Apex Intelli-X   Real-Time Speaker management

## Preliminary Quick overview/guide

1.1. Connections

Connect the Intelli-X to your PC via a standard 9 pin Sub-D cable (pin to pin) or via a standard USB cable. You can also use a USB to serial conversion cable to connect the 9-pin port on the Intelli-X to the USB port of your PC. You can connect further Intelli-X and/or Intelli-Q devices using standard network cables. The Apex link-bus is situated on the rear of the device; just connect the devices OUT port to IN port.

All audio connections are via balanced XLR connectors on the back. 4 inputs and 8 outputs are available. You can use the same input 1 and input 3 for connecting a digital AES/EBU signal. Selection of the format (analogue or digital) is via the software).

1.2. How to install the software

Important: the software only runs under Windows 2000® or Windows XP®. We recommend using Windows XP®.

Run the install.exe and follow the instructions. When the installation is finished, you have to select the correct COM-port in the software (not necessary when you use the USB connection). You click on [Intelli-Q] in the top left corner on the screen. Then you select [Serial port] and choose the correct COM-port.
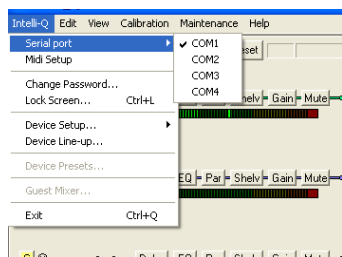
The software will now scan that port for connected Intelli-X's and Intelli-Q's.

1.3. How to line-up the devices

You can now see al the connected Intelli-Q/Xs randomly listed at the right. If you want them to appear in the same order that you have stacked them you can do this with [Device Line-up]. Click on [Intelli-Q] in the top left corner, and then choose [Device Line-up].
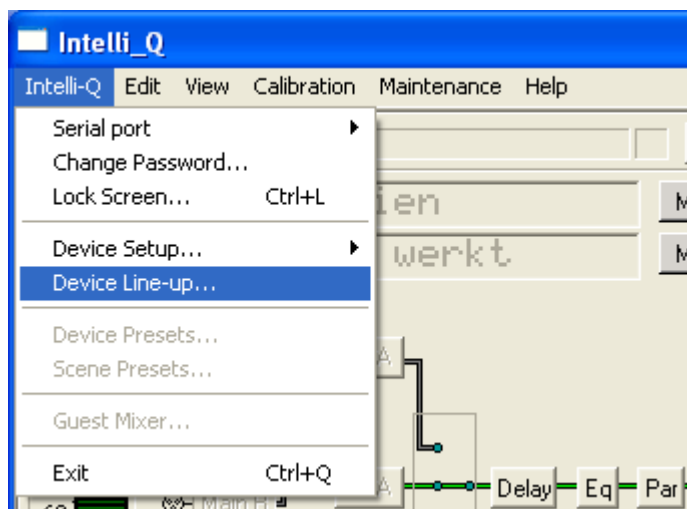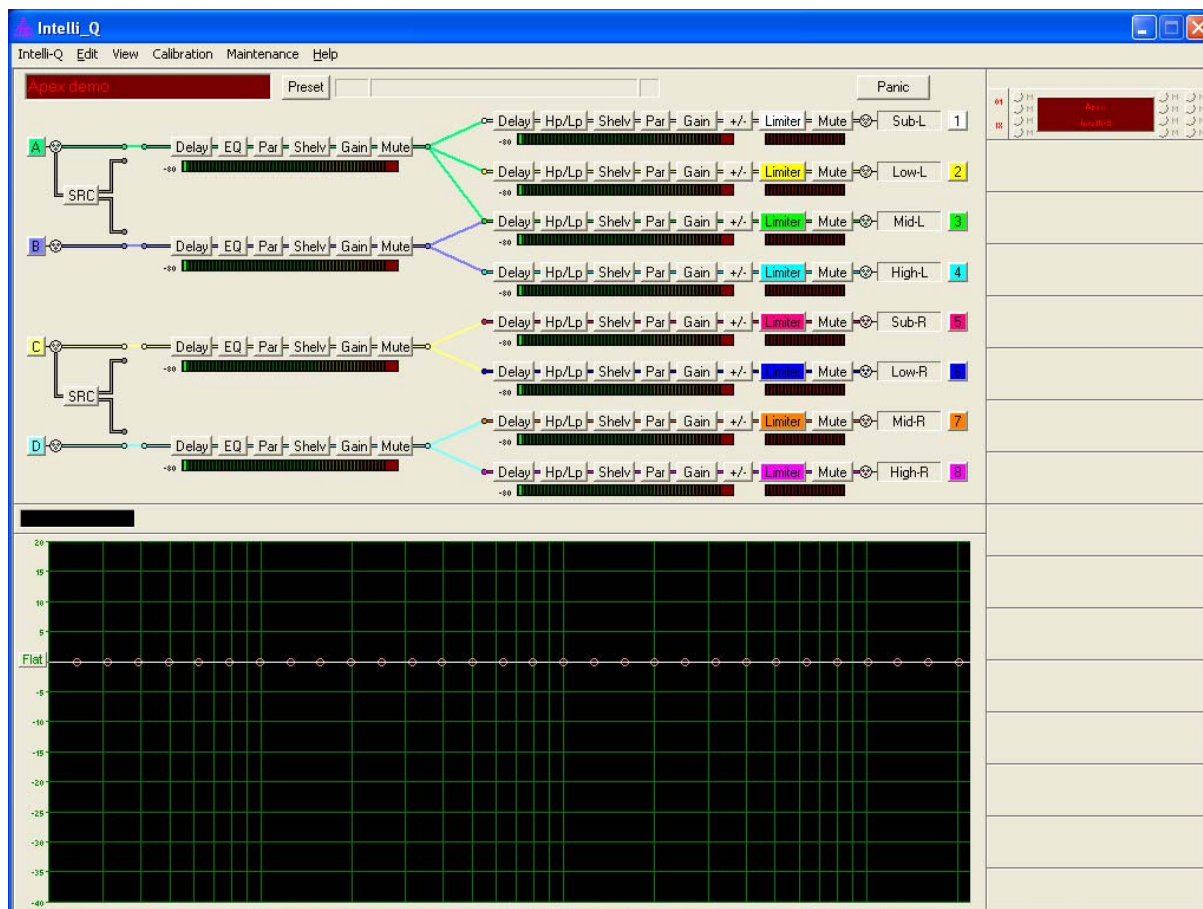
Next screen will appear:

