This addendum updates the second bullet in Section 4.2.2.

Current text:

- For CH-100 only, voice files must be transferred through the serial connection on the back of the control head.

Change to:

- XG-100M radios only support programming Voice Annunciation files through the rear DB-9 connector of the radio.

About L3Harris Technologies

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Feature Manual

14221-7200-6110

Rev. E, September 2017

Voice Annunciation

L3HARRIS™

FAST. FORWARD.

MANUAL REVISION HISTORY

REV.	DATE	REASON FOR REVISION
-	Oct/14	Initial Release.
A	Jan/15	Added terminal hardware revision table.
B	Jan/15	Changes to clarify terminal compatibility issues.
C	Jun/15	Added XG-15P to the list of applicable radios.
D	Sep/15	Changes to Section 6.6: Download Voice Annunciation File to Radio.
E	Sep/17	Added RPM2 and XL radios.

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1. SAFETY CONVENTIONS

The following conventions may be used in this manual to alert the user to general safety precautions that must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. L3Harris assumes no liability for the customer's failure to comply with these standards.

CAUTION

The **CAUTION** symbol calls attention to an operating procedure, practice, or the like, which, if not performed correctly or adhered to, could result in a risk of danger, damage to the equipment, or severely degrade the equipment performance.

NOTE

The **NOTE** symbol calls attention to supplemental information, which may improve system performance or clarify a process or procedure.

2. INTRODUCTION

2.1 FEATURE DESCRIPTION

The Voice Annunciation (VA) feature provides audible feedback for switch/knob changes. This feature supports both “pre-recorded” (canned) messages, as well as, user-recorded messages.

2.2 RELATED DOCUMENTATION

Please refer to the Radio Personality Manager (RPM) or Radio Personality 2 (RPM2) on-line help for additional information on Voice Annunciation.

Consult the maintenance manual for your radio for cables and programming information specific to your radio model.

3. COMPATIBILITY

3.1 SYSTEM COMPATIBILITY

Voice Annunciation is compatible with the following systems:

- Analog Conventional – Zone, Channel, and System Changes
- P25 Conventional – Zone, Channel, and System Changes
- P25 Trunked – Zone, Group, and System Changes
- EDACS®/ProVoice – Group and System Changes
- EDACS IP/ProVoice – Group and System Changes

3.2 TERMINAL COMPATIBILITY

3.2.1 Radio Models and Hardware Revision Support for Voice Annunciation

To support Voice Annunciation, the radio hardware must have at least 32 MB flash available. If the necessary flash size is not present, the radio will display **"VA HW ERR"** message. See Section 3.2.1.1 for instructions for finding the flash size. See the radio product label for the Hardware Revision for the radio.

Family	Band Split	Type	Part Number	Hardware Revision Supported
P5300	800 MHz	Scan	RU-123550-003	Rev. D or later
		System	RU-123550-004	
P5400	800 MHz	Scan	RU-123550-001	Use the procedure in Section 3.2.1.1 to verify that radio has 32 MB flash
		System	RU-123550-002	
P5300	900 MHz	Scan	RU-123550-041	Rev. E or later
		System	RU-123550-042	
P5400	VHF	Scan	RU-123550-011	Rev. E or later
		System	RU-123550-012	
	UHF-L	Scan	RU-123550-021	Rev. E or later
		System	RU-123550-022	
	UHF-H	Scan	RU-123550-031	Rev. E or later
		System	RU-123550-032	
P5300 IQ	All Bands	N/A	All Models	No restrictions
P5500	All Bands	N/A	All Models	No restrictions
P7300	700-800 MHz	Scan	RU-012560-001	No Restrictions
		System	RU-012560-002	
	UHF-H	Scan	RU-013585-001	Rev. C or later
		System	RU-013585-002	
M7300 Or XG-75M*	UHF-L	N/A	RU-144750-021	Rev. C or later
	UHF-H		RU-144750-031	Rev. D or later
	VHF		RU-144750-041	Rev. D or later
	VHF (110 W)		RU-144750-051	Rev. A or later
	700/800 MHz		RU-144750-061	Rev. J or later

Family	Band Split	Type	Part Number	Hardware Revision Supported
M5300	700/800 MHz	N/A	RU-144750-061	Rev. J or later
	900 MHz		RU-144750-181	Rev. P or later
XG-15P*	All Bands	N/A	All Models	No Restrictions
XG-75P* Or XG-75Pe*	All Bands	N/A	All Models	No Restrictions
XG-25P* Or XG-25M*	All Bands	N/A	All Models	No Restrictions
XG-100P Or XG-100M*	All Bands	N/A	All Models	No Restrictions
XL Portables**	All Bands	N/A	All Models	No Restrictions

* If using RPM2 to program, requires RPM2 R3A or later.
** Can only be programmed using RPM2.

NOTE

Older P7300 700/800 MHz and M7300 (with Flash size = 128 Mb) radios do not support the VA feature.

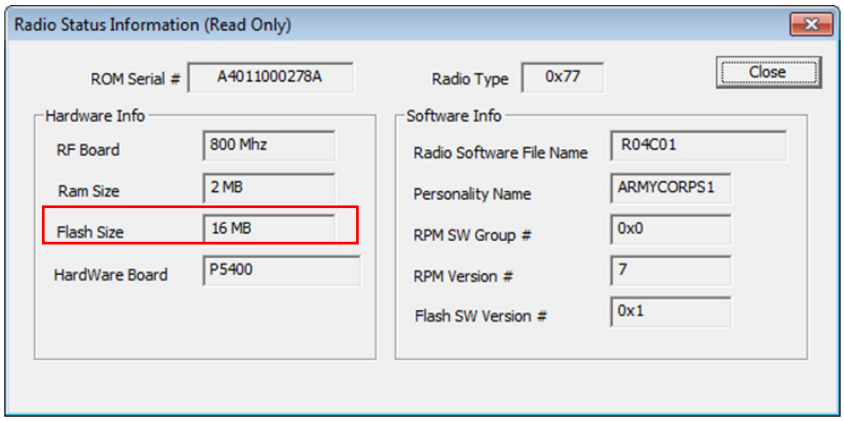
3.2.1.1 Reading the Radio Flash Size

NOTE

The procedure is not applicable to XL radios.

Use the following steps to read the flash size for the radio:

1. Connect the radio to a PC running RPM/RPM2. Make sure that the radio is in Programming Mode.
2. Open RPM Radio Maintenance Utility.
3. Select the tab for the radio.
4. Select the Radio Information button. A screen similar to the one shown below is displayed:



5. If the Flash Size shows 32 MB, then the radio supports Voice Annunciation.

3.2.2 Radio Software

The minimum radio software required to support Voice Annunciation is XGP R4A.

3.3 RADIO PERSONALITY MANAGER (RPM/RPM2)

RPM R11A and later supports Voice Annunciation. Voice Annunciation is not supported by any other radio programming software such as ProGrammer or earlier revisions of RPM.

XL radios must be programmed with RPM2.

Programming XG radios with RPM2 requires RPM2 R3A or later.

4. VOICE ANNUNCIATION COMPONENTS

4.1 AUDIO FILES

Voice Annunciation supports both pre-recorded (provided with RPM/RPM2) and user-recorded messages.

These files must meet the following specifications:

- .ilbc 16 bit, 8 KHz sample rate or .wav 16 bit
- 8 KHz sample rate format

RPM/RPM2 automatically converts .wav files to .ilbc files. This process is invisible to the user.

- Contains no more than three (3) seconds of audio.

4.2 TERMINALS

4.2.1 OMAP Radios

RPM/RPM2 supports file transfer over a serial connection for OMAP radios.

4.2.2 Unity Radios

- RPM supports file transfer over a USB connection for most Unity radios.
- For CH-100 only, voice files must be transferred through the serial connection on the back of the control head.
- On Unity radios, installed ASCII commands move files from the flash file system to/from the RAM file system.

4.2.3 XL Radios

- RPM2 supports file transfer over a USB connection.
- Voice Annunciation is **not** supported over Wi-Fi.

4.3 RPM and RPM2

RPM or RPM2 is used to configure and write Voice Annunciation files to a radio. RPM/RPM2 also manages how Voice Annunciation functions and reads, extracts, and saves voice files from a radio.

Voice Annunciation features for RPM:

- RPM/RPM2 maintains a mapping file that links the personality parameters to Voice files that have been associated, in personality, to those associated ilbc audio files.
- RPM/RPM2 maintains a unique association between personality file and the mapping file used to associate Voice files to that personality.

- RPM/RPM2 stores this unique association in both mapping file and personality, for subsequent validation by the radio.
- RPM/RPM2 supports the upload or download of voice files separate from personality upload or download.
- RPM/RPM2 supports the upload/download of a Single voice file or Multiple voice files.
- RPM/RPM2 indicates to the user that there is a file transfer failure, when indicated by the radio.
- RPM/RPM2 will not continue to attempt to download files after the radio informs RPM that the flash is full.
- RPM/RPM2 allows loading of older versions of the software even after the voice files have been loaded.
- RPM/RPM2 supports sending a command to the radio to fetch the available flash size of the radio. This is an internal operation; RPM does not display any information regarding this.
- RPM/RPM2 supports sending a command to the radio to delete all the files in a given directory.

5. CONFIGURATION

Configuration of Voice Annunciation is accomplished using a PC on which RPM or RPM2 is installed. Perform the following tasks (Sections 5.1.1 through 5.1.5) in the order that they appear.

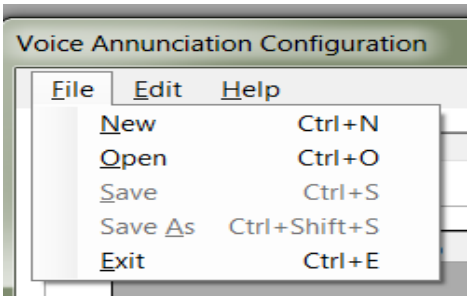
This procedure assumes that the audio files have been created and are available on the PC. See Section 4.1 for more information about audio files.

5.1 RPM

5.1.1 Create and Manage Audio Config Files

Use the Voice Annunciation Configuration dialog to create and manage Audio Config Files. This dialog is available from the Voice Annunciation selection on RPM's menu bar. This dialog enables the user to select and associate different Audio File programmable fields to the available audio files. See Section 4 for more information about audio files.

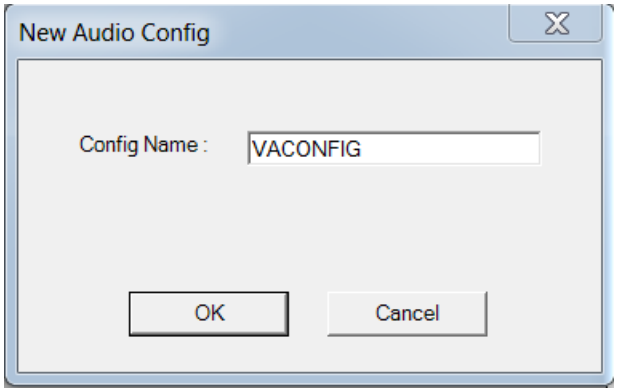
The Menu Bar on the Voice Annunciation Configuration dialog is shown below. The **File** Menu allows the user to create a new or open an existing Audio Config File. This menu also includes **Save**, **Save As**, and **Exit** functions. The Edit menu items are the same as the **Audio Files Operation(s)** buttons on the right side of the dialog box and they share the same functionality. The Help Menu displays the version and copywrite date.



