

# USER'S MANUAL

## *Analog Factory*



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## **Thank you for purchasing the ARTURIA's ANALOG FACTORY!**

In this package you will find:

- ▶ a CD-ROM containing the ANALOG FACTORY installer for MAC OSX and Windows XP/2000
- ▶ a USB (Syncrosoft) protection key you will need to run ANALOG FACTORY
- ▶ the Authorization Card
- ▶ the User's Manual

Carefully store your USB key and your card. The USB key will be required any time you run ANALOG FACTORY, so your key is the real value of your product. See chapter two for more information about how the key works.

We recommend that you register your product. By registering, you identify yourself as the legitimate owner and will be sure to receive the latest news and updates for your product. After registration, you will receive a user ID and password in order to access a protected area on our site. It also puts you on our user notification list, so that you can be the first to know when there are updates or new product offers.

# 1 Introduction

## 1.1 History

In early 2001, Arturia began working on an advanced algorithm for the digital emulation of analog circuits' audio characteristics. In non-technical language, this is an unprecedented way of creating the very unique sound one finds in a synthesizer such as the Moog Modular. Nearly a year after they began work on the algorithms, Arturia was ready for feedback. At the 2002 NAMM show in California, Arturia shared an early version of what would later be the Moog Modular V with the renowned maker of the original Moog synthesizer, Doctor Bob Moog.

In seeking insight from sound production experts, such as Dr. Moog, as well as avid synthesizer users, Arturia was able to ensure the quality of the instruments they made; so well in fact the Dr. Moog himself endorsed the Moog Modular V. The launch of this sound powerhouse was an instant success, winning awards from several top magazines, and leading to the development of other synth recreations.

Shortly thereafter, Arturia started receiving many requests from musicians, producers and bands. Many of them explained how they were planning to replace their original hardware synthesizers by virtual instruments. Artists around the globe were beginning to see the advantages of a software alternative to hardware-based synthesizers.

The CS-80V emulated the legendary Yamaha CS-80, considered by many as "the ultimate polyphonic" synthesizer, was launched at the AES 2003 in New York. Imagine some of your favorite music from diverse artists such as Keith Emerson or Stevie Wonder, and you will have a mental glimpse of the sonic capabilities of the CS-80V.

Released at the NAMM 2004, the minimoog V is a recreation of the Minimoog, quite possibly the most famous synthesizer ever. The original minimoog has been big on the music scene since the 70's; still today the Minimoog has a large following for its many sound capabilities.

The ARP 2600 V was launched at the NAMM 2005 in Anaheim. This is a faithful reproduction of the ARP 2600 and is great for just about any sound one might wish to create: everything from drum n' bass stabs to Star Wars' R2-D2 have been made with the Arp.

At the Winter NAMM Show 2006, ARTURIA announced the release of its seventh product: the Prophet V. This powerful hybrid gives you two instruments in one: it combines the warmth of the legendary Prophet 5 programmable analog synth with the unique Vector Synthesis textures of the digital Prophet VS.

## 1.2 1.2 Here and Now

Analogue Factory brings you the best spectrum of sounds from all of the above instruments in an easy to use, no-hassle interface. As you will soon see in exploring

the instrument yourself, a single instrument gives you your pick from the most complete synthesis sound palette one could ask for: the great Bass' of the Moog Modular, the Brass and Strings of the Prophet, the Pads and FX of the Arp 2600, etc...

If you have never played a real synth, or even if you don't know what a synthesizer is, it is not important; you will be glad to have invested in such a powerful instrument once you hear the difference Analog Factory makes in your studio.

### 1.3 **TAE®**

TAE®, True Analog Emulation, is Arturia's outstanding technology dedicated to the digital reproduction of analog circuits used in vintage synthesizers.

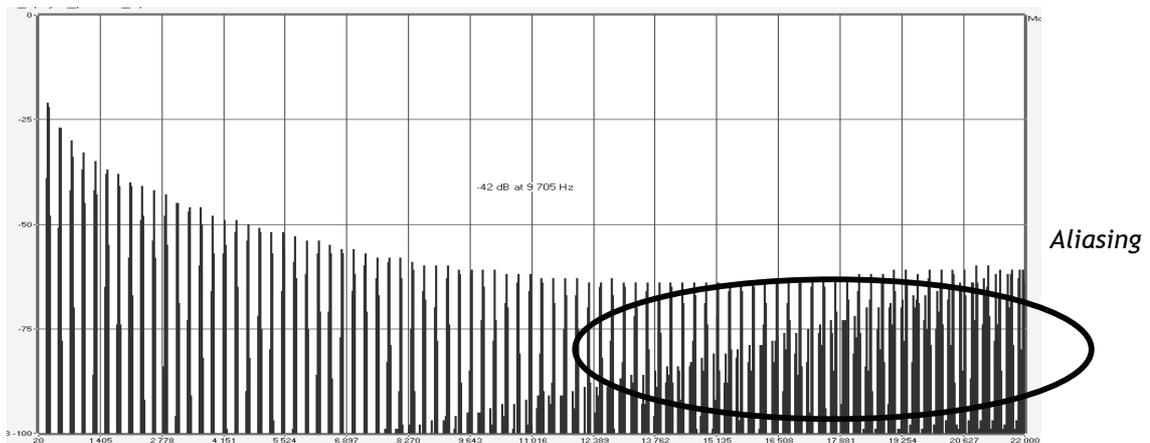
When implemented in software code, TAE®'s algorithms guarantee authentic emulation of hardware specifications. This is why the ANALOG FACTORY, and all of Arturia's virtual synthesizers, do offer an unparalleled quality of sound.

TAE® combines four major advances in the domain of synthesis:

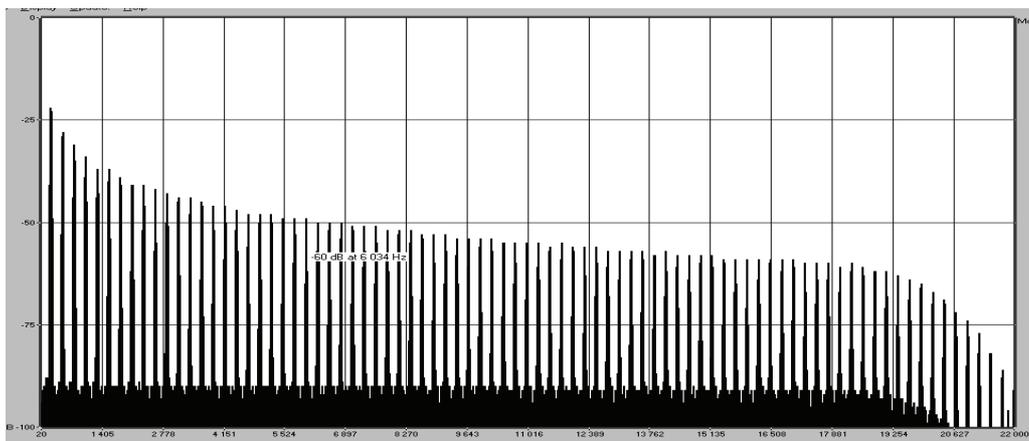
#### 1.3.1 Aliasing-free oscillators

Standard digital synthesizers produce aliasing in high frequencies, and also when using Pulse Width Modulation or FM.

TAE® allows the production of totally aliasing-free oscillators in all contexts (PWM, FM...), and at no extra CPU cost.



