

# DD35 User Note – Control solutions for GVG Profile

March 2001 – Rolf Grzibek – DD35 Production Switchers Applications Group

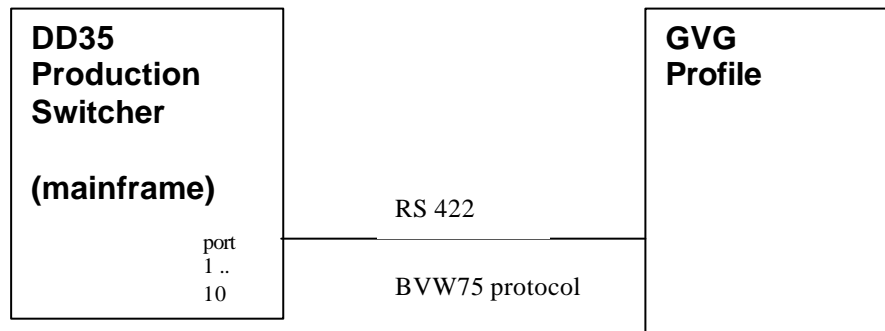
## Abstract

This article describes solutions for controlling the GVG Profile video server from a DD35 Production Switcher System. Features of the interface include frame accurate and clip selection.

## Frame accurate machine control

Up to four media player devices, such as VTR's or Video Disk Servers, can be directly connected to a DD35 Production Switcher System, to provide this advanced and accurate remote control.

### Connection diagram



For each channel to be controlled a separate serial cable is needed.

## Description

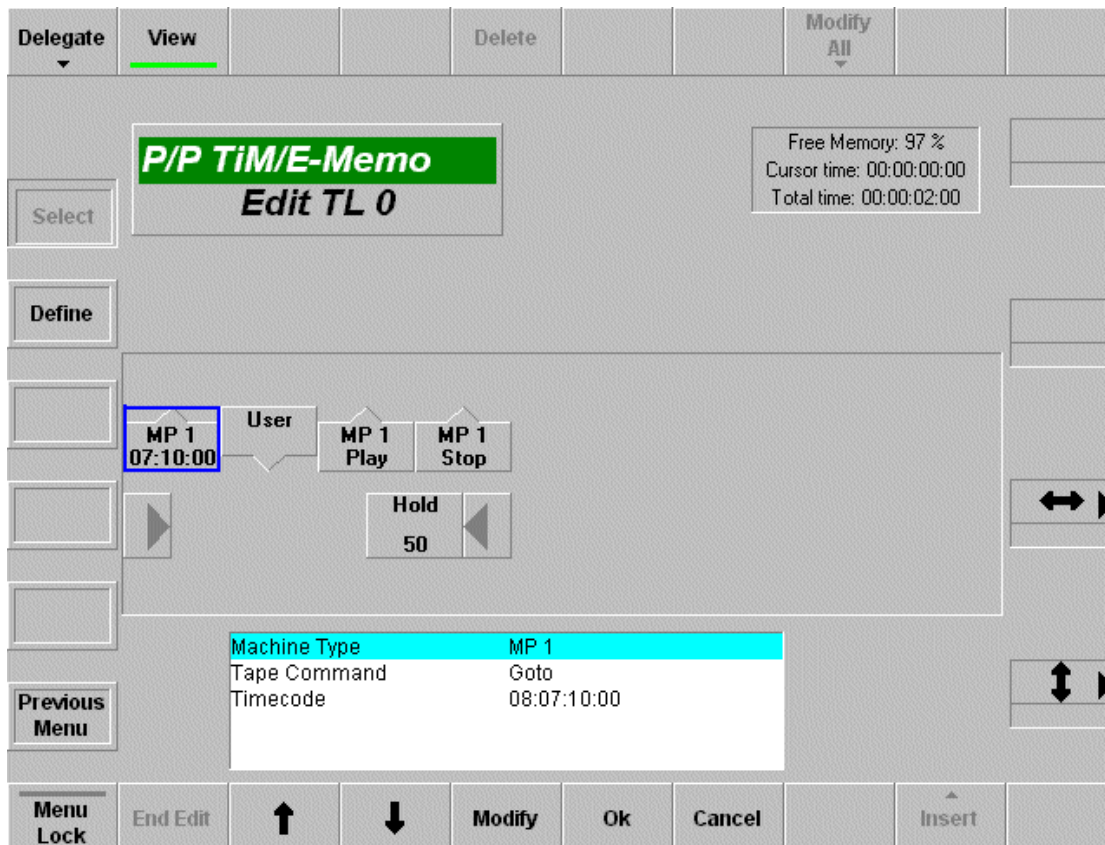
This connection provides frame accurate control of the currently selected clip. The interface features standard Tape Motion Controls (TMC) like STOP, PLAY, REV PLAY, FFWD, REW, RECORD as well as cueing to arbitrary timecodes like JOG, SHUTTLE and VARIABLE SPEED control.