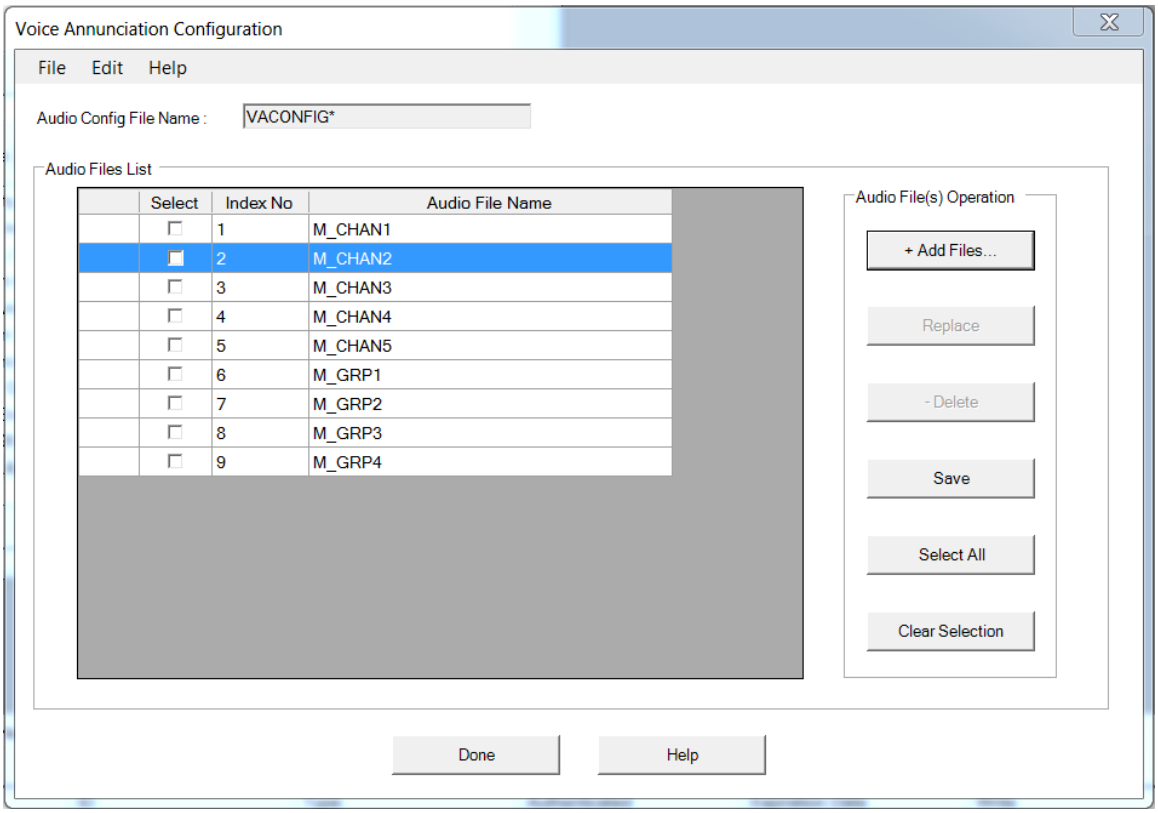
5.1.1.1 Create a New Audio Config File

Perform the following steps to create a new Audio Config File:

1. Select **File → New** from the Menu bar.
2. The **New Audio Config** screen is displayed.



3. Enter the Config Name in the text box and click **OK**. Config Name field allows a maximum of 12 ASCII characters.



4. Click on +Add Files button to add Audio files to the Audio Config File.
5. Browse and select the .wav or .ilbc audio file(s).

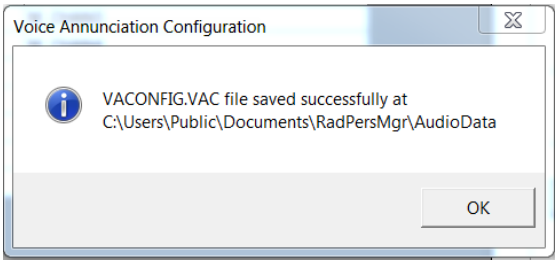
NOTE

RPM automatically converts .wav files to .ilbc files. This process is invisible to the user.

6. The files are shown on the dialog. RPM assigns an Index Number to each file.
7. To save all the selected files to the Audio Config File, click on the **Select All** button and then click the **Save** button.
8. To delete or replace an audio file on the dialog, click the Select box to the left of the Index No to select the file. Use the Delete or Replace buttons on the right side of the dialog to make changes.
9. Select **Save**. After you have saved the audio file(s), a confirmation screen is displayed if the save was successful.

NOTE

The Audio Files Operations buttons on the right side of the dialog box share the same functionality as the selections located on the Edit menu.



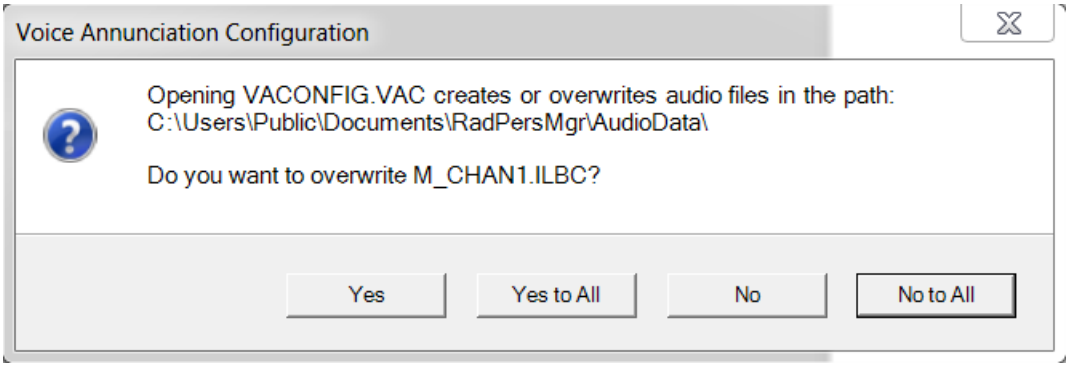
NOTE

At this point, the Audio Config Files are not associated with a personality and have not been written to the radio. They exist only on the PC.

To open an existing Audio Config File, perform the following:

1. Select **File → Open** and search for the Audio Config File (.vac).

   If there are audio files with the same name as the ones in the Audio and Config folder, a message will be shown giving the user the option to overwrite existing audio files (with the same name) when opening the VAC files. The message will be similar to the one shown:



2. The associated audio files are displayed on the dialog.
3. To delete or replace an audio file on the dialog, click the **Select** box to the left of the **Index No** to select the file. Use the **Delete** or **Replace** buttons on the right side of the dialog to make changes.
4. Use the **Select All** button and **Save** buttons to map the files to the Audio Config File.

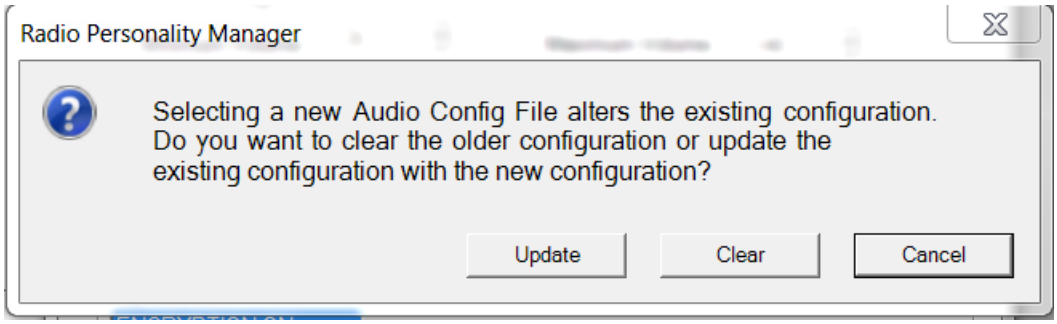
NOTE

At this point, the Audio Config Files are not associated with a personality and have not been written to the radio. They exist only on the PC.

5.1.1.2 Replacing the Audio Config File

To replace the Audio Config File on the Voice Annunciation Options dialog, click the **Browse** button to locate the new file.

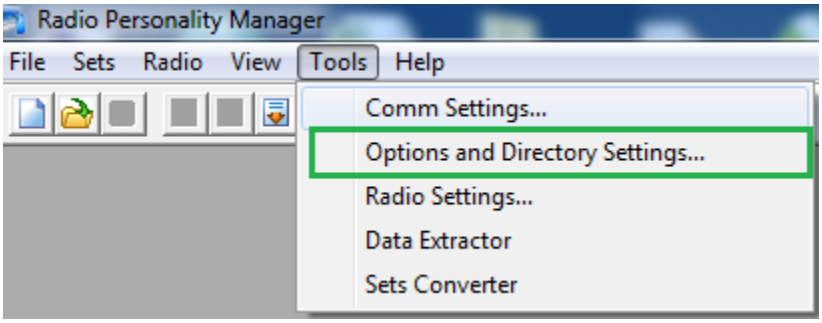
An information screen is shown. The user must click **Update** to update the new Audio Config File with the current list of audio files or click **Clear** to clear all the audio files throughout the personality. Use **Cancel** to delete the new Audio Config File, discard changes, and close the information screen.



5.1.2 Setting Up Default Path for Saving Audio Files (Optional)

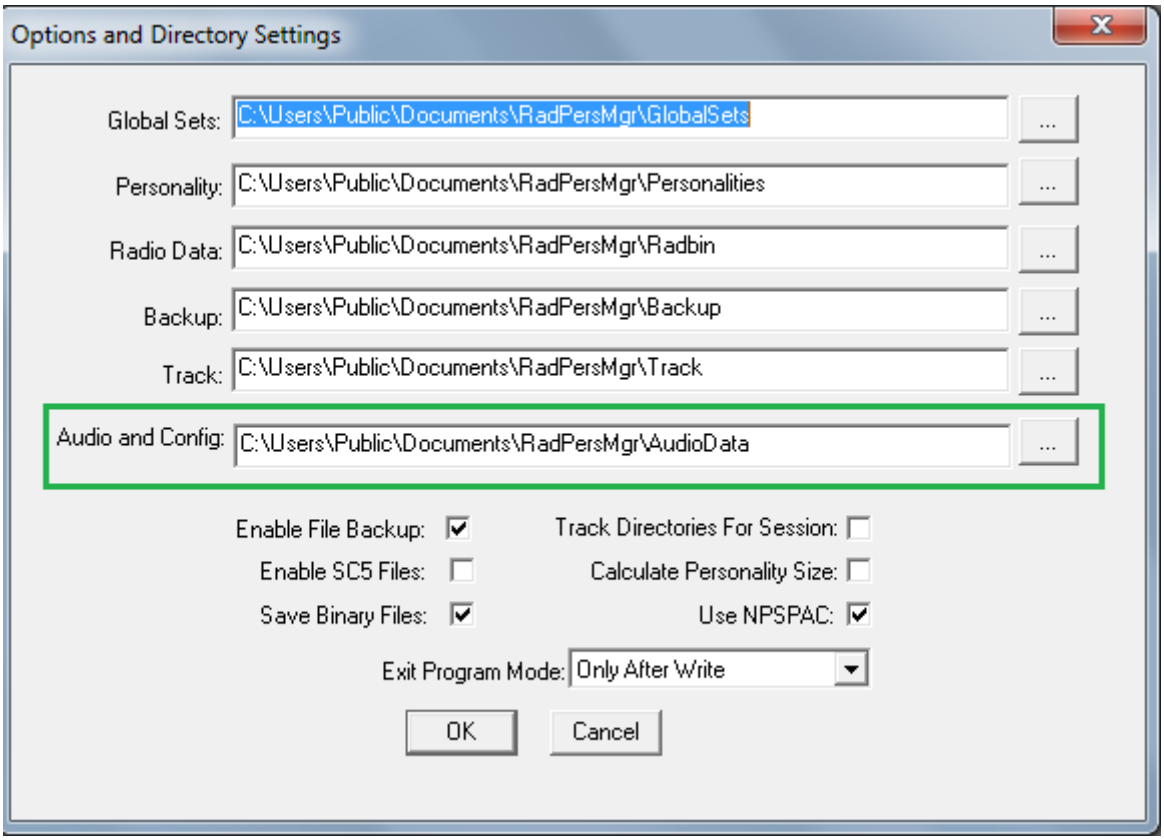
To set the default path to save the Audio Config file and the Audio files, perform the following:

1. From the menu bar, select **Tools → Options and Directory Settings**.



2. On the Options and Directory Settings dialog, click the Browse button ... next to the Audio and Config control to locate the desired directory path. If the user does not select a directory path, a default directory will be created similar to a personality directory.