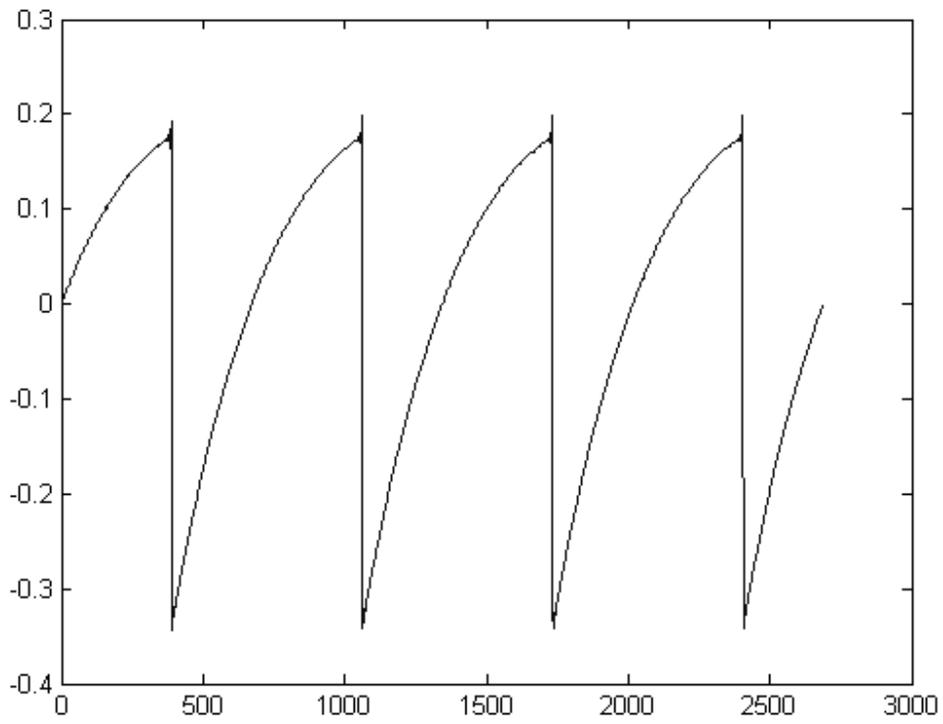
*Linear frequency spectrum of an existing well-known software synthesizer*



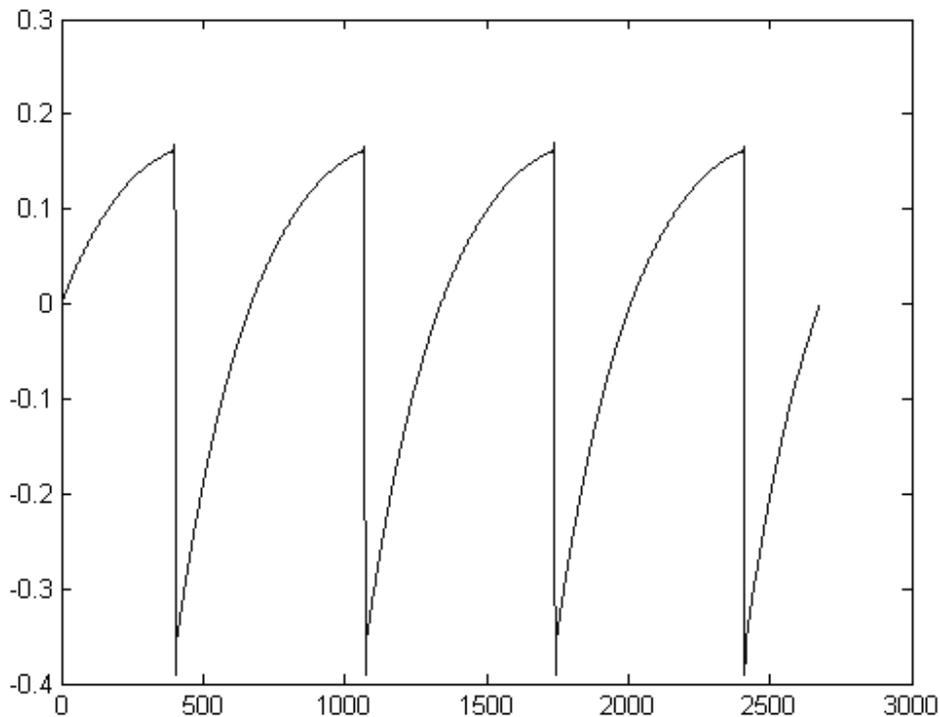
*Linear frequency spectrum of the ANALOG FACTORY oscillator made with TAE*

### **1.3.2 A better reproduction of analog oscillator waveforms**

The waveforms produced by the oscillators in analog synthesizers are marked by the presence of a capacitor in the circuits. The discharge of the capacitor results in a light bend in the original waveform (notably for saw tooth, triangular and square waveforms). TAE<sup>®</sup> allows the reproduction of this capacitor discharge. This is the analysis of a waveform from one of the 5 original instruments that Arturia's software emulates, and that of the ANALOG FACTORY. They are both equally deformed by the low-pass and high-pass filtering.



*Temporal representation of a "saw tooth" waveform of an hardware Synthesizer*



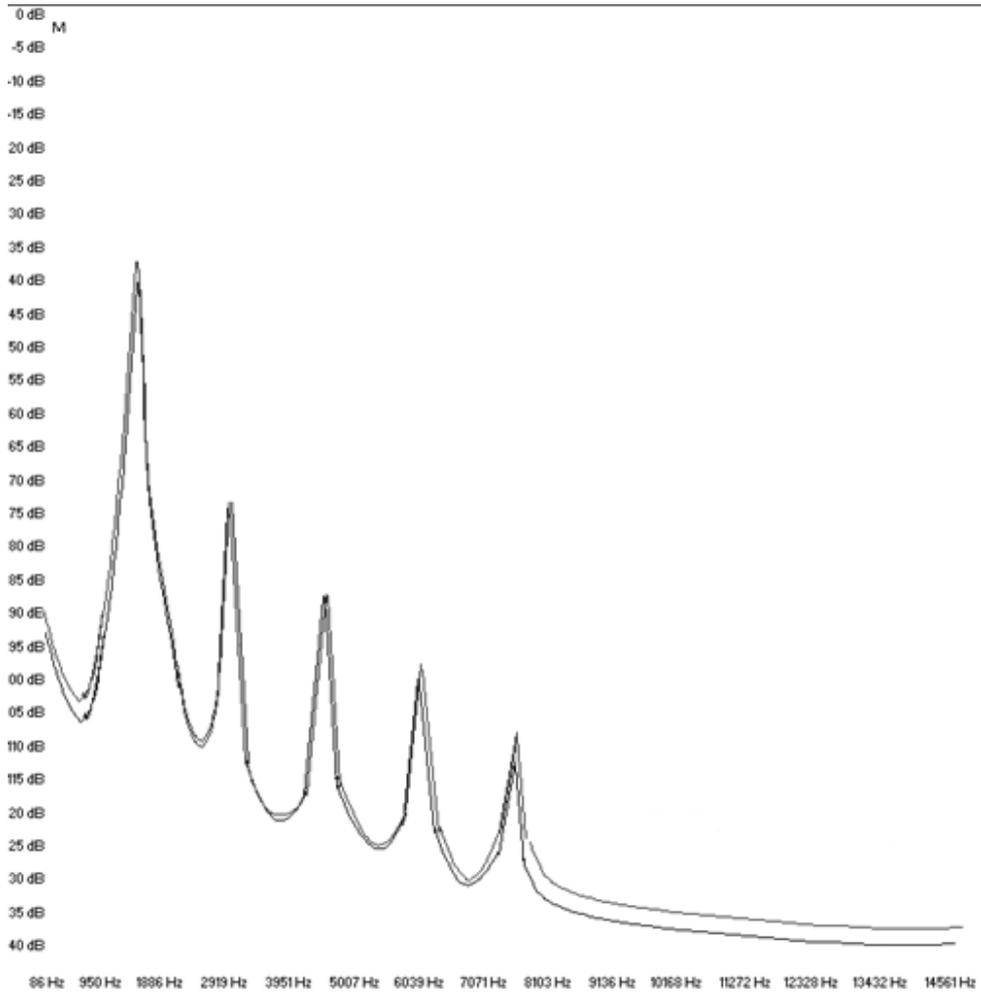
*Temporal representation of a "saw tooth" waveform reproduced by TAE*

What's more, the hardware analog oscillators were unstable. In fact, their waveform varies slightly from one period to another. If we add to this the fact that the starting point for each period (in Trigger mode) can vary with the temperature and other environmental conditions, we find one of the characteristics that contributed to the typical sound of vintage synthesizers.

