

LINKSYS[®]
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SPA9000

How to create a music on hold (MOH) file, and upload it to the SPA9000

Introduction: This document describes a method to create a MOH .dat file that can then be loaded onto the SPA9000



Introduction

The SPA9000 has an internal music source with the user-id **imusic** that plays an internally stored music file repeatedly. The SPA9000 ships with a default music file (*Romance de Amor*). You can override this file by downloading a new file into the unit using TFTP. You do this by entering a valid value in the <Internal Music URL> parameter. The music file must be in G711u format sampled at 8000 samples/sec with no file header. The maximum length is 65.5 seconds.

You can control the way the music file is played by setting the <Internal Music Script> parameter. To use the internal music source as the MOH server on a client station, specify **imusic** for the value of the <MOH Server> parameter on the client station.

Changing the Internal Music Source The following resources are required for changing the internal music source:

- TFTP server software
- The IP address of the computer on the LAN connected to the SPA9000.
- Music source in G711 u-law format at 8000 samples per second with no header information.

Before you begin, make sure the TFTP server software is running on your computer. Then complete the following steps.

Step 1. Download and install Audacity from the following website;

<http://audacity.sourceforge.net/> it comes in a number of OS formats that support either UNIX MAC or Windows.

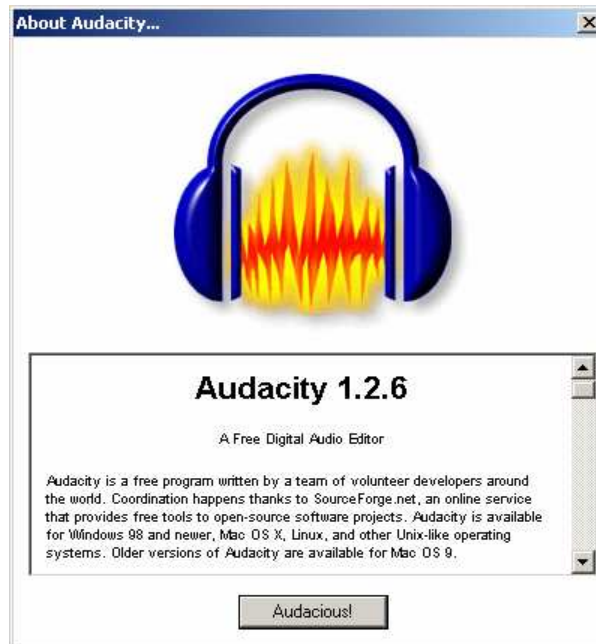


Figure 1 I used the old stable version of Audacity 1.2.6

Step 2. You will have to modify the preferences of Audacity by selecting preferences;

