

How to use .WAV files to update Replicator Software and Programs

(Technical Note 6/2/2000 mjk).

What have .WAV files got to do with it?

Replicator software and data programs are updated by playing audio data files in Sintefex Audio Data format into the SPDIF input of Replicator.

Audio data files are supplied in the form of a 44.1kHz 16-bit stereo windows .WAV file. This may be loaded into Replicator by attaching an SPDIF output from a PC to Replicator and playing the wave file. If you are using a digital PC sound card you must ensure that (i) volume control is disabled, and (ii) any input monitoring is disabled. i.e. the data must be sent unaltered by the soundcard or software.

If you do not have a digital PC card you may play the sound file using any DAW with an SPDIF output. Once again you must ensure that no data altering process is applied.

If you do not have any real time output device, transfer the wave file to an audio CD by means of a PC based CD recorder, then play the CD using any CD player with an SPDIF output connected to Replicator. We recommend that you burn a CD with several copies of the same audio track in case of a large CD block error which corrupts the data.

When connected and ready to play the file, select the Replicator function for audio data load as follows:

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system -> setup -> power options -> disk dump and load  
[select input optical or coaxial] -> load.
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When you play the audio file you should see some buffer loading information followed by the word SAVED with some additional information.

If you have downloaded new software you may now restart Replicator (switch off and on again after 5 seconds) and watch the new Replicator software version number show during start up.

Please keep any audio monitoring level low during audio data loads. The data coded as digital audio sounds like peak level noise and may be unpleasant.

Possible Problems:

1. Replicator does not respond in any way to the audio data file.

a) If playing from a PC, find the digital audio card mixer panel and make sure that the output level is full and that there is no input monitoring, synthesiser audio feed or other source of data being mixed with the output data.

b) You can try Replicator selected to SPDIF OPTO rather than COAX or vice versa even if connected to the alternate input as we have reports of some inconsistency in the selection of these inputs.

2. Replicator responds but produces the message 'checksum error'.

You are getting corrupted data into Replicator.

a) Windows media players often glitch when streaming audio from disk. Usually playing the same file again immediately works fine as Windows has buffered the data in memory.

b) If you are playing from a CD, you may be getting CD read errors. Try another copy of audio file from a second track, or another CD player, or another CD.

Further notes regarding using Windows digital sound cards.

Any professional digital soundcard for the PC should be able to play digital audio files without data corruption into Replicator. We have tried the Turtle Beach FIJI card with no problems (but you must use the TBS Audio Mixer to fade the output to maximum and fade the aux monitor and synthesiser faders to minimum.). Windows "Sound Recorder" may then play the wave files directly.

We have experienced problems with the Soundblaster Platinum Live SPDIF card and are waiting for the manufacturer's response. We suspect that this card cannot play digital audio without corrupting the data as it features a sample rate converter converting all output to 48kHz.

Transferring WAV files on a MAC using Digidesign(tm etc) Protools Software

We had reports of people having problems transferring WAV files to Replicator using a MAC so have just tried a couple of methods which work fine.

1. Download the zipped WAV file.
2. Unzip it with for examples a shareware product called ZIPIT
3. Import the WAV file into a PROTOOLS session (Protools version 4.1.1 running on a Power Mac 9600). This converts it into separate left and right files (xxx.wav.l and xxx.wav.r) but that is okay as long as they are not moved against each other - only together.
4. Convert file to Sound Designer format (a format common to Logic Audio, Cakewalk etc).
5. Import into a new song.
6. Set up SPDIF channels 1 and 2 as digital outputs (using Protools and for example an 888 I/O interface)
7. Connect SPDIF output 1+2 to Replicator SPDIF coaxial in (For confirmation only you can use Replicator controls now to select input to SPDIF coax via the router and confirm by selecting the CLOCK option on Replicator that the system is locked at 44100Hz (may be 44099Hz as long as it is locked).
8. Select audio data load mode on Replicator to SPDIF coaxial.
9. Play the song on PROTOOLS - you should see the usual confirmation messages on Replicator.
10. You can string together a complete set of WAV files to do a big download - we recommend a minimum of 2 seconds between tracks.
11. You can also play the sound designer format files using LOGIC AUDIO.
12. In LOGIC AUDIO ENVIRONMENT AUDIO PAGE pan the left channel to the left and the right channel to the right. The panpots read -64 on the left and +63 on the right.
13. Ensure that gain is set to normal (LOGIC AUDIO shows the level is 90 on both left and right).
14. Play the tracks.
15. Both methods transfer data flawlessly to Replicator.

We suggest that the .AIFF file format used for MAC sound effects is not used. Apparently most professional audio tools use the sound designer format. Sound files must always be transmitted with NO processing - i.e. no gain change, panning, EQ, crossfading etc. This seems to be straightforward on pro audio systems.