



12843 Foothill Blvd.,  
Suite D  
Sylmar, CA 91342  
818 898 3380 voice  
818 898 3360 fax  
[www.dnfcontrols.com](http://www.dnfcontrols.com)

**Model No. ST304-DSR1K-(T)-HL**  
**For**  
**Sony DSR-DR1000 DDR**

**SLOW MOTION CONTROLLER**  
**With SEGMENT PLAYOUT and HIGHLIGHT REEL**  
**(T-BAR CONTROL LEVER OPTIONAL)**

**USER MANUAL**

R 1.01







# Table of Contents

REVISION HISTORY.....	2
<b>GETTING STARTED . . . . .</b>	<b>3</b>
<b>1. SYSTEM DESCRIPTION.....</b>	<b>3</b>
<b>2. DEFINITIONS.....</b>	<b>3</b>
<b>3. INSTALLATION.....</b>	<b>4</b>
A. CONNECTION DIAGRAM.....	4
B. ST300 INSTALLATION.....	5
C. DSR-DR1000 SETUP.....	5
<b>4. OPERATION.....</b>	<b>6</b>
A. RECORD MODE SELECTION.....	6
B. START RECORD.....	6
C. STOP RECORD.....	6
D. LCD DISPLAY.....	7
E. TRANSPORT CONTROL.....	7
F. SELECT A CUE POINT.....	7
G. SAVE A CUE POINT (AUTO MARK MODE=OFF).....	8
H. SET IN/OUT POINTS.....	8
I. DELETE IN (OUT) POINT.....	8
J. SAVE A CUE POINT (AUTO MARK MODE=ON).....	8
K. GOTO (LOAD) A CUE POINT.....	8
L. PLAYING SEGMENTS.....	9
M. PLAYING SEGMENT IN LOOP MODE.....	9
N. RECUE A CUE POINT.....	9
O. GOTO TO A MANUALLY ENTERED TIME.....	9
P. (GO TO) EE.....	9
Q. GO TO LIVE.....	9
<b>5. HIGHLIGHT FUNCTIONS.....</b>	<b>10</b>
A. OVERVIEW.....	10
B. FUNCTIONS.....	10
C. LIMITATIONS.....	10
D. PLAYOUT MODES.....	11
E. SELECTING THE PLAYLIST.....	11
F. CUEING THE PLAYLIST.....	11
G. SELECTING AN ELEMENT IN THE LIST.....	12
H. APPENDING AN ELEMENT TO THE END OF THE PLAYLIST.....	12
I. INSERTING AN ELEMENT BEFORE THE SELECTED ELEMENT IN THE PLAYLIST.....	12
J. DELETING AN ELEMENT FROM THE PLAYLIST.....	12
K. PLAY THE PLAYLIST AT 100 % PLAY SPEED.....	13
L. LOOP A PLAYLIST.....	13
M. PLAY THE PLAYLIST AT SLOMO SPEED.....	13
N. PAUSE, RESTART, JOG, SHUTTLE THROUGH THE LIST.....	13
O. CLEAR THE PLAYLIST.....	13
<b>ADVANCED FEATURES . . . . .</b>	<b>15</b>
<b>6. TRANSFER CUELIST.....</b>	<b>15</b>
A. TRANSMIT CUE LIST FUNCTION.....	15
B. RECEIVE CUE LIST FUNCTION.....	16
<b>OPTIONS . . . . .</b>	<b>17</b>
<b>7. -T VERSION... T-BAR CONTROLLER.....</b>	<b>17</b>

<b>REFERENCE</b> .....	<b>18</b>
<b>8. SETUP MENU</b> .....	<b>18</b>
<b>9. FUNCTION TABLE</b> .....	<b>21</b>
<b>10. SPECIFICATIONS</b> .....	<b>24</b>
RS422 SERIAL CONNECTOR .....	24
POWER CONNECTOR .....	24
AUX CONNECTOR (PBus IN) RS422 SERIAL CONNECTOR .....	24
GPI IN/OUT CONNECTOR .....	25
<b>11. KEY LAYOUT</b> .....	<b>26</b>
<b>12. DNF CONTROLS LIMITED WARRANTY</b> .....	<b>27</b>

Manual Version: ..... 1.01 080607  
Document ID: ..... ST304-DSR1K-HL\_User\_Manual.doc

## REVISION HISTORY

050307	1.00	Original document.
080607	1.01	Added LOOP button to key layout. Added operating procedure for loop mode.

## *Getting Started . . .*

### **1. SYSTEM DESCRIPTION**

- 1) The ST304-DSR1K Slow Motion Controller combines the power of the ST300 Slow Motion Controller, a larger 4-line display, and with the power of the Sony DSR-DR1000.
- 2) The key functions:
  - Simultaneous Record and Playback.
  - Segment Playout
  - Highlight Reel Playout
  - Press [EE] to go to live video.

