Congo v5 Effects Overview

The new effects in Congo v5 software are in addition to the existing Dynamic Effects structure and chase sequences that have been in Congo from the start. Old plays should work just fine in v5 without needing any adjustments.

That said, here's some basic info about the new Effects structure.

Effect Playbacks. There are three types - Chase, Dynamic and Content. They are selected and controlled in the same way as a device channel - [#] [EFFECT] selects an existing playback, [#] [INSERT]&[EFFECT] opens a wizard that allows you to insert a new playback and select its type. Setting an "intensity" level on an Effect Playback will cause the associated effect to run. Set that playback to 0, and that effect stops. Effect Playbacks have parameters, like device channels do, and these parameters are controlled on the U1-U3 pages.

- Chases are step-based, intensity-only effect objects that can be played back on a Chase Effect Playback. A Chase contains both the channel list and the step level and timing information all in one object. Any chase object can be played back on a single Chase Effect Playback. If you want more than one chase running simultaneously, though, you will need multiple Chase Effect Playbacks defined. Chases are designed to be "fixed" - meaning once you get the chase defined the way you want it, every time you recall or replay that chase it comes back the same way. It is not currently designed to be an "on the fly" kind of tool.

    - Distribution definitions - using 5 parts and a selection of channels 1-10 in order as the example:
    - Sequential = (1,2) (3,4) (5,6) (7,8) (9,10)
    - Interlaced = (1,6) (2,7) (3,8) (4,9) (5,10)
    - Symmetrical = (1,10) (2,9) (3,8) (4,7) (5,6)
    - Inv Sequential = (10,9) (8,7) (6,5) (4,3) (2,1)
    - Inv Interlaced = (10,5) (9,4) (8,3) (7,2) (6,1)
    - Inv Symmetrical = (5,6) (4,7) (3,8) (2,9) (1,10)
    - Random - will distribute channels evenly among parts, but in random order, so in this example you would get random pairs of channels, but always 2 channels per part.
    - True Random - will distribute channels randomly (order, and quantity) among the parts.

- Dynamic Effect Playbacks put the existing Dynamic Effect structure into the new Effect Playback concept. The only external object required to use "New Dynamics" is a way to select channel groupings - in other words, Groups (or Channel Sets, see below). Other than that, the Effect Playback will have all the required parameters mapped to the U1-U3 encoder pages to allow any existing dynamic effect template to run on the selected group.

- Content Effect Playbacks require two types of external objects - channel groupings (Groups, Channel Sets) to determine which channels will execute the effect, and "Series" that include the steps that contain the content of the effect. Content Effects have the most parameters and are the most "on the fly" in style. You can build simple series and then just by adjusting the parameters of the playback you can create quite complex effects quickly. More details about the different content effect objects and parameters are listed below:

    - Channel Set - a special group in which you can determine your own custom distribution - for example, uneven distributions, "graphic" distributions, distributions that use the same channel in multiple parts. Insert new Channel Set into the Channel Set List, then use NEXT and LAST to move from part to part and select channels using # CH, +, - and THRU to select specific channels. You can also use existing groups to select channels to be inserted into parts. (Hint - I put groups onto the direct selects or masters to be able to quickly select groups when building complex sets).

- Series - list of steps that execute specific kinds of play content or parameter settings. Each step may have 4 kinds of content - Intensity + three variable slots that can contain palettes, presets or direct parameter data. Each of those four pieces of content may have their own "Attack" (fade) time within the step.

- Part Direction and Play Mode - individual controls for the channel order and series order. Series Play Mode also contains Pause and Stop modes.

- Content Effect Modes: Continuous, Build, Break

  - In a Continuous mode content effect, parts are always executing a step. In a three color Red-Green-Blue effect, all channels would be in one of those three colors all the time the effect is running.

  - In a Build mode content effect, all parts execute step 1 before they execute step 2. Using the same series as above, all parts would become red using the step and attack times until all channels are red, then they would each step into green until all are green, then they would start stepping into blue.

