DreamBlaster X2

User Manual

The DreamBlaster X2 is a newly developed wavetable module. It is fully General MIDI compatible, comes with 64 MB of flash memory, has a USB interface and is software configurable.

V 1.00

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Introduction

Thank you for purchasing the DreamBlaster X2.

The company behind this product is Serdaco BVBA. It was founded in 2011 by Roland and Serge Defever, specializing in software and hardware development and consulting. We also produce MIDI related products, having launched products such as the DreamBlaster S1 and X1.

The DreamBlaster X2 is our latest and greatest MIDI wavetable board. It is fully General MIDI compatible, comes with 64 MB of flash memory, has a USB interface and is software configurable.

We have developed software tools that let the user easily program the on-board flash memory. This lets the user control properties of the device such as the volume output that is sent to the sound card, or swapping the L and R channels. These are unique features and improve compatibility with classic ISA sound cards.

User can also tweak the sound characteristic to their liking. Reverb, Chorus as well as bass and treble can be configured with great detail.

Finally, we are working very hard on a conversion process of popular SoundFonts (.SF2) to Dream SoundBank format (.DXB). This is still work in process, but we are confident to make available alternative SoundBanks very soon.

I very much hope you are satisfied with this product and enjoy it.

Serge Defever, Belgium, December 2016

Resources

The DreamBlaster X2 is an advanced wavetable board, having features and functionality not found in other wavetable modules. Because the flash memory is user upgradable, check the Serdaco product page for any updates, information and support.

Resource	URL
X2 product page	http://www.serdashop.com/DreamBlasterX2
X2 downloads	http://serdaco.com/downloads/X2/
8MB CleanWave SoundBank	http://www.dream.fr/pdf/Serie5000/Soundbanks/GMBK5X64.pdf
16MB CleanWave SoundBank	http://www.dream.fr/pdf/Serie5000/Soundbanks/GMBK5X128.pdf

Specifications

- Small form factor MIDI PCB : 65mm x 38mm size
- Black color PCB
- Dream 5000 series synth chip with 81 voices polyphony, high quality effects engine
- Waveblaster compatible connector for use on soundcards (such as Soundblaster 16, Audician 32, ESS AudioDrive, Aureal Vortex 2 and many others...) and DIY projects.
- Low latency <1ms
- 64mbyte flash for SoundBank data
- USB connector for flashing the internal flash memory
- USB connector also functions as a full MIDI interface. Tested in Windows XP, Vista, 7, 8, 8.1 and 10. Should also work on Linux, Mas OS X,…
- Stereo line out using a high quality 24 bit DAC
- Preloaded with a high quality 16 MB Dream General MIDI SoundBank
- DreamBlaster X2 Preset Editor software: For creating and modifying profiles to tweak the sound signature
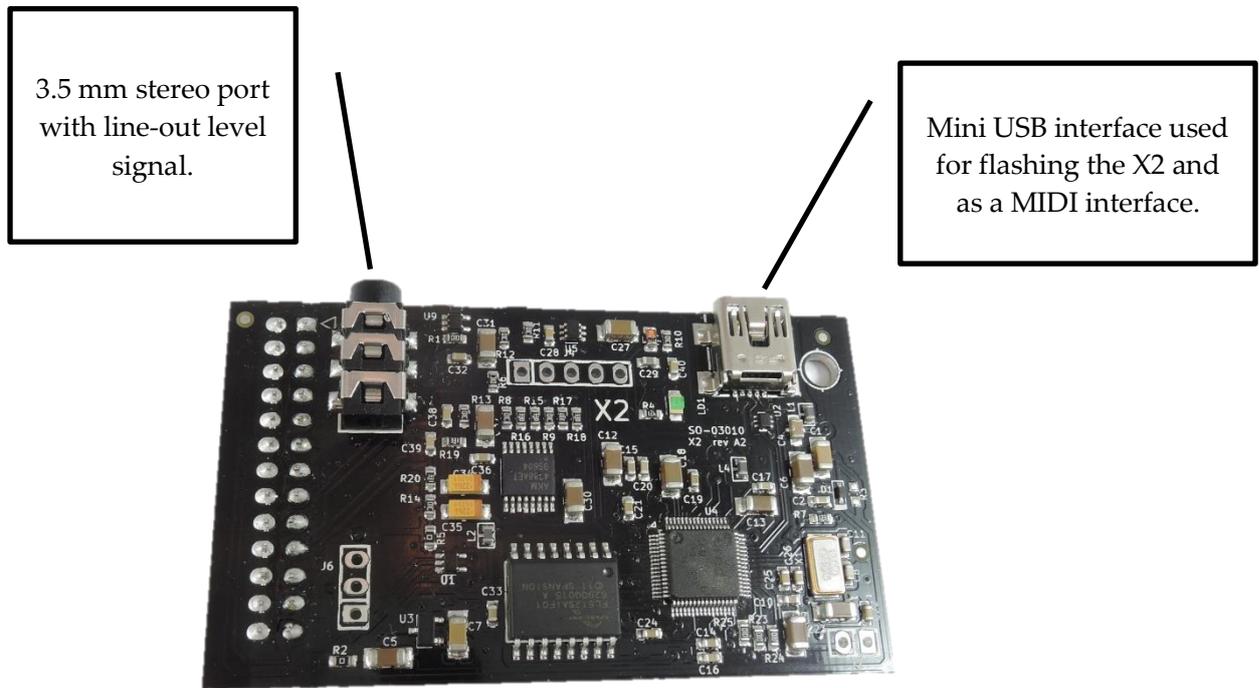- X2UPLOAD software : For flashing the X2 via USB