   For example: “C:\Users\Public\Documents\RadPersMgr\AudioData”



3. Click **OK.**

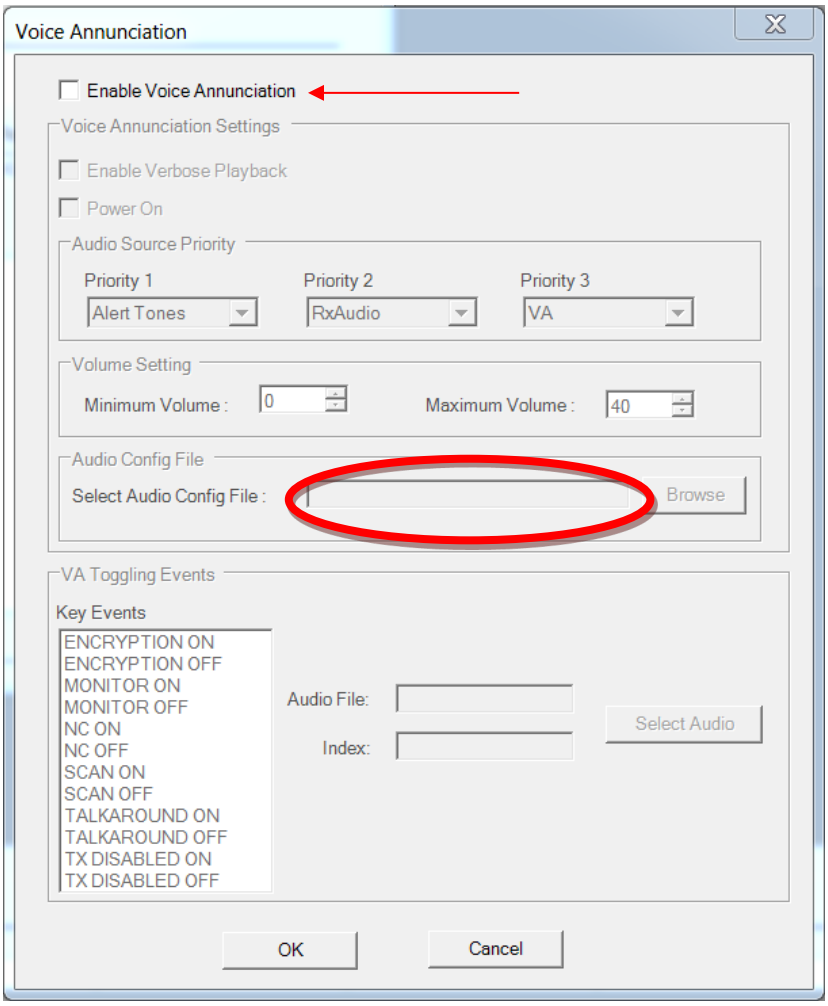
5.1.3 Configure VA Personality Settings

The user should open a new or existing personality prior to configuring the following settings.

5.1.3.1 Configure Voice Annunciation Settings

The Voice Annunciation Settings are in the **Options → Voice Annunciation** dialog. Use this dialog to determine how the Voice Annunciation feature will operate. Please consult the RPM on-line help for a description of all the controls on this dialog.

At a minimum, the **Enable Voice Annunciation** checkbox must be enabled and an Audio Config File must be selected to use Voice Annunciation:



The remaining options on this screen may be changed by the user or left at the default settings per the desired configuration.

NOTE

Enable Voice Annunciation must be enabled (checked) to make changes to any control on this dialog.

NOTE

If the Enable Voice Annunciation control is not enabled (checked), the radio will not play any voice files even if voice files have been configured/programmed into the radio.

5.1.3.2 Verbose Playback

Verbose Playback is an option that plays audio for all the applicable files that are associated with an audio file.

If Verbose Playback is ON, the radio will voice annunciate all the current Zone (if applicable), System, and Group/Channel. For example: If the user moves the Group knob, all the applicable files (Zones), System, and Group/Channel are played back.

If Verbose Playback is OFF, the radio will announce only the last setting modified by the user. For example: If the user changes the System key, only the System file is announced.

The radio plays the audio files in the following order: Zone, System, and Group/Channel. The gap between these files is not greater than 100 ms.

5.1.3.3 Power On

Power On is an option that instructs the radio to announce the System, Group/Channel, or Zone associated with an audio file when the radio boots up.

NOTE

Verbose Playback is applicable to this control.

5.1.3.4 Audio Source Priority

These fields indicate the priority given to each audio source if they become available at the same time. Tones are always given the Highest (1) priority and the user cannot change this.

- RxAudio is set to a higher priority (2) than VA (3): When the radio late enters to a group with active Rx call and which has a voice file associated to it (VA is enabled), the radio interrupts the voice playback with the Rx Audio.
- RxAudio is set to a lower priority (3) than VA (2): When the radio late enters to a group with active Rx call and which has a voice file associated to it (VA is enabled), the radio continues the voice playback and starts Rx Audio upon the completion of the VA.

NOTE

The radio interrupts playing the current audio file if a higher priority audio source is available.

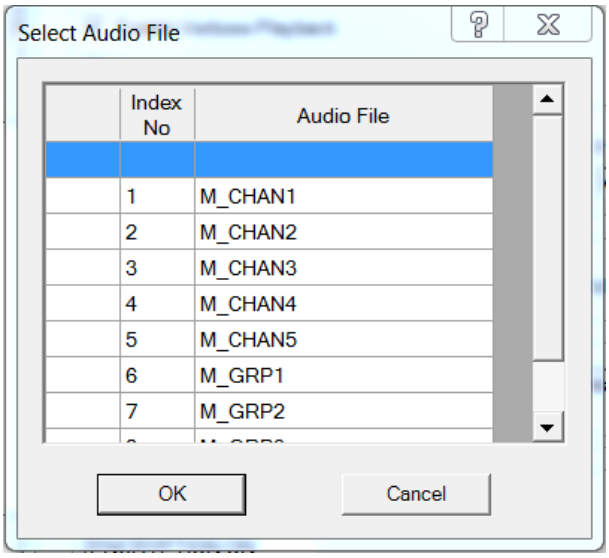
Use the **Browse** button to select an Audio Config File.

5.1.3.5 VA Toggle Events

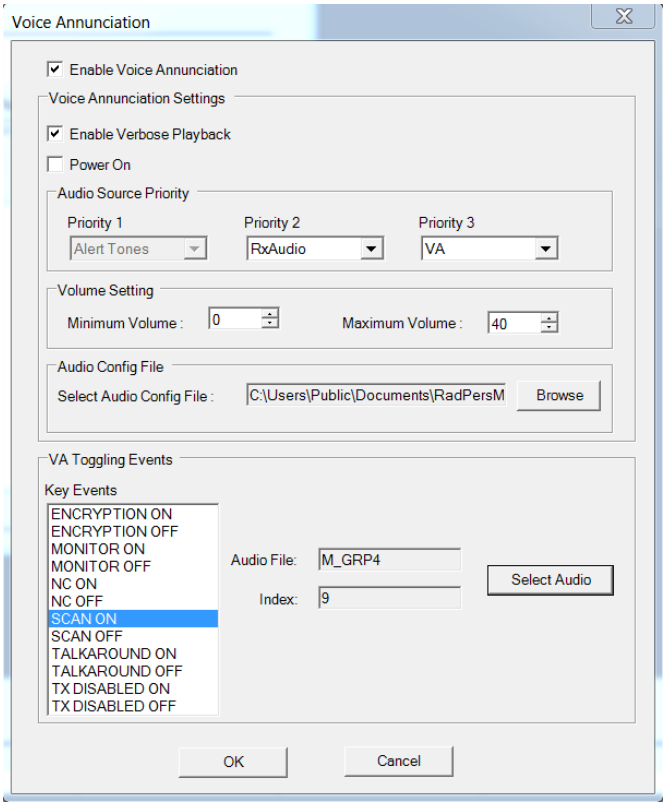
Use the VA Toggle Events controls to provide audible feedback for the events listed in this dialog.

To configure a VA Toggle Event, perform the following:

1. Click to highlight a Key Event from the list.
2. Click the **Select Audio** button.
3. Click on the Audio File for the event. Click **OK**.



4. The Audio File and the Index are shown on the dialog to the right of the Key Event.



5. Repeat Steps 1-5 for each Key Event required.
6. Click **OK** to close the Voice Annunciation dialog.

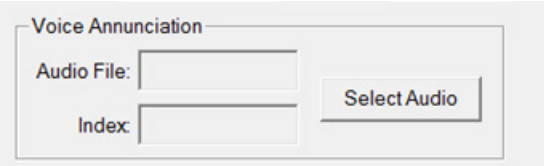
5.1.4 Adding Audio Files to a Personality

5.1.4.1 Enabling Voice Annunciation for Systems, Sets, and Zones

As you create the radio personality, you may enable Voice Annunciation on the following screens, depending upon the configuration:

- General System
- Conventional Frequency Set
- P25 Conventional Frequency Set
- EDACS Group Set
- EDACS IP Group Set
- P25 Group Set
- Zones (Unity radios only)

The Voice Annunciation controls display, as shown below, on each of the dialogs. Select the Audio File for the system, set, or zone and the Index will be populated by RPM. Click on the **Select Audio** button to enable the Audio file. This must be enabled on every dialog for which Voice Annunciation is desired.



Voice Annunciation must be enabled on the Voice Annunciation Options dialog to set these controls. See Section 5.1.3.1. Otherwise, these controls will be grayed-out.

5.1.4.2 Enabling Voice Annunciation for A/B Switch for OMAP Radios

Voice Annunciation is enabled on the Portable Radio Keypads dialog located under Options. Voice Annunciation can be enabled on the Portable Radio System dialog and the Portable Radio Scan dialogs. The following A/B Switch events are applicable to the Voice Annunciation feature:

- Scan On/Off
- Talkaround On/Off
- NC (Noise Cancellation) On/Off
- PVT On/Off

This feature is applicable to P5300, P5400, P5500, P7300, and XG-75 radios.

To enable Voice Annunciation for the A/B Switch, perform the following:

NOTE

This procedure assumes that user has completed the tasks in Section 5.1.1 and Section 5.1.3.

1. Select an event for Switch A. When a valid event has been selected, **Select Audio (A)** will be enabled.
2. Click the **Select Audio** button and select the desired Audio File.
3. RPM will populate the corresponding Index.
4. Repeat Steps 1 through 3 for Switch B.
5. Click **OK** to save the changes.