  - In a Break mode content effect, assuming you have more parts than steps, then part 1 will execute the "active" portion of the series and when done it will fade into the Background state (step 0) and wait there (take a "break") until all the other parts have executed the active steps in the series. When using Break mode, the "sustain" and "release" times on the active steps come into play - if you think about the stadium "wave" phenomenon at football matches you'll know what I mean - the active step is to "Stand up and raise your arms" and the background state is "sit down". The attack time is how long it takes you to stand up, the sustain time is how long you remain standing, and the release time is how long it takes you to sit back down again. The background state has no timing of its own.

- Timing Options: Loop Time, TapRate, Step Time, Attack, Sustain, Release

  - Loop Time - this time equals how long it takes all the parts to run through the effect once. If you lengthen this time, you will impose a gap before the next pass through the effect begins. If you shorten this time, you will cause the next pass to start before the first pass is completed.

  - TapRate - use this value to scale the whole timing scheme faster or slower. Tapping the wheel key will adjust the timing of the effect to match your tapped in rate. Fade times will scale appropriately when you use tap.

  - Step time - the tempo of the effect - this time determines when each step will be executed.

  - Attack time - the fade time of the associated step or individual piece of content.

  - Sustain and Release times - only visible in break mode effects, this time determines how long a step remains active before starting the release to the background state. If a break mode effect has more than one active step, each step may execute a sustain and release to the background only if the step time is greater than the combined attack+sustain+decay times of the step, otherwise you will only see attack times executed until the last active step.

<u>Congo v5 Chase Effect Tutorial</u>

In this short tutorial, I'll walk you through the creation of a simple intensity chase effect object and then through using the new Chase Effect Playback to get that chase running on stage. You can use any play file to start with this tutorial, though I am assuming that there are no Effect Playbacks already inserted into that play. If there are, please choose a new number to use for the Effect Playback in step 2.

<u>Basic Concepts</u>

Chase Effect Playbacks are used to play back "Chase" objects. Each Chase Effect Playback has two parameters - intensity and "Chase". Intensity acts as a master over the high levels output by the running chase - if you bring the Chase Effect Playback up to a level of 50%, then the chase will be limited to a highest level of 50%. If you take the Playback to 100% (Full), then the chase will play back with the levels you recorded into it. When the Chase Effect Playback is above 0% intensity, the chase can be said to be "running". When the Chase Effect Playback is brought back to 0%, the chase can be said to be "stopped".

Chase Effect Playbacks exist to play back Chase objects. The Chase object contains the channels and the steps and the timings you want to use in your chase. You can create a Chase Effect Playback and Chase object simultaneously from Live, or you can create Chase objects in a list and then play them back later. The default behavior of a chase is to go from 0% to 100% intensity on selected channels in a time of 0.2 seconds per step. You can edit these defaults to create customized chases of your own.

<u>Create a simple chase effect:</u>

1) Select channels 1-10.

2) Type [1] [INSERT]&[EFFECT] (press and hold the [INSERT] key then press the [EFFECT] key, then release both keys) - this will open a dialog box that you can use to set the Effect Playback type.

3) In the first tab, Chase Effect, select the "Use selected channels" box, enter 10 in the number of parts, and leave the distribution as Sequential. Select EXECUTE and press [MODIFY] to insert the chase playback and also make a new chase object at the same time. The effect playback is selected after you insert it so all you have to do to get the effect running is bring the level wheel up above 0%.

4) Press [SETUP]&[BROWSER] to open the Dock setup dialog. Docks are special display areas you can add to any screen connected to the Congo, the Browser is a Dock area that we open by default. In the "Bottom Area", open the drop-down menu and select "Effects", then select the MODIFY button and press MODIFY to close the dialog and open the new Effects Dock. In this dock you can see the inserted Effect Playbacks.

5) In the Browser, under Effects, you have all the effect data types. One of those is Chase Effects, and under that node you'll find Chases (chase objects). The new chase that was created when we inserted the playback is in that list. Press [MODIFY] on the Chases node to open the chase object list. Press [INSERT] while focused on this list view to insert a new chase object in the list. The Channel Distribution Wizard will open and you can use this wizard to insert your channels and steps. Select channels 11-20, then enter the number of steps, in this case 5, then choose the distribution method "Symmetrical" and select the EXECUTE button and press [MODIFY]. This inserts a new chase object using those channels distributed symmetrically across 5 steps. Add a text label to the two chase objects you have in the list - name the first one "Bob" and the second one "Joe".