TAE<sup>®</sup> reproduces the instability of oscillators, bringing a fatter and "bigger" sound.

### **1.3.3 Direct Filter Circuit Modeling**

Due to advances in computer processing power, the ANALOG FACTORY can now employ direct filter modeling techniques to achieve unprecedented accuracy in the emulation of a hardware synthesizer's filter. By modeling the operation of the individual hardware components of the filter circuit, the warm nuances synonymous with analog sounds are recreated. This graph is a frequency domain plot as just a single example of direct circuit modeling in action; it shows the generation of harmonics at multiples of the resonant frequency when the filter is in self oscillation mode, for both one of Arturia's virtual instruments and what it is emulating. These harmonics are characteristic of hardware synthesizer's filters and are due to the non-linear behavior inherent in its analog circuitry. The harmonics generated add to the richness and warmth of the sound produced by the filter. As a result of the direct recreation of this analog circuitry, the same characteristics of the sound are present, thus giving the user a truly analog sound.



*Comparison of Harmonics generated by the filter circuits of the ANALOG FACTORY and a hardware synthesizer when in self oscillation*

## 2 Installation

### 2.1 **Notes about E-licencer protection and the installation:**

The Analog Factory application is delivered with a USB key/E-Licenser. This key contains your ANALOG FACTORY license and authorizes the software to function. To use the software on a different machine, simply install the software on that computer and then plug in the E-Licenser. In this way, you can use this system key to install licenses of other Arturia products, or other products that use Syncrosoft technology, and carry the license from computer to computer as you wish.

In order to function correctly, the E-Licenser driver must be already installed on your system.

The installation program for the Syncrosoft License Control Center is available on CD-Rom and will be launched automatically when the installation of the Analog Factory is complete.

You can also download the latest version at this address:

<http://syncrosoft.com/downloads/>

Once you have installed the driver, an application called <<License Control Center>> allows you to manage the installed licenses on your key.

**On Windows**, this application and its documentation are available via the menu Start-> Programs -> Syncrosoft.

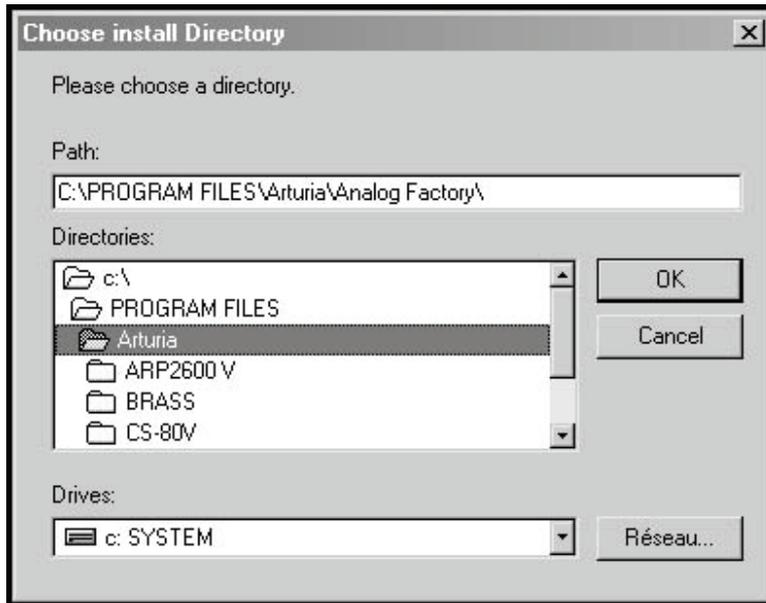
**On Macintosh**, this application is installed in the Application folder of your system and the documentation is available from the Help menu of this particular application.

#### Important Note:

Your license number, and thus the key on which it is installed, represents the true value of your software. To lose the E-Licenser is to lose the use of the software on which the licenses are installed. Take special care of this key.

### 2.2 **Windows Installation**

- ▶ Insert the CD-ROM into the drive. Explore the contents of the CD-ROM and double click on the icon called <<Analog Factory Setup.exe >>.
- ▶ After having accepted the license agreement, you can choose the folder in which the Analog Factory will be installed



*Choose the Installation Folder*

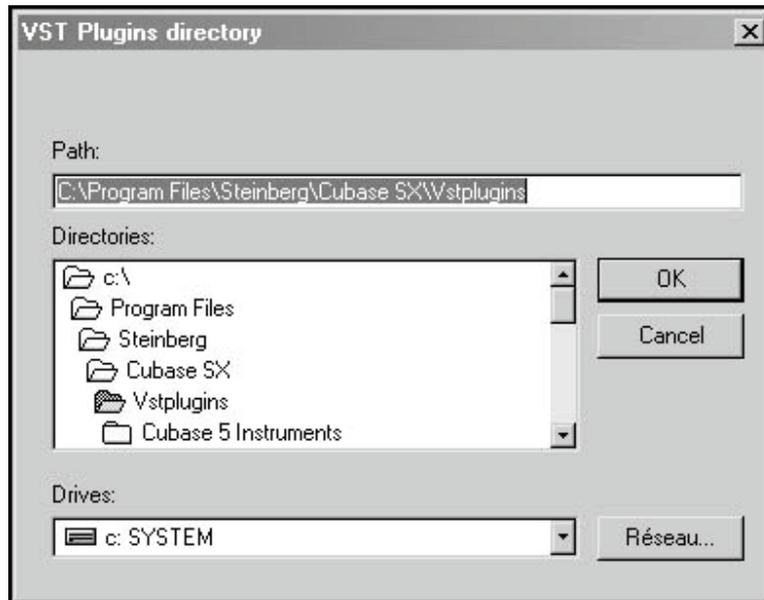
- ▶ Next, select the protocol(s) that you wish to install. The available options are:
  - The VST plug-in
  - The RTAS plug-in



*Choose your protocol*

For more information on those protocols, please see to chapter 4 of this manual.

- ▶ For the installation of the VST and RTAS protocols, you should select the installation folder of these plug-ins to allow the host application to use them. If you don't know how to do this, go to the Protocol Chapter (Ch. 4).



*Select installation folder for plug-ins*

- ▶ A dialogue box will ask you if you wish to have a shortcut on your desktop. This will give you access to the standalone application.



