OverDrive

Custom Control Transition Solution for Stinger Undercut Timing

Station KTLA has created about 140 Custom Controls which are used to pop in stingers on command. Unfortunately, the stingers cannot be scripted into OverDrive shots.

One of the new features in OverDrive v10.0 enables a Custom Control to be used as a transition. The Custom Control starts the transition and waits for the switcher to send a “transistion complete” message, at which time OverDrive “catches up” with a trans and prep next.

Initial testing of the new Custom Control transition functionallity was based on the design of the feature. A Custom Control was assigned to a Transition button of each of the three test Custom Controls. The GPI to OverDrive to “take and prep next” was replaced with a straight switcher cut along with adjusted timing to correctly place the cut.

In the KTLA workflow, the OverDrive operator cannot repeatedly set the Transition button to the next Custom Control to use. During a show operators usually sellect several unsripted stinger customs in a short time period.

Proposed Solutions

1. Have 600 configurable transitions like the Custom Control menu, but transitions.
2. Trigger the Custom Control from the Custom Control subpanel tab and leave it in a Hold state. A Custom Control transition would be used to resume the held Custom Control.

   Jeff Dyer discussed the idea of a Custom Control that colud release all other Custom Controls from a Hold state. Carl Green is looking into the feasibility of Jeff’s idea. There is a potentially danger of placing several Custom Controls in a Hold state.
3. Add an instruction to the protocol that enables the switcher to inform OverDrive that it has completed a transition and that OverDrive needs to catch up.

   Carl Green come up with of this idea, which would require new develpment from the Switcher and OverDrive teams.
4. Let the switcher perform the undercut and then send a GPI to OverDrive to “Prep Next”. This process leaves OverDrive in a state where the prepared shot is correct, but the previous on air has not changed. KTLA does not like this solution.

   This solution could work with a new GPI listen "Take" configured to "prep next and repaint on-air". This new fuctionality would be an OverDrive only fix specific to sites that want to have the transition on the switcher but then have OverDrive catch up in the representation. The switcher completes the Custom Control and sends a GPI to OverDrive that simply “preps next” and catches up on the representation of the on-air shot. This solution could be dangerous if an operator jumped to a prepared shot just prior to the stinger Custom Control. Also, the timing is fixed.

Solution 3 and 4 facilitate numerous switcher controlled transitions within one Custom Control and keep OverDrive in tune with the representation.

The Selected Solution

After much thought, a solution was devised for KTLA that required no additional development. The selected soluition is as follows:

1. Create a Dummy Custom Control transition, a Custom Control that pauses for two frames.
2. Use Dummy Custom Control transition as the Custom transition cocked state, waiting for the transition to occur on the switcher and the “transition complete” message to come from the switcher.
3. OverDrive listens to GPI 10 and is set to perform the Dummy Custom Control transition when GPI 10 comes in and waits (up to 5 seconds) for the switcher transition to complete.

The existing work flow for the operator includes the following steps:

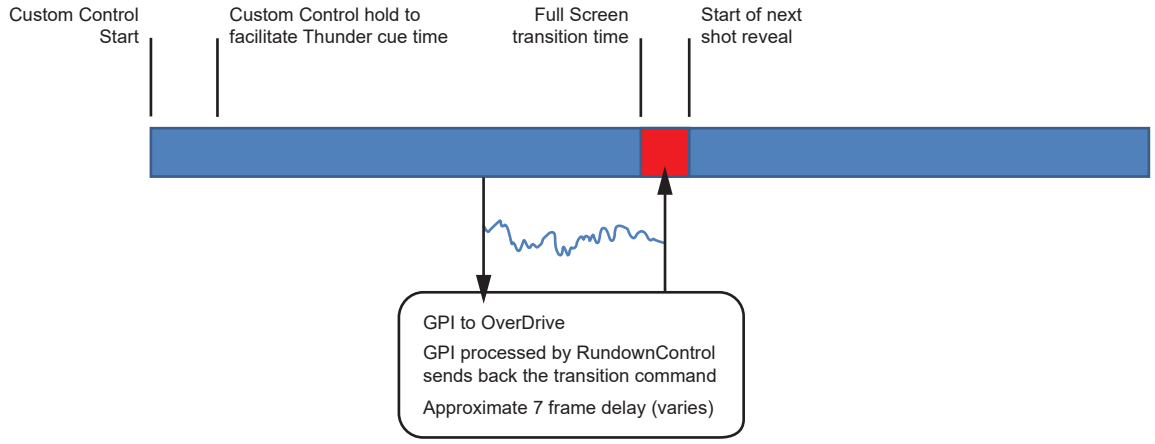
1. Prepare the Custom Control.
2. Verify the Hold state.
3. Waiting for the Thunder clip to cue.

