Sage Digital Endec Programming Software EndecSetD

Trispec Communications

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EndecSetD Programming Guide Version 2.56 for use with the following versions:

EndecSetD Ver: 2.56

Endec Board Revision: X/95.0

DRAFT	June 3, 2014	Draft copy
V2.32	June 5, 2014	Initial release for V2.32
V2.44	December 4, 2014	Update for new release software
V2.48	July 3, 2015	Update for firmware 89.27
V2.51	October 4, 2019	Update for firmware 89.27
V2.51a	June 21, 2023	Update link for download
V2.56	December 12, 2022	Update for firmware CA95.0
V2.56a	September 26, 2023	Update firmware CA95.0 reference

Contents

FCC Information

FCC Information: FCC ID V2W3644 The Sage Digital ENDEC is fully compliant with FCC Part 11. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For technical support, please contact Trispec Communications;

1-866-494-4474 Option 3

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1. Introduction

The Sage Digital Endec configuration files can be created and modified using the EndecSetD software for PC.

Key Features:

Key features of the software allow you to configure the following:

    a. Station call sign
    b. Front panel access passwords
    c. Time zone and Daylight Savings Time
    d. External devices
    e. Analog Audio levels
    f. Digital Audio levels
    g. Lead IN/Out alert tone files
    h. Output relay functions
    i. LAN network settings
    j. Alert language selection
    k. Email functions
    l. FTP file server functions
    m. CAP-CP polling functions
    n. Alert filter settings

1.1 The EndecSetD software requires some initial set up after installation to properly configure files for use with CAP-CP systems. Please ensure this set up has been done before loading any configuration files into the CAP-CP Endec.

1.2 The files used by the Endec for configuration and alert filtering are contained in two separate files. The Settings file will typically be callsign.es2 and the Filter file for controlling the types of alerts that are acted on will use the same file name with the extension "filter", callsign.es2.filter. These files must be located in the same directory for the EndecSetD program to be able to properly access both files.

Example of typical file set – **LAB1.es2** is the configuration file,

                      LAB1.es2.filter is the filter file.

1.3 EndecSetD 2.56 will work with legacy Endec firmware versions 89.27 and older but is intended for Rev95.0. If you are creating a new settings file, or editing an existing file for 89.x units, when saving the file, the program will ask if it is to be saved as the new format or old format, as shown in Figure 1.
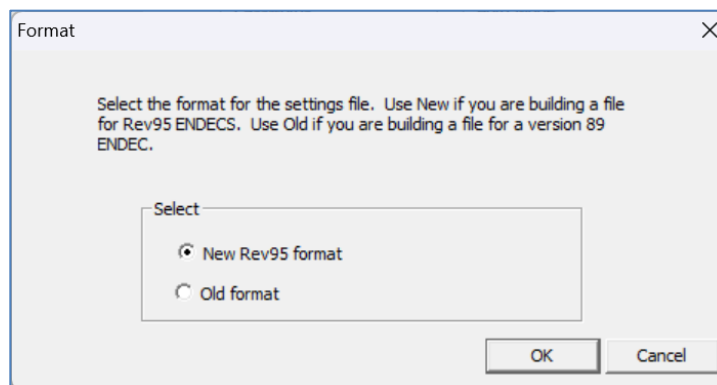

Figure 1.

2. Program Installation and setup.

2.1 Installation

Install the program on your PC using the "EndecSetD56.msi" file.

If this file was not included on the CD shipped with the Endec, you can download from the following location:

> https://s3.amazonaws.com/sagealertingsystems/release/EndecSetD56.msi

2.2 Initial Set Up

Once the program is installed, open the program using "All Programs\Sage Alerting Systems\ENDECSetD". The initial screen is shown in Figure 2.
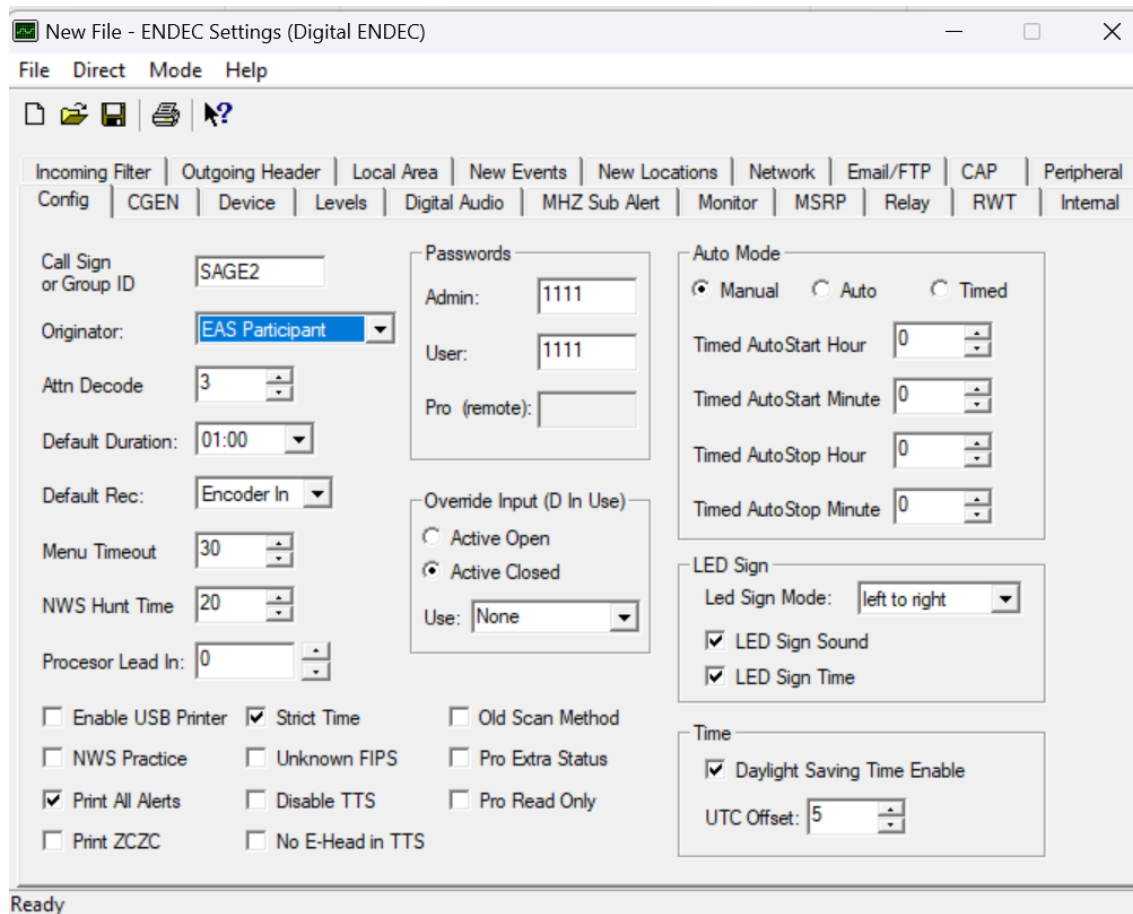

Figure 2.