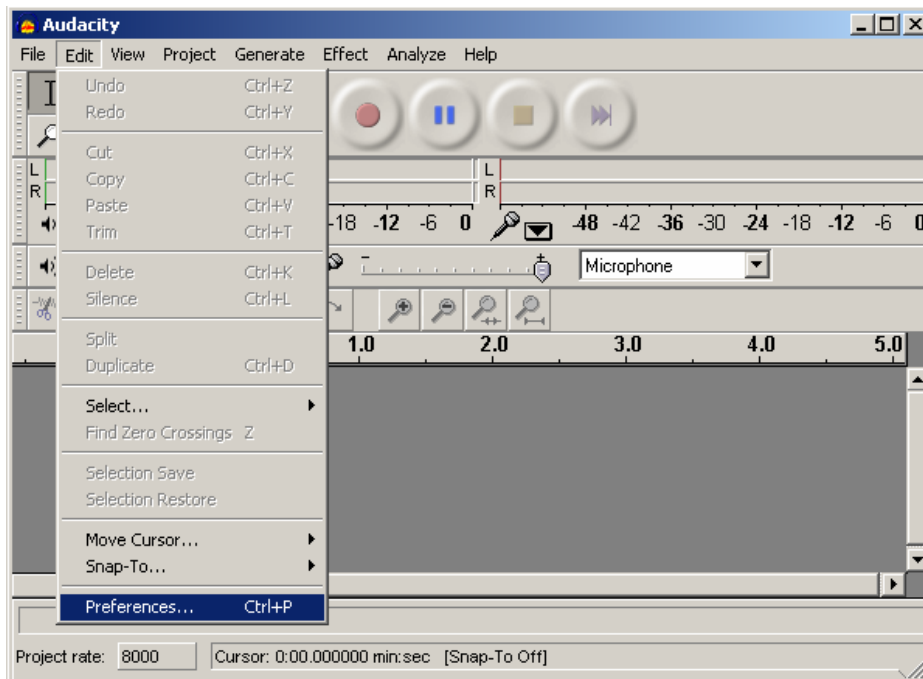


Figure 2 select Preferences

Step 3. Adjust the quality to 8000Hz

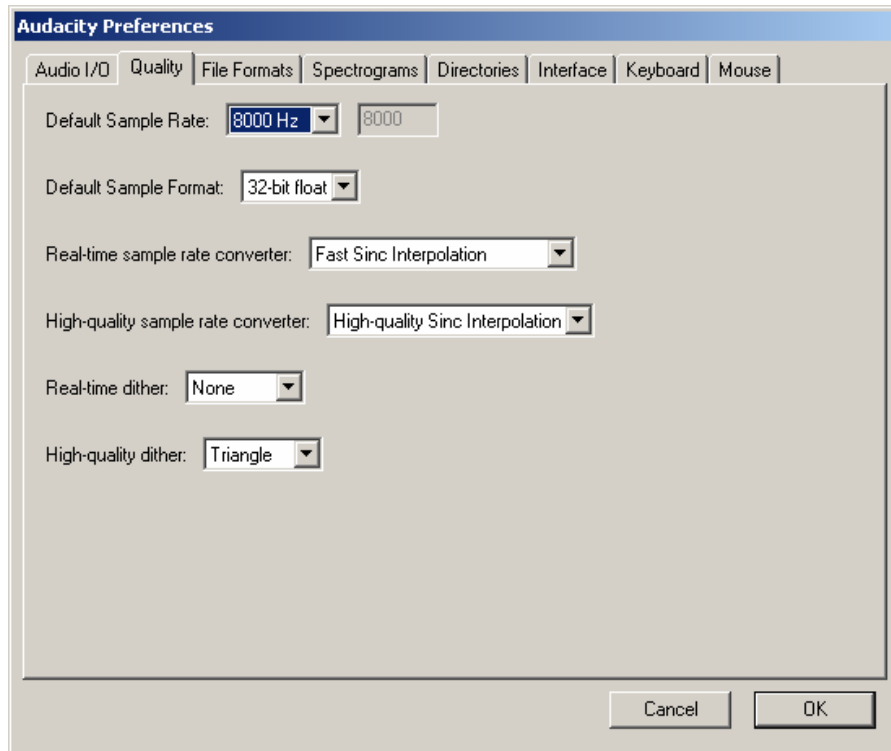


Figure 3 Set the default sampling rate to 8000Hz

Step 4. from the Uncompressed export format drop down menu select AU (Sun/Next 8 bit u-law) as seen in figure 4 below.

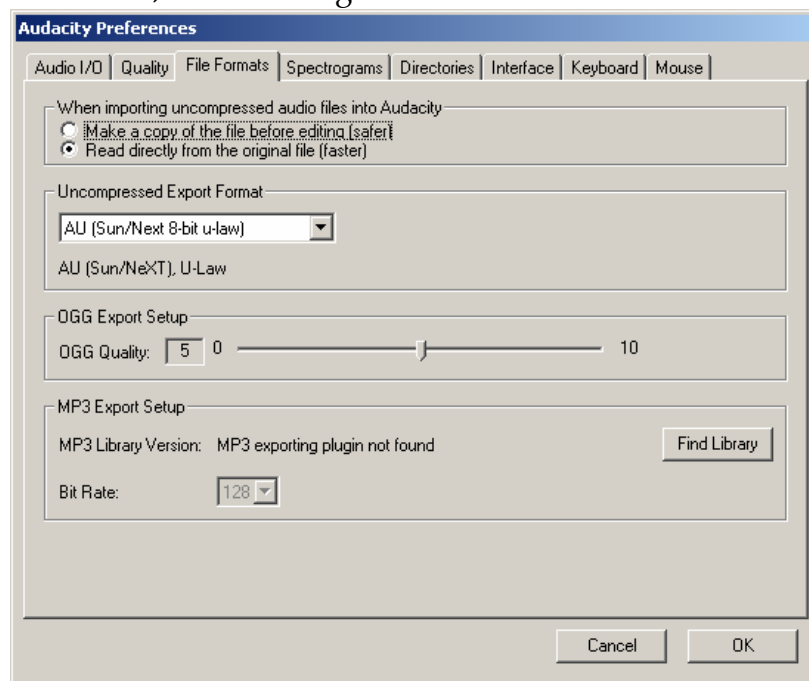


Figure 4 Set the Uncompressed Export Format

Step 5. Now that you have adjusted the parameters of this software, it's now time to record your audio message that will be used as your music on hold (MOH) file. Once complete you can now exports the file in AU format as per step 6.

