

LJ SCS Content Expander v002-005 SAMPLE EXCEL COMMAND TOOL documentation rev 01

Overview

The SCS Content expander software / online tool takes in a Base SCS file and an Excel Tab Delimited Text Rules file and looks for occurrences of tags in the Base File and builds expanded cue content based on the Tab Delimited file.

This allows the power of Excel to be leveraged to build cues to be implemented in SCS with an efficient GUI for cue entry and the use of Excel formulas to help make cues easier to write.

This document provides an illustration of this capability with an actual complete cue setup build based on a particular casting of the musical *Big Fish*.

The actual Base and Excel files are available from:

<http://photos.workwebs.com/index.php/scs-expander/>

Setup

To begin the project, know your cast and channel assignments (physical microphones can be changed at any time by setting the source in the X32 so that is not important here).

In this example, Channel 1 is Edward Bloom, Channel 2 is Will Bloom, Channel 3 is Present Sandra, channel 4 is Past Sandra, etc.

Music is provided by a stereo track coming in at channels 31 and 32. Two spare mics are all set at channels 29 and 30, ready to be input assigned anywhere else if/when needed.

No swaps are planned. If they were, it would also be good to script in save and loads of snippets for the shared channels to preserve current settings and make them recallable.

A handheld microphone for announcements is set at channel 28.

The next step is to mark up the script with each desired Cue position and to annotate what needs to take place at the cues. In this example, the Cue Name provides the script page number in the first 3 digits followed by a dash and a 2 digit sequence number that restarts on each page. In this way, the cue name also provides the page information for quick reference.

Once you know all of these, you can create the SCS base file.

Base SCS Content

The following illustrate the beginning of the Base file in SCS. Note that in this sample, the Description and When Required will be overlaid with content from the Tab Delimited Rules file.

You will also note that the SCS Editor exposes the detail of the cue content. Take a look at Cue 007-01 as an example. You can see from the editor that we really do nothing here, it is just a placeholder based on the OSC Message content. The substitution will be defined in Excel and the enhancing done with the online script.