2.2.1   If you have an existing settings file (*.es2) and filter file (*.es2.filter) for your Endec unit, go to step 2.3. If you do not have a setting file (*.es2) and filter file (*.es2.filter) you will need to create these files.

   a.   In the initial screen, enter your station call sign on the "Config" tab.

   b.   Select the Local Area tab.

   c.   On this tab, select any area for the "Local Area" as shown in Figure 3. This area is not used for the active alerts, but must have a value set or the Endec will indicate and error by blinking the "automatic" LED.

   d.   From the top menu, select "Mode"

   e.   Select "EAS/CAPCP"

   f.   Select "CAP-CP (For use in Canada only)"

   g.   Save the file using the File menu options, using the station call sign as the file name. The EndecSetD program will save two files to the selected location (callsign.es2 and callsign.es2.filter). This now has the software operating in the CAP-CP mode.
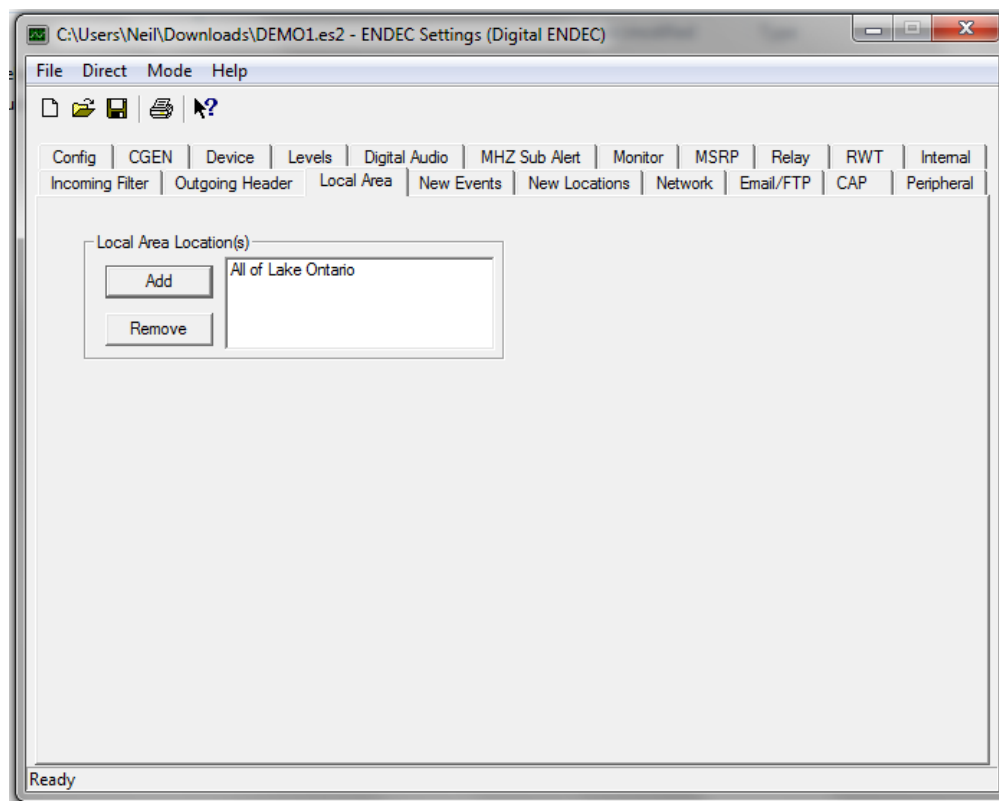

Figure 3.

   h.   Go to section 3.

2.3 Loading your files

Loading your settings file and filter file:

NOTE: For Windows operating systems, the default setting for file name display is to hide the file extensions. You should disable this feature so the file system will display the file extension. If the extension is hidden, the settings files will appear as "callsign" and the filter file will appear as "callsign.es2". This will result in attempting to load the filter file as the settings file and the file load will fail.

a. Ensure that the settings file (callsign.es2) and filter file (callsign.es2.filter) are in the same folder.

b. From the top menu, select "Mode"

c. Select "EAS/CAPCP"

d. Select "CAP-CP (For use in Canada only)"

e. From the top menu select "File"

f. From the left hand menu select "Open…"

g. Select the settings file for your unit (callsign.es2)

h. From the bottom right of the window, select "Open". This will load the settings file and the associated filter file.

3. Endec Settings file (*.es2)

3.1 Config tab:

3.1 Ensure the settings file for your unit is loaded into the program. You should see the "Config" tab with your station call sign. See Figure 4.

Figure 4.

Most settings will not need to be changed for proper operation. For details on individual features, select the ↖? Button from the top menu then select the feature for a description of that feature.

a. **Front Panel passwords** can be changed from the "Passwords" section of the Config tab. It is recommended that you change the Admin password to prevent unauthorized changes to the unit configuration by a local user. The front panel password can be 4 to 8 characters long, but must consist of the digits 1,2,3,4 as these correspond to the four soft keys on the front panel.

3.2 CGEN Tab

3.2   The CGEN tab is used to define the functional settings for VDS or Chyron Character Generators.

3.3 Device Tab

3.3 This tab allows you to specify what type of equipment is connected to the six serial ports of the Endec. Common uses for the serial ports are connection of Character generators for video crawl, LED signs to display the alert text and connection to automation equipment for collection of alert text.

    a. The front panel serial port is the "Computer" port, but can be set for other devices as desired.

    b. All serial ports except Port 2 have DC available on pin 9. See User guide "Endec 3644 Quick Start Guide" for details.

3.4 Levels Tab

3.4 Allows adjustment of analog audio levels. For CAP-CP operation, the only levels that may need to be adjusted are the following:

    a. Speaker; allows adjustment of the front panel speaker volume.

    b. Line Out; allows adjustment of the volume for audio line output.

    c.   Playback; allows adjustment of playback volume for alert audio and Text-To-Speech. Typical Playback level for broadcast is 35.

3.5 Digital Audio Tab

3.5.1 Allows adjustment of AES audio functions.

    a. Playback; allows adjusting the AES audio playback level relative to the input level. For playback at the maximum level (same level as the input) set this value to 127. For reduced levels, adjust the slide control or edit the number. For each reduction of the level number by half, you drop the output by 6db. 64=-6db, 32=-12db, etc.

    b. Enable Digital Audio; select this check box to enable the digital audio functions.

    c. Relay Always On; select this check box to have the digital audio relay energized and the Endec digital audio transmitter actively driving the AES audio output. If unchecked, the Endec will pass the station audio through the relay without regeneration.

    d. Pass Through; select this check box if you want the Endec to copy the digital audio on the input to the digital audio output when not sending an alert. This should be selected when using the Relay Always On feature.

    e. Simulcast with analog; select this check box to enable the alert audio on the analog outputs at the same time as digital output is active. This can be used for redundancy, secondary feed, recording, etc.

    f. External Clock; select this check box to enable bit syncing to the digital input stream. (Note: you must select the correct clock rate for the Endec even when using this function to ensure the proper encoder rate.

    g. Clock Rate; select the appropriate rate for your audio stream.

3.5.2   Typical settings for Digital audio

a.   Active Digital Pass-through. In this mode, the ENDEC acts as an audio switch. The station audio is connected to ENDEC Digital Audio In, and the ENDEC copies the bit stream to Digital Audio Out. When an alert is sent, the station audio is replaced by the alert audio on a bit boundary, causing a minimal frame sync loss. The ENDEC's mechanical relay is ON all the time, meaning when the ENDEC is powered, it is performing the active copy function, but as a failsafe, the ENDEC is a hardwire pass-through when power is removed.

> Settings:
> - Enable Digital Audio: Yes
> - Pass Through: Yes
> - Relay always on: Yes
> - Clock: External

b.   Mechanically switched pass-through. In this mode, the ENDEC's mechanical relay is OFF (hardwire pass-through) unless an alert is being sent. This causes a larger break in the digital audio stream at the start and the end of an alert. This can cause an audio glitch in the output, but the ENDEC is not inline unless an alert is in progress.

> Settings:
> - Enable Digital Audio: Yes
> - Pass Through: No
> - Relay always on: No
> - Clock: External or internal

c.   Alert generation only. In this mode, a downstream external switcher places the ENDEC's digital audio into the station's digital signal. Switching occurs as a result of the ENDEC closing one of the four contact closures (the Push To Talk function). The ENDEC will generate digital data only when an alert is in progress. An input signal to the ENDEC is not needed, but if the downstream switch wants to see the ENDEC clock synchronized with house clock, then an input audio stream must be provided to the ENDEC's Digital In.