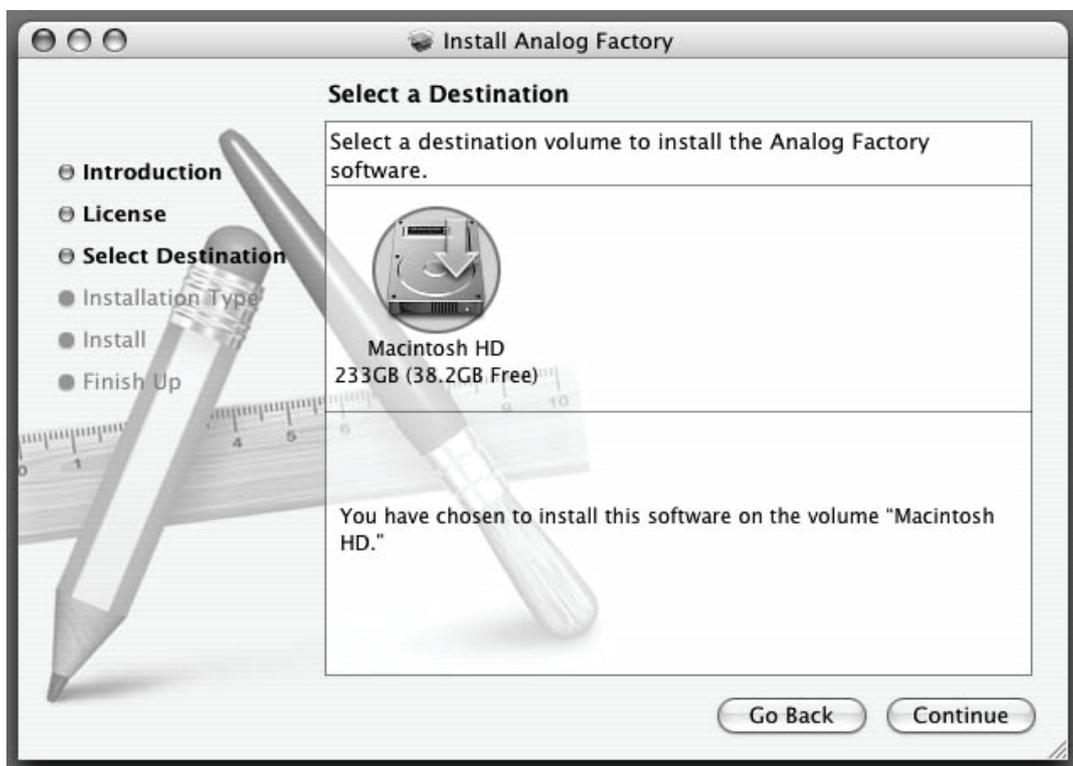
*Shortcut to your desktop*

- ▶ The installation program will then ask to install the Syncrosoft drivers. These drivers are necessary for the protection key; for the ANALOG FACTORY to function properly the latest version of Syncrosoft must be installed. If you are sure that your system possesses the most recent Syncrosoft drivers, you can click on the "Cancel" button. Otherwise, click "OK".
- ▶ Next, the installation program proceeds with installation of the Syncrosoft E-licenser driver and License Control Center. In order to do this, it will execute the available Syncrosoft installer of the CD-Rom. Follow the instructions of the installer.

The installation program now has enough information to finish. In a few seconds you will be able to use Analog Factory.

## 2.3 Installation Mac OSX

- ▶ Insert the CD-ROM into the drive. Explore the contents of the CD-ROM, and double click on the icon called <<Analog Factory.pkg>>.
- ▶ The installation program, requiring administrative rights, may have the system ask you to enter the login of an administrative user of the system. In this case, enter your login and administrative password, and click on OK to continue the installation.
- ▶ After the software license has been validated, the installation program will select the system disc as target by default. It's not possible to install Analog Factory on another disc. Click on continue to proceed with the installation.



*Choice of installation disc*

Analog Factory will automatically install as a standalone application (functioning independently and apart from any sequencer host). In the same way, all the available protocols (VST, Audio Unit and RTAS/HTDM) will be installed. For more information on those protocols, go to chapter 4.

Next, the installation program proceeds with installation of the Syncrosoft key driver and License Control Center. In order to do this, it will execute the available Syncrosoft installer of the CD-Rom. Follow the instructions of the installer.

The standalone application will be installed in the applications folder, and the different plug-ins will be installed in folders reserved to each type of plug-in.

## **2.4 Registration**

Once your software has been installed, we recommend to you to register online as a licensed Analog Factory user. This registry isn't obligatory, but it is highly advised. It gives you the access to reserved resources for new presets and will make you the first to know when updates are made available.

There is a product registry card in your software box, which contains your Arturia license. This license permits you to register and identify yourself as an Arturia customer. It will be asked for when you are registering.

You will find this registry form at this address:

<http://www.arturia.com/en/userzone.php>

## 3 Using Analog Factory

### 3.1 Preferences

Preferences are set in Analog Factory by clicking on the *Analog Factory* logo on the virtual keyboard. The following options are available:

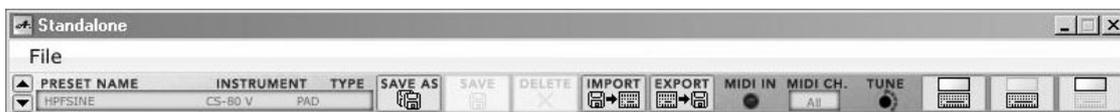
**SHOW ANIMATION:** choose to activate or deactivate the animation (keyboard and Preset Manager folding).

**SHOW CONTROL POPUP WHEN: MOUSE CLICKS ON CONTROL:** a small popup window appears each time that the mouse clicks on a modifiable parameter in order to give information about the parameter and modifiable values. Choose **ON** to activate this preference, or **OFF** to deactivate it. Default is ON.

**SHOW CONTROL POPUP WHEN: MOUSE RESTS ON CONTROL:** a popup window will appear when the mouse is left upon a modifiable parameter giving information about the parameter and the modifiable values. Choose ON to activate this preference, or OFF to deactivate it. Default is ON.

**LCD COLOR:** this function offers a choice between several available colors/combinations on the Preset Manager screen.

### 3.2 Tool Bar



*Tool Bar*

The tool bar consists of an ensemble of essential icons for the ANALOG FACTORY organized from left to right allowing the user to see/have access to:

1. **Preset, Instrument, and Type Names:** Name of the current preset, name of the Instrument, and the Type of instrument.
2. **Save As:** saving Presets (sound programming). This function allows the user to save a preset which has modified, including giving it a new name. This new preset will be a USER Preset and not a FACTORY Preset (which cannot be modified). When one chooses the "Save As" function, a window opens allowing the user to name and classify the new preset according to TYPE and CHARACTERISTICS).

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**NOTE :** So that the foundations of the instrument remain intact, it is not possible to save or delete a Factory Preset (Presets that come installed in the software). However, the Save As function allows the modification and saving of a Preset under another name that the user chooses.

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3. **SAVE:** permits one to save a USER Preset.
4. **DELETE:** you can delete any USER preset with this function.
5. **IMPORT:** Permits the user to import a document containing the USER Presets for Analog Factory (allowing you to add Presets from your personal collection). The document referred to is called "\*.afpresets". To import, click on IMPORT and then the local "\*.afpresets" document in your computer. If the document(s) being imported have the same name as existing Presets, the following options will appear: Duplicate, Replace or Skip. "Duplicate" leaves two presets with the same name listed in the Preset Manager. "Replace" will replace the current preset with the same name with that of the one being imported. "Skip" will stop the new preset from being imported.
6. **EXPORT:** Choose this function to export USER Presets. Click on "Export", choose the destination of the "\*.afpresets" document which will be created, and give it a name.

