

# **USER GUIDE**

**The "ULTIMATE Jr." REMOTE CONTROL, LCD SIGN  
AND AUTOMATION INTERFACE MODULE  
FOR THE SAGE-ENDEC MODEL 1822 E.A.S. ENCODER/DECODER**

Software Version 1.4

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## **Overview:**

The "Ultimate Jr." EAS remote Control, LCD Sign and Automation Interface for the Sage-Endec 1822 E.A.S. encoder/decoder has the following features:

- A large backlit LCD scrolling display showing date, time and alert details, just like an expensive LED sign display. The unit has a small 8.5 X 3 X 1.4 inch footprint for crowded studio workspaces, and is supplied with loop and hook fasteners to allow placement on any surface.
- An attention getting strobe to catch your eye when an alert is pending, and the color is tailored to the severity of the alert.
- Single push buttons to initiate an RWT, relay a pending alert or RMT, kill a pending alert, clear the strobe, and reset the LED sign.
- An automation interface that will allow contact closures from your automation, or any normally open contact or switch to initiate an RWT.
- LED indicator shows "sending Data" status and "Pending Alert" status.
- Single Cat 5e connection at the Remote Control\LCD Display for easy installation. Power is connected at the Interface Module.
- Supplied rear supports to optimize desktop viewing angle.

## **Operation:**

The Ultimate Jr. is a self contained microprocessor based device that connects to its Interface Module via a Category 5e cable of up to 50' in length. RFI protection is included in the design to assure proper operation in both AM and FM RF environments. The unit "talks" to the Sage-Endec 1822 encoder/Decoder by means of a proprietary code, and connects to the Endec using both the COM2 and COM6 ports. Please note that it may take 2-5 seconds for the Sage-Endec to decode the various commands and react. A green, (amber if an alert is pending), "Sending Data" LED indicator is provided to let the operator know that data is being sent to the Endec following a button push.

Power for the Ultimate Remote Control is provided by the supplied power module, which is connected to the interface module and may be left on indefinitely with no adverse reactions. Control inputs to Interface Module may be either isolated dry contacts or logic low signals. Current limited pull-up voltage (5VDC) is internally provided between the control terminals. The Interface module transmits data via connections to the COM2 port and receives data for the LCD sign via the COM6 port. Other required connections are the Decoder Active connections on the rear of the Endec to the interface module via the supplied twisted pair wire.

## The Ultimate Jr. Remote Control:

### *Front panel*

The Ultimate Jr. Remote control front panel has 5 operator controlled functions.

1. RWT: Pressing this button initiates a Required Weekly Test.
2. RLS PEND: Pressing this button will release the alert that is shown active and pending on the LCD display. This assumes that the Sage-Endec has not previously automatically relayed the alert.
3. KILL PEND: Pressing this button will deactivate the alert and return the Sage-Endec to its menu mode without relaying the alert.
4. CLR SIGN: Pressing this button will return the LED sign to the time and date mode, as well as reset the flashing strobe.
5. CLR STROBE: Pressing this button will reset the flashing strobe.

It is important to note that the RLS PEND and KILL PEND functions are only enabled when there is a pending alert active on the Sage-Endec. This prevents commands being sent in error resulting in a lock-up of the Sage-Endec, and avoids waiting for the automatic time-out cycle on the Endec to take effect. Random button pushing or issuing a command before the unit has completed decoding a previous command may also lock-up the unit. The green "Sending Data/Pending" LED must be out and/or displaying the red "Alert Pending" status before another command may be sent.

It is recommended that the automatic reset time of the Sage-Endec be set to a low number, like 10-15 seconds or less to avoid long waits if errors are made. This is done by entering **menu.config.menu timeout**, and use the more or less keys to adjust the number of seconds. The default is 30 seconds.

Please note that the command language is similar to pushing the front panel buttons on the Sage-Endec and takes approximately the same time as pressing the sequence manually. (Of course, we go as fast as the Sage-Endec will allow but it has data speed restrictions.) The reaction time of the Endec is slow and several seconds may elapse between the Remote Control button push, the decoding and actual operation of the Endec. A green, (amber if an alert is pending) "Sending Data/Pending" LED is provided as feedback to the operator that his command is being sent.

