

# HardSID Uno / UPlay user's guide

HardSID Uno  
HardSID UPlay



Safety information .....	4
Introduction: .....	5
Package contents .....	5
System requirements .....	5
Key features .....	5
Upgrading from PCI or ISA HardSID .....	5
About hardware .....	6
Connctors .....	6
USB connector.....	6
Analog SID audio output (mono signal on both sides of a stereo jack) .....	6
DC-in (only for the case if there is no high-current USB port) .....	6
Other controls .....	6
On/Off switch.....	6
Power Fail LED.....	6
On/MSG LED .....	6
The Power Supply .....	7
Installing SID chips .....	7
How to prepare the HardSID Uno/UPlay for installing SID chips.....	7
The right direction.....	7
Supported versions, number of SIDs .....	8
Setting the SID version (Uno only) .....	8
Digi-boost jumper .....	8
The filter capacitors .....	9
Installing the HardSID 4U/UPlay/Uno 32bit or 64bit device driver on Windows XP .....	10
Installing the HardSID 4U/UPlay/Uno 32bit or 64bit device driver on Windows Vista/Windows 7 .....	12

Prerequisites for Windows Vista/Windows7 x64 Edition .....	12
Installing SID Chips video tutorial .....	15
How to remove SIDs carefully.....	16

## Safety information

**Don't touch the metallic parts of any cables. Possible difference in grounding potential of different equipments may cause electric shock!**

- Carefully read this manual before connecting/using the unit.
- Before using the product, make sure the SID (Uno) / SIDs (UPlay) are installed correctly and the SID version jumpers (Uno only) are set up accordingly.
- Use working non-damaged SIDs only. Using damaged SIDs may cause damage to the unit.
- Before using the product, make sure all cables are correctly connected.
- To avoid short circuits, keep screws, paper clips, staples, etc... away from connectors, sockets and circuitry.
- Avoid dust, humidity and temperature extremes. Do not place the product in any area where it may become wet. Do not place the product in small closed places where air cannot circulate. (like a drawer or a case for example)
- Place the product on dry, stable surface with satisfactory air circulation.
- Always switch off the unit when not using it for a long time. (for more than a few hours)
- If the device is broken, do not try to fix it yourself.

## Introduction:

Read this manual carefully before trying to connect/use your HardSID Uno/UPlay.

### Package contents

- HardSID Uno or UPlay (with or without SID(s))
- Four screws in a separate bag (if ordered without SID – otherwise the screws are already screwed into the case)
- USB Cable (optional)

### System requirements

- IBM compatible PC (or notebook) with one free USB 1.1 (or higher) compatible high-current port (high-current USB ports are usually on the back side of the computer)
- Microsoft Windows XP / Vista / Windows7 (32bit or 64bit) OS

### Key features

- Cycle-accurate C64 music playback (digitized sounds, high-speed tunes, etc...) with very low CPU utilization
- Stunning C64 Emulator game play with real-time digitized sounds
- Winamp plugin with seeking, sub-tune handling and IR remote controlling via Winamp
- C64 music composing with the best SID tracker for PC
- Fan-less operation
- USB powered – no power supply required: You can take it with you anywhere with a notebook
- UPlay only: Automatic switch between SID versions (6581 and 8580/6582) with a micro relay

### Upgrading from PCI or ISA HardSID

- Learn about removing SIDs at appendix “How to remove SIDs carefully” and remove the SIDs from your ISA/PCI card
- Read this manual carefully to learn about configuring your HardSID Uno/UPlay
- Learn about installing SIDs into the HardSID Uno/UPlay at appendix “Installing SID chips video tutorial”
- To notify applications about the removed PCI/ISA HardSID, you need to remove this registry key:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Hard Software\HardSID

## About hardware

If you've received your HardSID Uno/Play with no SIDs installed, you have to install the SID (Uno) / SIDs (UPlay) first before connecting and using the unit. Learn about installing SIDs and configuring the hardware at the "Installing SID chips" section.