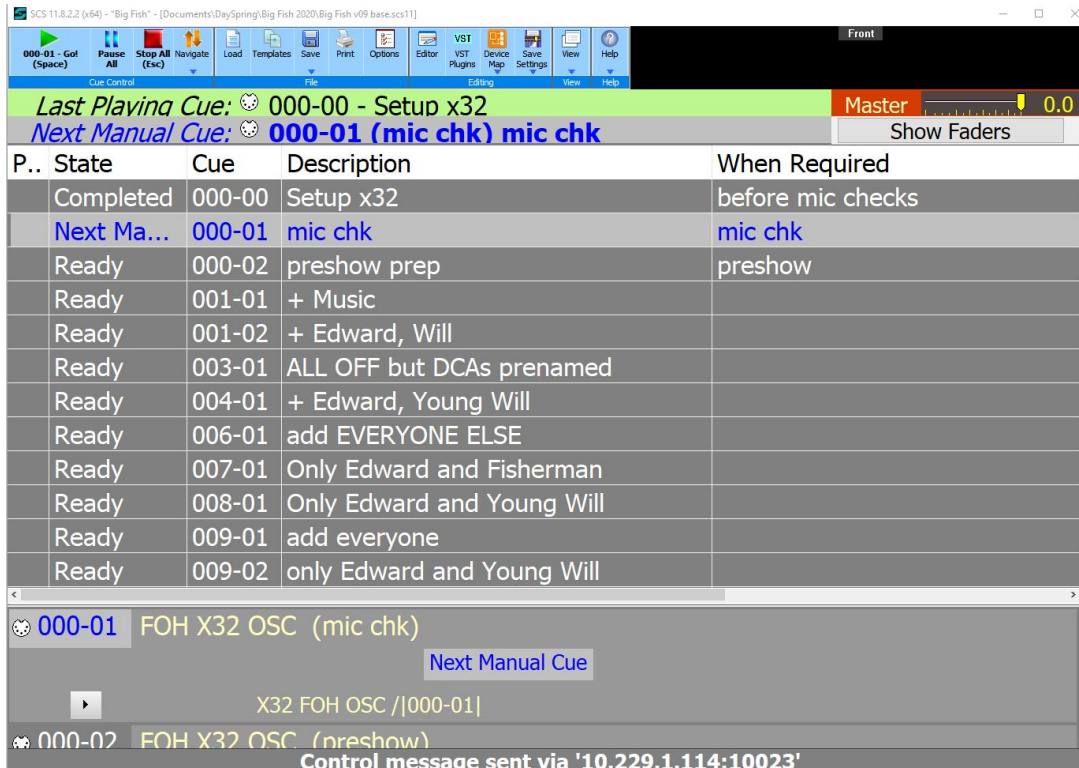


Figure 1 Base file main SCS window

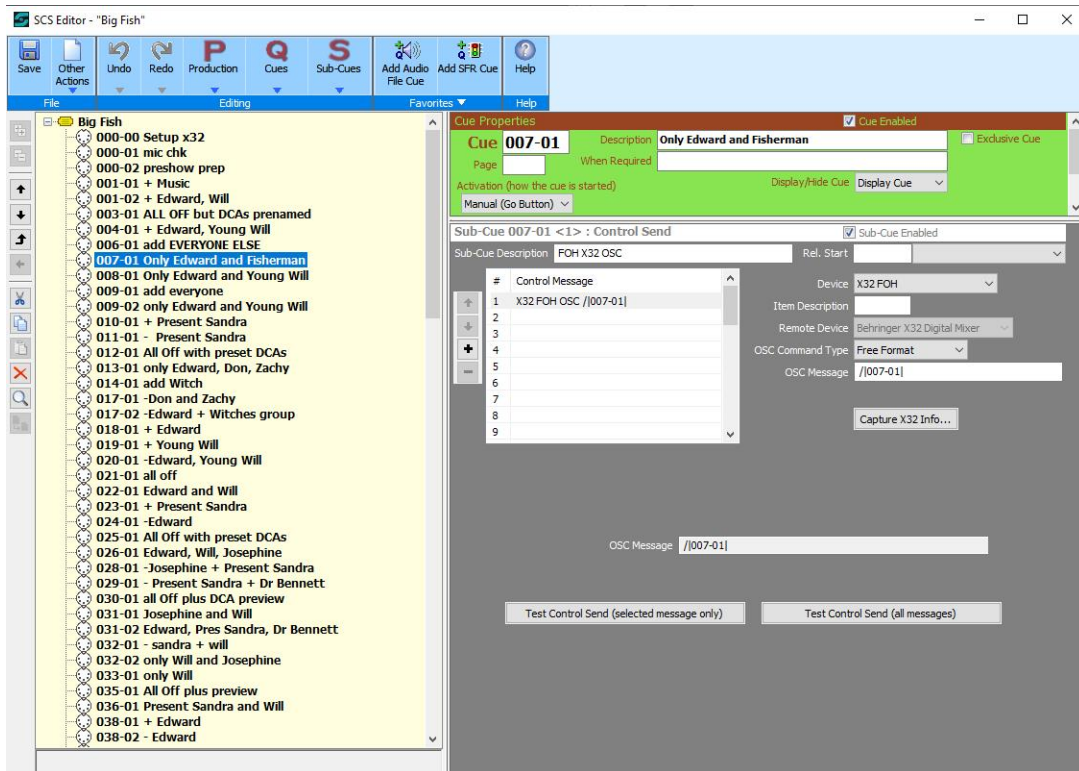


Figure 2 Base file editor SCS window

Once you have these done, it is time to create the Excel Rules file. Please do note that you can place any light or audio file cues in SCS at the base and these will be carried forward into the enhanced output. The design of this solution implementation allows for any other SCS cue to be sequenced along with these X32 sound control cues.