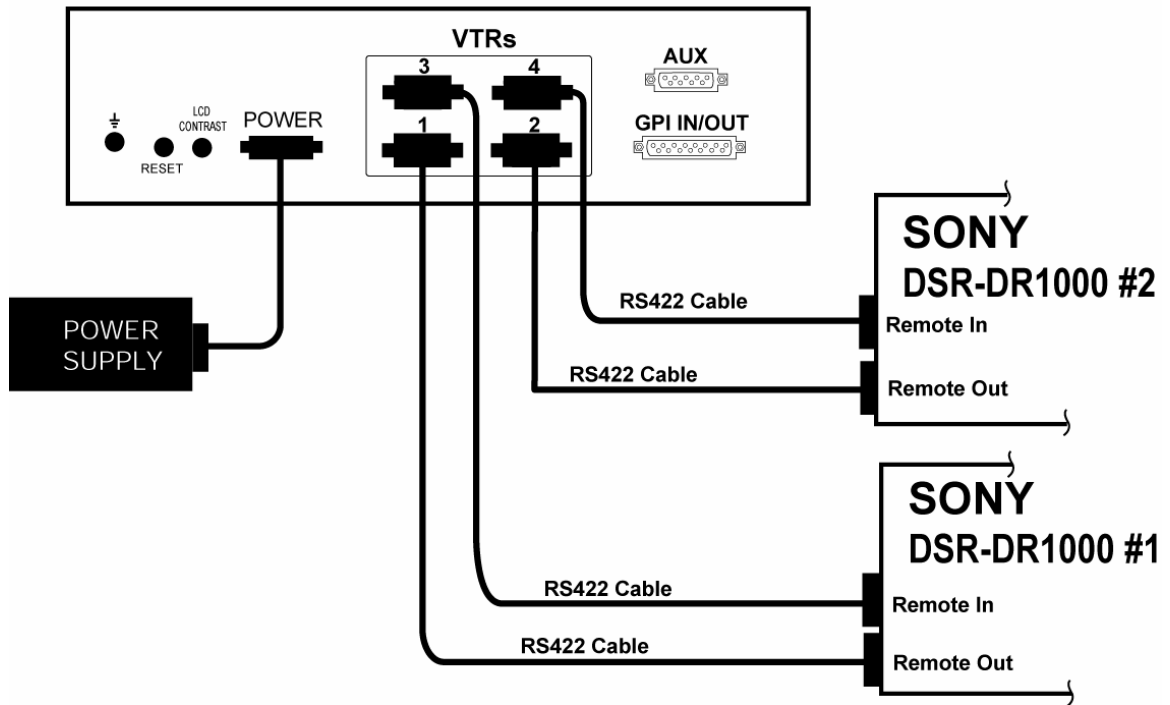
### **2. DEFINITIONS**

- 3) Throughout this document VTR, DDR, VDR & Video Server will be referred to collectively as "VTR."
- 4) The ST304-DSR1K will be referred to as "ST300."
- 5) Words surrounded by brackets, for example, **[ENTER]**, are keys on the ST300. **[XXX] + [XXX]** means hold the two keys down simultaneously.
- 6) The 5 keys directly below the display are referred to as Softkey i.e... **{SPD}**. Their function changes as indicated on the last line of the display;

### 3. INSTALLATION

#### A. CONNECTION DIAGRAM

### Connection Diagram





## B. ST300 INSTALLATION

- 1) Connect the REMOTE OUT (Play) connector of the first DSR-DR1000 to the VTR1 connector on the back of the ST300.
- 2) Connect the REMOTE IN (Record) connector of the first DSR-DR1000 to the VTR3 connector on the back of the ST300.
- 3) Connect the REMOTE OUT (Play) connector of the second DSR-DR1000 to the VTR2 connector on the back of the ST300.
- 4) Connect the REMOTE IN (Record) connector of the second DSR-DR1000 to the VTR4 connector on the back of the ST300.
- 5) Connect the supplied POWER SUPPLY, APX#4108 into the POWER connector on the rear of the ST300. Plug the Power Supply into an outlet, 90 VAC – 240 VAC.
- 6) Select REMOTE mode on the VTR's front panel.
- 7) Check the **SETUP MENU** prior to using the Slow Motion Controller to confirm proper Record mode, SLO-MO speed range, and other User settable modes.

## C. DSR-DR1000 SETUP

Refer to the DSR-DR1000 User Manual.

### SET-UP FOR THE DSR1000

- 1) SET-UP MENU (MENU GRADE = ENHANCED MODE)
  - a. OPERATIONAL FUNCTION
    - 1- REPEAT FUNCTION = OFF
    - 2- AUTO EE SELECT
      - A - FWD/RWD = PB
      - B - STOP = PB
      - C - STAND BY OFF = EE
    - 3- LOCAL ENABLE = STOP
    - 4- REC MODE = NORMAL REC
    - 5- REC INHIBIT = OFF
    - 6- AFTER CUE-UP = STILL
    - 7- PLAY START = 5 FRAMES
  - b. INTERFACE SELECT
    - 1- REMOTE I/F = 9 PIN (DUAL)
- 2) DISK MENU
  - a. DELETE = ALL DELETE

## 4. OPERATION

The normal work flow is to setup the vtr according to the instruction under Installation: DSR-DR1000 setup. Be sure to clear all files from the vtr so there is no confusion as to which file (Timecode) the unit will be using to search. Then the unit would be placed into RECORD (Press **[SHIFT] + [RECORD]**). Once the recorder is in RECORD MODE it will continue to record until the event is over. The recording should not be stopped, since the timecode will be broken and the unit will not be able to search properly. The next step is to press **[EE]** to load the clip on to the player. At this point, cue points can be created by pressing **[IN]** and **[OUT]**. Any of these cue points can be added to a HIGHLIGHT REEL (PLAYLIST) by pressing **[ADD/INSERT]**. The cue points can be loaded by pressing **[GOTO]** and played out by pressing **[PLAY]**. The speed can be changed and played in SLOMO by moving the T-BAR. There are many settings in the MENU that should be set according to the operator's preferences.

### A. RECORD MODE SELECTION

- 1) Press **[MENU]**. The MENU indicator will turn on.
- 2) Turn the Wheel until "REC" is viewed on the top line of the display. The current Record mode is shown.
- 3) Press the softkey to select:  
Record Lockout or Crash.
- 4) Press **[ESC]** to exit the MENU. The MENU indicator will turn off.  
OR  
Turn the Wheel for other setup options.

### B. START RECORD

- 1) Press **[SHIFT] + [REC]** on VTR1 to start recording on Record channel connected to VTR3 connector of the ST300.
- 2) The Record LED turns ON. The Record LED blinks if there is no communication with the recorder.
- 3) Press **[SHIFT] + [REC]** on VTR2 to start recording on Record channel VTR4 connector of the ST300 (if second DSR is connected).
- 4) The Record LED turns ON. The Record LED blinks if there is no communication with the recorder.

### C. STOP RECORD

- 1) Press **[SHIFT] + [STOP]** on VTR1 to stop recording on Record channel connected to VTR3 connector of the ST300.
- 2) The Record LED turns OFF.
- 3) Press **[SHIFT] + [STOP]** on VTR2 to stop recording on Record channel connected to VTR4 connector of the ST300 (if second DSR is connected).
- 4) The Record LED turns OFF.

## D. LCD DISPLAY

During normal operation:

The top line of the display shows the MODE, the selected TIME MODE and current time location of the selected Player.