Step 6. Export the audio as seen in figure 5 as an AU

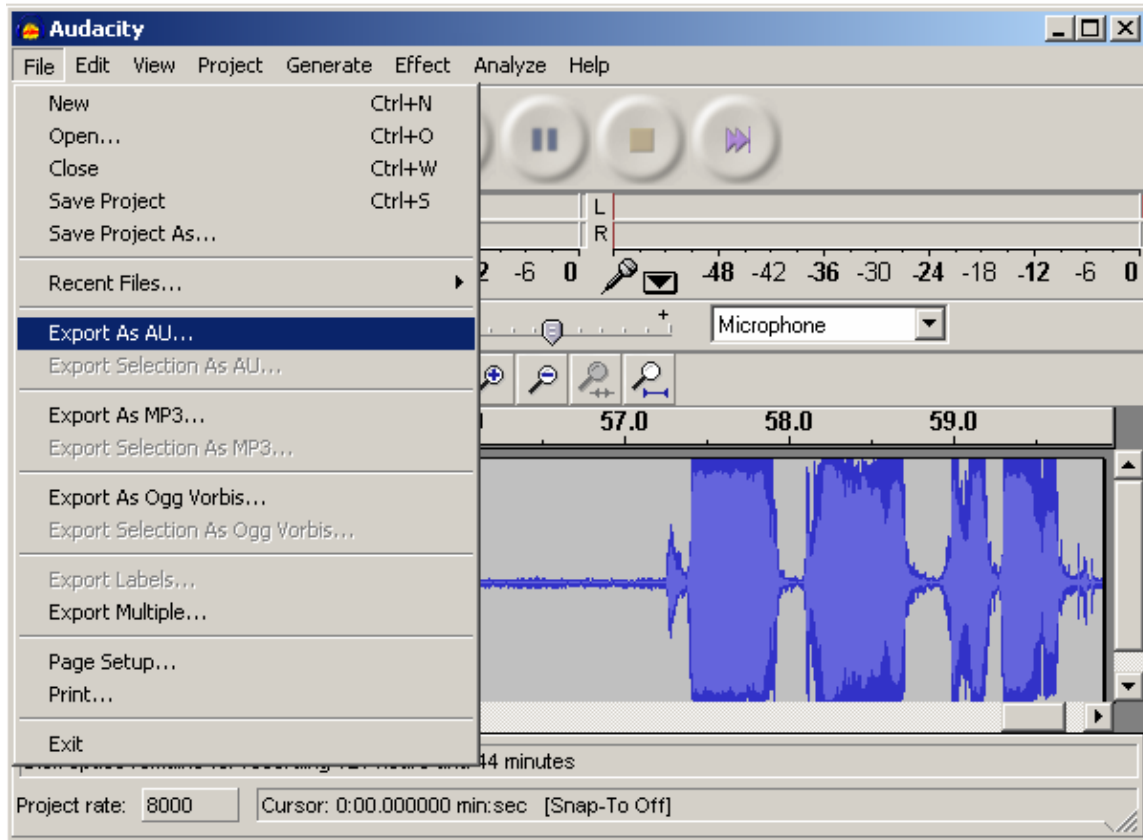


Figure 5 export as AU

But do not save the file with a AU extension , make sure you save the file with a .dat extension. You will notice in figure 6 on the following page that I have modified the 'saved as typ'e to All Files and saved the created file called moh.dat to my TFTP directory of my TFTP server.