> Settings:
> - Enable Digital Audio: Yes
> - Pass Through: No
> - Relay always on: No
> - Clock: External or internal

d.   4)   Alert generation with idle. This mode is the same as "Alert generation only" except that the ENDEC will always output a digital signal, sending silence when an alert is not in progress. This mode is used if the downstream switcher wants to see signal at all times. An input signal to the ENDEC is not needed, but if the downstream switch wants to see the ENDEC clock synchronized with the house clock, an input signal must be provided.

> - Settings:
> - Enable Digital Audio: Yes
> - Pass Through: No
> - Relay always on: Yes
> - Clock: External or internal

3.6 Lead In/Out Tab

3.6.1 The Lead In/Out tab was introduced in release 2.44 to provide control of the Lead IN/Out audio alert tones available in Endec 3644 firmware release 89.17.

3.6.2 For normal alerting operation, the "Lead In" MUST be set to "Pre". This will enable playing the Canadian Standard Alerting Tone before each alert.

3.6.3 Firmware release 89.17 allows LMDs to select the playing of an alerting file at the end of the alert. This alerting file is different from the alert tone (Canadian Alerting Standard Tone) file which precedes on air alerts. The Lead Out file is optional and would be supplied by the LMD to match their individual preferences.

3.6.4 The Lead Out (or Outro) file is loaded into the Endec in the same way as the Lead In file, from the "Files" Tab of the Endec web page.

3.7 MSRP Tab

3.7.1 The MSRP tab is for the Multi Station Relay Panel option which allows using the one Endec to control up to four independent station audio streams. By default, only station 1 is enabled. If you are using external relay switching for more than one station, you can specify the station call sign and appropriate function for each station.

    a. For multiple stations serving the same geographic area (same SGC codes) either the MSRP (RP-2) or the Broadcast Tools SS 2.1 MLR/Term external audio switch can be used.

    b. If the MSRP or RP-2 relay panel is connected to the Endec, the individual station call signs can be entered for and that station activated using the "Enabled" check box. (refer to the user manual for the relay panel for programming details)

    c. Station 1 will be connected to and controlled by the Endec.

    d. Station 2 & 3 will be connected to and controlled by the Relay Panel or external switch.

3.8 Relay tab

3.8.1 The Relay tab allows configuration of the available relays for signaling or control of external devices. This could include downstream switchers, audio/video signals to alert station staff of an alert, or indication of a fault.

    a. There are four (4) relays available for signaling or control. The default functions are:

        i. Attn Relay; is set for "Atten Detect". This relay will close when an attention signal has been detected for a preset time and open when the attention signal is no longer present. Since the Attention tones are not used in the CAP-CP NAAD system, this relay can be assigned another function.

        ii. Encoder Relay; is set for "PTT" (Push To Talk). This relay will close when an alert is being sent and will open when the alert is complete. PTT is used for triggering a transmitter or another external device that needs a closed contact for the duration of the alert.

        iii. Decoder Relay; is set for "Pending". This relay will close when an alert has been received and is pending (being held in memory waiting to be sent). This is one of the automation features available for advanced functions.

iv. Relay 4; is set for "none". This is off by default. For CAP-CP units, this relay should be set to "CAP Down", as shown in Figure 5. This feature will close the relay if Endec loses connectivity with one or both CAP servers. At the same time the "Automatic" light on front panel will start blinking to indicate an error.
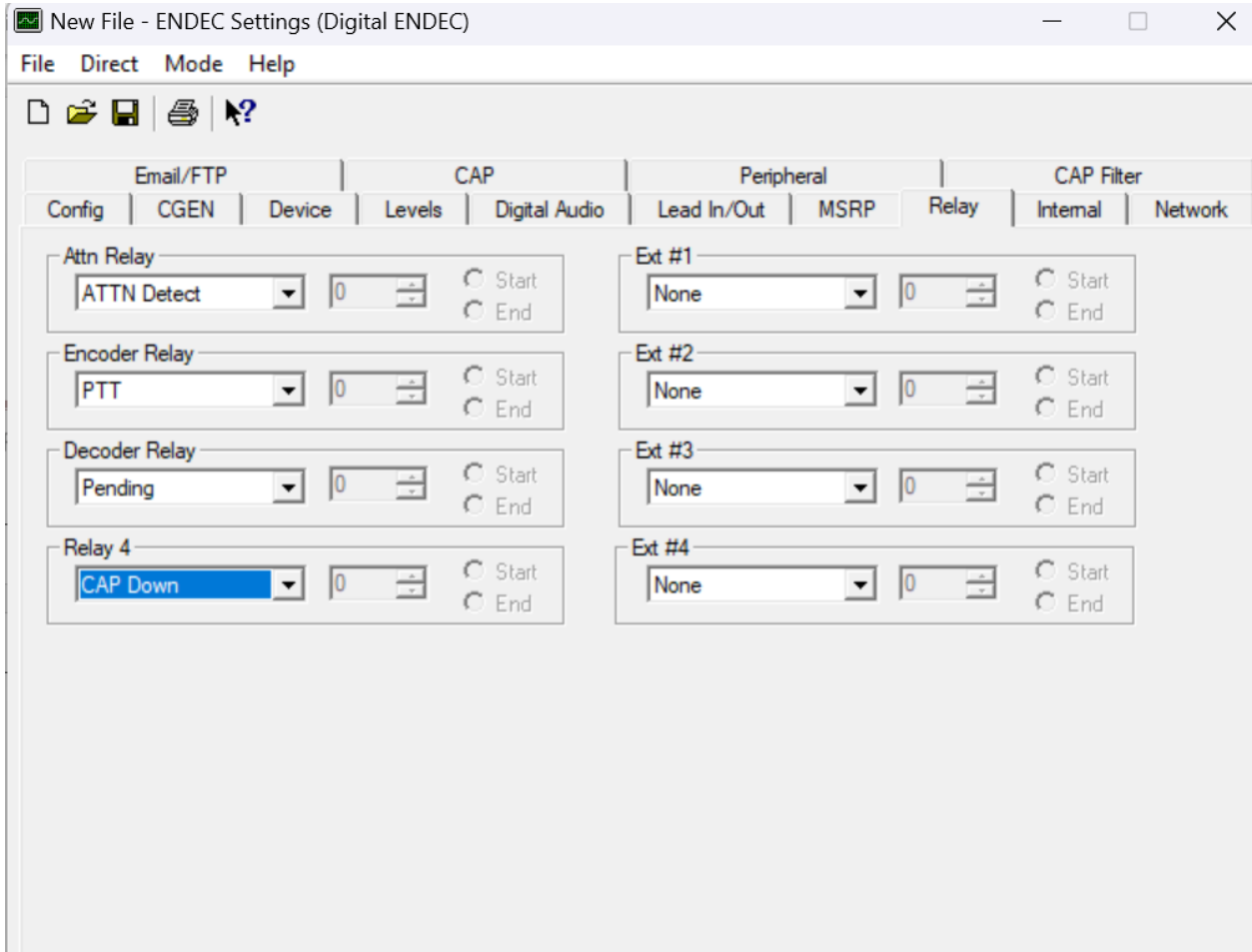

Figure 5.

b. There are four (4) virtual relays (solid state switches, Ext #1,2,3,4) available for additional signaling or control. These "virtual relays" can be used if you need to introduce timing functions to your Endec programming but do not need a relay output. Using these relays leaves the physical relays available for signaling and control of external devices. These are off by default.