Now press on the [GUI Readout] button from the Intelli-Q/X that is located on the top. Do this also for the device that is located underneath the top Intelli-Q/X. And do so for al the devices you have, systematically going down to the bottom device.

How to use the software

2.0 Input signal processing

If you are used to work with the Apex Intelli-Q, you will have no problem getting used to the Intelli-X, the same logic has been applied. In the top left of the screen you see the name of the device you have selected with the mouse from the list on the right of the screen. Click in the red name field to be able to alter or change the name.

The [PRESET] button next to the name field let you quickly select and load presets you have stored. The [Panic] button further to the right will mute all outputs in case of unexpected behavior.

The rest top-half of the page consists of a graphical representation of the signal flow in the Intelli-X, going from left to right.

Completely on the left you will see your 4 inputs (A,B,C and D). Moving the selector to the output of the SRC will select the digital signal applied to input A or C. The SRC is working permanently assuring that almost all valid digital input signals are converted to the correct internal working sample rate.

2.1. Input Delay

Next in line is the [DELAY] button, hitting this button will open the next window:
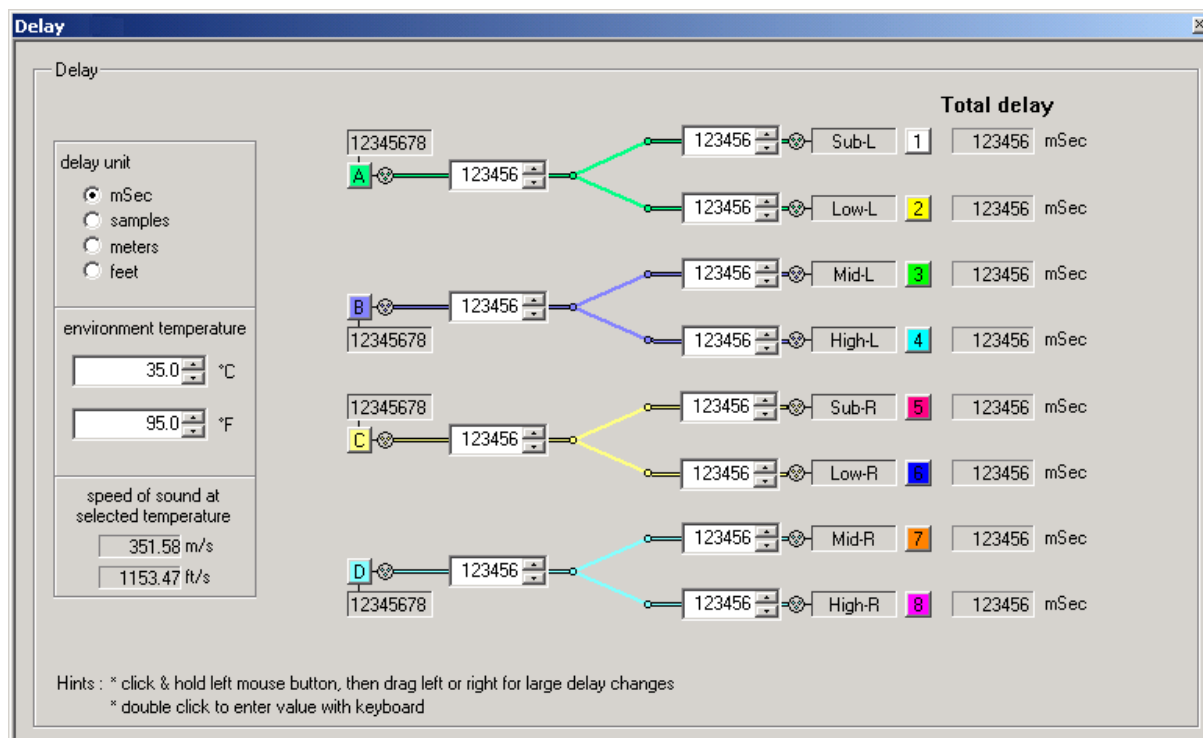
All the different [DELAY] buttons will open this same window which gives you an overview of all your input and output delay settings. You can set the delay for each input and output in different ways:
- Double click in the relevant small delay value window and enter the required value
- Change the relevant delay with the up and down arrows next to it
- Click and hold left mouse button, then drag left or right for large/fast delay changes

