

DASDEC Compliance to FCC EAS Encoder/Decoder requirements in Part 11.32, 11.33, and 11.34

Digital Alert Systems, LLC - July 2004

Introduction

The DASDEC-1EN is a new kind of Emergency Alert System Encoder/Decoder platform. This is because it is built with the latest digital PC computer technology, instead of from custom electronic boards and circuits. The DASDEC encoding/decoding technology is software based, and is built upon the Linux OS. The DASDEC core hardware is a standard PC motherboard and digital audio sound cards. The DASDEC exploits the benefits of modern network technology. It is fully operable over a LAN using secure network protocols. In addition, it supports existing methods of device control using a serial port or ports. The DASDEC is representative of the continuing advance of digital device technology into technological areas that only a few years ago required custom hardware.

Compliance Statements

What follows is an item-by-item list of the FCC regulations for EAS Encoders and Decoders and how the DASDEC-1EN complies with each regulation.

Note:

As an aside, a method to incorporate text transmission techniques into the EAS protocol as referenced the 2001 NPRM and the 2002 R&O has been developed by Digital Alert Systems, LLC and is available in the DASDEC if this methodology is accepted. Please reference www.digitalalertsystems.com for information on this methodology.

1994 R&O and FNPRM Adopted: Nov. 10, 1994 Released: Dec. 9, 1994

R&O 12-9-94 ENCODER

11.32 EAS Encoder.

(a) EAS Encoders must at a minimum be capable of encoding the EAS protocol described in 11.31 and providing the EAS code transmission requirements described in 11.51. EAS encoders must additionally provide the following minimum specifications:

The DASDEC encodes messages into digital audio files (WAV format) using 16000 samples a second. Each encoded file may be played out of an analog audio output port from the sound card (s) into a transmitter or into an EAS decoder. These files are distortion free because they are mathematically computed. The audio quality of the soundcards is excellent and works well for the purpose of EAS encoding. Reliable communications with the TFT 911 and SAGE Endec, both certified EAS encoder decoder packages, attest to the accuracy of DASDEC EAS encoding.

The audio files exactly encode messages in the format described in 11.31 as follows:

[PREAMBLE]ZCZC-ORG-EEE-PSSCCC+TTTT-JJHHMM-LLLLLLLL-

(one second pause) (HEADER repeated three times)

(transmission of 8 to 25 seconds of Attention Signal) as described in 11.51

(transmission of audio, video or text messages) alert or test audio and text messaging

[PREAMBLE]NNNN (END of MESSAGE repeated three times)

(1) Encoder programming. Access to encoder programming shall be protected by a lock or other security measures and be configured so that authorized personnel can readily select and program the EAS Encoder with Originator, Event and Location codes for either manual or automatic operation.

DASDEC encoder access is via a Web browser interface. The DASDEC acts as a Web server and provides pages for configuration, monitoring, and operation. The interface is available to any HTTP browser, which can access the network to which the DASDEC belongs. Alternately, the same interface can be run directly upon a VGA monitor connected to the DASDEC. The Web interface provides a login page that is password protected. It can be set to use secure socket protocols, and is readily accessible to authorized personnel. The DASDEC is further secured in that it provides a password protected login shell on a VGA monitor and keyboard directly connected to its back plane connectors.

The DASDEC is very easy to program EAS alerts because it presents a graphical interface for all required operations on a single page. Since the DASDEC is accessible to computer workstations via a network, simply by using a browser on a workstation, an operator does not have to be physically present at the device in order to encode and send EAS alerts, but he must have the authorizing password.

(2) Inputs. The encoder shall have two inputs, one for audio messages and one for data messages (RS-232C with standard protocol and 1200 baud rate).

A DASDEC has at least one microphone audio input which can be used to record audio files placed into EAS alerts. It also provides an easy way to upload pre-recorded digital audio files via its networked Web interface. The DASDEC provides an RS-232 serial port which can be used for data messages, although this is for supporting legacy hardware. The built-in ethernet LAN interface provides a much more universally accessible method of data input. The DASDEC also provides data inputs as may be required through Universal Serial Bus (USB) ports. All of these methods are in compliance with the understanding of paragraph 37 of the 1995 Memorandum Opinion and Order. The Memorandum states: " In the Report and Order, we only specified a 1200 baud data rate and a standard RS-232C protocol. We did this because we believe that it will promote the innovative design of EAS equipment. Because our intention is to ensure that the EAS devices have a standard interface with other digital devices, such as an output printer or an input computer and to leave the particulars of the design up to the manufacturer we decline to expand the specifications for data input and output connections or to define an interface protocol."