The accuracy allows the replay of animations that have a video and a key signal (and therefore use two channels). Usually a CUE on a server is much faster than the reload of a clip, so by jumping to different timecodes within one clip on the video server, very fast changes can be realised in a secure way.

Marked points are remembered in TiM/E-Memo registers. This means that snapshots or any keyframe within a timeline can contain this information, and PLAY, STOP and CUE events can be placed on the timeline independently of the keyframes.

Instant operational access is directly available in the machine control section of the DD35 control panel, in a familiar way. There are dedicated buttons for the Tape Motion Control functions, including Crash Record. Shuttle and variable speed are controlled with a dedicated fader bar, and the trackball can be used for jogging.

## Sample timeline



The elements of this sample timeline are:

1. Cue MP1 (Media Player 1) to 08:07:10:00
2. WAIT for USER. When the timeline comes to the USER WAIT it pauses and the ENTER and CUT button of the TiM/E-Memo panel blinks. When ENTER or CUT is pressed, the timeline continues to run. This gives the system time to cue to the time code. (On a server this could be replaced by a short fixed wait. But you may not wish to run the video immediately.)
3. Issue a PLAY command to MP1 (Media Player 1)
4. Hold (wait) for 50 Frames.
5. Issue a STOP command to MP1 (Media Player 1)

When properly executed, this timeline will cue up to and then play the video segment between 08:07:10:00 and 08:07:12:00 (625/50 standard).

## Setup on DD35

In the GUI Menu choose INSTALL=E-Box and then choose the MACHINE tab, select the *port(s)* were the Profile is connected (any port from 1 to 10 can be used). As *type* select 'bvW75'. The 'bvW75play' is the same protocol but with REC INHIBIT.

Note: the number behind the protocol name indicates (is) the version number of the protocol driver!

## Reference

The integration as described above proved itself successfully during the "US Open Tennis Championships" in 1999 for playing back animated graphics.