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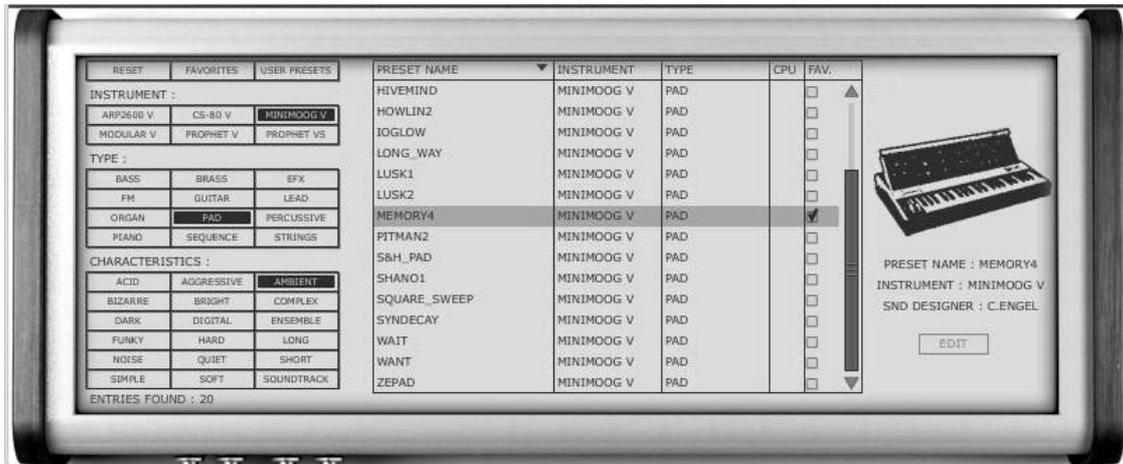
**NOTE:** so that the foundation of Analog Factory remains intact, it is not possible to Import/Export Factory Presets.

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7. **MIDI IN:** light signaling MIDI activity (will illuminate when a note from an external MIDI controller or keyboard is pushed)
8. **Channel Select:** this drop-down menu offers the channel choice from which Analog Factory receives MIDI information. Default is OMNI (responds to data on all MIDI channels).
9. **TUNE:** general settings for the tuning of Analog Factory. This allows the user to finely tune the general tuning of the instrument.
10. **VIEW:** choose the view of the interface. The selection buttons offer the choice to View all of Analog Factory, only the Preset manager, or only the Keyboard.

### **3.3 Using Preset Manager**

Presets account for the various sounds of Analog Factory: there are 2000! A preset contains all the settings information of the different controllers necessary to reproduce a sound. In Analog Factory, there are various ways in which the Presets are classed and filtered in order to simplify preset management and find the appropriate sounds for a song; one won't have to search 2000 presets to find the desired sound. These filters are listed on the left of the Preset Manager Menu and presented as follows: Instrument, Type, and Characteristicss. Let us take a moment to look at each.



*Preset Manager*

### 3.3.1 Instrument

“Instrument” refers to one of the 6 instruments from which Analog Factory draws its sound. The instruments include:

- Moog Modular V
- CS-80 V
- minimoog V
- Arp 2600 V
- Prophet V
- Prophet VS

If, for example, one clicks on CS-80 V, the Preset Manager will provide a list of presets uniquely from the CS-80 V. But one can also chose to browse for more than one Instrument; that means the user can look for sounds from CS-80 V and Arp 2600 V at the same time by selecting both instruments in the “Instrument” frame. When no Instruments are selected for preset filtering, then the Manager will either automatically list all presets or list presets based on other filters.

All presets are listed to the immediate right of the filters under Preset Name.

### 3.3.2 Type

“Type” refers to instrument type being synthesized. Just as in the above example, one may select only “Type” to have access to the list below:

- Bass
- Pad

- Lead
- EFX (sound effect)
- FM
- Brass
- Percussive
- Sequence
- Strings
- Guitar
- Organ
- Piano

As with the Instrument filter, one can choose one or more Types of presets. By selecting only BASS, the user will be given a list that contains only bass presets, and if one chooses BASS and STRINGS both Types will be provided.

The user may also search deeper by selecting and combining the different filters. For example, one may choose BASS, PAD, and STRINGS under the Type filter and MOOG MODULAR V and ARP 2600 V in the Instruments filter. The Preset Manager will then offer a list fulfilling only the above criteria.

### **3.3.3 Characteristics**

To further filter the choices, there is a third filter offered. "Characteristics" allows the user to choose presets according to a mood or ambiance. The choices available are as follows:

- Bright
- Dark
- Aggressive
- Quiet
- Hard
- Soft
- Complex
- Simple
- Short
- Long

- Bizarre
- Acid
- Ambient
- Digital
- Ensemble
- Noise
- SoundTrack
- Funky

Once again, these filters can be applied either individually or in any combination that the user wishes in order to find the ideal presets.

### 3.3.4 Entries Found

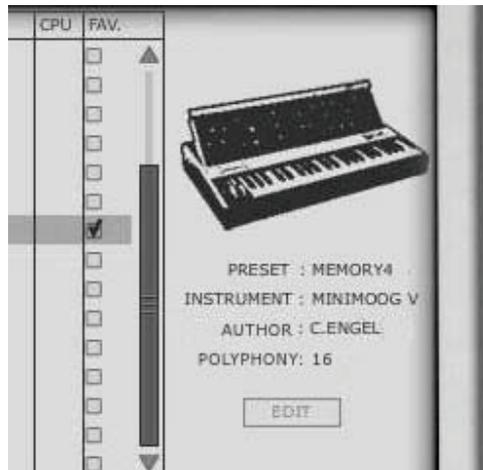
This number, found at the bottom right of the Preset Manager, indicates the amount of Presets that correspond to a preset search.

### 3.3.5 Filter Options

Above the filters are three buttons: Reset, Favorites, and User. These buttons function as follows:

- RESET** : removes any filters that the user may have applied to the presets so that a new search may be started.
- FAVORITES** : presents only the favorites that the user has checked in the favorites list (see 3.2.7). When the Favorites Filter Option is selected, then the filters (Instrument, Type, and Characteristics) will be applied only to the list of favorites.
- USER** : an abbreviation of USER PRESETS. Since the user can modify and create new presets, he may also choose the Filter Option "USER" in order to view and search among only the presets created by the user.

### 3.3.6 Current Preset Information



Information on the current preset, or an "Identity Card", is found to the right of the Preset Manager. An image of the original instrument which the preset is based upon is presented along with the following information:

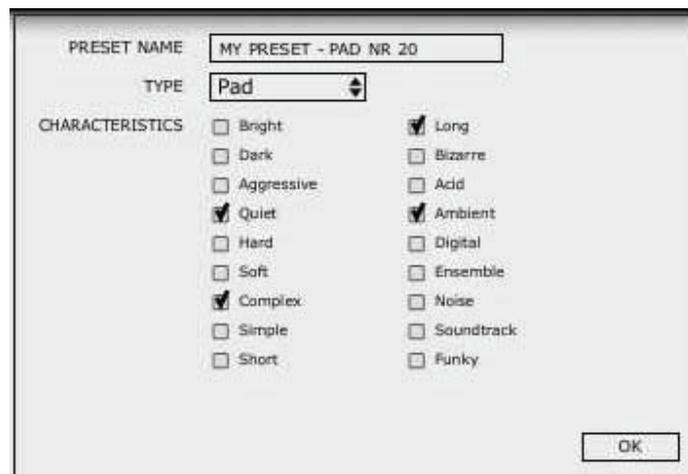
**Preset:** the name of the current preset

**Instrument:** the name of the virtual instrument

**Author:** the name of the sound designer who created the preset

**Polyphony:** this shows the number of available voices for the current preset.

**EDIT PRESET** : if the current preset selected is a USER Preset, it is possible to edit its information. By clicking on this option, a window similar to that of the Save As function appears. It is possible to change the Preset Name, Type (Bass, Brass, Pad, Lead, etc ...) and the Characteristics (one must simply click in the boxes corresponding to the 18 possible options: Bright, Dark, Aggressive, Quiet, Hard, Soft, etc...).



*EDIT Preset Window*

### 3.3.7 Organisation

In addition to the Preset Filters that help the user easily search and select among the 2000 various presets, there are also view options within the Preset Manager that permit the user to choose how the presets are listed.

