Bitwig Studio Controller Extension

iCon QCon Pro X

Main Features

- Use up to 3 Extenders
- Set and recall Bitwig Studio's Cue Markers
- Fold and unfold groups
- Set aux send levels per track or per aux
- Navigate through the device chain and control all devices, from VST plugins to midi devices, to audio devices
- Control and trigger drum machine devices
- Advanced Step Sequencer with Operators and note Expressions
- Keyboard mode
- Define the loop region
- Change the click behaviour
- Launch clips in Bitwig Studio's Launcher
- Browse Devices and Presets
- Automation

Navigation & Basics

Bank left/right: Navigates Bitwig Studio's channels in groups of 8.

Channel left/right: Navigates Bitwig Studio's channels by 1

Flip: Flips the function of the V-Pots and the faders

Group:

`[ShowSends]  Mute=>Drum Mix  Select=Group Fold`
`<OFF >`

ShowSends: Defines whether the Effect Tracks (Send returns) are accessible
                               from the controller

Mute: The Mute buttons indicate whether a Drum Machine device is in
                               one of the selected tracks. If present pressing the Mute button
                               enters Drum Machine mix mode.
                               In this mode the Rec buttons trigger the respective sounds.
                               Press Global View again to return to the normal mode.

Select: The Select buttons indicate group tracks. Pressing it will
                               fold or unfold a group. While in normal mode a ">" sign in front of the
                               track name will indicate a folded group and "*" an unfolded group.

`ShinyP >Extra Modula DustyD Gnarly PhasyB Farfis`
`-3.4dB -InfdB 0.0dB  -22.0d -InfdB -InfdB -23.4d`

Zoom: While active, up/down will change the track size.
                               Left/right affects the zoom level of the arranger.

Device Chain & Mixing

Send:	Control Bitwig Studio's send levels. By default 1 send for multiple tracks is Controlled by the Encoders. The up and down buttons are switching the to the previous or next send. Pressing the Name/Value button temporarily shows the send name. Pressing the Track button controls all the sends of the selected track.
Pan:	Control Bitwig Studio's panning.
Device:	Control Bitwig Studio's devices and VST Plug-Ins.
EQ:	Navigates to Bitwig Studio's EQ+. When no EQ+ is in the device chain, pressing the button again will add a new EQ+ at the end of the device chain.
Instrument:	Navigates to the Instrument of an Instrument Track.
Up/Down:	Navigates to the previous/next device.
Left/Right:	Navigates to the previous/next parameter page.
Shift+Up:	Navigate to parent device if device is nested.
Shift+Down:	Navigate into nested device.

Device Chain Operations

Press and hold Device, EQ or Instrument to get additional options:

```
Device: Dynamics
ACTIVE <PIN>  <Move  Move>  REMOVE <ADD   ADD>   BROWSE
```

Active: Activate or bypass a device

Pin: Pins the device

Move: Move the device left or right

Remove: Remove a device

Add: Add a device left or right from the currently selected device and open
                 the browser.

Browse: Replace the currently selected device or load a preset

```
Type  DevLoc FileTy Categy Creatr <Cncl>         <Okay>
Audio  Bitwis Bitwis Any Ca Bitwis <Delay-4        >
```

While browsing is active, press and hold shift to:

PRVIEW: Enable Preview in the browser
Cont.T: Switch the Content Type between devices or presets

Function Buttons #1

RCA (F1): Restore Automation Control.

RTA (F2):   Switch playback to Arranger for all tracks.

Fill (F3):   Activate Fill (used by Operators).

Quantize (F4):   Quantize.

```
Rec.Q  Len.Q  Clip.Q              <Do.Q> <Do.Q>
1/8    < ON >  1                   100%   >DLG
```

Rec.Q: Record quantize.

Len.Q: Quantize note length (while recording).

Clip.Q: Default launch quantization.

Do.Q: Pressing the encoder applies quantization with the selected amount.

Do.Q>DLG: Open the quantization dialog in Bitwig Studio.

