Model No. ST300-DSR1K and ST300-DSR1K-T

for

Sony DSR-DR1000 DDR

SLOW MOTION CONTROLLER

USER MANUAL

Table of Contents

1.   REVISION HISTORY

051603 1.0   Original document

123003 Rev. 1.1   Company header information revised.
                        Updated Transmit Cue List Function and Receive Cue List Function
                        descriptions.
                        Added DNF Controls Limited Warranty.

060204 Rev. 1.2   Corrected T-bar size, SPECIFICATIONS.

110304 Rev. 1.3   Added GO TO LIVE section.
                        Added Video Standard selection and Input Video Delay Entry to the
                        SETUP MENU.

020305 Rev. 1.4   Updated to reflect current software.

Getting Started . . .

2.   SYSTEM DESCRIPTION

The ST300-DSR1K Slow Motion Controller combines the power of the ST300 Slow Motion Controller with the power of the Sony DSR-DR1000.

In the ST300 Setup Menu, disable DSR1K Mode to access standard ST300 Slow Motion functions. Enable DSR1K Mode to access the following DSR-DR1000 functions:

> Simultaneous Record and Playback.

> Press [**EE**] to go to live video.

DEFINITIONS

❑   Throughout this document VTR, DDR, VDR & Video Server will be referred to collectively as "VTR."

❑   The ST300-DSR1K will be referred to as "ST300."

❑   Words surrounded by brackets, for example, [**ENTER**], are keys on the ST300.

❑   Words surrounded by "curly" brackets, for example *{UPDATE}*, are softkeys on the ST300.

❑   [**XXX**] + [**XXX**] means hold the two keys down simultaneously.

3. INSTALLATION

Select **a. OR b.** below.

a. DSR1K MODE OFF

1)   Plug one end of a 9-conductor, RS422 serial cable into the VTR1, VTR2, VTR3, OR VTR4 connector on the rear of the SLOW MOTION CONTROLLER. Plug the other end of the cable into the 9-pin REMOTE connector on the VTR.

2)   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.

3)   Select REMOTE mode on the VTR's front panel.

4)   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.
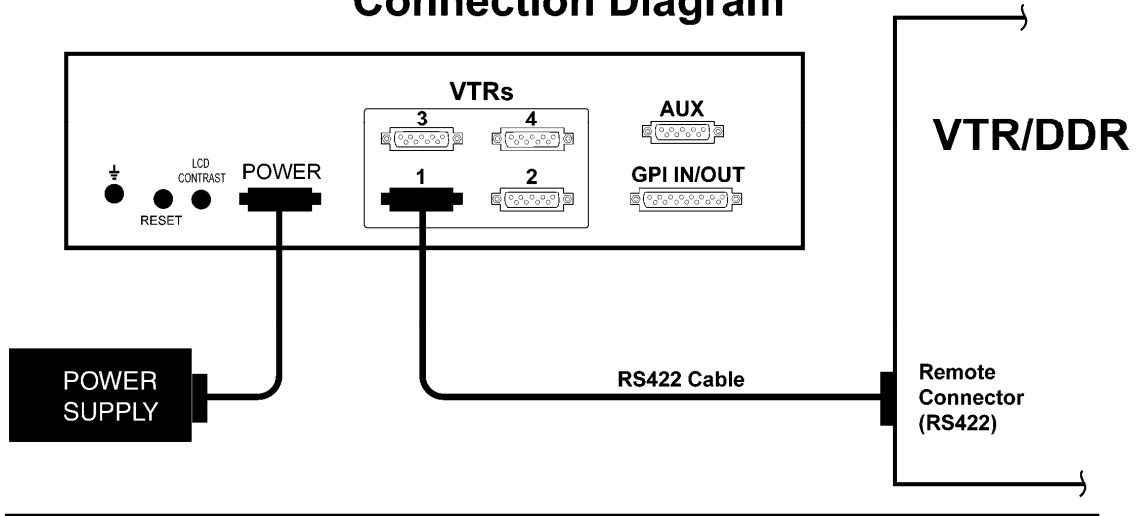
OR

b. DSR1K MODE ON

1) ST300 INSTALLATION

a)   Connect VTR1 connector on the back of the ST300 to the REMOTE OUT (Play) connector on the DSR-DR1000 #1.

b)   Connect VTR2 connector on the back of the ST300 to the REMOTE OUT (Play) connector on the DSR-DR1000 #2.

c)   Connect VTR3 connector on the back of the ST300 to the REMOTE IN (Record) connector on DSR-DR1000 #1.

d)   Connect VTR4 connector on the back of the ST300 to the REMOTE IN (Record) connector on DSR-DR1000 #2.

e)   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.

f)   Select REMOTE mode on the VTR's front panel.

g)   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.

2) DSR-DR1000 SETUP

Select "9-Pin Dual Mode" in the DSR-DR1000 Interface Setup Menu. Refer to the DSR-DR1000 User Manual.