c. Each relay can be configured for any of the available functions as shown in the Relay Timing Chart shown in Figure 6 and detailed in the User Guide relay programming section.
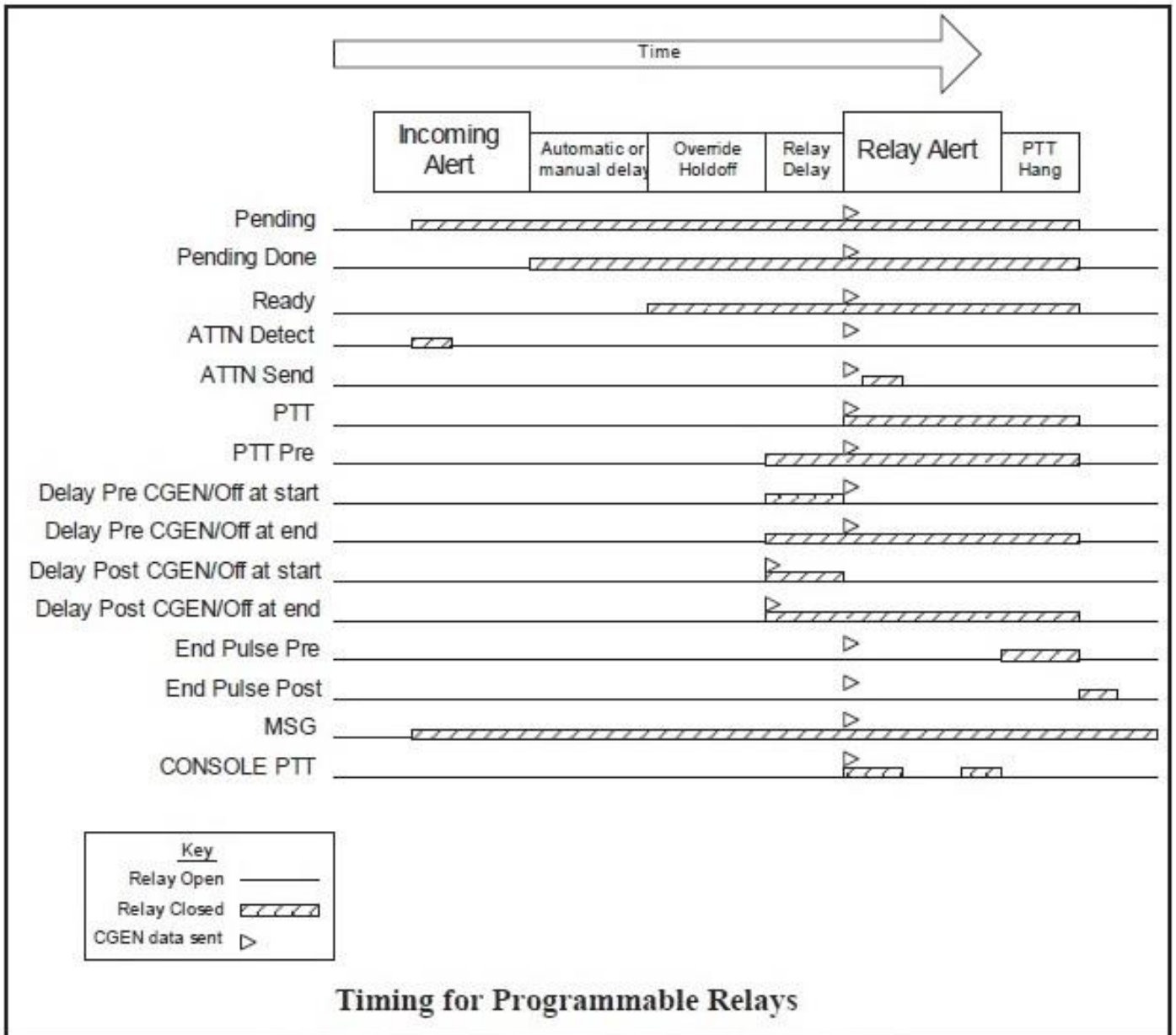
Figure 6.

3.9 Internal Tab

3.9.1   This tab defines internal counters and timers and should not be changed.

        a.   If you believe these have been changed, you can verify the settings by comparison with Figure 7.
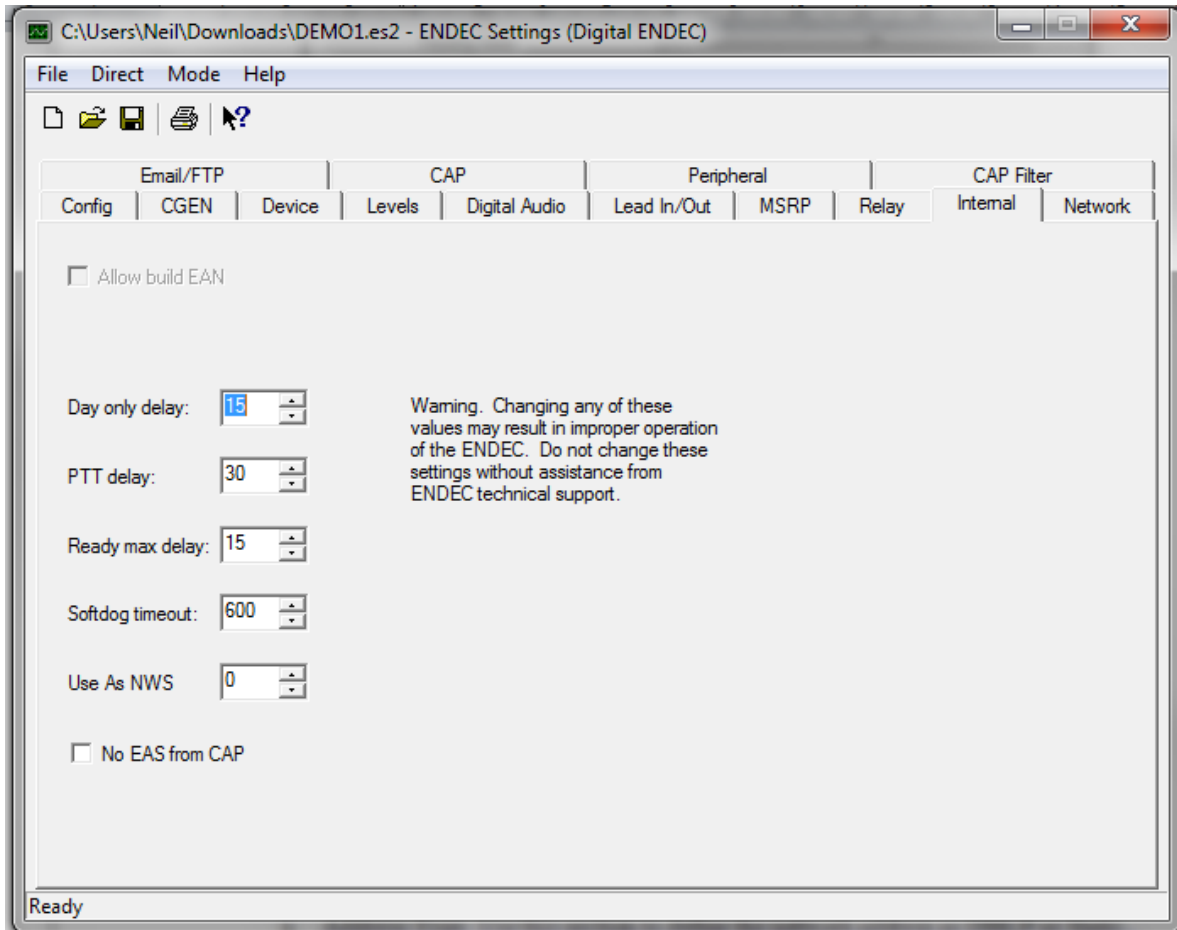

Figure 7.

