APPLICATION Note

TELECOM SOLUTIONS FOR THE 21ST CENTURY

Creating Touch Tone Wav Files for use with the CTG-2 and CTG-2A

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Making a Wav File with Touch Tones Followed by Another Wav File Using Audacity Version 2.0.xx

Viking's model CTG-2 and CTG-2A are advanced clock controlled tone/message generators designed to provide accurately timed tones and/or messages over your existing paging system. This provides a cost effective way of signaling school period changes, factory shifts, breaks, lunch periods, etc.

The CTG-2/CTG-2A can play wave files to send timed tones/messages to individual zones, a combination of zones or all zones when used with a Viking model ZPI-4 (DOD# 499). Since touch tones are used to select the paging zones on the ZPI-4, the Audacity program can easily generate the required touch tone string before each tone/message.

In some applications, the CTG-2A seizes an analog PABX extension and dials a touch tone string before playing the wave file. Useful for dial access page systems or when the CTG-2A wave files must play only to certain zones of a multi zone paging system. Another application is connecting the CTG-2A to the override port of a multi zone page controller, so the CTG-2A wave files are a higher priority than a voice page. The CTG-2 can be connected to an analog PABX extension or the override port of a multi zone page controller but requires the addition of a Viking AIB-1 (see DOD# 910).

Directions

1. Make Audacity full screen.
2. Go to "Generate" and "Silence".
3. Set your desired pre-dial pause time in the "Duration" field (if not sure use 1 or 1.5 seconds), then click on "ok". It will then generate a silent wave file for this selected length of pre-dial pause time. Click on a spot just before the end of this silent wave file and Audacity will create a vertical line at that point.
4. Go to "Generate" and "DTMF tones".
5. Enter the desired touch tone string in the "DTMF sequence" field (but don't click on "ok" yet). Note the values shown in the "tone duration" and "silence duration" fields. Both of these durations must be 100 ms minimum and something within the 150 ms to 250 ms range is ideal. If too long or too short, alter the "Duration" field. Once you have tone and silence durations you are happy with, click on "ok". The touch tones will appear at the end of the silent wave file.
6. Go to "File", "Import" and "Audio". Browse to the location of the wave file you want to play (after the touch tone string), select it and click on "open". If a warning pops up, choose the "read the files directly from the original" option. The selected wave file will then open below the silent and DTMF wave file.

7. Determine how much delay time is needed in your application from the end of the touch tone dial sting to the playing of the wave file, as this timing can vary widely depending on the application. It may be very short when the CTG-2/CTG-2A is connected to the override port of a zone controller or it may be many seconds if the CTG-2/CTG-2A is connected to one extension and will be dialing another extension to reach the paging equipment. Find a spot on the bottom wave file, that represents your desired delay time from the end of the touch tone dial string to the time when the wave file should start playing and click on that spot. Audacity will create a vertical line at that point.
8. Go to “Tracks”, “Align Tracks” and “start to cursor/selection start”. The bottom wave file will move over and start at the point selected.
9. Go to “Tracks” and “Mix and Render”. Go to “Tracks” and “Mix and Render” again and the two wave files should be combined into one wave file.
10. Go to “File” and “Export”. Assign a name and location for this custom wave file and click on “save”. This brings up the “Edit Medadata” screen and it will show tags and any assigned values for those tags. If all of the “Value” fields are empty, click on “ok”. If data appears in one or more of the “Value” fields, remove the data from all Value fields and then click on “ok”.
11. You should then be able to browse to the location of this custom wave file and listen to it using Windows Media Player if desired.

Note *– If you wish to change the sample rate of the wave file, use the “Project Rate” field at the lower, left hand corner of the screen. The only compatible sample rates are 44100, 22050 and 11025.*