

EMXP version 2.07

EMU Disk and File Utility Software

MANUAL

EMXP has been developed by Kris Van de Cappelle.
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DISCLAIMER

Version Number: **This is version 2.07 BETA.**

EMXP v2.07 is a *beta* version:

This version has not gone through a full testing cycle yet.

Note however that actually all EMXP versions should be considered to be a beta version to a certain degree. The number of test people and test cases is simply too low, and the time spent on the development and testing of EMXP by the developer is not long enough to justify a non-beta status.

EMXP definition: **The EMXP software consists of:**

- emxpn.exe (the program itself)
- emxpv207_manual.pdf (the EMXP manual)

Any reference to EMXP includes all of these components.

Specifications: **Besides E-Mu System's SoundFont 2 specification, EMXP is *not* based on official specifications by E-Mu Systems or by Akai Pro.**

The EMAX specifications have been reverse engineered on EMAX and EMAX II Hardware samplers. The AKAI implementation is based partly on the specifications by Paul Kellett (see www.sonicspot.com/guide/akaifiles.html) and partly on additional reverse engineering on AKAI S1000 samplers. The EMULATOR III and EMULATOR IIIX specifications have been reverse engineered on EMULATOR III and EMULATOR IIIX samplers. The EMULATOR II specifications have been reverse engineered on an EMULATOR II sampler using SOUND DESIGNER II FOR EMU II.

As these specifications are not official, Kris Van de Cappelle (the author) can not guarantee correct results.

The SoundFont 2 features of EMXP are based on the SoundFont® Technical Specification versions 2.01 (July 23, 1998) and 2.04 (February 3, 2006) published by E-Mu Systems.

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OMNIFLOP is a trademark of Sherlock Consulting Limited.

VERSION INFORMATION

Changes since v2.06: **Following features, improvements and changes have been implemented since the previous version:**

- Detailed *querying* of **SoundFont2** files (v2.00 → v2.04)
- *Conversion* between **SoundFont2** and WAV, Emulator II, Emulator III(X) and Emax (I and II)

Also some bugfixing and optimizations have been done. This is especially true in the area of Emulator III support and conversions to/from Emulator III.

The EMXP floppy driver is not supported anymore since version 2.02. To read or write Emax and Akai S1000 floppy disks the OmniFlop floppy driver **MUST** be used.

Test conditions: **This version has not gone through an extended testing cycle.**

This version has been tested on following hardware:

- AMD Athlon 64 3000+ 1.8 GHz with internal floppy drive and with 512 MB Ram running Windows XP
- Intel Centrino Duo 2Ghz 2GB Ram, without floppy drive, running Windows Vista Home Premium
- Macintosh Powerbook 165C running Mac OS 7.1 and Sound Designer for EmuII
- Macintosh SE/30 running Mac OS 6.1 and Sound Designer for Emax-I
- Macintosh Centris 650 running Mac OS 7.6 and Alchemy 3.0
- EMAX SE Upgrade Keyboard (type 1000) running OS SE 1.1
- EMAX Plus SCSI Rack running OS Plus 1.0
- EMAX II Turbo Rack 4MB (type 2213) running OS 2.14
- EMAX II Turbo Keyboard 4MB (type 2212) running OS 2.14
- EMAX II Turbo Keyboard 8MB (type 2205) running OS 2.14
- AKAI S1000 4MB Rack, running OS 4.40 (OS 2.00 on chip)
- AKAI S1000 HD 8 MB Rack, running OS 4.40 (OS 1.31 on chip)
- EMULATOR II+ Keyboard 2x512Kb (type 6050) running OS 3.10
- EMULATOR IIIXS Rack 8MB (type 6103) running OS 2.10
- EMULATOR III Keyboard 8MB (type 6108) running OS 2.42
- Creative Lab SoundBlaster Audigy 2 ZS soundcard with native SoundFont2 support driven by Creative Lab's Vienna SoundFont Studio software.
- IOMEGA 250M ZIP drive SCSI (connected to EMAX sampler)
- IOMEGA 100M ZIP drive SCSI (connected to EMAX sampler)
- IOMEGA 250M ZIP drive USB (connected to PC)
- IOMEGA 100M ZIP drive PARALLEL (connected to PC)

Test results: **Following test results were achieved till now:**

- No serious problems have been found yet with version 2.07.
- *Formatting Akai S1000 double (low) density floppy disks* seems not to work all the time.

Some computers create disks which can not be written/read by PC nor by Akai samplers. In that case, either use high density disks or format the DD disks on the Akai sampler itself. Note: this problem did not occur so far with HD disks. Moreover, reading and writing DD disks that have been formatted elsewhere works perfectly fine.

- Note that there are some "factory" EMAX banks available on the internet that contain corrupt data (even EMAX-samplers will crash on them).

In particular some flavours of following ZD-banks can cause problems in EMXP or in EMAX samplers:

- ZD750, ZD755, ZD756
- ZD764, ZD765, ZD766, ZD767, ZD768, ZD769
- ZD770, ZD771, ZD772, ZD774, ZD775, ZD776
- ZD787, ZD788, ZD789
- ZD792, ZD793, ZD794, ZD795, ZD797, ZD798, ZD799
- ZD800

EMXP should be able to show the contents of these banks, but the corrupt parts are listed as "corrupt". EMXP tries to show as much valid content as possible, e.g. if a parameter in one of the voices of a preset is wrong, the parameters of the preset itself and the parameters of the other voices can still be queried. Only the parameters of the corrupt voice will not be readable. EMXP can also copy/convert corrupt banks to other image types or to disks as long as the sample parameter area is not corrupt (luckily, these parameters seem OK most of the time).

Your help: **The EMAX, Emulator II, Emulator III and AKAI S1000 community can be considered the perfect "testing team" for EMXP :-)**

Please don't panic or throw away this software if it crashes at the first run !

It is a *beta* version. This means that I have to finalize the software by adding features *and* by updating the software based on any bugs or problems reported by you.

You can report bugs and problems to esyntesist@yahoo.com

Support: **I am not a professional software builder.**

This means I don't have a lot of time to give support on EMXP.

I will try however to respond to as many questions and problem as possible.

INSTALLATION

System Requirements

EMXP:

- Needs the Microsoft Windows XP operating system. Windows Vista is also supported but the floppy disk functions have not been tested on Vista.
- Must be installed on a hard disk.
- Requires less than 2 MB hard disk for software installation.
- Requires about 30 MB RAM memory to operate.

Hard disk space for using EMXP depends on the volume of sound banks and files you want to use, and on how many image types you want to store for each sound bank (EMAX-I or EMAX-II versions, Bank images or EMX images, Akai S1000 files, Emulator II/III Bank images, SoundFont2 files, ...).

EMXP needs:

- An internal floppy drive in your PC if you want to be able to read/write EMAX and Akai S1000 floppy disks. *External floppydrives (e.g. USB floppy drives) are NOT supported.*
- A CD-ROM drive or any other removable hard disk drive (such as IOMEGA ZIP), either internal or external, if you want to read EMAX/Emulator III CD-ROMs or read/write removable hard disks/ZIP disks.

Important notes:

1. EMXP can only process:
 - EMAX bank images that are stored in the \images subfolder
 - Wav files that are stored in the \wav subfolder (except for the Wav-files used in HTML reports – these are stored in the \Html\Wav subfolder)
 - EMAX OS images that are stored in the \os subfolder
 - AKAI S1000 files that are stored in the \akais1000 subfolder
 - Emulator II bank images created by SoundDesigner for EmuII which are stored in the \images subfolder
 - Emulator III (IIIX) bank images that are stored in the \images subfolder
 - SoundFont2 files that are stored in the \images subfolder

Moreover the extensions for the files must be correct (see Overview and Installation).

2. The **response time** of getting any **files** overview in EMXP **decreases when a lot of files are present** in the \Image, \AkaiS1000 or \Wav folders. This is especially true the first time you ask an overview after starting EMXP. Once loaded in memory, Windows XP will guarantee faster response times the next time you ask the same overview during the same EMXP session again. The initial slow response time is due to the fact that EMXP has to open each of the files to validate and collect some information on the contents of the file.
3. The **response time** of reading and writing EMAX and Emulator III(X) bank images from/to **removable hard disks** depends on the size of the bank image.

Tests show that

- writing a 512Kb bank to a (usb) ZIP disk takes about 7 seconds.
- reading a 512 Kb bank from a (usb) ZIP disk takes about 3 seconds.
- writing an 8 MB bank to a (usb) ZIP disk takes about 65 seconds.
- reading an 8 MB bank from a (usb) ZIP disk takes about 13 seconds.

Installation Procedure

EMXP is easy to install, but if you want floppy disk support the OMNIFLOP *floppy driver* must be installed first manually.

Note:

You don't have to install the OMNIFLOP floppy driver (omniflop.sys) if you will not read or write floppy disks with EMXP.

Important notes:

- The EMAX floppy driver (flpyemax.sys) is not supported anymore since version 2.02. You should use the OMNIFLOP floppy driver instead.
- The OMNIFLOP floppy driver (omniflop.sys) is not part of the EMXP software package. OMNIFLOP is a product of Sherlock Consulting Limited and must be downloaded from their website. Make sure you use at least the **2.01j version** ! Older versions are not compatible with EMXP. Newer versions are OK and preferred.
- **If you want to avoid having to license OMNIFLOP for use with EMXP, please use OMNIFLOP version v201N or higher !**
- EMXP v2.07 does not support Emulator III(X) floppy disks !
- EMXP v2.07 does not support Emulator II floppy disks ! These disks will never be supported, since the Emulator II formats these disks in a way which is not supported by IBM PC compatible hardware (disk controllers, BIOS). Besides most Emulator II contain 5.25" drives only and these drives are hardly found on any Windows XP computer today...

Hence **the only way to get Emulator II bank files to your Windows XP computer is**

- by first downloading the banks from the Emulator II to a Mac computer running Sound Designer for EmuII;
- followed by transferring these files to your PC using Mac \leftrightarrow PC file exchange software (e.g. MacDisk, PC Exchange, ...).

See also chapter "Transferring Emulator II banks between PC and Emulator II".

Installing the OMNIFLOP floppy driver (omniflop.sys).

You don't have to install the OMNIFLOP floppy driver (omniflop.sys) if you will not read or write floppy disks with EMXP.

Note: Do not use the original EMX software(from 1993) under Windows XP with the Omniflop Floppy Disk Driver installed, it will (still) generate corrupt Emax disks and Emax images.

You have to download the OmniFlop driver first. After downloading the omniflop package the driver has to be installed before you can use floppy disks with EMXP. If you download a version lower than v201N, you will also have to license/register the driver for use with EMXP. **This however is not required for v201N or higher.**

- Downloading the driver:
 - Follow the download instructions on <http://www.omniflop.com/>
 - **Make sure you install version 2.01j or higher. To avoid the licensing procedure, please download version 2.01n or higher !**
- Installing the driver:
 - Detailed installation instructions can be found in the manual provided by Sherlock Consulting Limited.
 - Here's a brief overview of how to install the driver:

1. Unzip the OmniFlop package

- a) create a folder "Emax Driver" (e.g. in "My Documents")
- b) unzip the OMNIFLOP.ZIP package
- c) put following files in this folder:
 - omniflop.inf
 - omniflop.sys

2. Make a backup of the current floppy driver of your system:

- a) create a folder "Backup Driver" (e.g. in "My Documents")
- b) copy following two files to this folder:
 - C:\WINDOWS\inf\flpydisk.inf (setup file)
 - C:\WINDOWS\system32\drivers\flpydisk.sys (system file)

This is just a safety measure. Windows XP should be able to reactivate the original drivers automatically in case of trouble.

3. Choose

- a) START (--> SETTINGS) --> CONTROL PANEL
- b) click on the SYSTEM ICON
- c) choose the HARDWARE tab
- d) click on the DEVICE MANAGER button
- e) unfold [+] Floppy Disk Drives (not the Floppy Disk Controllers !)
- f) rightclick the floppy disk device and choose UPDATE DRIVER

The Hardware wizard pops up.

4. In the Hardware Wizard:

- a) choose INSTALL FROM A LIST OR SPECIFIC LOCATION (ADVANCED)
- b) click NEXT
- c) choose DON'T SEARCH, I WILL CHOOSE THE DRIVER TO INSTALL
- d) click NEXT
- e) click BROWSE and again BROWSE. Browse to the folder "Emax Driver" in which the OMNIFLOP.INF and OMNIFLOP.SYS files have been saved (see step 1)
- f) click on OMNIFLOP (.inf)
- g) click NEXT

The Hardware wizards start the installation of the driver.

5. If you get a warning about (...) NO COMPATIBILITY WITH XP (...) click CONTINUE

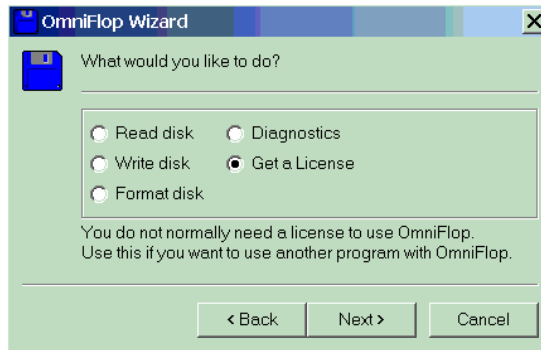
(the driver has no XP signature but it should work fine on any XP system)

The driver has been installed now.

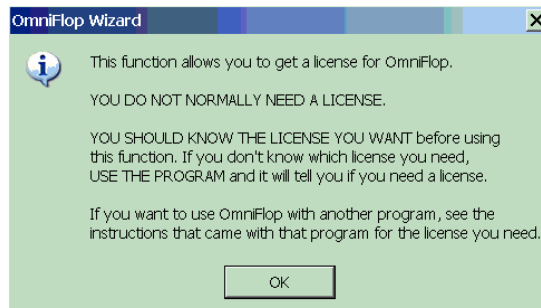
If you installed version v201n or higher, the installation of OmniFlop for EMXP is complete.

If you installed any version between v201j and v201m, you'll have to license the driver for use with EMXP first. This is described below:

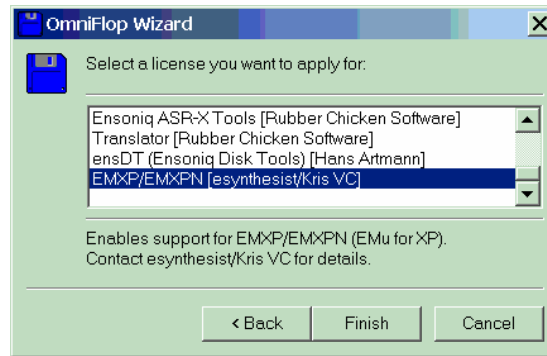
- Registering/Licensing the driver (**only for OmniFlop versions v201j to v201m**):
 - After installing the driver, you can still not use the EMXP software for reading and writing EMAX disks if you installed an OmniFlop version older than v201n. In this case, **you first have to run the OmniFlop software itself**.
 - Start OmniFlop and select the NEXT button.
 - Select "Get a License" (see picture below).



- Select "OK" on the message window (see picture below).



- In the next window, scroll through the list of software packages that use the OmniFlop floppy driver until you find "**EMXP/EMXPN (esynthesist/Kris VC)**". Highlight this line and press "Finish" (see picture below).



- The final step in the licensing procedure is to obtain the actual license. We recommend to use the **“Register OnLine”** feature instead of the “Register by e-mail” option. Make sure your internet connection is active. (See picture below – the actual registration code will look differently on your system)



- OmniFlop will open your web browser and ask you to complete a registration form. Simply enter your e-mail address and hit the **“Get License”** button. (See picture below) *Do not enter the email address of the example below :-)* You have to replace it by your own email address.
Do not close the OmniFlop software window yet ! You still need it to enter the registration code.

OmniFlop On-Line Licensing

Fill in as much detail **as you like** and click 'Get license' to get a license e-mailed to you.

You must specify an e-mail address, the version, and the registration code to get a license.

Date: 2006-09-23 11:55:49
*Email Address:
*Product:
*Version:
*Registration Code:
*Formats you are using:

The following details are **optional** and are not needed to get a license.

Operating System: ☐ Windows NT ☐ Windows 2000 ☒ Windows XP
Contact Name:
Company Name:
Address:
Phone No.:
Fax No.:

- The Sherlock Consulting webserver will confirm that the license key has been generated and sent to your e-mail address. (See picture below).

Your license has been generated OK.

An e-mail has been sent to esynthesist@yahoo.com

- [Return to OmniFlop main page](#)

- Check your e-mail and copy & paste the registration code in the OmniFlop registration window. Press "Finish". (See picture below. Again, the registration code below is just a dummy, the actual one on your system will be different)



OmniFlop Wizard v2.01j

You need to register to continue. Send the product name, version, and Registration Code to: jason.watton@lycos.co.uk or register via WWW or e-mail below.

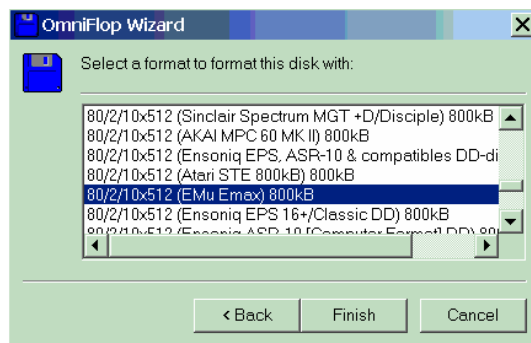
Registration Code:

License Key:

Copyright © 2004-2006 Jason Watton

- You're ready to use the OmniFlop driver with EMXP now.
- **Start using EMXP.** If you still have problems with the OmniFlop driver (EMXP errorcode range 160-170), you can try an *additional registration*. Normally this additional registration is not required, but I describe it here anyway: start the OmniFlop software. Put an empty DSDD floppy disk in the disk drive. After pressing "Next", select *formatting* a floppy disk, and choose "**80/2/10*512 (EMu EMAX) 800kB**" when OmniFlop asks you to select a disk layout. Press the "Finish" button.
If the additional registration is required, you will get a pop-up message which tells you to license for Emu EMAX floppy disk compatibility. If no license is required anymore, the formatting of the disk will start.
The same is true for "80/2/5*1024 (Akai S-Series DD disk) 800 kB" and "80/2/10*1024 (Akai S-Series HD disk) 1600 kB".

*Note: please select the 10*512 Emu EMAX disklayout, not the 5*1024 one ! See picture below:*



- More detailed licensing instructions can be found on the Sherlock Consulting Website and in the OmniFlop manual.
- At the time of writing, licensing is **free but required** for EMAX disk compatibility. However the registration can be done in realtime and fully automated so this should not be a worry...

Installing the EMXP software

Compared to the floppy driver installation, installing the EMXP software itself is very easy.

1. Unzip the EMXPV207.ZIP package
2. Put the EMXPN.EXE file in the folder (directory) of your choice.
 - a. *This has to be a directory on the hard disk of your PC !*
 - b. **In Windows Vista, use a subfolder of your Users folder, e.g. Documents. Don't put this program in other folders. If you put the .exe file elsewhere (e.g. in the Program Files folder) EMXP will not be able to find its own images and files anymore !**
3. Create the \Images, \Akais1000, \Wav, \Os, \Html, \Html\Wav and \Temp subfolders in the EMXP folder:
 - a. By creating them manually (e.g. using Windows Explorer > File > New > ... or by using the MKDIR dos command in a DOS Window)
 - b. OR simply by running EMXPN.EXE. If EMXPN does not find these subfolders, it creates them automatically !
4. Software installation is finished.

All EMAX sound bank images that need to be processed by EMXP *have to be put* in the \Images folder.

Also all EMAX images produced by EMXP will be put in the \Images folder.

All EMAX operating system images that need to be processed by EMXP *have to be put* in the \Os folder.

Also all EMAX OS images produced by EMXP will be put in the \Os folder.

All Emulator II sound bank images that need to be processed by EMXP *have to be put* in the \Images folder.

Also all Emulator II images produced by EMXP will be put in the \Images folder.

All Emulator III (and IIIX) sound bank images that need to be processed by EMXP *have to be put* in the \Images folder.

Also all Emulator III (and IIIX) images produced by EMXP will be put in the \Images folder.

All SoundFont2 files that need to be processed by EMXP *have to be put* in the \Images folder.

Also all SoundFont2 files produced by EMXP will be put in the \Images folder.

All Akai S1000 files (sample, program, drum, OS) that need to be processed by EMXP *have to be put* in the \AkaiS1000 folder.

Also all Akai S1000 files produced by EMXP will be put in the \AkaiS1000 folder.

All WAV files that need to be processed by EMXP *have to be put* in the \Wav folder. Also all WAV files produced by EMXP will be put in the \Wav folder.

All files *must* have EMXP-compliant file extensions.

See section Overview for the naming conventions of images.

Important note:

EMXP uses other default extensions for Akai S1000 files than the ones typically used by the Akai community. E.g. the EMXP extension for Akai S1000 samples is .AKS, while this is .S for other software. Also note that some other software packages use .AKS as the extension for Akai S5000 samples, not Akai S1000 samples...

Starting the EMXP software

You can start the EMXP software in two ways:

- Doubleclick the EMXPN.EXE file in Windows Explorer,
- Or type EMXPN.EXE <ENTER> in a DOS Window.

Uninstalling

You can **uninstall the EMXP software** simply by removing the EMXPN.EXE file.

To **uninstall the OmniFlop floppy driver**, follow the instructions below:

Uninstalling the floppy driver means:

- replacing the OmniFlop Floppy Disk Driver by the original Microsoft Driver

1. Choose

- a) START --> SETTINGS --> CONTROL PANEL
- b) click on SYSTEM ICON
- c) choose the HARDWARE tab
- d) click on the DEVICE MANAGER button
- e) unfold [+] Floppy Disk Drives (! not the Floppy Disk Controllers)
- f) rightclick the floppy disk device and choose UPDATE DRIVER

The Hardware wizard pops up.