Function Buttons #2

Groove (F5): Groove

```
Groove Sfl.Rt Sfl.Am      Acc.Rt Acc.Am Acc.Ph
<OFF>  1/16  50.0 %       1/4   100 %  0.00 %
```

Groove: Press Encoder 1 to enable Groove.

Sfl. Rt: Shuffle Rate.

Sfl. Am: Shuffle Amount.

Acc. Rate: Accent Rate.

Acc. Am: Accent Amount.

Acc. Ph: Accent Phase.

Tempo (F6): Tempo

```
Tempo  <Tap>
110.00
```

Tempo: Use the encoder to set the tempo. Use Shift for the first decimal and Option for the second decimal.

Tap: Press the encoder to tap the tempo.

Save(F7): Open Bitwig Studio's save dialog.

Function Buttons #3

Clip (F8):   Clip commands.

```
<DBL>   <REV>   <SCL>   <SCL>   <Trns> <Trns> <Oct>   <Oct>
double revers  50%     200%    -semi  +semi  -oct    +oct
```

DBL: Press Encoder 1 to double the clips content.

REV: Reverse..

SCL 50%:   Scale the clips content to half the length.

SCL 200%:   Scale the clips content to double the length.

Trns -semi: Transpose the clips content down by one semi tone.

Trns +semi: Transpose the clips content up by one semi tone.

Oct -oct: Transpose the clips content down by one octave.

Oct +oct: Transpose the clips content up by one octave.

Function Buttons - Layer 2 #1

Note FX (F1): Adds Note Effects to the device chain.

```
        no Note-effect on track
     << press NOTE FX again to browse >>
```

If no Note Effect is present in the current track, press the Note FX button again to open the browser. If a Note FX is already present the remote controls will be shown in order to tweak the devices parameters.

```
Type   DevLoc FileTp Catery Creatr <Cncl>         <Okay>
Note F Bitwis Bitwis Note F Bitwis <Dribble       >
```

Use encoder 1-5 to define the browser filter.

Cncl: Cancel and close the browser.

Okay: Browse the result list and press the encoder to load the selected device.

Press and hold the Note FX button to show the following screen:

```
Device: Dribble
ACTIVE <PIN> <Move  Move>  REMOVE <ADD   ADD>   BROWSE
```

Active: Bypass the device.

Pin: Pin the device to keep it in focus.

<Move/Move>:   Move the device to the left or the right.

Remove: Remove the device.

<Add/Add>:   Add a new device to the left or to the right of the selected device.

Browse: Open the browser.

Function Buttons - Layer 2 #2

Toggle A/L (F2):   Toggle between Bitwig Studio's Arranger and Launcher.

Focus Device (F3):   Focus Bitwig Studio's Device Panel.

Focus Editor (F4):   Focus Bitwig Studio's Detail Editor Panel.

PB Follow (F5):   Playback follow.

Launch (F6):   Launch selected clip. Also works to stop a track when an empty Launcher Slot is selected.

Create Clip (F7):   Create a clip in the selected Launcher slot.

Cancel (F8):   Cancel. This allows to "Leave Group" and to exit a browser.

Markers

Press Marker to activate the Cue Marker mode.

Press and hold the Marker button and press a V-Pot to create a new Cue Marker.
Turn the V-Pot to adjust the position of an existing Cue Marker.

```
Intro  Verse  Bridge Hook   <Cue5> <Cue6> <Cue7> <Cue8>
03:1:1 05:1:1 17:1:1 21:1:1 ---    ---    ---    ---
```

While Cue Marker mode is active the F1-F8 buttons can be used to trigger a Cue Marker.

Shift + pressing a V-Pot deletes the marker.

You may rename Cue Markers in the software.

Loop

Press Loop to enable Bitwig Studio's Transport Loop.

Press and hold to see additional options.

```
Cycle  Start  Len          P.IN   P.OUT
< ON > 21:1:1 08:0:0        <OFF > <OFF >
```

Cycle: Transport loop on/off.

Start: Start point of the transport loop.

Len: Length of the transport loop.

P. In/P.Out: Punch in or out at the loop region borders.

Click

Press Click to enable the metronome.