Simultaneous pressing of the remote pushbuttons and the Sage-Endec front panel controls are disallowed. Once commands are issued either by the Remote Control or the front panel of the Endec, the other is locked out for the duration of that command set. The CLR STROBE is an internal function of the Remote Control, and may be pushed at any time desired, while the CLR SIGN button may not be pushed until the green "Sending Data" LED has gone out.

Note that if an alert is pending, the "Sending Data/Pending" LED will be red to signify that there is a pending event, and if you issue a command from the Remote Control at this time, the "Sending Data/Pending" LED will turn amber instead of red to signify that data is being sent to the Endec.

## *Connections and controls*

### **The Ultimate Jr. Remote Control:**

1. Data I/O: an RJ45: 8 station modular connector on the lower right side.
2. LCD display contrast adjustment to maximize contrast for the desired viewing angle is on the upper right side of the unit. A small 1/16 inch screwdriver is required.
3. Support rods are provided to optimize the LCD viewing angle for desktop applications. Insert the rods into the two ¼ inch holes on the upper side of the bottom of the enclosure with the rubber feet down.

### **The Ultimate Jr. Interface Module:**

1. DB9 on the Interface Module: This DB9 connector connects to COM2 of the Sage-Endec. COM2 must be set up for Hand Held Remote Operation. (See installation section)
2. Auxiliary DB9 pig-tail: This DB9 connector connects to COM6 of the Sage-Endec. COM6 must be set up for LED sign operation. (See installation section)
3. DEC ACT INPUT: This pair of inputs must connect to the Decoder Active terminals of the Sage-Endec using the supplied twisted pair of wires. Polarity is not important.
4. RWT: This is a user input pair that will initiate a Required Weekly Test from any normally open contact pair, be it an isolated automation system relay, logic low signal or pushbutton. Polarity of the internal pull-up is shown.
5. RJ45 Data I/O: This 8 station modular connector interfaces with the Category 5e cable to the Ultimate Jr. Remote Control. The Ferrite RFI suppressor should be on the Interface Module end.
6. POWER INPUT: This 2.5 x 5 mm coaxial jack, center positive, supplies power to the system. The power is automatically current limited to 500 ma maximum by an internal automatically resettable fuse element in the Interface Module. Power module requirement is 9-12VDC @ 500ma.

### **Installation:**

The following menu Items and jumper connections must be set on the Sage-Endec prior to connection of the Ultimate Jr. It is advisable to remove power to the Endec prior to installation to avoid accidental initiation of a test. Optical isolation is provided in the design to prevent damage to the Ultimate Jr. system in case of ground loops between the interface module inputs and the station equipment. It is recommended to use only isolated relays, solid state relays, open collector logic circuits or pushbuttons for control devices.

1. Set COM2 for hand held remote operation by selecting;  
**menu,devices.port.device.type.hand control.**
2. Set COM6 for LED sign operation by selecting;  
**menu,devices.port.device.type.LED sign.**
3. Turn off the power to the Sage-Endec.

4. Attach the twisted wire pair to the Decoder Active terminals on the rear of the Sage-Endec. Polarity is not important.
5. Connect the Interface Module to the COM2 port of the Endec and secure using the provided screws.
6. Connect the DB9 pigtail connector to the COM6 port and secure.
7. Connect the twisted pair of wires from the Endec to the DEC ACT INPUT on the Interface Module. Polarity does not matter.
8. Connect the 9VDC power supply to the appropriate jack on the Interface module.
9. Run the CAT5e data cable to the desired location with the ferrite RF suppressor towards the Interface Module. Connect the RJ45 modular connector to the Interface Module.
10. Install the Ultimate Jr. Remote Control at its desired location, and connect the CAT5e data cable. There will be no Endec display at this time but the backlight will come on, DM Engineering will be momentarily displayed, and the strobe may flash once.
11. Re-apply power to the Sage-Endec and wait for the self diagnostics and start-up function to complete. The LCD sign will initially display zeros during the Sage-Endec boot-up, but the date and time will be displayed after boot-up or upon the next minute advance of the Sage-Endec clock.
12. Assure that the Endec password is set to the default 1111. Go to **menu.change.password** to change it if required. Any other password will cause the Remote Control to malfunction. See section 11.10 in the Sage-Endec User Guide for assistance.
13. Assure that the “Decoder Active” relay is set to either the default “Pending” or to the “Pending Done” (preferred) relay program. Go to **menu.relay**, and scroll to the “Decoder Active” relay, and press **pick**. Scroll to the “Pending Done” or “Pending” choice and select it. See table 5-7 and section 5.7.2 of the Sage-Endec User Guide for assistance.

