Converter

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COLLABORATORS			

	TITLE : Converter		
ACTION	*NAME*	*DATE*	*SIGNATURE*
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REVISION HISTORY			

NUMBER	DATE	DESCRIPTION	NAME

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Converter

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```
        ----------------------------------------------------------------------

                        Sample Converter
                        (c) R.F.Bisschop
----------------------------------------------------------------------


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        Amos
          Amos Professional

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```

1.2 Amos professional

```
----------------------------------------------------------------------
                        Sample Converter
```

```
                              (c) R.F.Bisschop
--------------------------------------------------------------------------------
```

Sample converter is written in Amos Professional Version 2.0.
Amos Professional is an Europress software production.

You can flip between the Converter/Amos & Workbench with Right Amiga + M !!

1.3   History and wish list

```
--------------------------------------------------------------------------------
                              Sample Converter
                              (c) R.F.Bisschop
--------------------------------------------------------------------------------
```

Version 1.0 (06/1998)
----
*The first release.

1.4   Trouble shooting

```
--------------------------------------------------------------------------------
                              Trouble shooting
--------------------------------------------------------------------------------
```

No trouble reported as yet!!

1.5   How to use the program

```
--------------------------------------------------------------------------------
                                    Usage
--------------------------------------------------------------------------------
```

I will explain the program using the following example:
I want to convert 2 mono IFF sample into a stereo SMM sample
Mono files names: monoleft.iff/monoright.iff
Stereo SMM file name: Stereo.SMM

Here goes:
First we have to load the two mono files. We start with the left channel
sample. We select the 'L' button and we select the MonoLeft.IFF sample
using the loader. Once done, we select the 'FLIP' button. We can now
load the right channel sample. We click on the 'R' and load the
MonoRight.IFF sample. We now have the two samples selected. Next to do
is to select the output file. We select the 'O'. Now we set the output
directory using the loader. We select the file box and enter the
following name: Stereo.SMM. We select okay. Next thing we have to do
is to set the size of the block that SMM files use. We can select between
16kb, 32kb, 48kb or 64kb. The 16kb size gives you more control over
the sample when played plus the waist (see File Format) will be less.

The main advantage of a big block is that the Harddisk is more free for
other program. We select the '2' (32kb). The 'compressor' does not work
as yet so we don't have to set that. The last thing to do is how we want
to save the SMM sample. We can select between L, R, L+R or S. We don't
want to just save the Left/Right channel, so we have to either select
L and R or we select S. We select L, we select R and with that we
are ready to convert the sample. We can press the START button. We do and
the computer will now begin the convertion. With anything other than
mono files this can take a while. The computer will display it's progress
in the 'compressor box'. When done this box will be reset to 'Compressor'.
We can now check if all is well. We clear the samples from the memory.
Select 'C', Select 'Flip' and Select 'C' again. The Left and Right
channel will be empty now. It does not matter which channel you're
viewing, just press either L or R. Now select the STEREO.SMM sample.
The computer will display the file format and on the right top of the
screen the play button is now ready to be pressed. Press it!. Yes,
it worked!

1.6   File format

```
--------------------------------------------------------------------------------
                               File format
--------------------------------------------------------------------------------
```

Here's the file format of an SMM sample:
Number of bytes, name/function, comment and starting with the first byte

```
04 Form        I just put it in for F@?# sake
04 Dummy       Not in use at the moment
08 Form2       This shoud read MFSSMMxx where xx is the version number
48 Name        The filename. This might change in future versions
01 Mode        This can either be mono (1) or stereo (2)
02 Speed       Sample rate
01 Blocksize   Either 1, 2, 3 or 4. Blocksize always multiply by 16000
02 Nr Blocks   Number of blocks incl. last block
03 Last block  Size of the last block in bytes
01 Compressor  Off=0 On=1
02 Dummy       Not in use
04 Data        Just to show you the data begins after this
```

Data:

The data is stored in blocks of X size.
For mono files this means the file will be the same as an IFF file.
Stereo files however are different. IFF samples are saved Left channel
first, then Right channel. The SMM file format first saves a block of
the left channel, then a block of the right channel, then the next block
of the left channel and so on.