2. In the Hardware Wizard:

- a) Choose INSTALL FROM A LIST OR SPECIFIC LOCATION (ADVANCED)
- b) click NEXT
- c) Choose DON'T SEARCH, I WILL CHOOSE THE DRIVER TO INSTALL
- d) click NEXT
- e) either:
 - click on the original driver (probably called "Floppy Disk Drive")
- or:
 - click BROWSE and again BROWSE. Browse to the folder "Backup Driver" in which the FLPYDISK.INF and FLPYDISK.SYS files have been saved (see step 2 in the installation instructions)
 - click on FLPYDISK (.inf)
- f) click NEXT

The Hardware wizards start the installation of the driver.

3. If you get a warning about (...) NO COMPATIBILITY WITH XP (...) click CONTINUE

The OmniFlop driver has been uninstalled now.

More details on the uninstall instructions can be found in the OmniFlop manual.

IF YOU DON'T WANT TO CONTINUE READING: A QUICK START

We recommend that you read the **whole manual** before using EMXP.
However if you're tired of reading, you can try out EMXP now.
Just to make things easier, we give some hints:

We assume that you have either

- EMX images
- EMAX floppy disks
- EMAX removable hard disks
- Emulator II bank files created by SoundDesigner for EmuII for Mac which are transferred to your PC
- Emulator III or IIIX removable hard disks
- SoundFont2 files
- Akai S1000 floppy disks
- Akai S1000 samples (.S files)
- or WAV files

available before using EMXP.

Not all EMXP features are available when working directly on EMAX/EMAX-II/EMULATORIII removable harddisks, or directly with EMAX/EMAX-II floppy disks or EMX images. You should always translate or copy the files first to EMXP BANK IMAGES on your PC's harddisk before using the extended EMXP functions like translating between sampler formats.

In order to have **all** EMXP functions available on the sounds within these files, you should:

In case of EMX images:

- copy the EMX images to the \Images folder
- change the MS-DOS extension of these images to either .EM1 or .EM2 (EMAX-I or EMAX-II)
- start EMXP
- go to "1. Manage Emu EMAX/EMAX-II Images and Disks"
- go to "2. Manage EMAX EMX Images"
- select all EMX Images by typing "A" + ENTER
- go to "1. Create Bank Image from EMX Image(s)"
- go back to the "EMAX SAMPLER MENU" by pressing ESC a few times
- go to "1. Manage EMAX Bank Images"

In case of Sound Designer for Emax images:

- copy the Sound Designer for Emax images to the \Images folder
(for help on creating and transferring Emax SD files, see also chapter "**Transferring Sound Designer for Emax files from Emax to PC**")
- change the MS-DOS extension of these images to either .EMS (only EMAX-I is supported)
- start EMXP
- go to "1. Manage Emu EMAX/EMAX-II Images and Disks"
- go to "3. Manage Sound Designer for EMAX Images"
- select all Sound Designer for Emax Images by typing "A" + ENTER
- go to "1. Create Bank Image from Sound Designer for Emax Image(s)"
- go back to the "EMAX SAMPLER MENU" by pressing ESC a few times
- go to "1. Manage EMAX Bank Images"

In case of EMAX floppy disks:

- make sure you installed the OmniFlop floppy driver, and that you are **not** using a USB external floppy drive !
- go to "1. Manage Emu EMAX/EMAX-II Images and Disks"
- go to "7. Manage EMAX Floppy Disks"
- choose the drive
- go to "1. Manage Banks on Floppy Disk"

- insert a floppy disk and press ENTER
- when the summary of the disk is shown, press ENTER
- go to “1. Create EMX Image from Floppy Disk”
- enter a name for the EMX file + ENTER
- go back to the “EMAX SAMPLER MENU” by pressing ESC a few times
- **convert the EMX Image to an EMAX Bank Image by following the instructions under “In case of EMX images”**

In case of EMAX removable hard disks:

- go to “1. Manage Emu EMAX/EMAX-II Images and Disks”
- go to “6. Manage EMAX Removable Hard Disks / CD-ROMs”
- choose the drive
- go to “1. Manage Banks on EMAX Removable HD/CD”
- insert a removable hard disk or CD-ROM in the drive and press ENTER
- select one or more banks by entering the corresponding individual numbers OR by using block select with the ‘M’ key OR by pressing ‘A’ to select all banks. Press ENTER.
- go to “1. Create Bank Image(s) from removable EMAX HD/CD Banks”
- for each selected bank, enter a name for the bank image and press ENTER
- go back to the “EMAX SAMPLER MENU” by pressing ESC a few times
- go to “1. Manage EMAX Bank Images”

In case of Emulator II Sound Designer bank files:

- copy the SDII bank files to the \Images folder
(for help on creating and transferring Emulator II SDII files, see also chapter “***Transferring Emulator II files from Emulator II to PC***”)
- make sure the MS-DOS extension of these images is .EII
- start EMXP
- go to “2. Manage Emu Emulator II Images”
- go to “1. Manage Emulator II Bank images”
- select one or more banks by entering the corresponding individual numbers OR by using block select with the ‘M’ key OR by pressing ‘A’ to select all banks. Press ENTER.
- Choose the required action, e.g. if you want to make WAV files, select “4. Show Samples”, select one or more samples and choose “1. Create WAV File(s) from selected Sample(s)”.

In case of Emulator III or IIIX removable hard disks:

- go to “1. Manage Emu Emulator III Images and Disks”
- go to “3. Manage Emulator III Removable Hard Disks / CD-ROMs”
- choose the drive
- go to “1. Manage Banks on Emulator III Removable HD/CD”
- insert a removable hard disk or CD-ROM in the drive and press ENTER
- select one or more banks by entering the corresponding individual numbers OR by using block select with the ‘M’ key OR by pressing ‘A’ to select all banks. Press ENTER.
- go to “1. Create Bank Image(s) from removable Emulator III HD/CD Banks”
- for each selected bank, enter a name for the bank image and press ENTER
- go back to the “EMULATOR III SAMPLER MENU” by pressing ESC a few times
- go to “1. Manage Emulator III Bank Images”

In case of SoundFont2 files:

- copy the SF2 files to the \Images folder
(only SoundFont2 files are supported (v2.00 → v2.04); SoundFont 1 files are NOT supported)
- make sure the MS-DOS extension of these files is .SF2
- start EMXP
- go to “6. Manage SoundFont files”
- select one or more files by entering the corresponding individual numbers OR by using block select with the ‘M’ key OR by pressing ‘A’ to select all files. Press ENTER.
- Choose the required action, e.g. if you want to make mono WAV files, select “4. Show Samples”, select one or more samples and choose “1. Create WAV File(s) from selected Sample(s) (always mono)”.

In case of Akai S1000 floppy disks:

- make sure you installed the OmniFlop floppy driver, and that you are **not** using a USB external floppy drive !
- go to “4. Manage Akai S1000 Images and Disks”
- go to “7. Manage Akai S1000 Floppy Disk”
- choose the drive
- go to “1. Manage Akai S1000 Files on Floppy Disk”
- insert a floppy disk and press ENTER
- when the summary of the disk is shown, press ENTER
- go to “1. Show all Akai S1000 Files on Floppy Disk”
- select one or more files by entering the corresponding individual numbers OR by using block select with the ‘M’ key OR by pressing ‘A’ to select all files. Press ENTER.
- go to “1.Copy Akai S1000 File to PC”
- for each selected floppy disk file, enter a name for the PC-file and press ENTER
- go back to the “AKAI S1000 SAMPLER MENU” by pressing ESC a few times
- go to either “2. Manage Akai S1000 Program Files only” or “3. Manage Akai S1000 Sample Files only”

In case of Akai S1000 sample files:

- copy the sample files to the \Akais1000 folder
- change the MS-DOS extension of these files (from .S) to .AKS
- start EMXP
- go to “4. Manage Akai S1000 Images and Disks”
- go to “3. Manage Akai S1000 Sample Files only”

In case of WAV files:

- make sure the WAV-files are not encoded and have a maximum of two channels (i.e. mono or stereo)
- copy the WAV files to the \Wav folder
- (if necessary) change the MS-DOS extension of these files to .WAV
- start EMXP
- go to “5. Manage WAV Files”

OVERVIEW OF EMXP

Features

EMAX-related features:

EMXP is able to:

- Read / write EMX images (compatible with the original EMX software)
- Read / write Sound Designer for Emax 1.12 images
- Read / write / format EMAX floppy disks (if the OmniFloppy floppy driver has been installed)
- Read / write removable hard disks and read CD-ROMs for EMAX-I and EMAX-II. E.g. ZIP disks (both 100M and 250) are also supported by EMXP. Make sure a removable HD drive (such as IOMEGA ZIP) or CD-ROM drive has been connected to your PC or installed into your PC.
 - EMXP can read/write individual EMAX sound banks from/to removable hard disks (such as ZIP disks)
 - EMXP can backup/restore complete removable hard disks.
 - EMXP can read individual EMAX sound banks from R/O EMAX hard disks, such as CD-ROMs.
 - EMXP can also backup R/O EMAX hard disks (CD-ROMs), but to restore these images to CD again, you'll need a CD burning software capable of burning ISO images.
- Create / initialize new (empty) Emax HD/CD images from scratch. This feature allows to create/assemble/change complete user-defined HD/CD images upfront. Once the sound library on the image is ready, you can save the whole image to a removable harddisk (using the "restore" function) or burn it to CD-ROM (using a burning software). The HD/CD is ready now for use in an Emax sampler.
- Read / write backup images of your removable EMAX hard disks.
- Read / write EMAX bank images. A **bank image** contains a whole bank, whereas an EMX image contains only one floppy disk image of a bank. On EMAX-II a bank can take up to 16 floppy disks, hence up to 16 EMX images. A "bank image" contains all of the 16 images in one "full image".
- Read / write EMAX or EMAX-II operating systems from / to floppy disks or from / to removable EMAX hard disks. Note that only the EMAX Plus 1.0 OS can be written to EMAX-I removable hard disks, and only the EMAX-II 2.14 OS can be written to EMAX-II removable hard disks.
- Convert EMAX and EMAX-II samples to WAV files.
- Create EMAX and EMAX-II bank images from a selected set of WAV files.
- Convert EMAX bank images between EMAX format and EMAX-II format. The original EMAX format consists of 12-bit samples compressed to 8-bit files. The EMAX-II format consists of 16-bit samples and is not compressed. *Note that EMAX samplers do not support all sampling rates of EMAX-II samplers. EMXP currently does NOT support sampling rate conversion. If you convert an EMAX-II image to an EMAX-I image while the bank's sampling rate is not supported by EMAX-I, the converted bank can still be read by an EMAX-II sampler but it can probably not be read by an EMAX-I sampler.*
- Convert EMAX and EMAX-II bank images to Akai S1000 program files and sample files.
- Convert EMAX and EMAX-II bank images to Emulator II bank images.
- Convert EMAX and EMAX-II bank images to Emulator III and Emulator IIIX bank images.
- Convert EMAX and EMAX-II bank images to SoundFont2 v2.01 files.
- Create EMAX and EMAX-II bank images from a selected set of Emulator II bank images.
- Create EMAX and EMAX-II bank images from a selected set of Emulator III/IIIX bank images.
- Create EMAX and EMAX-II bank images from a selected set of SoundFont2 (v2.00 → v2.04) files.
- Show all parameters of Bank, Preset, Key Area, Voice and Sample data on screen.

EMULATOR II-related features:

EMXP is able to:

- Convert Emulator II bank images into EMAX and EMAX-II bank images.
- Convert Emulator II bank images into Emulator III and Emulator IIIX bank images
- Convert Emulator II bank images into SoundFont2 v2.01 files
- Create Emulator II bank images from a selected set of EMAX or EMAX-II bank images.
- Create Emulator II bank images from a selected set of Emulator III or Emulator IIIX bank images
- Create Emulator II bank images from a selected set of SoundFont2 (v2.00 → v2.04) files
- Convert Emulator II samples to WAV files.

- Create Emulator II bank images from a selected set of WAV files. A new Emulator II bank image is created and the WAV-files are translated to samples in this file. Also one or two presets are created and each sample is assigned to a key within the preset.
- Show all parameters of Bank, Preset, Key Area, Voice and Sample data on screen.

EMULATOR III-related features:

EMXP is able to:

- Read / write removable hard disks and read CD-ROMs for Emulator III and Emulator IIIX. E.g. ZIP disks (both 100M and 250) are also supported by EMXP. Make sure a removable HD drive (such as IOMEGA ZIP) or CD-ROM drive has been connected to your PC or installed into your PC.
 - EMXP can read/write individual Emulator III and IIIX sound banks from/to removable hard disks (such as ZIP disks)
 - EMXP can backup/restore complete removable hard disks.
 - EMXP can read individual Emulator III and IIIX sound banks from R/O Emulator III(X) hard disks, such as CD-ROMs.
 - EMXP can also backup R/O Emulator III(X) hard disks (CD-ROMs), but to restore these images to CD again, you'll need a CD burning software capable of burning ISO images.
- Create / initialize new (empty) Emulator III HD/CD images from scratch. This feature allows to create/assemble/change complete user-defined HD/CD images upfront. Once the sound library on the image is ready, you can save the whole image to a removable harddisk (using the "restore" function) or burn it to CD-ROM (using a burning software). The HD/CD is ready now for use in an Emulator III(X) sampler.
- Read / write backup images of your removable Emulator III(X) hard disks.
- Convert Emulator III/IIIX bank images into EMAX and EMAX-II bank images.
- Convert Emulator III/IIIX bank images into Emulator II bank images
- Convert Emulator III/IIIX bank images into SoundFont2 v2.01 files
- Create Emulator III/IIIX bank images from a selected set of EMAX or EMAX-II bank images.
- Create Emulator III/IIIX bank images from a selected set of Emulator II bank images
- Create Emulator III/IIIX bank images from a selected set of SoundFont2 (v2.00 → v2.04) files
- Convert between Emulator III and Emulator IIIX bank images.
- Convert Emulator III(X) samples to WAV files.
- Create Emulator III bank images from a selected set of WAV files. The WAV-files are translated to Emulator III samples, but the samples are not assigned to any key and no preset is created. Moreover only the original Emulator III format is supported, not the EIIIX format.

SoundFont2-related features:

EMXP is able to:

- Convert SoundFont2 files (v2.00 → v2.04) into EMAX and EMAX-II bank images.
- Convert SoundFont2 files (v2.00 → v2.04) into Emulator III and Emulator IIIX bank images
- Convert SoundFont2 files (v2.00 → v2.04) into Emulator II bank images
- Create SoundFont2 v2.01 files from a selected set of EMAX or EMAX-II bank images.
- Create SoundFont2 v2.01 files from a selected set of Emulator III or Emulator IIIX bank images
- Create SoundFont2 v2.01 files from a selected set of Emulator II bank images
- Convert SoundFont2 (v2.00 → v2.04) samples to WAV files (16 bit only)
- Create SoundFont2 v2.01 files from a selected set of WAV files. A new SoundFont2 file is created and the WAV-files are translated to samples in this file. Also one or more presets are created and each sample is assigned to a key within the preset.
- Show all parameters of Bank, Preset, Instrument, Zone and Sample data on screen.

Akai S1000-related features:

- Read and write Akai S1000 program files, sample files, drum files and OS files from / to Akai S1000 floppy disks (both DD and HD disks).
- Backup/restore complete Akai S1000 floppy disks to/from Akai S1000 floppy disk *images*.
- Read Akai S1000 files from Akai S1000 floppy disk *images*.
- Format Akai S1000 floppy disks. Note however that some problems can occur with Akai S1000 *double density* disks formatted by EMXP. Sometimes these disks can not be read/written by both EMXP and

Akai samplers after the EMXP-format procedure. In that case, please reformat the disk in the Akai S1000 sampler itself, or use HD disks.

- Convert Akai S1000 sample files to WAV-files.
- Convert WAV-files to Akai S1000 sample files.

Physical formatting of removable EMAX and Emulator III(X) hard disks is NOT supported by EMXP version 2.07 (*).

Especially formatting *ZIP disks* is not supported because the available USB WinXP drivers for IOMEGA ZIP drives do not allow the formatting of more sectors than strictly required by Windows XP. EMAX and Emulator III(X) samplers however need a few more sectors. These sectors can be read/written by the available drivers, but not formatted. Don't ask me why.

ZIP disks formatted by an Apple Macintosh *do* format these additional sectors, but I have decided not to put an 'initialisation format function' into EMXP since you would first need an Apple computer to format the disks before initializing them on a Windows XP machine.

(*) Logical formatting is also not supported, but can be "emulated" by using the "create new HD/CD backup image" feature and by copying (restoring) this image to the removable harddisk. This harddisk must have been physically formatted for Emax/Emulator III, e.g. by first formatting it on an Apple Macintosh.

File location & naming constraints

All EMAX sound images (bank, zip backup, EMX) that have to be read by EMXP must be put in the **\Images** folder.

All EMAX sound images (bank, zip backup, EMX) created by EMXP will also be put in the \Images folder. Subfolders of \Images are NOT supported.

All EMAX operating system images that have to be read by EMXP must be put in the **\Os** folder.

All EMAX operating system images created by EMXP will also be put in the \Os folder. Subfolders of \Os are NOT supported.

All Emulator II bank images that have to be read by EMXP must be put in the **\Images** folder.

All Emulator II bank images created by EMXP will also be put in the \Images folder

All Emulator III(X) sound images (bank, zip backup, ...) that have to be read by EMXP must be put in the **\Images** folder.

All Emulator III(X) sound images (bank, zip backup, ...) created by EMXP will also be put in the \Images folder.

All SoundFont2 files that have to be read by EMXP must be put in the **\Images** folder.

All SoundFont2 files created by EMXP will also be put in the \Images folder

All Akai S1000 files (program, sample, drum, OS, image) that have to be read by EMXP must be put in the **\Akais1000** folder.

All Akai S1000 files (program, sample, drum, OS, image) created by EMXP will also be put in the \Akais1000 folder.

Subfolders of \Akais1000 are NOT supported.

All WAV files that have to be read by EMXP must be put in the **\Wav** folder.

All WAV files created by EMXP will also be put in the \Wav folder.

Subfolders of \Wav are NOT supported.

The naming conventions of the images are:

- Any Windows XP supported name is OK...
- ... but the file MUST have an **EMXP-defined extension**. See following table.

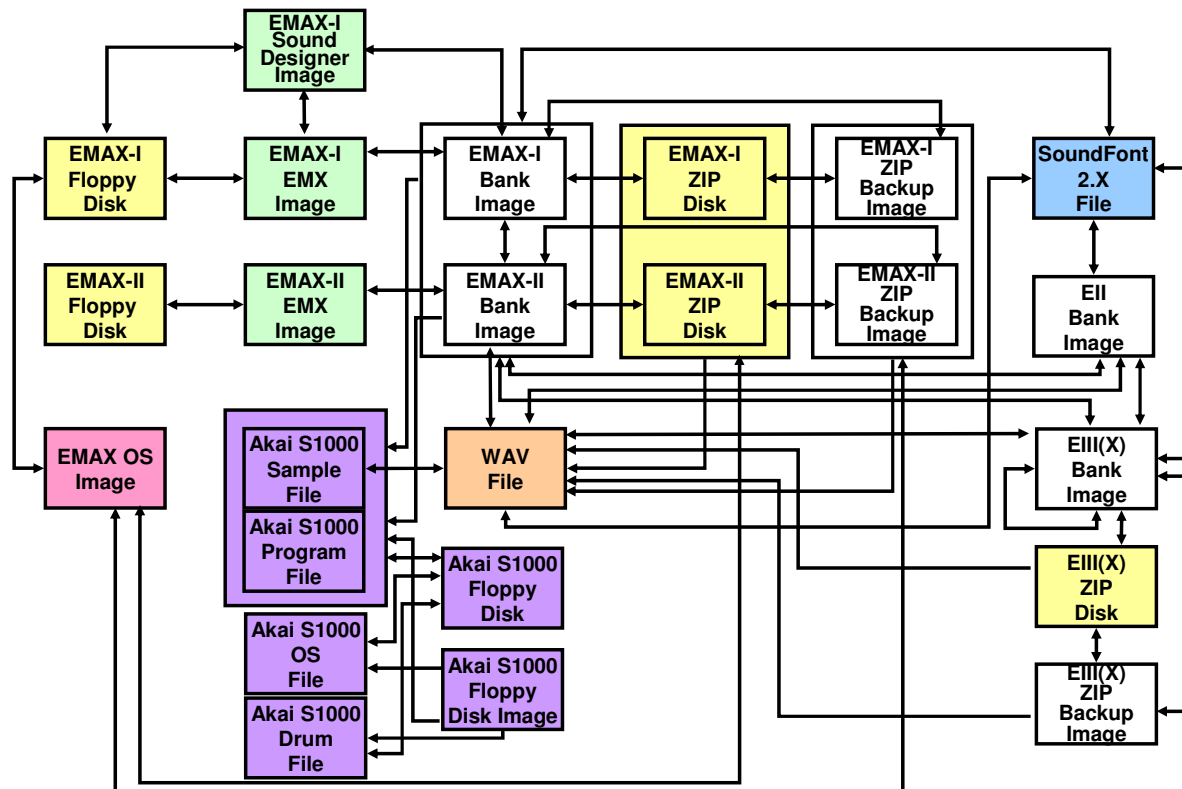
Image type	DOS file extension
EMX image EMAX-I bank	.EM1
EMX image EMAX-II bank	.EM2
Sound Designer for EMAX file	.EMS
Bank image EMAX-I	.EB1
Bank image EMAX-II	.EB2
Bank image Emulator II	.EII
Bank image Emulator III(X)	.EB3
Removable harddisk backup image EMAX-I	.EZ1
Removable harddisk backup image EMAX-II	.EZ2
Removable harddisk backup image Emulator III(X)	.EZ3
EMAX Operating System image	.EMX
SoundFont2 file	.SF2
Akai S1000 program file	.AKP
Akai S1000 sample file	.AKS
Akai S1000 drum file	.AKD
Akai S1000 operating system file	.AKO
Akai S1000 floppy disk image	.AKI
WAV file	.WAV
HTML file	.HTML

Note:

The old EMXP version 0.91 required specific naming rules for EMAX-II multi-disk images (the filename had to end with _1, _2, ...). *This is not required anymore since EMXP version 1.91.*

Conversion flows supported by EMXP

The following diagram shows all possible read/write dataflows supported by EMXP.