6) Now that you have more than one chase object, you can play with the setting of the Effect Playback itself. Type [1] [EFFECT] to reselect the Chase Effect Playback you inserted before, then look at the encoders. The left-most

encoder should display the Chase parameter, and you can use the wheel to select which chase the playback is running. Bring up the intensity of this Chase Effect Playback using the level wheel (you can also use keypad commands to set the intensity, just as you would for any other channel). Since we have not yet chosen to run a different chase object, Effect 1 should be using the chase called Bob. When you bring up the intensity of Effect 1 you should see channels 1-10 chasing one by one. Use the encoder to dial up chase "Joe". You should see the chase on channels 1-10 disappear and now channels 11-20 should be chasing two at a time. If you move the Chase encoder back and forth, you can see the different chase objects switch as you move the encoder.

Chase Effect Playbacks can only play back one chase at a time. If you want to be able to play back both the Bob and Joe chases at the same time, you need to insert another Chase Effect Playback. This is easy to do live, using [#] [INSERT]&[EFFECT] again (you can use this dialog to insert yet another new chase object at the same time, or you can simply execute the insertion without also making a new chase object - your choice), or you can open the Effect Playbacks List in the Browser and use [INSERT] to insert a new playback into the list. Use [#] [EFFECT] to select the new playback and use the encoder to set it to play back the other chase, then bring up the intensity. Now you have both chases Bob and Joe running simultaneously.

7) To edit the contents of a Chase object, you can use the Browser or the new Effect soft keys to open the Chases list. To use the soft keys, press the Effect softkey to enter the page of effect commands, then press the Chase soft key to open the Chases list. In this list you can see the top-level settings for a chase. Direction and Style settings can be used to change the order of the steps and how the output of those steps gets played back. The Loop Time can be used to adjust all the step times in the chase to complete a single pass through all the steps in the total time entered in the Loop Time cell (so, if you have a 5 step chase for example, and you want it to take 10 seconds to make it through all 5 steps, enter the value "10" in the Loop Time cell. Congo will edit the step times on those 5 steps to 2 seconds, causing it to take 10 seconds to get through all 5 steps.) In, Dwell and Out time cells are available at the top level to adjust all steps to use the same timing quickly. Min and Max Rate settings can be used to speed up or slow down a chase evenly (set both Min and Max to the same value) or unevenly (set Min and Max to two different levels). When using the uneven settings, the Chase will randomly set the rate per step to a value between the minimum and maximum rates. You can use this to create organic chases for water, fire, tv, or any other irregular intensity effect you would like to create. Set these values close together for subtlety, or far apart for really erratic chases.

If you want to edit a chase step-by-step, select the Steps cell in this list and press [MODIFY]. This opens up the step editor where you can add or delete channels from individual steps, adjust the step and fade (In/Dwell/Out) timing for each step, and adjust the high and low intensity levels for each step. Standard table editing rules apply in this view, except for adding/deleting channels in each step. To adjust the channel assignments, simply select the step you wish to edit and look up at the top half of the tab. The channels in that step are selected (shown with the gold rim) like they are in Live. Use regular channel commands to adjust the channels assigned to this step: to add a new channel and keep the old ones, simply type [#] [+]; to remove a channel from this step, type [#] [-]; to completely change the channels assigned to this step type [#] [Ch] and continue adding channels normally. For those who use At Mode, normal channel selection syntax works here as well.

Congo v5 Dynamic Effect Tutorial

In this short tutorial, I'll walk you through the creation of a new Dynamic Effect Playback and how to get that effect running on stage. I recommend using the Demo Play "Demo Concert" and its associated Training Project (Browser>Media>Training Projects).

Basic Concepts

Dynamic Effect Playbacks are used to play back dynamic effect templates on groups of channels. Each Dynamic Effect Playback has nine parameters that include intensity (masters the size of the dynamic), channel source, template and offset settings, size and rate. Intensity acts as a master over the size output by the running dynamic - if you bring the Dynamic Effect Playback up to a level of 50%, then the effect will be limited to a size of 50% of the size you set within the effect. If you take the Playback to 100% (Full), then the dynamic will play back with the levels you set manually. When the Dynamic Effect Playback is above 0% intensity, the effect can be said to be "running". When the Dynamic Effect Playback is brought back to 0%, the effect can be said to be "stopped".

