



ANI-F-VX

Multi-Format ANI Encoder

Manual Revision: 2009-05-05

This manual & product supports the following radios:

Portables: VX-350, VX-410, VX-420, VX-600, VX-800, VX-820, VX-900, VX-920

Mobiles: VX-2100, VX-2200, VX-4000, VX-4100, VX-4200, VX-5500, VX-6000

Covers Software Revisions:

ANI-F: 1.0 & Higher

SPECIFICATIONS

Operating Voltage	3.5 VDC
Operating Current	3.5 mA
Operating Temperature	-30 - +60 C
Frequency Range	280-3600 Hz
PTT Output Current	200 mA
Audio Output Level	1V RMS
Audio Output Impedance	10K Ω /22 K Ω
Tone Distortion	<1%

GENERAL INFORMATION

Midian's ANI-F Series products encode ANI and Emergency ANI to display on ANI display decoder to identify which field unit is being keyed. The following is a list of benefits provided by ANI systems:

- Allows dispatchers to know who he or she is talking to.
- Identify system abusers.
- Identify emergency conditions.
- Assign calls fairly.

The ANI-F-VX offers ANI & Emergency ANI in Motorola's MDC-1200, Kenwood's FleetSync, M/A-Com's G-Star, DTMF and 5-tone. The ANI-F can be used with Midian's ADD, CAD, DDU and TRC Series products for monitoring ANI and ENI transmissions.

INSTALLATION OVERVIEW

1. Test the radio for functionality.
2. Program the ANI-F-VX per the Product Programming Section of this manual.
3. Install the ANI-F-VX into the radio per the Hardware Installation Section of this manual.
4. Program the radio per the Radio Programming Section of this manual.

***Midian is not responsible for any damage/loss resulting from the use of Midian's products.

PRODUCT PROGRAMMING

Midian's ANI-F-VX is programmed using the KL-3 programmer and VPI-1. Please reference the KL-3 and VPI-1 manuals for setup instructions of the programming software and hardware. From the product selection screen on the KL-3 software, select the appropriate product name from the list and click OK.

Set the parameters of the ANI-F-VX software to fit the application. If any clarifications on a feature are required, move the mouse cursor over the feature name until the question mark appears and right click, a definition of the feature will be shown. If 2-tone or custom tones will be used in the ANI-F-VX, you will need to select "Enable Advanced ANI Tone Definitions" in the "ANI Tone Definitions" tab.

After entering the parameters, save the file by going to File - Save As. Enter the file name in the File Name block and click Save. Saving the file will allow for quick and easy reprogramming of units.

Plug the ANI-F-VX onto the VPI-1 and plug the interface into the KL-3. Make certain the black jumper is set for ANI.

To program the ANI-F-VX, on the VPI-1, push the PTT button and hold, push the Power button and hold, and click "Program Unit" in the menu bar to send the file to the ANI-F-VX. The LED on the interface will flash indicating programming is complete. Follow the same procedure to read the unit, but select "Read Unit" in the menu bar.

HARDWARE INSTALLATION

Be certain to follow standard anti-static procedures when handling any of Midian's products.

VX-350: Remove the battery, exposing the option board cover and remove the cover. Plug the module onto the options connector. Replace the option board cover and battery. The ANI-F-VX requires this radio have firmware version 1.0 or higher.

VX-410, VX-420: Remove the battery, exposing the option board cover and remove the cover. Remove the dummy board from the radio and replace with the ANI-F-VX. Replace the option board cover and battery. The ANI-F-VX requires this radio have firmware version 1.04 or higher.

VX-600, VX-900: Remove the battery, exposing the option board cover and remove the cover. Remove the dummy board from the radio and replace with the ANI-F-VX. Replace the option board cover and battery. The ANI-F-VX requires this radio have firmware version 1.22 or higher.

VX-800: Remove the battery, exposing the option board cover and remove the cover. Remove the dummy board from the radio and replace with the ANI-F-VX. Replace the option board cover and battery. The ANI-F-VX requires this radio have firmware version 1.28 or higher.

VX-820, VX-920: Remove the battery, exposing the option board cover and remove the cover. Remove the dummy board from the radio and replace with the ANI-F-VX. Replace the option board cover and battery. The ANI-F-VX requires this radio have firmware version 1.19 or higher.

VX-4000, VX-5500, VX-6000: Remove the cover of the radio exposing the options connector. Plug the FIF-7 (from Vertex) onto the options connector. Then plug the ANI-F-VX onto the FIF-7. It may be necessary, for PTT control, to either jumper pins 6 & 8 on the FIF-7's J1001 or to remove R2 from the ANI-F-VX and install a jumper from the ANI-F-VX's Pad-3 (PTT IN) to pin 9 on the radios J3902. The ANI-F-VX requires this radio have firmware version 2.02 or higher.

VX-2100, VX-2200, VX-4100, VX-4200: Remove the cover of the radio, exposing the options connector. Plug the ANI-F-VX onto the options connector.

HARDWARE ALIGNMENT

For the TX Audio Output in a wide band system, set the ANI modulation pot R12 to 3.3 KHz (66% of 5 KHz) of deviation per EIA specifications. For the TX Audio Output in a narrow band system, set the ANI modulation pot R12 to 1.65 KHz (66% of 2.5 KHz) of deviation per EIA specifications.

RADIO PROGRAMMING

VX-350: For the VX-350 radio programming software CE-86 v1.01 or higher must be used.