3.10 Network Tab

3.10.1 The Network Tab shown in Figure 8 allows configuration of the Endec network settings.

Figure 8.

a. Address Type: Use this section to define the network address as DHCP or Static.

b. Static Addresses: if Static Address is selected above, use this section to set the following:

   i. IP Address

   ii. Subnet Mask

   iii. Default Gateway

   iv. DNS server 1

   v. DNS server 2

   vi. Enable Access to Web Server – check this to allow web access log in to Endec. To prevent web access to Endec, deselect this option. (if this is not selected, there will be no network access to the Endec)

   vii. Enable Access by Automation – check this to allow automation equipment to interface with Endec.

   viii. Enable Access by DJ/Pro – check this to enable Endec remote control port.

c. Web Server User access: as of Rev95.0 the Web Users are no longer configured in the Settings file. All control of Web Users is managed in the Endec web page directly by the Admin account.

d. Web Server Admin access: as of Rev95.0 the Web Users are no longer configured in the Settings file. All control of Web Users is managed in the Endec web page directly by the Admin account.

e. Ports

    i. Port base – enter the desired port base for Endec web access (default is 8080)

    ii. HTTP port – default for Endec is 80

    iii. HTTPS port – default for Endec is 443

f. NTP Servers: Enter a list of web addresses for Network Time Protocol (NTP) servers. This will keep the Endec clock synchronized.

g. Network Printer Address: if desired, enter the network address for a network printer. The Endec will use this printer to output a hard copy of any alerts sent. Currently, the ENDEC supports several types of HP printers.

3.11 Email/FTP tab

3.11.1   The Email tab, shown in Figure 9, allows configuration of email and FTP services for automatic notification and archiving of unit activity. If you have an email account you want to use for automatic notification of Endec activity, enter the details in the following sections:

Figure 9.

a.   Email account settings:

    i.   Email Auth Type: select the appropriate email server type (if unsure, use "All")

    ii.   Email User Name: enter the email account user name. (ie.: endec@gmail.com)

    iii.   Email Password: enter the email account password.

    iv.   Use STARTTLS if available check box. If checked, the Endec will attempt to start a secure connection with your SMTP server.

b. FTP account settings:

    i. FTP Host/Path: enter the location for FTP services if desired.

    ii. FTP User Name: enter the user name for FTP services.

    iii. FTP Password: enter the password for the above user name.

    iv. Passive check box. If checked, the Endec will use passive access mode for FTP service. Consult your IT department if you have difficulties accessing FTP service.

    v. Send Audio check box. If checked, the logged audio for the alert will be sent to the FTP server.

    vi. Style select: for FTP file types. Use Legacy for original release version, Normal for current version, or No Break for versions with no line breaks in the message.

c. Email recipients. You can specify a list of email addresses for various functions. The list should consist of email addresses entered one address per line. To send a shorter message suitable for cell phones, add "sms//" to the address (i.e.: sms//4165551212@vtext.com):

    i. Email Addresses – Receiving: enter list of email addresses to receive notices when the Endec has received an alert.

    ii. Email Addresses – Received/Sent: enter list of email addresses to receive notices when the Endec has received and sent an alert.

    iii. Email Error Addresses: enter list of email addresses to receive notices when the Endec sends a status message.

    iv. Email SMTP Server: Enter the address for your email server.

    v. Email Domain: enter your email server domain name.

    vi. Email/FTP Maximum Backoff: set this timer for the desired maximum number of seconds to delay sending emails or FTP files. This is intended to reduce loading of corporate servers. The default is 0.

    vii. Email Audio Log: if checked the Endec will send the audio as an attachment to the email containing the alert message.

3.12 CAP Tab

3.12.1 The CAP tab shown in Figure 10 is used to specify the CAP-CP servers and desired alert languages.
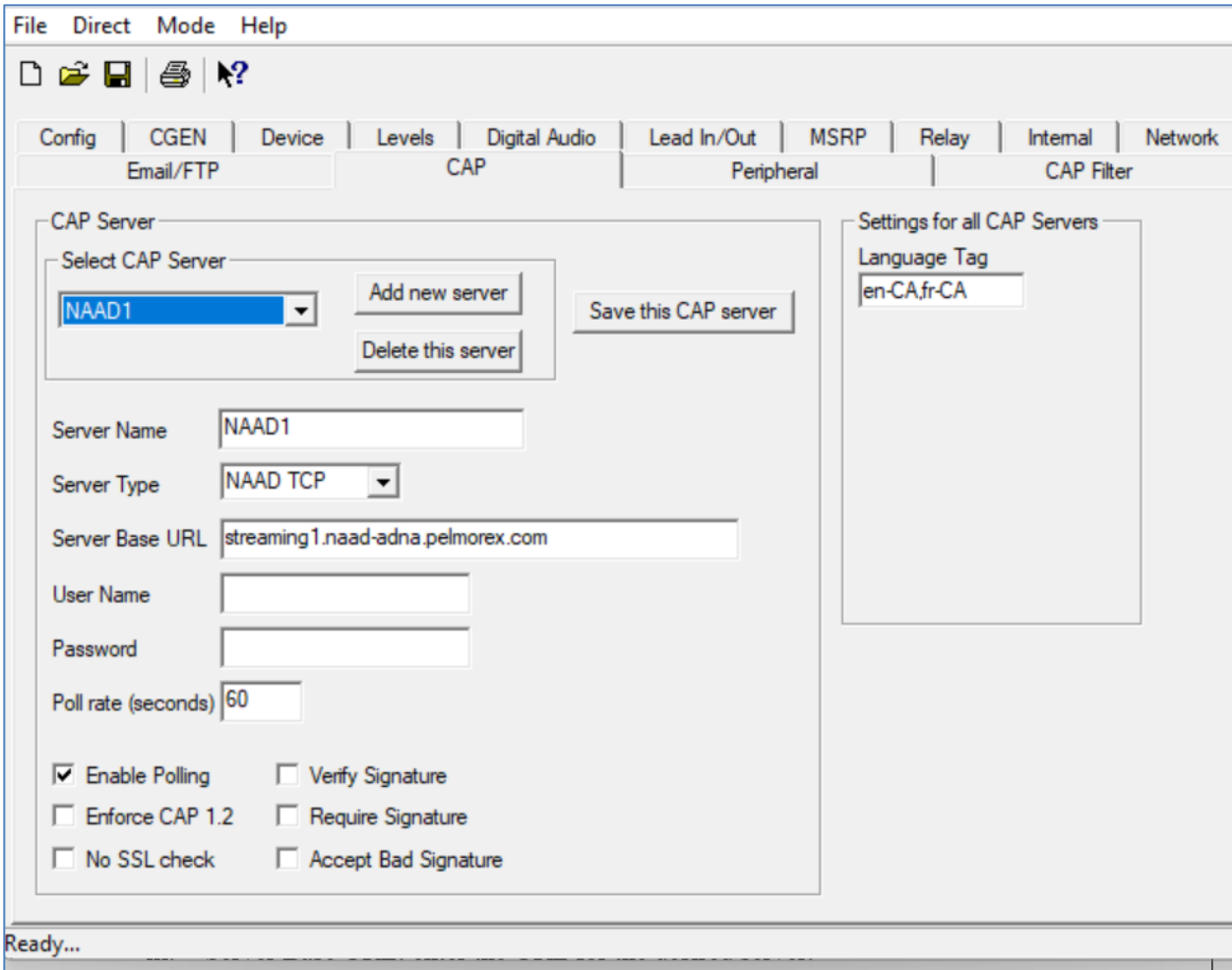

Figure 10.

   a. CAP Server: you can select, create, edit, or delete a CAP Server from this tab.

      i. Server Name: displays the selected CAP-CP server.

      ii. Server Type: defines the appropriate type of server. NAAD servers use NAAD TCP.

      iii. Server Base URL: enter the URL for the desired server.