X2 Board Overview

3.5 mm stereo port with line-out level signal.

Mini USB interface used for flashing the X2 and as a MIDI interface.

Figure 2 - Front of DreamBlaster X2

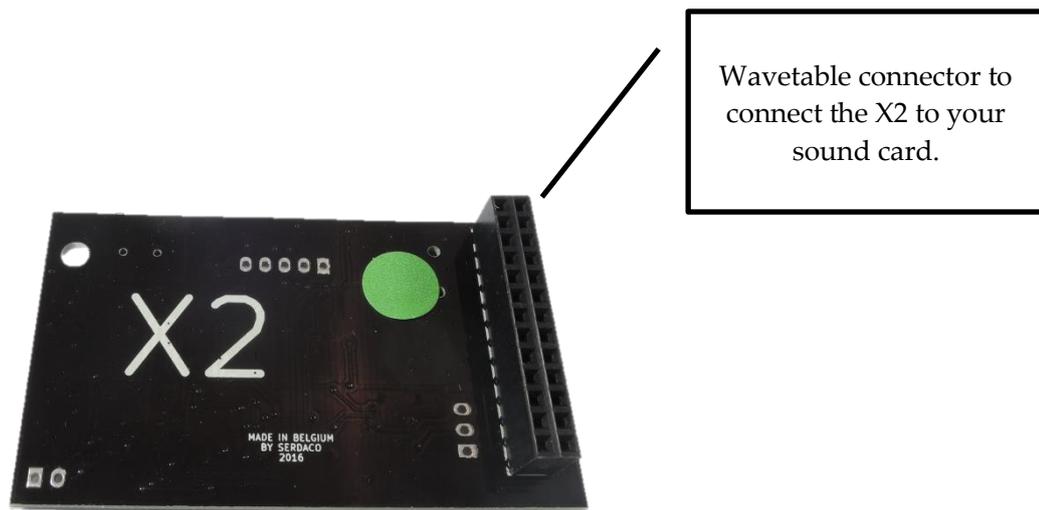Wavetable connector to connect the X2 to your sound card.

Figure 1 - Back of DreamBlaster X2

Using the X2

As a USB MIDI device

The USB interface of the DreamBlaster X2 is a full MIDI interface. Connect the X2 to a USB port to your PC and after a short while the X2 will appear as a MIDI device:

Figure 3 - Windows XP detecting X2

Windows supports several MIDI devices, so it's important to configure the software so that the X2 is actually being used, rather than the default Microsoft GS SoftSynth.

To ensure that the X2 is the default MIDI device it is recommended that you're using applications that let you select the MIDI device. Examples of such applications are:

- DOSBox
- Falcosoft SoundFont Midi Player
- Midibar midi player (included with MIDI-OX)