(3) Outputs. The encoder shall have two outputs, one audio port and one data port (RS-232C with standard protocol and 1200 baud rate).

A DASDEC has at least one stereo audio output port for EAS alert audio. As stated above in (2), an RS232 serial port and USB ports are provided for communication with supported character generating and or control devices. As stated above, the DASDEC also has an ethernet LAN port that can and is used for data output.

(4) Calibration. EAS Encoders must provide a means to comply with the modulation levels required in 11.51(f). **A DASDEC provides separate outputs for each of the Attention Signal tones to allow external modulation levels to be set at greater than 40% modulation. Further external transmitter calibration levels are specified in 11.32(a)(4) in the 1997 2nd R&O are not changed by DASDEC operation.**

(5) Day-Hour-Minute and Identification Stamps. The encoder shall affix the JJHHMM and LLLLLLLL codes automatically to all initial messages.

DASDEC automatically affixes the time and encoder identification code to EAS transmissions. The encoder identification code is easily set from the Web interface.

(6) Program Data Retention. Program data and codes shall be retained even with the power removed. **DASDEC stores program data in non-power dependent digital storage. Encoding data is re-established, and all active state information is restored and accessible when power is restored and the DASDEC reboots. This follows the recommendations of NAB in the 1995 Memorandum Opinion and Order that states: "NAB recommends indefinite data retention, which would preclude the use of battery backup."**

(7) Indicator. An aural or visible means that is activated when the Preamble is sent and deactivated at the End of Message code.

DASDEC has an internal audio speaker, two front panel LED's and a 2x20 character LCD display to aurally and visually indicate the encoding and transmission of an EAS message.

(8) Spurious Response. All frequency components outside 200 to 4000 Hz shall be attenuated by 40 dB or more with respect to the output levels of the mark or space frequencies.

DASDEC digitally generates the mark, space and attention tone frequencies as pure sine waves and does not encode other frequency components. The digital to audio conversion plays silent parts silently with extremely small amounts of noise. Thus these sections are attenuated far below the mark and space frequencies and are at least 40 dB down.

(9) Attention Signal generator. The encoder must provide an attention signal that complies with the following:

(i) Tone Frequencies. The audio tones shall have fundamental frequencies of 853 and 960 Hz and not vary over ± 0.5 Hz.

DASDEC's digitally generated 853 and 960 frequencies and their playout do not vary over 0.5 Hz.

(ii) Harmonic Distortion. The total harmonic distortion of each of the audio tones may not exceed 5% at the encoder output terminals.

DASDEC's digitally created audio tones play at far below the maximum allowable 5% distortion level. Measurements of the soundcard produced around -70dB noise and distortion level for these audio tones.

(iii) Minimum Level of Output. The encoder shall have an output level capability of at least +8 dBm into 600 Ohm load impedance at each audio tone. A means shall be provided to permit individual activation of the two tones for calibration of associated systems.

DASDEC can activate each tone individually beyond specified levels. The maximum output was measured at the factory at +13.36 dBm for a 600 Ohm impedance.

(iv) Time Period for Transmission of Tones. The encoder shall have timing circuitry that automatically generates the two tones simultaneously for a time period of not less than 8 nor longer than 25 seconds. NOTE: Prior to July 1, 1995, the Attention Signal must be at least 20 and not more than 25 seconds.

DASDEC meets these tone transmission timing requirements by digitally encoding the WAV file to the specified duration.

(v) Inadvertent activation. The switch used for initiating the automatic generation of the simultaneous tones shall be protected to prevent accidental operation.

DASDEC requires defined distinct program steps within the Web interface to generate the tones and thus avoids inadvertent activation.

(vi) Indicator Display. The encoder shall be provided with a visual and/or aural indicator which clearly shows that the Attention Signal is activated.

The DASDEC provides an internal speaker and front panel LED indicating activation.

(b) Operating Temperature and Humidity. Encoders shall have the ability to operate with the above specifications within an ambient temperature range of 0 to +50 degrees C and a range of relative humidity of up to 95%.

The DASDEC's active component is the VIA EPIA motherboard and associated power supply can operate within this range.

(c) Primary Supply Voltage Variation. Encoders shall be capable of complying with the requirements of this section during a variation in primary supply voltage of 85 percent to 115 percent of its rated value.

The DASDEC will operate within the designated variation in primary supply voltage.