### Connctetors

#### USB connector

Connect the unit to a USB 1.1 (or higher) high-current port. High-current USB ports are usually located on the back of the computer. Front-panel USB ports are usually low-current. (USB ports on notebooks are usually high-current.)

If you're planning to use the unit in a professional studio, it is recommended to use high quality full-speed USB cables with short length. Using long USB cables are not recommended for professional use. Always hold the plastic/rubber part of the cable, don't touch the metallic parts!

#### Analog SID audio output (mono signal on both sides of a stereo jack)

Use this connector to connect your HardSID Uno/UPlay to an amplifier/soundcard/mixer/etc...

Always hold the plastic/rubber part of the cable, don't touch the metallic parts!

(For the HardSID UPlay, this output outputs the sound of the actually selected SID (from software))

#### DC-in (only for the case if there is no high-current USB port)

Don't use a power supply by default, so skip this part if your unit operates correctly.

If the unit does not seem to work properly, try to locate a high-current USB port (500mA) on your computer. If it turns out that it doesn't have one, you can still use a power supply.

First you need to set the 'Power Source' jumper to 'dc-in' position (instead of 'USB'), then connect a 5VDC power supply to the unit. The power supply must be able to provide at least 1A at 5VDC. Check the polarity before buying the PSU. (the inner pin is the positive) The unit is protected against wrong polarity. If the polarity is wrong, the Power Fail LED will become red after switching on the unit. Always hold the plastic/rubber part of the cable, don't touch the metallic parts!

### Other controls

#### On/Off switch

Please read the safety information (right after the table of contents) before switching on the unit.

- Always switch off the unit when not using it for a long time. (for more than a few hours)

#### Power Fail LED

If you need to use a power supply with the unit (very unlikely), you have to watch out for the polarity. The unit is protected against wrong polarity. If the polarity is wrong, the color of the Power Fail LED will become red after switching on the unit.

#### On/MSG LED

The On/MSG LED (green) must become lit shortly after switching on the unit. It keeps blinking in firmware update mode. (firmware update mode will be covered by the future version of this manual when/if an updated firmware will be released for the Uno/UPlay)

## The Power Supply

If you need to use a power supply (very unlikely), check the polarity and the DC plug dimensions before buying the PSU.

- The power supply must be able to provide at least 1A at 5VDC
- The inner pin is the positive
- Plug dimensions: Inner diameter = 2.1mm; Outer diameter = 5.5mm; Contact length  $\geq$  10mm

The unit is protected against wrong polarity. If the polarity is wrong, the color of the Power Fail LED will become red after switching on the unit.

Always unplug the power supply from the AC connector when not using the unit for a long time. (for more than a few hours)

## Installing SID chips

Always install perfect / tested SID chips! Using damaged SID(s) may cause damage to the HardSID Uno/UPlay.

If you've received your unit with installed SIDs from us, you don't have to configure the unit yourself, as we always send it properly configured.

Installing a SID into the HardSID Uno/UPlay is easy:

- **Install the SID in the right direction (learn about it below)**
- **Don't force the SID! You may brake some pins off otherwise..**
- **Check out the "Installing SID chips video tutorial" in the Appendix!**

### How to prepare the HardSID Uno/UPlay for installing SID chips

After you've checked out the "Installing SID chips video tutorial" in the Appendix, start with the following:

- Switch off the unit
- Unplug all cables from it
- Remove the four screws from the right side of the case (where the output jack is)
- Remove the right side of the case (where the output jack is)
- Slide out the printed circuit board (take it out)
- Now, you're ready to install SIDs into the HardSID Uno/UPlay

### The right direction

Always check the direction of the SID before installing it! Installing the SID in the wrong direction may cause damage to your HardSID Uno/UPlay.

See the right direction on the picture:



### **Supported versions, number of SIDs**

The HardSID Uno works with one SID only. Don't install more than one SID into the unit (6581 –OR– 8580/6582 at the same time). The other socket must be empty.