When the user selects the filter criteria, the list of Presets appears in a vertical column in the middle of the screen under **Preset Name**. By default, the presets will be listed automatically in alphabetical order from A to Z under Preset Name. However, if the user prefers, the presets can be arranged on the screen according to other criteria in the adjacent columns:

- INSTRUMENT** : in this column, the name of the original instrument that produced the sound is offered for each preset. Therefore, it will list among the following instruments: minimoog, Moog Modular V, ARP 2600 V, CS-80 V, Prophet 5 or Prophet VS. When the user clicks on the title bar labeled Instrument, the columns will reorganize alphabetically under the Instrument column.
- TYPE** : in this column, the TYPE of instrument appears corresponding to each preset. By clicking at the top of the column on the TYPE title bar, the presets presented will be listed alphabetically according to TYPE in the same column.
- CPU** : in this column, the CPU usage rate appears for each preset. By clicking the title bar labeled CPU at the top of this column, the presets will be arranged on a scale from 1 to 5. 1 represents a weak CPU usage rate while 5 represents a strong CPU usage rate.
- FAVORITES** : (**FAV**) permits the user to classify presets according to usage or general preference as one does in popular media players. Simply check one's favorite presets and access them by clicking the title bar at the top of the column. One may also easily access the Favorites with the Favorites Filter Option.

### 3.4 Keyboard View

The Keyboard view of Analog Factory (accessed either by the "Keyboard" or "All" view in the toolbar) gives the user access to both the virtual keyboard and all the controls with which the user can modify the sound of the presets. We will take a moment now to look at those controls.

#### 3.4.1 Virtual Keyboard

The knob called "**LEVEL**" controls the general volume of Analog Factory. The more the knob is turned to the right the higher the output level is raised.

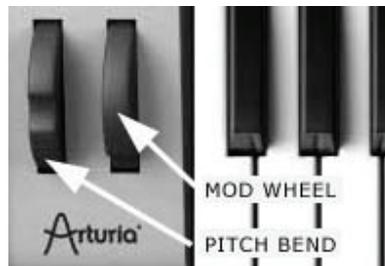
The virtual keyboard visually presents 32 keys and allows one to produce the sounds of Analog Factory without the need for an external master MIDI keyboard. With the aid of the *TRANSPOSE function* found to the left of the virtual keyboard above the modulation wheels, the user may scroll up or down the keyboard for notes in higher or lower ranges than is visually presented.



*Virtual Keyboard*

### 3.4.2 The Wheels

The wheels found on the left side of the virtual keyboard, give the user control over the frequency of the sound ("PITCH") and the modulation rate ("MOD").



*Wheels*

**PITCH WHEEL** : Wheel controlling the pitch of the tone. When pushed in the up direction, the sound "bends" and becomes higher in tune. When pushed in the Down direction, the sound "bends" and becomes lower in tune.

**MOD** : Wheel controlling modulation (MIDI controller #1)

### 3.4.3 Filter



*Filter*

**CutOff** : modifies the cut-off frequency (this filter has the ability to make the sound more or less bright by controlling the amount of high frequencies)

**Resonance** : **(RESO)** modifies the resonance of the filter (the sound becomes more “cutting” when the parameter is pushed)

### 3.4.4 LFO

The LFO, Low Frequency Oscillator, is used as a modulation source for Analog Factory’s sound. It allows the user to create variations in a sound parameter to generate diverse effects such as a vibrato, “wahwah” effect, etc. The two parameters that may be modulated within the LFO are:



*LFO*

**Rate** : knob setting the LFO rate/speed

**Amount:** knob setting for the amount of LFO modulation

### 3.4.5 Key Parameters

The key parameters section will prove to be particularly useful. This section is found in the middle of the *Keyboard View* and labelled with the aforementioned name (*Key Parameters*).



*Key Parameters*

Each preset offers the four most pertinent parameters unique to that preset. Our sound designers have taken the greatest care to assign parameters that will enrich and give depth to the sound of each preset. In this way, only the parameters that are the most beneficial when modifying/tweaking a given sound are available, facilitating the production process.

To know which 4 parameters have been selected for each preset, one must simply point the mouse over a Key Parameter knob and an information block will appear specifying the parameter name.

### **3.4.6 FX MIX (Effects Mix)**

Analog Factory also carries a simple yet efficient effects section. The two effects, Chorus and Delay, are automatically synchronized to the tempo of a piece in the user's sequencer. If none the less, the user wishes to access more advanced effects, they are available in most sequencer programs (Cubase, Garage Band, Pro Tools, to name just a few).



*FX MIX*

**Chorus** : the Chorus effect permits one to double and detune the sound in order to make it deeper and richer. The Chorus MIX controls the amount of Chorus applied to the original sound, making it more wet or dry.

**Delay** : the Delay carries an echo effect (repetition of the sound) that gives space to the tone. The speed of these repetitions is automatically synchronized to MIDI tempo (the tempo of a song in the host sequencer). The user simply has to adjust the Delay MIX knob to control the quantity of the effect.

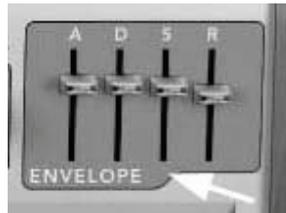
### **3.4.7 ADSR faders**

The "ADSR" envelope is composed of four successive sequential periods in the life of a note: Attack time, Decay time, Sustain time, and the Release time.

**ATTACK** : begins when a note is activated. The Attack time may be short and dry (as in percussion) or long and ascending (as with a pad sound)

- DECAY** : follows the Attack. The Decay is a period in which the amplitude of the sound is reduced to the sustain level.
- SUSTAIN** : the sustain of the note, as long as the note is active/held
- RELEASE** : the end of the sound. The release can be short or stretch out over a longer duration

Thanks to these 4 faders (A, D, S, and R) one can very simply edit the amplitude curve envelope of each sound within Analog Factory. If, for example, one finds a sound pleasant but the attack is too long, he can use the A fader to reduce it.



« ADSR » envelope

As will be described in the following paragraphs, the diverse parameters of Analog Factory can be controlled from an external MIDI keyboard making the manipulation of the instrument much more practical and quicker than manipulations with a mouse. It is in this spirit that the instrument was created. It is recommended to use Analog Factory with an external MIDI keyboard.

### 3.4.8 SNAPSHOT Buttons



Snapshot buttons

The Snapshot buttons are found at the top left hand corner of the Keyboard view. These eight buttons allow the user to quickly save any preset being used, along with modifications that may have been made to them, for easy access. These 8 snapshots are automatically saved when Analog Factory closes and will be automatically available when the program is reopened.

This feature is especially useful when an artist plays live because these 8 Snapshots can then be easily accessed from a MIDI interface. This means that the user can stock 8 favorite presets along with any modifications previously made, and have everything needed at the touch of a button on a MIDI interface during a live session without referencing the computer screen.

It can also be useful for comparing modifications to sound in order to choose which fits best into a musical production. For example one could store 8 different states of the same preset: first state or original, second with the Cutoff applied, third state using the delay, etc...

#### **To take a Snapshot:**

Simply **Shift+Click** on one of the buttons in order to save the preset currently being used.

Then, later, to recall the preset along with any modifications that may have been made to it, click on the same button.

If the same **Shift+Click** operation is done on the same button, then the current Snapshot will be replaced without prompting the user.

### 3.4.9 MIDI control

Most of the knobs, sliders, and switches on the Analog Factory can be manipulated with external MIDI controllers, and this is ideally the way they should be controlled, in order to get a high level of usability. Before anything else, the user should make sure that the MIDI device being used is correctly connected to the computer, and that the sequencer or the Analog Factory application is correctly configured to receive MIDI events coming from the device.

Every instance of the Analog Factory receives MIDI events transmitted on a given channel. This reception channel is defined in a global manner for the synthesizer, either in the sequencer, or in the standalone Analog Factory application. On the reception channel, the Analog Factory can receive different MIDI controls.