On the left of the Delay window you can select in which units you want to see/set the delay values, you can select between mSec, samples, meters or feet. Underneath this selection you change the value of the environment temperature in °C (Celsius) or °F (Fahrenheit). **IMPORTANT:** there is no temperature probe and measuring system in the Intelli-X, you will have to use a standard temperature meter and adjust the value in the delay window if required. The indication of the speed of sound at selected temperature is there for your reference and will change in accordance with the temperature setting.

2.2. Input Graphic Equaliser

At the right of the [DELAY] button is the [EQ] button. This will open the graphic EQ overview window, select your relevant input with the 4 tabs. (Window not yet finished)
Another way to select the graphic EQ is to click on the relevant input (A, B, C or D), the bottom half of the page will show the EQ settings of that channel. You can grab each of the 30 available bands (right mouse click the small red circle, hold and drag) and set the necessary amount of boost or cut. You can also drag a complete curve over all the bands. You can even right mouse click on every band to change that band's Q-factor between the following values: 3, 3.5, 4, 4.5 and 5. This unique feature let you adjust the width of each band to really fine trim your settings. On the left of the graphic section you will find a
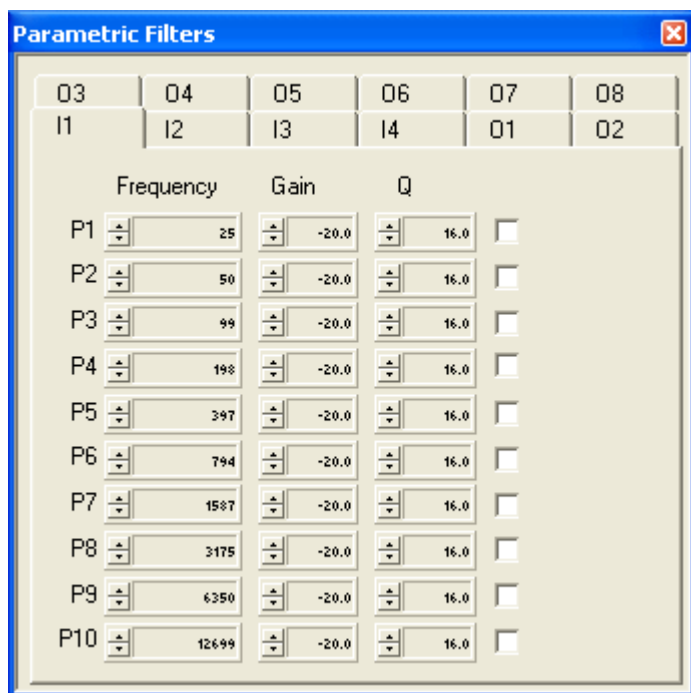
[FLAT] button, it does exactly what it says: it will flatten your EQ curve so you can start from scratch.
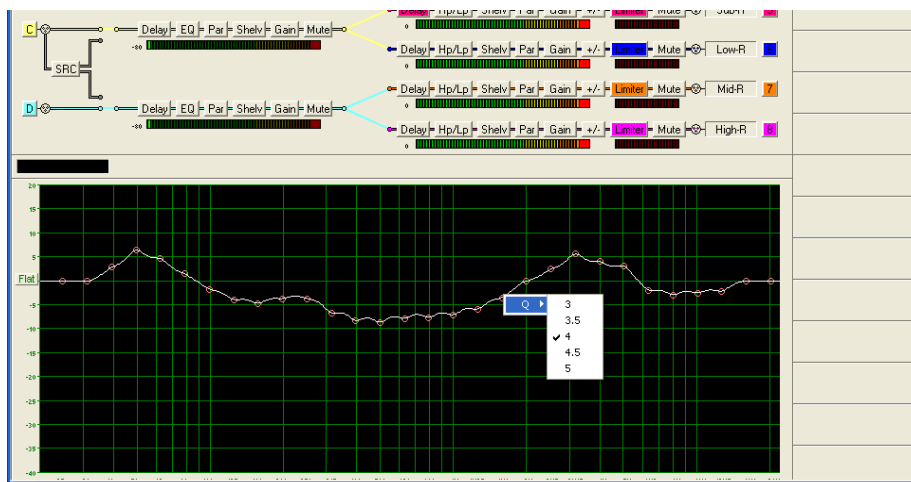
## 2.3. Input Parametric EQ

