you want to use the keypad as your watch, then set the time and daylight savings to the current conditions using one of the procedures above. However, you don't really have to change the time in the keypad, just leave it alone. The keypad will always send the correct time to the mount regardless if you change the clock in the spring or fall.

Winter time (0 daylight savings) of 12 noon is exactly the same as Summer time 1pm (1 hour daylight savings time). The keypad does NOT send 1 pm to the mount in summer. It first subtracts the 1 hour from 1pm and sends 12 noon to the mount. So either way, the keypad sends the exact same time to the mount. This displayed local time, however, will not match your watch.

Personally, once I set the keypad time, I never change it, except to update the minutes or seconds over the course of a year or so. Even then, that's not necessary because once you have done a Recal on your first star, all other objects are referenced from that position, not from time.

Those who like to use external programs to set the exact time in the servo and then use that to set the keypad will have to make sure that daylight savings is updated in summer . If you really want to make it easy, use universal time rather than local time, and you avoid all the daylight savings issues.

Consider Setting Keypad to GMT (UTC)

Howard recommends that you keep everything (Keypad, computer) on GMT (a.k.a. UTC - Coordinated Universal Time), which is time zone zero (0). Forget about changing the daylight savings settings, and leave it permanently on 0=Winter for no adjustment.

As astronomers, we should all be very comfortable with UTC. Staying on UTC avoids a whole host of issues. The one caveat is that ALL devices that communicate with the mount need to also be on UTC – the computer, and everything else. The computer should be dedicated to your astronomy programs so that you are not tempted to adjust the time.

Refer to the procedure in the instructions below: Setting Keypad to GMT (aka UTC)

Resetting Daylight Savings and Time in the Spring and Fall

Like longitude, time zones are measured from the Prime Meridian. Time zones are entered into the keypad as positive numbers, even though time zone 01 for central Europe is certainly different from time zone 01 for Iceland (2 hours different). The keypad knows the difference because of the longitude value you enter, in particular, whether it is E or W. Daylight Savings settings allow you to keep the keypad's clock correct with respect to both your current local time and GMT without having to use a "fake" time zone setting. When the clocks change in the fall and spring, you must change BOTH the current local time and the daylight savings setting to the correct values to keep the keypad's time keeping consistent and correct.

This procedure will allow you to maintain your pointing accuracy when changing the clock in your keypad to accommodate the semi-annual Daylight Savings time changes. This full procedure assumes that you have your keypad's Auto-connect feature set to "YES". If it is already set to Auto-Connect "NO", you can proceed to step 3.

!!Please note: Incorrect time settings are a common operator error. You MUST enter the time in 24 hour format! This is a common error when setting up in the evening. Use the correct local time as displayed on your watch AND be sure you have the correct daylight savings setting.

1. Power up your mount as normal. You can go to an object and then center and re-calibrate if you wish.
2. Set your Auto-Connect feature to "NO"
    a) 2 = Setup
    b) 3 = Keypad Options
    c) Press the "1" to toggle to 1 = Auto- Connect: NO
    d) Press "Menu" 2 X to return to Main Menu
3. Set the tracking rate to "8 = T: Stop" by successively pressing the "8" button from the main menu.
4. Send the mount to any AP Park Position (v4.19.3 or later) or to Park 1 (v4.17 or earlier)

    a) 2 = Setup
    b) 4 = Park / Mount Opt
    c) Press number corresponding to desired park position
    d) Wait for the mount to slew to the Park position
    e) Press “Menu” 3 X to return to Main Menu - mount will unpark, but tracking is stopped
5. Change Time and Daylight Savings settings
    a) 2 = Setup
    b) 1 = Locations & Time
    c) 2 = Date & Time
    d) Enter new time data and DST setting. You MUST use 24 hour clock format.
    e) Press “GO TO” to save. You should hear a beep to confirm
    f) DO NOT go to any objects or re-park the mount at this point!
6. Power down the mount and wait about 10 seconds.
7. Power the mount back up
8. At the prompt, enter your location number and then press “GO TO”
9. From the next menu:
    a) Choose 4 = New Setup (v4.19.3 or later); select Start from Park Position (choose same as chosen in #4 above), or
    b) Choose 4 = Resume Ref Park 1 (v4.17 or earlier) and the Main Menu should appear.
10. Set the tracking rate to “8 = T : Side” by pressing the “8” button once.
11. Go to your first object. You should be dead on.
12. Restore your preferred Auto-Connect setting if needed.
13. Once you have completed the procedure, go to the Main Menu and press “4=TIME/LST”. Make sure that both your local time and GMT values are correct. If they are, you have done everything correctly. If not, repeat the procedure.

Setting Keypad to GMT (aka UTC)

Running everything on UTC is a great way to do things if the laptop is completely dedicated to astronomy endeavors. Professional astronomers all generally set everything including their lives to UTC. The main thing to remember is that EVERYTHING needs to be set to UTC. Normal commercial software intended for amateurs will often want to default you to a time zone. Once you have everything set up though, it’s awesome.

1. From the Main menu, press 2=Setup
2. From the Setup menu, press 1=Location & Time
3. From the Location & Time menu, press 1=Site Location Data
4. On the next screen, enter the relevant site number, and then press GoTo
5. In the screen that follows, be sure to set the Time Zone = 00
6. Press GoTo to save
7. ***You MUST do this (steps 3 - 6) for all sites that you have entered

8. After the last GoTo save, press Menu to get back to the Location & Time screen.
9. Now, from the Location & Time menu, press 2=Set Date & Time
10. In the Set Date & Time screen, set the time to the current UTC time.
11. Press GoTo to save.Hint: I often round the time up to the next minute and then watch my PC clock until it rolls over to time my press of the GoTo button. That way, they are time-synced, at least for a short while.
12. Press Menu to get back to the Main menu.
13. Press 4=Time/LST.
14. Verify that Local time = GMT
15. DONE!! Don’t forget to set your astronomy computer to GMT.