5.1.4.3 Enabling Voice Annunciation for A/B Switch for Unity Portable Radios

Voice Annunciation is enabled on the Programmable Knobs dialog located under **Options → Programmable Buttons/Knobs/Shortcut** Menu. The following A/B Switch events are applicable to the Voice Annunciation feature:

- Encryption On/Off
- Monitor On/Off
- Tx Disabled On/Off
- Talkaround On/Off
- Keypad Lock On/Off
- Scan On/Off

NOTE

Voice Annunciation is not supported for the Three Position Switch (A/B/C).

To enable Voice Annunciation for the two position (A/B) Switch, perform the following:

NOTE

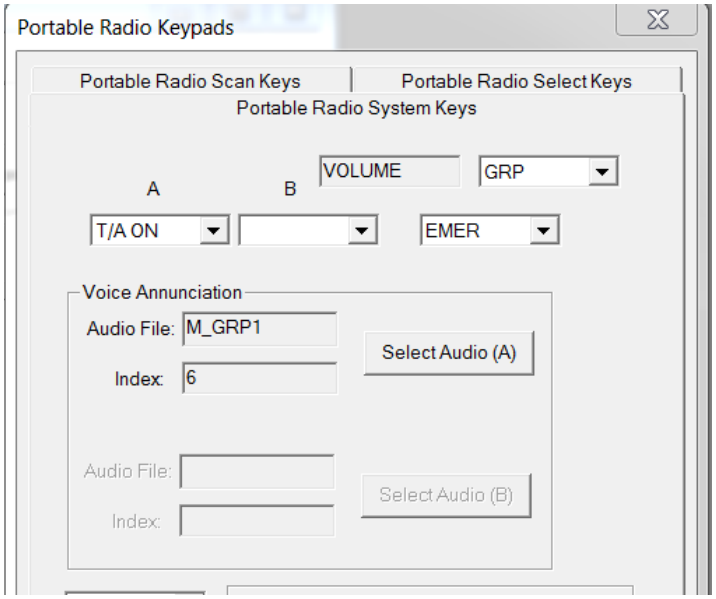
This procedure assumes that user has completed the tasks in Section 5.1.1 and Section 5.1.3.

1. Use the dropdown box to select an A/B Switch event.
2. Click the **Select Audio(A)** button and select the desired audio file.

NOTE

The Audio Config File must have been previously selected in the Voice Annunciation Options dialog.

3. RPM will populate the audio file and the corresponding Index.
4. Repeat Steps 1 through 3 for Switch B.
5. Click **OK** to save the changes.



5.1.4.4 Enabling Voice Annunciation for Unity Mobile Radios with CH-100 and CH-721

The procedure to associate Voice Annunciation Key Events with Audio Files is the same for both the Unity XG-100M with CH-100 or the CH-721. The Key Events available for these radios is different.

The following Key Events can be associated with Audio Files for Unity Mobiles with CH-100:

- Encryption On/Off
- Monitor On/Off
- Tx Disabled On/Off
- Talkaround On/Off
- Keypad Lock On/Off
- Scan On/Off

The following Key Events can be associated with Audio Files for Unity Mobiles with CH-721:

- Encryption On/Off
- Noise Cancellation On/Off
- Talkaround On/Off
- Scan On/Off

NOTE

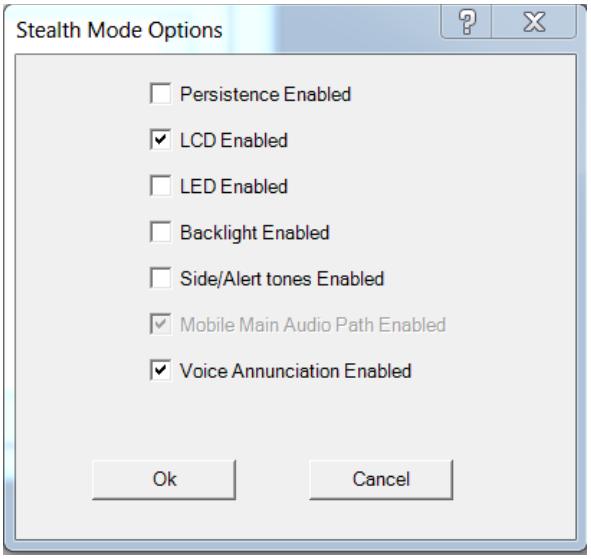
If a Key Event is selected and it is not available to be associated with an Audio File, the Audio File controls with be grayed-out.

To set up Voice Annunciation for these Key Events:

1. Select **Options → Voice Annunciation**. Voice Annunciation must be enabled.
2. Under **VA Toggling Events**, select the Key Event to be associated with an audio file.
3. Click on **Select Audio** and choose the audio file for that event.
4. Repeat Steps 2 and 3 for each Key Event for which an audio file is desired.
5. Click **OK** to save your changes or **Cancel** to discard your changes.

5.1.4.5 Stealth Mode Settings

If using Stealth Mode, Voice Annunciation can be enabled or disabled during Stealth Mode operation. The default is disabled (unchecked). To enable Voice Annunciation for Stealth Mode operation, click the checkbox as shown in the following figure.



Enabling of Voice Annunciation indicates to the radio that Voice Annunciation is affected by Stealth Mode and the playing of voice files will be disabled during Stealth Mode.

NOTE

When Stealth Mode is enabled and Voice Annunciation Enabled is checked on this dialog, the radio disables playing of voice files, regardless of the VA enable value set in the personality or in the Menu options.

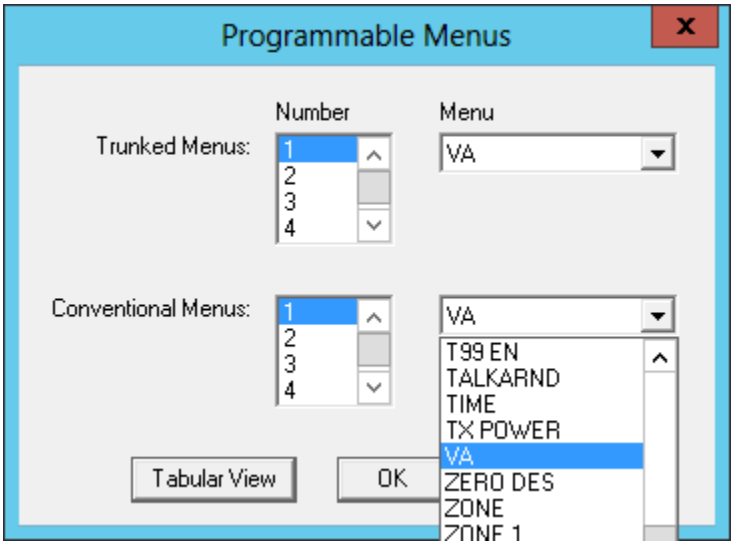
5.1.4.6 Programmable Menu Settings for OMAP radios

A programmable button on the radio keypad can be configured to toggle Voice Annunciation On and Off. This is applicable to OMAP radios and Unity XG-100M with CH-721. See Section 5.1.4.7 for the programmable menu configuration for other Unity Portable radios.

To program this function, perform the following in RPM:

1. Choose **Options → Programmable Menus**.
2. Select a Trunked and/or Conventional Key number.
3. Use the drop-down box to assign VA (Voice Annunciation) to that key.

4. Click **OK**.



NOTE

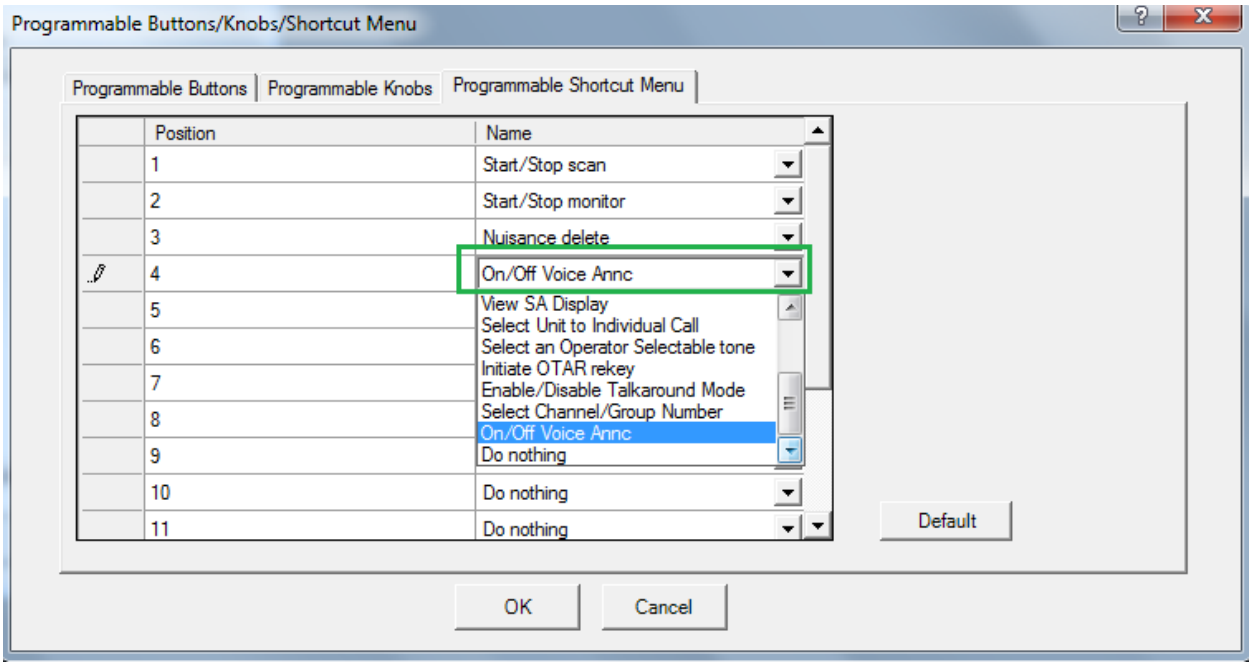
If the radio is programmed with a VA enable/disable menu option, the radio overrides/overwrites the personality setting.

5.1.4.7 Programmable Menu Settings for Unity Portable Radios

A programmable button on the radio keypad can be configured to toggle Voice Annunciation On and Off. This is applicable to Unity XG-100P only.

To program this function, perform the following in RPM:

1. Select **Options → Programmable Buttons/Knobs/Shortcut Menu**.
2. Select the Programmable Shortcut Menu.
3. Select “On/Off Voice Annc” and click **OK**.



5.1.5 Program the Personality

After Voice Annunciation is configured, it is recommended that the personality is loaded into the radio before loading the audio files.

Please refer to the specific maintenance manual for your radio and/or the RPM help files for more information on programming a personality to a radio.

NOTE

When a personality is downloaded and no audio files have been downloaded to the radio, RPM displays a warning to remind the user to download the audio files.

5.1.6 Download Voice Annunciation File to Radio

After you have configured all audio files, use the **Program Audio** section of the Voice Annunciation Management dialog to download the audio files to the radio. Radio connection information differs depending on the radio type but, in most cases, the cables, connections, etc., used for programming a personality to a radio can be used to download the VA files.

- RPM supports file transfer over USB connection for the Unity portables.
- For Unity mobiles, voice files must be transferred through the serial connection on the back of the radio.
- RPM supports file transfer over Serial connection for all other applicable radios.

See Section 3.2 for a list of radios/radio software which supports Voice Annunciation.