(d) Testing Encoder Units. Encoders not covered by 11.34(e) of this part shall be tested in a 10 V/m minimum RF field at an AM broadcast frequency and a 0.5 V/m minimum RF field at an FM or TV broadcast frequency to simulate actual working conditions.

DASDEC is configured from PC design designated to operate in various radiation environments.

DASDEC radiation emissions' testing is complete and laboratory reports have been submitted to the FCC.

R&O 12-9-94 DECODER

11.33 EAS Decoder.

(a) An EAS Decoder must at a minimum be capable of decoding the EAS protocol described in 11.31, provide the EAS monitoring functions described in 11.52, and the following minimum specifications:

DASDEC provides the required monitoring functions and decodes the EAS protocol by using software that continually records incoming input audio and scans for EAS alert data.

(1) Inputs. Decoders must have the capability to receive at least 2 audio inputs from EAS monitoring assignments, and one data input (RS-232C with standard protocol and 1200 baud rate). The data input may be used to monitor other communications modes such as Radio Broadcast Data System (RBDS), NWR, satellite, public switched telephone network, or any other source that uses the EAS protocol.

DASDEC provides a minimum of two monitoring inputs, and has expansion capability to more inputs. Data input from the noted sources can be provided by the RS-232 serial port or from the USB ports. Note: The USB ports support converters for additional serial ports. Data can also be received using an ethernet LAN. As stated earlier for the encoder, this hardware and these methods are in compliance with the understanding of paragraph 37 of the 1995 Memorandum Opinion and Order.

(2) Valid codes. There must be a means to determine if valid EAS header codes are received and to determine if preselected header codes are received.

The DASDEC Web interface lets a user easily set preselected header codes and conditions, and can determine when a valid EAS header, meeting those conditions, is received.

(3) Storage. Decoders must provide the means to:

(i) Record and store at least two minutes of audio or text messages.

DASDEC stores audio and text as files on a digital hard drive or flash drive. It stores audio in the WAV digital audio format, and text as ASCII text files. Because of this, the DASDEC can store many hours of audio and thousands of text messages.

(ii) Store at least 10 preselected header codes for comparison with incoming header codes. A non-preselected header code that is manually transmitted must be stored for comparison with later incoming header codes. The header codes of the last ten received valid messages which still have valid time periods must be stored for comparison with the incoming valid header codes of later messages. The header codes will be deleted from storage as their valid time periods expire.

DASDEC using currently available programming and storage capability greatly exceeds the limited storage, monitoring, and comparison requirements of this section.

(4) Display. A visual message shall be developed from any valid EAS header codes received. The message will include the Originator, Event, Location, the valid time period of the message and the local time the message was transmitted. The message shall be in the primary language of the broadcast station or cable system and be fully displayed on the decoder and readable in normal light and darkness.

DASDEC provides a two-line 20-character LCD display to show the components and the message of the EAS activation. DASDEC is capable of supporting other Latin character-based languages.

(5) Indicators. EAS Decoders must have a distinct aural or visible means to show that it is activated when:

(i) any valid EAS header codes are received as specified in 11.33(a)(10).

(ii) preprogrammed header codes, such as those selected in accordance with 11.52(d) are received

(iii) a signal is present at each audio input that is specified in 11.33(a)(1).

DASDEC provides aural and visual means to indicate it has been activated by an EAS message. It can also aurally monitor each of the two audio inputs. LCD display on the front panel provides information to discriminate the activating condition as clarified in paragraph 35 of the 1995 Memorandum Opinion and Order that states: " Our intention was for the EAS decoder to have an indicator for each of these conditions."

(6) Program Data Retention. The program data must be retained even with power removed.

DASDEC stores its internal state variables as well as decoded EAS information to non-power dependent digital media. This data is available and re-read when power is restored. Reference 11.32(a)(6) above.

(7) Outputs. Decoders shall have the following outputs: a data port or ports (RS-232C with standard protocol and 1200 baud rate) where received valid EAS header codes and received preselected header codes are available; one audio port that is capable of monitoring each decoder audio input; and, an internal speaker to enable personnel to hear audio from each input.

DASDEC provides an RS232 input/output port, selectable inputs to the audio output port, and an internal speaker for operating personnel.

(8) Decoder Programming. Access to decoder programming shall be protected by a lock or other security measures and be configured so that authorized personnel can readily select and program the EAS Decoder with preselected Originator, Event and Location codes for either manual or automatic operation.

DASDEC decoder setup and operations is secured as indicated in response to the encoder section 11.32(a)(1) above.