The second line shows the selected SLOMO speed and the in point of the current cue.

The third line shows the current cue and the out point of the current cue.

The fourth line shows the current PLAYLIST number, the number of the selected playlist ELEMENT and the position of the element in the list.

For example:

[PB]	TC	01:22:09:23
+0.00	IN	01:13:09:23
Q99	OUT	01:21:15:04
01-03		XX XX>XX XX>

Time Modes: TC= LTC VT= VITC

When IN & OUT LEDs are ON, the 2<sup>nd</sup> and 3<sup>rd</sup> lines of the display show the content of current IN & OUT points. When IN & OUT LEDs are off, the 2<sup>nd</sup> and 3<sup>rd</sup> lines of the display show the content of currently selected cuepoint.

## E. TRANSPORT CONTROL

Select the desired transport function by pressing the appropriate key on the ST300.

The Real-Time Status Indicators will light to indicate the VTR's current tape transport mode.

For example: Pressing [PLAY] will put the Player into the PLAY mode.

The PLAY status Indicator will turn on when the VTR is in PLAY mode.

## F. SELECT A CUE POINT

Press [NEXT CUE] or [LAST CUE] to step through the Cue Points.

OR

Manually enter the desired Cue Point number using the numeric keypad.

The Cue number and its contents are shown on the 2<sup>nd</sup> and 3<sup>rd</sup> lines of the display.

## G. SAVE A CUE POINT (AUTO MARK MODE=OFF)

AUTO MARK allows one-key marking of segments by automatically calculating the OUT point. You can turn it ON/OFF in the setup menu.

Press **[IN]** to save time into the IN Point of the current Cue Point.

If EE light is ON, Recorder's time will be saved into the IN Point of the Cue Point.

If Advance option is set, time will be saved into the next Cue Point's IN Point.

Press **[OUT]** to save time into the OUT Point of the CURRENT Cue Point.

If EE light is ON, Recorder's time will be saved into the CURRENT OUT Point of the Cue Point.

Note: In order to save an OUT point to the current Cue Point, the current Cue Point must have an IN point saved FIRST.

## H. SET IN/OUT POINTS

- 1) Set IN/OUT Point
- 2) Press **[SHIFT] + [IN]** to manually enter the time into the IN point. The IN LED turns on.
- 3) Press **[SHIFT] + [OUT]** to manually enter the time into the OUT point. The OUT LED turns on.

## I. DELETE IN (OUT) POINT.

- 1) Press **[DEL] + [IN]** (**[DEL] + [OUT]**).
- 2) The current IN (OUT) point is deleted.
- 3) IN (OUT) LED turns off.

## J. SAVE A CUE POINT (AUTO MARK MODE=ON)

If AUTO MARK MODE is ON, when **[IN]** is pressed, the OUT point is automatically calculated as IN + SEG duration then saved in the cuepoint (SEG duration is set in the MENU).

When **[OUT]** is pressed, the IN is automatically calculated as OUT – SEG duration, and saved in the cuepoint.

AUTO MARK allows one-key marking of segments by automatically calculating the OUT point. You can turn it ON/OFF in the Setup Menu.

## K. GOTO (LOAD) A CUE POINT

- 1) Select the desired Cue Point. The Cue number and its contents are shown on the 2<sup>nd</sup> and 3<sup>rd</sup> lines of the display.
- 2) Press **[GOTO]** to search to the IN point saved in the Cue Point.
- 3) After cuepoint is recalled, the IN and OUT LEDs are ON.

## L. PLAYING SEGMENTS

- 1) Select VTR channel to PLAY.
- 2) Press **[PLAY]** key.
- 3) The Player will start playing and it will stop when the time code reaches the OUT point.
- 4) The top line of the display shows PB mode and the timecode position.
- 5) If the Player is positioned after the OUT point, the playout will continue until **[STOP]** is pressed.
- 6) Press **[SHIFT] + [PLAY]** to disregard the OUT point and continuously play until **[STOP]** is pressed.
- 7) In SloMo mode, the Playback will stop once the time code reaches the OUT point.

## M. PLAYING SEGMENT IN LOOP MODE

- 1) Select a clip (cuepoint) to loop by pressing **[LAST CUE]**, **[NEXT CUE]**, or manual entry and press **[GOTO]** to load the cuepoint.
- 2) Press **[LOOP ENABLE]**. The cue will be loaded. LOOP ENABLE LED will turn ON.
- 3) Press **[PLAY]** to play the clip in a Loop mode.
- 4) The Player will start playing in LOOP mode and replay the element as soon as it reaches the out point. It will continue to play until the **[STOP]** key is pressed.

## N. RECUE A CUE POINT

Press **[RECUE]** to search to the IN point of the loaded CUE point.

## O. GOTO TO A MANUALLY ENTERED TIME

- 1) Press **[SHIFT] + [RECUE]** and use the numeric keypad to manually enter a time.
- 2) Press **[ENTER]**, **[GOTO]**, or **[RECUE]** to search to the entered time.
- 3) OR
- 4) Press **[ESC]** to exit without searching.

## P. (GO TO) EE

Press **[EE]** key to go to Live video on the corresponding Playback Channel. The EE LED turns on.

When EE light is ON, **[IN]** and **[OUT]** keys mark the Recorder's time code.

If EE LED is OFF, **[IN]** and **[OUT]** keys mark the Player's Time code.

## Q. GO TO LIVE

- 1) Press **[REC]** key.
- 2) The Player searches to the current Recorder time minus user-defined INPUT Video Delay. (See SETUP MENU.)

The Player starts playing.

## 5. HIGHLIGHT FUNCTIONS

### A. OVERVIEW

The HIGHLIGHT feature lets you create a sequence of cues that can be played out as a highlight reel. Ten different reels with twenty elements each can be created. The reels can be edited by adding, deleting, or inserting elements as long as the list is not in play mode. Only the cuepoints from the current channel (player/recorder pair) may be added to the playlist. The playlists and their elements cannot be shared between channels.