5.1.6.1 Connect the Radio to the PC

Use the appropriate programming cable to connect the radio to the PC. For more information on this cable, see the Installation and Configuration manual for your radio model or consult the RPM on-line help.

If the connection from the PC to the radio is successful, the Radio Information section of the dialog box is filled in.

- If connected via a Serial connection , click on the **Discover Audio Files** button to display a list of the audio files available in the radio.
- If connected via a USB connection , a list of the audio files available in the radio will be displayed.

5.1.6.2 Select Files

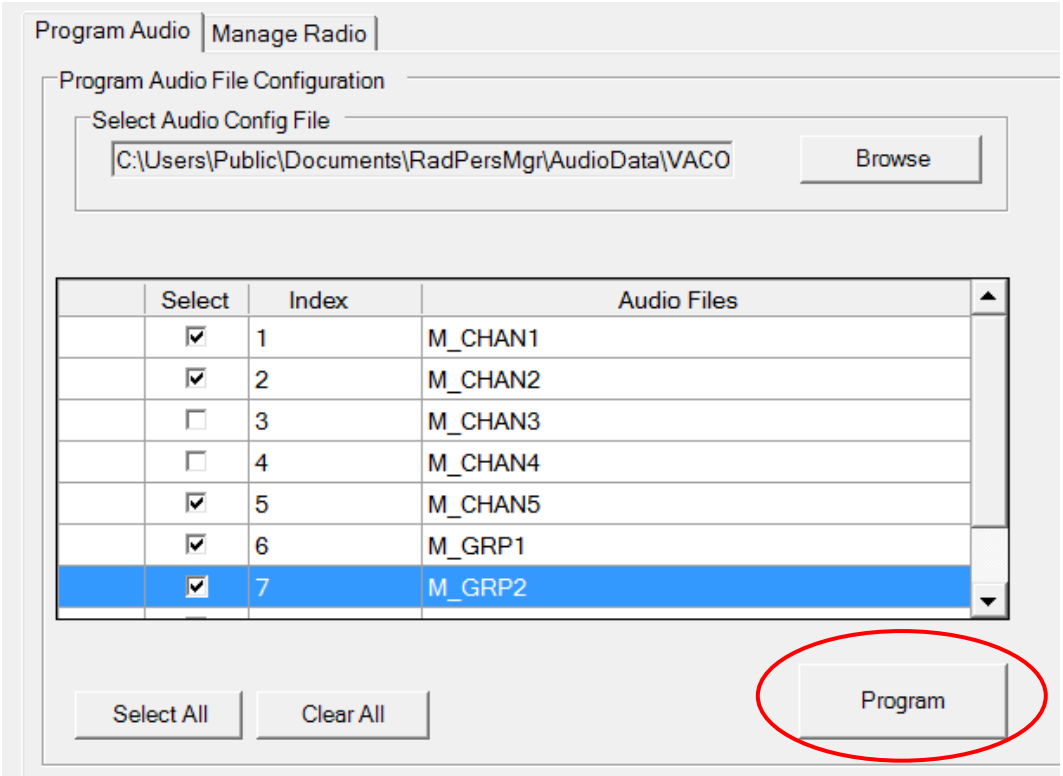
Use the controls on the Program Audio tab, browse for the Audio Config File and its associated audio files. Select the audio files that you want to program into the radio by clicking on the **Select** box for the audio file.

Use the **Select All** button if all the audio files are desired.

Refer to the RPM on-line help for information on individual controls on this tab.

5.1.6.3 Write the Audio Files to the Radio

After the personality has been programmed into the radio and the desired audio files have been selected, click the **Program** button on the **Program Audio** tab. This will write the selected audio files to the radio. This Program action overwrites any previously existing Audio Config File in the radio. The radio supports storing up to 310 encoded voice files.



NOTE

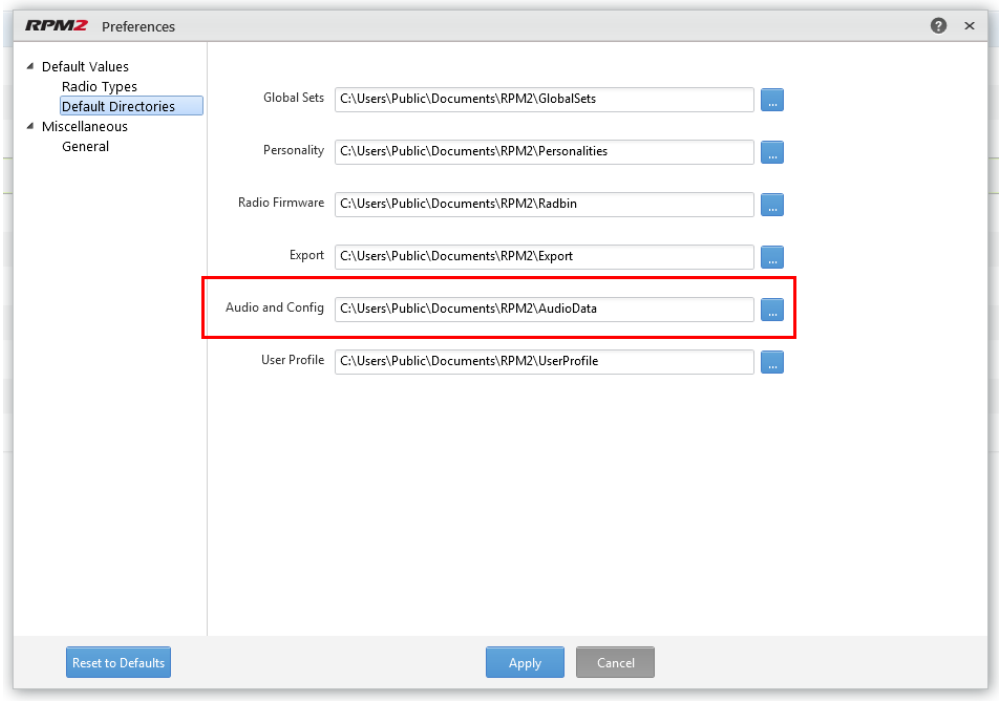
When an Audio Config File is programmed into a radio, it overwrites any previous existing Audio Config File in the radio.

5.2 RPM2

5.2.1 Setting Up Default Path for Saving Audio Files (Optional)

To set the default path to save the Audio Config file and the Audio files, perform the following:

1. From the menu bar, select **Tools → Preferences**.
2. Under **Default Values**, select **Default Directories**.



3. Click the Browse button ... next to the **Audio and Config** control to locate the desired directory path. If the user does not select a directory path, a default directory is created.

   For example: “C:\Users\Public\Documents\RPM2\AudioData”

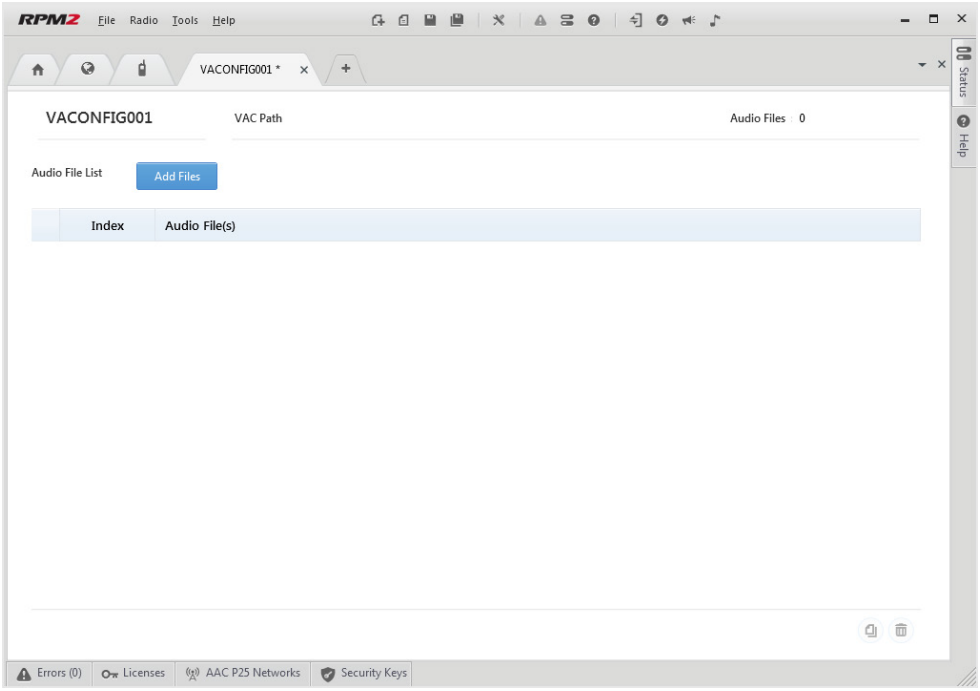
4. Click **Apply.**

5.2.2 Create and Manage Audio Config Files

5.2.2.1 Create a New Audio Config File

Perform the following steps to create a new Audio Config File:

1. Display a new VAC tab:
   - Click **File → New → Voice Annunciation**.
     or
   - Click and select **Voice Annunciation**.
     or
   - Click the + tab and select **Voice Annunciation**.
2. A tab opens allowing you to add audio files to the Audio Config File.

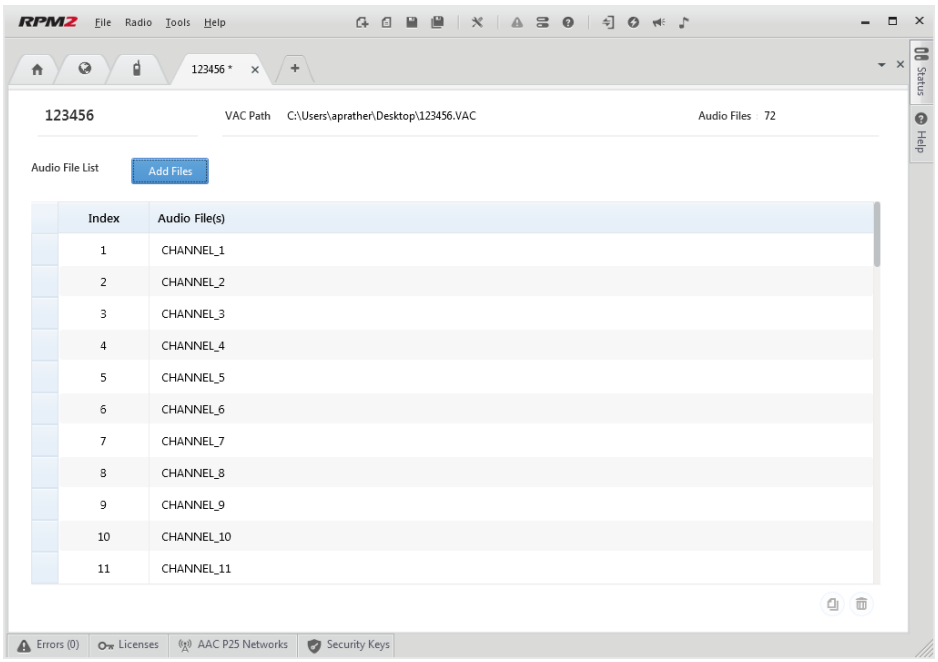


3. Click **Add Files** to add audio files. Browse and select the .wav or .ilbc audio file(s).

NOTE

RPM2 automatically converts .wav files to .ilbc files. This process is invisible to the user.