There are no new objects for using a new Dynamic Effect Playback – all you must have is Groups recorded for the channels you want to place dynamic movements on. Groups are referenced by the new Dynamic Effect, so if you change the Groups, the Dynamic will also be changed. The new Dynamic uses the existing Dynamic Templates library. If you make new templates, those will become available to use within the new Dynamic Effects as well.

Create a simple dynamic effect:

1) Type [INSERT]&[EFFECT] (press and hold the [INSERT] key then press the [EFFECT] key, then release both keys) - this will open a dialog box that you can use to set the Effect Playback type.

2) Use the [TAB] key to move to the third tab, Dynamic Effect, and press [MODIFY] to insert the Dynamic Effect Playback. The new effect playback is selected after you insert it so all you have to do to get the effect running is determine the settings you want to us and then bring the level wheel up above 0%.

3) If the Effects Dock is not already open, press [SETUP]&[BROWSER] to open the Dock setup dialog. Docks are special display areas you can add to any screen connected to the Congo, the Browser is a Dock area that we open by default. In the "Bottom Area", open the drop-down menu and select "Effects", then select the MODIFY button and press MODIFY to close the dialog and open the new Effects Dock. In this dock you can see the inserted Effect Playbacks.

4) Bring up the intensity of Group 1 – M500L and Group 2 – M500R so that you can see the lights moving in the Capture tab.

5) Type [#] [EFFECT] to reselect the Dynamic Effect Playback you inserted before, then look at the encoders. The left-most encoder should display the Channel Source parameter, and you can use the wheel to select whether to use Sets or Groups (Sets is the default). Sets will be described in the Content Effects Tutorial, so for now choose Groups. Use the encoder to the right to select which Group to place the effect on. In this case, select Group 1 – M500 L.

6) Press the U2 encoder page key. This loads the encoders with the dynamic effect settings, DynTemplate, OffsetRel, DelayRel and Distance. Use the DynTemplate encoder to select which effect you would like to run on these fixtures – in this case, select the "<circle" template. Set the OffsetRel to "Evenly Sp".

7) Bring up the intensity of this Dynamic Effect Playback using the level wheel (you can also use keypad commands to set the intensity, just as you would for any other channel). The <circle dynamic will start running on channels 1-8.

8) Press the U3 key to access the Rate and Size parameters of this Dynamic effect. Use the encoders to adjust the effect until you like it.

9) Press the U1 key again and select Group 2 now. Watch as the configured dynamic effect now runs on channels 9-16 and channels 1-8 go back to their base point.

10) Press the U2 key now and change the DynTemplate to "Can Can". The effect "can can" is a tilt-only effect. In the old dynamics, what would happen if you went directly from circle to "can can" on the same channels is that pan would continue to run the circle, and tilt would start running the "can can." Not what you wanted, probably. Now, since only one template can be played back at a time, the pan returns to the base point while tilt runs the "can can" cleanly.

If you want to be able to play back more than one dynamic effect at the same time, you need to insert more Dynamic Effect Playbacks. This is easy to do live, using [#] [INSERT] & [EFFECT] again, or you can open the Effect Playbacks List in the Browser and use [INSERT] to insert a new playback into the list. Use [#] [EFFECT] to select a new playback and use the encoders to set it to play back the other dynamic effect, then bring up the intensity.

Congo v5 Content Effect Tutorial

In this short tutorial, I'll walk you through the creation of a Content Effect Playback and how to get that effect running on stage. This tutorial really requires that you use the Demo Play "Demo Concert" and its associated Training Project (Browser>Media>Training Projects).

Basic Concepts

Content Effect Playbacks are used to combine groups of channels with series of steps containing various pieces of content from your play – palettes, presets, absolute parameter values. Each Content Effect Playback has twelve parameters that include intensity (masters the intensity output of the effect, if there is any), channel source, series and various other settings described below. When the Content Effect Playback is above 0% intensity, the effect can be said to be "running". When the Content Effect Playback is brought back to 0%, the effect can be said to be "stopped".

There is one new object required for using a Content Effect Playback – the Series. The Series contains steps that contain pieces of content. You must also have at least Groups recorded in order to determine which channels will be used in the effect. Groups are referenced by the Content Effect, so if you change the Groups, the effect will also be changed. An optional object called a Channel Set may be used instead of a Group. A Channel Set contains channels and specific sub-groupings called Parts that allow you to determine your own specific channel distribution.