### B. FUNCTIONS

The following playlist functions are available:

- 1) Select a Playlist
- 2) Cue the playlist to the selected element
- 3) Append an element to the end of the playlist.
- 4) Insert an element before the selected element in the playlist.
- 5) Delete an element from the playlist.
- 6) Play the playlist at 100% play speed.
- 7) Play the playlist at a speed less than 100% play speed.
- 8) Pause, Restart, Jog and Shuttle through the list.
- 9) Clear the playlist.
- 10) Loop a clip or a playlist. (Future function)

### C. LIMITATIONS

The system has the following limitations:

- 1) It can only control DSR-DR100 Ver2.0 software and above.
- 2) The playlist cannot be edited while it is playing
- 3) Separate Slo-motion speeds cannot be assigned to the playlists' elements.
- 4) The IN and OUT points of the elements of the playlist cannot be edited while in PL mode. The Cue (element) IN and OUT points can be edited and then reload the list.

## D. PLAYOUT MODES

The ST304 has three modes:

```
[EE] TC 01: 22: 09: 23
+0.00 IN 01: 13: 09: 23
Q99 OUT 01: 21: 15: 04
01-03 | XX XX>XX XX>
```

- EE mode - the displayed on the 1<sup>st</sup> line = Recorder time, EE ON.

```
[PB] TC 01: 22: 09: 23
+0.00 IN 01: 13: 09: 23
Q99 OUT 01: 21: 15: 04
01-03 | XX XX>XX XX>
```

- PB mode - normal playout, replay of cues, slomo etc., EE off.

```
[PL] RT 01: 22: 09: 23
+0.00 IN 01: 13: 09: 23
Q99 OUT 01: 21: 15: 04
01-03 | XX XX>XX XX>
```

- PL mode – a playlist is loaded and cued.

The currently selected mode is indicated on the first line of the display, before the current location time.

To move between modes the following keys are used:

From MODE	KEY	To MODE
Any	EE	EE
Any	REC key	PB (goes to live video)
Any	GOTO	PB (cues to the displayed Q or entered time)
Any	LIST + GOTO	PL (playlist) – cues displayed list
EE	PLAY, STOP, RWD, FFWD, Jog, Shuttle, Slomo	PB
PB, LOOP, PL	PLAY, STOP, RWD, FFWD, Jog, Shuttle, Slomo	No mode change

## E. SELECTING THE PLAYLIST

Hold [LIST] and press [LAST CUE] or [NEXT CUE].

Line 4 of the display will show the playlist number and the content of the selected playlist. If already in PL mode, this will also cue the selected playlist.

## F. CUEING THE PLAYLIST

Press [LIST] + [GOTO] to cue the list

The first line of the display shows the countdown of the whole playlist.

When the first element of the list is cued up, the time on the first line of the display will equal total playlist duration.

## **G. SELECTING AN ELEMENT IN THE LIST**

Press and hold **[LIST]** and turn the JOG wheel to select an element in the list.

The maximum of 4 elements may be displayed at one time on the LCD. To indicate that there are more elements, "<" sign is used at the right and ">" sign is used at the left side of the element display.

In PB and EE mode, moving the wheel will only move the cursor (->) to the selected element.

In PL mode, selecting the element will also cue to that element.

## **H. APPENDING AN ELEMENT TO THE END OF THE PLAYLIST**

Use **[LAST CUE]**, **[NEXT CUE]** or numeric keyboard to select the cuepoint number to be added to the list. The selected cuepoint is displayed on the third line of the display.

Press **[ADD/INSERT]** to add that cuepoint to the end of the list. The display reflects the new addition by incrementing total number of elements displayed on the fourth line.

The cursor (->) will jump to the element that has been added.

If the number of element in the playlist after the addition will become greater than the maximum allowed number of elements, the message "Error – List Full" will be displayed and the element will not be added.

## **I. INSERTING AN ELEMENT BEFORE THE SELECTED ELEMENT IN THE PLAYLIST**

Use **[LAST CUE]**, **[NEXT CUE]**, or numeric keyboard to enter the cuepoint number to add to the list. The selected cuepoint is displayed on the third line of the display.

Use **[LIST]** + Wheel to position cursor at the selected element.

Press **[SHIFT]** + **[ADD/INSERT]** to insert that cuepoint before the currently selected element. The display reflects the new addition by incrementing total number of elements displayed on the fourth line.

If the number of element in the playlist after the insertion will become greater than the maximum allowed number of elements, the message "Error – List Full" will be displayed and the element will not be added.

## **J. DELETING AN ELEMENT FROM THE PLAYLIST**

Use **[LIST]** + Wheel to position cursor at the selected element.

Press **[SHIFT]** + **[DEL]** to delete that element from the playlist. The display reflects the new deletion by decrementing total number of elements displayed on the fourth line.

Elements cannot delete from the playlist while in PL mode.



## **K. PLAY THE PLAYLIST AT 100 % PLAY SPEED**

Cue the playlist by pressing **[LIST]** + **[GOTO]**. The PL mode indicator will show on the first line of the display.

Press **[PLAY]**, the list will start playing and will play all elements until **[STOP]** is pressed or the last element is played.

Press **[SLOMO]** at any time to slow down the playout.

The first line of the display will show the countdown of the playlist.

The fourth line of the display will follow the playout showing which element is currently playing.

## **L. LOOP A PLAYLIST**

Select a playlist and load it using **[SHIFT]** + **[GOTO]** combination.

Press **[LOOP ENABLE]**. The playlist will be loaded. LOOP ENABLE LED will turn ON.

Press **[PLAY]** to play the clip in a Loop mode.

Press Slomo / turn the Wheel / Tbar to slomo the clip.

## **M. PLAY THE PLAYLIST AT SLOMO SPEED**

Cue the playlist by pressing **[LIST]** + **[GOTO]**. The PL mode indicator will be shown on the first line of the display.

Preset the Slomo speed with the Tbar or the Wheel. The speed is displayed on the second line of the display.

Press **[SLOMO]** (or move the T-bar / Wheel if Tbar / Wheel Auto enable mode is on), the list will start playing and will play all elements until **[STOP]** is pressed or the last element is played.

Move the Tbar / Wheel at any time to change the Slomo speed.

Press PLAY at any time to start playing at 100% play speed.

The first line of the display will show the countdown of the playlist. No Real-Time countdown relative to the slomo speed will be calculated.

The fourth line of the display will follow the playout showing which element is currently playing.