The HardSID UPlay works with two SIDs. You can install one 6581 and one 8580/6582 at the same time. (it also works with one SID only)

Be careful to select the SID socket by SID version. The sockets are labeled accordingly: One socket is labeled as '6581', the other is labeled as '8580' (the 8580 socket is the one for a 6582 too).

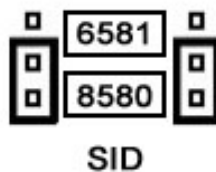
If you have a HardSID Uno, you'll also have to set up the SID selector jumpers accordingly.

### **Setting the SID version (Uno only)**

You have to set the SID jumpers after installing the SID chip into the according SID socket. (the 8580 position is valid for the 6582 too)

You can see the SID jumper layout on this picture:

**Both jumpers must be set  
into the same position!  
(both to 6581 or both to 8580)**



### **Digi-boost jumper**

There was a famous SID bug that was used for playing digitized sounds (samples) on the SID's volume register (there was a loud ticking sound when the 6581 changed the volume and the effect was built on



this). The 8580/6582 has an improved volume changing method (pretty silent compared to the 6581), so the most popular method of sample playback is almost inaudible on the new SID version.

You can make a volume boost to this effect by enabling the 'Digi-Boost ON' jumper under the 8580 socket.

### **The filter capacitors**

Filter capacitors are soldered into the PCB. You don't have to install them yourself.

FYI:

The 6581 and 8580/6582 versions of the SID chip are working with different filter capacitors.

The 6581 needs two 470pF capacitors.

The 8580/6582 needs two 22nF capacitors.

Installing the device driver

**The HardSID Uno/UPlay devices are handled by the same device drivers as the HardSID 4U. So, we'll illustrate all steps through the installation of a HardSID 4U. In reality, you'll see HardSID Uno or UPlay displayed during this process.**

Download the device driver for your OS from [http://www.hardsid.com/drivers\\_apps\\_docs.php](http://www.hardsid.com/drivers_apps_docs.php) and extract to a folder before connection/turning on your HardSID Uno/UPlay. Remember the folder (path) where you extracted the driver files. Your OS will ask for the device drivers after connecting and turning on your HardSID Uno/UPlay. Please follow the following steps when installing the device drivers:

### Installing the HardSID 4U/UPlay/Uno 32bit or 64bit device driver on Windows XP

The very first dialog will ask you if you want to connect to Windows Update:

Answer: No, not this time.

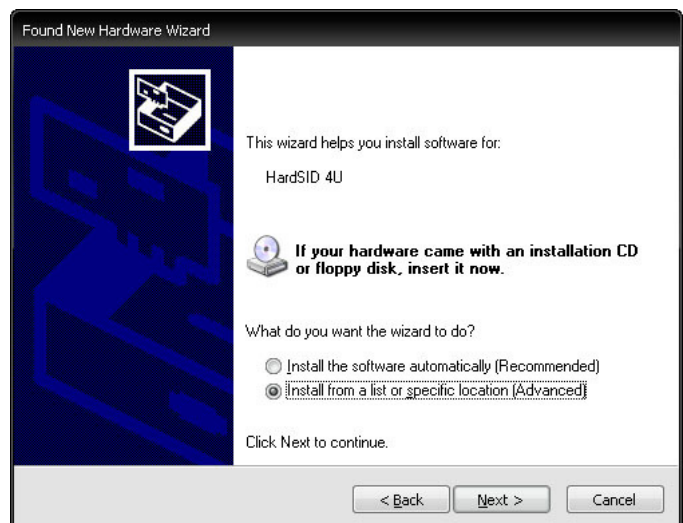
Click Next.