It is possible to choose a reception control for each knob, which means assigning an external controller to a given parameter. For this, one should **click on the knob being used while holding down the Control key**. A configuration window appears and offers the choice of a MIDI control number. The user can also click on the «Learn» button and move one of the physical MIDI controllers. In this case, the control number will be detected and configured automatically. To deactivate the MIDI control of a knob, simply uncheck the «Active» option in the MIDI control window.



## 4 Modes of Operation

### 4.1 Stand-alone and Midi-Configuration

The stand-alone application allows the use of the ANALOG FACTORY outside of any host application. You can open the instrument from its location in the start menu or on your desktop, and play directly with the help of a master MIDI keyboard or external sequencer on a separate computer.

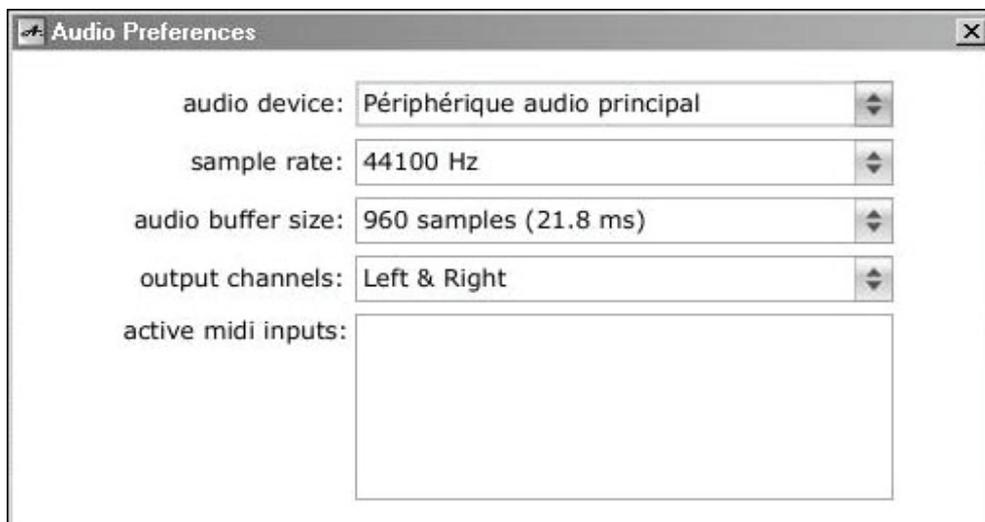
#### 4.1.1 Launching the Stand-alone application

To launch the Stand-alone application on your PC, go into the Start menu->Programs->Arturia-> ANALOG FACTORY and choose ANALOG FACTORY.

On a Macintosh, open the folder /Applications/ Arturia ANALOG FACTORY / and double click on the application icon ANALOG FACTORY.

#### 4.1.2 Preference Configuration

In order to access the preferences window, click on the menu "File -> Audio & Midi Preferences" (Macintosh and PC). This window allows you to configure the global preferences of the ANALOG FACTORY application. These are saved automatically.



*The preference window*

- Audio Device: Here, select the driver corresponding to the sound menu that you wish to use.

- **Sample Rate:** Here, choose the sampling frequency among those proposed by your sound menu. Note that a higher sampling frequency rate settings will demand increasing processor performance from your computer.
- **Audio Buffer Size:** Here, you can configure the optimal audio latency as it relates to performance of your sound card. Be careful with this setting, as a latency setting lower than your system can support can cause unwanted artifacts in the sound.
- **Output Channels:** Select the audio output channel. If the sound menu offers several outgoing channels, choose the pair of output channels that you wish to use.
- **Active MIDI input:** Select the MIDI devices you want to use to control the synthesizer.

## **4.2 VST**

### **4.2.1 Installation**

#### Under Windows

During installation, select the box <<VST>> among the proposed format choices of plug-ins. The installer will automatically detect the VST folder of the instruments used by Cubase. In the case of another compatible VST sequencer, such as Logic Audio, you will have to manually copy the plug-in file in the appropriate folder. You will be able to find this file after the installation in the folder:

C:\Program\Files\Arturia\ANALOG FACTORY\. The file is called ANALOG FACTORY.dll

#### Under Mac OSX

The VST plug-in is automatically installed in the folder of the system corresponding to the VST instruments: /Library/Audio/Plug-Ins/VST/. The VST plug-in will be usable by all your VST host applications.

### **4.2.2 Instrument use in the VST mode**

The opening of VST ANALOG FACTORY plug-ins is the same as opening all other VST plug-ins. Please consult the instruction manual of your host sequencer for more specific information. Under Cubase SX, open the menu / VST Instruments, and choose ANALOG FACTORY in the rack



*Analog Factory opening in Cubase SX3*

### Connection to a MIDI track

So that ANALOG FACTORY can play information coming from a MIDI track, you have to choose a MIDI track and select ANALOG FACTORY as MIDI <<output>> of this track. See the picture below for more detail on how this is accomplished.



*Connection of a MIDI track to ANALOG FACTORY*

The events played on a MIDI keyboard are recorded by your host sequencer, and now you can use the MIDI editing possibilities of the sequencer to control any parameter with ANALOG FACTORY.

### Saving of presets

When the session/project is saved, ANALOG FACTORY is saved in its last mode of operation, with all modifications intact. For instance, if you were working on a "P1" preset in which you have modified parameters (without saving them as a separate

voice in the plug-in itself), at the next opening of the piece, ANALOG FACTORY will load the "P1" preset and the modifications.

The drop-down menu with the VST sequencer allowing you to save a new voice is of course usable with ANALOG FACTORY. However, it is highly advised to use the ANALOG FACTORY internal menu: the presets saved in this way are usable in any other mode (standalone or other sequencer), they can be exported and exchanged more easily, and they will remain compatible with the future ANALOG FACTORY versions.

### Automation

The automation works the same with ANALOG FACTORY as with any VST plug-in (for more detail about automation, refer to the VST sequencer documentation).

## **4.3 Audio Unit (Max OSX only)**

### **4.3.1 Installation**

The Audio Unit plug-in is automatically installed in the folder reserved for this purpose, in /Library/Audio/Plug-Ins/Components/

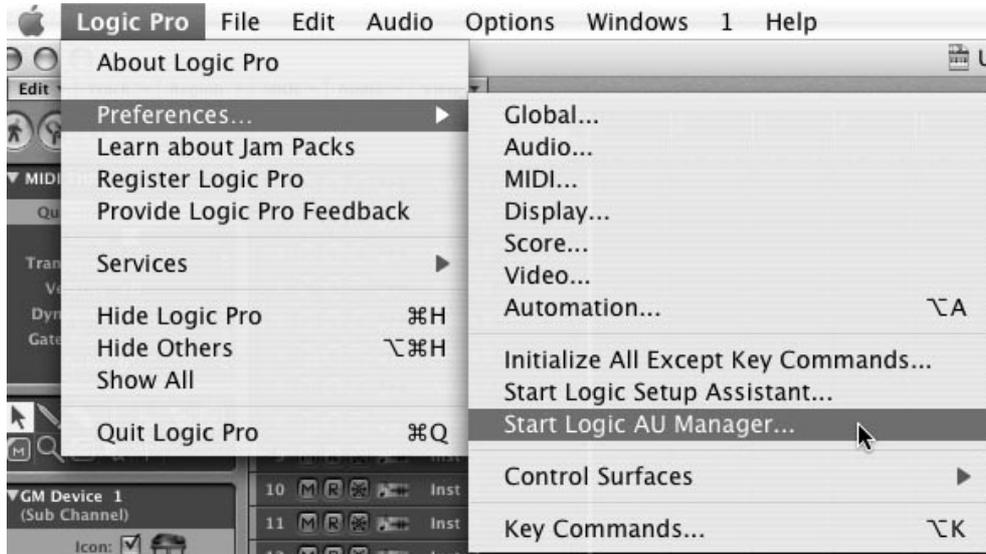
### **4.3.2 Use in Logic Audio**

Select an instrument track. On the slice of the mixer corresponding to the selected track, click on the button <<I/O>> to obtain the list of plug-ins, then select <<Stereo -> AU Instruments -> Arturia ANALOG FACTORY



*ANALOG FACTORY opening in Logic*

Since version 7, there has been an Audio Unit plug-in manager in Logic. To launch it, click on the menu <<Preferences -> Start Logic AU Manager>>



*Launching of the Audio Unit manager of Logic*

This Manager allows us to see the list of the available plug-ins, to test their compatibility with Logic, and to activate or de-activate them.