4. The files are shown on the dialog. RPM2 assigns an Index Number to each file.



5. To delete or replace an audio file, select the desired audio file(s), right-click and select **Delete** or **Replace**. You can also click to delete the selected audio file(s). To insert an audio file, right-click and select **Insert**.
6. To save all the selected files to the Audio Config File, click **File → Save**, or **File → Save As**.

NOTE

At this point, the Audio Config File is not associated with a personality and has not been written to the radio. It exists only on the PC.

To open an existing Audio Config File, perform the following:

1. Select **File → Open → Voice Annunciation** and search for the Audio Config File (.vac). The file opens in a new tab.
2. To delete or replace an audio file, select the desired audio file(s), right-click and select **Delete** or **Replace**. You can also click to delete the selected audio file(s). To insert an audio file, right-click and select **Insert**.

NOTE

At this point, the Audio Config File is not associated with a personality and has not been written to the radio. It exists only on the PC.

3. To save all the selected files to the Audio Config File, click **File → Save**, or **File → Save As**.

5.2.3 Program and Manage Audio Files

1. Click **Radio → Voice Annunciation** or select the tab → sub tab.

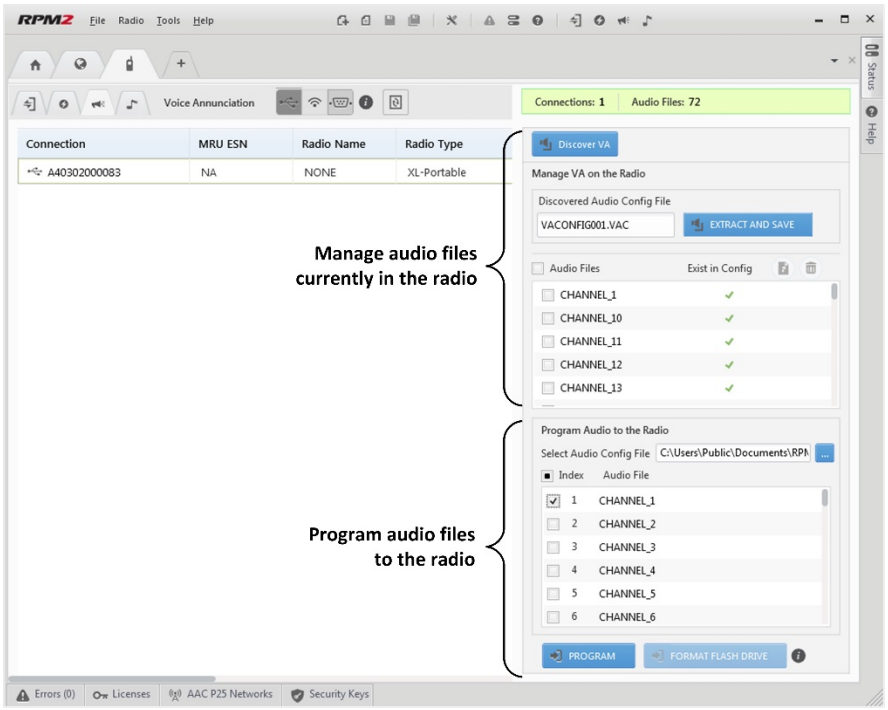


Figure 5-1: RPM2 Voice Annunciation Tab

2. Under **Program Audio to the Radio**, click to browse to the desired Audio Config File. All audio files associated with the Audio Config file are displayed.
3. Select the desired audio file(s) and click **PROGRAM**.
4. Manage audio files programmed to the radio from the **Manage VA on the Radio** field. From here, you can extract audio files and delete audio files.

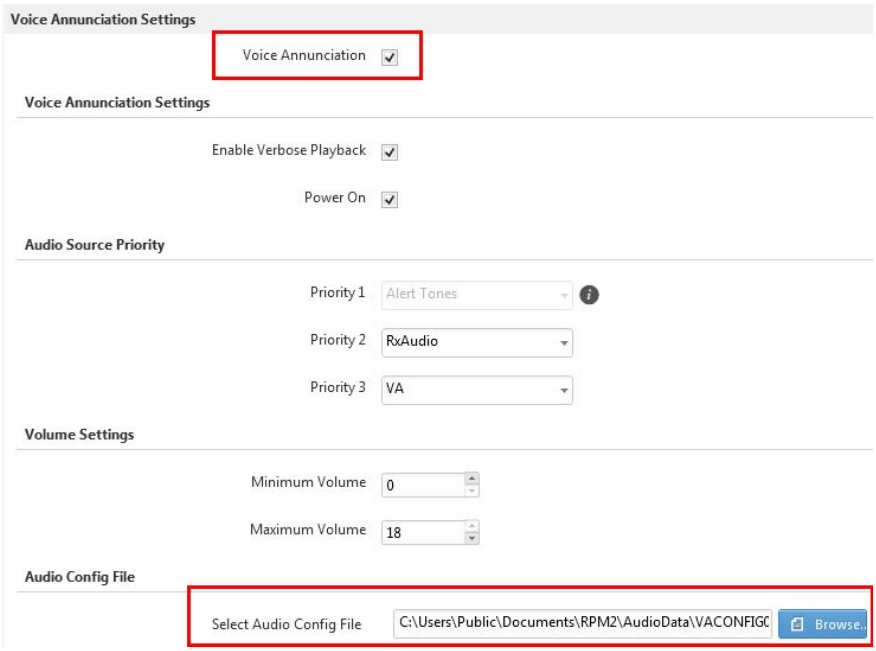
5.2.4 Configure VA Personality Settings

Open an existing personality or create a new personality.

5.2.4.1 Configure Voice Annunciation Settings

The Voice Annunciation Settings are in the **Options → Voice Annunciation** dialog. Use this dialog to determine how the Voice Annunciation feature operates. Please consult the RPM2 on-line help for a description of all the controls on this dialog.

At a minimum, the **Voice Annunciation** checkbox must be checked and an Audio Config File must be selected to use Voice Annunciation:



The remaining options on this screen may be changed by the user or left at the default settings per the desired configuration.

NOTE

Voice Annunciation must be enabled (checked) to make changes to any control on this dialog.

NOTE

If the **Voice Annunciation** control is not enabled (checked), the radio will not play any audio files even if audio files have been configured/programmed into the radio.

5.2.4.2 Verbose Playback

If Verbose Playback is enabled, the radio will voice annunciate all the current Zone (if applicable), System, and Group/Channel. For example: If the user moves the Group knob, all the applicable files (Zones), System, and Group/Channel are played back.

If Verbose Playback is disabled, the radio will announce only the last setting modified by the user. For example: If the user changes the System key, only the System file is announced.

The radio plays the audio files in the following order: Zone, System, and Group/Channel. The gap between these files is not greater than 100 ms.

5.2.4.3 Power On

Power On is an option that instructs the radio to announce the System, Group/Channel, or Zone associated with an audio file when the radio boots up.

NOTE

Verbose Playback is applicable to this control.

5.2.4.4 Audio Source Priority

These fields indicate the priority given to each audio source if they become available at the same time. Alert Tones are always given the Highest (1) priority and the user cannot change this.

- By default, RxAudio is set to a higher priority (2) than VA (3): When the radio late enters to a group with active Rx call and which has a voice file associated to it (VA is enabled), the radio interrupts the voice playback with the Rx Audio.
- By default, RxAudio is set to a lower priority (3) than VA (2): When the radio late enters to a group with active Rx call and which has a voice file associated to it (VA is enabled), the radio continues the voice playback and starts Rx Audio upon the completion of the VA.

NOTE

The radio interrupts playing the current audio file if a higher priority audio source is available.

5.2.4.5 VA Toggle Events

Next to the Toggling Key Event (e.g., SCAN ON/SCAN OFF), select the desired Audio File from the drop-down.

VA Toggling Events

Key Events	Audio File
ENCRYPTION ON	38 PRIVACY_ON
ENCRYPTION OFF	37 PRIVACY_OFF
MONITOR ON	
MONITOR OFF	
NC ON	36 NOISE_CAN_ON
NC OFF	35 NOISE_CAN_OFF
SCAN ON	40 SCAN_ON
SCAN OFF	39 SCAN_OFF
TALKAROUND ON	
TALKAROUND OFF	
TX DISABLED ON	
TX DISABLED OFF	

5.2.5 Adding Audio Files to a Personality

5.2.5.1 Enabling Voice Annunciation for Systems, Sets, and Zones

As you create the radio personality, you may enable Voice Annunciation on the following screens, depending upon the configuration:

- Systems (Conventional, EDACS, EDACS IP, P25 Conventional, and P25 Trunked)
- Sets (Conventional, EDACS Group, EDACS IP Group, P25 Group, and P25 Conventional Frequency)
- Zones

The Voice Annunciation controls display on each of the dialogs. Select the Audio File for the system, set, or zone from the **Voice Annunciation** drop-down. This must be selected on every dialog for which Voice Annunciation is desired.

NOTE

Voice Annunciation must be enabled in **OPTIONS → Voice Annunciation** to set these controls; see Section 5.1.3.1. Otherwise, these controls are grayed-out.

5.2.5.2 Enabling Voice Annunciation for A/B Switch for OMAP Radios

Voice Annunciation is enabled on the **Portable Radio KeyPads** dialog located under **OPTIONS**. Voice Annunciation can be enabled on the **Portable Radio System Keys** dialog and the **Portable Radio Scan Keys** dialog. The following A/B Switch events are applicable to the Voice Annunciation feature:

- Scan On/Off
- Talkaround On/Off
- NC (Noise Cancellation) On/Off
- PVT On/Off

This feature is applicable to P5300, P5400, P5500, P7300, XG-75, and XG-75Pe radios.

To enable Voice Annunciation for the A/B Switch, perform the following:

NOTE

This procedure assumes that the user has completed the tasks in Section 5.1.1 and Section 5.1.3.

1. Select an event for Switch A. When a valid event has been selected, **Voice Annunciation (A)** will be enabled.
2. Select the desired Audio File from the **Voice Annunciation (A)** drop-down.
3. Repeat Steps 1 and 2 for Switch B.

5.2.5.3 Enabling Voice Annunciation for Unity Mobile Radios with CH-100 and CH-721

The procedure to associate Voice Annunciation Key Events with Audio Files is the same for both the Unity XG-100M with CH-100 or the CH-721. The Key Events available for these radios is different.

The following Key Events can be associated with Audio Files for Unity Mobiles with CH-100:

- Encryption On/Off
- Monitor On/Off
- Tx Disabled On/Off
- Talkaround On/Off
- Keypad Lock On/Off
- Scan On/Off

The following Key Events can be associated with Audio Files for Unity Mobiles with CH-721:

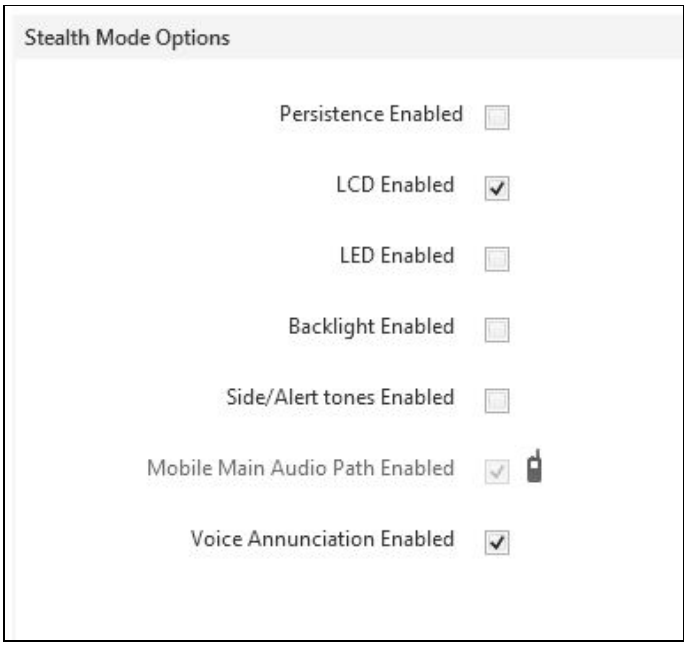
- Encryption On/Off
- Noise Cancellation On/Off
- Talkaround On/Off
- Scan On/Off

To set up Voice Annunciation for these Key Events:

1. Select **OPTIONS → Voice Annunciation**. Voice Annunciation must be enabled.
2. Under **VA Toggling Events**, select the Audio File to associate with the desired Key Events.