Next in line is the [Par] button that opens the parametric EQ overview window:

10 full parametric filters are available on every input. 8 full parametric filters are available on every output. All the [Par] buttons (on in and outputs) will open this same window. You can select the relevant input or output by selecting the corresponding tab. You activate a parametric filter by selecting it on the right hand side. When you select a filter, a graphic representation will appear in the graphic window of the relevant input (output). You can now

adjust the filter-values in different ways. Again you can enter values with the keyboard, use the up/down arrows or right mouse click and drag. The other option is to adjust your parametric filter in the graphics window: just click and drag the handles.
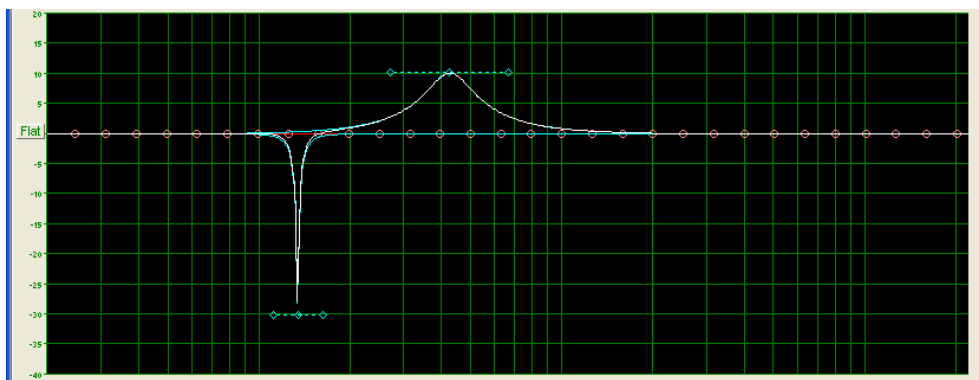
Note: In the graphics window the resultant curve: the combination of all filters in use will show in white.

2.4. Input Shelving EQ

Clicking the next button in line [Shelv] will open the Shelving Filter Overview Window:
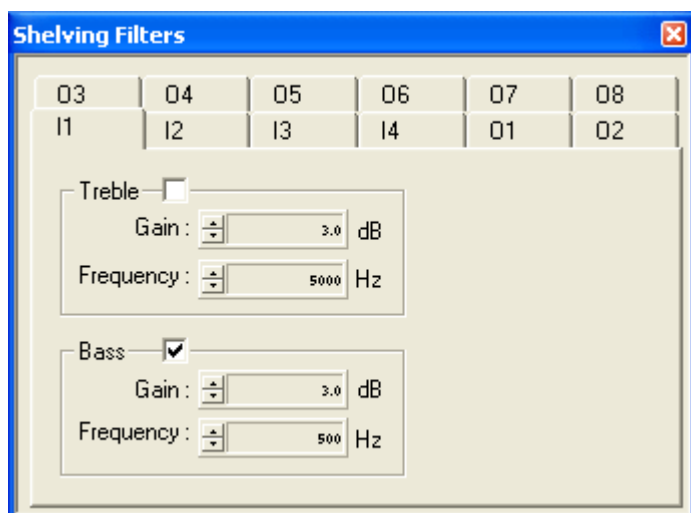
You should be now being able to figure out for yourself how it works. It is always the same logic: you can select the relevant input or output via the tabs. Hi and Low shelving are available on all inputs and outputs. Again: selecting a high or low shelving filter will make it appear in the relevant graphics screen. Grab the handle and you can adjust the curve.

2.5. Input Gain Settings

Clicking the [Gain] button opens the next window:

All gain buttons will open this gain overview window. Most of the functions are self-explanatory. Adjust the relevant gain by grabbing the fader and moving it, by using the up/down arrows or by entering the correct value with the keyboard.