Rules File in Excel

This example uses Excel formulas extensively to build a friendly user interface for entry of these Cues. Excel is specifically used to take textual data and convert it into the SCS Content Expander commands so the resultant tab delimited file can be used against the SCS Expander tool to build all of the cue content needed by SCS.

The Excel design implemented did not use formulas to validate information between multiple typical Cues as this would have introduced constraints to the Excel data entry that was not desirable. For example, if there was a desire to place atypical cue commands between these repetitive style of cues, it would have broken the formulas.

Let's look at the example. You may wish to download the sample for a better view.

The file starts with basic 1-time information and setup items. Line 3 sets the Device name while lines 4-21 mute, set colors for, name, and assign a DCA for each channel as well as a mute, color, and name for each DCA as well as turn off all sends for all channels and then turn on only the desired sends for each channel, set Automix. That's a lot of commands in a little space! Lines 21-25 set up the music channels.

The screenshot shows an Excel spreadsheet with the following structure:

- Row 1:** Headers for cue numbers (1-25) and various parameters.
- Row 2:** Cue 1-HEADER with parameters for mute, color, and DCA.
- Row 3:** Cue 2-DCA with parameters for mute, color, and DCA.
- Row 4:** Cue 3-NAME with parameters for mute, color, and DCA.
- Row 5:** Cue 4-NAME with parameters for mute, color, and DCA.
- Row 6:** Cue 5-NAME with parameters for mute, color, and DCA.
- Row 7:** Cue 6-NAME with parameters for mute, color, and DCA.
- Row 8:** Cue 7-NAME with parameters for mute, color, and DCA.
- Row 9:** Cue 8-NAME with parameters for mute, color, and DCA.
- Row 10:** Cue 9-NAME with parameters for mute, color, and DCA.
- Row 11:** Cue 10-NAME with parameters for mute, color, and DCA.
- Row 12:** Cue 11-NAME with parameters for mute, color, and DCA.
- Row 13:** Cue 12-NAME with parameters for mute, color, and DCA.
- Row 14:** Cue 13-NAME with parameters for mute, color, and DCA.
- Row 15:** Cue 14-NAME with parameters for mute, color, and DCA.
- Row 16:** Cue 15-NAME with parameters for mute, color, and DCA.
- Row 17:** Cue 16-NAME with parameters for mute, color, and DCA.
- Row 18:** Cue 17-NAME with parameters for mute, color, and DCA.
- Row 19:** Cue 18-NAME with parameters for mute, color, and DCA.
- Row 20:** Cue 19-NAME with parameters for mute, color, and DCA.
- Row 21:** Cue 20-NAME with parameters for mute, color, and DCA.
- Row 22:** Cue 21-NAME with parameters for mute, color, and DCA.
- Row 23:** Cue 22-NAME with parameters for mute, color, and DCA.
- Row 24:** Cue 23-NAME with parameters for mute, color, and DCA.
- Row 25:** Cue 24-NAME with parameters for mute, color, and DCA.
- Row 26:** Cue 25-NAME with parameters for mute, color, and DCA.

Figure 3 Start of Excel file

Next, let's look at one of these typical Cues that we copy and paste and edit over and over again to implement the production.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
166	SCENEM	ENTER OVERHIDE FOR DEFAULT COLORS BELOW																														
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Figure 4 typical Cue entry in the Excel file

Let's focus on what happens in Cue 007-001 as an illustrative example.

In building Cue 007-01, the prior Cue lines 146-169 were copied and pasted. Then in line 174 the content was blanked out for DCAs 2-8 and in line 180 the content was blanked out for Channels 1-21.

Following that, we note that this cue leaves only the Fisherman and Edward unmuted based on our script annotations.

Our attention goes to the highlighted cells which are our data entry cells. The Tag is set to 007-01 to match the Cue information in the SCS Base file where the actions form this cue are to be placed.

The Cue is set to be a "Quick" Cue by placing a "q" in the noted cell in row 172. A Quick Cue is one where a refresh of content not marked as changed is not undertaken. This increases the speed for Cues where some things are left unchanged and where the change indicators are accurately provided. More on that later.