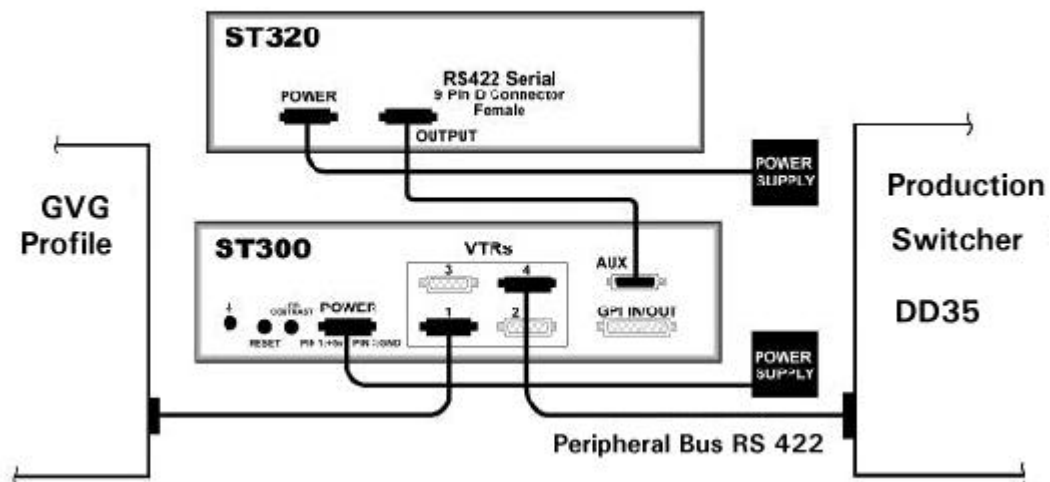
## Clip selection and Payout

Using a different interface control protocol the DD35 Production Switcher System can also select clips and play them.

This is achieved by using the *Peripheral Bus (P-Bus)* and the Clip Access Systems from DNF Controls. The P-Bus allows the production switcher to save and recall states on external devices (in case of a video server this will be the Clip and the Mark In point) and fire triggers (STOP, PLAY, etc.). DD35 supports 400 registers and all 16 possible triggers. The bus system allows for 24 devices.

### 200 Clip Access System with PPIO option

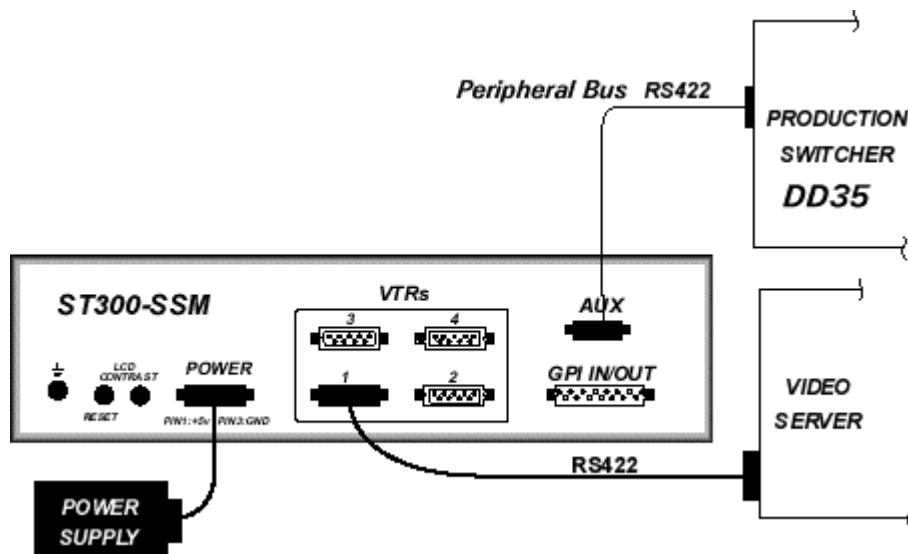
#### Connection Diagram



### 400 Clip Access System with PPIO option

#### Connection Diagram

#### ST300-SSM with Shotlist and Peripheral Bus Option



## Description

This connection allows the recall of clips and firing PLAY and STOP triggers (please refer to the User Manuals of the DNF Clip Access System for a full list).

A typical operational workflow could be as follows:

1. On DNF's Clip Access System the clips and the Mark In points are selected and saved in the memory registers of the production switcher, or of the DNF Controller. Up to 4 channels of Clip/Mark-In pairs can be saved in each register. Each register can hold a Fill clip and a Key clip combination, a Fill/Key/Background combination, or a single clip. The register number should be noted because the DD35 later refers to his (the register number).

Note: It is also possible to perform the SAVE function from the DD35, using the REMOTE-PBUS menu in the GUI Menu.