(9) Reset. There shall be a method to automatically or manually reset the decoder to the normal monitoring condition. If an end of message code (EOM) is not received for an EAS message, operators shall be able to select an automatic reset time which may not be less than two minutes. Messages received with the EAN Event codes shall disable the reset function so that lengthy audio messages can be handled. The last message received with valid header codes shall be displayed as required by 11.33(a)(4) of this section before the decoder is reset.

DASDEC automatically resets normal monitoring if EOM is not received within 2 minutes. DASDEC programming allows the operator to establish monitoring and response times, within limits, display current and previous activations, and fix EAN priority.

(10) Message Validity. An EAS Decoder must provide error detection and validation of the header codes of each message to ascertain if the message is valid. Header code comparisons may be accomplished through the use of a bit-by-bit compare or any other error detection and validation protocol. A header code must only be considered valid when two of the three headers match exactly. Duplicate messages must not be relayed automatically.

The DASDEC decoding software compares incoming header codes for validity, and also compares incoming headers with previously stored headers to prevent automatically relaying duplicate messages.

(11) A header code with the EAN Event code specified in 11.31(c) of this part that is received through either of the two audio inputs must override all other EAS messages.

DASDEC recognizes and responds to the priority assigned to EAN.

(b) Attention Signal. EAS Decoders at broadcast stations shall have detection and activation circuitry that will demute a receiver upon detection of the two audio tones of 853 Hz and 960 Hz. To prevent false responses, decoders designed to use the two tones for broadcast receiver demuting shall comply with the following:

(1) Time Delay. A minimum time delay of 8 but not more than 16 seconds of tone reception shall be incorporated into the demuting or activation process to insure that the tones will be audible for a period of at least 4 seconds. After July 1, 1995, the time delay shall be 3-4 seconds.

(2) Operation Bandwidth. The decoder circuitry shall not respond to tones which vary more than ± 5 Hz from each of the frequencies, 853 Hz and 960 Hz.

(3) Reset Ability. The decoder shall have a means to manually or automatically reset the associated broadcast receiver to a muted state.

DASDEC decoding software detects the Attention Signal tones at a programmable accuracy close to 0.6 Hz and can be made to activate a General Purpose output relay in order to demute a receiver. The standard DASDEC decoding software simply recognizes when it is examining the Attention Signal portion as part of standard decoding of an EAS alert.

(c) Decoders shall be capable of operation within the tolerances specified in this section as well as those in 11.32(b), (c) and (d).

DASDEC decoder meets these tolerances.

MEMORANDUM OPINION AND ORDER

Adopted: Oct 4, 1995 Released: Oct 23, 1995

Appendix 1-

Section 11.33(a)(3)(i) states that decoders must provide a means to record and store at least two minutes of audio or text messages. This is clarified to state that the audio or text storage can be internal or external to the decoder device. If no internal means for recording and storing is manufactured internal to the decoder, then some means to couple to an external device, such as an audio or digital jack connection, must be supplied on the decoder.

The DASDEC stores audio internally in the WAV digital audio format and text as files. It can store hours of audio and many thousands of text files.

Section 11.33(a)(3)(ii) states that decoders must provide a means to store a minimum of 10 preselected header codes. We clarify this rule to specify that the decoder must store ten preselected event and originator code combinations in addition to the eight mandatory code combinations of tests and national activations. Also, we specify that the decoder must store location codes pertaining to the broadcast station coverage areas or the cable system's community in addition to event and originator codes.

DASDEC operation is not changed by this clarification.

- Section 11.33(a)(11) states that header codes with an EAN Event code that is received by the two decoder audio inputs must be able to override all other EAS messages. This is amended to state that EAN Event codes received by any of the decoder audio inputs must override all other EAS messages, as it is possible that manufacturers may create decoders with more than two audio inputs.

DASDEC recognizes and responds to the priority assigned to EAN.

- Section 11.33(b)(2) states that the tolerance of the two-tone frequencies in the decoder are 0.5 Hz above or below nominal. This is corrected to state the tolerance is 5 Hz.

The accuracy of the two-tone frequencies has been measured at the factory and meets the allowed tolerance. Further reliable communications with the TFT 911 and SAGE Endec, both certified EAS encoder decoder packages, attest to the accuracy of decoding the designated frequencies. Independent verification of the accuracy of these tones can be provided if needed.