DSR MODE: OFF
Connection Diagram

VTRs

3   4

AUX

LCD
CONTRAST POWER

1   2

GPI IN/OUT

RESET

VTR/DDR

POWER
SUPPLY

RS422 Cable

Remote
Connector
(RS422)

DSR MODE: ON
Connection Diagram

VTRs

3   4

AUX

LCD
CONTRAST POWER

1   2

GPI IN/OUT

RESET

SONY
DSR-DR1000 #2

POWER
SUPPLY

RS422 Cable

Remote In

RS422 Cable

Remote Out

SONY
DSR-DR1000 #1

RS422 Cable

Remote In

RS422 Cable

Remote Out

4. OPERATION

a. LCD DISPLAY

During normal operation, the top row of the display shows the selected time mode and current time location of the selected VTR.

For example: TM 01:12:09:23

> Time Modes - TM= Tape Timer   TC= LTC   VT= VITC

> The currently selected SLO-MO speed is displayed on the far right side of the top row.

> The bottom row of the display shows the current Cue Point number and its contents.

b. TRANSPORT CONTROL

Select the desired transport function by pressing the appropriate switch on the SLOW MOTION CONTROLLER.

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

For example: Pressing [**PLAY**] will put the VTR into the PLAY mode.
The PLAY Status Indicator will turn on when the VTR is in PLAY mode.
Press [**RECORD**].
OR

[**RECORD**] + [**PLAY**] to put the VTR into Record mode (see SETUP MENU).

NOTE: The VTR will not go into Record mode if "Record Inhibit" is enabled on the VTR or tape cassette.

Check SETUP MENU prior to using the SLOW MOTION CONTROLLER to confirm proper Record mode and other User settable modes.
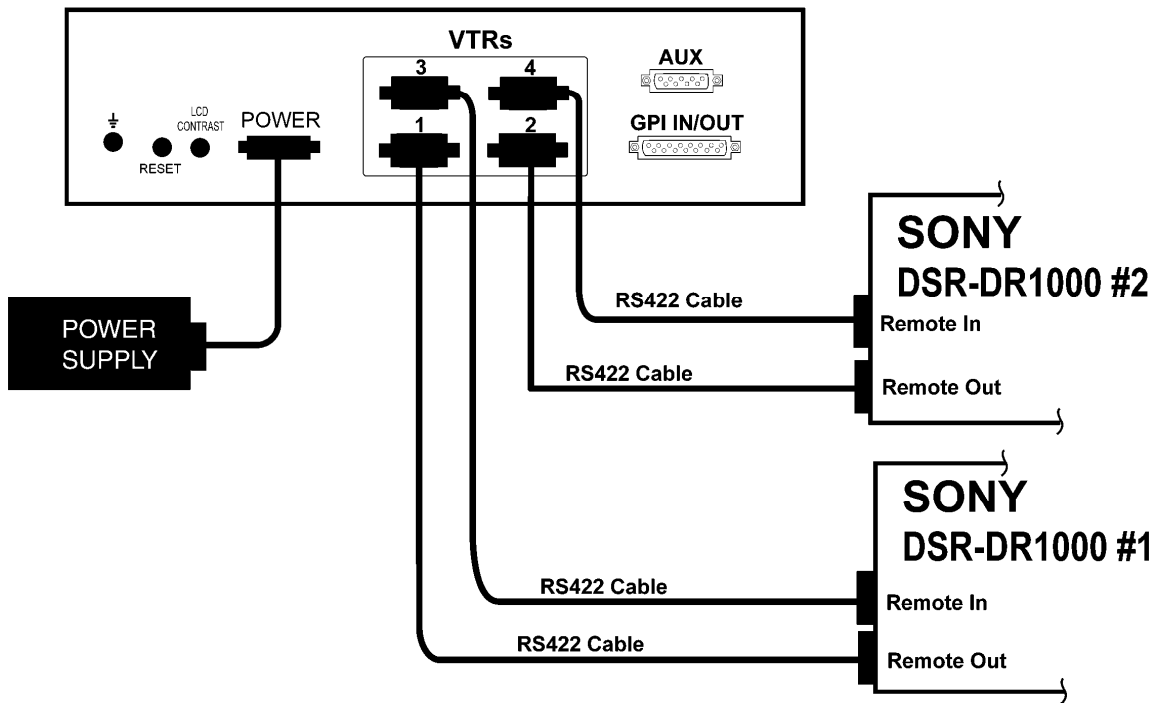
c. CUE POINTS

1) 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 current Cue Point number and its contents will be shown on the second line of the display.

2) Mark/Enter/Edit a Cue Point

Press [**MARK**] to mark the VTR's time into the Cue Point.
OR

Press [**ENTER TIME**] to use the numeric keypad. The ENTER TIME indicator will turn on.

Manually enter a time on the numeric keypad. Press [**ENTER**] to save the entered time.
OR

Press [**ESC**] to exit without saving. The ENTER TIME indicator will turn off.

3) Goto/Preroll to a Cue Point

a)   Select the desired Cue Point. The Cue number and its contents are shown on the bottom line of the display.

b)   Press [**GOTO**] to search to the Cue Point; the GOTO indicator will turn on. When the VTR reaches the Cue Point time, the GOTO indicator will turn off.
OR

Press [**PREROLL**] to preroll to the Cue Point. The PREROLL indicator will turn on.