The next dialog will ask you if you want to install the software automatically:

Answer: Install from a list or specific location

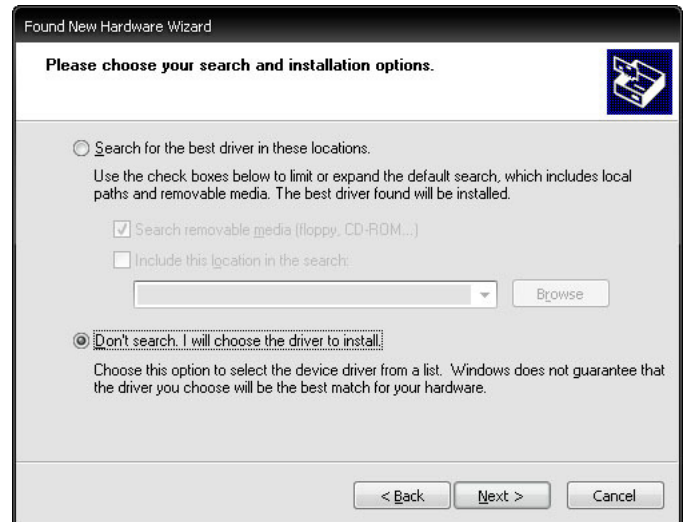
Click Next.



The next dialog will ask you if you want your XP to search for the drivers.

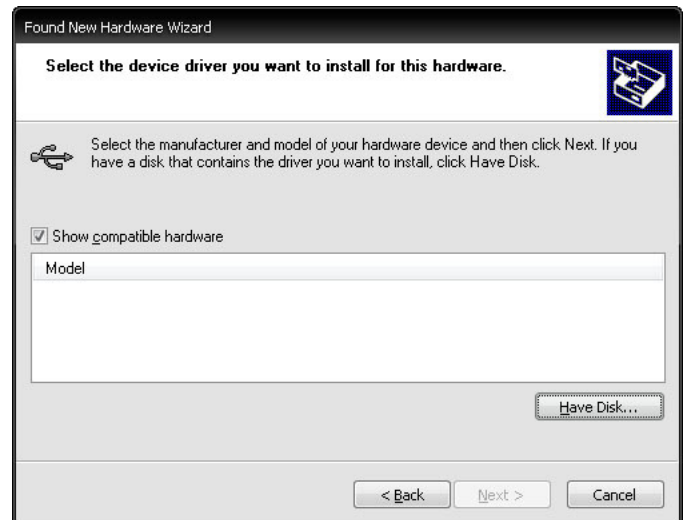
Answer: Don't search. I'll choose the driver to install.

Click Next.



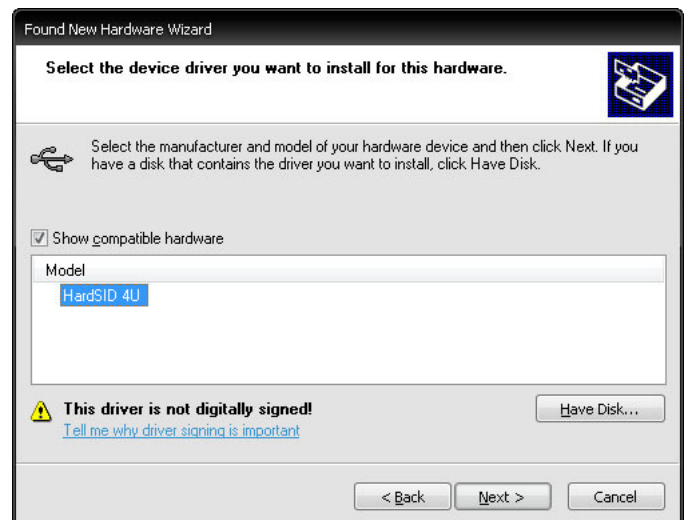
The next dialog will try to display a list of compatible drivers.

Answer: Click the Have Disk button. A new dialog pops up. Locate the folder where you extracted the driver files and press Ok.



Now the list contains the HardSID 4U driver (or HardSID Uno / HardSID UPlay according to the actual connected unit).

Click on the driver's name and click Next.



The next dialog will warn you that the driver has not been verified by Microsoft.