Press and hold to see additional options.

```
METRO  Pre -> ROLL   M.TICK M.VOL        T.CLCK
<OFF > < ON > None   <OFF > -12.0        <OFF >
```

Metro: Activate the Metronome.

P.Roll: Activate Preroll.

M.Tick: Activate the "Play Ticks" option.

M.Vol: Adjust the Metronome volume.

T.Clck: Activate clicks for the transport section buttons.

Clip Launching

Press Launcher to enter Clip Launching mode.

In this mode the track buttons allows to launch clips in a 8x4 matrix.

Press Shift and Name/Value to see additional options.

Launcher: Shft=select Clear=Delete Option=Stop
Shft+Dup=Dbl.Content Duplicate=Duplicate/EmptySl=new_cl

Shift:	Select a clip without triggering it.
Clear:	Delete a clip.
Duplicate:	Duplicate a clip.
Shift+Duplicate:	Double a clips content.

Playing melodies

Press Keyboard to turn the 8x4 grid into note input mode.

```
Base.N Scale  Octave Layout        Veloci
  C    Minor  4      3             100
```

Base Note: Defines the root note for the chosen scale.

Scale: Defines the scale.

Octave: Allows to choose the range of the notes available.

Layout: Determines whether the pad above is a 3rd or a 4th.

Velocity: Sets the velocity for the notes played back.

The buttons lit will show all root notes.

Step Sequencing for melodies #1 - Note Parameters

Press Step Seq to enter step sequencing.

In this mode it is possible to utilize QCon's 8x4 grid to create melodies and take control over Bitwig Studio's advanced Operators and Note Expressions.
Additionally, the step sequencer on iCon QCon controllers allows to add chords directly into a sequence.

The select buttons represent the navigation of the step sequencer. Select on channel 1:

```
Length Offset Grid  s Note Vel   Len    V1.Spr [C:1]
01:0:0 00:00 1/16  < C3> <100> <--->  <--->  [Stop]
```

Length: Adjust the clip length. Use Shift for smaller increments.

Offset: Defines the currently visible portion of a clip.

Grid: Sets the grid of the sequencer. E.g. 1/16 = 16 steps for 1 bar.

x Note: Defines the note when adding a new step.
                        Pushing the encoder switches increments to chromatic "c" or octaves "o". "s" set increments to be in scale, when a scale is selected in keyboard mode

Vel: Defines the standard velocity when adding a new step.

Step Sequencing for melodies #2 - Clip actions

```
Length Offset Grid    s Note Vel   Len    Vl.Spr [C:1]
01:0:0 00:00 1/16   < C3> <100> <---> <---> [Stop]
```

Square brackets: Shows the currently selected clip and the current state. Pushing encoder 8 will trigger a clip.

```
Length Offset Grid    s Note Vel   Len    Vl.Spr [C:1]
01:0:0 00:00 1/16   < C3> <100> <---> <---> >Stop
```

Shift: Angled brackets indicate an action. Press shift to stop a clip.

```
Length Offset Grid    s Note Vel   Len    Vl.Spr [C:1]
01:0:0 00:00 1/16   < C3> <100> <---> <---> >Clear
```

Clear: Press Clear to clear the pattern.

```
Length Offset Grid    s Note Vel   Len    Vl.Spr [C:1]
01:0:0 00:00 1/16   < C3> <100> <---> <---> >Dbl
```

Duplicate: Press Duplicate to double the content of a clip.

```
Length Offset Grid    s Note Vel   Len    Vl.Spr [C:1]
01:0:0 00:00 1/16   < C3> <100> <---> <---> >Dupli
```

Shift+Duplicate: Press Shift+Duplicate to duplicate a clip.

Step Sequencing for melodies #3 - Note Editing, Note Expressions and Operators

The step sequencer allows to access Bitwig Studio's powerful Note Expressions and Operators. These parameters belong to individual note events. To set a parameter press and hold the note event in the step sequencer.

```
Length Offset Grid    s Note Vel    Len    Vl.Spr [C:2]
01:0:0 00:00  1/16   * C3  * 100   1.0    0.0%   [Play]
```

The note and velocity parameter will now have an asterisk in front of the value, indicating that you can now change the already existing note event.