## **N. PAUSE, RESTART, JOG, SHUTTLE THROUGH THE LIST**

Press **[STOP]** to stop the playout at any time.

Press **[PLAY]** or **[SLOMO]** key to restart the playlist from the point at which it had been stopped.

It is possible to do **[REWIND]**, **[FFWD]**, **[JOG]** or **[SHUTTLE]** on the playlist just like on a regular clip in both directions.

The fourth line of the display will follow the position of the element that is currently being passed.

## **O. CLEAR THE PLAYLIST**

Press **[LIST]** + **[DEL]** keys. The prompt will be displayed: "Delete this playlist?"

"ENTER = Yes, ESC = NO".

If **[ENTER]** is pressed, the current playlist will be deleted. No changes are made on the DSR1K.

Note: this operation cannot be performed in PL mode. An error will be displayed and the playlist will not be deleted from the controller.  
Clear Cue memory option in the MENU will also delete all playlists.

## *Advanced Features . . .*

### **6. TRANSFER CUELIST**

NOTE: Only the CUE points are transferred. The HIGHLIGHT playlists are not saved and can not be restored.

#### **A. TRANSMIT CUE LIST FUNCTION**

The TRANSMIT CUE LIST function allows you to transmit your list of Cue Points to a PC, using the provided utility software on the PC, or to another ST300. Transfer to a PC requires OpSuite 3.0 software, which runs on a Windows-based computer. Contact DNF Controls for more information.

- 1) To Transmit Cue Points to Another ST300
  - a) Connect the VTR4 connector on the rear of the ST300 to the VTR4 connector of the receiving ST300 using an RS422 9-pin cable with TX and RX lines crossed. (A "turnaround" cable.)
  - b) Press **[MENU]**.
  - c) Scroll the Wheel until "Transmit CUE list? YES=Enter, Exit=ESC" is displayed.
  - d) Press **[ENTER]** to start transmitting. The Display shows "Waiting to transmit" on the first line.
  - e) When the Receiver is ready, transfer starts automatically. The Display now shows "Transmitting Cuelist."
  - f) After the transfer is over, the display shows "Transfer is over" for one second and then shows "Waiting to transmit" again.
  - g) Connect another ST300 to transmit the list again.
- OR
- 2) To Transmit Cue Points to a PC
  - a) Connect the VTR4 connector on the back of the ST300 to one of the COM ports on the PC using a RS422 to RS232 adapter.
  - b) Press **[MENU]**.
  - c) Scroll the Wheel until "Transmit CUE list? YES=Enter, Exit=ESC" is displayed.
  - d) Press **[ENTER]** to start transmitting. The Display shows "Waiting to transmit" on the first line.
  - e) When the Receiver is ready, transfer starts automatically. The Display now shows "Transmitting Cuelist."
  - f) After the transfer is over, the display shows "Transfer is over" for one second and then shows "Waiting to transmit" again.
  - g) Press **[ESC]** twice to exit the MENU mode.

## B. RECEIVE CUE LIST FUNCTION

The RECEIVE CUE LIST function allows you to receive a list of Cue Points from a PC or from another ST300. Transfer to a PC requires OpSuite 3.0 software, which runs on a Windows-based computer. Contact DNF Controls for more information.

- 1) To Receive Cue Points From Another ST300
  - a) Connect the VTR4 connector on the back of the ST300 from the VTR4 connector of the transmitting ST300 using RS422 9-pin cable with TX and RX lines crossed. (A "Turnaround" Cable)
  - b) Press **[MENU]**.
  - c) Scroll the Wheel until "Receive CUE List? YES=Enter, Exit=ESC" is displayed.
  - d) Press **[ENTER]** to start receiving.
  - e) The Display shows "Waiting to receive" on the first line.
  - f) When the Transmitter is ready, transfer starts automatically. The Display now shows "Receiving Cuelist."
  - g) After the transfer is over the display shows "Done-Success! Press any key..."
  - h) Press any key. The display shows "Receive Cuelist?" message.
  - i) Press **[ESC]** to exit the MENU mode.
  
- 2) To Receive Cue Points from the PC
  - a) Connect the VTR4 connector on the back of the ST300 to one of the COM ports on the PC using RS422 to RS232 adapter.
  - b) Press **[MENU]**.
  - c) Scroll the Wheel until "Receive CUE List? YES=Enter, Exit=ESC" is displayed.
  - d) Press **[ENTER]** to start receiving.
  - e) The Display shows "Waiting to receive" on the first line.
  - f) When the Transmitter is ready, transfer starts automatically. The Display now shows "Receiving Cuelist."
  - g) After the transfer is over the display shows "Done-Success! Press any key..."
  - h) Press any key. The display shows "Receive Cuelist?" message.
  - i) Press **[ESC]** to exit the MENU mode.

*Options . . .*

## **7. -T Version... T-BAR CONTROLLER**

The -T version Adds the T-BAR for more precise SLO MOTION control. The T-BAR has a mechanical detent at play speed. To play in the reverse direction press the **[LIST]** key which allows instant reverse play.

## Reference . . .

### 8. SETUP MENU

- ❑ Press **[MENU]**. The MENU indicator will turn on. Turn the Wheel to select item to change.
- ❑ Use the Softkeys to change the desired mode for that option. Turn the Wheel at anytime to select another item.
- ❑ Press **[ESC]** at anytime to exit **SETUP MENU** (all changes will be saved). The MENU indicator will turn off.

<u>MENU MODES</u>	<u>(Turning Wheel Clockwise)</u>
<b>RECORD</b>	Select the desired record mode: Lockout or Crash (Full).
<b>WIND MODE</b>	Press Softkey to select: <b>{HOLD}</b> (Fast wind is maintained only while key is pressed.) <b>OR</b> <b>{LATCH}</b> (Fast wind is initiated and maintained with momentary key press.) Select fast wind speed (3.9 to 23.7) by pressing Softkey <b>{SPD}</b> until the desired speed is displayed.

