

have valid time periods must be stored for comparison with the incoming valid header codes for later messages. These last received header codes will be deleted from storage as their valid time periods expire.

(4) *Display and logging.* For received alert messages formatted in both the EAS Protocol and Common Alerting Protocol, a visual message shall be developed from any valid header codes for tests and national activations and any preselected header codes received. The message shall at a minimum 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 EAS Participant and be fully displayed on the decoder and readable in normal light and darkness. The visual message developed from received alert messages formatted in the Common Alerting Protocol must conform to the requirements in §§11.51(d), (g)(3), (h)(3), and (j)(2) of this part. All existing and new models of EAS decoders manufactured after August 1, 2003 must provide a means to permit the selective display and logging of EAS messages containing header codes for state and local EAS events. Effective May 16, 2002, analog radio and television broadcast stations, analog cable systems and wireless cable systems may upgrade their decoders on an optional basis to include a selective display and logging capability for EAS messages containing header codes for state and local events. EAS Participants that install or replace their decoders after February 1, 2004 must install decoders that provide a means to permit the selective display and logging of EAS messages containing header codes for state and local EAS events.

(5) *Indicators.* EAS decoders must have a distinct and separate aural or visible means to indicate when any of the following conditions occurs:

- (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)(2) are received.
- (iii) A signal is present at each audio input that is specified in §11.33(a)(1).

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

(7) *Outputs.* Decoders shall have at least one data port where received valid EAS header codes and received preselected header codes are available, at least 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.

(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.

(9) *Reset.* There shall be a method to automatically or manually reset the decoder to the normal monitoring condition. Operators shall be able to select a time interval, not less than two minutes, in which the decoder would automatically reset if it received an EAS header code but not an end-of-message (EOM) code. 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 paragraph (a)(4) of this section before the decoder is reset.

(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; the Origination Date/Time field (JJJHHMM) is not more than 15 minutes in the future and the expiration time (Origination Date/Time plus Valid Time TTTT) is in the future (*i.e.*, current time at the EAS equipment when the alert is received is between origination time minus 15 minutes and expiration time). Duplicate messages must not be relayed automatically.