mkvab.exe v.2.0

Installation

Copy the file to the hard drive

New Features

convert VAB <-> VAB description file

Limitations

ADSR linear mode not supported (only exponetial)

Usage

1) mkvab -f def_file -o vab_file vag_files.....

Parses a definition file (see format below) and creates an output file .vab file containing .vag files in the written order

Example -f rob1.def -o rob1.vab boing.vag grunt.vag will create vab file rob1.vab which consists of a vab header (.vh) which is defined by rob1.def and a vab body (.vb) containing 2 vags - boing.vag and grunt.vag.

Definition file format:

VabHdr (Master attributes of VAB)

form = [always 'VABp']
ver = 0x [format version number]
id = [VAB ID (always 0)]
fsize = [total file size, automatically calculated - no input necessary]
ps = [total number of programs, maximum of 128]
ts = [total number of tones (VAGs played with specific attributes), maximum of 16 per program]
vs = [total number of VAGs contained in VAB body, maximum of 254]

ProgAtr X* (Program Attributes) [* One of these must be created for every used Program, with X ranging from 0-127]

tones = [number of tones in the program]
mvol = [program master volume, 0-127 0:minimum, 127:maximum]
mpan = [program master pan, 0-127, 64 being centered, 0:left pan completely, 127:right pan completely]

VagAtr X Y* (Tone Attributes)

[One of these must be created for each tone, with X corresponding to program number, ranging from 0 to (ps -1), and Y ranging from 0-15 (maximum number of tones per program)]

prior = [priority, 0-127. 0:lowest priority, 127: highest priority]
mode = [sound source mode. Bit values 0:normal 4: reverb*]
vol = [volume 0-127. 0:minimum 127:maximum]
pan = [pan value, 0-127. 0:left completely 64:center 127: right completely]
center = [center note (0-127)]
shift = [fine tuning of center note, 0-99 in cents]
min = [minimum note limit (0-127), must be less than or equal to maximum]
max = [maximum note limit (0-127), must be greater than or equal to minimum]
pbmin = [maximum value of downward pitch bend]
pbmax = [maximum value of upward pitch bend]
ar = [attack rate, 0-127 (change rate after key-on until highest volume reached)]
dr = [decay rate, 0-15 (change rate from the highest volume to the threshhold level)]
sr = [sustain rate, -127 to 127 (change rate after the threshold level has been reached);
to enter negative values, write the value followed by a minus sign]
rr = [release rate, 0-31 (change rate of attenuation after key-off)]

sl = [sustain level, 0-15 (continued sound level)]
prog = [program number containing the tone]
vag = [vag number referenced by the tone]

vsize (automatically calculated - no input necessary)
[filesize of vag 1]
[filesize of vag 2]
.
.
.
[fileseize of vag (vs), maximum of 254]

2) mkvab -r vab_file [-o def_file]

Parses a .vab file and either prints the output to the screen (if output file option not entered) or outputs the definition file of the .vab to def_file

____

This is a corrected update of the VAB Header (.VH) file format. I left out a whole 2 bytes earlier and didn't put quite enough info in before either. Sorry! Changes are in red.

This message is important for those of you building VABs in a non-standard way, whether it is pre-disk burning on a PC, or during gameplay.

ID ("VABp")	4 bytes*
Version	4 bytes
VABID	4 bytes**
Waveform Size	4 bytes
Reserved	2 bytes
No. of Programs	2 bytes
No. of Tones	2 bytes
No. of VAGs	2 bytes
Master Volume	1 byte
Master Pan	1 byte
Reserved	6 bytes
Program Attr. Table	16 bytes x 128 (Max # of programs)
Tone Attr. Table	512 bytes (32 bytes * 16 (maximum tones per program)) # of programs
VAG Size Table	512 bytes

* Actually shows up as "pBAV" if viewed in hex.
** [not sure, but think that this is updated in the .vh file which resides on main RAM when an ID has been assigned after transferring .vb to SPU RAM. SO, it looks like it always starts out 00 00 00 00].

You can get each VAG data size from the "VAG Size Table." 3 bit right-shifted VAG data size is stored in short (16 bit), so you can get the actual VAG size shifting the size in the table.

Example:

VAG	#1	#2	#3 ...
VAG Size Table	0x1000	0x0800	0x0200...
actual size	0x8000	0x4000	0x1000...
offset	0x8000	0xc000	0xd000...