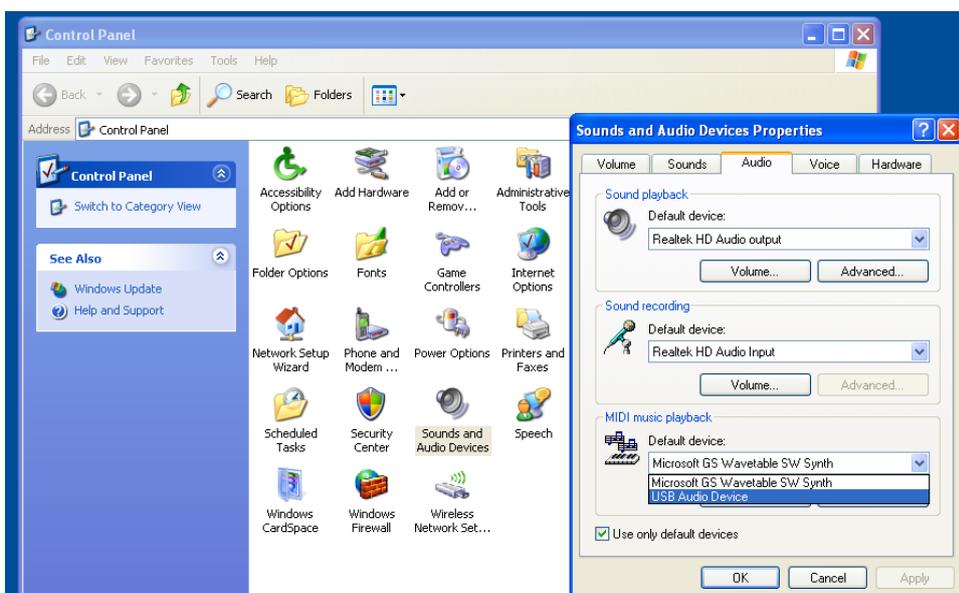Under XP the default MIDI device can be easily changed in the control panel:

Figure 4 - Windows XP MIDI Mapper

With newer versions of Windows, applications are supposed to offer the selection of MIDI device, however not every application supports this. In such a case you need to use a tool, often referred to as MIDI Mapper, to select the default MIDI device of your system. We recommend the CoolSoft MIDIMapper:
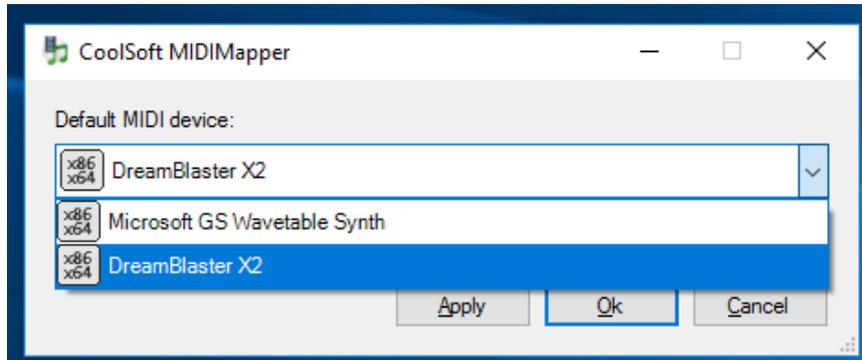

Figure 5 - CoolSoft MIDI Mapper Windows 10 64 bit

Once you have configured the DreamBlaster X2 as the default MIDI device, you can use most media players to play MIDI files. It will then also work with DOSBox and ScummVM without having to change the MIDI device internally.

Note that the X2 will output music through the 3.5 mm stereo line out port. You can route it through the line-in of your computer or use external speakers or an external mixer.

As a wavetable board

Attaching the DreamBlasterX2 to a sound card with wavetable connector is straight forward, but to be 100% sure of the correct orientation, pins 1 and 2 are marked with an arrow:
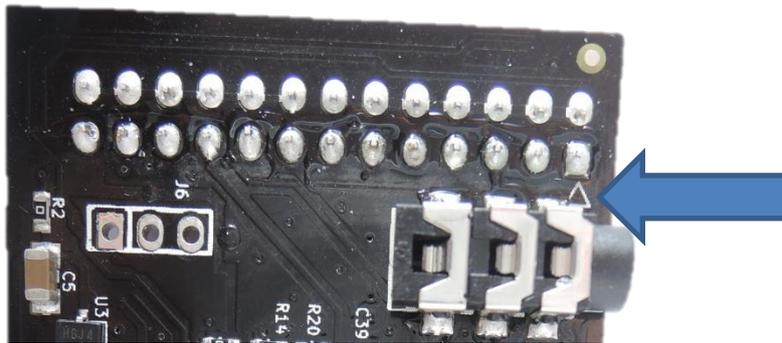

Figure 6 - Marking for pins 1 and 2

Most sound cards have pins 1 and 2 marked as well, so it's easy to attach the X2 correctly:

Figure 7 - Marking for pin 1

Figure 8 - Marking for pin 1 and 2

Mixer settings

The exact procedure varies between sound cards, but many sound cards have the wavetable muted by default. Under Windows this is straight forward and you just have to access the Windows mixer.

Under DOS however every card uses different tools. Some have a Graphical User Interface, such as Creative Sound Blaster or Yamaha YMF718-S cards, others use command line utilities such as the ESS AudioDrive range of cards.