The **bank images** (extensions .EB1, .EB2, .EB3, .EII and .SF2) are the **cornerstones** of EMXP. This is very important, especially for EMAX users since until now the “standard” files used within the EMAX community are EMX-files, not bank image files.

EMXP can not use EMX images as its central layout, because EMX images don’t necessarily contain the whole EMAX bank. This is true for EMAX-II, of which sound banks can take up to 16 EMX images or 16 floppy disks. E.g. if EMXP wants to convert a sample from an EMAX-II bank to WAV layout, it must be sure that it can read the *whole* sample at once. With EMX images this is not guaranteed as the sample could be spread over two or more EMX files.

As a consequence, if you want to copy a bank from floppy to a EMAX removable hard disk

- you first have to create the EMX images from the floppy disks
- then you have to merge all EMX images into **one bank image** (automatically, using EMXP of course)
- and finally you can copy the bank image to the removable hard disk.

Copying floppy disks directly to removable hard disks or even to bank images is not supported because of the damage this can cause (risk of uncomplete bank images or HD banks).

Therefore we recommend to build at least a library of **EMAX bank images**, because you will always need these if you want to:

- read / write removable hard disks
- convert between EMAX-I and EMAX-II banks
- convert to Akai S1000 samples and programs.

USER INTERFACE

The user interface of EMXP is still *plain old DOS look & feel*, although it can only run under Windows XP...

However the user interface is more user-friendly than the old EMX or EMXP v0.91 version.

E.g. you don't have to type input file names anymore: you can select file(s) from a list.

The main screen after launching EMXPN.EXE looks like this:

```
EMXP v2.07.BETA.01 (C)2006-2009 BY ESYNTHESIST@YAHOO.COM -- MAIN MENU
-----
1.  Manage Emu  EMAX/EMAX II Images and Disks
2.  Manage Emu  Emulator  II Images
3.  Manage Emu  Emulator III Images and Disks
4.  Manage Akai S1000      Images and Disks
5.  Manage WAV  Files
6.  Manage SoundFont Files

-----
[1]...[6]: menu option          ESC: Go back
-----
Please enter a menu option: █
```

Selecting a menu option can be done simply by typing the menu option number.

E.g. if you want to process EMAX disks or files, you press 1 and the EMAX SAMPLER MENU will be shown.

Note that you don't have to press ENTER: after pressing 2, EMXP immediately responds and executes the requested function.

EMXP consists of ten types of screens:

- 1) Menu screens, in which you can choose a function of EMXP
- 2) List screens / overviews, in which you can choose one or more items (images, banks, presets, files...)
- 3) Detailed information screens, in which all details of an item are displayed
- 4) Name request screens, in which you can type in a name for a newly created file
- 5) Disk request screens, in which EMXP asks you to put a disk in a drive
- 6) Confirmation screens, in which you have to confirm critical operations such as deleting a bank
- 7) End-of-process screens, in which EMXP confirms that (part of) a process has been completed
- 8) Warning or Error screens, in which EMXP tells you something has gone wrong (WARNING / ERROR) or seriously gone wrong (FATAL ERROR).
- 9) Proceeding screens, in which EMXP shows how much % of the operation has already been executed
- 10) Wait screens, that ask you to be patient while EMXP is doing something.

In almost all screens, you can leave the screen and go back to the previous screen by pressing the **ESCAPE** button on your keyboard.

Windows itself may also show warning or error screens due to some processes in EMXP. This is true when a serious bug occurs (e.g. a System Error due to a memory leak), but Windows messages can also pop up when specific EMXP actions are performed, e.g. when you want to format a floppy disk which currently contains an unknown disk layout.

See the example below, where we want to format an EMAX floppy disk while the disk has been formatted for Apple Macintosh previously:

CHECKING DRIVE

EMXP is checking the drive
This can take a few seconds
Please wait...



PLEASE WAIT

(Note: we apologize for the non-English message example – it's in Dutch)

In that case, simply press “continue” and continue using EMXP.

Important note:

If you **go back** to a list of images or files on your harddisk, the list is **not refreshed automatically** with possible new content in the \Images, \Akais1000 or \Wav directory. To refresh the list, you have to go back to the main menu and select the list function again !

Now we will give some more details on each of the screentypes:

Menu screen

E.g. the main menu shown before.

On a menu screen you can:

- Select a menu option by typing the correct option number
- Leave the menu by pressing ESC.

List screen

In a list screen, you see an overview of items such as banks or images.

E.g. an EMX image overview:

EMX IMAGES OVERVIEW					
[X]	01.	001-ARCOSTRINGS_1	ARCO STRIN	EMAX-II	#Pres: 26 #Samp: 11
[]	02.	001-ARCOSTRINGS_2	ARCO STRIN	EMAX-II	#Pres: 26 #Samp: 11
[]	03.	002-ROCKKIT_1	ROCK KIT	EMAX-II	#Pres: 19 #Samp: 18
[]	04.	002-ROCKKIT_2	ROCK KIT	EMAX-II	#Pres: 19 #Samp: 18
[]	05.	005-FRENCHHORNS_1	FRENCH HOR	EMAX-II	#Pres: 13 #Samp: 8
[]	06.	005-FRENCHHORNS_2	FRENCH HOR	EMAX-II	#Pres: 13 #Samp: 8
[]	07.	007-KYODALSYNTHCO...	KYODAI SYN	EMAX-II	#Pres: 19 #Samp: 16
[]	08.	007-KYODALSYNTHCO...	KYODAI SYN	EMAX-II	#Pres: 19 #Samp: 16
[]	09.	009-MARIMBAVIBES_1	MARIMBAVIB	EMAX-II	#Pres: 21 #Samp: 16
[]	10.	009-MARIMBAVIBES_2	MARIMBAVIB	EMAX-II	#Pres: 21 #Samp: 16
[]	11.	010-POPBRASS_1	POP BRASS	EMAX-II	#Pres: 24 #Samp: 31
[]	12.	010-POPBRASS_2	POP BRASS	EMAX-II	#Pres: 24 #Samp: 31
[]	13.	012-MULTISYNTHCOM...	MULTI SYNT	EMAX-II	#Pres: 32 #Samp: 11
[]	14.	012-MULTISYNTHCOM...	MULTI SYNT	EMAX-II	#Pres: 32 #Samp: 11
[]	15.	014-STEEL6STRINGG...	6 STRING G	EMAX-II	#Pres: 25 #Samp: 7
[]	16.	014-STEEL6STRINGG...	6 STRING G	EMAX-II	#Pres: 25 #Samp: 7
[]	17.	018-HARPSICHORD_1	HARPSICHOR	EMAX-II	#Pres: 16 #Samp: 11
[]	18.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15 #Samp: 14
[01]-[18]Slct [A]All [M]Mark [PGUP/DN] [ESC] [RET]Action [P]Preset [S]Sample					
Please enter your choice: █					

On a list screen you can:

- Select one or more items by typing the item number. E.g. you have to type 001 to select the 000-GRANDPIANO1_1 EMX image in the above list. Once you have selected an item, an 'X' is put in front of it. You can select more than one item, but if you select multiple items, the list of possible actions on it can be smaller. You can only type numbers that are displayed on the current screen. Items on following or previous screens can only be selected by scrolling to these screens first.
- Select / deselect one or more ranges of items by typing 'M'. After typing 'M', you'll have to provide the number of the start item and the number of the end item to select or deselect the items of that range. To enter the required start number and end number, you can scroll through the screens in order to find the requested items.
- Select / deselect all items by typing 'A'.
- Scroll between screens (if more than 18 items are available) by pressing the PGUP or PGDN buttons on your keyboard. Note that selected items of other screens are memorized, so if you scroll back you will still find your selected items.
- Go to the function menu to perform some actions on the selected items. This can be done by pressing ENTER.
- Leave the list by pressing ESC.
- Perform an action on a selected item, e.g. jump directly to the Preset overview for a selected bank (instead of going to the menu first). Actions are only supported if one item has been selected. A maximum of two actions are provided, depending on the overview screen. The available actions can be found in the bottom right corner (e.g P for preset overview and S for sample overview).

Detailed information screen

On a detailed information screen, EMXP shows all parameters and their values that are available for a selected item. E.g. voice parameters for a specific voice that has been selected in the Voice Overview screen:

```

VOICE DETAILS ARCO STRINGS - P00 ARCO STRINGS : VOICE U000
-----
..GENERAL PARAMETERS.....
Voice Number:      U000          Tune:          18 Cents
Sample Number:     001          Delay:          0
Orig. Sample Note: G1          Attenuation:    0 DB
Output Channels:   Main          Chorus:         Off (Depth: 7)

..ENVELOPE AND FILTER SETTINGS.....
                        Atk Hld Dec Sus Rel          Atk Hld Dec Sus Rel
UCA Envelope:      04 01 01 32 11 UCF Envelope:    01 01 01 32 05
Filter Cutoff Freq: 105          Filter Tracking:  1.00
Filter Resonance:   0           Filter Env Amount:  0

..MODULATOR AND CONTROLLER BASIC SETTINGS.....
LFO Rate:          88           Panning L-->R:   -2
LFO Variation:     0           Keyboard Solo:    Off
LFO Delay:         0           Keyboard Transpose: Enabled

[Pgup/PGDN]                                [ESC]
-----
Please enter your choice: █

```

On a detailed information screen you can:

- Scroll up/down using the PGUP/PGDN keys. This has only effect if the details span more than one page.
- Leave the screen and go back by pressing ESC.

Name request screen

In a name request screen, EMXP asks you to type in a name of a target file.

E.g. a name request screen for a bank image:

```

CREATE BANK IMAGE FILE
-----

Bank GRAND PIANO1 requires one BANK image file
Ready to create BANK image file number 1
Suggested name is [GRAND_PIANO1]

[Name + RETURN]: Name      [RETURN]: Accept suggested name      [ESC]: Go back
-----
Please enter a name: █

```

On a name request screen you can:

- Type a name, followed by ENTER.
- Accept a default name suggested by EMXP, simply by pressing ENTER.
- Leave the screen and go back by pressing ESC.

Note: when a filename must be entered, the extension of the file (e.g. .EMX or .EB1) will automatically be appended by EMXP. If you add an extension to the filename yourself, it will be considered part of the name, not as the extension itself !

Disk request screen

In a disk request screen, EMXP asks you to select a drive letter or to put a disk in a drive.

E.g. enter the drive letter of your floppy drive:

FLOPPY DRIVE REQUEST		
Please enter floppy drive letter		
Current drive is [A]		
<hr/>		
[Letter+RETURN]: Drive	[RETURN]: Accept suggested drive	[ESC]: Go back
<hr/>		
Please enter a drive letter:		

On a disk request screen you can:

- Enter a drive letter
- Accept the default drive letter simply by pressing ENTER
- Confirm that a disk is in the drive by pressing ENTER
- Leave the screen and go back by pressing ESC.

Confirmation screen

On a confirmation screen, EMXP asks to confirm some critical operations, such as terminating a copy process (see example).

PLEASE CONFIRM

You will cancel copying banks
Press [Y]es to cancel the copy process,
or any other key to continue.

[Y]: Yes

[Any other key]: No

Choose [Y]es or [N]o: █

On a confirmation screen you can:

- Press Y to confirm
- Press any other key to go on
- Sometimes it is also possible to press ESCape. The difference between ESC and “any other key” is that ESC can terminate a sequence in which you are confirming actions, while “any other key” only skips the current action.

End of process screen

In an end-of-process screen, EMXP informs you that an operation has been completed (successfully).
E.g. end of an operation to convert EMX images to bank images:

PROCESS COMPLETED

Bank data of bank GRAND_PIAN01 has been copied
from 000-GRANDPIAN01_1.EM2 part (1/2)
to GRAND_PIAN01.EB2
Press any key to continue.

[Any key]: Continue

Press a key...: █

On an end-of-process screen you can:

- Leave the screen by pressing any key

Note: this screen also pops up when only (an important) part of a process has been completed, but not the whole process yet. In the example shown above two EMX files are being merged into one bank image file. EMXP shows that the first EMX file has been copied successfully (see “part (1/2)”-indicator) but it will ask for the next EMX file in the next screen (not shown here).

Error screen

In an error screen, EMXP informs you of an error that has occurred.

Sometimes an error is fatal, i.e. an internal error has occurred due to a bug in the software. If this kind of error arises, EMXP will be terminated immediately.

E.g. an error when a file is in use by another program:

```

                                ERROR
-----
                                E R R O R  !
                                Errorcode 4
                                File images\000-GrandPiano1_1.em2 is probably in use by another
                                program. Error is 32.

-----
-----
                                Press any key...: ■
```

On an error screen you can:

- Leave the screen by pressing any key

Below is an example of a warning screen, in which EXMP tells you that it has found a corrupt HD backup image while looking for all HD backup images in the \Images folder:

WARNING

File WRONGIMAGE.EZ2
is not a valid HD/CD BACKUP image. Errorcode = 19.
Press any key to continue or press ESC to skip these warnings...

[Any key]: Continue

[ESC]: Skip warnings

Press a key (or ESC)...

On this kind of warning screen, you can:

- Skip the current warning and go on (perhaps to the next warning), by pressing any key besides ESC
- Skip the current and all succeeding warnings of the same type, by pressing ESC. E.g. in the example above EMXP might have found other corrupted images. To avoid the popup of a warning screen for every corrupted image, press ESC.

Note that the current version of EMXP might also contain some memory leaks (bugs). If such an error occurs, EMXP will crash and a Windows system error will pop up on your screen. We apologize for this, but hey, this is a beta version !

Proceeding screen

On an proceeding screen, EMXP informs you of the remaining time to complete a job.

EMXP uses a bar at the bottom of the screen to show you this.

This bar is only shown when some slow activity is going on, such as reading / writing floppy disks or removable hard disks.

COPY IN PROGRESS

Copying bank HARPSICHORD
from HARPSICHORD.EB2 (1/1) to disk I (1/1)
Please wait...

PLEASE WAIT

||||||||||||||||||||

Important note: You can **not** interrupt the activity while this screen is shown. If you type something on the keyboard, this is remembered by EMXP and will be executed after the proceeding screen has disappeared ! As this is a dangerous practice, we recommend not to enter anything at all on the keyboard while the proceeding screen is shown !

On a proceeding screen you can't do anything. The screen disappears automatically after completion of the job.

Wait screen

On an wait screen, EMXP asks you to wait until the processing of EMXP has completed. This is almost the same as a proceeding screen, but there is no "time bar" in a normal wait screen.

FINDING FILES

EMXP is looking for image files

This can take a while

Please wait...

PLEASE WAIT

Important note: You can **not** interrupt the activity while this screen is shown. If you type something on the keyboard, this is remembered by EMXP and will be executed after the wait screen has disappeared ! As this is a dangerous practice, we recommend not to enter anything at all on the keyboard while the wait screen is shown !

On a wait screen you can't do anything. The screen disappears automatically after completion of the operation.

USING EMXP

WARNING

The current version of EMXP is still a BETA version (which becomes a tradition with EMXP...).

This means that you should NOT TRUST EMXP !

Don't rely on this software version as the only way of saving your sampling work !

You don't want to destroy your ZIP disk containing weeks of studio sampling time.

If you use this software, you are aware of the fact that

- this software is not tested thoroughly
- this software could "destroy" the contents of your floppies or removable hard disks
- you are a beta tester

Please report your EMXP-problems to esynthesist @ yahoo.com

That being said, I can say that

- *until today almost no (serious) error reports have been sent to me*
- *I am using EMXP myself all the time and it has never caused any damage to my disks, to my sample library and to my samplers.*

RECOMMENDATION

If you want to use the removable hard disk capabilities of this software, such as the support for ZIP disks, we strongly recommend to:

- use an empty removable hard disk formatted by an EMAX/Emulator III sampler when using EMXP for the first time,
- to backup your removable hard disk first if it already contains valuable sound banks, before writing additional content to it with EMXP.

STARTING EMXP

You can start the EMXP software in two ways:

- Doubleclick the EMXPN.EXE file in Windows Explorer,
- Or type EMXPN.EXE <ENTER> in a DOS Window.

USING EMXP: CONCEPT

EMXP is "source object oriented". This means that you have to choose one or more *source objects* first and then select what you want to do with the source object(s).

This is the opposite of "target object oriented" where you first have to decide what objects or information you want to have and then select the sources from which the objects or information must be derived.

Let's give an example.

If you want to create some WAV files from EMAX samples, you first have to select the source bank.

E.g.

- You ask an overview of the banks on a ZIP disk first
- You select one bank
- You ask an overview of the samples in that bank
- You select a sample
- You ask to create a WAV file from the sample

Because of this source object oriented approach, the high level menu screens of EMXP shows all possible object types you can perform actions on.

After launching EMXPN.EXE, you get the main menu of EMXP.

EMXP v2.07.BETA.01 (C)2006-2009 BY ESYNTHESIST@YAHOO.COM -- MAIN MENU

1. Manage Emu EMAX/EMAX II Images and Disks
2. Manage Emu Emulator II Images
3. Manage Emu Emulator III Images and Disks
4. Manage Akai S1000 Images and Disks
5. Manage WAV Files
6. Manage SoundFont Files

[1]...[6]: menu option

ESC: Go back

Please enter a menu option: █

At the moment you can choose to work with either EMAX disks/files, Emulator II files, Emulator III(X) disks/files, Akai S1000 disks/files, WAV files or SoundFont2 files.

EMAX OBJECTS

If you select **option 1** on the main menu, you get all possible Emu EMAX source objects:

EMAX SAMPLER MENU

1. Manage EMAX Bank Images
2. Manage EMAX EMX Images
3. Manage Sound Designer for EMAX Images
4. Manage EMAX OS Images
5. Manage EMAX HD/CD Images
6. Manage EMAX Removable Hard Disks / CD-ROMs
7. Manage EMAX Floppy Disks
8. Define Target EMAX Samplertype

[1]...[8]: menu option

ESC: Go back

Please enter a menu option: █

You can choose between 8 options.

Option 1, must be used if you want to “do something with”:

- Bank images (both EMAX-I and EMAX-II) stored in the \Images folder

“Doing something” here means:

- Selecting one or more of the images (or one or more banks in the selected image)
- Copying the selected items (images or banks) to another image or to a disk (removable hard disk) or converting banks between EMAX-I format and EMAX-II format.
- Getting detailed information on the banks, presets, voices and samples stored in the selected image(s)
- Converting complete EMAX banks to Akai S1000 samples and programs
- Converting samples from the banks in the images to WAV files
- Converting complete EMAX banks to Emulator II banks, Emulator III(IIIX) banks or SoundFont2 files
- Extracting an operating system from a removable HD backup image
- ...

Options 2, 3 and 5 must be used if you want to “do something with”:

- EMX images (both EMAX-I and EMAX-II) stored in the \Images folder
- Sound Designer for Emax files (only EMAX-I) stored in the \Images folder
- Backup images of EMAX removable hard disks / CD-ROMs (both EMAX-I and EMAX-II) stored in the \Images folder.

“Doing something” here means:

- Selecting one or more of the images (or one or more banks in the selected image)
- Copying the selected items (images or banks) to another image or to a disk (floppy / removable hard disk)
- Getting detailed information on the banks, presets, voices and samples stored in the selected image(s)
- Extracting an operating system from a removable HD backup image
- ...

Options 6 and 7 must be used if you want to “do something” with the contents of a floppy disk or removable EMAX hard disk / CD-ROM.

“Doing something” here means almost the same as for options 1, 2, 3 and 5:

- Selecting one or more banks
- Copying the selected items to an image on your hard disk
- Getting detailed information on the banks, presets, voices and samples stored on the disk
- Extracting an operating system from a disk
- ...

Option 4 must be used if you want to copy an EMAX Operating System to a floppy disk or removable EMAX hard disk.

Option 8 is a special one. Here you can define what the target sampler is. You can choose between EMAX-I and EMAX-II.

This option has almost no effect on the functions of EMXP. The only function that depends on it is the conversion of EMAX-II bank images to EMAX-I bank images. If your target sampler is defined as EMAX-I and the sampling rate of the source EMAX-II bank is not supported by EMAX-I samplers, EMXP can either change the samplerate to an EMAX-I sample rate (*), or keep the original sample rate (which is OK if the compressed bank will be used on EMAX-II samplers). This choice can be defined in option 7.

(*) when changing samplerates, EMXP will always DOWNGRADE the samplerate to the nearest (lower) supported sample rate.

EMULATOR II OBJECTS

If you select **option 2** on the main menu, you get all possible Emulator II source objects:

But... only one type of Emulator II objects is supported by EMXP: the Emulator II Bank image created by Sound Designer for Emu II.

So there's only one option: **option 1**.

Option 1 can be used if you want to “do something with” EmuII Bank images stored in the \Images folder

“Doing something” here means:

- Getting detailed information on the bank, presets, voices and samples stored in the selected image(s)
- Converting samples from the banks in the images to WAV files
- Converting Emulator II banks to EMAX banks, Emulator III(X) banks or SoundFont2 files
- ...

EMULATOR III (IIIX) OBJECTS

If you select **option 3** on the main menu, you get all possible Emulator III source objects:

You can choose between 8 options.

Option 1 must be used if you want to “do something with”:

- EmuIII Bank images (both EmuIII and EmuIIIX) stored in the \Images folder

“Doing something” here means:

- Selecting one or more of the images (or one or more banks in the selected image)
- Copying the selected items (images or banks) to another image or to a disk (removable hard disk)
- Getting detailed information on the banks, presets, voices and samples stored in the selected image(s)
- Converting complete Emulator III/IIIX banks to EMAX banks, Emulator II banks or SoundFont2 files
- Converting samples from the banks in the images to WAV files
- ...

Option 2 must be used if you want to “do something with”:

- Backup images of EmuIII removable hard disks / CD-ROMs (both EmuIII and EmuIIIX) stored in the \Images folder.