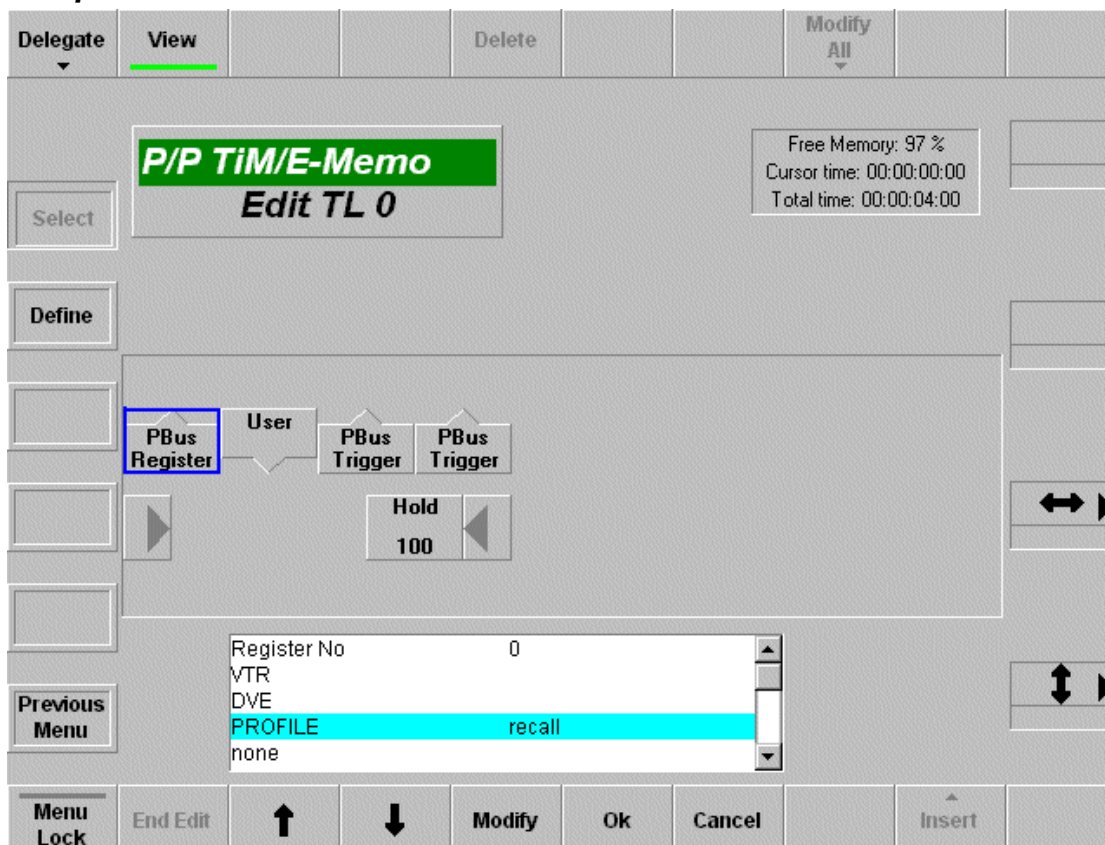
2. On the DD35 your timelines can be used to access those registers and play the clips, by simply programming P-Bus register recalls and trigger events into your timeline. These can be placed independently of keyframes on the timeline.

Note: you can also directly recall the registers and do the triggering from the REMOTE-PBUS menu, in case instant access is needed.

3. During the show recall the timelines.

Note: When editing the timeline it is possible to disable the P-Bus in the REMOTE menu so that no commands are sent out to the P-Bus devices!

## Sample Timeline



This timeline actually does not contain any keyframes, and only consists of trigger events. The elements are running as follows:

1. P-Bus register recall. The box on the bottom appears when the element is inserted or modified. It contains the register number (up to 400) and whether a device is to be recalled or not.

2. WAIT for the USER. (When the timeline comes to the USER WAIT, it pauses and the ENTER and CUT button of the TiM/E-Memo panel blinks. When ENTER or CUT is pressed, the timeline continues to run.) This gives the system time to recall the clip and cue it to the Mark In point.
3. P-Bus trigger. The trigger event contains the trigger number and the devices that should be triggered. In our example this would be a PLAY trigger.
4. HOLD (or WAIT) for 100 frames. The number of frames is arbitrary.
5. P-Bus trigger. In our example this could be a STOP trigger.