Lastblock:

To make life easy for me the size of the 'rest' or last block is the
same as the other blocks. This will mean that the size of the data will
be bigger then the original sample, so be it! However, for future use
I included the size of the last block of the sample. If, for example, you
would restore an SMM sample to IFF you can find out the size

```
of the original sample using the following formula:
((Blocksize*16000)*(Number of blocks-1))+size last block=True sample size!!!

Blocknote:
----------
If you want to know the size of the data then here's the formula:
 Data size of full sample=Blocks*Blocksize=11*32000=352.000
  If the sample is stereo multiply the outcome by 2
If you want to know the size of the data without the extra space that
the last block brings with it then here's the formula:
 (Block-1*Blocksize)+size last block=10*32000=320000+21010=341010!!
  If the sample is stereo multiply the outcome by 2
In this case the extra space saved by the converter is 10990 bytes (mono)
or if it would be a stereo sample it would be 10990*2=21980 bytes

Note that the smaller the Blocksize is the smaller the waist will be!!
```

1.7   Screen layout

```
-------------------------------------------------------------------------------
                             Screen layout
-------------------------------------------------------------------------------

From left to right, top to bottom:

X (white cross)
---------------
Quit

Title box
---------
This will display my name, the name of the program and the version number.

> (play)
--------
If an SMM file is displayed this button can be pressed to hear the
sound. Any key press or a mouse click on Abort will Cancel play.

File header display
-------------------
This large piece of funny text displays the file header.

Form
----
This will display the format of the sample, this can either be
IFF or SMM. Other file formats are not supported.

Name
----
The name of the sample

Anno
----
The program the sample was created with
```

```
Speed
-----
This will display the rate of the current sample

Mode
----
This will display if the sample is mono or stereo

Size
----
The full size of the data, this includes left & right channel
Below size you can find:
If IFF sample stereo, half the size (one channel)
If IFF sample mono, nothing
If SMM sample, then number of blocks and the size of the last block

Compressor
----------
Set the compressor on or off
If an SMM file is loaded the computer will use this part as a display

Bsize (block size)
-----------------
Set the size of the bocks to be loaded one after another
If an SMM file is loaded the computer will use this part as a display

Strange Arrows
--------------
Flip between left & right file/channel

L
---
Load a file into the left channel

R
---
Load a file into the right channel

C
---
Clear sample of current channel

L/R/S
-----
Save mode, how to save the output file
L....Mono:Left file          Stereo:Left channel of stereo file
R....Mono:Right file         Stereo:Right channel of stereo file
L+R..Mono:Left+Right files   Stereo:Save Left/Right channel of stereo file
S....Mono:Left+Right files   Stereo:Save stereo file stereo

O+File
------
Set the name of the output file
If output file will be IFF, the name has to end with .IFF
If output file will be SMM, the name has to end with .SMM

Start
```

```
-----
```
Begin converting sample from one format to the other

Abort
```
-----
```
Abort an operation

Quit
```
----
```
Exit MFS sample converter

1.8   What & Why?

```
------------------------------------------------------------------------------
                    What is this program and why do I need it
------------------------------------------------------------------------------
```

What
```
----
```
This program converts any IFF (8SVX) sample into a special MFS sample (SMM).

Why?
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----
```
The basic idea behind this program is to play Stereo samples from HD. With
programs like 'Technosound turbo' you can record samples to Harddisk, but
mono only. The SMM format allows us to play samples from HD, whether the
sample is stereo or mono. The technique behind this is dubble buffered
sampling and 'block-load'. A normal sample file contains a header, left
channel sample and next the right channel sample. The SMM format has every-
thing devided into sessions, blocks. A sample is devided into small pieces
(blocks). The file is constructed using the following rule: Left block,
Right block, Left block, Right block and so on. Well, if you would play
a stereo iff sample from HD the computer would go to beginning of the
sample and load a piece (to play) of the left channel. Next the computer
has to move to the middle of sample to collect a piece of the right
channel. Now the computer can play the piece and load the next piece
of the left channel, move over the the middle for the right channel. In
short: The Harddisk-head has to move all around to collect the pieces to
play. If you would see something like that in action you would almost
believe your harddisk is about the break down. If you play a SMM sample
the computer would go to the beginning of the sample, load a block of
data from the left channel, the block is automaticly followed by a block
of sound from the right channel. The computer can play the pieces and
continue at the last point loaded in the file to load the next piece
of the left channel and so on. If you would see this in action you would
see that the Harddisk is operation as smooth as a baby's bottom!

1.9   Bugs

```
------------------------------------------------------------------------------
                                 Known bugs
------------------------------------------------------------------------------
```

Well, as far as I know there are no bugs in this little program.

But it's good that you looked here because I have a small tip which can
quicken convertion. Try, if you can, to convert from 1 device to another.
Lets say from Ram: to Harddisk or from Jazz/Zip to Harddisk.

For the best resolts you can best leave some space at the end of the
sample when you sample it. About a second or two should do, this because
the Player otherwise would jump very quickly from one song to the other.

And to finish this page; IFF save will also save the 'waist'.