In the description area is placed a description of this Cue. If it starts with an * then this content will replace the content in the description. If it does not start with an * then it is just informative here and will not replace what is in the description in the SCS base file for this cue.

This particular Excel file was written to use the SCS Page number field to indicate if a cue is a quick cue or not. The gray page number area is being set to *q when a quick cue is selected. This will replace the Page information when the SCS Base file for the Page information with *q. This field is similarly ignored if the value does not start with *.

Next the when Required information is filled in. Again, if it starts with * it replaces the SCS cue's content from the Base file. If it does not begin with * the SCS Base file content carries forward.

At line 174 we can place a c to indicate that a Name (line 175) has changed and needs updating. This is done for DCA name changes here but could also be done if a name change on a Channel was desired. For example, if a single person held multiple roles and it was desired to reflect the specific row at this cue, the name could be modified.

Line 176 is the channel number involved for this content. Of course, if an item is not being changed, the channel could just be omitted, but this would make the reading of the file difficult and would make more work in cue writing.

Row 179 is to be filled in with the DCA assignment for a channel for this cue. A blank is the same as 0 and will result in the channel not being assigned to any DCA. It also results in the channel being muted as long as it is not a Quick Cue or even on a Quick Cue as long as a change is noted in row 180.

For DCAs for Row 179, a 1 indicated to leave the DCA unmuted, a 0 for muting the DCA. On Quick Cues, the c in row 180 is needed to enact a change.

Row 180 is to be a c if the DCA is going from set to not set or vice-versa for a channel (and this can result in a change in mute), or an m if the channel is only moving from one DCA to another (no mute change). If the entity for a column is a DCA, then a c in row 180 indicates that a mute value in row 179 has changed.

In row 182 a color code (see the SCS Expander document for values) can be placed to cause a specific color to be used for the scribble strip for an item. Otherwise, the colors are set as defined in the Excel formulas further down.

You may have noticed that rows 170 through 182 are defined as comments to the expander software. This is because they just provide the GUI for data entry. Formulas and information in rows 183-192 are the actual expander commands generated by Excel based on the input provided.

The actual commands begin with ~TAGSTART. This command provides the Tag surrounded by | characters and also provides the Description, Page, and When Required content that the ~TAGSTART command processes.

Row 184 is simply the ~sHEADER command associated with the entry.

Line 185 onward is where things begin to get interesting.

First off, because this is a Quick Cue, line 190 is a comment and line 191 is a comment. If this was not a Quick Cue, these 2 rows would be ~sDCA and ~sON commands. You will note that the script can set mutes then l n2 places for a Quick Cue and in 3 places for a full Cue. The first of these will be used to mute a channel or DCA that is going from unmuted to muted based on the DCA value going from 0 or blank to a value and the c being placed in row 180. We want to be sure that channels are removed from a DCA if already in one after they are muted and are added to a DCA prior to being unmuted. If row 180 is m then the item is just moving from one DCA to another so it will not be having its mute status changed, just the DCA assignment.

Comparably, the Name is changed after the DCA is set and the mute, if needed, is done. Then the mute setting in row 188 is undertaken to unmute channels just placed in a DCA from a muted condition.

Colors are then set in row 189.

Row 190 and 191 have content as if they are to be enacted, but the commands are set to Comments if this is a Quick Cue. This means that the change indicators in the yellow highlighted areas are the determiners of actions to take place. In a non-Quick Cue the data entered will be refreshed for all columns based on what the data entry indicates in terms of DCAs or for a DCA for a Mute value.

If you are jumping between Cues out of sequence, if you start on a Quick Cue then all values needed for that Cue are not refreshed so you may not get what you had hoped for in terms of assignments. It is recommended that Quick Cues would be used only when there is little time until the next Cue or when you want to reduce command load because you know you will not be needing to jump in the cue sequence to that cue because it just wouldn't make sense.

The Results

After the Rules file is saved in a Tab Delimited .txt file, you can prove it through the SCS Expander online tool.

