BNCS Device Drivers

Sony Multi VT Driver

32 bit Sony_multvt.exe

Written by Paul Adair

From an original 16 bit application by David Yates

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1. Overview

1.1 Description

The VT Driver uses the protocol described in the document "Betacam / Betacam (SP) Series Protocol of Remote-1 connector (1st Edition)". This driver can also be used to drive machines which use this protocol e.g. D3 machines, DigiBeta.

1.2 BNCS configuration

The VT driver is implemented as a BNCS version 2 driver and requires CSI 1.16 or later.

1.3 Info driver compatibility

Each VT appears as a separate infodriver. This VT driver can control a maximum of 9 VTs.

1.4 CSI version

CSI version 1.16 or later.

1.5 Device setup

Tallies returned from the driver are as a result of a VT action. This means that even if the VT is controlled locally the driver still shows what it is up to. Tallies as a result of a user command are immediate. Tallies from changes in state (say when the machine is controlled locally) are once a second.

It is possible to go to a cue point. The cue point can be set by the user supplying a time or at the current time.

Note: For tapes with non-contiguous timecode Cue may not work correctly.

No tallies (or cue times) are stored when the driver shuts down.

2. Driver setup

The base infodriver number is supplied as a command line parameter to the driver when it starts up. VT1 controlled through this infodriver, VT2 = (base infodriver + 1) etc. etc.

There can only be one Multi-VT Driver running on a PC at a time.

The VT driver uses entries in the "dev_xxx.INI" file. There is one [VTx] entry for each VT machine.

An ini file template is created for the device number given if it doesn't already exist.

2.1 Ini file settings

Item	Value	Comment
[MULTI_VT]		
DebugMode	0	Extends the driver display window to show debug messages
Simulation	0	There is no simulation mode on this driver. Early versions still write this flag on creating the ini file.
Shuttle	80	Default Shuttle speed (x 3)
Variable	64	Default Variable speed default (x 1)
Jog	32	Default Jog speed default (x 0.1)
LogToDisk	0	Logs all TX, RX and Debug messages to a log file
TxTimeoutmS	250	Time, in milliseconds, the driver will wait for a response before sending out another Tx command
[VTn]		Where n is the VT no. 1 - 9
Port	0	COM port to use
Speed	38400	Baud Rate. Speed is defined as: Tape Speed = 10(n/32-2).
DataBits	8	Number of databits
StopBits	1	Number of stop bits
Protocol	Sony	Choose between Sony's 9-pin protocol (enter value as "Sony") or BlackMagic's interpretation of Sony's 9-pin protocol (enter value as "BlackMagic").
Parity	O	Parity can be O,E, or N

2.2 Sample Ini

```
[MULTI_VT]
DebugMode=0
Simulation=0
Shuttle=80
Variable=64
Jog=32
LogToDisk=1
TxTimeoutmS=250

[VTn]
Port=0
Speed=38400
DataBits=8
StopBits=1
```

```
Protocol=Sony
Parity=O
```

3. Infodriver

3.1 Usage

Slot Number	Use	Information and Values of Slot
1	Transport Command	The following commands are used: 1 = Stop (also issues a Standby On) 2 = Play 3 = Rec (Crash record) 4 = Rew 5 = F.Fwd 6 = Eject 7 = Variable(,speed) 8 = Shuttle(,speed) 9 = Jog(,speed) If no "speed" parameter is supplied then the default is used. Reverse Var/Shuttle/Jog can be achieved by making "speed" or the transport command negative. e.g. '-7' is variable reverse at the default speed. e.g. '8,-90' is variable shuttle in reverse at speed 90 (see above) 11 = Standby Off 12 = Standby On 21 = Goto Cue 22 = Set Cue (at current timecode) Writing RESET to this slot flushes the internal port transmit / receive queues. 41 - PROFILE COMMAND - Next Item 42 - PROFILE COMMAND - Previous Item 43 - PROFILE COMMAND - Top of Item 44 - PROFILE COMMAND - End of Item
2	Transport Status	This shows the actual status of the machine. This slot will show what is happening even if the VT is taken local. 1 = Stop 2 = Play 3 = Rec 4 = Rew 5 = F.Fwd 7 = Var 8 = Shuttle 9 = Jog 10 = Cueing 21 = At cue
3	Fault Info	Comma Delimited list of status flags. e.g.1,0, 1 - Comms status (1 = Fail) 2 - Hard Error (1=Error)
4	No Control	Comma Delimited list of status flags. e.g.1,0, 1 - Local / Remote (1=Local) 2 - Cassette Out (1=No Cassette)

Slot Number	Use	Information and Values of Slot
5	Play Warning	Comma Delimited list of status flags. e.g.1,0,0, 1 - Ref Missing (1=No Ref) 2 - Standby (1=Off) 3 - Servo Lock(1=Unlocked)
6	Rec Warning	Comma delimited list of flags 1 - Record Inhibit (1 = inhibited) **Note:** This slot is only updated when a tape is inserted and when a recording is attempted.
10	Timecode update delay	Time in mS between the driver requesting timecode of the machine. This slot can be dynamically changed. The minimum is 40mS. This can only be considered an approximate value. **Note:** The timecode delimiter is a period "."
11	Current Timecode	This is in the format HH.MM.SS.FF where HH is hours, MM is minutes, SS is seconds, FF is frames. This Timecode slot is only updated if the timecode has changed.
12	Cue Timecode	This is the cue point timecode. A user writes to this slot to update the cue point. Timecode is in the format: HH.MM.SS.FF
13 - 20	User slots	These slots can be used for any purpose but are limited to 17 characters. Note also that they are not saved to disk when the driver is shut down.

4. Version history

4.1 Driver version

Version No	Details	Name
1.00	Initial release	D Yates
1.01	Modifications to the way forward and reverse shuttle/var/jog are dealt with.	“
1.02	Adds "Cued" and "Rec Inhibit" status	“
1.03	Adds user slots 13-20	“
1.04	Adds mask to upper bits of timecode	“
1.05	Adds mask to cue timecode	“
1.07	Message queue size fix	“
1.08	Adds record inhibit checking on going into record	“
1.09	Removes standby on after timeout	“
1.10	Adds reset command	“
1.11	Development version	“
1.12	Corrects flaw in Comms fail flag	“
1.13	This is a development version	“
1.14	Corrects timecode loss after "Comms lost"	“
1.1.0	32 bit rebuild renamed sony_multivt.exe	Paul Adair
1.1.1	Adds V3/V4 config path settings for bug #2256	K. Dutta
1.2.0	Added ‘BlackMagic’ protocol selection for bug#2343	S. Griffin
1.2.1	Fixed issues with Logging and the RX/TX counter not working; tidied up the ini file and rebranded the driver to BNCS. Changed protocol selection in the ini file so that it can now be chosen for each VT. Fixed a bug where it would send two messages within 10ms of one another.	S. Griffin

4.2 Document version

Version No	Date	Details	Name
1.1	Feb 09	Updated template and converted from HTMLl to Word/PDF format	A Atkin
1.2	June 09	Added Sony_multivt to version history	A Prince
1.3	July 2012	Adds V3/V4 config paths for bug #2256	D. Rockley
1.4	Feb 2013	Added ‘BlackMagic’ protocol selection for bug#2343	S. Griffin
1.5	Feb 2013	Corrected section 2 with an up to date sample ini and listing what all the settings in the ini file do	S. Griffin