4. Run the Main Custom Control from the cue point at the appropriate time.

The selected solutions does not change the existing workflow, but now the fine timing is all within the switcher.

Original Custom Control from KTLA

- Cue thunder with clip
- Hold
- DSK cut (roll VTR)
- [variable delay to time the undercut]
- GPI trans and prep to OverDrive



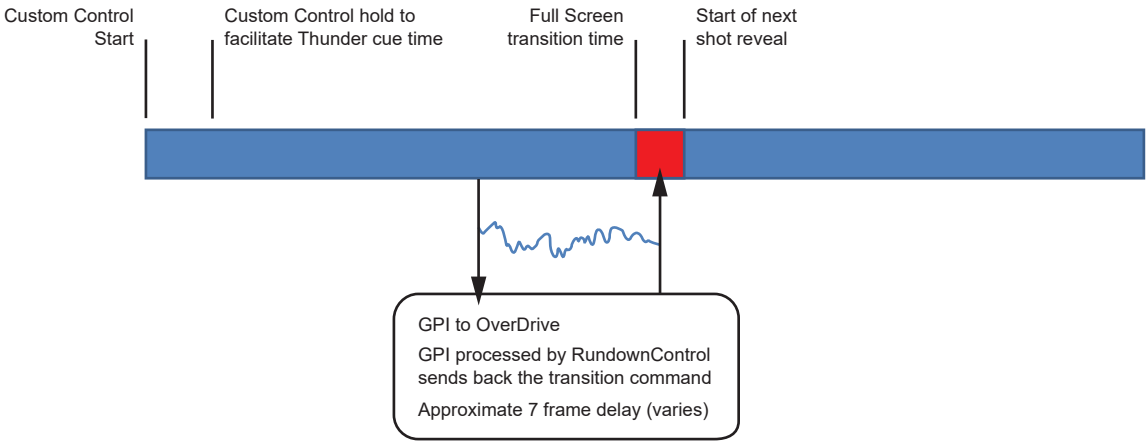
Original Custom Control

A delay from OverDrive ( ) must be anticipated so that the cut back at the switcher is received within the window of the full screen cover for the undercut. The delay from Rundown Control can vary by a frame or two either way, which may cause visible side effects when the full screen transition window is short and the cut happens too early or too late.

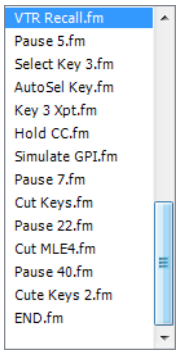
Many sites work well with this type of workflow as the full screen cover is long enough to accommodate variances in the Rundown Control timing.

Revised Custom Control for KTLA

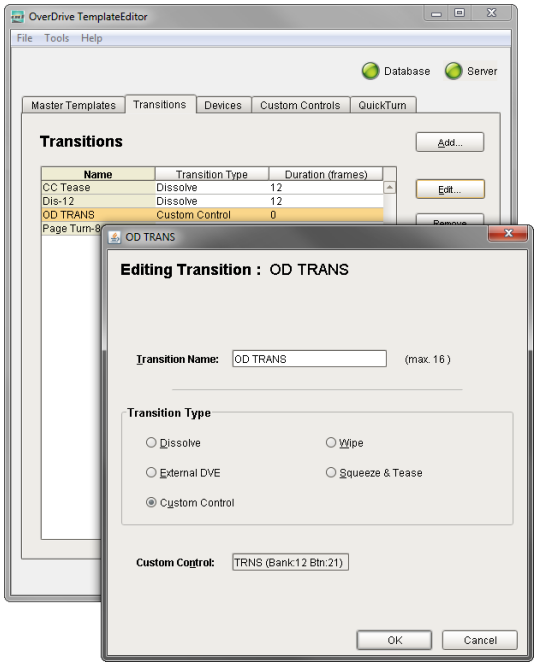
- Cue thunder with clip
- Hold
- Send GPI10 to Overdrive
- Pause 7 frames
- DSK cut (roll VTR)
- [variable delay to time the undercut]
- Switcher cut