Answer: Click the Continue Anyway button.



The last dialog tells you that your HardSID 4U/UPlay/Uno is ready to use.

Click the Finish button.



## Installing the HardSID 4U/UPlay/Uno 32bit or 64bit device driver on Windows Vista/Windows 7

### Prerequisites for Windows Vista/Windows7 x64 Edition

Windows Vista/Windows7 x64 Edition doesn't allow to load unsigned drivers by default. You have enable unsigned driver installation before trying to install the HardSID 4U/UPlay/Uno drivers on it.

- Download and install this free tool: <http://www.ngohq.com/home.php?page=dseo>
- Read the instructions and disable driver signing enforcement with this tool.

Now your Vista x64/Windows7 will let you to install the HardSID 4U x64 drivers.

Note: Microsoft doesn't like these tools that lets you disable the driver signing enforcement. So, they usually release a patch/OS update (sooner or later) that makes the tool unusable. In this case you'll have to find another free tool that still works even after applying the latest OS updates. This only applies for Vista/Win7 x64 systems. XP x64, Vista 32bit and Win7 32bit doesn't have driver signing enforcement.

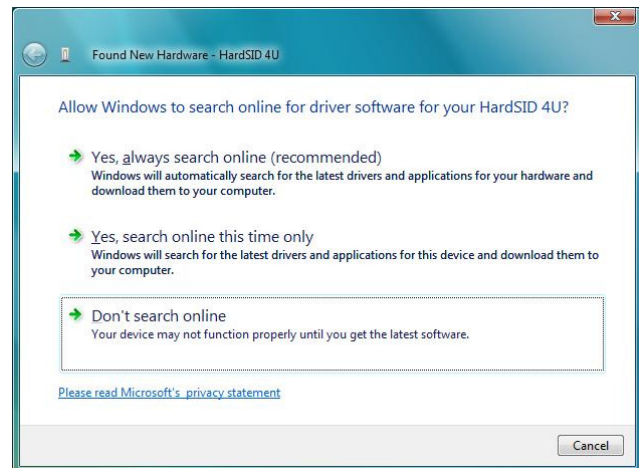
The very first dialog on Windows Vista will ask you what to do with the new hardware:

Answer: Locate and install driver software



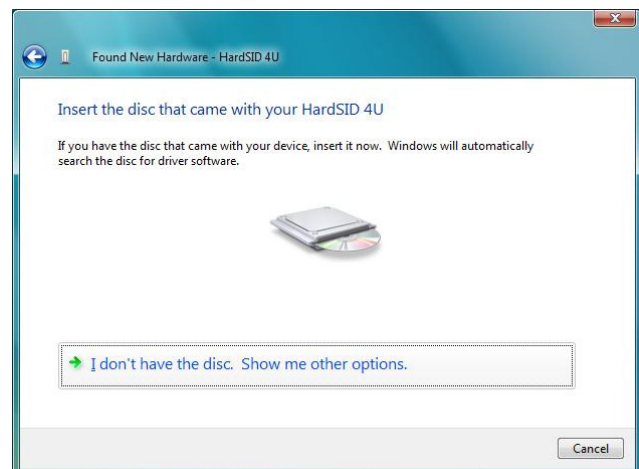
The next dialog will ask you if you want your Vista to search for driver online:

Answer: Don't search online



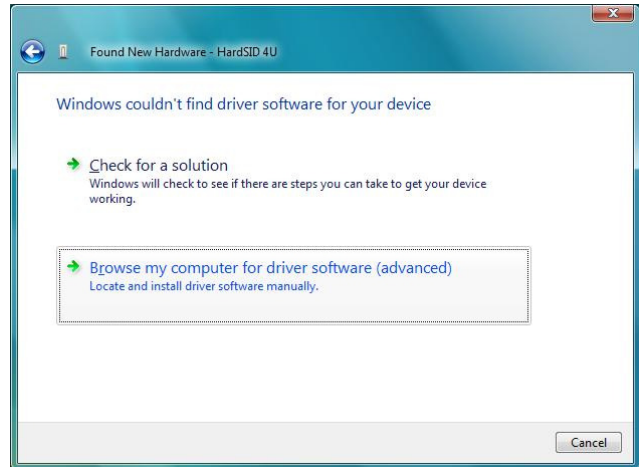
The next dialog will ask you if you have a driver disc.