Create a simple content effect:

1) Type [INSERT]&[EFFECT] (press and hold the [INSERT] key then press the [EFFECT] key, then release both keys) - this will open a dialog box that you can use to set the Effect Playback type.

2) Use the [TAB] key to move to the second tab, Content Effect, and press [MODIFY] to insert the Content Effect Playback. The new effect playback is selected after you insert it so all you have to do to get the effect running is determine the settings you want to us and then bring the level wheel up above 0%.

3) If the Effects Dock is not already open, press [SETUP]&[BROWSER] to open the Dock setup dialog. Docks are special display areas you can add to any screen connected to the Congo, the Browser is a Dock area that we open by default. In the "Bottom Area", open the drop-down menu and select "Effects", then select the MODIFY button and press MODIFY to close the dialog and open the new Effects Dock. In this dock you can see the inserted Effect Playbacks.

4) Open the Series list from Effects softkeys (press the [SERIES] key) or from the Browser>Effects>Content Effects>Series. Press [INSERT] to insert a new empty series in the list. Arrow to the Text cell for this new series and name it "Color". Arrow over to the Steps cell and press [MODIFY] to open the editor for this specific series.

5) Press [INSERT] three times to insert three new empty steps in the editor. Arrow over to the Intensity cell of step 1 and press [COLUMN] to select all the intensity cells for steps 1-3. Type [100] [MOIDFY] to set all steps to full intensity – this will guarantee the channels output light while the effect is running and is completely optional. Arrow over to the "1. Content" cell for step 1 and press [COLUMN] to select all the cells for steps 1-3. Press [MODIFY] to open the content drop-down list and arrow down to "Color Palette", then press [MODIFY]. All three steps should now have Color Palette displayed in that column. Now, arrow over to the Value cell for step 1 and type [2] [MODIFY] to set that step to recall color palette 2. Repeat for steps 2 and 3 so that they recall color palettes 4 and 7 respectively.

Each step can contain three different types of content and an intensity value. Each piece of content and the intensity can have their own "Attack" time. The Attack defaults to 100% of the Attack time set on the Effect Playback – making it easy to adjust manually. You can also enter "real" times if you know that you want the effect to play back in a fixed way.

Each step also has its own "Step time". Think of this as the tempo of the effect – the step time determines when each step fires and starts its attack times. The Step time also defaults to 100% of the step time set by the Effect Playback so that you can adjust it manually. You can also set "real" times if you know exactly how you want the steps to fire.

For now, leave everything at 100%. Now you have a three-color Series in addition to the others provided in the Demo Concert play.

6) Type [#] [EFFECT] to reselect the Content Effect Playback you inserted before, then press the U1 encoder page key. The left-most encoder should display the Channel Source parameter, and you can use the wheel to select whether to use Sets or Groups (Sets is the default).Choose Groups and use the encoder to the right to select which Group to place the effect on. In this case, select Group 3 – M300 L. Because a Group has no offset information in it, the next two encoders allow you to break the group up using various distribution options. For now, leave it as 1 Part and Sequential Distribution.

7) Press the U2 encoder page key. This loads the encoders with Part Direction, Series, Play Mode and Mode parameters. Part Direction determines the way the distributed channels will play back the effect, Series chooses the series you want to use, Play Mode determines the direction of the steps in the Series and includes options to pause or stop the running effect. Mode will be described in further detail once you get the effect running, since it's easier to "see" what it does than to explain it in words. For now, simply set the Series parameter to your Color series (should be series #7).

8) Bring up the intensity of this Content Effect Playback using the level wheel (you can also use keypad commands to set the intensity, just as you would for any other channel). You should see the Mac300 fixtures on the left start running a 1 second color fade effect – all of the lights should be fading from color to color together at this point.

9) Press the U3 key to access the timing parameters of this Content effect. There are two pages in this category – the first page includes the Loop Time and TapRate parameters. The Loop Time is the amount of time it takes to make one pass through the entire series. You can adjust the overall rate of the effect using the TapRate encoder, by typing a number and pressing the TapRate wheel key, or by tapping the wheel key in time with music. Press U3 again to page to access the Step and Attack times for the steps of the series. Set the effect to use a 0 attack time instead of the default 1 second fade. Now the colors should snap in with a new color every 1 second.

