EAS APPLICATION NOTE No. 1004

RADIO AND TV AUTOMATION INTERFACE USING THE EAS 911T CHARACTER GENERATOR PORT

The EAS 911T Encoder/Decoder can be interfaced to a radio or TV station's automation system through the Character Generator (CG) port, COM2, of the Four Port COM Expander option. Incoming EAS messages can be delayed and forwarded under the control of the automation system with a few RS-232 ASCII commands.

When the Character Generator interface is enabled through setup menu item 18, ENABLE CHAR GEN INTERFACE, message forwarding is controlled through the CG port. A series of ASCII commands has been defined in the TFT Character Generator Protocol to accomplish message delay and forwarding. The CG port also provides a text translation of the cryptic EAS header information.

Operation

When the EAS 911T is set for Auto Forwarding and an EAS message is received, the EAS 911T will transmit an "I have a message" command to the automation system or CG. The automation system must acknowledge the command within six seconds and can then wait until an appropriate time to forward the EAS message. One command to the EAS 911T will forward the EAS Header and two-tone Attention Signal; another will forward the audio voice message and End of Message (EOM).

Communications and Commands

The CG interface transmits and receives RS-232 ASCII data at 9600 baud (8, N, 1). The commands and data are preceded with an ASCII Start of Text (STX) and concluded with an End Of Text (ETX). A listing of the commands follows. Note that the "Control" numbers do not strictly follow the ASCII convention; the Control numbers are defined in Table 1.

1. **Message Waiting**
   STX + Control-4 + EAS Header + ETX.
   The "I have a message" command from the EAS 911T to the automation/CG interface.

2. **Acknowledgment/Header Translation Request**
   STX + Control-3 + ETX.
   Acknowledgment to the EAS 911T from the automation system to be sent within six seconds. This command requests the translation text of the cryptic EAS header. The EAS 911T responds with an English translation of the EAS header. A TV station or cable system would use this text for a crawl on the screen; a radio station's automation system would simply discard the text. The EAS 911T concludes transmission of the translation text with STX + Control-3 + ETX. This command is required only once within a six second time-out period. It may be repeated optionally as often as necessary.

3. **Send Header and Attention Signal**
   STX + Control-1 + ETX.
   A request from the automation system to the EAS 911T to transmit the EAS Header audio and two-tone Attention Signal. The EAS 911T will close the On-Air relay, transmit the Header and Attention Signal, open the On-Air relay, then conclude with STX + Control-1 + ETX to the automation system.

4. **Send Voice and EOM**
   STX + Control-2 + ETX.
   A request from the automation system to the EAS 911T to transmit the EAS alert voice message and EOM signal. The EAS 911T will close the On-Air relay, transmit the alert voice message and EOM signal, open the On-Air relay, then conclude with STX + Control-2 + ETX to the automation system.

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5. **Send Voice**
   STX + Control-7 + ETX.
   A request from the automation system to the EAS 911T to transmit only the EAS alert voice message. The EAS 911T will close the On-Air relay, transmit the alert voice message, open the On-Air relay, then conclude with STX + Control-7 + ETX to the automation system.
6. **Send Pre-Recorded Voice Announcement**
   STX + Control-6 + ETX.
   A request from the automation system to the EAS 911T to transmit the pre-recorded voice announcement stored in the 25-second voice recorder area. The EAS 911T will close the On-Air relay, transmit the pre-recorded voice announcement, open the On-Air relay, then conclude with STX + Control-6 + ETX to the automation system.

7. **Send Text Message**
   STX + Control-5 + ETX.
   A request from the automation system to the EAS 911T to transmit the last EAS text message.
   Not implemented. Included for future use when EAS text transmission is provided.

8. **Error Message**
   STX + Control-8 + ETX.
   A message from the EAS 911T to the automation system that an exception condition (abort or time-out) has occurred.

The Message Waiting transmission to the automation system must be acknowledged within six seconds. All other requests from the automation system have no time constraints and can occur at any time, and can be repeated as often as desired.

Table 1. Control Codes

STX	Hex 0x02	Control-4	Hex 0x07
ETX	Hex 0x03	Control-5	Hex 0x08
Control-1	Hex 0x04	Control-6	Hex 0x09
Control-2	Hex 0x05	Control-7	Hex 0x0A
Control-3	Hex 0x06	Control-8	Hex 0x0B