“Doing something” here means:

- Selecting one or more of the images (or one or more banks in the selected image)
- Copying the selected items (images or banks) to images on your hard disk
- Getting detailed information on the banks, presets, voices and samples stored in the selected image(s)
- Restoring the complete image to a removable hard disk
- Converting samples from the banks in the images to WAV files
- ...

Option 3 must be used if you want to “do something” with the contents of a removable Emulator III(X) hard disk or CD-ROM.

“Doing something” here means almost the same as for option 2:

- Selecting one or more banks
- Copying the selected items to an image on your hard disk
- Getting detailed information on the banks, presets, voices and samples stored in the selected image(s)
- Converting samples from the banks in the images to WAV files
- ...

EMULATOR III SAMPLER MENU

1. Manage Emulator III Bank Images
2. Manage Emulator III HD/CD Images
3. Manage Emulator III Removable Hard Disks / CD-ROMs

[1]...[3]: menu option

ESC: Go back

Please enter a menu option:

AKAI S1000 OBJECTS

If you select **option 4** on the main menu, you get all possible Akai S1000 source objects:

AKAI S1000 SAMPLER MENU

1. Manage Akai S1000 Files (all sample, program, drum)
2. Manage Akai S1000 Program Files only
3. Manage Akai S1000 Sample Files only
4. Manage Akai S1000 Drum Files only
5. Manage Akai S1000 Operating System Files
6. Manage Akai S1000 Floppy Disk Image
7. Manage Akai S1000 Floppy Disk

[1]...[7]: menu option

ESC: Go back

Please enter a menu option:

Option 1 can be used to get an overview of all Akai S1000 files in the \AkaiS1000 folder, except for the operating system files.

From this list, you can either choose to copy files to a floppy disk, or to remove some files.

Option 2 and 3 give a subset of the view from option 1. From the generated overview, you can again choose to either remove or copy files.

In addition, if you select option 3 you will also be able to convert Akai S1000 samples to WAV files.

Option 4 and 5 have the same function as option 1, but limited to either Akai S1000 drum files or Akai S1000 operating system files.

With **option 6** it is possible to browse the files within a backup image of an Akai S1000 floppy disk. You can choose to extract one or more of these files.

Option 7 must be used to manage Akai S1000 floppy disks. Functions available are: formatting disks, copying individual Akai S1000 files from floppy disk to PC harddisk, and making backups of floppy disks.

NOTE: while testing EMXP it seemed that formatting Double Density Akai S1000 disks does not always result in usable disks. However, EMXP can still read and write the contents of Akai S1000 DD disks formatted by the Akai S1000 sampler itself.

SOUNDFONT 2 OBJECTS

If you select **option 6** on the main menu, you get immediate access to the SoundFont2 files, on which (after selecting one or more files) following actions are possible:

- Getting detailed information on the bank, presets, instruments, zones and samples stored in the selected file(s)
- Converting samples to WAV files
- Converting SoundFont2 files to EMAX banks, Emulator II banks or Emulator III(X) banks
- ...

Please note that original SoundFont “version 1” files can not be processed by EMXP.

Only SoundFont2 files are supported. All known SoundFont2 versions, from v2.00 to v2.04, are supported, but when using v2.04 files only the 16 bit portion of the 24 bit sound data is processed.

WAV OBJECTS

Option 5 on the main menu can be used to select one or more WAV files and merge them together into an EMAX bank image, into an Emulator II or Emulator III bank image, into a SoundFont2 file or to convert them to Akai S1000 samples.

Please note that not all WAV files can be processed by EMXP.

EMXP can only convert WAV files with following characteristics:

- The WAV file must be either MONO or STEREO. Multi-channel .WAV files (e.g. 5.1 surround) are not supported.
- The .WAV files must contain raw audio. Encoded audio is not supported.
- The .WAV file must be 16-bit. Lower or higher precisions are not supported.

General note on converting WAV-files:

EMXP only translates **basic** WAV data to the target format (EMAX, EMUII, EMUIII, SF2, AKAI S1000). Only the actual **sound data** is transferred to the target file. Parameters like loop information etc. are **not translated**. Some more extended WAV-translation may be built into EMXP in the future (esp. the loop parameters).

Note on converting from WAV to EMAX:

EMXP will convert the sample rate of the WAV-file to an EMAX supported sample rate. This conversion will always be an UPGRADE to the nearest (higher) supported sample rate (except if the WAV samplerate is higher than 41667 Hz for EMAX-I or 44100 Hz for EMAX-II).

Total memory required for all selected .WAV files may not exceed:

- 512 Kb for EMAX-I

- 8 Mb for EMAX-II

EMXP will give a warning if you exceed these limits.

EMXP will put each selected .WAV file on a different key of the same preset (called PRESET 00). 61 keys are used (C1 --> C6). If more than 61 .WAV files have been selected, a second preset (called PRESET 01) is created. And so on. The .WAV files are assigned to the keys in alphabetical order.

If the .WAV file is stereo, the two stereo tracks are put in the primary and the secondary voice of the key. EMXP will also change the DUAL VOICE or STEREO VOICE parameter to ON.

The original pitch of each sample is preserved, independent of the key EMXP will assign the sample to. E.g. Suppose your .WAV file is sampled at C3 pitch. If EMXP puts this sample on C1, the C3 pitch can be heard on that C1 key. You can change this to whatever you want by using the "edit assignment" function on your EMAX sampler.

Note on converting from WAV to Emulator II:

EMXP will convert the sample rate of the WAV-file to 27778 Hz (the only Emulator II supported sample rate).

Total memory required for all selected .WAV files may not exceed 484000 bytes (samples). EMXP will give a warning if you exceed this limit.

EMXP will put each selected .WAV file on a different key of the same preset (called PRESET 00). 61 keys are used (C1 --> C6). If more than 61 .WAV files have been selected, a second preset (called PRESET 01) is created. The .WAV files are assigned to the keys in alphabetical order.

If the .WAV file is stereo, the two stereo tracks are put in the primary and the secondary voice of the key.

The original pitch of each sample is preserved, independent of the key EMXP will assign the sample to. E.g. Suppose your .WAV file is sampled at C3 pitch. If EMXP puts this sample on C1, the C3 pitch can be heard on that C1 key. You can change this to whatever you want by using the "edit assignment" function on your Emulator II sampler.

Note on converting from WAV to Emulator III:

EMXP will create Emulator III images only. Conversion from WAV to Emulator III(X) images is not supported yet. As Emulator III(X) samplers can perfectly read Emulator III images, this should not be a real problem.

EMXP will translate a maximum of 99 samples (WAV-files) into one Emulator III image. Only samples are created. This means that the samples will not be assigned to any key (zone) in any preset. That's something you'll have to do yourself on the Emulator III. Note that this is a different approach than with the WAV-to-EMAX conversion...

EMXP will convert the sample rate of the WAV-file to an Emulator III supported sample rate. All samplerates below 7000 Hz will be upgraded to 7000 Hz. All samplerates above 50000 Hz will be downgraded to 50000 Hz. Any samplerate between 7000 Hz and 50000 Hz is preserved.

Total memory required for all selected .WAV files may not exceed 8 Mb. EMXP will give a warning if you exceed this limit.

The mono (left) and stereo characteristics of the WAV-files is preserved.

Also the original pitch of each sample is preserved, independent of the key you will assign the sample to. You can influence this pitch by changing the "original key" parameter in the "place sample" module of any Emulator III(X) sampler.

Note on converting from WAV to Akai S1000 samples:

EMXP will convert the sample rate of the WAV-file to an Akai S1000 supported sample rate (either 22050 Hz or 44100 Hz). This conversion will always be an UPGRADE to the nearest (higher) supported sample rate (except if the WAV samplerate is higher than 44100 Hz).

Note on converting from WAV to SoundFont2:

There are no limitations regarding the conversion from WAV to SoundFont2.

MORE INFORMATION

We think all screens are pretty self-explanatory. So we won't discuss them in further detail here.

At the end of this document we show two examples of typical scenarios using the EMXP software:

1. Copy a set of 2-disk EMAX-II floppy bank to an EMAX-II zip disk.
2. Create an EMAX-I EMX image from a set of WAV files.

CORRUPT BANKS AND VALIDATION RULES

Strong validation rules

Starting from version 1.91 EMXP applies strong validation rules to the banks and images it is processing.

Image validation

The **disk and image validation** layer checks things like:

- Is a floppy formatted for EMAX, Akai 1000 ?
- Is a removable hard disk formatted for EMAX or Emulator III ?
- Is an EMX image “EMX-signed” and does it have the correct size ?
- ...

If this validation fails EMXP will report an error and you will not be able to use the image(s).

If the validation is successful you will be able to get at least an overview of banks and/or operating systems on the image, or to write banks and operating systems to the image/disk.

If EMXP encounters a disk or image error, your sampler will also not be able to process the disk or image.

Bank validation

Bank validation is independent of disk and image validation. It only occurs for EMXP functions that need access to the actual content of the bank.

(Un)fortunately a lot of features of EMXP need the values of the **bank parameters**:

- Of course this is true for all “show detail” and reporting functions, as these functions print the values of those parameters to the screen or to HTML files.
- Also all overview (list) screens of presets, samples, voices and key areas depend on some parameter values.
- Even most copy functions (like copying EMX images or converting images between EMAX-1 and EMAX-2 layout) need some of the parameters, especially the sample parameters.

Bank parameter validation within EMXP is set up in **two levels**:

- Level 1: limited bank parameter validation. This is the validation of parameters like Number Of Disks, DiskNumber, Emax type (I or II) or Emulator type, Number Of Sequences, etc. Also the preset and sequence addressing scheme and some other global addresses are validated on level 1.
- Level 2: validation of all preset, sample, key area and voice parameters. This also includes detailed addressing schemes of the voices, key areas and samples.

Some functions of EMXP only require level-1 validation. But other functions require level-2 validation. The examples at the beginning of this paragraph all require level-2 validation.

If EMXP encounters a bank error, your sampler might still be able to load the corrupt bank. However it is pretty sure that the sampler will crash while using the bank, especially if you try to use the invalid preset/sample/voice which caused the bank to be corrupt...

How EMXP handles corrupt banks

Showing parameter details

EMXP validates each individual parameter stored in a bank. If EMXP encounters a corrupt parameter, it will put a “*corrupt flag*” on the object containing the wrong parameter.

E.g. if a preset contains 10 voices, and voice 3 contains an invalid parameter, voice 3 gets a “corrupt” indicator and its detailed parameters can not be shown by EMXP. However all other voices and the preset parameters themselves can still be displayed by EMXP.

Note: one of the common problems found in corrupt EMAX banks is that parameters are simply missing. E.g. a preset contains 10 voices, but all data on the last 4 voices is missing and only half of the parameters of the 5th voice are present. The bytes that should contain these parameters are often filled with (a copy of) parameters of another object (preset, voice, ...). This problem is probably caused by reading EMX bank images from 800K floppies using 720K file routines (i.e. ignoring the every 10th sector of the EMAX disks).

The example below shows the contents of a corrupt bank found on the internet (EMU Factory Bank ZD775):

PRESET OVERVIEW						
[]	01.	P00	ANALOG GIANT	#Voice:8	Arpeg off	A-1->C7 (no stack)
[X]	02.	P01	Giant Organ	#Voice:8	Arpeg off	A-1->C7 (no stack)
[]	03.	P02		-CORRUPT-	Error: 0	
[]	04.	P03		-CORRUPT-	Error: 18	
[]	05.	P04		-CORRUPT-	Error: 4	
[]	06.	P05		-CORRUPT-	Error: 6	
[]	07.	P06		-CORRUPT-	Error: 23	
[]	08.	P07		-CORRUPT-	Error: 17	
[]	09.	P08		-CORRUPT-	Error: 23	
[]	10.	P09		-CORRUPT-	Error: 2	
[]	11.	P10		-CORRUPT-	Error: 6	
[]	12.	P11		-CORRUPT-	Error: 0	
[]	13.	P12		-CORRUPT-	Error: 0	
[]	14.	P13		-CORRUPT-	Error: 23	
[]	15.	P14	Snare/Toms	#Voice:2	Arpeg off	A-1->C7 (no stack)
[]	16.	P15	BreathingTom	#Voice:5	Arpeg off	A-1->C7 (no stack)
[]	17.	P16	Db1 Drums	#Voice:11	Arpeg off	A-1->C7 (no stack)
[]	18.	P17	Mono Drums	#Voice:11	Arpeg off	A-1->C7 (no stack)
[01]..[18]Select [PGUP/PGDN] [ESC] [RET]Actions [V]Voice [K]Key Area						
Please enter your choice:						

In this example, a lot of presets contain invalid parameters. For each corrupt preset EMXP shows a “CORRUPT” flag and an errorcode which explains what parameter causes the (first) error. A list of possible errors can be found at the end of this chapter.

If we select the P01 preset in the example above, and request an overview of the voices in that preset, we get the results below:

VOICE OVERVIEW						
[]	1.	VOICE	000-Giant Orga	No chorus	F:100 Q:00	SAMPLE 1 Orig: B1
[]	2.	VOICE	001-Giant Orga	-CORRUPT-	Error: 10	
[]	3.	VOICE	002-Giant Orga	Chorus 07	F:080 Q:27	SAMPLE 1 Orig: B1
[]	4.	VOICE	003-Giant Orga	Chorus 07	F:080 Q:27	SAMPLE 2 Orig: F2
[]	5.	VOICE	004-Giant Orga	Chorus 07	F:080 Q:27	SAMPLE 3 Orig: B2
[]	6.	VOICE	005-Giant Orga	Chorus 07	F:080 Q:27	SAMPLE 4 Orig: F3
[]	7.	VOICE	006-Giant Orga	Chorus 07	F:080 Q:27	SAMPLE 5 Orig: B3
[]	8.	VOICE	007-Giant Orga	Chorus 07	F:080 Q:27	SAMPLE 6 Orig: F4
[1]..[8]Select [PGUP/PGDN] [ESC]						
Please enter your choice: █						

As you can see, even this “valid” preset contains corrupt data: voice 001 seems to be invalid.

To correct these errors, we recommend to load the bank into your sampler, try to load the parameters and change the values. Save the bank and copy it back to your PC.

Copying/converting corrupt banks

EMXP will **not** disable the image copy and conversion functions for banks which are corrupt on the second level (e.g. invalid presets). Banks which are corrupt on the first level **can not be processed by EMXP**.

When converting between EMAX and EMAX-II:

Corrupt EMAX banks can be converted to EMAX-II and the other way around. The errors will be copied as well.

Only if one of the **sample parameters** is corrupt, copying EMAX banks will not be possible anymore. This is due to the fact that EMXP needs the sample addressing scheme to create or copy images. But even when the sample parameter area seems to be OK, the actual addresses can be wrong. As a consequence, the copied bank or generated WAV file can contain (part of the) sound data of two different samples of the bank at the same time.

When converting between samplertypes EMAX – Emulator II – Emulator III – Emulator IIIX:

Only those parts that are corrupt will not be converted. All valid parts (presets, samples, voices) will still be subject of conversion though.

Emax error list

This paragraph gives the list of possible errors causing a corrupt bank, preset, voice, key area or sample.

Bank level 1 errors:

- 1: disknumber
- 2: recent preset or sequence
- 3: sequence address
- 4: sample parameter address
- 5: total samplesize
- 6: number of required floppy disks

Preset parameter errors:

- 0-7: realtime controls
- MIDI:
- 8: midi channel
- 9-16: midi switch on/off parameters
- 17: midi left wheel
- 18: midi right wheel
- 19: midi pressure
- 20: midi pedal
- 21: midiA
- 22: midiB
- ARPEGGIATOR:
- 23: arpeg tempo
- 24-26: 3 arpeg on off switches: on/off, cruz, glissando
- 27: key repeats
- 28: arpeg resolution
- 29: latch
- 30: mode
- 31: interval
- 32: extensions
- 33: velocity
- 34: high key

35: low key
36: harmony 1
37: harmony 2
OTHER:
38: pitch wheel range
39: stacked presets
40: master velocity curve
41: number of voicegroups in preset
42: number of voices in preset
43: number of key areas in preset
44: inconsistent number of key areas

Key area parameter errors:

4: crossfade loop type

Voice parameter errors:

0-4: VCA envelope AHDSR
5-9: VCF envelope AHDSR
10: LFO rate
11: LFO delay
12: LFO variation
13-16: LFO to VCA, LFO to filter, LFO to pitch, to panning
17: voice tune
18-24: velo to panning, to VCA attack, to VCF attack, to level, to filter cutoff, to pitch, to Q
25-32: routing controls
33: chorus value
34: chorus on off
35: cutoff frequency
36: resonance
37: filter envelope amount
38: keyboard solo
39: keyboard transpose
40: filter tracking
41: panning
42: voice delay
43: voice attenuation
44: original sample note
45: sample number
46: output channel to
47: output channel from (only EMAX 1)

Sample parameter errors:

2: Loop on/off switch
3: Start address
4: End address
5: Samplerate

Emulator II error list

This paragraph gives the list of possible errors causing a corrupt preset, voice or sample.

Preset parameter errors:

- 2: Realtime controller
- 3: Preset name
- 4: MIDI channel
- 5: MIDI switches/parameters
- 6: Arpeggiator mode & on/off
- 7: Arpeggiator extensions
- 8: Arpeggiator tempo
- 9: Arpeggiator resolution/note
- 10: Crossfade settings
- 11: Consistency between key areas and voices

Voice parameter errors:

- 1: addressing information
- 2: tuning
- 3: LFO delay
- 4: LFO rate
- 5: LFO variation
- 6: filter keyboard tracking
- 7: checksum parameters (1)
- 8: filter envelope amount
- 9: vibrato depth (LFO to pitch)
- 10: LFO to VCF
- 11: LFO to VCA
- 12: VCF Sustain
- 13: VCF Cutoff
- 14: Velocity to VCF Cutoff
- 15: Voice attenuation
- 16: Velocity to Level
- 17: VCF Attack
- 18: VCA Attack
- 19: VCF Decay
- 20: checksum parameter (2)
- 21: checksum parameter (3)
- 22: checksum parameter (4)
- 23: checksum parameter (5)
- 24: VCF Release
- 25: checksum parameter (6)
- 26: VCA Decay
- 27: checksum parameter (7)
- 28: VCA Sustain
- 29: checksum parameter (8)
- 30: checksum parameter (9)
- 31: VCA Release
- 32: checksum parameter (10)
- 33: Voice name
- 34: loop data settings
- 35: addressing data
- 36: addressing data
- 37: addressing data
- 38: addressing data
- 39: addressing data
- 40: addressing data
- 41: checksum parameters (11)
- 42: VCF Resonance
- 43: Velocity to resonance

Sample parameter errors:

- 1: sample addressing

Emulator III error list

This paragraph gives the list of possible errors causing a corrupt bank, preset, voice, key area or sample..

Bank level 1 errors:

- 1: samplertype
- 2: disknumber
- 3: number of required floppy disks
- 4: recent preset
- 5: recent sample
- 6: bankname

Sample parameter errors:

- 1: sample rate
- 2: sample name
- 3-4: sample addressing
- 5: loop addressing

Preset parameter errors:

- 1: realtime controllers 1→6
- 2: realtime controllers 7→8
- 3: MIDI channel
- 4: MIDI parameters
- 5: Arpeggiator tempo
- 6: Arpeggiator velocity
- 7: Arpeggiator cruz/glissando conflict
- 8: Arpeggiator resolution
- 9: Arpeggiator clock
- 10: Pitch wheel range
- 11: Velocity curve
- 12: Arpeggiator echo amount
- 13: Arpeggiator echo counts
- 14: MIDI footswitches
- 15: Velocity switch level
- 16: Number of zones
- 17: Zone error
- 18: Number of voices
- 19: Voice/Zone inconsistency

Voice parameter errors:

- 1: Sample original key
- 2: Sample reference inconsistency
- 3-4: Outputchannels
- 5-9: VCA envelope stage
- 10: LFO Rate
- 11: LFO Delay
- 12: LFO Variation
- 13: Filter cutoff
- 14-18: VCF envelope stage
- 19-22, 33: AUX envelope stage
- 23: AUX envelope destination
- 24-27: LFO destination
- 28: VCA level
- 29: Voice tuning
- 30: Panning
- 31: LFO Waveform

- 32: Sample channel disable
- 33: AUX envelope stage

SoundFont2 error list

This paragraph gives the lists of possible errors causing a corrupt bank, preset, instrument, zone or sample..

Preset errors:

- 1: preset's zones are not found
- 2: invalid number of preset zones

Instrument errors:

- 1: instrument's zones are not found
- 2: invalid number of instrument zones

Sample errors:

- 1: invalid start and/or end address
- 3: invalid loop start and/or loop end address
- 4: linked sample not found (e.g. other channel of stereo sample is missing...)
- 8: unsupported sample type (different from mono, left, right, linked, ...)
- 9: unsupported sound source (different from ROM, sample, ...)

Zone errors:

- 1: zone's generators can not be found
- 2: zone's modulators can not be found
- 3: zone's generators and modulator can both not be found
- 4: empty zone (no single generator and modulator has been defined)
- 5: zone's instrument or sample can not be found

Generator and modulator errors:

If a generator or modulator is corrupt, this will be shown on the zone's "details" screen with a flag "(corrupt)" at the end of the generator's or modulator's data.

A generator is corrupt if its value(s) are out of the supported value range defined by the SoundFont2 standard. Note however that for conversion purposes, EMXP will correct these corrupt values automatically to the nearest supported amount.

A modulator is corrupt

- If its amount is out of the supported value range defined by the SoundFont2 standard. Note however that for conversion purposes, EMXP will correct these corrupt values automatically to the nearest supported amount.
- If the base source controller, the amount source controller, the transform controller or the target generator or target modulator are not supported by the SoundFont2 standard.

CONVERSION BETWEEN EMAX-1 BANKS AND EMAX-2 BANKS

How to convert between EMAX-1 banks and EMAX-2 banks

Make sure the source bank is an EMAX Bank image file, not an EMX image, Sound Designer file or a bank on a disk.