<p><b>SLOMO</b></p>	<p>ST300 display shows (T-Bar version):</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>SLOMO with:                      TBAR Wheel                      SpdRange                      Preset</p> </div> <p>ST300 display shows (Non T-Bar version):</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>SLOMO with:                      WHEEL SpdRange                      Preset</p> </div> <p>Press Softkey <b>{TBAR}</b> (or [WHEEL]) to toggle between T-BAR and WHEEL.</p> <p>The T-BAR has two speed ranges:</p> <p style="padding-left: 40px;">0 → +200 with a detent at +100 % play speed</p> <p style="text-align: center;"><b>OR</b></p> <p style="padding-left: 40px;">0 → +100 with a detent at +100%</p> <p><b>For Wheel only:</b></p> <p>Press Softkey <b>{SPDRANGE}</b> to select SLOMO speed ranges:  Press Softkey to select: 0 → +200 <b>OR</b> -100 → +200.  Press Softkey <b>{BACK}</b> to return to SLOMO MENU.  Press [ESC] to exit SETUP MENU</p> <p><b>OR</b></p> <p>Turn the Wheel to select another item.</p> <p><b>For Wheel only:</b></p> <p>Press Softkey <b>{PRSET}</b> to select the SLOMO Preset Speed Mode.  Press Softkey <b>{UPDATE}</b>.  When exiting SLOMO mode, the last used speed is saved in the Preset Speed register.  Press Softkey <b>{STATIC}</b>.  The Preset Speed register is NOT updated when exiting SLOMO mode. It is only changed by [SHIFT] + [SLOMO] (PRESET SLOMO).</p>
<p><b>TBAR AUTOENABLE</b></p>	<p>Press Softkey <b>{ON}</b> to enable slomo to be engaged by moving the TBAR.</p>
<p><b>WHEEL AUTOENABLE</b></p>	<p>Press Softkey <b>{JOG}</b> or <b>{SHUTTLE}</b> to enable that function to be engaged by turning the Wheel.</p>
<p><b>GANG MODE</b></p>	<p>Press Softkey to select <b>{PERMANENT}</b> GANG (described in the FUNCTION Table) or <b>{TEMPORARY}</b> GANG.</p> <p>In TEMPORARY mode, press and hold the VTR key that you want to read status from, then press the VTR#s of those VTRs that you want to include in the gang. Release the keys. The LED on the monitored VTR blinks, all other VTRs in the gang stay on constantly. To break the temporary gang, press any VTR# key.</p>

<b>ST300 SETUP</b>	<div data-bbox="477 254 1062 359" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ST300 SETUP  Clear Cues                      Set Default </div> <p>Press Softkey beneath Clear Cues to clear all Cue Points to 00:00:00:00.</p> <p>Press Softkey <b>{YES}</b> when asked "Are You Sure?"</p> <p>Press Softkey beneath Set Default to set ST300 to default settings.</p> <p>Press Softkey <b>{YES}</b> when asked "Are You Sure?"</p>
<b>DISPLAY SOFTWARE VERSION</b>	The version number for the currently installed software is displayed.
<b>VIDEO STANDARD</b>	Press Softkey to select <b>{NTSC}</b> , <b>{PAL}</b> , or <b>{24P}</b> video standard, depending on the standard you're using.
<b>INPUT VIDEO DELAY</b>	Input Video Delay specifies the time interval between video recorded on the Recorder part of the DSR being available for playback.  This parameter is used in GO TO LIVE function.  The default value is 5 seconds.
<b>REFERENCE VIDEO</b>	Press softkey to <b>{Enable}</b> or <b>{Disable}</b> lock to Reference Video.
<b>MARK-Q</b>	Press Softkey to:  Enable <b>{ADVANCE}</b> to next Cue Point, when <b>[IN]</b> is pressed.  <b>OR</b>  Maintain CURRENT Cue Point when <b>[IN]</b> is pressed.
<b>DROP FRAME</b>	Press Softkey to select DROP FRAME <b>{ON}</b> or <b>{OFF}</b> .  Used to preset the VTR's Timecode Generator.
<b>SEG DURATION</b>	Enter SEG duration that will be used to calculate IN (OUT) point.
<b>AUTO MARK</b>	Press softkey to turn AUTO MARK <b>{ON}/ {OFF}</b> .  AUTO MARK = ON allows one-key marking of segments.
<b>TRANSMIT CUELIST</b>	Transmits Cuelist to another ST300 or to a PC.
<b>RECEIVE CUELIST</b>	Receives Cuelist from another ST300 or a PC.



## 9. FUNCTION TABLE

Function	Key Press	Description
EE On/Off	<b>[EE]</b>	Toggle EE mode on/off. Status indicator is on when EE is on.
SEARCH TO ENTERED TIME	<b>[SHIFT] + [RECUE]</b>	To enter a GOTO location without altering the contents of the Cue Point, enter the desired timecode number using the numeric keypad. Press <b>[GOTO]</b> to search to the entered time. Press <b>[ESC]</b> to exit without searching.
DSR START RECORD	<b>[SHIFT] + [RECORD]</b>	Press <b>[SHIFT] + [RECORD]</b> to start recording on selected record channel.
DSR STOP RECORD	<b>[SHIFT] + [STOP]</b>	Press <b>[SHIFT] + [STOP]</b> to stop recording on the selected record channel.
FFWD	<b>[FFWD]</b>	Press and HOLD to FFWD. Release key to stop. Set WIND Speed in MENU.
GOTO CUE	<b>[GOTO]</b>	LOAD current cue or Search the VTR to the IN Point of the currently displayed Cue Point.
GANG	<b>[SHIFT] + [VTR#1]</b> <b>OR</b> <b>[SHIFT] + [VTR#2]</b>	Individually press the VTR keys to be included in the gang; the LED above the key will turn on. Press the VTR key again to remove from gang; the LED above the key will turn off. Press <b>[ESC]</b> to exit.  The VTR LEDs that are on show the gang. The flashing LED shows which VTR is currently selected.
JOG	<b>[JOG]</b>	Select JOG mode and enable the Wheel.
LAST CUE	<b>[LAST CUE]</b>	Step to the previous Cue Point Location.
NEXT CUE	<b>[NEXT CUE]</b>	Step to the next Cue Point Location.
REVERSE PLAY	<b>[LIST]</b>	For T-BAR ONLY – HOLD key to play video in reverse. RELEASE key to play forward.
REWIND	<b>[RWD]</b>	Press and HOLD to rewind. Release key to stop. Set WIND Speed in MENU.
SHUTTLE	<b>[SHUTTLE]</b>	Select SHUTTLE mode and enable the Wheel.
SLOMO	<b>[SLOMO]</b>	Press SLOMO to slo-mo the VTR. Turn the Wheel or move the T-Bar to change the play speed. Press SLOMO to STILL frame <b>OR</b> press any transport key to exit.