         1. NAAD1 is streaming1.naad-adna.pelmorex.com

         2. NAAD2 is streaming2.naad-adna.pelmorex.com

      iv. User Name: If required enter the user name for the selected server. (Note: NAAD servers leave blank)

      v. Password: If required enter the password for the selected server (Note: NAAD servers leave blank)

      vi.   Poll Rate (seconds): Set this for servers requiring the Endec to poll for alerts. (Note: NAAD servers do not require a poll rate but default set to 60)

      vii.   Enable Polling check box: Select for Endec to poll the CAP-CP server. (If left unchecked, this server will be ignored)

      viii.   Enforce CAP 1.2: not required for CAP-CP.

      ix.   No SSL Check: if checked, the Endec will not check the CAP server's SSL certificate.

      x.   Verify Signature: If checked the Endec will attempt to verify signed CAP alerts. Not required for NAAD.

      xi.   Require Signature: if checked, the Endec will only accept alerts with signatures. Not required for NAAD.

      xii.   Accept Bad Signature: if checked, the Endec will accept bad signatures when checking. Not required for NAAD.

b. Language Tag: The Endec can process alerts in English or French as well as other languages as specified in the CAP-CP protocol. The desired language can be entered in this section. With the introduction of firmware V89.27, the language handling capabilities of the Endec have been enhanced to allow for both official languages to be played for alerts with recorded audio and alerts requiring Text To Speech conversion. The new process for specifying the language options is given below:

      i.   For English only, enter "en-CA"

      ii.   For French only, enter "fr-CA"

      iii.   For English, then French, enter "en-CA,fr-CA"

      iv.   For French, then English, enter "fr-CA,en-CA"

      v.   If you require a third language, enter the appropriate language tag (i.e.: "en-CA,fr-CA,cr" for English, French, Cree.)

      vi.   For English only, but play French if English is missing, use "en-CA,*fr-CA"

      vii.   For French only, but play English if French is missing, use "fr-CA,*en-CA"

3.13 Peripheral Tab

3.13.1 Allows defining peripheral device access information. If you have one of the listed devices connected to the Endec, you use this tab to enter the device address.

a. Devices supported by this tab:
      i.   Compix
      ii.   DVS168
      iii.   Fox Splicer
      iv.   Inovonics 730

3.14 CAP Filter tab

3.14.1 CAP Filter tab shown in Figure 11 allows you to select, create, edit, or delete CAP filters for the Endec. There can be multiple filters created for various functions. At a minimum, you need to have one filter which specifies the locations covered by the station to receive alerts.
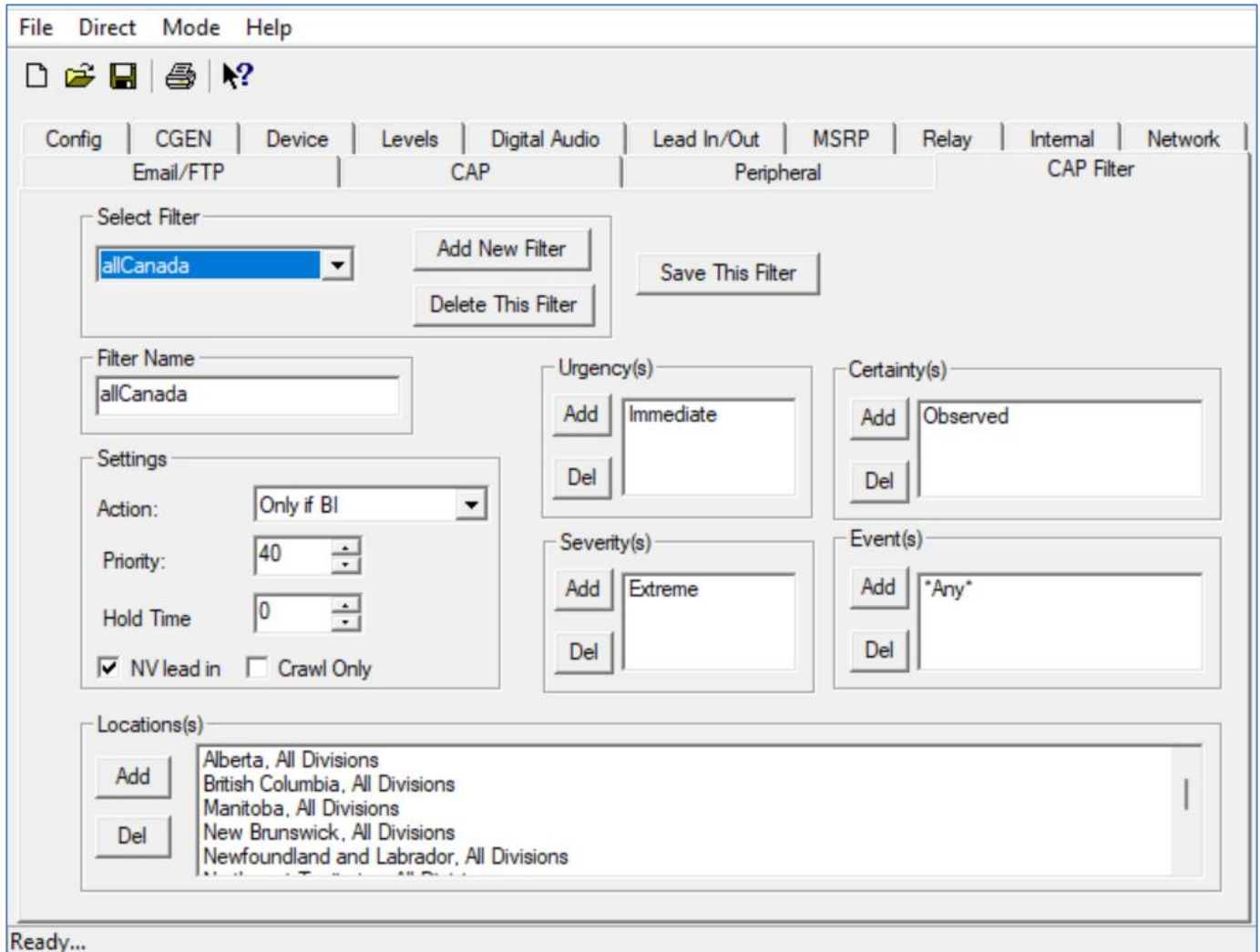

Figure 11.

a. Select Filter: allows selection of an existing filter for review or editing.

b. Add New Filter: creates a new filter group for the Endec.

c. Delete This filter: allows removing the selected filter from the Endec file.

d. Filter Name: Specify the name for the individual filter (i.e.: Station call sign for the main active filter, LiveTest for a filter to allow Live to air tests from NAAD)

e. Action: Select the desired action for this filter. There are now six options:

1. Automatic Relay - sends the alert to air immediately,

2. Log Only – allows the Endec to receive alerts as specified, but they are logged and do not go to air. This can be used for alerting new room staff of non Broadcast Immediate alerts that they may want to investigate.

3. Manual Relay – used to receive alerts but Endec holds the alert and waits for an operator to manually select it for sending to air.

4. Only if BI – When selected, the Endec will take no action on the received alert unless it matches at least one of the location codes set in this filter AND the alert code includes the SOREM Layer "Broadcast Immediate" flag set to "Yes". If this is the case, the Endec will perform automatic Relay of the alert.