If you are not getting sound from the X2 do the following:
- Connect a line input to the on-board 3.5mm jack and confirm that the X2 is outputting sound
- Consult the documentation of your sound card as to how to access the mixer to unmute the wavetable

X2UPLOAD software

Overview of X2UPLOAD
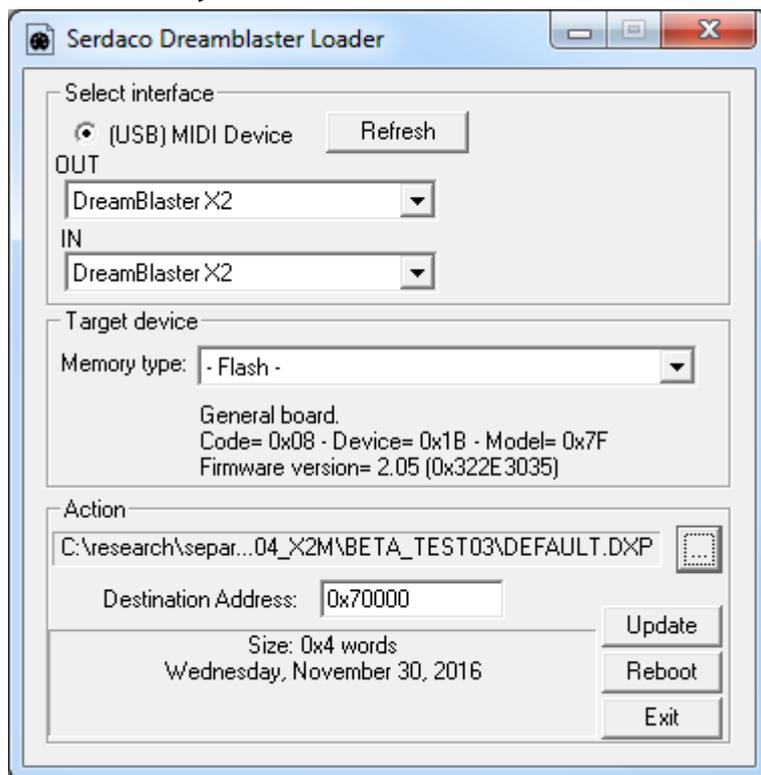
Uploading SoundBanks

At the time of this publication, these SoundBanks are available that are compatible with the DreamBlaster X2:

- GMBK5X128.DXB : Dream 16M GM Bank (Copyright Dream S.A.S France - Only to be used with DreamBlaster X2)
- GMBK5X64.DXB : Dream 8M GM Bank (Copyright Dream S.A.S France - Only to be used with DreamBlaster X2)
- NES8.DXB : NES / Famicom (Requires special MIDI files)
- PIANOSALBETA01.DXB : 'Salamander' Large Piano Beta SoundBank   (First instrument = piano)

We are working very hard on a conversion process of popular SoundFonts (.SF2) to Dream SoundBank format (.DXB). This is still work in process, but we are confident to make available alternative SoundBanks very soon.

DreamBlaster X2 compatible SoundBanks are binary files in the .DXB format.

SoundBank upload process

Plug in the X2 in USB, and the USB MIDI driver DreamBlaster X2 will become available.

Start X2UPLOAD and in the "Select interface" section **select the right MIDI device**: DreamBlaster X2 for OUT and IN. Look under "Target Device" and confirm the model and firmware version.

In the "Action" section, click on the button with the three dots and **select a SoundBank** in the .DXB format. The Destination address should update automatically to 0x80000 (this is the default address for the SoundBank).

Press the "Update" button and the flashing procedure commences. Uploading the GMBK5128.DXB takes approximately 120 seconds.

After the SoundBank is uploaded, **press "Reboot" button**. You might hear a confirmation sound from the operating system.

The DreamBlaster X2 is now ready for use!

Uploading Presets

Presets are profiles that let you change the sound signature of the device. A Preset editor is supplied and will be covered in the next chapter.

A set of default Presets are available from the DreamBlaster X2 product page for download:

- Factory default Preset
- Dry Preset (No Reverb and Chorus effects)
- Boombastic (Factory default Preset with bass boost applied)
- Serdaco Preset (A balanced Preset with slight Reverb and Chorus effects)

Preset upload process

Plug in the X2 in USB, and the USB MIDI driver DreamBlaster X2 will become available.

Start X2UPLOAD and in the "Select interface" section **select the right MIDI device**: DreamBlaster X2 for OUT and IN. Look under "Target Device" and confirm the model and firmware version.

