



CODAN Radio Tech Notes

NVIS Communications LLC

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Question: *How do I change between analog voice, digital voice, and encrypted digital voice?*

Answer (short version):

1. Press 8 “SEC” to toggle between analog voice and digital voice.
2. Hold 8 “SEC” for approx. 2 seconds.
 - a. If you are not in Advanced View, you will be able to “Select Rate” and “Select Key Index”.
 - b. If you are in Advanced View, you also will be able to view (but not change) the “DV Waveform”.
 - c. If you are logged in as Admin, you will also be able to add, edit, or delete encryption keys. You cannot view encryption keys; edit allows you to completely replace the value of a key.

Answer (long version):

1. To alternate between analog voice and digital voice, press key 8 “SEC”. Field 1 on the display will show “Clear Voice”, possibly alternating with “Easitalk On”, when set for Analog Voice ; when in digital voice mode it will show the name of the encryption key if a key has been loaded (e.g., TEK001) followed by the digital voice sampling rate (600, 1k2 (1200), or 2k4 (2400) bps. These rates are available when using the 2G modem. If using the 3G modem additional rates are available: 300 and 480 bps).
2. To change digital voice parameters:
 - a. Press Menu
 - b. Log in as Admin
 - c. Select Settings
 - d. Select Security
 - e. As appropriate for your system, set the value for “Digital Voice Type” to “Codan” (default) or “Open”. Codan digital voice is the better of the two, but only works with Codan radios or other radios



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using the external Codan digital voice modem. “Open” digital voice will be compatible with other manufacturers’ radios if they use a compatible digital voice modem made by RapidM.

- f. As appropriate for your system, set the value for “Vocoder Type” to “TWELP” (default) or “MELPe”
 - g. As appropriate for your system, set the value for “Secure Data” to “Unlocked” if you want to send data unencrypted, or to “Locked On” if you always want your data transmissions encrypted (note: this applies to data sent using the radio’s internal modem, not using an external modem such as a Pactor modem for Winlink).
 - h. To allow unencrypted digital voice, change the value of “Allow Unencrypted” from Disabled to Enabled
 - i. Press Save if any values were changed, otherwise press Close
3. Hold the 8 “SEC” key (approx. 2 seconds). There are 2 tabs visible; use the right tab, “Gen2 DV and Data”. From this tab you can “Select Rate” and “Select Key Index”. After changing either or both settings, press the “Activate” key.
 4. To communicate in Digital Voice without encryption, you will need to disable AES-256 encryption:
 - a. Press Menu
 - b. Select Settings
 - c. Select Security
 - d. Allow Unencrypted must be set to Enabled
 - e. You must program a hot key (recommended: 9+hold) for Perform Action: Toggle Encryption
 - f. Remember to re-enable AES-256 encryption if that is your normal operating method.