The twelve peakmeters give you an accurate indication of the levels. Underneath each peakmeter you will find the indication of the maximum reached peak level. Clicking this small window will reset the peak indication. You can change the polarity of every input and output by clicking the [Polarity] button. And the [Mute] button? Well, it mutes the relevant input/output but we suppose you already figured that one out.

You will find a [Mute] button for every input and output in the overview window: it works in parallel with those in the gain overview window.

2.6. Routing

The Apex Intelli-X has absolutely no limits in routing your signal. Every signal can be send to every output. Input signals can be combined. If you can dream it, you can route it. To route an input signal to an output: move the cursor over the small circle at the right of the [Mute] button, right mouse click, go to outputs and select the required output you want the input signal to route to. You will have to repeat this step for every output you want to route the input to. Just deselect an output in the same way if you have made a mistake or select 'remove all' if you want to start from scratch.
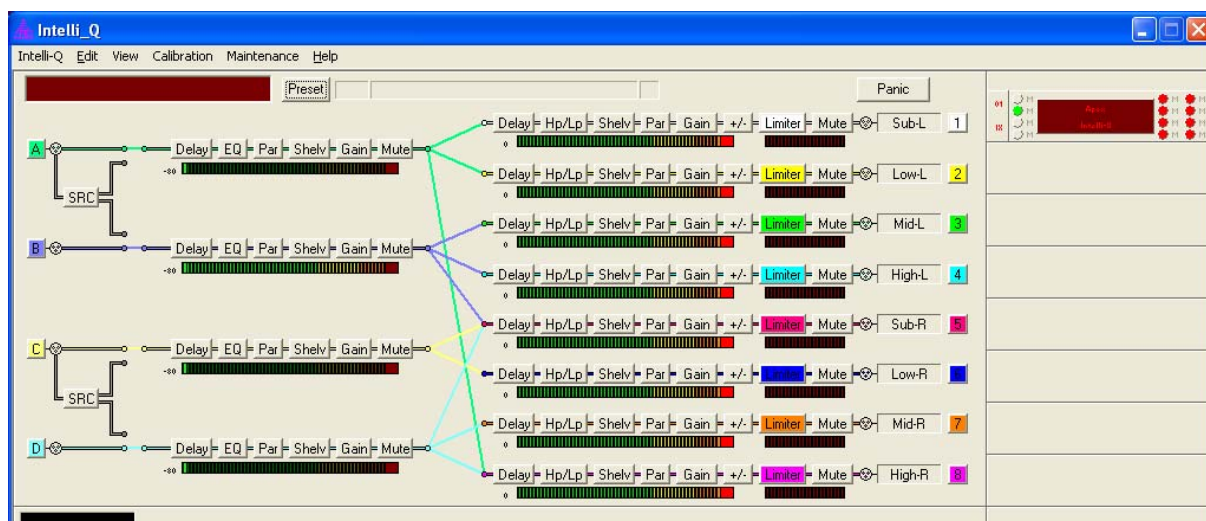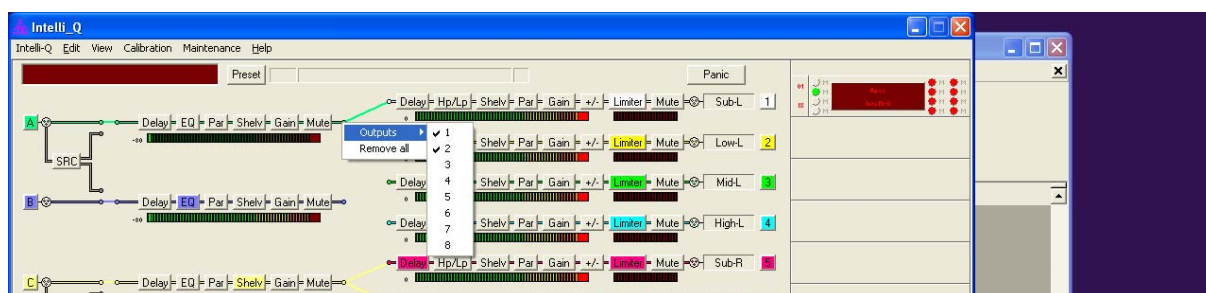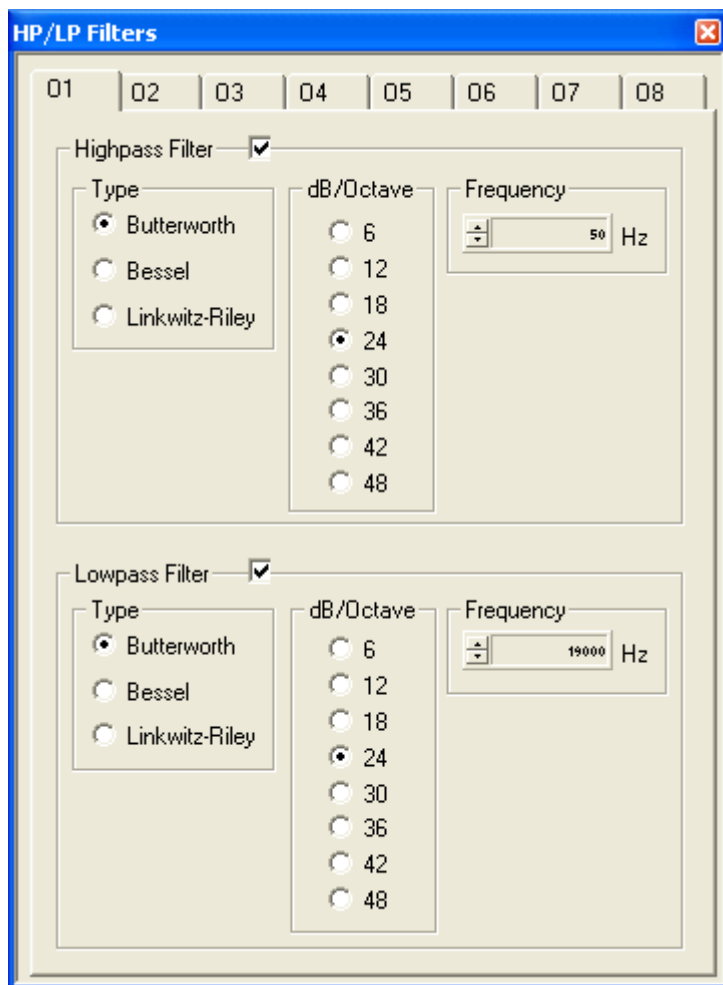

