

Notes and Procedures regarding Sage ENDEC and Daylight Savings Time February 21, 2007

Background

From 1987 until 2006, most portions of the US observed daylight savings time (DST) from the first Sunday in April to the last Sunday in October. Starting in 2007, DST will start the second Sunday of March, and end the First Sunday in November.

As with many products, the Sage ENDEC was programmed for the old rules.

DST old start	DST new start	DST old end	DST new end
First Sunday in April	Second Sunday in March	Last Sunday of October	First Sunday of November
Was April 1, 2007	Is March 11, 2007	Was October 28, 2007	Is November 4, 2007

All versions of ENDEC software prior to 6.2 use the old DST rules. The new 6.2 software, available March 1, will use the new rules. The following sections discuss your options in detail.

Technical Background

The EAS protocols, as defined by FCC rules Part 11, use UTC time. With respect to time zone, UTC refers to the time at longitude 0, at the Royal Observatory, Greenwich, England.

The ENDEC uses a UTC OFFSET to tell the ENDEC how to convert from your local time to UTC. The ENDEC documentation says:

UTC Offset is the number of hours you must add to the local time to get UTC time, -12 to +12. Always enter this with respect to standard time, not daylight savings time.

Some typical values

Eastern Standard Time +5 hours

Central Standard Time +6 hours

Mountain Standard Time +7 hours

Pacific Standard Time +8 hours

Alaskan Standard Time +9 hours

Hawaiian Standard Time +10 hours

The ENDEC keeps time internally in UTC. When it wants to display a local time for you (such as in the log file, in the text of the EAS alert, or on the front panel

time display) it computes the local time. It does this by subtracting your UTC Offset from the UTC time. It then adjusts for daylight savings time. If you have set Daylight Enable, and your local time falls within the DST start and end times, then the displayed time is adjusted ahead one hour. The internal UTC time is not changed. The UTC time is changed only when you set the ENDEC time using the front panel, or when using any of the software programs like ENDECSET, ENDEC PRO, ENDEC DJ, or EPROG.

When the time is set, the ENDEC assumes that you are presenting the time already adjusted for DST, and will compute UTC based on the setting of Daylight Enable and whether or not the time falls within the DST start and end times.

To keep your ENDEC in sync with the network of EAS stations, your ENDEC must have the correct UTC time.

Procedures

To determine which procedure to follow to adjust to the new DST rules, select the section that best describes your situation.

You are in an area that does not use Daylight Savings Time.

None of this applies to you. You don't need to make any changes.

You want it to "just work"

You'll need to upgrade your ENDEC firmware. If you have recently upgraded your ENDEC to the 6.1 release, or if you have recently purchased a new ENDEC, we offer a reduced cost 6.1 to 6.2 upgrade option. Note: this ROM will not work if you currently have a 5.xxx ROM in your ENDEC.

If you have not recently upgraded, or if you have a version 5.xxx ROM, you will need the version 5/6 to version 6.2 upgrade.

In either case, contact your sales representative for pricing.

The 6.2 ROM will use the new daylight savings time start and end dates.

If you update from 5.xxx to 6.2, you will need a newer version of ENDEC PRO or ENDEC DJ, available for free download from www.bektek.com/endec. If you are already on 6.1, then you do not need to upgrade PRO or DJ.

If you are unable to upgrade to the new ROM in time for the first DST switch on March 11, 2007, you should follow the "Maintain the proper time manually" section until you can upgrade. Once you do upgrade, then follow the time setup section of the ENDEC manual to restore the automatic DST features.

You can find the version of your ROM by turning the ENDEC off and back on. The version is displayed on the startup screen.

You will maintain the proper time manually

You can manually adjust for daylight savings time. You will manually adjust the ENDEC's time from the front panel, and will also manually adjust the UTC Offset to compensate.

- 1) Turn off the ENDEC's automatic daylight savings time adjustments by setting MENU.DATE/TIME.DAYLIGHT ENABLE to NO.
- 2) If you are in "standard time", set MENU.DATE/TIME.UTC OFFSET to the normal UTC offset for your area, for example, eastern standard time is 5, pacific standard time is 8, etc. If you are in daylight savings time, then set MENU.DATE/TIME.UTC OFFSET to one less than the normal UTC offset for your area, for example, eastern standard time is 4, pacific standard time is 7, etc.
- 3) Set the ENDEC's time to the proper local time for your area using the MENU.DATE/TIME menu.

You will need to change the UTC offset and local time manually each time daylight savings time changes in your area. In 2007, those dates are:

March 11 – change time ahead one hour and UTC OFFSET to one less than normal

November 4 – change time back one hour and UTC OFFSET to normal.

You are unlikely to be at the ENDEC to make the change right at the start of end of daylight savings time. What happens? Your ENDEC will continue to relay and originate alerts based on its internal UTC time, which is still correct. The local time displayed on the log, the front panel, LED sign, remote controls, and the video crawl will be off by one hour.

For example, if you don't make the change until the morning on March 11, the video crawl and log for an earlier alert would say:

The National Weather Service has issued a Severe Thunderstorm Warning for Allegheny, PA beginning at 4:52 am and ending at 8:52 am (SAGE)

when it should have said:

The National Weather Service has issued a Severe Thunderstorm Warning for Allegheny, PA beginning at 5:52 am and ending at 9:52 am (SAGE)

Important: when you make the change, be sure to change the UTC OFFSET **AND** the time. Daylight Enable should always be NO.

You do nothing

What happens if you do nothing? Since you have the Daylight Enable set to yes, the ENDEC will continue to switch on the old dates/times. The time displayed on the log, the front panel, LED sign, remote controls, and the video crawl will be off by one hour between the new daylight savings time switch day and the old day. For example, from March 11 2007 until April 1, 2007, the time will be behind by one hour.

Important! If you do absolutely nothing, your ENDEC's internal UTC time will continue to be correct, and the ENDEC will originate and relay alerts properly. If you forget that you are doing nothing and adjust the ENDEC's time using MENU.DATE/TIME to your local time, then the UTC time will be incorrect, and your ENDEC may ignore some alerts that it should have relayed, or alerts that you originate will have the wrong UTC time, and stations receiving them will display the incorrect start and end times, or will not relay your alert. If you are "doing nothing" and you set the time, you must set it based on the old DST switch times. for example, even though your local clock will say 9:00am on March 20, you'll need to tell the ENDEC that it is 8:00am. After the "old" DST time is past, the ENDEC will automatically update the time to DST, and you can enter the time normally.

To "do nothing" and still keep your ENDEC clock up to date, you'll need to know the new DST switch dates and the old switch dates. You should consider following the "You will maintain the proper time manually" procedure, which requires action only twice a year.