Function	Key Press	Description
SLO-MO SPEED PRESET	<b>[SHIFT] + [SLOMO]</b>	For WHEEL ONLY - to preset the slo-mo speed. Turn the Wheel to select desired speed. Press <b>[ESC]</b> <b>OR</b> any transport key to exit.
STOP	<b>[STOP]</b>	Press once to STILL frame VTR. Press again to put VTR into STOP mode.
TIME MODE SELECT	<b>[TIME MODE]</b>	Press to toggle between Timecode (TC), VITC (VT).
GO TO IN POINT	<b>[RECUE]</b>	Press to search to LOADED CUEs IN point.
MARK IN POINT	<b>[IN]</b>	Save current time as IN point. Per SETUP MENU, the Cue Point Location will advance to the next Cue Point location or remain the same.
ENTER IN POINT	<b>[SHIFT] + [IN]</b>	To enter an IN point, press <b>[SHIFT] + [IN]</b> then enter the desired timecode number using the numeric keypad. Press <b>[IN]</b> to enter the time. Press <b>[ESC]</b> to exit without changing.
MARK OUT POINT	<b>[OUT]</b>	Save current time as OUT point. Note: OUT point is always saved in the current Cue Point.
ENTER OUT POINT	<b>[SHIFT] + [OUT]</b>	To enter an OUT point, press <b>[SHIFT] + [OUT]</b> then enter the desired timecode number using the numeric keypad. Press <b>[OUT]</b> to enter the time. Press <b>[ESC]</b> to exit without changing.
TIME PRESET (Generator Preset)	<b>[SHIFT] + [TIME MODE]</b>	Press to enter Time Preset. Press <b>[ENTER]</b> to load Time Generator with 00:00:00:00. <b>OR</b> enter the time desired via the numeric keypad and press <b>[ENTER]</b> to load that time. <b>OR</b> press <b>[ESC]</b> to exit without saving.
<b>PLAYLIST FUNCTIONS</b>		
Select a PLAYLIST	<b>[LIST] + [NEXT CUE] OR [LAST CUE]</b>	Press and hold <b>[LIST] + [NEXT CUE]</b> or <b>[LAST CUE]</b> to select the play list
Load a PLAYLIST	<b>[LIST] + [GOTO]</b>	First select playlist, then press and hold <b>[LIST]</b> then press <b>[GOTO]</b> .
Play a PLAYLIST	<b>[PLAY] WHILE IN "PL" MODE</b>	Load a play list by pressing <b>[LIST] + [GOTO]</b> then press <b>[PLAY]</b>

<b>Function</b>	<b>Key Press</b>	<b>Description</b>
Select an ELEMENT	<b>[LIST] + WHEEL</b>	Press and hold <b>[LIST]</b> + turn wheel to select the element within the list.
Add CUE to playlist	<b>[ADD/INSERT]</b>	Select CUE by pressing <b>[NEXT CUW]</b> or <b>[LAST CUE]</b> or use the numeric keypad. Then press <b>[ADD/INSERT]</b> . The CUE will be added to the end of the playlist.
Insert CUE into playlist	<b>[SHIFT] + [ADD/INSERT]</b>	Select the element before which the new CUE will be placed. Then select the CUE by pressing <b>[NEXT CUW]</b> or <b>[LAST CUE]</b> or use the numeric keypad. Then press <b>[SHIFT] + [ADD/INSERT]</b> to insert the new element.
Delete an ELEMENT	<b>[SHIFT] + [DEL]</b>	Select ELEMENT to delete then press and hold <b>[SHIFT]</b> then press <b>[DEL]</b> .
Delete a PLAYLIST	<b>[LIST] + [DEL]</b>	Select the PLAYLIST then press <b>[LIST] + [DEL]</b>

## 10. SPECIFICATIONS

Power:	90 VAC to 265 VAC adapter supplied with IEC connector
Size:	(L" x W" x H") 10.5" x 6" x 1.5" (front) 3.0" (rear) (T-Bar unit is 12.6" long)
Weight:	4 lbs.
Rear Panel Connectors:	VTR1, VTR2, VTR3, VTR4 ..... (All DB9F) GPI ..... (DBF15F) Power ..... (DB9M) Aux ..... (DB9F) Reference Video ..... (BNC)
Display:	Easy to read 4-line, back-lit LCD display (User adjustable contrast)
Jog/Shuttle Wheel	With mechanical detents
Optional "T"-bar	Slo-mo 0-200% of Play Speed

### RS422 SERIAL CONNECTOR

#### 9-Pin D-Type, Female (DB9F)

Pin #	1	Frame Ground	6	Receive Common
	2	Receive A ←	7	Receive B ←
	3	Transmit B →	8	Transmit A →
	4	Transmit Common	9	Frame Ground
	5	Spare		

### POWER CONNECTOR

#### 9-Pin D-Type, Male (DB9M)

Pin #	1	+5v DC	6	+5 VDC
	2	+5v DC	7	Ground
	3	Ground	8	Ground
	4	+12 VDC	9	Ground
	5	-12 VDC		

### AUX CONNECTOR (PBus IN) RS422 SERIAL CONNECTOR

#### 9-Pin D-Type, Female (DB9F)

Pin #	1	Frame Ground	6	Common
	2	No Connection	7	No Connection
	3	Receive B ←	8	Receive A ←
	4	Common	9	Frame Ground
	5	Spare		