3.0 Output Signal Processing

3.1. Output signal delay

Click the [Delay] button to open the general delay overview window. You can now adjust your driver alignment or other delay function. See 2.1 Input Delay for further explanation to adjust the values.

3.2. Output signal High- and Lowpass filters

This is where you are going to set your basic crossover slopes. Click the [Hp/Lp] window to select the output Hp/Lp overview window:

HP/LP Filters

Tabs: 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08

Highpass Filter ☑

Type
- ● Butterworth
- ○ Bessel
- ○ Linkwitz-Riley

dB/Octave
- ○ 6
- ○ 12
- ○ 18
- ● 24
- ○ 30
- ○ 36
- ○ 42
- ○ 48

Frequency: 50 Hz

Lowpass Filter ☑

Type
- ● Butterworth
- ○ Bessel
- ○ Linkwitz-Riley

dB/Octave
- ○ 6
- ○ 12
- ○ 18
- ● 24
- ○ 30
- ○ 36
- ○ 42
- ○ 48

Frequency: 19000 Hz

Select the relevant output via the tabs. Select the Highpass and/or Lowpass filter. Now you can select the required slope: Butterworth, Bessel or Linkwitz-Riley, the required steepness (only realistic/available steepness values will be available to select). Adjust the frequency by typing in the required value via the keyboard or moving the up/down arrows. When you select a High- or Lowpass filter it will show in the output graphics window. Select the relevant graphics window by clicking on the colored output number to right of the overview window. You can now also adjust the frequency by dragging the handle. Right mouse clicking the handle will let you adjust type and steepness of the curve.
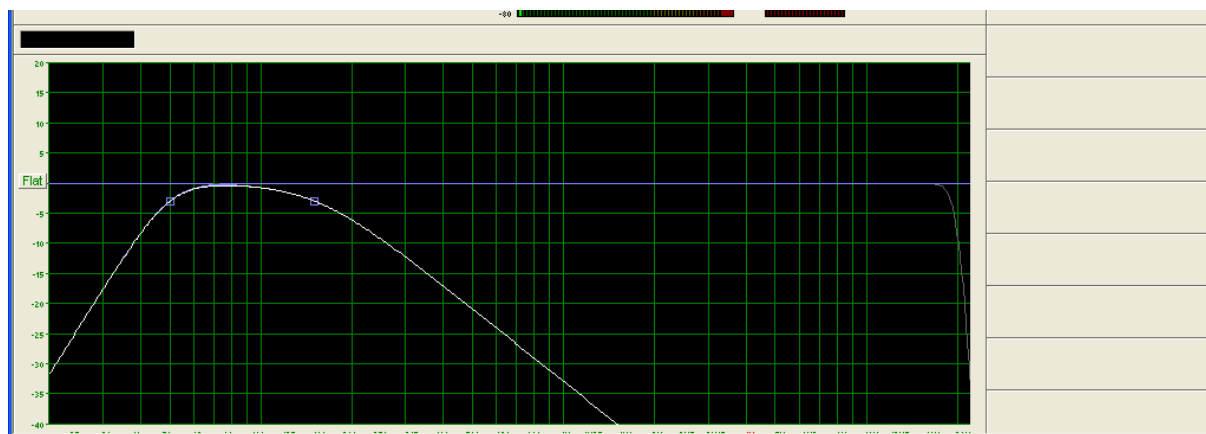
3.3. Output Shelving

Clicking the [Shelv] button will open the Shelving Overview Window. Refer to 2.4. Input Shelving for further info if you still need it.