5.2.5.4 Stealth Mode Settings (OMAP Portables)

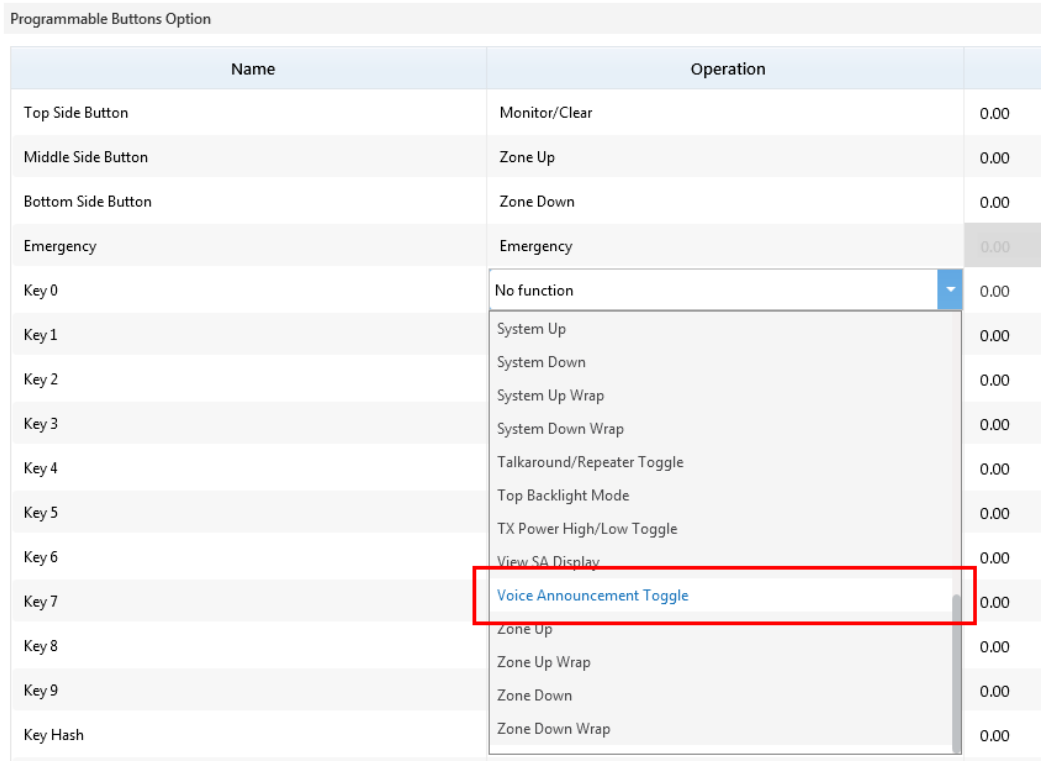
If using Stealth Mode, Voice Annunciation can be enabled or disabled during Stealth Mode operation. The default is disabled (unchecked). To enable Voice Annunciation for Stealth Mode operation, click the checkbox as shown in the following figure.



5.2.5.5 Programmable Button Settings for XL Radios

A Programmable Button can be configured to enable/disable Voice Annunciation on XL Radios by performing the following:

1. Choose **OPTIONS → Programmable Buttons**.
2. Select **Voice Announcement Toggle** for the desired button.

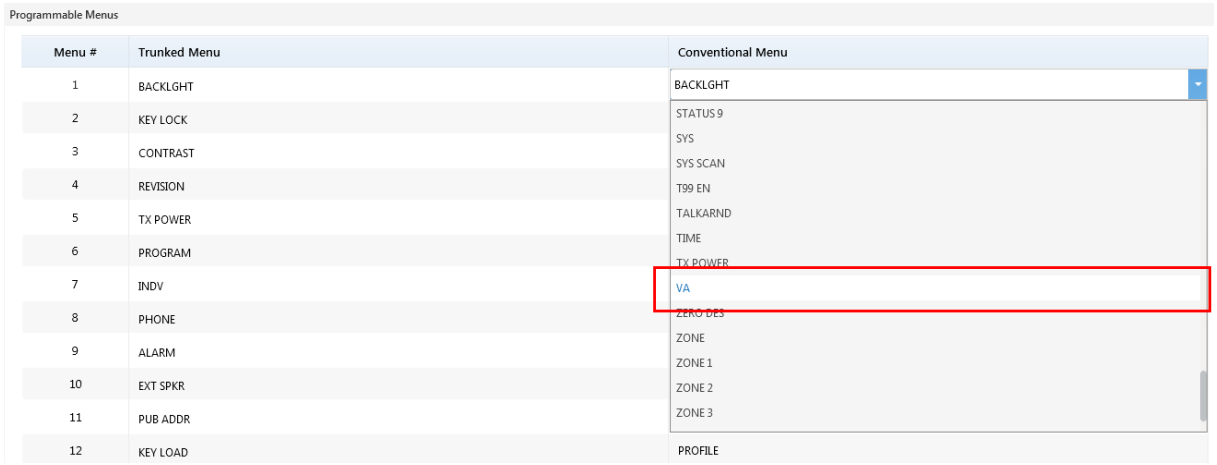


5.2.5.6 Programmable Menu Settings for OMAP and XG-100M/CH-721 Radios

A Programmable Menu selection can be configured to toggle Voice Annunciation On and Off. This is applicable to OMAP radios and Unity XG-100M with CH-721. See Section 5.1.4.7 for the programmable menu configuration for other Unity Portable radios.

To program this function, perform the following in RPM2:

1. Choose **OPTIONS → Programmable Menus**.
2. From the drop-down box, assign VA to the desired menu location.



NOTE

If the radio is programmed with a VA enable/disable menu option, the radio overrides/overwrites the personality setting.

5.2.6 Program the Personality

After Voice Annunciation is configured, it is recommended that the personality is loaded into the radio before loading the audio files.

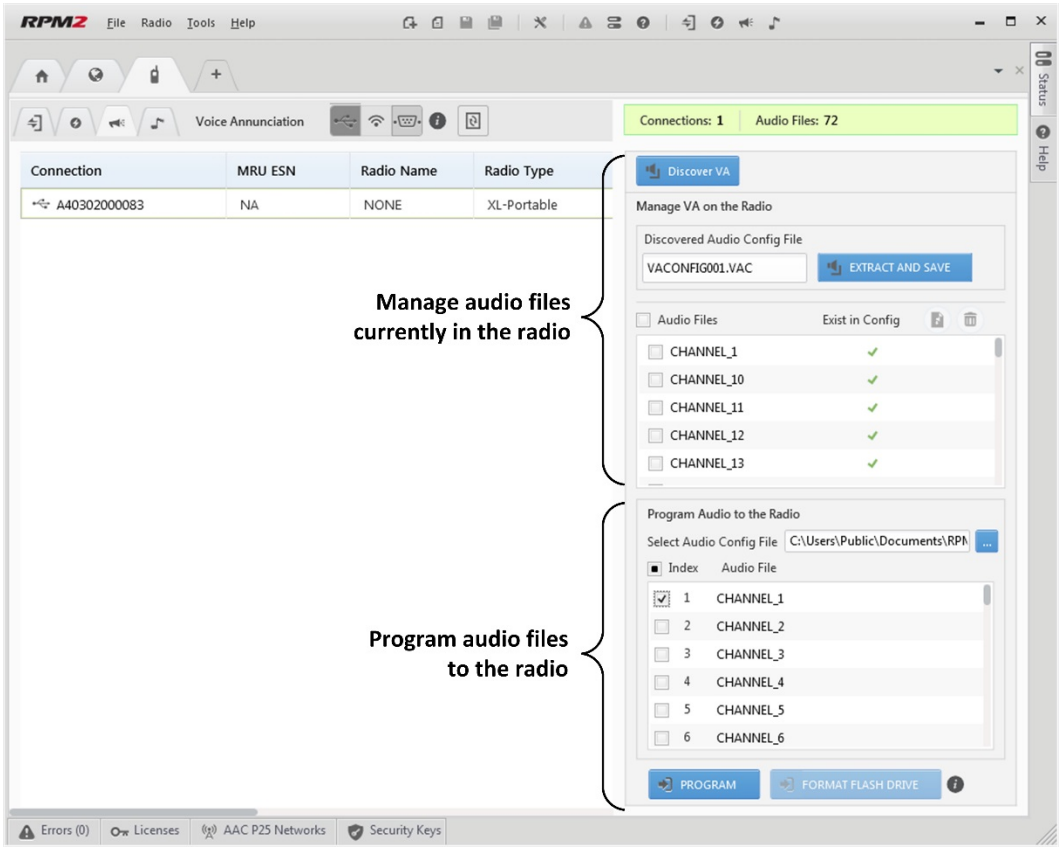
Please refer to the specific maintenance manual for your radio and/or the RPM2 help files for more information on programming a personality to a radio.

NOTE

When a personality is downloaded and no audio files have been downloaded to the radio, RPM displays a warning to remind the user to download the audio files.

5.2.7 Download Voice Annunciation File to Radio

After you have configured all audio files, use the **Program Audio to the Radio** section of the Voice Annunciation dialog to download audio files to the radio. Radio connection information differs depending on the radio type but, in most cases, the cables, connections, etc., used for programming a personality to a radio can be used to download the VA files.



- RPM2 supports file transfer over USB connection for the XL Portables.

NOTE

Voice Annunciation is not supported over Wi-Fi.

- For Unity mobiles, voice files must be transferred through the serial connection on the back of the radio.
- For CH-100, voice files must be transferred through the serial connection on the back of the control head.
- RPM2 supports file transfer over serial connection for all other applicable radios.

See Section 3.2 for a list of radios/radio software which supports Voice Annunciation.

5.2.7.1 Connect the Radio to the PC

Use the appropriate programming cable to connect the radio to the PC. For more information on this cable, see the maintenance manual for your radio model or consult the L3Harris Products and Services catalog.

If the connection from the PC to the radio is successful, the Radio Information section of the dialog box is filled in. Click on the **Discover VA** button to display a list of audio files available in the radio.