**Operational Testing note: (It is advised that you remove the Sage-Endec from the audio chain before proceeding to avoid on air transmissions from the unit. Just connect the audio inputs to the outputs temporarily to stay on the air.)** After the LCD sign is displaying date and time you are ready to test the equipment. Remember...if you have the Sage-Endec in the audio chain it will broadcast alerts!

Initiate an RWT from the Ultimate Remote Control by pressing the RWT button. The green “Sending Data/Pending” LED will light and then the LCD sign will display that the station has sent an RWT and the strobe will flash green. The Sage-Endec will output an RWT. Clear the sign on the Ultimate Jr. Remote Control only after the green “Sending Data” LED goes out.

Initiate a warning of some type (Tornado, Earthquake, Etc.) from the Sage-Endec front panel. (This cannot be done from the Ultimate Jr. Remote Control). Again the LCD sign will display the warning message and the strobe will flash orange. Clear the sign on the Ultimate Jr. Remote Control. Clear the sign on the Ultimate Jr. Remote Control.

Initiate an Alert (CAE, etc.) from the Sage-Endec front panel. (This cannot be done from the Ultimate Jr. Remote Control). Again the LCD sign will display the warning

message and the strobe will flash red. Clear the sign on the Ultimate Jr. Remote Control.

In order to test the Pending Alert functions it will take receipt of an actual alert or the inputting of alert audio from another EAS encoder/decoder. This is done by connecting the MAIN/ALERT XLR output from another unit to the Monitor and audio common of the Sage-Endec under test and initiating an alert from the other unit. You will then be able to release the pending or kill the pending alerts. This may be done only once for each type of alert because the Endec remembers that it has already acted on the same alert.

### **Warranty Information:**

The Ultimate Jr. Remote Control and Automation Interface Module are warranted for a period of one year from the date of purchase. This warranty covers materials and workmanship only. Any misapplication, physical or electrical damage from outside sources or by the customer is not covered. The customer must pay shipping costs to the factory, and DME will pay shipping costs to return the warranted equipment to the customer. Any priority shipping costs are to be the responsibility of the customer as ground service is standard. Please contact the factory for an RMA number prior to any returns. Items returned without an RMA may be sent back to the customer unopened.

### **Technical Support**

If you have questions, experience difficulties with the product or require further information please contact DME at: 805-987-7881 or E-mail technical support at: [info@dmengineering.com](mailto:info@dmengineering.com), or visit [www.DMEngineering.com](http://www.DMEngineering.com) for the latest User Guide.

### **Specifications:**

Case Dimensions (Remote Control): 8.5" wide X 3" deep X 1.4" high

Remote Control Case Material and Color: styrene plastic, bone grey

LCD Display Dimensions: 6 1/16 X 5/8

Character Size: .453 X .265

LCD Display: Yellow Backlight

Connection Method: 50' Category 5e cable with RJ45 connectors, supplied DB9 interface module with DB9 pigtail and Endec/Automation and control interface screw terminal connections

Sage-Endec Interface: Serial RS 232, 2 Endec ports required (COM2 & 6)

Power: Power module (supplied), Input:120VAC 50-60Hz, Output: 9VDC @ 500ma

Power Cord Length: approx. 6 ft. total

Mounting: Desktop or any surface that the customer desires

Operating temperature: 32 to 120F

Humidity: 0 to 95% non-condensing

Shipping Weight: 4 lbs. (approximate)

Trademark Information: "Endec" is a trademark of Sage Alerting Systems, Inc. Stamford, CT 06902