3.4. Output Parametric EQ

The output parametric Eq works in the same way as the input parametric EQ. You can now fine-tune your Crossover slopes and curves. 8 Full parametric bands are available on every output. See 2.3. Input Parametric EQ.

3.5. Output Gain Setting

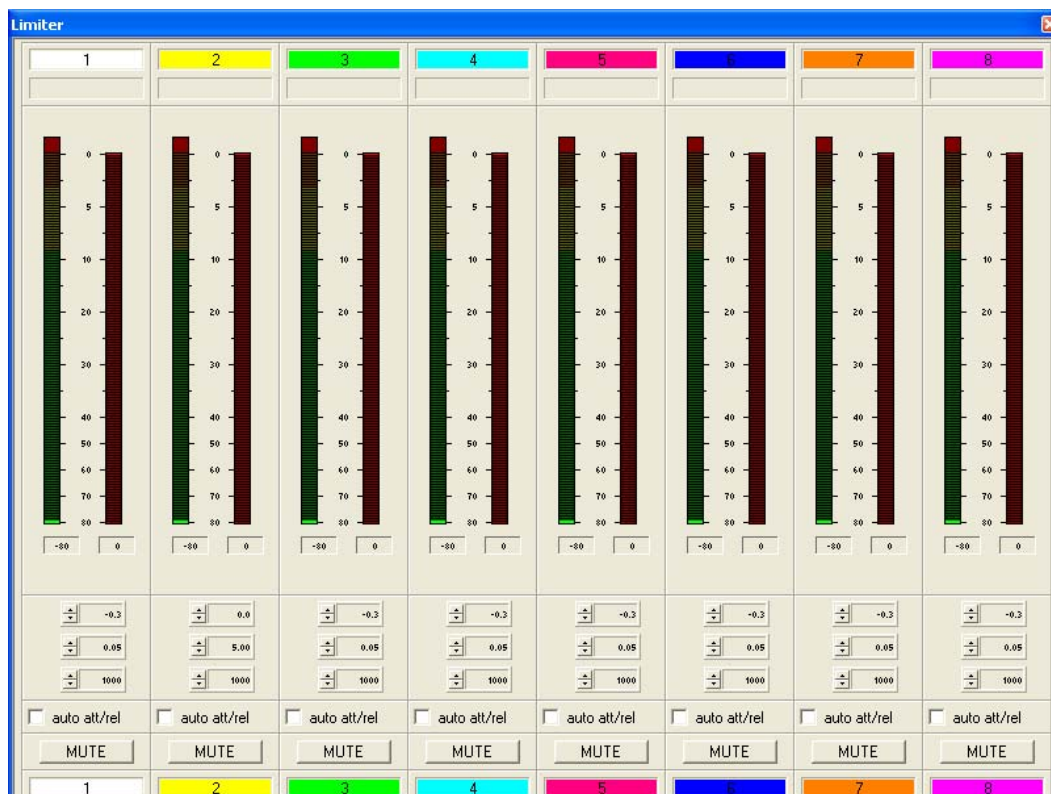Click the [Gain] button to open the Gain Overview Window. See 2.5. Input Gain Setting.

3.6. Output Polarity Change

Click the [+/-] button on the relevant output to change its polarity. This button works in parallel with the one in the Gain Overview Page.

3.7. Output Limiter

Clicking the [Limiter] button opens the Output Limiter Overview Window:

The Limiter overview page will give you a complete overview of the output levels and the output limiting when active. For each output you can set the threshold, the attack and release time. By now you should know the different ways to enter or adjust the values. If you select "auto att/rel" the Intelli-X will automatically adjust the attack and release time depending on the program material. The [Mute] button will of course mute the relevant output an works in parallel with all other mute buttons for that output.

3.8. Ouput Mute

The ouput [Mute] button will mute the output and works in parallel with all other mute buttons for that output.

3.9. Output Naming

If you click in the field just before the output number, you will be able to change the output name.

3.10. Panic Button

Hitting the [Panic] Button will activate all mutes in case of unexpected noise/trouble etc. You will have to unmute all the mutes one by one.