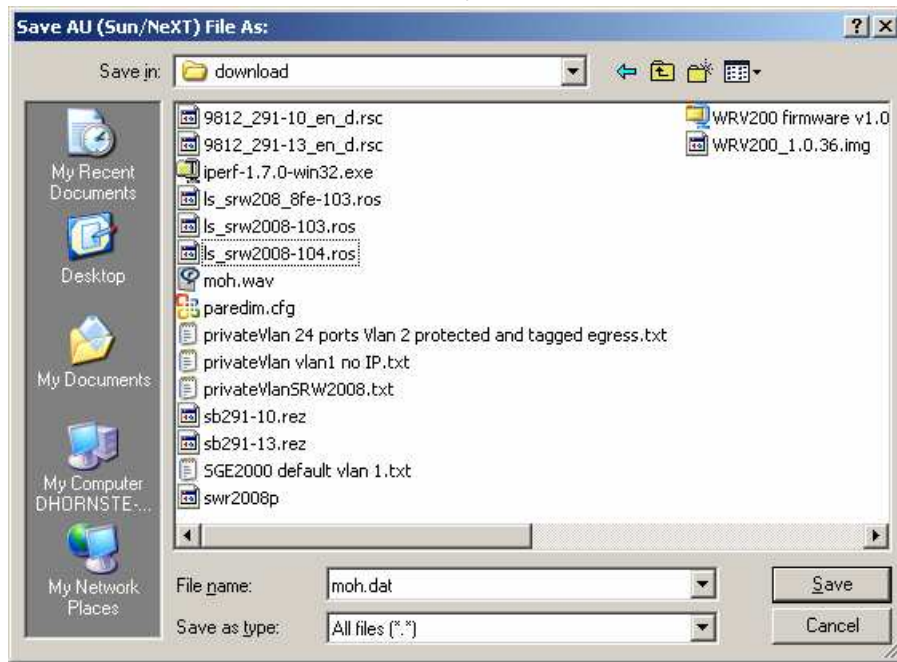


Figure 6 Exported as a AU but saved as a .dat extension

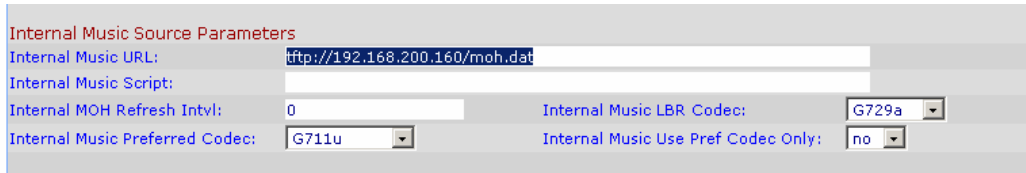
You may get a prompt from Audacity warning you that the file is in AU format, but do you really want to save the file with a .dat extension. You will answer yes to that prompt.

Step 7 Direct your browser to your SPA9000 URL:

http://spa9000_ip/admin/voice/advanced

Replace *spa9000_ip* with the IP address of the SPA9000. Use IVR option 110# to determine the IP address.

Step 8 Click the **SIP** tab and scroll down to the **Internal Music Source Parameters** section. See figure 7 below.



Internal Music Source Parameters	
Internal Music URL:	tftp://192.168.200.160/moh.dat
Internal Music Script:	
Internal MOH Refresh Intvl:	0
Internal Music Preferred Codec:	G711u
Internal Music LBR Codec:	G729a
Internal Music Use Pref Codec Only:	no

Figure 7 Taken from the SIP tab of the SPA9000

Step 9 Enter `tftp://server_IP_address:port/path` in the Internal Music URL field.

Replace *server_IP_address* with the local IP address of the computer you are using as the TFTP server. Replace *port* with the port number used by the TFTP server; by default it is **69**. Replace *path* with the location and name of a music file in the correct format.

For example, if the computers local IP address is 192.168.200.160, the directory is named musicdir, and the converted music file is named moh.dat, then `tftp://192.168.200.160/musicdir/moh.dat` should be entered in the *Internal Music URL* field. (The default port number, **69**, is used.)

Step 10 Click **Submit All Changes**.

The SPA9000 reboots.

After rebooting, the SPA9000 downloads the file and stores it in flash memory. Please note that it only loads the file once and not every time the SPA9000 reloads.

Software used to create the MOH file was Freeware called Audacity. Linksys is not an authorized distributor of Audacity, but the author of this 'How to' note, used the freeware application for the creation of the MOH file. The name Audacity is a registered trademark of Dominic Mazzoni, and is covered by the GNU license. Audacity was one of many packages the author could have used to create the MOH file.

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