11.33 EAS Decoder.

(a) * * *

(3) * * *

(i) Record and store, either internally or externally, at least two minutes of audio or text messages. A decoder manufactured without an internal means to record and store audio or text must be equipped with a means (such as an audio or digital jack connection) to couple to an external recording and storing device.

The DASDEC internally stores audio and text messaging in a digital format.

(ii) Store at least 10 preselected event and originator header codes, in addition to the eight mandatory event/originator codes for tests and national activations, and store any preselected location codes for comparison with incoming header codes. A non-preselected header code that is manually transmitted must be stored for comparison with later incoming header codes. The header codes of the last ten received valid messages which still have valid time periods must be stored for comparison with the incoming valid header codes of later messages. These last received header codes will be deleted from storage as their valid time periods expire.

DASDEC programming addresses changes in the requirements of this section as noted by the underline above.

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SECOND REPORT AND ORDER Adopted: Sept. 24, 1997 Released: Sept. 29, 1997

This report and order deals mainly with the implementation schedule and facility operational requirements. Comments regarding modulation levels in 11.32(a)(4) were included earlier. Sections (g) through (m) do not change encoder, decoder, or equipment acceptability requirements. A copy of these sections is included for your reference.

11.32(a)(4) of this part, shall modulate the transmitter at no less than 80% of full channel modulation limits. Measured at peak modulation levels, each of the Attention Signal tones shall be calibrated separately to modulate the transmitter at no less than 40%. These two calibrated modulation levels shall have values that are within 1 dB of each other.

(g) Effective October 1, 2002, cable systems with fewer than 5,000 subscribers per headend and wireless cable systems with fewer than 5,000 subscribers shall transmit EAS audio messages in the same order specified in paragraph (a) of this section on at least one channel. The Attention Signal may be produced from a storage device. Additionally, cable systems and wireless cable systems must:

(1) Install, operate, and maintain equipment capable of generating the EAS codes. The modulation levels for the EAS codes and Attention Signal shall comply with the aural signal requirements in ' 76.605 of this chapter,

(2) Provide a video interruption and an audio alert message on all channels. The audio alert message must state which channel is carrying the EAS video and audio message,

(3) Cable systems and wireless cable systems shall transmit a visual EAS message on at least one channel. The message shall contain the Originator, Event, Location, and the valid time period of the EAS message. If the visual message is a video crawl, it shall be displayed at the top of the subscriber's television screen or where it will not interfere with other visual messages.

(4) Cable systems and wireless cable systems may elect not to interrupt EAS messages from broadcast stations based upon a written agreement between all concerned. Further, cable systems and wireless cable systems may elect not to interrupt the programming of a broadcast station carrying news or weather related emergency information with state and local EAS messages based on a written agreement between all parties.

(h) Effective December 31, 1998, cable systems with 10,000 or more subscribers; and, effective October 1, 2002, cable systems serving 5,000 or more, but less than 10,000 subscribers per headend and wireless cable systems with 5,000 or more subscribers; shall transmit EAS audio messages in the same order specified in paragraph (a) of this section. The Attention Signal may be produced from a storage device. Additionally, after the dates indicated, these cable systems and wireless cable systems must:

(1) Install, operate, and maintain equipment capable of generating the EAS codes. The modulation levels for the EAS codes and Attention Signal for cable systems shall comply with the aural signal requirements in ' 76.605 of this chapter. This will provide sufficient signal levels to operate cable subscriber television and radio receivers equipped with EAS decoders and to audibly alert subscribers. Wireless cable systems shall also provide sufficient signal levels to operate subscriber television and radio receivers equipped with EAS decoders and to audibly alert subscribers.

(2) The above cable systems and wireless cable systems shall transmit the EAS audio message required in paragraph (a) of this section on all downstream channels.

(3) The above cable systems and wireless cable systems shall transmit the EAS visual message on all downstream channels. The visual message shall contain the Originator, Event, Location and the valid time period of the EAS message. These are elements of the EAS header code and are described in ' 11.31 of this part. If the visual message is a video crawl, it shall be displayed at the top of the subscriber's television screen or where it will not interfere with other visual messages.

(4) Cable systems and wireless cable systems may elect not to interrupt EAS messages from broadcast stations based upon a written agreement between all concerned. Further, cable systems and wireless cable systems may elect not to interrupt the programming of a broadcast station carrying news or weather related emergency information with state and local EAS messages based on a written agreement between all parties.

(i) If manual interrupt is used as authorized in paragraph (k) of this section, EAS Encoders must be located so that broadcast station, cable system or wireless cable system staff, at normal duty locations, can initiate the EAS code and Attention Signal transmission.