Open the web page, provide the base file name and the rules file names and wait. The processing is all done on your computer so this may take a while. The browser may say it is not responding and ask if you should wait. Please wait. This may take several minutes for a large file. There is a huge amount of text manipulation taking place and a lot of text searching taking place.

Here is the start of the 007-01 Cue content in the Expanded SCS output file. You will note that there are almost 10,000 lines in this SCS file after expansion has taken place.

```

Big Fish v09 EXPANDED.scs11 - Notepad
File Edit Format View Help
<CueId>007-01</CueId>
<Description>* Only Edward and Fisherman</Description>
<PageNo>*q</PageNo>
<WhenReqd>* After Edward helps mermaid out of water</WhenReqd>
<Sub>
  <SubType>M</SubType>
  <SubDescription>FOH X32 OSC</SubDescription>
  <DefSubDes>1</DefSubDes>
  <ControlMessage>
    <CMLogicalDev>X32 FOH</CMLogicalDev>
    <OSCCmdType>free</OSCCmdType>
    <OSCItemString>/|007-01|</OSCItemString>
    <OSCDData>/|007-01|</OSCDData>
  </ControlMessage>
</Sub>
</Cue>
<Cue>
  <CueId>|007-01|.1-1</CueId>
  <Description>|007-01|.1-1</Description>
  <DefDes>1</DefDes>
  <ActivationMethod>auto</ActivationMethod>
  <AutoActivateCueType>prev</AutoActivateCueType>
  <AutoActivatePosn>end</AutoActivatePosn>
  <AutoActivateTime>0</AutoActivateTime>
  <HideCueOpt>EC</HideCueOpt>
  <Sub>
    <SubType>M</SubType>
    <SubDescription>|007-01|.1-1</SubDescription>
    <ControlMessage>
      <CMLogicalDev>X32 FOH</CMLogicalDev>
      <OSCCmdType>free</OSCCmdType>
      <OSCItemString>/ch/02/mix/on ,i 0</OSCItemString>
      <OSCDData>/ch/02/mix/on ,i 0</OSCDData>
    </ControlMessage>
    <ControlMessage>
      <CMLogicalDev>X32 FOH</CMLogicalDev>
      <OSCCmdType>free</OSCCmdType>
      <OSCItemString>/ch/03/mix/on ,i 0</OSCItemString>
      <OSCDData>/ch/03/mix/on ,i 0</OSCDData>
    </ControlMessage>
    <ControlMessage>
      <CMLogicalDev>X32 FOH</CMLogicalDev>
      <OSCCmdType>free</OSCCmdType>
      <OSCItemString>/ch/04/mix/on ,i 0</OSCItemString>
      <OSCDData>/ch/04/mix/on ,i 0</OSCDData>
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    <ControlMessage>
      <CMLogicalDev>X32 FOH</CMLogicalDev>
      <OSCCmdType>free</OSCCmdType>
      <OSCItemString>/ch/06/mix/on ,i 0</OSCItemString>
    </ControlMessage>
  </Sub>
</Cue>
Ln 9858, Col 17 100% Windows (CRLF) UTF-8 with BOM

```

Figure 5 expanded 007-01 , the beginning

The SCS Content

Here is what now appears in SCS after opening the expanded SCS file.