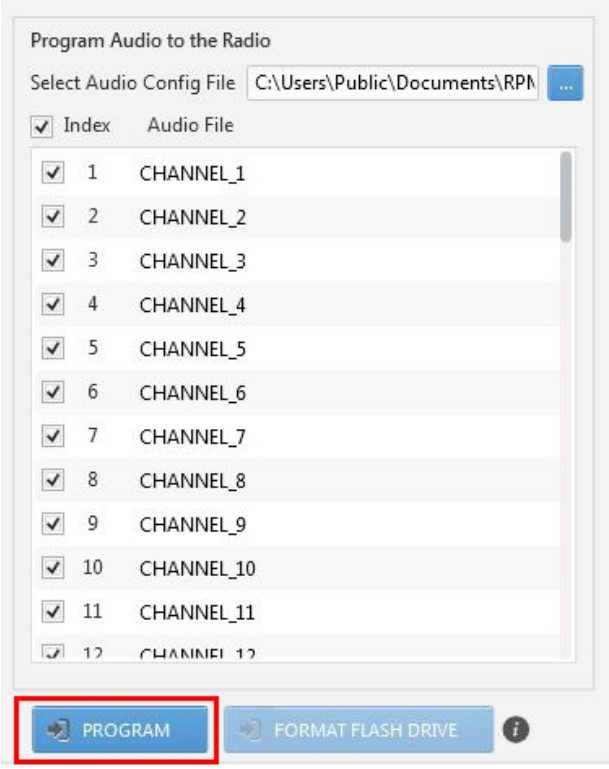
5.2.7.2 Select Files

Click ... in the **Program Audio to the Radio** field and browse for the desired Audio Config File. Select the audio files that you want to program into the radio by checking the box next to the audio file or check the **Audio Files** checkbox to select all audio files.

Refer to the RPM2 on-line help for information on individual controls on this tab.

5.2.7.3 Write the Audio Files to the Radio

After the personality has been programmed into the radio and the desired audio files have been selected, click the **PROGRAM** button in the **Program Audio to the Radio** field. This writes the selected audio files to the radio. This action overwrites any previously existing Audio Config File in the radio. The radio supports storing up to 310 encoded voice files.



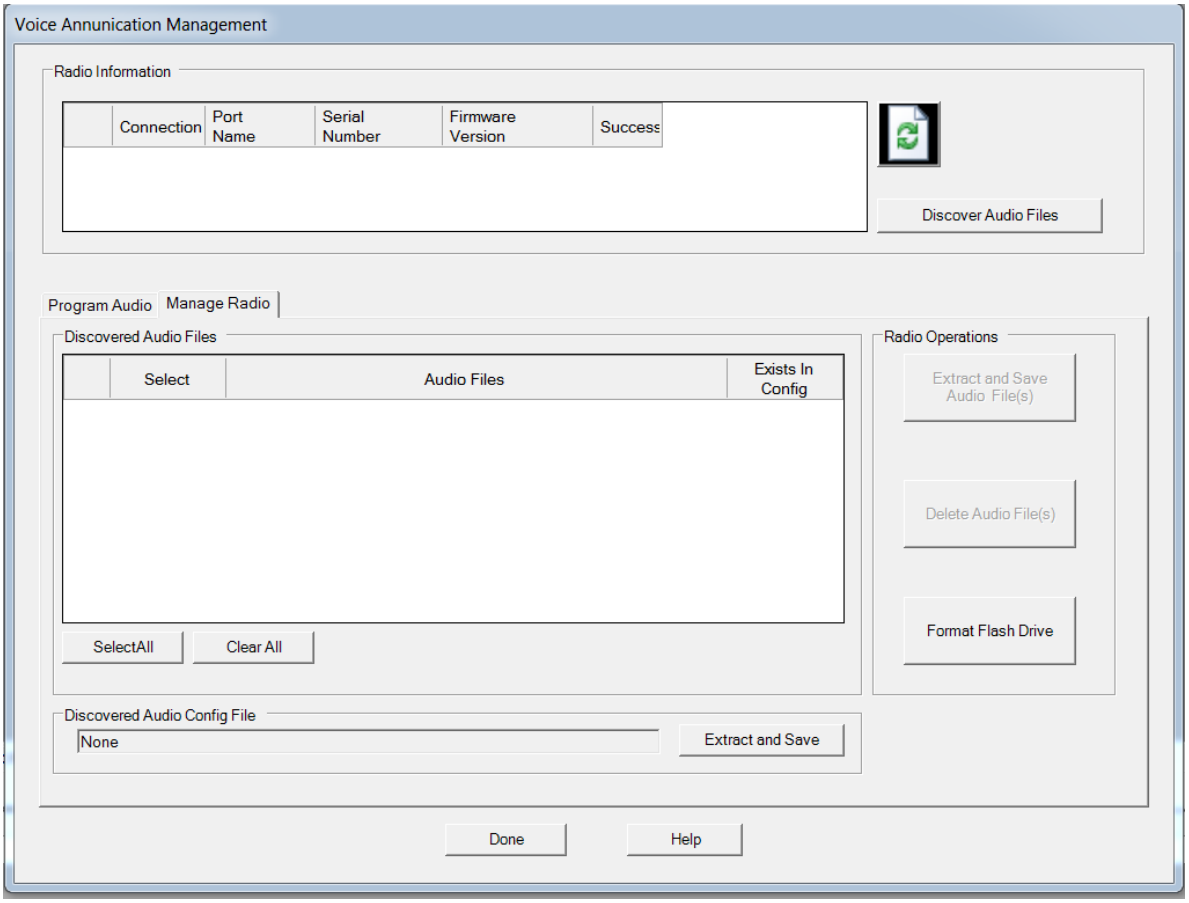
NOTE

When an Audio Config File is programmed into a radio, it overwrites any previous existing Audio Config File in the radio.

6. MANAGE AUDIO FILES FROM A RADIO

6.1 RPM

Use the Manage Radio Tab controls to read, extract, delete, and save audio files from a radio.



6.1.1 View Audio Files from a Radio

To view audio files stored in a radio:

1. Connect the radio to the PC running RPM. See Section 5.1.6.1.
2. Click on the **Discover Audio Files** button for radios with a serial connection. The Discovered Audio Config File is displayed and the audio files are listed in the Discovered Audio Files list. When connecting to radios with a USB connection, the audio files are shown when the connection is made.

6.1.2 Select Audio Files to Save

Select the audio files by clicking on the **Select** box for the audio file. Use the **Select All** button if all the audio files are desired. Use the **Delete Audio Files(s)** button to delete a selected audio file(s).

For radios connected via a serial port, the list of files will not be automatically refreshed when **Delete Audio File(s)** button is selected. Press **Discovered Audio Files** button to see the changes.

Refer to the RPM on-line help for information on individual controls on this tab.

6.1.3 Extract and Save Audio Files

- Use the **Extract and Save Audio File(s)** button to save the selected audio files to a disk.
- Use the **Extract and Save** button to save the Discovered Audio Config File to a disk.

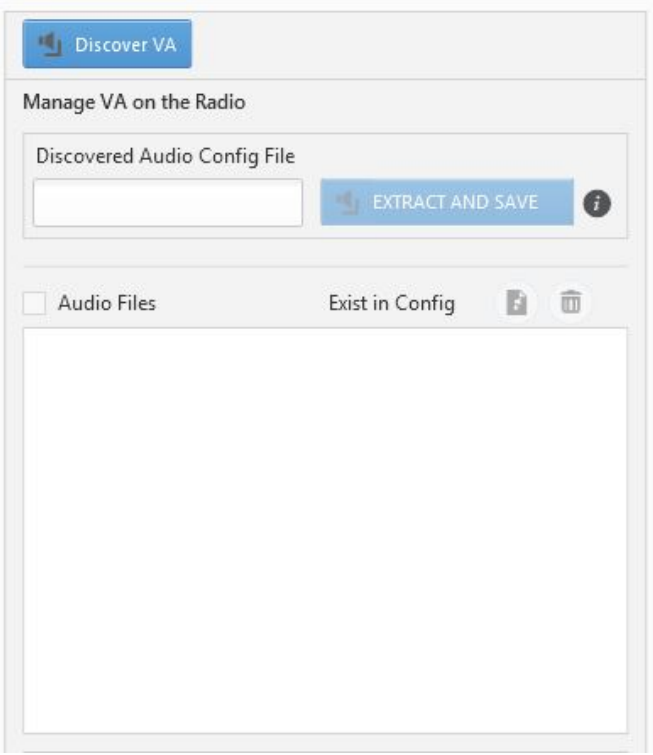
6.1.4 Formatting the Flash Drive

The **Format Flash Drive** button erases all contents of the flash drive and should be used ONLY in cases in which the audio files are corrupt. This button is applicable to OMAP radios only.

This button should be used with caution. Clicking on this button is NOT the same
as choosing the **Select All** button and clicking on the **Delete Audio Files** button.

6.2 RPM2

Use the **Manage VA on the Radio** field on the Voice Annunciation sub-tab to read, extract, delete, and save audio files from a radio.



6.2.1 View Audio Files from a Radio

To view audio files stored in a radio:

1. Connect the radio to the PC running RPM2. See Section 5.2.7.1.
2. Click on the **Discover VA** button. The Discovered Audio Config File is displayed and the audio files are listed in the Audio Files list.

6.2.2 Select Audio Files to Save

Select (check) the desired audio files. Check the **Audio Files** checkbox to select all audio files. Click to delete a selected audio file(s).

Refer to the RPM2 on-line help for information on individual controls on this tab.

6.2.3 Extract and Save Audio Files

- Click the **EXTRACT AND SAVE** button to extract and save the selected Audio Config file to a disk.
- Click the button to extract and save the selected audio files to a disk.

6.2.4 Formatting the Flash Drive

The **FORMAT FLASH DRIVE** button erases all contents of the flash drive and should be used ONLY in cases in which the audio files are corrupt. This button is applicable to OMAP radios only.

This button should be used with caution. Clicking on this button is NOT the same
as choosing the **Select All** button and clicking on the **Delete Audio Files** button.

7. OPERATION

When the Voice Annunciation feature is configured and programmed into the radio, audible feedback is heard when a VA configured knob/switch is changed.

- **General**
  - The volume of the audio file playback is determined by the Minimum and Maximum settings on the Voice Annunciation Option dialog. This is independent of the radio volume settings.
  - If the radio is programmed with a VA enable/disable menu option, the radio user can enable or disable the Voice Annunciation feature.
  - The radio support compatibility with personalities that do not support the Voice Annunciation feature.
  - Playing of VA files will not prevent over-the-air transmission of DTMF and Type 99 tones.
  - The radio plays the VA files when the radio is powered-up if the Power On control is enabled on the Voice Annunciation Options dialog.
- **Priority**

  The radio interrupts playing the current audio file if a higher priority audio source (i.e., emergency) is available.
- **Special Features**
  - If Verbose Payback is enabled, all the Zone, System, Group/Channel audio feedback files are heard whenever any one of these events occur. These will be heard in the order listed in the previous sentence.
  - When Stealth Mode is enabled and Voice Annunciation is enabled in Stealth Mode Options, the radio disables the playing of voice files regardless of the setting of the VA Enabled value.

8. TROUBLESHOOTING

The chart below lists some operational issues and possible causes:

No Voice Annunciation from the radio	• Voice files are not loaded into radio. • Voice files are not associated with the personality. • Voice files are corrupt. • Radio is in Stealth Mode. • Voice Annunciation is disabled at the radio via a Menu key.
Cannot write audio files to a radio	• Radio flash is full.

9. TECHNICAL SUPPORT

The Technical Assistance Center's (TAC) resources are available to help with overall system operation, maintenance, upgrades, and product support. TAC is the point of contact when answers are needed to technical questions.

Product specialists, with detailed knowledge of product operation, maintenance, and repair provide technical support via a toll-free (in North America) telephone number. Support is also available through mail, fax, and e-mail.

For more information about technical assistance services, contact your sales representative, or contact the Technical Assistance Center directly at:

North America:	1-800-528-7711
International:	1-434-385-2400
Fax:	1-434-455-6712
E-mail:	PSPC_tac@l3harris.com

About L3Harris Technologies

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.