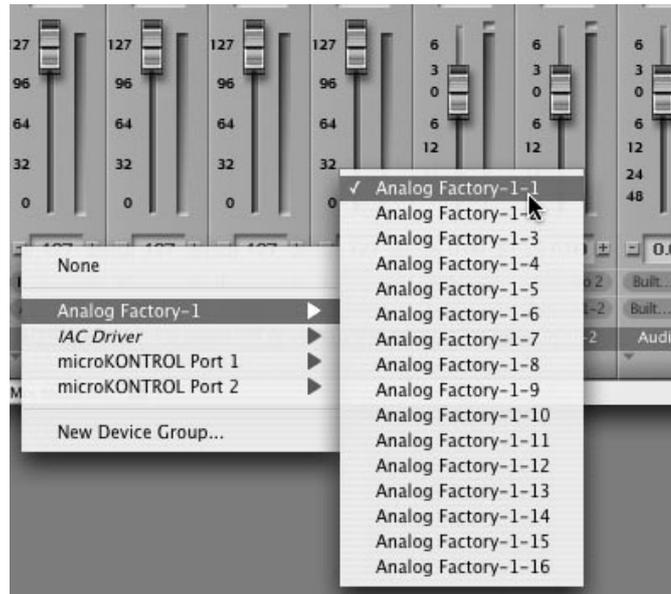
If it happens that one of the Arturia plug-ins poses a problem in Logic, start by checking that this plug-in has passed the compatibility test, and that it is actually selected for use.

### **4.3.3 Use in Digital Performer**

To add an instrument, choose the menu <<Project -> Add Track -> Instrument Track -> ANALOG FACTORY”

Opening of ANALOG FACTORY in the Digital Performer

Once you have added this instrument, it’s possible to assign a MIDI track to it. In the connection menu of the MIDI track, select the instrument and the MIDI channel that you want to use.



*Connection from a MIDI track to ANALOG FACTORY*

## **4.4 Pro Tools**

### **4.4.1 Installation**

On Mac OSX, the plug-in is directly installed in the folder reserved for the Pro Tools plug-ins, in /Library/Application Support/Digidesign/Plug-Ins/

On Windows, at the time of the installation procedure, select the RTAS plug-in among the proposed choices of plug-ins. Then, when the system asks, indicate the folder in which the other RTAS plug-ins are located.

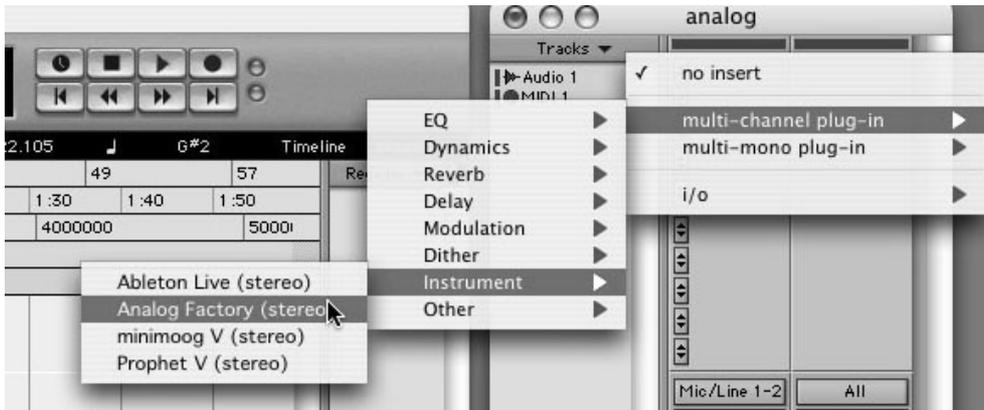
Usually, its access path is:

C:\Program Files\Common Files\Digidesign\DAE\Plug-Ins\

### **4.4.2 Utilization of the plug-in**

#### Opening of the plug-in

Access to the ANALOG FACTORY plug-in is like all other plug-ins, via an audio track insert:

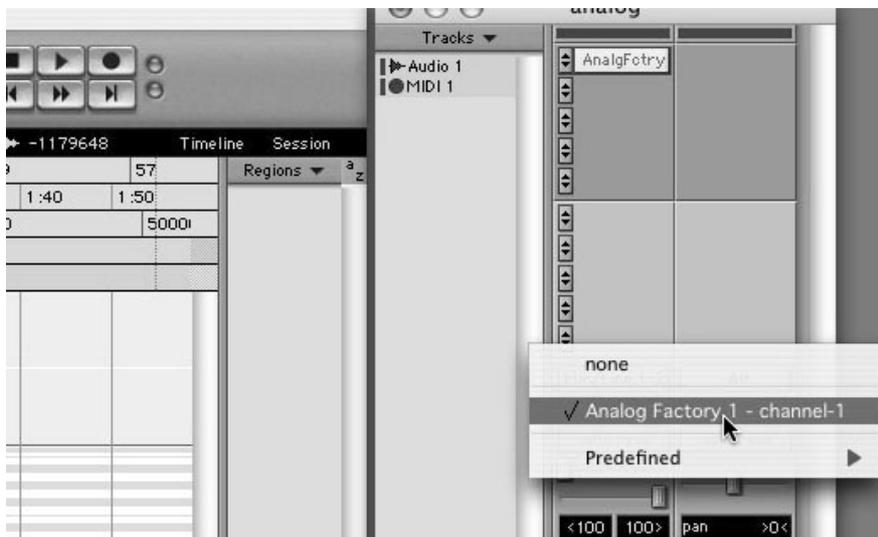


*Opening the ANALOG FACTORY in Pro Tools*

ANALOG FACTORY must be loaded on an audio stereo track. We can now make ANALOG FACTORY sounds by playing with the mouse on the virtual keyboard.

#### Connection to a MIDI channel

So that ANALOG FACTORY can play the information coming from a MIDI track, you have to associate it to a MIDI channel via the appropriate menu. (See the Pro Tools menu for more information on plug-in connection).



*Connecting a MIDI track to ANALOG FACTORY*

#### Saving the presets

When the session is saved, the status of ANALOG FACTORY is saved as it is, even if its programming does not correspond to the preset. For example, if you are working on a preset <<P1>> in which you have modified the parameters (without saving them in the plug-in itself), the next time you open the session, ANALOG FACTORY will charge the <<P1>> preset plus the modifications.

The <<Librarian Menu>> of Pro Tools is able to be used with ANALOG FACTORY like with all other plug-ins. Nevertheless, it is highly recommended to use the internal ANALOG FACTORY menu: with the presets saved like this, they are usable no matter which mode (standalone or other sequencer), and they can be exported, exchanged more easily, and will stay compatible with the future versions of ANALOG FACTORY.

#### Automation under Pro Tools

The automation function with ANALOG FACTORY like with all RTAS/HTDM plug-ins (make reference to the Pro Tools documentation for more details on the plug-in automations).

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