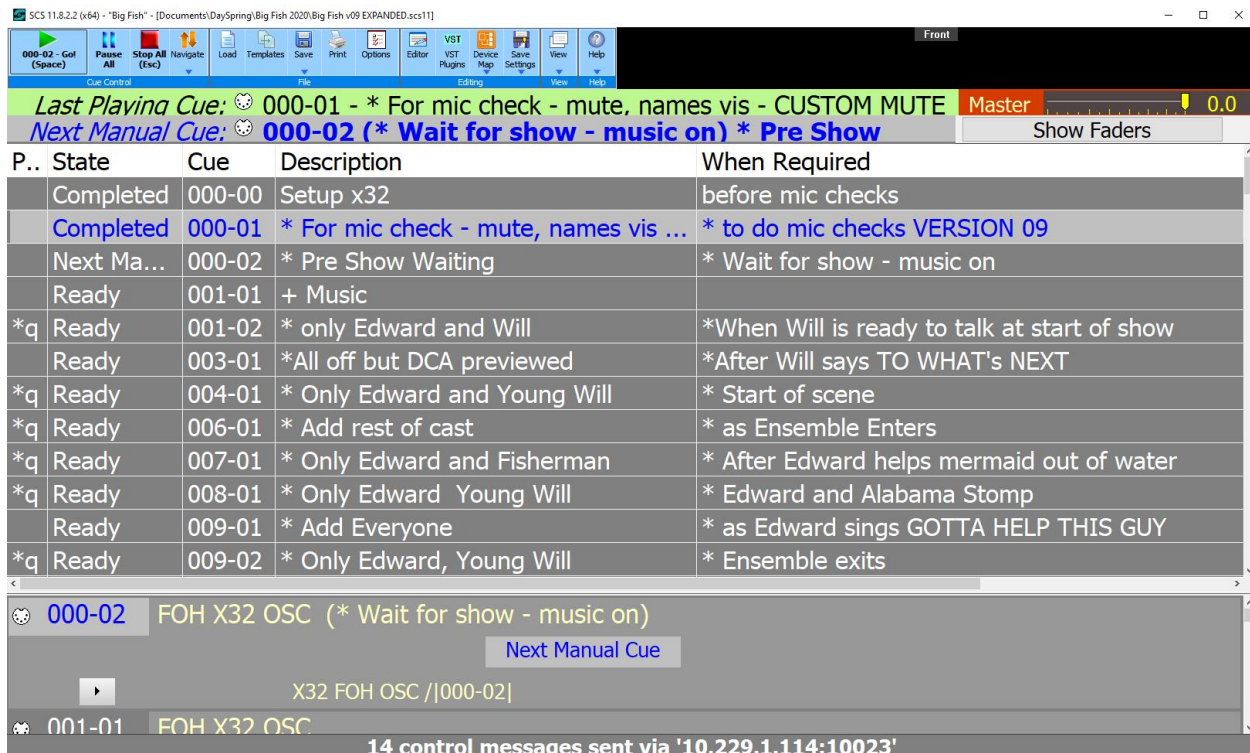


Figure 6 main SCS window after expansion

Note how the Page, Description, and When Required have been replaced by content from the Excel file.

Next, take a look at what sub-cues now exist under Cue 007-001 and at the commands in this sample part of the first sub-cue.