You can convert EMAX-1 banks to EMAX 2 banks and vice versa by selecting:

“1. Manage Emu EMAX/EMAX-II Images and Disks” → “1. Manage EMAX Bank Images” → [select one or more bank EMAX-I and/or EMAX-II images] → “6. Convert to Other Sampler Format” → “1. Convert EMAX-1 <- -> EMAX-II”

Notes on the quality of the converted EMAX banks

EMXP tries to keep the quality of the converted bank as close as possible to the quality of the original bank. However it should be clear that converting from EMAX-II to EMAX-I will result in a (very small) loss of sound quality, since the EMAX-I sound data is compressed (~12..14 bit) while the EMAX-II sound data is raw 16-bit data.

Moreover the compression algorithm, which compresses 12 or 16 bit audio data into 8 bit data, is proprietary (or even “lost”) knowledge of Emu Systems.

Fortunately EMXP uses an algorithm which is very similar to the original one. It is probably not exactly the same as the one used in Emu EMAX samplers, but no major audible differences should be expected.

Please note that continuously translating banks from EMAX-II to EMAX-I, and again to EMAX-II and again to EMAX-I (and so on) will result in an increasing loss of audio quality.

Other important issues concerning conversion between EMAX-I and EMAX-II are:

- EMAX-I samplers do not support all samplerates supported by EMAX-II samplers. If the Target Emax Sampler Type is set to EMAX-I (see menu option 7 in “EMAX SAMPLER MENU”), EMAX-II samples with a frequency of either 22050 Hz, 39000 Hz or 44100 Hz will be resampled to a lower frequency. This will not occur if the Target Emax Sampler Type is set to EMAX-II.

This automatic samplerate conversion with Target Emax Sampler Type = EMAX-I will NOT occur when converting EMAX-I EMX images to EMAX-I Bank Images. If the EMAX-I EMX image contains samples with EMAX-II-only samplerates, and the Target Emax Sampler Type is set to EMAX-I, an error will arise. You will have to change the Target Emax Sampler Type to EMAX-II to enable this EMX→Bank conversion.

- EMAX-I samplers have limited transposition possibilities, especially with samples having high samplerates. Hence there might arise some pitch problems (like non-transposition effects) on some keyboard areas after translating an original EMAX-II bank to EMAX-I.
- EMAX-I samplers have a “feature” called Dual Voice. EMAX-II samplers have a feature called “Stereo Voice”. These parameters are NOT the same. When EMXP converts between EMAX-I and EMAX-II, it will always set these parameters to OFF.

This means that when you convert an EMAX-I image with “dual voice ON” to EMAX-II and again to EMAX-I, the resulting EMAX-I image will have “dual voice OFF”. Note that this has impact on the polyphony of an EMAX-I sampler.

CONVERTING EMAX BANKS INTO AKAI S1000 FILES

How to convert EMAX banks into Akai S1000 Files

EMXP supports the conversion of EMAX-I and EMAX-II banks into Akai S1000 samples and programs.

This can be achieved by selecting

“1. Manage Emu EMAX/EMAX-II Images and Disks” → “1. Manage EMAX Bank Images” → [select one or more bank images] → “6. Convert to Other Sampler Format” → “1. Convert to Akai S1000 Program and Sample Files”.

During conversion, EMXP will create

- one Akai S1000 Program file for each EMAX preset in the bank
- one Akai S1000 Sample file for each EMAX sample in the bank

EMXP will automatically generate filenames for these files on your PC harddisk but it needs a **prefix (1)** to do this.

The names of the Akai S1000 *programs* **within** the generated Akai S1000 files will be derived from the EMAX presetnames. EMXP will make sure that two different EMAX presets with the same name will result in two different Akai S1000 files with different programnames.

The names of the Akai S1000 *samples* **within** the generated Akai S1000 files will be based on the sample number within the EMAX bank. This number will be joined to a **prefix (2)** which you’ll also have to provide.

So in order to enable this naming algorithm, EMXP will ask the two **prefixes (1) and (2)** after you select the “1. Convert to Akai S1000 Program and Sample Files” menu option.

Notes on the quality of the generated Akai S1000 programs and samples

EMXP uses some simple, yet at some points advanced translation rules to convert EMAX banks into Akai S1000 files. However EMAX samplers are different from Akai S1000 samplers.

They not only sound different, they also have different capabilities and constraints concerning program and sample parameters.

Therefore, converted presets on Akai S1000 will not always sound or behave the same as the original EMAX presets.

For “plain vanilla” presets, the differences will be minimal. Complex presets however, e.g. with non-typical envelope curves or extensive use of modulators like LFOs, can sound pretty different on the Akai S1000 sampler. This is not (only) due to the simplicity of the EMXP translation rules – it is mainly the consequence of the different parameter capabilities of the two samplers.

Basically the translation rules:

- convert each EMAX preset to an individual Akai S1000 program,
- convert each voice within that EMAX preset to an individual Akai S1000 keygroup within the program,
- convert each EMAX sample to an individual Akai S1000 sample.

Here is a list of the major “constraints” or “differences between EMAX and Akai S1000 files”:

- Akai S1000 samplers don’t support **resonance** on their filter. Hence the resonance parameter (and sound effect) will not be translated.
- Akai S1000 samplers don’t have an **arpeggiator**. Hence all EMAX arpeggiator settings are ignored during conversion.
- An Akai S1000 sample always has a **samplerate** of either 22050 Hz or 44100 Hz
- EMAX voices that are defined in the **keyboard range Midinote 0 – Midinote 23** are not translated
- Since each voice is converted to a separate keygroup in the Akai S1000 program, **Velocity Crossfading** between primary and secondary EMAX voices is NOT translated. Akai S1000 supports Velocity Crossfading, but only between samples within the same keygroup. At the moment we have decided that being able to change the majority of voice parameters is more important than having velocity crossfade support, so EMXP translates each voice into a whole keygroup instead of into a (more restricted) sample within the same keygroup (*).

- EMAX allows to define **modulator and controller settings** on individual voice level. E.g. LFO settings, LFO routing, Enabling/disabling preset controller routings on voice level, ... Akai S1000 requires one single definition for the entire program. EMXP had to make some compromises here. Hence you'll definitely hear differences between EMAX presets and Akai S1000 programs using modulators. E.g. EMXP will always take the lowest LFO rate setting of all voices, even if one voice needs an LFO rate of – let's say – 99.
- The **LFO rate and delay range** are different. This means that frequency and delay differences can arise if the original sample rate/delay is not supported by Akai S1000.
- The **controller/modulator routing matrix** and capabilities of EMAX are more advanced than the ones on Akai S1000. As a result some important audio effects will disappear after conversion. E.g. tremolo effects.
- Both EMAX and Akai S1000 samplers support **chorus** effects, but on Akai S1000 enabling chorus will decrease polyphony. EMXP will ask you whether enabling chorus on Akai S1000 programs is required or not.
- The **VCA and VCF envelopes** have different characteristics. Timing parameters are different, e.g. EMAX supports longer decay times than Akai, the attack curve of Akai is not as smooth as the EMAX one, Moreover EMAX envelopes have 5 stages, while Akai S1000 envelopes only have 4. EMXP tries to simulate the HOLD stage of EMAX envelopes on Akai S1000 by using its DECAY stage (combined with the Attack Hold setting, but this is for VCA only). As a result, some sounds can have longer 'real' decay effects on Akai. If this would not be allowed, the important impact of the HOLD stage would not be present...
- **Filter tracking** on the keyboard is different between EMAX and Akai S1000. This difference is translated to Akai S1000 but it could result in small yet audible filter setting differences.
- Both samplers support **"non-transposed (fixed)" keyboard mode**, meaning that the sound has the same pitch no matter what key is pressed. The pitch chosen by Akai S1000 is the one that belongs to the C3 key, based on the original note as defined in the sample parameter area. On EMAX, the pitch is simply the one that belongs to the original sample and is even not dependent of the "original key" setting in the voice ! Unfortunately EMAX does not store this "real" original note value (which is only known at sampling time). Therefore EMXP assumes that the "real" original pitch is the one that corresponds to the most common "original key" of this sample within the preset.
- (*) Since EMXP translates each EMAX voice into a single Akai S1000 keygroup, each voice requires 150 parameter bytes in the memory of the Akai S1000 sampler. For most EMAX banks this does not cause any problems, but for banks containing many presets with many voices, the **Akai S1000 parameter memory** limit could be reached (64K). If this is the case, you should not try to load all programs at once...
- ...

CONVERTING BETWEEN EMAX(II), EMU II, EMU III(X) and SF2

Important note: EMXP does not guarantee that the translated files sound exactly the same as the original ones. This is due to hardware differences between the various sampler types. Most sound differences are caused by different filter characteristics. If you think the translated file lacks some brightness (or is too bright) we suggest that you change the filter Fc and Q settings on the target sampler to a level which sounds more pleasing or natural. For all possible causes of sound differences, see the “Sound differences...” sections below.

Consider the translation functions of EMXP only as a “quick start” for translations between samplers, not as a “final exact copy” ! You will still have to add the finishing touch to your translated soundbanks yourself, especially considering filter settings.

How to convert sound files

Example: how to convert EMAX/EMAX-II banks to Emulator II banks

As an example, we show how you can translate EMAX banks to Emulator II banks. EMXP supports the conversion of both EMAX-I and EMAX-II banks into Emulator II banks.

This can be achieved by selecting

“1. Manage Emu EMAX/EMAX-II Images and Disks” → “1. Manage EMAX Bank Images” → [select one or more bank images] → “6. Convert to Other Sampler Format” → “1. Convert to Emu Emulator II Bank Images”.

- EMXP will ask for a “prefix” for the filename of the Emulator II imagefiles. If the EMAX bank requires more than one Emulator II file, EMXP will add a sequence number to this prefix. E.g. in the example below the Emu factory bank called Cornucopia requires 2 Emulator II files, these will be named Cornucopia_1.EII and Cornucopia_2.EII.

CREATE EMULATOR II IMAGES

Ready to create Emulator II images from EMAX bank Cornucopia
in file CORNUCOPIA.EB1.

Please specify a prefix for the target Emulator II imagenames.

Suggested prefix is [CORNUCOPIA]

[name + RETURN]: Name [RETURN]: Accept suggested name [ESC]: Go back

Please enter a name: █

(note that EMXP will warn you if some Emulator II files already exist with the specified prefix – you will have the opportunity to either overwrite existing files or to choose another prefix)

- If the EMAX bank contains some voices which have the CHORUS setting enabled, EMXP can try to simulate the chorus effect on Emulator II by adding some detuned voices (if an empty PRI or SEC voice is available). The advantage of this feature is that the target presets will sound more similar to the

original one; the drawback however is that polyphony will decrease (from 8 to 4 !). For that reason you can choose yourself how EMXP should handle chorus settings:

PLEASE CONFIRM

Some of the voices in the EMAX presets have CHORUS enabled.

EMXP can enable this chorus on Emulator II but polyphony will decrease.

Press [Y]es to enable chorus effects on Emulator II

or any other key to ignore these chorus settings.

[Y]: Yes

[Any other key]: No

Choose [Y]es or [N]o: _

- After conversion, EMXP will show a translation report mentioning how many and which Emulator II files have been created, which presets, voices and samples can be found in each of them and which objects have not been translated. This report is also written to a .TXT file in the Logs subfolder.

EMAX->EMULATOR II TRANSLATION REPORT

EMAX bank Cornucopia has been translated to 2 Emulator II bank images.

- 10 presets have NOT been translated (see end of report).
- 4 samples have NOT been translated (see end of report).
- 78 voices have NOT been translated (see end of report).

Emulator II image overview:

Bank 1: CORNUCOPIA_1.EII

Not all chorus settings could be translated.

Preset:

P01 Bassoon PXfd (original: P000)
P02 Bassoon (original: P001)
P03 BassClarPXfd (original: P002)
P04 BassClarinet (original: P003)
P05 ClarinetPXfd (original: P004)
P06 Clarinet (original: P005)
P07 E Horn PXfd (original: P006)

[PGUP/PGDN]

[ESC]

Please enter your choice:

Converting to EMAX or EMAX-II banks

EMXP supports the conversion of Emulator II, Emulator III and Emulator IIIX banks to Emax or Emax-II banks. When translating from any source to Emax or Emax-II, following questions must be answered in EMXP:

- If you've chosen Emax-II conversion, EMXP will ask for the memory size of your EMAX-II sampler. The default size is 8MB (i.e. the maximum size of a fully expanded Emax-II Turbo sampler), but you can scale this down to 1MB. EMXP can try to create (multiple) smaller Emax-II bank files if you have a limited Emax-II sampler. Note that even the "8MB files" may load perfectly in your 1 MB sampler, as long as the contents of the file does not exceed 1 MB of data...

SUPPORTED EMAX-II SAMPLERS

```
[ ] 1. EMAX-II 1MB Sampler
[ ] 2. EMAX-II 2MB Sampler
[ ] 3. EMAX-II 3MB Sampler
[ ] 4. EMAX-II 4MB Sampler
[ ] 5. EMAX-II 5MB Sampler
[ ] 6. EMAX-II 6MB Sampler
[ ] 7. EMAX-II 7MB Sampler
[X] 8. EMAX-II 8MB Sampler
```

```
[1]-[11]Select    [PGUP/PGDN]    [ESC]    [RET]Actions
```

Please enter your choice:

- In the next step you have to specify the lowest samplerate that can be used by EMXP in order to try to fit as many presets as possible into one target bank imagefile. With high samplerates the number of target files and/or the number of presets which can not be translated will increase. Note that EMXP will *never* upgrade the samplerate, unless the source samplerate is lower than the minimum samplerate supported by Emax (which will never happen when converting from Emulator II). Also note that even if you specify a high minimum samplerate of e.g. 39000 Hz, all original samples recorded at lower samplerates (e.g. 20000 Hz) will still be translated into 20000 Hz samples. **The lower the specified samplerate, the longer the conversion process can take (up to several minutes !!)**

MINIMUM ALLOWED SAMPLERATE OF TARGET SAMPLES

```
[ ] 1. Original or 10000 Hz
[ ] 2. Original or 15625 Hz
[X] 3. Original or 20000 Hz
[ ] 4. Original or 22050 Hz
[ ] 5. Original or 27778 Hz
[ ] 6. Original or 31250 Hz
[ ] 7. Original or 41667 Hz
[ ] 8. Original or 44100 Hz
[ ] 9. Original or 39000 Hz
```

```
[1]-[11]Select    [PGUP/PGDN]    [ESC]    [RET]Actions
```

Please enter your choice: █

- Now EMXP will ask for a “prefix” for the filename of the EMAX imagefiles. If the source bank requires more than one target Emax file EMXP will add a sequence number to this prefix for each generated Emax file.

CREATE EMAX-II IMAGES		
<p>Ready to create EMAX-II 8MB images from Emulator II bank African Inst in file AFRICANRCRDR.EII.</p> <p>Please specify a prefix for the target EMAX-II 8MB imagenames.</p> <p>Suggested prefix is [AFRICANRCRDR]</p>		
[name + RETURN]: Name	[RETURN]: Accept suggested name	[ESC]: Go back
Please enter a name:		

(note that EMXP will warn you if some Emax/Emax-II files already exist with the specified prefix – you will have the opportunity to either overwrite existing files or to choose another prefix)

- If the source bank contains some STEREO samples, EMXP will give you the opportunity to either keep these stereo characteristics or convert these samples to mono. Since EMAX samplers do not support stereo samples by nature, the only way to preserve the stereo effects is to use primary and secondary voices for each sound channel, and to assign opposite panning settings to each voice. Using PRI/SEC voices is only possible if these voices are still available.

PLEASE CONFIRM	
<p>Some of the samples in the Emulator III Bank are STEREO samples.</p> <p>EMXP can try to preserve the stereo effect on EMAX-II if secondary voices are still available. Note however that enabling the stereo effect on EMAX-II will decrease polyphony.</p> <p>Press [Y]es to preserve stereo effects on EMAX-II. or any other key to ignore the stereo characteristic.</p>	
[Y]: Yes	[Any other key]: No
Choose [Y]es or [N]o: <input type="checkbox"/>	

- After conversion, EMXP will show a translation report mentioning how many and which Emax files have been created, which presets, voices and samples can be found in each of them and which objects have not been translated. This report is also written to a .TXT file in the Logs subfolder.

Converting to Emulator II banks

EMXP supports the conversion of Emax, Emax-II, Emulator III and Emulator IIIX banks to Emulator II banks. When translating from any source to Emulator II, following questions must be answered in EMXP:

- EMXP will ask for a “prefix” for the filename of the Emulator II imagefiles. If the source bank requires more than one target Emulator II file, EMXP will add a sequence number to this prefix. E.g. in the example below the EMAX bank called Cornucopia requires 2 Emulator II files, these will be named Cornucopia_1.EII and Cornucopia_2.EII.

CREATE EMULATOR II IMAGES

Ready to create Emulator II images from EMAX bank Cornucopia
in file CORNUCOPIA.EB1.

Please specify a prefix for the target Emulator II imagenames.

Suggested prefix is [CORNUCOPIA]

[name + RETURN]: Name [RETURN]: Accept suggested name [ESC]: Go back

Please enter a name: █

(note that EMXP will warn you if some Emulator II files already exist with the specified prefix – you will have the opportunity to either overwrite existing files or to choose another prefix)

- If the source bank contains some voices which have the CHORUS setting enabled, EMXP can try to simulate the chorus effect on Emulator II by adding some detuned voices (if an empty PRI or SEC voice is available). The advantage of this feature is that the target presets will sound more similar to the original one; the drawback however is that polyphony will decrease (from 8 to 4 !). For that reason you can choose yourself how EMXP should handle chorus settings:

PLEASE CONFIRM

Some of the voices in the EMAX presets have CHORUS enabled.

EMXP can enable this chorus on Emulator II but polyphony will decrease.

Press [Y]es to enable chorus effects on Emulator II

or any other key to ignore these chorus settings.

[Y]: Yes

[Any other key]: No

Choose [Y]es or [N]o: █

- After conversion, EMXP will show a translation report mentioning how many and which Emulator II files have been created, which presets, voices and samples can be found in each of them and which objects have not been translated. This report is also written to a .TXT file in the Logs subfolder.

When converting sound banks to Emulator II you will notice that quite a lot of presets, samples and voices can not be translated. This is due to the limited capacities of the Emulator II, both in terms of hardware (memory size) and sound processing (e.g. limited pitch shifting). See '*Conversion constraints of the Emulator II*' for more details.

Converting to Emulator III/IIIX banks

EMXP supports the conversion of EMAX-I, EMAX-II and Emulator II banks to Emulator III or Emulator IIIX banks, as well as translations between Emulator III and Emulator IIIX.

When translating from any source to Emulator III/IIIX, following questions must be answered in EMXP:

- EMXP will ask for the memory size of your Emulator III/IIIX sampler. The default size is 8MB for Emulator III (can be scaled down to 4MB), and 32MB for Emulator IIIX (can be scaled down to 8MB). EMXP can try to create (multiple) smaller bank files if you have limited memory size. Note that even the "8MB files" may load perfectly in your 4 MB Emulator III sampler, as long as the contents of the file does not exceed 4 MB of data...

SUPPORTED EMU-IIIX SAMPLERS

```
-----
[ ] 1. EMU-IIIX 8MB Sampler
[ ] 2. EMU-IIIX 16MB Sampler
[ ] 3. EMU-IIIX 24MB Sampler
[X] 4. EMU-IIIX 32MB Sampler
```

```
-----
[1]-[4]Select    [PGUP/PGDN]    [ESC]    [RET]Actions
-----
```

Please enter your choice: █

- In the next step you have to specify the lowest samplerate that can be used by EMXP in order to try to fit as many presets as possible into one target bank imagefile. With high samplerates the number of target files and/or the number of presets which can not be translated will increase. Note that EMXP will *never* upgrade the samplerate, unless the source samplerate is lower than the minimum samplerate supported by Emulator III/IIIX (which is not possible when converting). Also note that even if you specify a high minimum samplerate of e.g. 50000 Hz, all original samples recorded at lower samplerates (e.g. 20000 Hz) will still be translated into 20000 Hz samples. **The lower the specified samplerate, the longer the conversion process can take (up to several minutes !!)**

MINIMUM ALLOWED SAMPLERATE OF TARGET SAMPLES

```

[ ] 01. Original or 7000 Hz
[ ] 02. Original or 10000 Hz
[ ] 03. Original or 12000 Hz
[ ] 04. Original or 15250 Hz
[ ] 05. Original or 18000 Hz
[ ] 06. Original or 22050 Hz
[ ] 07. Original or 25000 Hz
[ ] 08. Original or 27778 Hz
[ ] 09. Original or 31250 Hz
[ ] 10. Original or 33333 Hz
[ ] 11. Original or 39033 Hz
[ ] 12. Original or 44100 Hz
[ ] 13. Original or 48000 Hz
[X] 14. Original or 50000 Hz

```

```

-----
[01]-[14]Select    [PGUP/PGDN]    [ESC]    [RET]Actions
-----

```

Please enter your choice: █

- EMXP will ask for a “prefix” for the filename of the Emulator III/IIIX imagefiles. If the conversion requires more than one Emulator III/IIIX file, EMXP will add a sequence number to this prefix. E.g. if in the example below the EMAX bank called Lead Guitar requires 2 Emulator III files, these will be named 36_LEAD_GUITAR_1.EB3 and 36_LEAD_GUITAR_2.EB3.

CREATE EMU-III IMAGES

Ready to create EMU-III images from EMAX bank Lead Guitar

in file 36_LEAD_GUITAR.EB2.

Please specify a prefix for the target EMU-III imagenames.

Suggested prefix is [36_LEAD_GUITAR]

```

-----
[Name + RETURN]: Name    [RETURN]: Accept suggested name    [ESC]: Go back
-----

```

Please enter a name:

(note that EMXP will warn you if some Emulator III files already exist with the specified prefix – you will have the opportunity to either overwrite existing files or to choose another prefix)

- If the source bank contains some STEREO samples, EMXP will give you the opportunity to either keep these stereo characteristics or convert these samples to mono (to gain some memory):

PLEASE CONFIRM

Some of the samples in the EMU-III Bank are STEREO samples.