Answer: I don't have a disc. Show me other options.



The next dialog will ask you if you want your Vista to find out a solution for you:

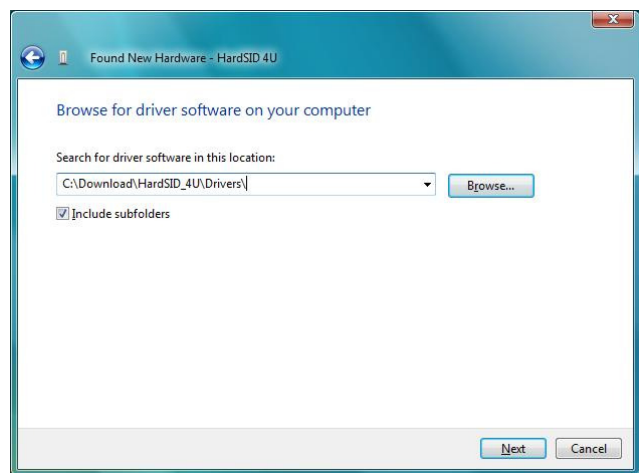
Answer: Browse my computer for driver software



The next dialog will ask you for the path to the driver files:

Answer: Browse the folder where you extracted the driver files.

Click Next.



The next dialog will warn you that Windows can't verify the publisher of this driver:

Answer: Install this driver software anyway



The last dialog will tell you that your HardSID 4U/UPlay/Uno is ready to use.



# APPENDIX

## Installing SID Chips video tutorial

**This video tutorial was made for the HardSID 4U initially, but even HardSID Uno/UPlay users are advised to watch it, so they can see how to remove/install SID chips carefully and how to watch out for the SID placement direction.**

The following video tutorial will show HardSID Uno/UPlay users you how to:

- insert SID chips carefully into SID sockets
- match the SID chip direction mark with the SID socket's direction mark
- handle / connect cables
- (other parts of the video, like installing filter capacitors and set HardSID 4U voltage jumpers need not to be watched carefully by HardSID Uno/UPlay owners)

The purpose of this tutorial is to help you to learn the proper way of handling SIDs and cables in general. The actual configuration process will be different for you, as you have a HardSID Uno/UPlay.

About the tutorial:

Now that you know what to watch for in the video tutorial, check it out on YouTube:

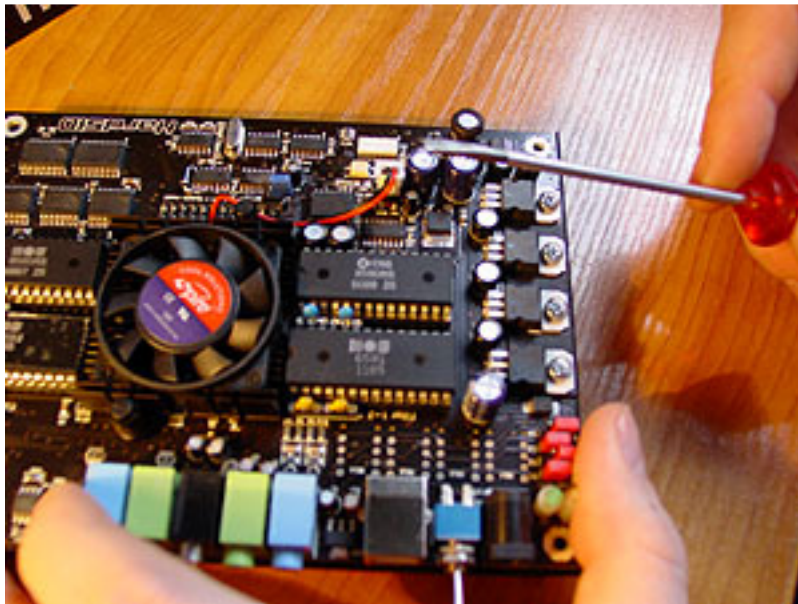
<http://www.youtube.com/watch?v=A-7B9HPj1jc>