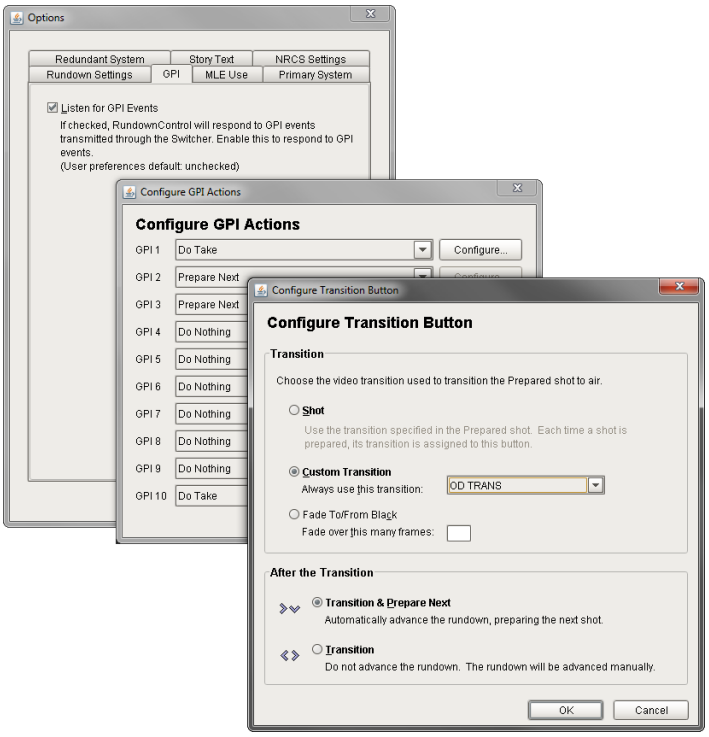
Revised Custom Control



KTLA Cutstom Control



OverDrive "OD TRANS" Cutstom Control



GPI 10 "OD TRANS" Cutstom Control

The workflow for the OverDrive operator does not change in this case. They start the custom from overdrive and see the paused state, watch for the Thunder to cue and then manually resume the Custom.

What we see is the undercut working perfectly every time.

Under the hood, when the hold is released the switcher sends a GPI to OverDrive that basically just cocks it to listen for the switcher transition to complete and reflects the transition in Rundown Control.

The main Custom Control is then cutting on the DSK, which sends the Roll VTR to the Thunder clip and the switcher cuts at precisely the correct frame within the Full Screen transition window. OverDrive detects the transition complete when the following message sequence comes in from the Frame (high bit of byte 2 drops from 1 to 0):

```
INFO: rcv  06 00 EE 07 94 00 04
INFO: rcv PGM Active Status Reply (trans in progress?) (decipher bits) 7 148 0 4
              [binary: 00000111 10010100 00000000 00000100 ]
              Byte1: MLEs reporting; Byte2: PGM. High bit: in progress.
INFO: rcv  06 00 EE 07 04 00 04
INFO: rcv PGM Active Status Reply (trans in progress?) (decipher bits) 7 4 0 4
              [binary: 00000111 00000100 00000000 00000100 ]
              Byte1: MLEs reporting; Byte2: PGM. High bit: in progress.
```

Notes

- From the setting of the OD CC transition to the completion of the transition on the switcher must be less than 5 seconds as this limit presently exists in ODv10.0. Otherwise OD times out waiting for the transition to complete, notifying the user with a pop-up, and when it actually happens on the switcher Rundown Control does not reflect the transition.
- A Main custom control that used to send the GPI to OverDrive to trigger the cut coming from OverDrive (in an effort to time the cut to perform approximately 7 frames later) needs to be adjusted to perform the actual cut on the switcher at 7 frames later than the old GPI send. This may require fine tuning. Basically, we are putting the switcher cut in the right place now instead of "pre-guessing" the Rundown Control delay () to get the cut.

Contacting Technical Support

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Our North America center located in Ottawa, Ontario, Canada and is open Monday to Friday 8:30 a.m. to 6:00 p.m. EST, with 24/7/365 on-call service after hours.

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Toll free within North America: +1 844-652-0645

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Website: open a support request using the link http://www.rossvideo.com/support/tech-support.html to open a support request.

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