In the "Action" section, click on the button with the three dots and **select a Preset** in the .DXP format. The Destination address should update automatically to 0x70000 (this is the default address for the Preset).

Press the "Update" button and the flashing procedure commences. Uploading a Preset happens very fast, within a second.

After the Preset is uploaded, **press "Reboot" button**. You might hear a confirmation sound from the operating system.

The DreamBlaster X2 is now ready for use!

Preset Editor

In the previous chapter we looked at how to upload presets as well as SoundBanks. While a range of preset files will be supplied, to get the most out of the DreamBlaster X2, you can create your own presets with the provided Preset Editor:
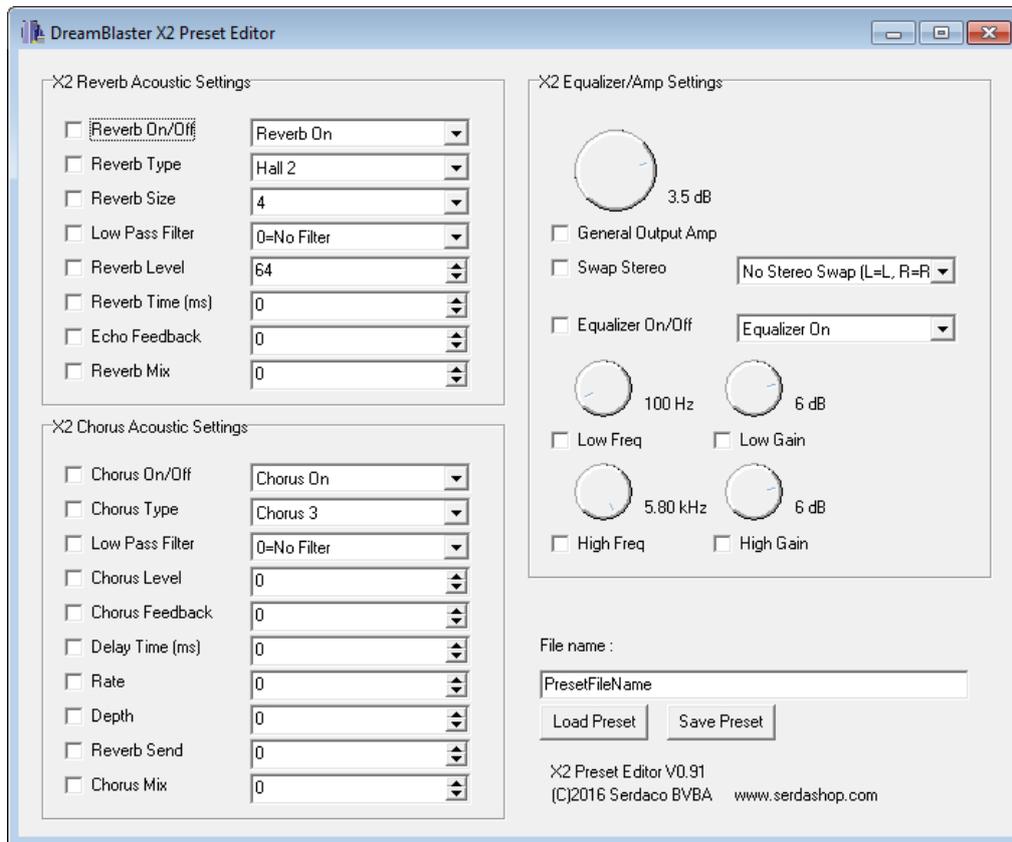
With this utility you can create, read, edit and preset files. Remember that you still have to flash the preset file to the X2 as described in the previous chapter. For easy testing you can have the preset editor, as well as X2UPLOAD open at the same time.

Only checked / ticked options are saved into the preset file. When the X2 boots, it will first load its default settings, and then override this with any custom settings that is checked.

X2 Reverb Acoustic Settings

Reverb (short for reverberation) is created when sound is reflected by objects, often referred to as echo. It greatly affects how the X2 sounds and you can configure it to sound like in a recording booth or in a large church, or anything in-between.

X2 Chorus Acoustic Settings

Chorus sounds like more of the same instruments are playing, making the sound thicker and more layered.

X2 Equalizer / Amp Settings

General Output Amp: Some sound cards clip or distort with wavetable boards and certain games that output loud music. With this setting you can adjust the volume to avoid this.

Swap Stereo: Some sound cards have the wavetable wired up incorrectly, resulting in left sounds coming out of the right speaker and vice versa. You can use this option to swap them around and correct this behaviour.

Equalizer: This lets you adjust the low and high frequencies (bass and treble), further adjusting the sound signature to your taste.