## How to remove SIDs carefully

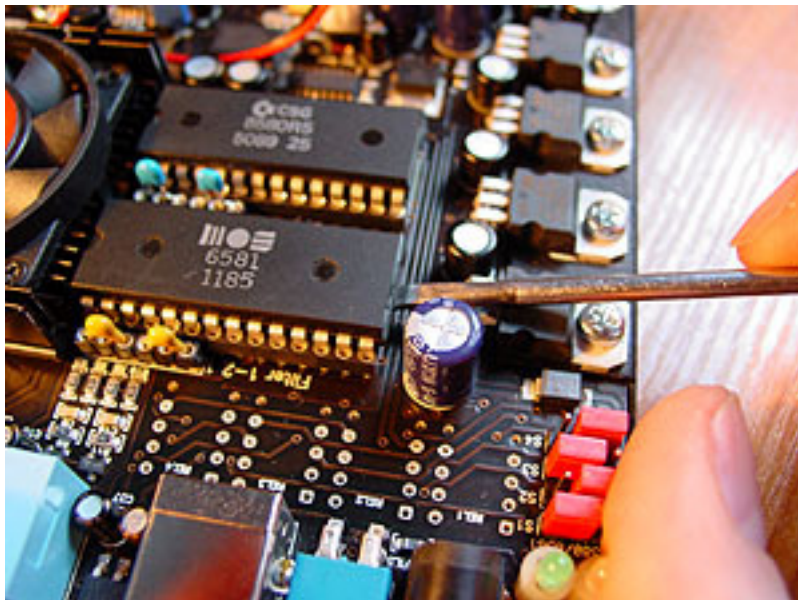
This tutorial shows you (on a HardSID 4U PCB) how to remove SIDs carefully from SID sockets. The method is the same for a HardSID Uno/UPlay in general.

Step 1: Take a flat tip screwdriver

You can see the approximate size of the screwdriver on this picture:

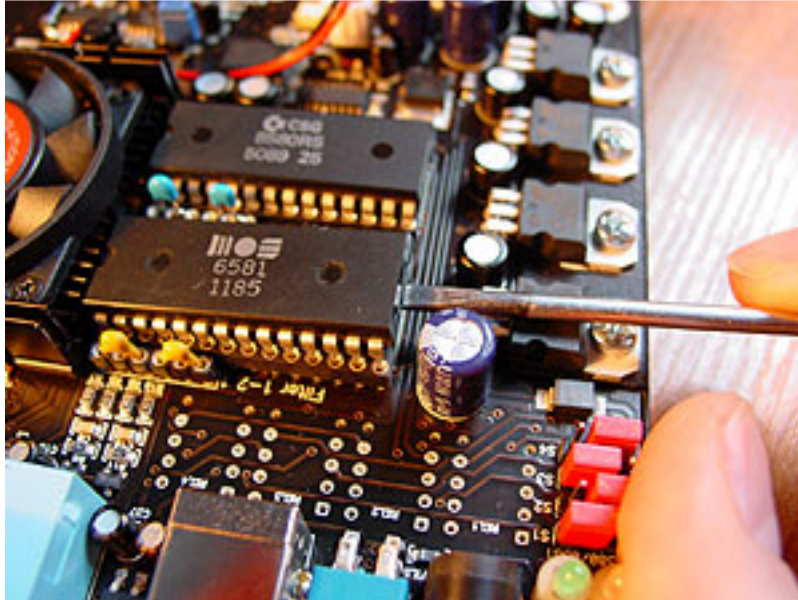


Step 2: Insert the tip of the screwdriver between the SID chip and the SID socket as shown on the picture. Don't push it further under the SID yet. Insert just the edge of the screwdriver's tip.

