viscount Classical organs

Physis Explained

1. Introduction to Physis voicing flexibility

[Shot of presenter at console]
In this short tutorial we'll be taking a look at the voicing flexibility possible with Viscount's Physis-based organs. I'm going to introduce the features fairly briefly here, but you'll get more details in further tutorials later in this series. With the unprecedented flexibility of the Physis system, and a good pair of ears, either you or an expert voicer can design an organ sound that has exactly the characteristics you want. English diapasons or Italian principals are possible, for example, as are French bombardes or German krummhorns. Because the system is based on a novel form of sound synthesis, you don't need to buy big or expensive sample sets recorded in different countries to achieve this. The means to achieve the sound you want is available in every Physis organ.
[Presenter, with cut-ins of graphics from Italian videos]
Unlike sample-based classical organs, which use recordings of specific pipe sounds, Physis uses a recently developed method of synthesis that generates the pipe sounds from scratch using a process known as physical modelling. It's based on a computer model of a real pipe being excited by a flow of wind, so it can respond in a natural way to the small changes in wind pressure that happen, for example, when other pipes are sounding, or when the bellows are sagging. Because they're not based on fixed samples and don't loop sections of a note over and over again, the pipe sounds can adapt dynamically. The start-up chiff and attack time can change depending on how fast you press the keys, like a pipe organ with mechanical action.

[Shot of control panel home screen]
This is the Physis control panel that exists on all Viscount's organs. You can control most voicing features from here, without having to resort to complicated software and a laptop. If you don't want anyone fiddling with your settings, you can then lock them!

And by the way, if you're technically faint-hearted, you don't *have* to touch any of this, as your organ will come set up with a number of preset voicing styles. You can simply sit down and play it.

We're going to take a look at the available styles.

[Control panel, style selection]
As you can see here there are four named voicing styles, such as English, Baroque, Romantic, Symphonic, which can't be changed. An expert voicer has already set these up to be useful starting points, particularly for off-the-shelf organs with

internal loudspeakers. If you have a custom-built instrument, in a church say, then it will need voicing for that particular building and installation. There are therefore four user-programmable styles that can be set up as you wish, and these initially contain editable copies of the preset styles.

[Control panel, alternative voices, diapason]
At the most basic level, it's possible to choose pipe sounds from a library of voices that have already been set up. Here we're looking at the options for a diapason or principal stop. A whole list of different diapasons and principals is available. You can see from the names that they include some French-sounding montres, some German prinzipals and some English diapasons, among others. We can hear a few of them by selecting them in the list. They're not samples, just different pipe models used by the system to generate the sound in real time.

[Animation from Viscount]
When different pipe sounds are created in the lab it's possible to change life-like voicing parameters such as the diameter of the pipe and the height of the mouth, with effects just like those encountered in physical pipe voicing.

[Control panel, overview of voicing parameters, flue pipe]
The controls available to you have been reduced to a more limited number, as you can see here, so you don't have to be a pipe acoustics expert to make some modifications.

For example, you can alter the Character of a voice, which is roughly equivalent to changing the diameter of the pipe from a wide-scaled one to a narrow-scaled one, with consequent effects on the tone—from a relatively mellow sound at the bottom end, to a bright, chiffy sound at the top.

You can alter the amount of wind noise from the pipe, which makes an important difference to the degree of realism, from very little at the bottom to a very breathy sound at the top.

[Presenter]
Those are just a few of the many things you can do to tailor the sound of your Physis instrument. I haven't said anything yet about the numerous tuning and winding options, the tracker touch adjustments, or the remaining voicing parameters, so please take a look at the other videos in this series as they appear if you'd like to know more.