EMXP can preserve this stereo effect on EMU-IIIX.

Press [Y]es to preserve stereo effects on EMU-IIIX.

or any other key to ignore the stereo characteristic.

[Y]: Yes

[Any other key]: No

Choose [Y]es or [N]o:

- After conversion, EMXP will show a translation report mentioning how many and which Emulator III/IIIX files have been created, which presets, voices and samples can be found in each of them and which objects have not been translated. This report is also written to a .TXT file in the Logs subfolder.

Converting to SoundFont2 files

EMXP supports the conversion of EMAX-I, EMAX-II, Emulator II, Emulator III and Emulator IIIX banks to SoundFont2 files. SoundFont version 1.xx files are not supported. All known SoundFont2 versions, from v2.00 to v2.04, are supported, but when using v2.04 files only the 16 bit portion of the 24 bit sound data is processed.

EMXP will ask for the filename of the SoundFont2 files:

CREATE SOUNDFONT2 FILE

Ready to create SoundFont2 file from Emulator III bank Brass Bank
in file BRASS_BANK.EB3.

Please specify a prefix for the target SoundFont2 file.

Suggested prefix is [BRASS_BANK]

[name + RETURN]: Name

[RETURN]: Accept suggested name

[ESC]: Go back

Please enter a name:

(note that EMXP will warn you if a file already exists with the specified filename – you will have the opportunity to either overwrite existing files or to choose another filename)

Conversion constraints of the Emax

The Emax and especially the Emax-II samplers are more sophisticated than their Emulator II predecessor. Nevertheless they also have some important limitations... sometimes the Emulator II is even more efficient than the Emax. This paragraph explains some important limitations of the Emax.

- The Emax can not use the same raw audio samples with *different sample parameters (looping...)* in different voices (*). If any source bank is doing this, the samples must be cloned X times into the Emax memory which can result in memorysize problems.
- The Emax can not share voices across presets. If any source bank is doing this, the voices must be cloned X times into the Emax. Fortunately a single voice only requires 32 bytes of parameter data as opposed to 256 bytes on the Emulator II. And there's no limit on the number of voices as opposed to the Emulator II.
- The Emax defines some parameters on voice level (original note, transposition, outputchannels) while the Emulator II defines these on key area level which is more flexible.
- The Emax-I (*not Emax-II !*) is limited in its pitch shifting / transposition range. Upward transposition is limited depending on the samplerate of the voice's sample. The maximum number of semitones for upward transposition is:

Samplerate (Hz)	Upward transposition (Semitones)
10000	25
15625	18
20000	13
27778	8
31250	6
41667	1

EMXP will not prevent illegal transpositions; however EMXP will warn you in the translation report when the converted bank contains illegal assignments. Sometimes choosing a lower minimum conversion samplerate can solve the problem but this depends on the required memory size. To correct the problem "forever", please apply samplerate conversion on your Emax sampler. Future versions of EMXP may prevent these kind of illegal assignment by applying this samplerate conversion itself.

- The maximum memory size available for presets, voice and sample parameters is only 28672 bytes.
- Tuning range is limited to -48 ct → +45 ct.

(*) the truth is that in fact this *can* be accomplished – however this is not in line with Emax specifications and not supported by the Emax OS itself so we decided to not use this tweak. Perhaps the tweak will become an option in a future version of EMXP.

Conversion constraints of the Emulator II

Converting sound banks from any sampler to Emulator II is quite a challenge. While the Emulator II is a great sounding device, its capacities are very limited. Hence the success ratio of conversions from Emax factory banks to Emulator II will only be about 50%, and this number will be even lower (10% ?) for conversions from Emulator III factory banks. This paragraph explains why.

- The emulator II can hold only 484599 sample points.
- The memory must be shared by raw samples, preset/voice parameters and sequences. The more presets and voices, the less room for samples and sequences. And vice versa.
- The maximum memory size available for presets and voice parameters is only 25856 bytes.
- The Emulator II can hold only 99 presets and only 99 voices (the latter being a serious limitation !)
- The same raw audio sample data can be shared by multiple voices having different sample parameters. Good points for the Emulator II !

- Only one samplerate is supported: 27778 Hz. Because of this the number of possibilities to decrease memory size per sample is zero.
- The Emulator II has limited pitch shifting capabilities. One sample can not be transposed over a range of more than 25 keys (2 octaves). Moreover one sample can not be transposed more than one octave up or down from the original note of this sample.
- There are no Hold stages in the envelopes.
- Tuning range is limited to -50 ct → +48 ct.
- There's no chorus effects processor. Chorus must be emulated by using PRI and SEC voices which are slightly detuned from each other. This is only possible if the second voice has not been used already for some other sound. Moreover this kind of chorus decreases the polyphony of the Emulator II.
- There's no stereo processing on the Emulator II. Forget any support for panning effects etc. !
- The maximum key range is C1→C6. Only 61 keys are addressable (instead of the default of 88...)
- Presets can not be stacked/linked.
- There is only one keyboard velocity curve.

Conversion constraints of the Emulator III/IIIX

The Emulator III and especially the Emulator IIIX samplers are far more sophisticated than the Emulator II and Emax and slightly more sophisticated than the Emax-II. This paragraph explains some limitations of the Emulator III/IIIX.

- The Emulator III/IIIX can not use the same raw audio samples with *different sample parameters (looping...)* in different voices. If any source bank is doing this, the samples must be cloned X times into the Emulator III/IIIX memory which can result in memorysize problems.
- The Emulator III/IIIX can not share voices across presets. If any source bank is doing this, the voices must be cloned X times into the Emulator III/IIIX. Fortunately a single voice only requires 48 bytes. There's no limit on the number of voices however.
- Like the Emax/Emax-II, the Emulator III/IIIX defines some parameters on voice level (original note, transposition, outputchannels) while the Emulator II defines these on key area level which is more flexible.
- The Emulator-III (*not Emulator-IIIX !*) is limited in its pitch shifting / transposition range. Both upward and downward transposition is limited depending on the samplerate of the sample. The exact limits can be found in the Emulator III's manual.
EMXP will not prevent illegal transpositions; however EMXP will warn you in the translation report when the converted bank contains illegal assignments. Sometimes choosing a lower minimum conversion samplerate can solve the problem but this depends on the required memory size. To correct the problem "forever", please apply samplerate conversion on your Emulator III sampler. Future versions of EMXP may prevent these kind of illegal assignment by applying this samplerate conversion itself.
- The maximum memory size available for presets and voice parameters is only 55542 bytes on the Emulator III.
- Chorus depth can not be changed; chorus is either on or off (as on the Emax).

Sound differences between Emax, Emulator II and Emulator III/IIIX

EMXP tries to translate each individual parameter of the source bank to the closest possible countervalue of the target bank. This however is not an easy thing to do ! While about 85% of the presets will sound almost exactly the same, the remaining 15% can seem to be completely different presets. The most important reasons for this are:

- Difference between the **filters**. The filter dynamics of both cutoff frequency and resonance are different between Emax, Emulator II and Emulator III. We tried to use a compromise model in between all filter types. During audition tests we found this model to be OK for 70% of the sounds. But in some cases the original sound can be brighter than the target sound, while in other cases the opposite is true. To avoid these differences in EMXP we should first have to develop “modelled” software versions of the Emax, Emulator II and Emulator III filters. This requires a thorough reverse engineering of these filters, and this unfortunately is currently beyond our capacity and time availability.
- Difference in dynamics curves of **filter envelope amount**. Reverse engineering showed that this curve is more or less linear in Emax and Emulator III while it seems exponential in the Emulator II. EMXP’s translation algorithm contains both these curves but still we found some presets which translated pretty “wrong”. Again you have to accept that EMXP uses a compromise model which should have a success ratio of 85%.
- Difference in **LFO routing amounts**. This is a similar problem as the one of the filter envelope amount.
- Difference in **LFO waveform**. The Emulator III/IIIX support different LFO waveforms, while the Emax/Emax-II and Emulator II don’t.
- Difference in **velocity amounts**. The Emulator III/IIIX allows for negative velocity amounts, and even the start of the sample can be controlled by velocity.
- Difference in **envelope stages and dynamics**. The Emax and Emulator III have an additional envelope stage called Hold. This stage does not exist on the Emulator II – EMXP tries to simulate this stage by increasing the Decay stage. Also the sustain curve and time curves are different, e.g. the Emax is capable of longer release times than the Emulator II...
- Difference in **number of envelopes**. The Emulator III/IIIX have an auxiliary envelope on board, while the Emulator II and Emax/Emax II don’t.
- Difference in **tuning**. The tune range of the supported samplers are different.
- Difference in **Arpeggiated** sounds. While the Emax and Emulator III contain a very advanced arpeggiator, the Emulator II’s one is only basic. Conversions from Emulator II to Emax/Emulator III will be > 90 % OK, but conversions in the other way can result in completely different arpeggios.
- Difference in **Samplerate**. The Emulator II only supports 27778 Hz. This means that the sound quality of 44100 Hz samples of the Emax or even 50000 Hz samples of the Emulator III will decrease on the Emulator II.
- Difference in **sample looping paths**. The Emulator II supports forward/backward looping. Conversion of samples looped in that way to Emax and Emulator III can result in “clicks”.
- Difference in **8-bit compression**. While the Emax-II and Emulator III uses uncompressed 16 bit PCM data, the Emax and Emulator II compress their sound data into non-linear 8-bit data. This compression results in lower sound quality. Moreover the compression algorithm of the Emax-I differs from the one of the Emulator II.
- Difference in **stereo processing**. The Emulator II doesn’t have any stereo features. E.g. panning is not supported.
- Difference in **preset stacking**. The Emulator II does not support stacks of presets.
- Difference in **velocity curves**. The Emulator II supports only one velocity curve. Note also that the keyboard of the Emax is not very velocity-friendly, it’s too light.
- Difference in **transposition (pitch shift) ranges**. While the Emax-II and Emulator III can transpose any sample over the whole keyboard range, the Emax, Emulator II and Emulator III have some limitations. In case of Emax and Emulator III these limitations depend on the samplerate. More details can be found in the sampler’s manuals. Currently EMXP does not automatically resolve transposition problems. Hence the resulting presets can have some non-transposed keyboard areas. You can try to remove them by (a) requesting lower allowed target samplerates in the EMXP conversion screens, or (even better) (b) apply samplerate conversions on the target sampler afterwards. The conversion reports of EMXP will indicate which presets suffer from transposition problems.

Conversion issues between E-Mu sampler formats and the SoundFont2 format

SoundFont2 as an interchange format

The main reason why EMXP supports SoundFont2 is because it is a widely accepted sound standard, which makes it suitable as an “interchange” format between two different samplers.

There are however also some native SoundFont2 samplers out there. Most (all) of them are based on a combination of computer hardware with sound cards, and some piece of software.

- Some of the available SoundFont2 software packages use the computer’s soundcard only for audio in/out. Example: the free Vienna SoundFont editor.
- Other SoundFont2 software packages actually rely on soundcards which natively support the SoundFont2 specification within their hardware synth engine. This is true for most Creative Lab’s hardware products (SoundBlaster Live!, Audigy, ...) which can be combined with their proprietary Vienna SoundFont studio software.

Since so many different SoundFont compliant solutions are available, it’s not possible to apply some “corrective models” to make a SoundFont2 bank generated by EMXP sound as close as possible to – let’s say – an original Emulator III bank.

E.g. some SoundFont2 engines may apply non-linear envelopes for their VCA (just like the Emulator does), while others may apply linear envelopes (like the Audigy 2 ZS does with Vienna).

For this reason, corrective modelling has not been applied in EMXP’s conversion engines to and from SoundFont2.

Lack of support for some SoundFont2 parameters in other software out there

Note also that some SoundFont2 “compliant” software and commercial sample translator software don’t necessarily support *all* parameters defined in the SoundFont2 specification. This is especially true in the area of modulator support. Some of the more basic software/VSTs even only support the basic sample assignment to a keyboard !

The lack of modulator support in most software solutions is an important disadvantage which should be taken into account when using EMXP for conversion of E-Mu sound banks to SoundFont2. To illustrate the impact of this disadvantage, let’s illustrate this with a few examples:

- the Velocity-to-<destination> settings of E-Mu samplers can only be translated to modulators in SoundFont2.
- the same is true for most realtime routing definitions and for Velocity/Realtime Crossfades.

If the SoundFont2 (translation) software ignores these modulators which have been generated by EMXP, the result can sound dramatically different from the original one !

Another possible cause of problems are the so-called “default generators and modulators” in SoundFont2. For each sound parameter, SoundFont2 defines a default setting, which means that if it has not been explicitly set in a SoundFont2 file, the SoundFont2 engine should apply this default instead. EMXP relies heavily on these defaults:

- EMXP will not generate a parameter (generator or modulator) explicitly if it corresponds to the default of SoundFont2. The main reason of this approach is to keep the amount of generators and modulators in the SoundFont2 file limited, because SoundFont2 supports only 65536 explicitly defined generators and modulators.
- EMXP will assume SoundFont2 defaults for any parameter which has not been defined explicitly in a source SoundFont2 file. These defaults will then be converted to E-Mu hardware sampler parameters.

EMXP supports (and uses !) almost all possible parameters of the SoundFont2 standard

EMXP tries to translate as much parameters as possible between SoundFont2 and the other sampler formats. As always though, there are some “incompatibilities by definition” between SoundFont2 and E-Mu hardware samplers.

This chapter explains some of the most important incompatibilities, which may cause a bank to sound (completely) different between the source sampler and target sampler.

Incompatibilities and limitations when converting TO SoundFont2

- **Positional Crossfades** are not converted to SoundFont2. Velocity and Controller (Realtime) Crossfades and Cross switches however are converted by EMXP.
- **Envelope stages** taking longer than 100 seconds are limited to 100 seconds in SoundFont2.
- **Auxiliary envelope** usage is only converted if not more than two envelopes are actually in use in the source (E-Mu) voice. If the source voice uses all three envelopes (VCA, VCF and AUX) then priority is given to VCA and VCF. If the VCF envelope is not used, then the Aux envelope may be converted but only if it drives pitch. Note that SoundFont2 only supports two envelopes, of which one is fixed to VCA.
- **LFO variation** settings are not converted; **LFO to Panning** is not converted.
- **Solo (mono) and Gate settings** of the E-Mu keyboard are not translated.
- Most **MIDI settings** are not translated because SoundFont2 is “almost” MIDI unaware on itself: its “host” should tackle these settings...
- **Arpeggiator** settings are not converted.
- **Output channel** settings are not converted
- **Stacking of presets** is not converted.
- **Portamento and Attack curves** are not converted
- **Velocity curves** are converted to only a limited number of types: linear, convex, concave or switch.
- If **loops** could cause distortion because their start or end points are too close to the sample’s start or end point (less than 8 points), EMXP will add blank sample points to the start or end if the loop is enabled on at least one voice.
- **Separate loop points for “In release” loops** as opposed to “In sustain” loops are not converted. SoundFont2 only allows one set of loop start/end sample points.
- **Forward/Backward** loop cycles and **Reversed** loop cycles are not converted.
- Some parameters, like LFO-to-<destination> settings may not be translated if this parameter is also controlled by an enabled realtime controller routing. E.g. if LFO-to-VCA is set to 60% in a voice on the Emulator III, but the Mod Wheel is routed to LFO-to-VCA and this routing is enabled in that Emulator III voice, then the Emulator III ignores the fixed 60% setting until the routing control of the Mod Wheel is switched off. SoundFont2 has no such “priority” mechanism in its specification and hence would cause both LFO settings to be enabled and heard concurrently. To avoid this, the fixed parameter settings are not converted.
- Although one single SoundFont2 file can hold a lot of sound data and parameters, the total number of presets, instruments, zones, generators, modulators and samples is limited to 65536 each. Especially for the generators this limit could sometimes be reached during a conversion process. If that’s the case, the conversion process will fail; EMXP does not support (yet) the generation of multiple target SoundFont2 files from a single source bank.

Incompatibilities and limitations when converting FROM SoundFont2

- SoundFont2 supports **multiple layers of samples (multisamples)** on one key, while E-Mu samplers are limited to two voices per key called primary and secondary. EMXP will decide which SoundFont2 samples will “survive” and which ones will be “ignored/thrown away”. EMXP will always try to preserve the unit of an “instrument”, i.e. EMXP will try to keep all zones and samples belonging to an instrument in the translated bank. Which instruments get priority is based on the key-span of the instrument: the more keys are covered by one instrument, the more chance the instrument will be preserved. If all instruments stacked on the same keyboard area have the exact same keyspan, EMXP will take the first instrument it encounters in the SoundFont2 file.

→ **WARNING: This selection algorithm, combined with the flexible data structure layout of SoundFont2, can cause EMXP’s conversion processes from SoundFont2 to E-Mu formats to take quite a long time and quite a lot of CPU power. The more instruments and zones that are defined in the SoundFont2 file, the longer it will take to convert the file. Conversion of SoundFont2 files with 40 presets, 200 instruments and hundreds of zones can take 0.5 to 1 minute on modern PCs.**

- SoundFont2 allows the same **controller** (like pedal, mod wheel, ...) to control multiple destinations (like VCA level, Pitch, ...) at the same time; and it also allows the same destination to be concurrently controlled by many controllers. E-Mu samplers however restrict both directions to one. EMXP will decide which controller/destination combination will “survive” and which ones will be “ignored/thrown away”. The most common combinations get priority, e.g. Pitch controlled by Pitch Wheel and Vibrato by Mod Wheel. If no common combinations are found, the controller with the lower controller type number will “win” (this numbering is defined in the SoundFont2 specification and mainly relies on the MIDI controller numbers).
- The **sample rate** is adapted to the nearest supported sample rate of the E-Mu sampler. Lower sample rates may be chosen if specified by the user on the sample rate screen (only if the samples would otherwise not fit in the target bank file).
- **Linked samples** – except for left/right links in stereo samples – are not converted.
- **Crossfades and Cross switches** – although not natively supported by SoundFont2 parameters – are detected by EMXP and can be enabled in the target E-Mu sound banks.
- **Reverb Effects** are not converted.
- **Delay settings of the Modulation Envelope** are not converted.
- The **Keynumber-to-Envelope Hold and Decay stages** are not converted.
- The **forced MIDI keynumber and velocity interpretation** parameters are not converted.
- Any modulator which contains a **controller/destination routing** which is not supported by E-Mu samplers are not translated. If the routing IS supported, some modulator parameters may still be ignored, e.g. bipolar settings while E-Mu only supports unipolar settings for that routing combination. Also cascades of modulators and usage of amount submodulators and transformer submodulators are rarely converted.
- Any parameter value which is **out of range by SoundFont2** standards will be corrected to the nearest allowed value.
- Any parameter value which is **out of range by E-Mu sampler standards** will be adapted to the nearest supported E-Mu value.

CREATING CD-ROMS

Yes ! You can create Emax, Emax II and Emulator III CD-ROMs with EMXP but you'll need a CD burning software since EMXP is not capable of writing CDs directly.

Creating a CD-ROM is a 3-step process:

1. Create a CD image first. Basically there are two ways to achieve this:
 - a. By making a backup of an existing HD/CD (choose the "backup HD/CD" feature in either the Emax or Emulator III sampler menu). Of course the resulting image will already contain sound banks, but you can replace these by other sound banks (see step 2).
 - b. By initializing a new image from scratch. This can be done by using the "create new HD/CD image" in either the Emax or Emulator III sampler menu. E.g. for Emax II, choose "*1. Manage Emu EMAX/EMAX II Images and Disks*" → "*5. Manage EMAX HD/CD Images*" → "*3. Create new (blank) Emax-II HD/CD Image*".

(choose an appropriate size for the image, make sure it fits on a CD:

- For Emax-I, an image is always 20 MB. This fits perfectly on any CD.
- For Emax-II, the maximum image size supported today by EMXP is 239 MB. This also fits perfectly on any CD.
- For Emulator-III, you should choose the 501 MB imagesize: this is the largest size supported by EMXP which still fits on a CD.)

2. Add/Remove sound banks to/from the CD image.

You can do this by selecting Emax or Emulator bank images and copying them to the HD/CD Image.

You can also remove sound banks from the HD/CD image by selecting these banks and removing them.

3. Burn the image to a CD using a CD burning software:

The images produced by EMXP seem to be ISO compliant, so you can choose the "burn ISO image" function in your CD burning software.

You'll have to take three things into account:

- You need a CD burning software.
- The (backup) image filesize may not exceed the maximum physical capacity of the target CD (either 650 MB or 700 MB);
- Most CD burning software packages require the ISO-images to have a file extension of .ISO. The images produced by EMXP however have an extension of .EZ1, .EZ2 or .EZ3. You'll simply have to rename the file. Note that you'll have to change it back to .EZ1, .EZ2 or .EZ3 if you want to use them again in EMXP.

TRANSFERRING EMULATOR II FILES FROM EMULATOR II TO PC

No direct link between Windows XP and the Emulator II (yet)

To get bank data out of the Emulator II or into the Emulator II there are only two possible ways:

- *Use Emulator II formatted floppy disks.* Unfortunately, the Emulator II is the only machine that can format and write these disks. And the Emulator II is also the only machine that can read those disks, except for the Oberheim DPX-1 sampler player. Conclusion: using floppy disks to exchange data between the Emulator II and your PC is impossible.
- *Use RS422 digital communication.* The only software which is able to communicate with the Emulator II via RS422 is the old Sound Designer for EmuII for Mac, created by Digidesign. You'll need a Mac computer running OS 7.6 or lower to run this software package.

Perhaps in the future EMXP will also be able to communicate directly with the Emulator II via RS422, by using an RS422←→USB convertor. But this feature is not planned yet.

Downloading / uploading Emulator II bank files using Sound Designer for Emu II

So besides your Windows XP computer running EMXP, you'll still need an old Mac computer (like the Mac Classic) to get data into or out of the Emulator II. Sorry for that...

