Sage Alerting Systems
Comments on the FCC’s 2017 EAS Operating Handbook
July 26, 2017

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1 Introduction

The FCC recently released the 2017 EAS Operating Handbook. It includes several “fill in the blank” sections.

The document you are now reading is provided by Sage Alerting Systems and is intended to provide background for owners of the Sage Digital ENDEC model 3644, specifically, to the individual responsible for filling in those blanks. If anything in this document conflicts with the FCC’s Part 11 rules, those rules supersede anything in this document. Our comments apply to the common use cases for the ENDEC, our recommendations will not apply to every situation. Questions and comments may be addressed to support@sagealertingsystems.com.

The comments below refer to pages in the 2017 FCC EAS handbook. As of July 26, 2017, the pdf version of the handbook could be found here:

  https://www.fcc.gov/file/12715/download

as referenced by the ETRS information page here:

  https://www.fcc.gov/general/eas-test-reporting-system
The FCC Part 11 rules can be found here:

http://www.ecfr.gov/cgi-bin/text-idx?rgn=div5;node=47%3A1.0.1.12

2 Background on automatic alert insertion

The ENDEC will start the alert process automatically and immediately in two cases:

1) the matching filter action is Automatic Relay,
2) the matching filter action is Timed Relay, and the ENDEC is in Auto Mode.

In those two cases, the ENDEC will always start the alert right away, and will ignore any GPI hold offs (override use on the ENDECSetD config tab).

Starting with version 89-30, the ENDEC will always treat EAN and NPT alerts as Automatic Relay. Any other filter can be set to Automatic Relay, or Timed Relay with the ENDEC in Auto Mode, for example, Tornado Warning alerts.

The assumption is that there is no manual operator action that is required to put the ENDEC in the air chain – no additional buttons need to be pushed, no sliders need to be slid.

If the matching filter is Timed Relay and the ENDEC is not in Auto Mode, then the alert will be placed in a “send ready” mode when one of the follow occurs:

- the filter’s Hold Time expires
- the operator selects send on the web page
- the operator uses the PEND menu on the front panel
- the ENDEC receives a send message on the automation LAN interface.

Once the alert is in the send ready state, it will wait for GPI hold offs to be released and then start the alert process. If there are no GPI hold offs, then the alert process starts without waiting for GPI.

3 Background on Decoder Only operation

The FCC rules state that analog class D non-commercial educational FM stations, digital class D non-commercial educational FM stations, analog Low Power FM (LPFM) stations, digital LPFM stations, analog low power TV (LPTV) stations, and digital LPTV stations are not required to have equipment capable of generating the EAS codes and Attention Signal. (See Part 11.51(e)). The rules permit all EAS participants to install encoders if they choose.

Users of the Sage ENDEC do have the encoder functions. Sage recommends that all ENDEC users therefore follow the general instructions in the handbook, and do not follow the “decoder only” instructions.
4 Help for specific Handbook pages

4.1 Handbook Page 7 – National-Level EAS Alert
Except in the most unusual of cases, all ENDEC users allow the ENDEC to automatically relay the EAN, with no operator intervention. GPI hold offs are ignored. Check the “EANs are relayed automatically” box. The EAN is sent immediately, that is, even while it is still being received. The relay will start after the incoming attention signal has been received.

Although it is not mentioned in the Handbook, stations NEVER originate an EAN.

4.2 Handbook Page 9 – National EAS Test
Except in the most unusual of cases, all ENDEC users allow the ENDEC to automatically relay the National Periodic Test, with no operator intervention. GPI hold offs are ignored. Check the “NPTs are relayed automatically” box. The NPT is sent immediately, that is, even while it is still being received. The relay will start after the incoming attention signal has been received.

4.3 Handbook Page 10 – Monthly EAS Test

4.3.1 Sending the RMT
Most stations will check the box that says “At this facility, operators should NEVER originate an RMT.” Originate means that you are the first sender, that is, you aren’t relaying one that you received from someone else.

Some stations will originate monthly tests. This is almost always limited to stations that are a Local or State Primary, or stations in unusual situations where there are no other stations from which they can receive EAS alerts.

Even if you sometimes generate a monthly test, you might not generate one every month.

You can generate a Monthly Test with the Sage ENDEC in various ways: from the front panel, with RC-1 hand held remote control, or with add on software packages such as ENDEC PRO, ENDEC DJ, or Alert Studio.

If your station originates monthly tests, then check the “sometimes originates RMTs “ box and include your existing instructions on Page 10, or put in a reference to where they can be found.

