

#### To Play Music:

- if a song is currently playing, stop it by setting Z80 location 60H (A00060) to 0 and wait for location 61H to become 0 (meaning all notes have been silenced).
- Load new Song to location 800H in the Z80 space (A00800). The song should be a .GMS file. .GMS files are made from TYPE 0 MIDI files with the MID2SEG utility.
- To start the song, set location 60H to 1 (enable music) and location 62h to 1 (song request).

#### To Play a sample:

- convert samples to .GDS format using the SPL2SEG program. Since we record our samples on an AMIGA, the converter IFF2SPL is also included to make raw sample files out of IFF single-channel samples.
- Wait for the previous sample to end (poll Z80 location 6EH until it is zero)
- Set the Z80 location 70h (A00070H) to point to your sample. This is a full 32-bit address.
- set Z80 location 6Eh (A0006Eh) to 1; this will play the sample.

#### IMPORTANT RAM VARIABLES:

- A00060: Music enable (master on/off switch)
  - A00061: Music Active (is music currently being processed)
  - A00062: Song Request (Programmers control to start music processing)
- } BOTH TO ONE TO PLAY

A0006E: Digital Sample Status ( Set to 1 to start sample playing, Will be reset to 0 at end of sample).

A00070: Sample Address. This 4-byte variable should contain the starting address of the sample to be played, in 68000 format, i.e. high - low. For example, the prokey macros load a sample at 8000H, so these bytes are: 00 00 80 00. Set this address before you set A0006E (sample status).

#### PROKEY COMMANDS

Prokey is a keyboard macro TSR. To load it, type PKLOAD<enter>. Once loaded type <ALT><forward slash> to bring up its menu. Use the 'r' (read file) command to read the file "Z80SOUND.PRO".

The File z80sound.pro contains prokey macros for the following important functions:

<ALT>F12-- Loads the z80 program 'z80sound.tsk' to A00000 and resets Z80

F3-- Loads the example sample 'WATER.SPK' to location 8000h  
F4-- Plays the sample at 8000h

F5-- Loads the example song 'Theme.mus' to a00800  
F6-- Loads the example song 'TestSega.mus' to a00800  
F7-- Stops playing a song if one is playing  
F8-- Starts playing song at a00800

So the following script will demonstrate the sound driver:

```
PKLOAD          -load prokey
<ALT>/         -enter prokey
r              -read file
z80sound.pro   -file to read is z80sound.pro
<esc>         -exit prokey ( <enter> will also work )

HOST          -enter the host
<ALT>F12      -load the music driver
F3           -load the STRIKE! sample
F4           -play the STRIKE! sample

F5           -load the example song 'Theme.mus'
F6           -start the song playing (it is an endless loop)
F4           -trigger the water sample again.
```

NOTE: This sample will stop music while it plays. This is one of the options which you select when spl2seg'ing a sample. If you don't use this option, the music will continue during the sample, but the sample will be lower quality.

NOTE#2: When using the prokey macros to start a sample, there will always be a slight delay in the music (even if it continues). This is because the PROKEY macros stop the Z80 while they reset variables. If this is done by the 68000 during a program, no delay will occur.

F7 -Stop the damn song, seems to leave notes hanging once in a while

q -Quits the host

FINAL NOTE:

Sorry this isn't a better document, and that the code isn't clearer, but we're still trying to figure a lot of this stuff out. Look at the example instrument definitions in z80sound.asm and the register map included to figure out how to make instruments. I found that the chip is very similar to the YAMAHA DX9 synth, and in fact used an instrument editor for the YAMAHA CX5M music computer to make these instruments.

Samples are a little more straight forward, although none of the tools are really user-friendly yet, they all should tell you their options if you don't specify any options. By the way, they are 8-bit samples and the driver can play either 20Khz or 8Khz samples. I can explain how to play other rates if you want them.

You can call me directly on any questions; I may have better stuff soon (of course, I may not either) Good Luck.

I am:

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