To download a bank loaded in your Emulator II:

- Make sure the Emulator II is connected to your Mac using a serial cable to the printer or modem port
- The serial port within the Calibration menu of Sound Designer must match the actual port to which the serial cable is connected
- Make sure that no MIDI jacks are connected to your Emulator II
- The AppleTalk listener should be either on or off (depending on the Mac type – see the MAC compatibility list on the Emulator II Yahoo Group for more details)
- Select Mode *E-2 Front Panel*
- Choose *Extras → Get Bank from EmuII*

The file created by Sound Designer for Emu II has following characteristics:

- Size = 485887 Bytes
- Mac Filetype = E2BK
- Mac Creator = XFER.

To upload a bank file to the Emulator II, the same procedure should be used, but of course you have to select *Extras → Send Bank to EmuII* instead of *Extras → Get Bank from EmuII*.

Transferring files between the Mac and the Windows XP PC

Once you've downloaded a file from the Emulator II using Sound Designer for Emu II, you have to find a way to copy this file to your PC.

The same is true in the opposite direction: a file created by EMXP must be copied to your Mac computer.

There are a few options here:

- Use *PC Exchange* by *Claris* on the Mac PC to read/write files from DOS-formatted disks (floppy). This program was (probably) included in the Mac OS 7.5.3 or higher.
- Use *MacDisk* from *Logiciels & Services Duhem*. A demo/trial version is available from their website: <http://www.macdisk.com>. The only limit of this trial version is the filesize limit of 1MB. Fortunately Emulator II files only take 475KB, so the trial version is perfectly suitable for Emulator II purposes.
- Use *TransMac* from *Acute Systems / Paul Thompson*. See their website: <http://www.asy.com>
- Any other Mac←→PC file exchange tool...

Most of these tools support multiple types of disks: floppy disks, ZIP disks (!), ...

When using file exchange tools, it is **VERY IMPORTANT to configure the FILETYPE CONVERSION correctly:**

- Mac Files with **filetype E2BK and creator XFER** should be translated to **MS DOS extension .EII**
- Windows files with **extension .EII** should be translated to **filetype E2BK and creator XFER**.

Example: when using MacDisk, use the *Options → Signature Editor* to setup this translation. Don't forget to save the signature file !

If this configuration is not done correctly, files created by EMXP will not be recognized by Sound Designer for Emu II !

TRANSFERRING SOUND DESIGNER FOR EMAX FILES FROM EMAX TO PC

Besides transferring Emax files by floppy disk or removable hard disk/CD-Rom, the Emax-I also allows bank transfer via *RS422 digital communication*.

The only software which is able to communicate with the Emax via RS422 is the old Sound Designer for Emax for Mac, created by Digidesign. You'll need a Mac computer running OS 7.6 or lower to run this software package.

Note that EMAX-II bank transfer via RS422 is not supported by Sound Designer for Emax.

Moreover you will also need a "hacked" version of one of the following Emax Operating systems:

- Emax SE 1.1
- Emax SE HD 1.1
- Emax Plus 1.0

The hack consists of applying a higher software revision number within the operating system code. Sound Designer for Emax 1.12 only accepts Emax OS versions with rev 4.0 or higher, but this revision number has never been used by Emu. Hence a small (but completely innocent) hack is required on the Emax OS. The hacked versions of the above mentioned OS can be downloaded from the EMXP website.

Perhaps in the future EMXP will also be able to communicate directly with the Emax-I via RS422, by using an RS422 \leftrightarrow USB convertor. But this feature is not planned yet.

Downloading / uploading Emax bank files using Sound Designer for Emax version 1.12

To download a bank loaded in your Emax:

- Make sure the Emax is connected to your Mac using a serial cable to the printer or modem port
- The serial port within the Calibration menu of Sound Designer must match the actual port to which the serial cable is connected
- The AppleTalk listener should be either on or off (depending on the Mac type – please experiment with this)
- Select Mode *Emax Front Panel*
- Choose *Bank* \rightarrow *Send Bank to Mac*

The file created by Sound Designer for Emax has following characteristics:

- Size = 553080 Bytes
- Mac Filetype = EMBK
- Mac Creator = XFER.

To upload a bank file to the Emax, the same procedure should be used, but of course you have to select *Bank* \rightarrow *Send Bank to Emax* instead of *Bank* \rightarrow *Send Bank to Mac*.

Transferring files between the Mac and the Windows XP PC

Once you've downloaded a file from the Emax using Sound Designer for Emax, you have to find a way to copy this file to your PC.

The same is true in the opposite direction: a file created by EMXP must be copied to your Mac computer.

There are a few options here:

- Use *PC Exchange* by *Claris* on the Mac PC to read/write files from DOS-formatted disks (floppy). This program was (probably) included in the Mac OS 7.5.3 or higher.
- Use *MacDisk* from *Logiciels & Services Duhem*. A demo/trial version is available from their website: <http://www.macdisk.com>. The only limit of this trial version is the filesize limit of 1MB. Fortunately Emax files only take 541KB, so the trial version is perfectly suitable for Emax purposes.
- Use *TransMac* from *Acute Systems / Paul Thompson*. See their website: <http://www.asy.com>
- Any other Mac \leftrightarrow PC file exchange tool...

Most of these tools support multiple types of disks: floppy disks, ZIP disks (!), ...

When using file exchange tools, it is **VERY IMPORTANT to configure the FILETYPE CONVERSION correctly:**

- Mac Files with **filetype EMBK and creator XFER** should be translated to **MS DOS extension .EMS**
- Windows files with **extension .EMS** should be translated to **filetype EMBK and creator XFER**.

Example: when using MacDisk, use the *Options* → *Signature Editor* to setup this translation. Don't forget to save the signature file !

If this configuration is not done correctly, files created by EMXP will not be recognized by Sound Designer for Emax !

“LOOP” ISSUES ON EMAX(II), EMU II, EMU III(X) AND SF2

Strange loop start points and loop end points

Maybe you already noticed that some Emu samplers don't allow a loop start and loop length which completely span the sample:

- EMAX-I does not allow loops starting on the first 2 sample points, and the loop must end at least 2 sample points before the actual sample end.
- EMAX-II does not allow loops starting on the first 3 sample points, and the loop must end at least 44 sample points before the actual sample end.
- EMULATOR II does not allow loops starting on the first 4 sample points, and the loop must end at least 4 sample points before the actual sample end.
- EMULATOR III/IIIX allows loops which span the complete sample length.

Moreover also some SoundFont2 software or hardware engines may have problems with some loop settings. E.g. start or end loop points which are closer than 8 sample points to the sample's start or end points can cause problems, as well as loop lengths smaller than 32 sample points.

This is an annoying characteristic of these samplers and EMXP cannot overcome all of these problems.

Why is this important to EMXP users ?

Some people carefully design sample files on their PC using their favourite audio editing software. Sometimes they create their samples in such way that they can be looped **over their full length** in a smooth way.

These samples are then saved as WAV files and transferred to an Emu sampler using EMXP.

On the Emu/SoundFont2 sampler the musician tries to redefine the original loop, since EMXP does not translate WAV loop information (yet).

However, since some samplers don't allow loops that span the full sample length, it is impossible to recreate the original loop. This may result in some audible “glitches” while playing the samples.

This problem is true for:

- EMAX-I, on which the problem is restricted to the loop end point only. EMXP already *adds two blank* sample points at the beginning of each converted WAV file, since this is required by the EMAX-I specification.
- EMULATOR II, on which the problem occurs both at the beginning and at the end of the sample. EMXP doesn't add any sample points.
- EMULATOR III. In theory there should be no problem here, but since EMXP replaces the first two sample points by blank sample points, you lose a very small audio portion which could be audible in the loop (glitch).

There's no problem for EMAX-II samples.

For conversions from any looped source to SoundFont2, EMXP will add as many blank sample points to the start and end of the sample as is required to make sure that the loop's start and end point are at least 8 sample points from the sample's start and end point. EMXP however can not solve looping problems caused by loop lengths which are too small (smaller than 32 sample points).

How to solve these problems ?

When converting from WAV, you can solve this problem quite easily: make sure the WAV file contains the exact number of **additional leading and trailing sample points** as required by your Emu/SoundFont2 sampler.

Example 1: Copy a 2-disk EMAX-II floppy bank to a ZIP disk

Step 1: create EMX images of the two floppies

Choose option 1 in the main menu, followed by option 7 in the EMAX SAMPLER MENU.

Then type the drive letter, e.g. A.

Then choose option 1 in the floppy menu. (Option 4 can also be used. This option will require less keystrokes in between copying multiple floppy disks in a row; it will also automatically decide which target filename will be used, unless this filename has already been used before...)

EMXP FLOPPY DISK MENU	

1. Manage Banks on Floppy Disk	
2. Format EMAX Floppy Disk	
3. Manage OS on Floppy Disk	
4. Fast EMX Image creation of multiple Floppy Disks	

[1]...[4]: menu option	ESC: Go back

Please enter a menu option:	

Enter one of the 2 floppy disks in the specified drive and press ENTER.

EMXP shows the bank that is stored on the disk and tells you how many disks are used (right column).

The bank has already been selected for you by EMXP (see [X]). Press ENTER.

FLOPPY DISK BANK OVERVIEW				

[X] 1. B00 SYNTH FX-X4	EMAX-II	#Pres: 13	#Samp: 5	Disk: 1/2

[1]...[1]Select	[PGUP/PGDN]	[ESC]	[RET]Actions	[P]Preset [S]Sample

Please enter your choice: █				

Choose option 1 in the floppy bank menu and wait a few seconds.

EMXP FLOPPY BANK MENU

- 1. Create EMX Image from Floppy disk
- 2. Create Sound Designer for Emax Image from Floppy disk
- 3. Show Presets
- 4. Show Samples
- 5. Show Bank Details

[1]...[5]: menu option

ESC: Go back

Please enter a menu option:

Enter a name for the target EMX imagefile or you can accept the suggested name by pressing ENTER. If the file exists already, EMXP will give a warning and you will have to give another name.

CREATE EMX IMAGE FILE

This is disk number 1 of 2 of Bank SYNTH FX-X4

Ready to create image

Suggested name is [SYNTH_FX_X4_1]

[name + RETURN]: Name

[RETURN]: Accept suggested name

[ESC]: Go back

Please enter a name:

The copy process starts and the EMX image is being created. Please wait until the copy process has finished.

COPY IN PROGRESS

Copying bank SYNTH FX-X4
from disk A (1/1) to SYNTH_FX_X4_1.EM2 (1/1)
Please wait...

PLEASE WAIT

|||||||■

Repeat these steps for the second disk.

Step 2: create a bank image from the two EMX images.

Go back to the EMAX SAMPLER MENU (by pressing ESC a few times).

Choose option 2.

EMXP will make a list of all EMX images in the \Images folder. This can take a while, because EMXP is reading each file and collecting some interesting information from them (such as number of presets).

EMX IMAGES OVERVIEW

[]	01.	001-ARCOSTRINGS_1	ARCO STRIN	EMAX-II	#Pres: 26	#Samp: 11
[]	02.	001-ARCOSTRINGS_2	ARCO STRIN	EMAX-II	#Pres: 26	#Samp: 11
[]	03.	002-ROCKKIT_1	ROCK KIT	EMAX-II	#Pres: 19	#Samp: 18
[]	04.	002-ROCKKIT_2	ROCK KIT	EMAX-II	#Pres: 19	#Samp: 18
[]	05.	005-FRENCHHORNS_1	FRENCH HOR	EMAX-II	#Pres: 13	#Samp: 8
[]	06.	005-FRENCHHORNS_2	FRENCH HOR	EMAX-II	#Pres: 13	#Samp: 8
[]	07.	007-KYODALSYNTHCO...	KYODAI SYN	EMAX-II	#Pres: 19	#Samp: 16
[]	08.	007-KYODALSYNTHCO...	KYODAI SYN	EMAX-II	#Pres: 19	#Samp: 16
[]	09.	009-MARIMBAVIBES_1	MARIMBAVIB	EMAX-II	#Pres: 21	#Samp: 16
[]	10.	009-MARIMBAVIBES_2	MARIMBAVIB	EMAX-II	#Pres: 21	#Samp: 16
[]	11.	010-POPBRASS_1	POP BRASS	EMAX-II	#Pres: 24	#Samp: 31
[]	12.	010-POPBRASS_2	POP BRASS	EMAX-II	#Pres: 24	#Samp: 31
[]	13.	012-MULTISYNTHCOM...	MULTI SYNT	EMAX-II	#Pres: 32	#Samp: 11
[]	14.	012-MULTISYNTHCOM...	MULTI SYNT	EMAX-II	#Pres: 32	#Samp: 11
[]	15.	014-STEEL6STRINGG...	6 STRING G	EMAX-II	#Pres: 25	#Samp: 7
[]	16.	014-STEEL6STRINGG...	6 STRING G	EMAX-II	#Pres: 25	#Samp: 7
[]	17.	018-HARPSICHORD_1	HARPSICHOR	EMAX-II	#Pres: 16	#Samp: 11
[]	18.	020-ZD721-SPICCAT...	PXFStrings	EMAX-I	#Pres: 20	#Samp: 30
[01]-[18]Select			[A]All	[M]Mark	[PGUP/PGDN]	[ESC]

Please enter your choice:

Scroll through the list using PGDN and PGUP until you find at least one of the EMX files created in step 1.

Select one of these files (or both) by typing their item number (here 32) and press ENTER. (*)

You don't have to (but can) select both of them – EMXP will always ask for the second image during the copy process later on.

EMX IMAGES OVERVIEW

[]	19.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15	#Samp: 14
[]	20.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15	#Samp: 14
[]	21.	024-ROCKPERCUSSION_1	ROCK PERC.	EMAX-II	#Pres: 10	#Samp: 40
[]	22.	024-ROCKPERCUSSION_2	ROCK PERC.	EMAX-II	#Pres: 10	#Samp: 40
[]	23.	025-MALEVOXSYNTHO...	MALE CHOIR	EMAX-II	#Pres: 20	#Samp: 12
[]	24.	025-MALEVOXSYNTHO...	MALE CHOIR	EMAX-II	#Pres: 20	#Samp: 12
[]	25.	025-ZD726-MALEVOI...	Male Choir	EMAX-I	#Pres: 18	#Samp: 12
[]	26.	052-ZD755-CHIMEVI...	StereoB11A	EMAX-I	#Pres: 45	#Samp: 14
[]	27.	055-ZD758-FLUTEBELL	Flute	EMAX-I	#Pres: 29	#Samp: 8
[]	28.	086-ZD793-DOUBLEG...	DBL GRAND	EMAX-I	#Pres: 13	#Samp: 8
[]	29.	112-ZD825-SECTION...	StaScoopDo	EMAX-I	#Pres: 18	#Samp: 18
[]	30.	138-ZD851-SOLOWOO...	Great Flut	EMAX-I	#Pres: 23	#Samp: 22
[]	31.	141-ZD854-9GRANDP...	9ftGrand M	EMAX-I	#Pres: 12	#Samp: 8
[X]	32.	SYNTH_FX_X4_1	SYNTH FX-X	EMAX-II	#Pres: 13	#Samp: 5
[]	33.	SYNTH_FX_X4_2	SYNTH FX-X	EMAX-II	#Pres: 13	#Samp: 5

[19]-[33]Slct [A]All [M]Mark [PGUP/DN] [ESC] [RET]Action [P]Preset [S]Sample

Please enter your choice: █

Choose option 1 from the EMX menu.

EMXP EMX MENU

1. Create Bank Image from EMX Image(s)
2. Create Sound Designer for Emax Image from EMX Image(s)
3. Copy EMX Image to Floppy Disk
4. Delete EMX Image
5. Show Presets
6. Show Samples
7. Show Bank Details

[1]...[7]: menu option

ESC: Go back

Please enter a menu option: █

Enter a name for the target bank image. You can accept the suggested name by pressing ENTER.

CREATE BANK IMAGE FILE

Bank SYNTH FX-X4 requires one BANK image file

Ready to create BANK image file number 1

Suggested name is [SYNTH_FX_X4]

[name + RETURN]: Name [RETURN]: Accept suggested name [ESC]: Go back

Please enter a name:

After the first EMX image has been copied to the bank image, EMXP will ask to select the second image from the EMX images list. EMXP tries to find this file itself, and if EMXP thinks it has found the file, it will have pre-selected the file for you. In that case, you only have to confirm the selection by pressing ENTER.

If you selected only the second EMX image in (), EMXP will also ask to confirm the first EMX image in the same way.*

SELECT IMAGE 2 OF BANK SYNTH FX-X4

[]	19.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15	#Samp: 14
[]	20.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15	#Samp: 14
[]	21.	024-ROCKPERCUSSION_1	ROCK PERC.	EMAX-II	#Pres: 10	#Samp: 40
[]	22.	024-ROCKPERCUSSION_2	ROCK PERC.	EMAX-II	#Pres: 10	#Samp: 40
[]	23.	025-MALEVOXSYNTHO...	MALE CHOIR	EMAX-II	#Pres: 20	#Samp: 12
[]	24.	025-MALEVOXSYNTHO...	MALE CHOIR	EMAX-II	#Pres: 20	#Samp: 12
[]	25.	025-ZD726-MALEVOI...	Male Choir	EMAX-I	#Pres: 18	#Samp: 12
[]	26.	052-ZD755-CHIMEVI...	StereoB11A	EMAX-I	#Pres: 45	#Samp: 14
[]	27.	055-ZD758-FLUTEBELL	Flute	EMAX-I	#Pres: 29	#Samp: 8
[]	28.	086-ZD793-DOUBLEG...	DBL GRAND	EMAX-I	#Pres: 13	#Samp: 8
[]	29.	112-ZD825-SECTION...	StaScoopDo	EMAX-I	#Pres: 18	#Samp: 18
[]	30.	138-ZD851-SOLOWOO...	Great Flut	EMAX-I	#Pres: 23	#Samp: 22
[]	31.	141-ZD854-9GRANDP...	9ftGrand M	EMAX-I	#Pres: 12	#Samp: 8
[]	32.	SYNTH_FX_X4_1	SYNTH FX-X	EMAX-II	#Pres: 13	#Samp: 5
[X]	33.	SYNTH_FX_X4_2	SYNTH FX-X	EMAX-II	#Pres: 13	#Samp: 5

[19]-[33]Select [PGUP/PGDN] [ESC] [RET]Actions

Please enter your choice: █

After the second EMX image is copied to the bank image, the bank image is created.

Step 3: copy the bank image to the ZIP disk.

Go back to the EMAX SAMPLER MENU (by pressing ESC a few times).

Choose option 1.

EMXP will make a list of all bank images in the Vimages folder. This can take a while, because EMXP is reading each file and collecting some interesting information from them (such as number of presets).

Scroll through the list using PGDN and PGUP until you find the bank image created in step 2.

Select the file by typing its item number (here 17) and press ENTER.

BANK IMAGES OVERVIEW					
[]	01.	FRENCH_HORNS	FRENCH HOR	EMAX-I	#Pres: 13 #Samp: 8
[]	02.	FRENCH_HORNS	FRENCH HOR	EMAX-II	#Pres: 13 #Samp: 8
[]	03.	GRAND_PIANO1	GRAND PIAN	EMAX-I	#Pres: 31 #Samp: 8
[]	04.	GRAND_PIANO1	GRAND PIAN	EMAX-II	#Pres: 31 #Samp: 8
[]	05.	KYODAI_SYNTH	KYODAI SYN	EMAX-I	#Pres: 19 #Samp: 16
[]	06.	KYODAI_SYNTH	KYODAI SYN	EMAX-II	#Pres: 19 #Samp: 16
[]	07.	MALE_CHOIR	Male Choir	EMAX-II	#Pres: 18 #Samp: 12
[]	08.	MARIMBAS	Marimbas	EMAX-II	#Pres: 21 #Samp: 16
[]	09.	MULTI_SYNTH	Multi Synt	EMAX-II	#Pres: 32 #Samp: 11
[]	10.	MUTE_CHRD_LD	Mute/Chrd/	EMAX-II	#Pres: 19 #Samp: 20
[]	11.	NARROWSTEREO	NarrowSter	EMAX-II	#Pres: 27 #Samp: 11
[]	12.	PIANO_HI_END	Piano Hi E	EMAX-II	#Pres: 27 #Samp: 8
[]	13.	PIPE_ORGAN	Pipe Organ	EMAX-II	#Pres: 14 #Samp: 11
[]	14.	PRESET_00	PRESET 00	EMAX-II	#Pres: 1 #Samp: 5
[]	15.	PXFSTRINGSLO	PXFStrings	EMAX-II	#Pres: 20 #Samp: 30
[]	16.	RAGIN_WATERS	Ragin'Wate	EMAX-II	#Pres: 19 #Samp: 11
[X]	17.	SYNTH_FX_X4	SYNTH FX-X	EMAX-II	#Pres: 13 #Samp: 5

[01]-[17]Slct [A]All [M]Mark [PGUP/DN] [ESC] [RET]Action [P]Preset [S]Sample					

Please enter your choice:

Choose option 3 from the Bank menu.

EMXP BANK MENU	

1.	Create EMX Image
2.	Create Sound Designer for Emax Image
3.	Copy Bank to EMAX Removable Hard Disk
4.	Copy Bank to EMAX HD/CD Image
5.	Delete Bank Image
6.	Convert to Other Sampler Format
7.	Show Presets
8.	Show Samples
9.	Show Bank Details

[1]...[9]:	menu option
ESC: Go back	

Please enter a menu option:	

Make sure the ZIP drive is connected to your PC.
Enter the drive letter of your ZIP drive.

REMOVABLE HD/CD DRIVE REQUEST

Please enter EMAX Removable HD/CD drive letter
Current drive is [H]

[Letter+RETURN]: Drive [RETURN]: Accept suggested drive [ESC]: Go back

Please enter a drive letter: ■

Then put an EMAX formatted ZIP disk in the drive and press ENTER.

Note: you'll have to wait a few seconds before the disk is ready. If you press ENTER too fast, you'll get an error saying the disk is not ready. Ignore this message and simply try again (a few times).