Read the radio with the option board installed. Select “Common” from the menu and then “Option”. The “Option Unit” should be read as “FVP-35”.

Under the “Common” heading select “Key Function” to set which key will control Emergency ANI. Program the desired button to “Option Switch” or “Option Switch 2”.

Download the program to the radio.

VX-410/420: This radio requires programming software CE-64 v1.00 or higher. Read the radio with the option board installed. Select “Common” from the menu and then “Option”. Set the “Option Board” to “ANI”.

To set a button for control of the Emergency ANI, select “Common” from the menu and then “Key Function”. Set “Side 1” or “Side 2” to “ACC1”.

On the main screen, flag the “DTMF ANI” column on every channel that is desired to send the ANI.

Under the “Common” menu, select “Miscellaneous”, and set the “Squelch Tail Elim” as “Disabled”. This must be disabled if using trailing ANI. It is also recommended not to use the Courtesy Tone in the ANI-F-VX.

VX-600 & VX-900: For the VX-600 & VX-900 radio programming software CE-39 v1.04 or higher must be used. Read the radio with the option board installed. Select “Signaling” from the menu and then “ANI”. Set the “ANI Type” as “Option ANI”.

To set a button for control of the Emergency ANI, select “Common” from the menu and then “Key Function”. Set “(Top Sel) Key” or “(Side Sel) Key” to “ACC1”.

On the main screen, flag the “ANI” column on every channel that is desired to send the ANI.

Under the “Common” menu, select “Miscellaneous”, and set the “CTCSS Tail Elim” as “Disabled”. This must be disabled if using trailing ANI. It is also recommended not to use the Courtesy Tone in the ANI-F-VX.

VX-800 - This radio requires programming software CE-31 v1.20 or higher. Read the radio with the option board installed. Select “Signaling” from the menu and then “ANI”. Set the “ANI Type” as “Option ANI”.

To set a button for control of the Emergency ANI, select “Common” from the menu and then “Key Function”. Set “(Sel 1) Key” or “(Sel 2) Key” to “ACC1”.

On the main screen, flag the “ANI” column on every channel that is desired to send the ANI.

Under the “Common” menu, select “Miscellaneous”, and set the “CTCSS Tail Elim” as “Disabled”. This must be disabled if using trailing ANI. It is also recommended not to use the Courtesy Tone in the ANI-F-VX.

VX-820/920: This radio requires programming software CE-59 v2.10 or higher. Read the radio with the option board installed. Select “Signaling” from the menu and then “DTMF ANI”. Set the “ANI Type” to “MDC-1200”.

To set a button for control of the Emergency ANI, select “Common” from the menu and then “Key Function”. Set “Top Sel” to “Option Switch 1”.

On the main screen, flag the “DTMF ANI” column on every channel that is desired to send the ANI.

Under the “Common” menu, select “Miscellaneous”, and set the “Squelch Tail Elim” as “Disabled”. This must be disabled if using trailing ANI. It is also recommended not to use the Courtesy Tone in the ANI-F-VX.

VX-2100/2200 - This radio requires programming software CE-82 v1.12 or higher. Read the radio with the option board installed, select "Common" from the menu and then "Key Function". Set "P1-P4" to "Option SW".

On the main screen, flag the "ANI" column on every channel that is desired to send the ANI.

Under the "Common" menu, select "Miscellaneous", and set the "CTCSS Tail Elim" as "Disabled". This must be disabled if using trailing ANI. It is also recommended not to use the Courtesy Tone in the ANI-F-VX.

Note: Mic Mute is not supported in these radios.

VX-4000/5500/6000 - This radio requires programming software CE-35 v2.0.2.0 or higher. CE-49 can also be used. However, CE-49 v 4.0.6 does not work properly with the ANI-F-VX. CE-49 v 3.7.0 has been tested and works properly. Read the radio with the option board installed. Select "Signaling" from the menu and then "ANI". Set the "ANI Type" as "Option ANI".

To set a button for control of the Emergency ANI, select "Common" from the menu and then "Key Function". Set "PF1", "PF2", "PF3", "PF4" or "PF5" key to "Hi-Level Enc SW".

On the main screen, flag the "ANI" column on every channel that is desired to send the ANI.

Under the "Common" menu, select "Miscellaneous", and set the "CTCSS Tail Elim" as "Disabled". This must be disabled if using trailing ANI. It is also recommended not to use the Courtesy Tone in the ANI-F-VX.

VX-4100 & VX-4200: For the VX-4100 & VX-4200 radio programming software CE-59 v1.01 or higher must be used.

Read the radio with the option board installed. Select "Common" from the menu and then "Option". The "Option Unit" should be read as "FVP-35".

Under the "Common" heading select "Key Function" to set which key will control Emergency ANI. Set the "P1-P4" or "A" button to "Option Switch 1".

Note: Do not check the DTMF ANI column.

Download the program to the radio.

TECHNICAL NOTES

Trailing ANI: Trailing ANI may not be supported in all Vertex radios.

Programming 2-tone: 2-tone ANI is programmed with the Advanced Tone Definitions. In Frame 1, Frequency 1 type in the frequency of the first tone and type the length of the first tone in Frame 1 msec. In Frame 2 msec, type in the length of the gap time. In Frame 3, Frequency 1 type in the frequency of the second tone and type the length of the second tone in Frame 3 msec.

RMK-4000: Go-Ahead beeps are not supported in this radio.

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