Len: Set the note length.

Vl.Spr: Set the velocity spread.

Press the select button on track 2 to access Note Expression and Operator parameters:

```
Timbre Press   Chance Rpeat   Recur  Occur  [C:0]
24.0%  5.0%    100.0% 3       4      First  [Play]
```

Timbre: Set the timbre.

Press: Set the pressure.

Chance: Set the chance of a note event.

Rpeat: Set the repeat rate (count).

Recur: Set recurrence.

Occur: Set condition.

See the Bitwig Studio Manual to get more information about Note Expression and Operators.

Step Sequencing for melodies #4 - Chords

Press the select button on track 3 to access chords:

```
Note   Chord   Octave  Inv    Exp    Vel    Len    [C:0]
 F      Maj     4       1      2     <100>  <--->  [Play]
```

The top row of the 8x4 matrix (Rec buttons) stores 8 chords. While in this mode a new step created in the step sequencer will create the selected chord instead of a single note event.

Note: Sets the root note of the chord.

Chords: Sets the scale.

Octave: Sets the octave.

Inv: Sets inversions of the chord.

Exp: Expands the chord to larger intervals.

Vel: Sets the velocity of a stored chord or
                of an existing one while the step is held.

Len: Sets the length of an existing chord while the step is held.

Step Sequencing for Drum Machines

This mode is similar to the melody mode.
When Bitwig Studio's Drum Machine is recognized the step sequencer will appear in this special mode.

The top row (Rec buttons) represents the first 8 drum chains of the Drum Machine.
These buttons also visualize triggered drum chains. While overdub (Shift+Rec) is active, the Rec buttons can also be used to directly record into a clip.

```
Length Offset Grid   Vel  Timbre Press [---]
00:0:0 00:00  1/16  <100> <---> <--->  [Stop]  -->
```

Pressing encoder 8 navigates to the second page.

```
       [---]  Occur Chance Len  Recur Rpeat [---]
<--    [Stop] <---> <---> <---> <---> <--->  -->
```

On page 2, encoder 1 and 8 navigate to page 1 and 3.

```
       [---]  Vl.Spr Rp.Crv Rp.Vel RPVEnd
<--    [Stop] <--->  <--->  <--->  <--->
```
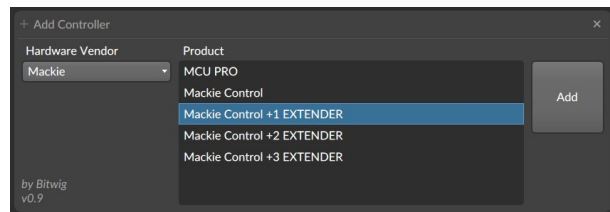
On page 3, there are additional parameters for the Repeat Operator.

Rp.Crv: Sets the repeat curve.

Rp. Vel: Sets the repeat velocity.

RPVEnd: Sets the repeat end velocity.

Extenders

Bitwig Studio supports up to 3 extenders.

Select the version you want to use and select the main device for the first input and output, followed by the MIDI ports of the extenders.

The main unit will always be the most right unit and extenders will be added to the left.

Shortcuts

Mixer Button SELECT

State 1: track exists

no modifier:	Select Track.
SHIFT:	Fold/Unfold Track (only Group Tracks).
OPTION:	Navigate Into Group track (only Group Tracks). Leave the Group with Option + Cancel.
CLEAR:	Delete Track
Duplicate:	Duplicate Track

State 2: no track on column of SELECT button

no modifier:	Create Instrument Track.
SHIFT:	Create Audio Track.

Time Display

SMPTE/Beats:	Switches between SMPTE and Beats mode.

Recording

Shift+Record:	Overdub.

Launcher Navigation

Shift+Up/Down/Left/Right:	Navigate the selected clip slot in the Launcher.

Help View

Shift+Name/Value:	Help View (works in several modes).