The system allows the recall of any number of registers and triggers within one timeline, so any number of devices which are affected by the trigger recall, can be controlled. These features makes it a very powerful tool, which offers many flexible solutions.

### Setup on DD35

The screenshot shows the 'Install E-Box' configuration window for DD35-50. The 'P-Bus' tab is active, displaying two tables:

| Machine | Name    | Active |
|---------|---------|--------|
| 0       | VTR     | Yes    |
| 1       | DVE     | No     |
| 2       | PROFILE | No     |
| 3       | none    | No     |
| 4       | none    | No     |
| 5       | none    | No     |
| 6       | none    | No     |
| 7       | none    | No     |
| 8       | none    | No     |
| 9       | none    | No     |
| 10      | none    | No     |
| 11      | none    | No     |
| 12      | none    | No     |
| 13      | none    | No     |
| 14      | none    | No     |

| Trigger    | Name    |
|------------|---------|
| Trigger 0  | PLAY    |
| Trigger 1  | GOTOCUE |
| Trigger 2  | SLOMO   |
| Trigger 3  | PLAY    |
| Trigger 4  |         |
| Trigger 5  |         |
| Trigger 6  |         |
| Trigger 7  | PLAY    |
| Trigger 8  | PLAY    |
| Trigger 9  | PLAY    |
| Trigger 10 | PLAY    |
| Trigger 11 | PLAY    |
| Trigger 12 | PLAY    |
| Trigger 13 | PLAY    |

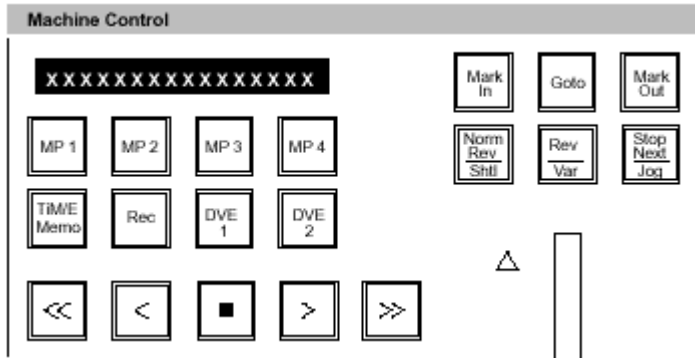
At the bottom of the P-Bus configuration, the settings are 'pbus\_v100' and 'None'.

By choosing, in the GUI Menu INSTALL=E-Box and then the P-Bus tab, the below menu will appear. It allows the installation of 24 devices. Naming can be customised for each device and each trigger on a device, for easy recognition of the function. P-Bus can be configured on any port of a DD35 Production Switcher Mainframe between 1 and 10.

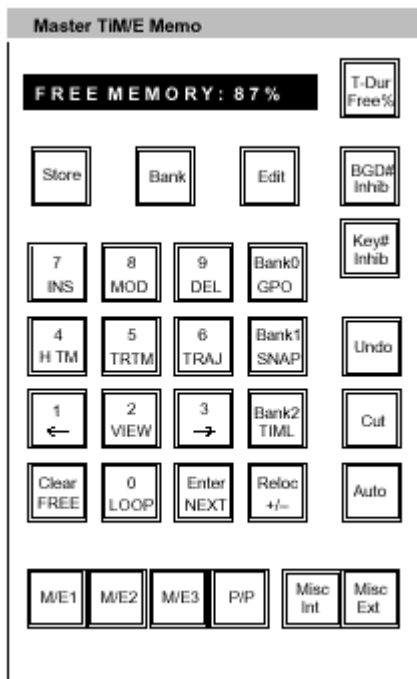
### Reference

A New York based 24 hour news channel has three Control Rooms using the DD35 and DNF Controls to integrate Profile in three operation.

## Appendix A: Machine Control Panel



## Appendix B: TiM/E-Memo Panel



### Disclaimer

All trademarks mentioned in this paper are property of their respective owners.

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