4.3.2 Receiving the RMT
Most stations must relay incoming RMTs\(^1\). Your RMT filter should select RMTs for your operational area, and the action should be Automatic Relay, Timed Relay, or Manual Relay. Do not use Log Only. You should not use Timed Ignore, if the operator or automation system does not explicitly take positive action to send the alert, the alert will be deleted at the end of the timeout period and will not be forwarded. This adds some risk of failure to relay the alert, even at attended sites.

\(^1\) Though some station classes are exempt, all users of the Sage ENDEC can relay an RMT.
If your RMT filter has an action of Automatic Relay, or it is Timed Relay and the ENDEC always runs in Auto Mode and you don’t use any GPI hold off settings, then the alert is sent immediately, with no operator action required. Check the “RMT tests are relayed automatically” box.

Otherwise, if your action is Timed Relay and you don’t run in Auto Mode, or the action is Manual Relay, the alert will send at the end of the hold time. If you are using an override mode, meaning GPI inputs are enabled, then for RMT, and any alerts other than EAN and NPT, the GPI (d_in_1 through 5) status inputs can be used to hold off the alert.

Check the “operator on duty is required to perform the following steps to relay a received RMT” box on Page 10, and include your instructions, or put in a reference to where they can be found.

4.4 Handbook Page 12 - Weekly EAS Test
Most stations must originate a Required Weekly Test (RWT)\(^2\). Most stations with a Sage ENDEC encoder will not check the “Exempt” box.

The ENDEC can automatically generate an RWT using the Timed RWT(random) function. The ENDEC can also be commanded to send an RWT from a LAN or GPI automation interface. If no operator action is required, check the “RWT tests are originated automatically, with no operator intervention” box.

If operator intervention is required, such as using the ENDEC’s web or front panel interface, or using a button connected to a GPI, or manually triggering a function on an automation interface, then check the “operator on duty is required to perform the following steps to originate an RWT” box on Page 12, and include your instructions, or put in a reference to where they can be found.

4.5 Handbook Page 14 – State and Local EAS Alerts
The procedures used to relay an RMT are usually similar to those used to relay any other alert.

Add your instructions in the facility notes section of page 14, or put in a reference to where they can be found.

4.6 Handbook Page 15 – Recovery Procedures
This section is meant to cover the conditions where an EAS operation has failed. Dead air of more than a few seconds, or programming from another source, are an indication that the incoming alert is not correct, or some other error has occurred.

Care should be taken in the case of an EAN, however. There may be a delay in starting the official audio that could last many seconds. A standby message may also be repeated at the start for 30 seconds or more.

In any case, once you decide to abort an alert relay, the actions recommended by Sage are the same.

\(^2\) Though some station classes are exempt, all Sage ENDEC users can originate an RWT if they chose.
4.6.1 Aborting an Alert

First, try to terminate the alert normally, by using the Abort button on the web interface, or by using the END or ABORT button on the front panel. The word ABORT, or the word END will appear above one of the keys on the front panel, push that button. The ENDEC will either immediately start the End of Message (EOM) data bursts, or it will show a countdown for a few seconds until it can send the EOM.

If the alert is an EAN, the operator will be asked to confirm the abort by pushing a YES button. The ENDEC will prompt twice for confirmation to abort an EAN.

It is important to try to end the alert in a controlled manner so that:

1) Any attached peripherals, such as serial or LAN controller switchers or automation systems, will perform the normal end of alert actions.
2) The End of Message will be transmitted to any stations that are monitoring your station, allowing them to end their alert normally. This is especially important for downstream stations that are unattended.

4.6.2 Power off as a last resort

Only if an attempt to abort the alert via the web interface or the front panel is unsuccessful should power be removed from the ENDEC. Serial or LAN controlled switches may also need to be manually reset.

If power is removed, stations that monitor yours will not receive the End of Message (EOM). For all alerts except the EAN, the downstream station will end its relay after two minutes and otherwise terminate the alert normally. In the case of the EAN, there is no two minute time out. The downstream station will need to take manual action to recover, unless your station sends an EOM after you restore power to the ENDEC, or if something else failed, once the connection between the ENDEC and the transmitter is restored. To send an EOM from the ENDEC, follow the “send an RWT” instructions. For best results, use the front panel WEEK button or the web page RWT button. The GPI interface includes a failsafe that allows an alert to be sent via GPI only once an hour, this might prohibit sending the RWT, use the web interface or front panel in this case.

If your station uses the multi-station relay panel (RP-2), be sure to send the RWT on all of the output channels.

4.7 Should you attempt to resend a failed alert?

If an alert is not relayed correctly, the proper action is to log it, along with a description of the errors. Do not attempt to originate an alert to replace a failed relay. Issuing a new alert could cause downstream stations to send two versions of the alert, the original version that they may have received from an alternate source, and your new version.