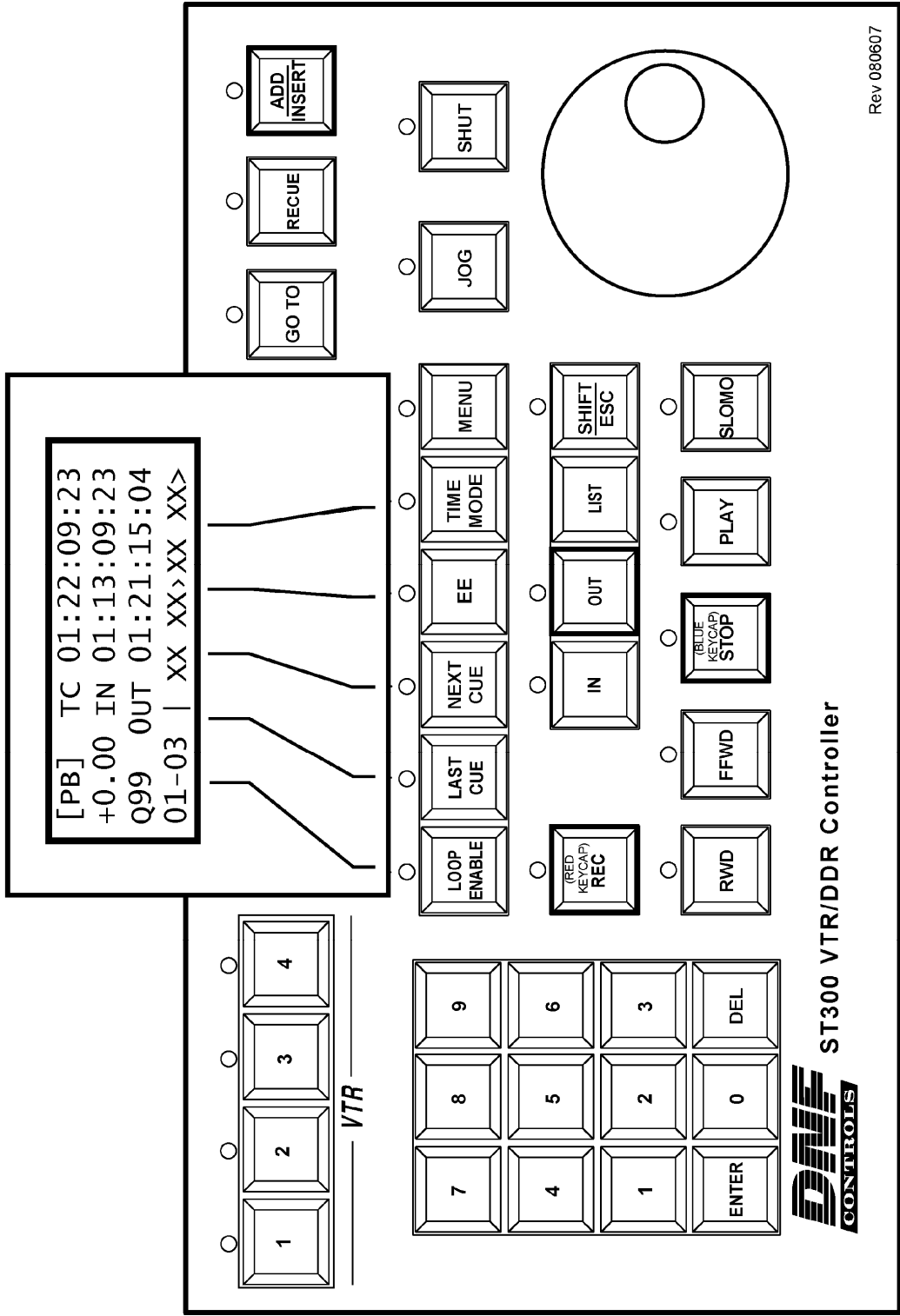
## GPI IN/OUT CONNECTOR

### 15-Pin D-Type, Female (DB15F)

Pin #	Description	Function	Pin #	Description	
1	GPI 1 Out	PLAY tally out	9	GPI 1 In	PLAY
2	GPI 2 Out	STILL/STOP tally out	10	GPI 2 In	STOP
3	GPI 3 Out	RECORD tally out	11	GPI 3 In	RECUE
4	GPI 4 Out	REWIND tally out	12	GPI 4 In	NEXT CUE
5	GPI 5 Out	FFWD tally out	13	GPI 5 In	LAST CUE
6	GPI 6 Out	SLOMO tally out	14	GPI 6 In	
7	GPI 7 Out		15	GPI 7 In	
8	Ground				

# 11. KEY LAYOUT

## ST300 KEY CONFIGURATION ST304-DSR1K(-T)-HL



## 12. DNF CONTROLS LIMITED WARRANTY

DNF Controls warrants its product to be free from defects in material and workmanship for a period of one (1) year from the date of sale to the original purchaser from DNF Controls.

In order to enforce the rights under this warranty, the customer must first contact DNF's Customer Support Department to afford the opportunity of identifying and fixing the problem without sending the unit in for repair. If DNF's Customer Support Department cannot fix the problem, the customer will be issued a Returned Merchandise Authorization number (RMA). The customer will then ship the defective product prepaid to DNF Controls with the RMA number clearly indicated on the customer's shipping document. The merchandise is to be shipped to:

DNF Controls  
12843 Foothill Blvd., Suite D  
Sylmar, CA 91342  
USA

Failure to obtain a proper RMA number prior to returning the product may result in the return not being accepted, or in a charge for the required repair.

DNF Controls, at its option, will repair or replace the defective unit. DNF Controls will return the unit prepaid to the customer. The method of shipment is at the discretion of DNF Controls, principally UPS Ground for shipments within the United States of America. Shipments to international customers will be sent via air. Should a customer require the product to be returned in a more expeditious manner, the return shipment will be billed to their freight account.

This warranty will be considered null and void if accident, misuse, abuse, improper line voltage, fire, water, lightning or other acts of God damaged the product. All repair parts are to be supplied by DNF Controls, either directly or through its authorized dealer network. Similarly, any repair work not performed by either DNF Controls or its authorized dealer may void the warranty.

After the warranty period has expired, DNF Controls offers repair services at prices listed in the DNF Controls Price List. DNF Controls reserves the right to refuse repair of any unit outside the warranty period that is deemed non-repairable.

DNF Controls shall not be liable for direct, indirect, incidental, consequential or other types of damage resulting from the use of the product.

# # #