10) Press the U1 key. Change the GrpParts to 4. Now you should see four distinct groupings of channels – 17+18, 19+20, 21+22, and 23 by itself. This is Sequential distribution. Change the distribution to Interlaced and watch what happens on stage. Change again to Symmetrical and watch what happens on stage. There are inverted versions of these distributions as well. Also, there are two randoms – Random uses an even distribution of channels across parts, but selects them in random order. True Random gives you random distribution and order for really really random effects. Now, change the Group to Group 4 – M300 R. Now change to Group 5 – M500 ALL and watch what happens… Before moving to the next step, change to Group 6 – M300 ALL and set the number of parts to 8, with Sequential distribution.

11) Press the U2 key now and change Mode to Build. So far, you've been looking at a Continuous effect – this means all parts are always running some step from the Series. In Build mode, the way the parts execute the steps changes so that all the parts execute step 1 before any of the parts move on to step 2. You can use this Mode to create a wipe of color (or anything, really) across a number of channels.

12) Ok, now we are going to look at a Break Mode effect. Change the number of parts to 16 and then change the Series to the provided "Fly in" series. Watch what happens on stage for a while – notice what the lights are actually doing. Let's just look at one light as the effect runs – it starts pointing up and out, the intensity fades up while the light tilts downward, then the intensity goes out. Then the light returns to its up and out and dark position to WAIT until all the other lights have performed this maneuver. This is the essence of a Break mode effect – each part performs the active steps of the effect, and when done goes into a special "Background State"

to wait (or take a break, get it?) until all the other parts have done their thing. Let's take a look at the "Fly in" series…

Open the editor for the "Fly in" series: Browser>Effects>Content Effects>Series>Fly in. Close the Browser to get more room on screen if needed. This series has three "active" steps and the Background state. The Background places the channels in a "marked" intensity state (be dark) in Focus Palette 3 and Color and Beam Palettes 1. The first active step turns the intensity to full and sends the channel to Focus Palette 2. The next step turns intensity back to Mark and Focus Palette 0 (the Home position). Step 3 in this effect builds in a gap – it's just a repeat of step 2. A note about intensity – there are three possible intents for the intensity cell in the step. Be at a level other than zero, be at zero, or don't change. In order to differentiate between "be at zero" and "don't change" we use the M state to indicate a hard zero. [C/ALT] [MODIFY] will clear a cell, meaning that cell will have no impact on the current state of any channel running in the effect.

Now, this is one version of a Fly In style of effect. There are many other ways to write a Fly In depending on how you want the lights to behave. The whole point is that it is your Fly In, and it might be different from my Fly In.

Fly In effects are a bit complicated to use for describing the next two time settings, so create yourself a two color series that has one active step set to use Color Palette 0 (white) and the Background step set to Color Palette 4 (Blue). Both the step and the Background should also have 100% intensity. Name this series BlueWhite and set its default mode (in the Series List) to Break – this will ensure that it plays back correctly whenever you select it in a Playback. Change your current Effect Playback to use the new BlueWhite series. Watch what happens. One by one a new channel should start fading to white then snap to blue. In Break Mode effects, only the active steps have time – the Background state is just the content that channels should play back when they are not performing active steps. In this series we have one active step – be white – and one background state – be blue. You can apply timing to the White step only – and there are 4 times to be set – Step time, Attack time, Sustain time and Release time. Here's what they mean:

Step time: how much time elapses between parts executing the White step.

Attack time: how fast does the part fade up into full White.

Sustain time: once at full White, how long each part stays at full White.

Release time: once the sustain time has expired, how fast does the part fade back into the Blue background state.

Play with these times on the running BlueWhite effect and watch how different you can make the effect look with these small adjustments.

If you want to be able to play back more than one content effect at the same time, you need to insert more Content Effect Playbacks. This is easy to do live, using [#] [INSERT] & [EFFECT] again, or you can open the Effect Playbacks List in the Browser and use [INSERT] to insert a new playback into the list. Use [#] [EFFECT] to select a new playback and use the encoders to set it to play back the other content effect, then bring up the intensity.