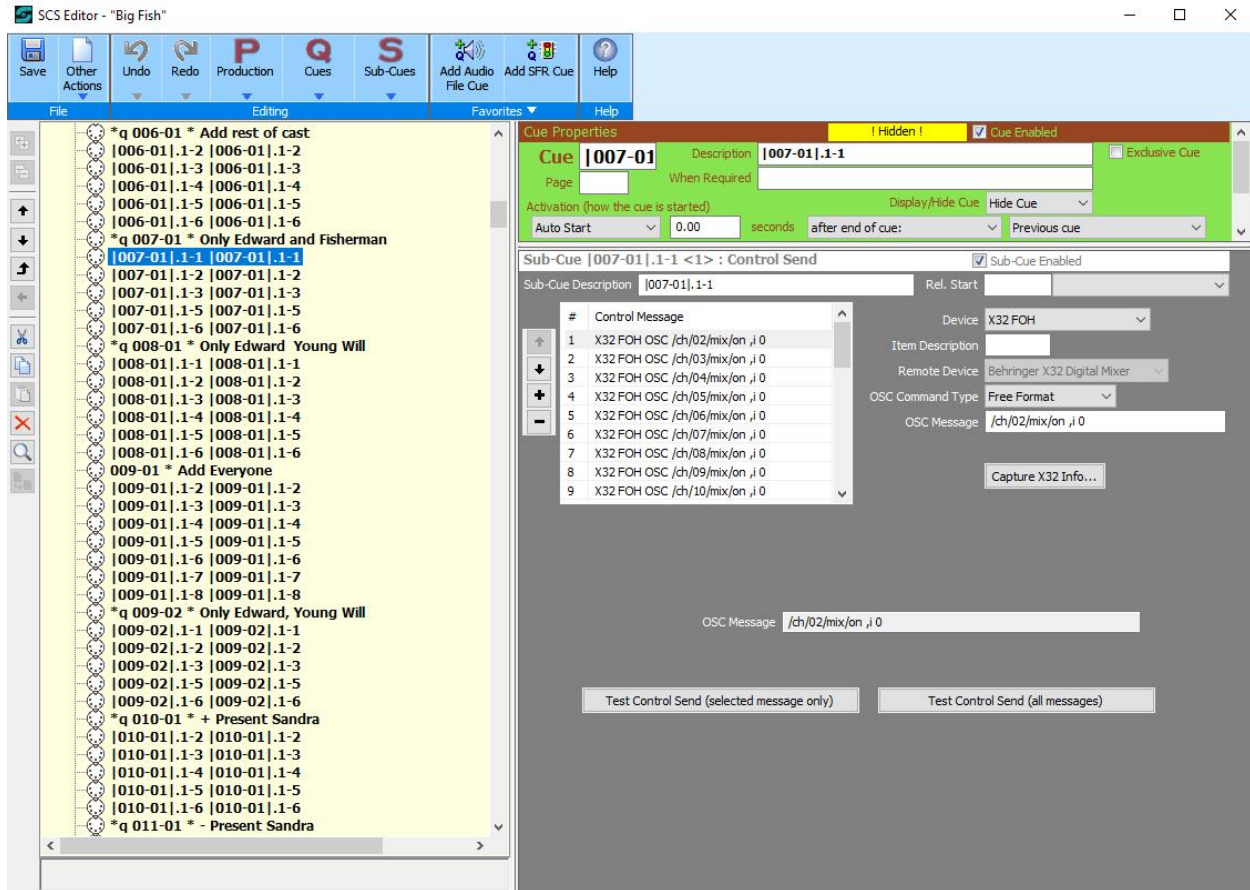


Figure 7 007-01 expanded detail

A very large number of commands were generated as requested.

NOTES:

Please note that the initial setup cue is very long running as it not only changes DCAs, Mutes, and Names, etc. but also removed and adds as appropriate a lot of Sends. This cue can be avoided if you save the scene on the X32 and start with this information already in place.

The sample spreadsheet has a definitions tab for all of the dropdown lists to constrain cell selections.

Excel ribbon: FILE, HOME, INSERT, PAGE LAYOUT, FORMULAS, DATA, REVIEW, VIEW, DEVELOPER, DESIGN (TABLE TOOLS)

Workbook: LJSCSEnhancer BigFishv09.xlsx - Excel

Clipboard: Cut, Copy, Paste, Format Painter

Font: Calibri, 11, Bold, Italic, Underline, Color, Background Color

Alignment: Wrap Text, Merge & Center

Number: General, Currency, Percentage, Decimals, Thousands Separator

Styles: Normal, Bad, Good, Neutral, Calculation, Check Cell

Name Chg: Name Chg

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	DCANum	note: ctrl-T		CHConds		DCAMuteVal		Colors		Headers		DCAHDRS		Quick Cue		Name Chg	
2	0			c		0		of		ch-01		dca-1		q		c	
3	1			m		1		re		ch-02		dca-2					
4	2							gr		ch-03		dca-3					
5	3							ye		ch-04		dca-4					
6	4							bl		ch-05		dca-5					
7	5							ma		ch-06		dca-6					
8	6							cy		ch-07		dca-7					
9	7							wh		ch-08		dca-8					
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35										auxin-02							
36										auxin-03							
37										auxin-04							
38										auxin-05							
39										auxin-06							
40										bus-01							
41										bus-02							
42										bus-03							

Figure 8 drop down lists