5. Timed Ignore – When selected, the Endec will receive a non-BI alert matching the filter criteria and hold for a specified number of minutes. If at the end of this time the operator or automation system has not signaled the Endec to send the alert, it will be deleted without sending.`

6. Timed Relay - When selected, the Endec will receive a non-BI alert matching the filter criteria and hold for a specified number of minutes. If at the end of this time the operator or automation system has not signaled the Endec to send the alert, it will send the alert to air.

f. Priority: Sets the relative level of priority for the filter. When receiving alerts, the Endec will process matching filters of higher priority first, then lower priority after. Generally, you should set the main filter for 50, any optional filter for non-BI alerts you want to broadcast for 40 and optional test alerts (if included) for 30.

g. Hold Time: If filter action is set for Timed Ignore or Timed Relay, the Hold Time is set for the desired number of minutes the alert is to be held. At the end of this time, the appropriate action will occur.

h. NV Lead In check box: This feature has been replaced by the Lead IN/Out Tab, but can be left checked as the default.

i. Crawl Only check box: When checked, the Endec will only output the alert text to the com port designated for character generator. There will be no audio for alerts matching filters with this selected. (not recommended)

j. Locations: Select all SGC codes applicable to the station coverage area. Locations are entered one per line. There is no limit to the number of entries. There are now two methods of selecting the SGC codes required for station coverage:

1. Use the Drop-Down menus to select areas by Province, Census Division and Census Sub-Division by area name.

2. Use any combination of 4 digit Census Division codes or 7 digit Census Sub Division codes directly in the "Numeric SGC Code" entry box.

   You must enter all areas/codes required to include all of the station coverage area. For more on the SGC codes, refer to the document: Selecting SGC Codes for Endec filter files.

k. Save This Filter: use this button when you have created or edited a filter. You must save the filter before saving the entire file.

l. Urgency: select the desired levels of urgency for the filter.

    1. Multiple selections are allowed.

    2. The default is "Any"

    3. For "Live to Air Test filter, select "Unknown"

m. Severity: select the desired levels of severity for the filter.

    1. Multiple selections are allowed.

    2. The default is "Any"

    3. For "Live to Air Test filter, select "Unknown"

n. Certainty: select the desired levels of certainty for the filter.

    1. Multiple selections are allowed.

    2. The default is "Any"

    3. For "Live to Air Test filter, select "Unknown"

o. Events: select the desired list of event types to be used for the filter being configured.

    1. Multiple selections are allowed.

    2. The default is "Any"

    3. For "Live to Air Test filter, select "Test Message."

3.14.2 Sample filter file for BI only alerts is shown in Figure 12. This sample is a typical filter file for the Endec configured to broadcast the Broaadcast Immediate (BI)alerts that are required to go to air. **You need only select the Action, Priority and SGC codes/locations.** The Urgency, Severity and Certainty can be set for the highest levels, but it is not required when using the Only if BI Action setting.
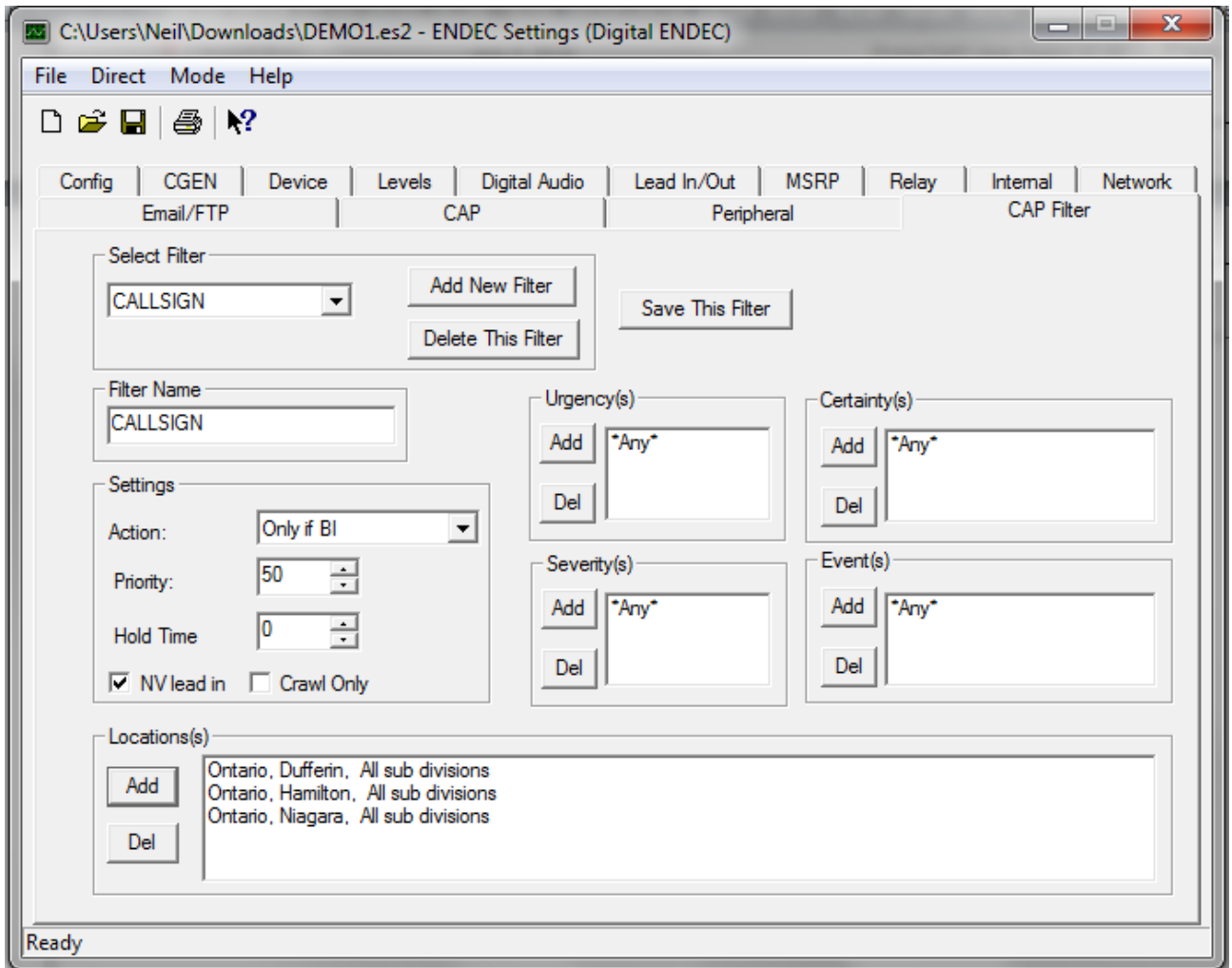

Figure 12.