(j) Broadcast stations, and cable systems and wireless cable systems that are co-owned and co-located with a combined studio or control facility, (such as an AM and FM licensed to the same entity and at the same location or

a cable headend serving more than one system) may provide the EAS transmitting requirements contained in this section for the combined stations or cable systems or wireless cable systems with one EAS Encoder. The requirements of 11.32 must be met by the combined facility.

(k) Broadcast stations and cable systems and wireless cable systems are required to transmit all received EAS messages in which the header code contains the Event codes for Emergency Action Notification (EAN), Emergency Action Termination (EAT), and Required Monthly Test (RMT), and when the accompanying location codes include their State or State/county. These EAS messages shall be retransmitted unchanged except for the LLLLLLLL- code which identifies the broadcast station, cable system, wireless cable system, or other entity retransmitting the message. See ' 11.31(c) of this part. If an EAS source originates an EAS message with the above Event codes, it must include the location codes for the State and counties in its service area. When transmitting the required weekly test, broadcast stations and cable systems and wireless cable systems shall use the event code RWT. The location codes are the state and county for the broadcast station city of license or cable system or wireless cable system community or city. Other location codes may be included upon approval of broadcast station, cable system or wireless cable system management. EAS messages may be transmitted automatically or manually.

(1) Automatic interrupt of programming and transmission of EAS messages are required when facilities are unattended. Automatic transmissions must include a permanent record that contains at a minimum the following information: Originator, Event, Location and valid time period of the message. The decoder performs the functions necessary to determine which EAS messages are automatically transmitted by the encoder.

(2) Manual interrupt of programming and transmission of EAS messages may be used. EAS messages with the EAN Event code must be transmitted immediately and Monthly EAS test messages within 15 minutes. All actions must be logged and include the minimum information required for EAS video messages.

(l) Broadcast stations and cable systems and wireless cable systems may employ a minimum delay feature, not to exceed 15 minutes, for automatic interrupt of EAS codes. However, this may not be used for the EAN Event which must be transmitted immediately.

(m) Either manual or automatic operation of EAS equipment may be used at broadcast stations and cable systems and wireless cable systems that use remote control. If manual operation is used, an EAS decoder must be located at the remote control location and it must directly monitor the signals of the two assigned EAS sources. If direct monitoring of the assigned EAS sources is not possible at the remote location, automatic operation is required. If automatic operation is used, the remote control location may be used to override the transmission of an EAS alert. Broadcast stations and cable systems and wireless cable systems may change back and forth between automatic and manual operation.

THIRD REPORT AND ORDER Adopted: Dec. 14, 1998 Released: Dec. 23, 1998

The 3rd R&O did not make changes to the encoder, decoder, or equipment acceptability.

NOTICE OF PROPOSED RULEMAKING Adopted: March 13, 2001 Released: March 20, 2001

The NPRM questions test timing, modulation levels, and reference to Emergency Action Network.

The NPRM also invites comment on requests that the Commission amend Part 11 to add a protocol for the transmission of text information following the EAS alert; amend the list of state and local EAS event codes to add new event codes for emergency conditions not currently addressed; amend the list of location codes to include new codes for marine areas; permit the carriage of audio of Presidential messages from non-EAS sources; and allow equipment manufacturers to include an optional feature in EAS equipment that would give EAS participants the capability to select only certain received EAS messages for processing.

The only changes to the encoder/decoder protocol or operation questioned in this NPRM are the possible addition of event codes and a form of text transmission. DASDEC can add new event or FIPS codes as they are defined.

REPORT AND ORDER Adopted: February 22, 2002 Released: February 26, 2002

This R&O defines some operational configuration requirements and some modulation levels but does not change the encoder definition under 11.32 or the encoder definition under 11.32. It refused to accept the text transmission technique requested by SBE in the 2001 NPRM and encouraged further investigation in text transmission as a part of EAS. For information on the "text transmission techniques" called TDX for Textual Data exchange developed by Digital Alert Systems, LLC please refer to www.digitalalertsistemas.com.

Paragraph 72 Defined decoder only operation but did not change the decoder definition under 11.33 this authorized the production and sales of EAS decoders without associated encoders.

There are no acceptability (11.34) changes in the 2002 documentation.

NOTICE OF PROPOSED RULEMAKING Adopted: March 4, 2004 Released: March 12, 2004

This NPR questions multichannel wireless operators ability method of overriding certain channels and does not change the definition of 11.32, 11.33, or 11.34.