REMOVABLE HD/CD REQUEST

Please enter an EMAX formatted removable HD or CD in drive I

[Any character]: Disk ready [ESC]: Go back

Press a key:

Now EMXP will show a list of empty banks that can be used to put your bank in. Choose one of the empty banks by typing the correct item number (here: 01), and press ENTER.

POSSIBLE TARGET BANKS FOR BANK SYNTH FX-X4

[X]	01.	B40	Empty Bank
[]	02.	B41	Empty Bank
[]	03.	B42	Empty Bank
[]	04.	B45	Empty Bank
[]	05.	B48	Empty Bank
[]	06.	B49	Empty Bank
[]	07.	B57	Empty Bank
[]	08.	B58	Empty Bank
[]	09.	B59	Empty Bank
[]	10.	B60	Empty Bank
[]	11.	B61	Empty Bank
[]	12.	B62	Empty Bank
[]	13.	B63	Empty Bank
[]	14.	B64	Empty Bank
[]	15.	B65	Empty Bank
[]	16.	B66	Empty Bank
[]	17.	B67	Empty Bank
[]	18.	B68	Empty Bank

[01]-[18]Select [PGUP/PGDN] [ESC] [RET]Actions

Please choose a target bank: █

EMXP will now copy the bank to your ZIP disk.

COPY IN PROGRESS

Copying bank SYNTH FX-X4
from SYNTH_FX_X4.EB2 (1/1) to disk I (1/1)
Please wait...

PLEASE WAIT

|||||

Step 4 (optional): check your ZIP disk.

If you want to see the new contents of your ZIP disk, go back to the EMAX SAMPLER MENU menu.

Choose option 6.

You have to specify the drive letter again (see picture in step 3).

Choose option 1 in the EMAX REMOVABLE HD/CD menu.

EMAX REMOVABLE HD/CD MENU

1. Manage Banks on EMAX Removable HD/CD
2. Format EMAX Removable HD (N/A)
3. Manage OS on EMAX Removable HD/CD
4. Create Backup of EMAX Removable HD/CD
5. Show Details of EMAX Removable HD/CD

[1]...[5]: menu option

ESC: Go back

Please enter a menu option:

Put the ZIP disk in the drive and press ENTER.

EMXP gives an overview of the banks on the ZIP disk. Scroll through the list and try to find your bank (here item 44, bank 47).

EMAX REMOVABLE HD/CD BANK OVERVIEW

[]	37.	B36	N&J	Drums	EMAX-II	#Pres: 1	#Samp: 3	218 Kb
[]	38.	B37	PRESET 00		EMAX-II	#Pres: 2	#Samp: 148	5492 Kb
[]	39.	B38	Moog 10		EMAX-II	#Pres: 10	#Samp: 0	28 Kb
[]	40.	B39	SUSSUDIO		EMAX-II	#Pres: 1	#Samp: 2	1926 Kb
[]	41.	B43	12 String		EMAX-II	#Pres: 12	#Samp: 6	1039 Kb
[]	42.	B44	GrandPiano#2		EMAX-II	#Pres: 7	#Samp: 9	1043 Kb
[]	43.	B46	RockmanStrat		EMAX-II	#Pres: 29	#Samp: 16	841 Kb
[X]	44.	B47	SYNTH FX-X4		EMAX-II	#Pres: 13	#Samp: 5	1017 Kb
[]	45.	B50	ARCO STRINGS		EMAX-II	#Pres: 26	#Samp: 11	1048 Kb
[]	46.	B51	FRENCH HORNS		EMAX-II	#Pres: 13	#Samp: 8	957 Kb
[]	47.	B52	GRAND PIANO1		EMAX-II	#Pres: 31	#Samp: 8	1014 Kb
[]	48.	B53	KYODAI SYNTH		EMAX-II	#Pres: 19	#Samp: 16	1051 Kb
[]	49.	B54	MARIMBAVIBES		EMAX-II	#Pres: 21	#Samp: 16	1035 Kb
[]	50.	B55	POP BRASS		EMAX-II	#Pres: 24	#Samp: 31	878 Kb
[]	51.	B56	ROCK KIT		EMAX-II	#Pres: 19	#Samp: 18	958 Kb
[]	52.	B69	KYODAI SYNTH		EMAX-II	#Pres: 19	#Samp: 18	958 Kb
[]	53.	B79	FRENCH HORNS		EMAX-II	#Pres: 13	#Samp: 8	957 Kb
[]	54.	B95	PRESET 00		EMAX-II	#Pres: 1	#Samp: 1	28 Kb

[37]-[54]Slct [A]All [M]Mark [PGUP/DN] [ESC] [RET]Action [P]Preset [S]Sample

Please enter your choice:

*You can check some bankdetails now by asking a presetoverview of this bank.
Press key P and you'll get the presetoverview:*

PRESET OVERVIEW

[]	01.	P00	SYNTH FX-X4	#Voice:4	Arpeg	off	A-1->C7	(no stack)
[]	02.	P01	Thor 111	#Voice:1	Arpeg	off	A-1->C7	(no stack)
[]	03.	P02	Synth FX #2	#Voice:2	Arpeg	off	A-1->C7	(no stack)
[]	04.	P03	Chorus Choir	#Voice:1	Arpeg	off	A-1->C7	(no stack)
[]	05.	P04	Synth Arpg#1	#Voice:1	Arpeg	off	A-1->C7	(no stack)
[]	06.	P05	Synth Arpg#2	#Voice:1	Arpeg	off	C2->C7	(no stack)
[]	07.	P06	Low Pitz/Arp	#Voice:3	Arpeg	off	C1->C7	(no stack)
[]	08.	P07	Synth Arp X2	#Voice:2	Arpeg	off	A-1->C7	(no stack)
[]	09.	P08	Choir/Arpg#1	#Voice:3	Arpeg	off	A-1->C7	(no stack)
[]	10.	P09	Thor 111 #1	#Voice:2	Arpeg	off	A-1->C7	(no stack)
[]	11.	P10	Thor 111 #2	#Voice:2	Arpeg	off	A-1->C7	(no stack)
[]	12.	P11	Synth FX-X4	#Voice:4	Arpeg	off	A-1->C7	(no stack)
[]	13.	P99	EmuSystems90	#Voice:0	Arpeg	off	(no keys)	(no stack)

[01]..[13]Select

[PGUP/PGDN]

[ESC]

Please enter your choice: █

Let's zoom into even more details by selecting the first preset P00. Type 01 and then press K for an overview of the Key Areas.

KEY AREA OVERVIEW

[]	1.	KEY AREA 001-SYNTH F	A-1->B1	PRI: U002	>SEC: none	XFade OFF
[]	2.	KEY AREA 002-SYNTH F	C2->C#3	PRI: U001	>SEC: none	XFade OFF
[]	3.	KEY AREA 003-SYNTH F	D3->C7	PRI: U000	>SEC: none	XFade OFF
[]	4.	KEY AREA 004-SYNTH F	D5->C21	PRI: U003	>SEC: none	XFade OFF

[1]..[4]Select

[PGUP/PGDN]

[ESC]

Please enter your choice:

Important note: on the EMAX sampler voices are numbered by their Key Area Number followed by the PRI or SEC indicator. In EMXP however, voices get a unique number that is valid across presets. The same is true for samples. So if you want to compare the details from EMXP to the details on the EMAX sampler display, use the KeyArea number + PRI/SEC indicator instead of the Voice or Sample numbers shown in EMXP.

Select one of the Key Areas (e.g. 1) and press ENTER. The Key Area menu is shown:

KEY AREA MENU

1. Show Voices
2. Show Key Area details

[1]...[2]: menu option

ESC: Go back

Please enter a menu option: _

*Instead of looking at the Voices, let's take a look at the Key Area details themselves. Press '2'.
The Key Area details screen is shown:*

KEY AREA DETAILS SYNTH FX-X4 - P00 SYNTH FX-X4 : AREA 001

Key Area Number: 001

Key Area: A-1 -> B1

Primary Voice: U002

Secondary Voice: None

Stereo Voice: Off

Crossfade Type: Off

Primary Voice on top of Secondary Voice

[PGUP/PGDN]

[ESC]

Please enter your choice:

That's about it. Of course you can try out some other screens and windows yourself!

Example 2: Create an EMAX-I EMX image from a set of WAV files

Step 1: Select the WAV files

Choose option 5 in the main menu, by pressing '5'.

You'll get an overview of all WAV files in the \Wav folder, sorted in alphabetical order.

(if there are some .WAV files that are not compatible with EMXP, EMXP will first give some warnings. You can skip these by pressing ESC. Note that the incompatible WAV files are NOT shown in the WAV Overview).

WAV OVERVIEW						
[X]	001.	808_KICK	270 ms	22 KB	41667 Hz	mono
[]	002.	9FT_GRAND_SAMPLE_1	3996 ms	172 KB	22050 Hz	mono
[X]	003.	9FT_GRAND_SAMPLE_2	3571 ms	153 KB	22050 Hz	mono
[X]	004.	9FT_GRAND_SAMPLE_3	2991 ms	116 KB	20000 Hz	mono
[]	005.	9FT_GRAND_SAMPLE_4	2890 ms	124 KB	22050 Hz	mono
[]	006.	9FT_GRAND_SAMPLE_5	2620 ms	112 KB	22050 Hz	mono
[]	007.	9FT_GRAND_SAMPLE_6	1858 ms	80 KB	22050 Hz	mono
[]	008.	9FT_GRAND_SAMPLE_7	3481 ms	149 KB	22050 Hz	mono
[]	009.	9FT_GRAND_SAMPLE_8	2022 ms	87 KB	22050 Hz	mono
[X]	010.	9SUSSUDIO_SAMPLE_1	17499 ms	949 KB	27778 Hz	mono
[]	011.	CALLIOPE_SAMPLE_1	1083 ms	58 KB	27778 Hz	mono
[]	012.	CALLIOPE_SAMPLE_10	1276 ms	69 KB	27778 Hz	mono
[]	013.	CALLIOPE_SAMPLE_11	629 ms	34 KB	27778 Hz	mono
[]	014.	CALLIOPE_SAMPLE_12	1589 ms	86 KB	27778 Hz	mono
[X]	015.	CALLIOPE_SAMPLE_13	1258 ms	68 KB	27778 Hz	mono
[]	016.	CALLIOPE_SAMPLE_14	1395 ms	75 KB	27778 Hz	mono
[]	017.	CALLIOPE_SAMPLE_15	1120 ms	60 KB	27778 Hz	mono
[]	018.	CALLIOPE_SAMPLE_16	1233 ms	66 KB	27778 Hz	mono

[001]-[018]Select [A]A11 [M]Mark [PGUP/PGDN] [ESC] [RET]Actions						

Please enter your choice:						

Select the WAV files that you want to put into an EMAX bank. Simply type the corresponding numbers (e.g. '01' for the TR808 Kick file) or use the "Mark" function to define the start item and end item of the range you want to select. Use PGUP/PGDN to go to other WAV files.

In this example we select 6 WAV files, of which one has quite a large size (9Sussudio_sample_1). We do this on purpose to show how EMXP will respond when we try to fit all samples into one EMAX-1 image...

Press ENTER.

Step 2: Create an EMAX-1 bank image

In the WAV menu, choose '1' to create an EMAX-1 bank image. Note that this is not an EMAX-1 **EMX** image yet...

WAV MENU

1. Create EMAX-I Bank Image from selected WAV file(s)
2. Create EMAX-II Bank Image from selected WAV file(s)
3. Create Emulator II Bank Image from selected WAV file(s)
4. Create Emulator III Bank Image from selected WAV file(s)
5. Create Akai S1000 Sample file(s) from selected WAV file(s)
6. Create SoundFont 2 file from selected WAV file(s)
7. Remove WAV files

[1]...[7]: menu option

ESC: Go back

Please enter a menu option:

After pressing '1' we get an error window.

ERROR

E R R O R !

Errorcode 153

The selected WAV files require an EMAX-1 memorysize of 735852 bytes,
which exceeds the maximum memorysize of EMAX-1 (524288 bytes). Please
remove some WAV files from the selectionlist, or decrease the sample
rates.

Press any key...:

Indeed, the selected set of WAV files takes too much room to fit into one 'tiny' EMAX-I bank (which is limited to 512 Kb). If we would have chosen the second option everything would have worked fine because EMAX-II samplers support banks of up to 8 MB !

But we want to have an EMAX-I bank, so we go back to the selection list by pressing ESC twice, and we remove some WAV files from our list (here: 9Sussudio_sample_1.wav).

After pressing ENTER and choosing '1' again, we get following screen:

CREATE BANK IMAGE

Ready to create EMAX-1 bank image.

Suggested image name is [808_KICK]

[name + RETURN]: Name [RETURN]: Accept suggested name [ESC]: Go back

Please enter a name:

We have to give a name to the EMAX bank image. We accept the suggested name: 808_KICK.EB1 by pressing ENTER.

EMXP starts converting the WAV files to the EMAX-1 bank image. This can take a while, as is shown in the 'wait' screen:

CONVERTING WAV TO EMAX BANK

EMXP is creating an EMAX bank image from the selected WAV files

This can take a few seconds

Please wait...

PLEASE WAIT

The long processing time is due to the conversion algorithm which compresses the 16 bit WAV data into 8 bit EMAX data. After completion we get an end-of-process confirmation:

PROCESS COMPLETED

The selected WAV files have been converted
to the EMAX Bank Image 808_KICK.EB1.
A report containing the Key-to-Wav mapping has been written to
Wav\808_KICK.TXT
Press any key to view the report.

[Any key]: Continue

Press a key...:

This message tells us that the bank image has been created, but it also tells us that the “key to wav” mapping has been written to a report file named 808_KICK.TXT which can be found in the \Wav folder. When we press a key, we can read the contents of that report:

KEY-TO-WAV MAPPING REPORT

PRESET 00 - KEY C1 : PRI = 808_KICK.WAV
SEC = (none)
PRESET 00 - KEY C#1 : PRI = 9FT_GRAND_SAMPLE_2.WAV
SEC = (none)
PRESET 00 - KEY D1 : PRI = 9FT_GRAND_SAMPLE_3.WAV
SEC = (none)
PRESET 00 - KEY D#1 : PRI = CALLIOPE_SAMPLE_12.WAV
SEC = (none)
PRESET 00 - KEY E1 : PRI = CALLIOPE_SAMPLE_13.WAV
SEC = (none)

[PGUP/PGDN]

[ESC]

Please enter your choice: █

The report shows how the WAV files have been assigned to the keys on the EMAX-Keyboard. If more than 61 WAV-files would have been processed, there would be another preset (PRESET 01). If one of the WAV files would have been a STEREO file, its channels would have been assigned to the Primary and Secondary voice of the same key. In our example however, all WAV-files had only one MONO channel, so the secondary voices are empty.

We press ESC and go back to the EMAX SAMPLER MENU by hitting ESC a few more times.

Note that the report has been saved on your harddisk, so you can print it or read it again later. It will not be removed by EMXP, but it could be replaced by EMXP when you make another bank image from WAV-files and give that bank image the same name (the .EB1 or .EB2 extension is NOT being taken into account).

Step 3: Create the EMAX-1 EMX image

In the previous step we have created an EMAX-1 bank image. But we need an EMX image, so we have to convert the bank image to an EMX image !

Go back to the main menu, and enter the EMAX SAMPLER MENU by selecting option 1. Then choose option '1' and select the 808_KICK bank image we just created by pressing the corresponding itemnumber (here: '01'):

BANK IMAGES OVERVIEW					
[X]	01.	808_KICK	PRESET 00	EMAX-I	#Pres: 1 #Samp: 5
[]	02.	FRENCH_HORNS	FRENCH HOR	EMAX-I	#Pres: 13 #Samp: 8
[]	03.	FRENCH_HORNS	FRENCH HOR	EMAX-II	#Pres: 13 #Samp: 8
[]	04.	GRAND_PIANO1	GRAND PIAN	EMAX-I	#Pres: 31 #Samp: 8
[]	05.	GRAND_PIANO1	GRAND PIAN	EMAX-II	#Pres: 31 #Samp: 8
[]	06.	KYODAI_SYNTH	KYODAI SYN	EMAX-I	#Pres: 19 #Samp: 16
[]	07.	KYODAI_SYNTH	KYODAI SYN	EMAX-II	#Pres: 19 #Samp: 16
[]	08.	MALE_CHOIR	Male Choir	EMAX-II	#Pres: 18 #Samp: 12
[]	09.	MARIMBAS	Marimbass	EMAX-II	#Pres: 21 #Samp: 16
[]	10.	MULTI_SYNTH	Multi Synt	EMAX-II	#Pres: 32 #Samp: 11
[]	11.	MUTE_CHRD_LD	Mute/Chrd/	EMAX-II	#Pres: 19 #Samp: 20
[]	12.	NARROWSTEREO	NarrowSter	EMAX-II	#Pres: 27 #Samp: 11
[]	13.	PIANO_HI_END	Piano Hi E	EMAX-II	#Pres: 27 #Samp: 8
[]	14.	PIPE_ORGAN	Pipe Organ	EMAX-II	#Pres: 14 #Samp: 11
[]	15.	PRESET_00	PRESET 00	EMAX-II	#Pres: 1 #Samp: 5
[]	16.	PXFSTRINGSLO	PXFStrings	EMAX-II	#Pres: 20 #Samp: 30
[]	17.	RAGIN_WATERS	Ragin'Wate	EMAX-II	#Pres: 19 #Samp: 11
[]	18.	SYNTH_FX_X4	SYNTH FX-X	EMAX-II	#Pres: 13 #Samp: 5
[01]-[18]S ct [A]A l [M]Mark [PGUP/DN] [ESC] [RET]Action [P]Preset [S]Sample					
Please enter your choice:					

Let's first have a look at this file... Are our 5 WAV files really in it ? We already observed '#Samp: 5' in the overview, so it seems to be OK.

But let's look at the sample overview anyway by pressing 'S':

SAMPLE OVERVIEW						
[]	1.	SAMPLE 001-PRESET 00	41667 Hz	271 ms	11 Kb	Loop OFF
[]	2.	SAMPLE 002-PRESET 00	27778 Hz	3573 ms	96 Kb	Loop OFF
[]	3.	SAMPLE 003-PRESET 00	20000 Hz	2994 ms	58 Kb	Loop OFF
[]	4.	SAMPLE 004-PRESET 00	27778 Hz	1591 ms	43 Kb	Loop OFF
[]	5.	SAMPLE 005-PRESET 00	27778 Hz	1259 ms	34 Kb	Loop OFF
[1]-[5]Select [A]A l [M]Mark [PGUP/PGDN] [ESC]						
Please enter your choice:						

Yes, there they are ! If we select these samples here and press ENTER, we will have to possibility to make WAV files from them again ☺...

But let's go back to the bank image overview by pressing ESC.

Now press ENTER to open the Bank image menu, and choose '1' to create an EMX image:

EMXP BANK MENU

1. Create EMX Image
2. Create Sound Designer for Emax Image
3. Copy Bank to EMAX Removable Hard Disk
4. Copy Bank to EMAX HD/CD Image
5. Delete Bank Image
6. Convert to Other Sampler Format
7. Show Presets
8. Show Samples
9. Show Bank Details

[1]...[9]: menu option

ESC: Go back

Please enter a menu option:

After pressing '1', we must give a name for the EMX image. Again we accept the suggested name (PRESET_00) by pressing ENTER.

CREATE EMX IMAGE FILE

Bank PRESET 00 requires one EMX image file

Ready to create EMX image file number 1

Suggested name is [PRESET_00]

[name + RETURN]: Name

[RETURN]: Accept suggested name

[ESC]: Go back

Please enter a name: _

After completion of the copy process, let's go back to the EMAX SAMPLER MENU by pressing ESC a few times. We select option '2' to see whether our EMX image really exists:

EMX IMAGES OVERVIEW

[]	19.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15	#Samp: 14
[]	20.	023-SOLOARCOCELLO...	SOLO STRIN	EMAX-II	#Pres: 15	#Samp: 14
[]	21.	024-ROCKPERCUSSION_1	ROCK PERC.	EMAX-II	#Pres: 10	#Samp: 40
[]	22.	024-ROCKPERCUSSION_2	ROCK PERC.	EMAX-II	#Pres: 10	#Samp: 40
[]	23.	025-MALEVOXSYNTHO...	MALE CHOIR	EMAX-II	#Pres: 20	#Samp: 12
[]	24.	025-MALEVOXSYNTHO...	MALE CHOIR	EMAX-II	#Pres: 20	#Samp: 12
[]	25.	025-ZD726-MALEVOI...	Male Choir	EMAX-I	#Pres: 18	#Samp: 12
[]	26.	052-ZD755-CHIMEVI...	StereoB11A	EMAX-I	#Pres: 45	#Samp: 14
[]	27.	055-ZD758-FLUTEBELL	Flute	EMAX-I	#Pres: 29	#Samp: 8
[]	28.	086-ZD793-DOUBLEG...	DBL GRAND	EMAX-I	#Pres: 13	#Samp: 8
[]	29.	112-ZD825-SECTION...	StaScoopDo	EMAX-I	#Pres: 18	#Samp: 18
[]	30.	138-ZD851-SOLOWOO...	Great Flut	EMAX-I	#Pres: 23	#Samp: 22
[]	31.	141-ZD854-9GRANDP...	9ftGrand M	EMAX-I	#Pres: 12	#Samp: 8
[X]	32.	PRESET_00	PRESET 00	EMAX-I	#Pres: 1	#Samp: 5
[]	33.	SYNTH_FX_X4_1	SYNTH FX-X	EMAX-II	#Pres: 13	#Samp: 5
[]	34.	SYNTH_FX_X4_2	SYNTH FX-X	EMAX-II	#Pres: 13	#Samp: 5

[19]-[34]Slct [A]All [M]Mark [PGUP/DN] [ESC] [RET]Action [P]Preset [S]Sample

Please enter your choice:

Yes ! There you have it, on number 32. It is ready to be copied to an EMAX-I floppy disk now...

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