3.14.3 Optional Test Filters. Not required for normal operation.

a. The filter shown in Figure 13 is the "Live-To-Air" test filter which is optional for the user. As of March 31, 2015, the Provincial Emergency Operations Centres have initiated scheduled tests of the NAADS system which do not require this filter. Use this filter only if you wish to participate in tests scheduled for times other than those listed on the Pelmorex website as "Public awareness test messages" (for current list of scheduled dates and times, refer to **https://alerts.pelmorex.com/#test-schedule**)

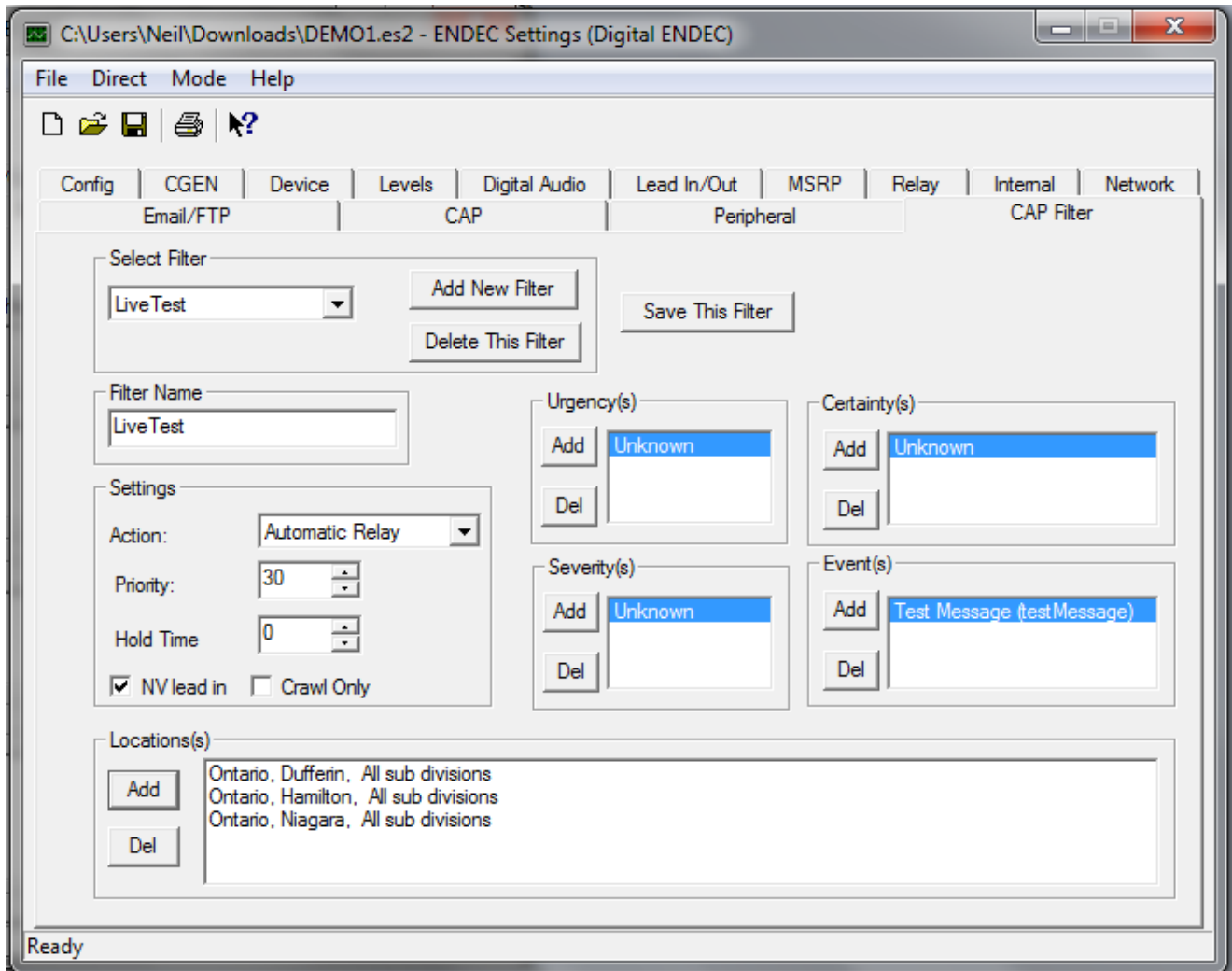

Figure 13.

b. The example in Figure 14 is for an optional non-BI alert filter which will allow the Endec to automatically broadcast alerts for the specified area which are for Avalanche, Flood, or Landslide.

Custom filters can be designed for any combination of Urgency, Severity, Certainty, and event types required for a specific user.

For more on event types, please refer to the current issue of the NAAD_System_LMD_User_Guide, available from Pelmorex website (https://alerts.pelmorex.com/lastmilesdistributors/)
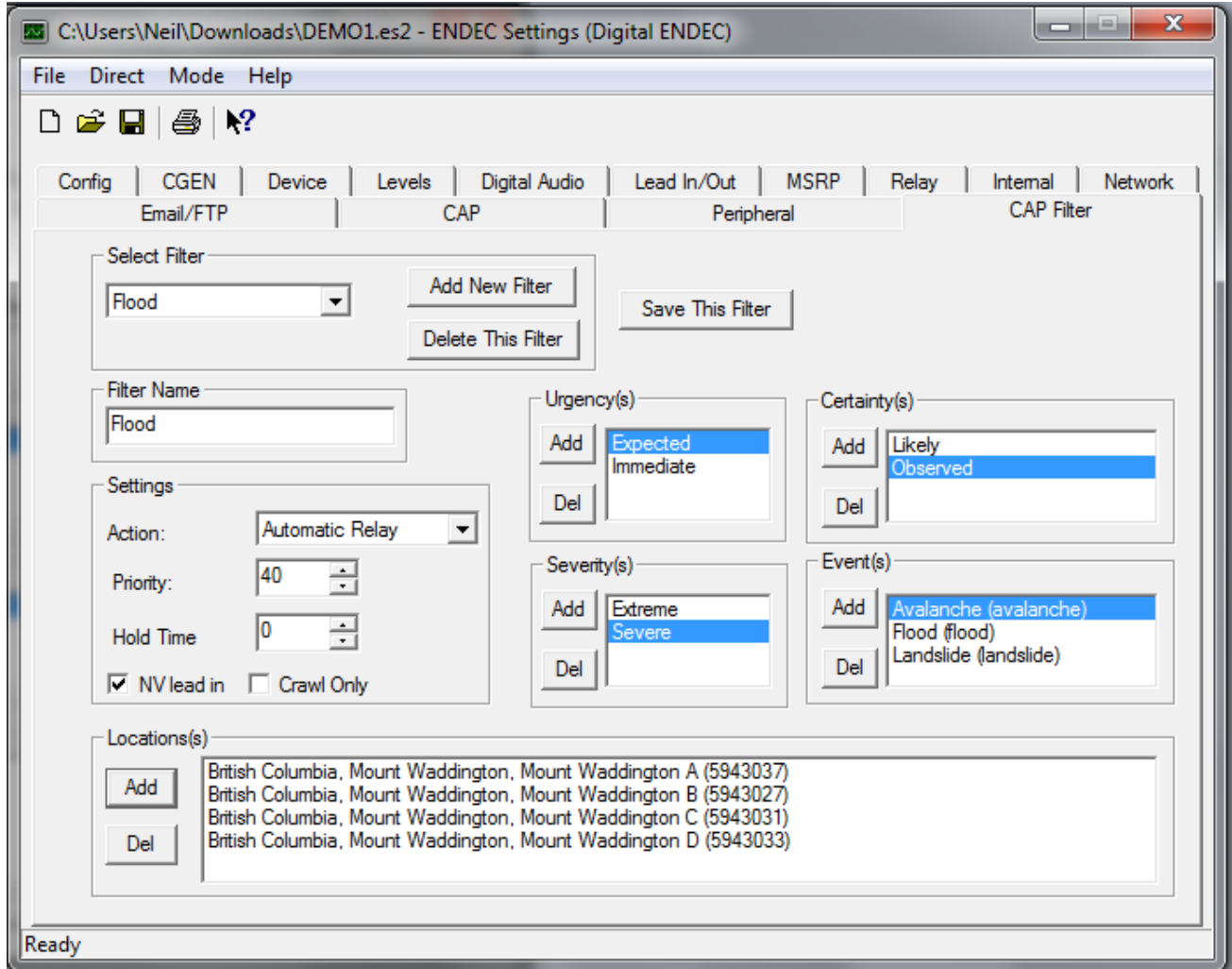

Figure 14.

Last page left empty to indicate that the reader is referring to an original document.