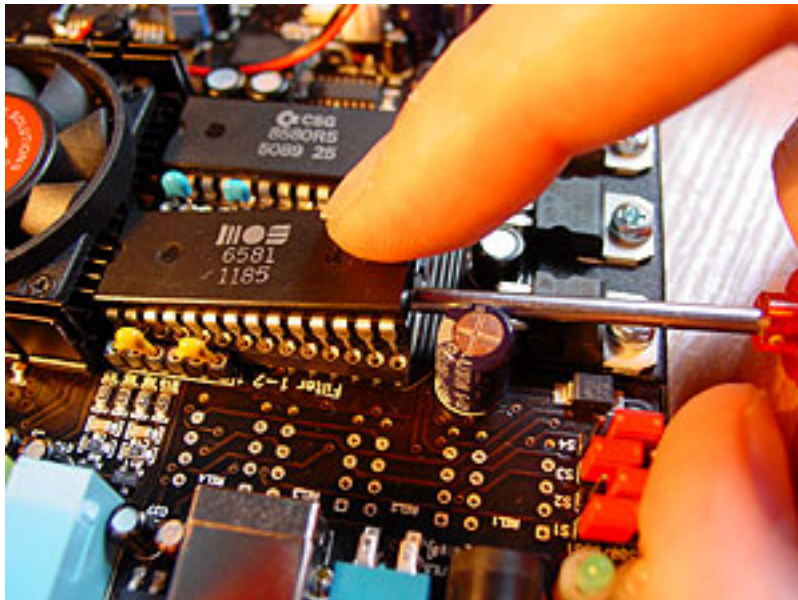




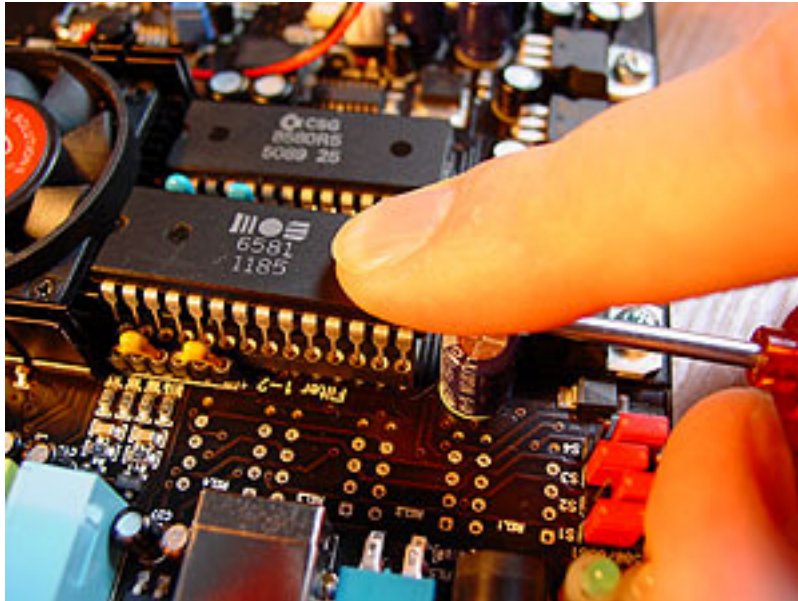
Step 3: Lift the SID a little bit, so the screwdriver's position will be almost horizontal.



Step 4: Push the screwdriver further between the SID and the socket. Now that you have some place under the SID, you can push the screwdriver until almost the other end of the SID. The SID lifts a bit more so its pins are released from the socket at your end. The screwdriver's position is still horizontal.



Step 5: Start pushing down the handle of the screwdriver carefully to lift the other end of the SID. Lift it until the SID gets horizontal. Now all pins of the SID are released from the socket.



Step 6: You can now take out the SID.

