USER GUIDE

The "ULTIMATE JR." REMOTE CONTROL AND AUTOMATION INTERFACE MODULE
FOR THE SAGE-ENDEC MODEL SE1822 and 3644 Digital E.A.S. ENCODER/DECODER

Software Version 1.4
Rev. 2

DM Engineering
2174 Chandler St.
Camarillo, CA 91345-4611
805-987-7881 800-249-0487
www.DMEngineering.com

Overview:

The "Ultimate Jr." EAS remote Control and Automation Interface for the Sage-Endec SE1822 and 3644 Digital 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 that 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. EAS Remote Control is a self contained microprocessor based device that interfaces with the Ultimate Jr. 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 or Digital 3644 Encoder/Decoder by means of a proprietary code, and connects to the Endec using the Endec COM ports. Please note that it may take 2-5 seconds for the Sage-Endec to decode the various commands and react. A tri-color "Sending Data-Alert Pending" LED indicator is provided to let the operator know if there is an alert pending or that data is being sent to the Endec following a button push.

Power for the Ultimate Jr. Remote Control is provided by the supplied power module, and may be left on indefinitely with no adverse reactions. RWT control input to Interface Module may be either isolated dry contacts or logic low signals. A pull-up voltage (5VDC, current limited) is internally provided between the control terminals. The Interface Module transmits and receives data via a COM port. The other required connection s the" Decoder Active" or "Dec Rly" connection on the rear of the Sage Endec.

The Ultimate Jr. Remote Control:

Front panel

The Ultimate Jr. Remote control front panel has 5 operator controlled functions and an earphone jack.

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 LED 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. Date and time will again be displayed.

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 will also lock-up the unit. The green Sending Data 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 and the decoding and actual operation of the Endec. A green "Sending Data" LED is provided as feedback to the operator that his command is being sent.

Simultaneous pressing of the Remote Control 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 "Alert Pending" LED will be red to signify that there is a pending event. If you issue a command from the Remote Control, the "Alert Pending/Sending Data" LED will turn amber instead of green to signify that data is being sent to the Endec.

Side panel

The Ultimate Jr. Remote Control has the following side panel connections and control:

1. Data I/O: an RJ45: 8 station modular connector.

2. LCD Contrast Control: User screwdriver adjustable LCD contrast control. This may be adjusted to accommodate the user viewing angle if required.

The Ultimate Jr. Interface Module:

The Interface Module has the following interface connections:

1. DB9 on the Interface Module: This DB9 connector connects to an available COM port on the Sage-Endec. The selected COM port must be set up for Hand Held Remote Operation and the baud rate must be set to 9600 on the selected port. (See installation section)

2. Auxiliary DB9 pig-tail: This DB9 connector connects to an available COM port on the Sage-Endec. The selected port must be set up for LED sign operation and the baud rate must be set to 9600 on the selected port. (See installation section)

3. DEC ACTIVE INPUT: This pair of inputs must connect to the "Decoder Active" or "Dec Rly" 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, switch or pushbutton.

5. RLS PEND: This is a user input pair that will release a Pending Alert from any normally open contacts, be it an isolated automation system relay, logic low signal, switch or pushbutton.

6. RJ45 Data I/O: This 8 station modular connector interfaces with the Category 5 cable to the Ultimate Jr. Remote Control. The Ferrite RFI suppressor should be on the Interface Module end.

Installation:

The following menu Items must be set on the Sage-Endec prior to connection of the Ultimate Jr. System. It is advisable to remove power from the Endec prior to this installation to avoid accidental initiation of a test. Prevent damage to the Ultimate Jr. System by avoiding ground loops between the Ultimate Jr. Interface Module inputs and the station equipment by using only isolated relays, solid state relays, isolated logic low circuits or pushbuttons for control devices.

SE1822:

1. The Interface Module may be attached to the COM 2, 3 or 6 DB9 connectors on the rear of the SE1822 Endec. Secure the Module to the Endec using the captive screws provided as a part of the Module. The Ultimate Jr. operates at 9600 baud, and COM 2 and 6 are set to 9600 baud by default and cannot be changed. If the COM 3 port is used, you

may have to <u>configure the port to 9600 baud</u> as the default setting is 1200 baud. Configure the ports using *menu.devices.port.baud.* Select another available COM port for LED sign operation by selecting; *menu,devices.port.device.type.LED sign* and connect the DB9 pigtail to this port. If the COM 3 port is selected, you may have to <u>configure the port to 9600 baud</u> as the default setting is 1200 baud. Configure the ports using *menu.devices.port.baud.*.

3644 Digital:

1. The Interface Module may be connected to COM 3, 4, 5, or 6 on the rear of the Endec. Secure the Module to the Endec using the captive screws provided as a part of the Module. You may have to <u>configure the selected port to 9600 baud</u> as the default settings for all ports is 1200 baud. Configure the selected port using *menu.devices.port.baud.*

2. The DB9 pigtail may be connected to any remaining available port <u>other than COM 3</u>. You may have to <u>configure the selected port to 9600 baud</u> as the default settings for all ports is 1200 baud. Configure the selected port using *menu.devices.port.baud.*

General:
1. Attach the supplied twisted wire pair to the "Decoder Active" or "Dec Rly" terminals on the rear of the Sage-Endec. Polarity is not important.

2. Connect the twisted pair of wires from the Endec "Decoder Active" or "Dec Rly" terminals to the DEC ACT INPUT on the Interface Module. Polarity does not matter.

3. Connect any auxiliary control wiring you desire to the RWT or RLS PEND inputs. The RWT and RLS PEND inputs should interface with <u>isolated</u> contacts or logic circuits to avoid ground loops between equipment.

6. Run the CAT5e data cable to the desired locations with the ferrite RF suppressor at the Interface Module end. Connect the RJ45 modular connectors to the Interface Module.

7.   Install the Ultimate Jr. Remote Control at its desired location. The backlight will come on, the strobe may flash once and "DM Engineering" along with the software version number will momentarily be displayed. Now connect the CAT5e data cable.

8.   Re-apply power to the Sage-Endec and wait for the self diagnostics and start-up function to complete. The LCD sign on the Ultimate Jr. will display zeros or remain blank until the next minute advance of the Sage-Endec clock and then will display the date and time.

9. **The User password** **must be 1111**, the factory default password. There can be no exceptions without custom programming of the Ultimate Jr. microprocessor. Custom programming is available at an additional charge.   Please contact DME if custom programming is desired.

10. To change the User password to 1111, use the *menu.change password* command on the Endec. You will need the administrator's password to do this change, and if it is not available consult section 14.3 of the SE1822 Endec User Guide or section 12.11 in the 3644 Digital Endec User Guide.

11. Assure that the "Decoder Active" or "Dec Rly" 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.* Then scroll to the "Pending Done" or "Pending" choice and select it. See table 5-7 and section 5.7.2 of the SE1822 Sage-Endec User Guide or Table 3-2 and sections 4.7 and 5.7 or the Digital 3644 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 XLR audio inputs to the XLR outputs temporarily.

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!

Try an RWT from the Ultimate Jr. Remote Control. The green "Sending Data" 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.

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 and the inputting of alert audio from another EAS encoder. This is done by connecting the MAIN/ALERT XLR output from another EAS unit to either the "Monitor 1" or "Monitor 2" input and the audio common terminals 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 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 800-249-0487, Contact technical support at: support@dmengineering.com or visit 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
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.