Example of crossover setting:
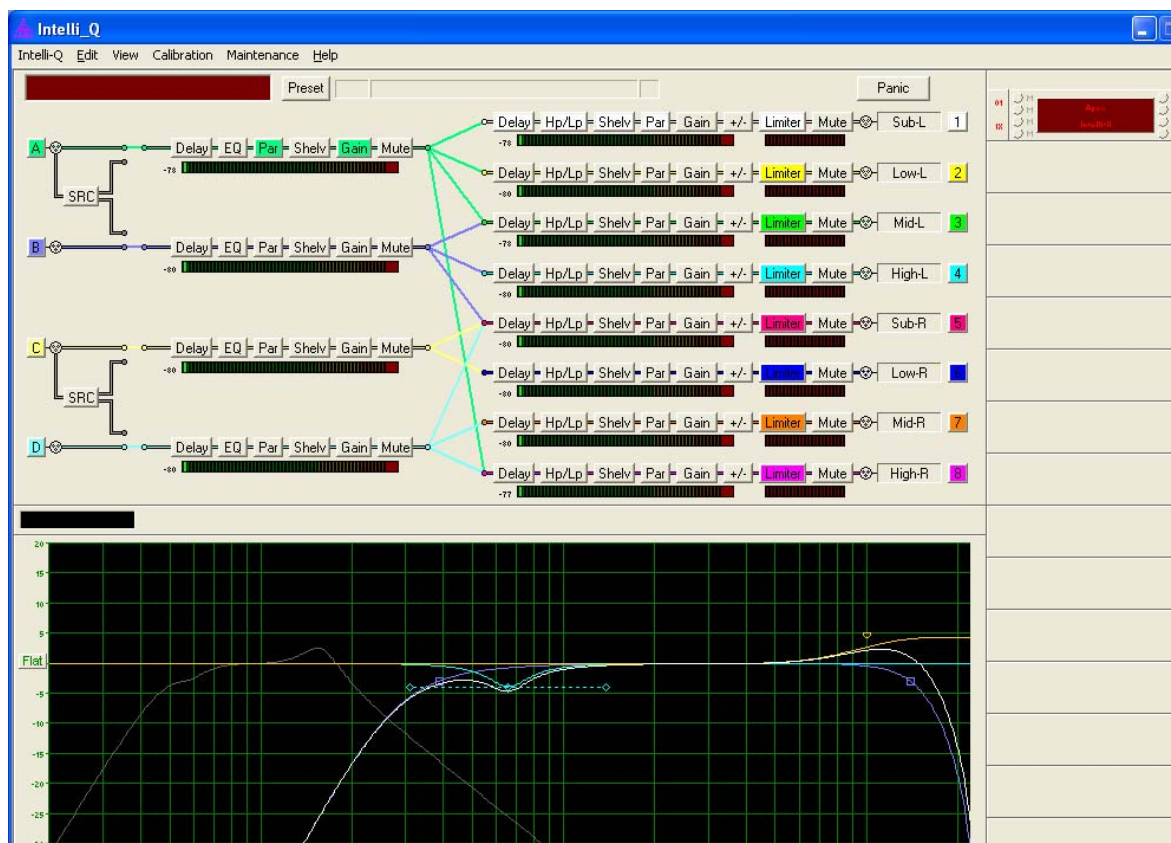
4.0. Further Items

4.1. Metering and Indications

At all times the meters on the front panel on the Intelli-X will show the input and output levels.
The overview window will also show the input levels, output levels and limiter gain reduction for the selected device.
On the right hand side of the overview window you have the list of all connected devices. Each device will give you its name.
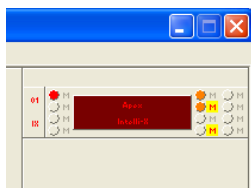
At the left of the name there are for small circles (one for each input), they will turn green when signal is present, orange when signal gets rather high and red when clipping. The same goes for the eight small circles on the right hand side representing the eight outputs. The letters "M" on the left and right hand side represent the Mutes (again: inputs on the left, outputs on the right). They will light up Red with a yellow border when they are active. This gives you a unique way to very quickly check levels and mutes for all devices connected without having to select the device.

4.2. Front Panel Control

A number of parameters will be available for adjustment from the front panel. No definitive specifications are available at this time. Almost certain:selection of presets, changing levels and setting mutes will be available. The front panel can be locked via password to prevent unauthorized access.

4.3. Front Panel Monitoring

Unique to the Apex Intelli-X is the possibility to connect a headphone to the headphones jack. All inputs and outputs can then be selected to be monitored via the headphones. This will in no way influence the sound on the inputs or outputs, but will give you a very fast way to locate problems (before or after the Intelli-X) if they occur.

5. General Remark

This quick start provides an overview of the functions of the Apex Intelli-X in its present state of development. Due to continuing development of the hardware and software of the Intelli-X menus and functions may change in the definite version. Please make sure you have the latest version of the quickstart or full manual when using the Intelli-X.