When the VTR reaches the Cue Point time, the PREROLL indicator will turn off.

d. GOTO/PREROLL TO A MANUALLY ENTERED TIME

1)   Press [**ENTER TIME**] to use the numeric keypad.

Manually enter a time on the numeric keypad.

2)   Press [**GOTO**] OR [**PREROLL**] to search to the entered time.
OR

Press [**ESC**] to exit without searching.
The ENTER TIME indicator will turn off.

e. 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 [**MENU**] to select:
   Record Lockout, **Assemble**, **Crash** or **Insert** Record mode.

4) INSERT ONLY **-** Press the desired Softkey to toggle Video, Audio1, Audio2, Audio3 or Audio4 record on/off.

   The **Softkeys** are located just below the display.
   Follow the line graphic from the bottom of the display to the Softkey.

5) Press [**ESC**] to exit the MENU. The MENU indicator will turn off.
   OR

   Turn the Wheel for other setup options.

5. DSR-DR1000 FUNCTIONS
(Only available when DSR mode is set to ON)

a. SELECT DSR1K MODE

1) Press [**MENU**] key.

2) Turn the wheel until the display shows "DSR1K."

3) Press *{ON}* softkey to turn DSR1K mode ON. In this mode, Recorder and Player channels of a DDR are treated as one VTR.
[**VTR3**] and [**VTR4**] keys are disabled in this mode.
Refer to Installation, Section 3, for connection information.

   When DSR1K mode is OFF the controller behaves as a standard ST300 VTR controller.

4) Press [**ESC**] key to exit menu.

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.

3) Press [**SHIFT**] + [**REC**] on VTR2 to start recording on Record channel VTR4 connector of the ST300.

4) The Record LED turns ON.

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.

4) The Record LED turns OFF.

d. GO TO EE

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

e. **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.)

3) The Player starts playing.

Advanced Features . . .

6.   TRANSFER CUELIST

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

Press [**ESC**] twice to exit the MENU mode.

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)   Repeat steps a) thru g) of "**To Transmit Cue Points to Another ST300**" Section.

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.
The Display shows "Waiting to receive" on the first line.

e)   When the Transmitter is ready, transfer starts automatically. The Display now shows "Receiving cuelist."

f)   After the transfer is over the display shows "Done-Success! Press any key…"

g)   Press any key. The display shows "Receive cuelist?" message.

h)   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)   Repeat steps a) thru h) of "**To Receive Cue Points From Another ST300**" Section.

Reference . . .

7.   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**. The MENU indicator will turn off.

MENU MODES	(Turning Wheel Clockwise)
RECORD	Press [**MENU**] to select the desired record mode: Lockout, Assemble, Crash (Full) or Insert. Only in INSERT mode: Press the associated Softkey, located below the display, to toggle Video(V), Audio1(A1), Audio2(A2), Audio3(A3), Audio4(A4) on/off.
MARK-Q	Press Softkey to: Enable *{ADVANCE}* to next Cue Point, when [**MARK**] is pressed. **OR** Maintain *{CURRENT}* Cue Point when [**MARK**] is pressed.

DSR1K	Press Softkey to select:
	 DSR1K *{OFF}* ST300 works like the standard ST300 and does not use
	                 Sony DSR-DR1000 functions.
	
	 DSR1K *{ON}* ST300 uses DSR-DR1000 functions.
	                 Connect ST300 to DSR-DR1000 using Mode ON Connection Diagram.

WIND MODE	Press Softkey to select: *{HOLD}* (Fast wind is maintained only while key is pressed.) **OR** *{LATCH}* (Fast wind is initiated and maintained with momentary key press.) Select fast wind speed (3.9 to 23.7) by pressing Softkey below *{SPD}*.

SLOMO		
	ST300 display shows (T-Bar version):	SLOMO with: TBAR **Wheel** **SpdRange** **Preset**
	ST300 display shows (Non T-Bar version):	SLOMO with: WHEEL **SpdRange** **Preset**

	Press Softkey [**TBAR**] (or [**WHEEL**]) to toggle between T-BAR and WHEEL.
	
	The T-BAR has two speed ranges:
	                0 → +200 with a detent at +100 % play speed
	                OR
	                0 → +100 with a detent at +100%
	
	For Wheel <u>only:</u>
	Press Softkey *{SPDRANGE}* to select SLOMO speed ranges:
	
	Press Softkey to select: 0 → +200 **OR** -100 → +200.
	Press Softkey *{BACK}* to return to SLOMO MENU.
	
	Press [**ESC**] to exit SETUP MENU
	OR turn the Wheel to select another item.
	
	For Wheel <u>only:</u>
	Press Softkey *{PRSET}* to select the SLOMO Preset Speed Mode.
	
	    Press Softkey *{UPDATE}*.
	    When exiting SLOMO mode, the last used speed is saved in the Preset Speed register.
	
	    Press Softkey *{STATIC}*.
	    The Preset Speed register is NOT updated when exiting SLOMO mode.
	    It is only changed by [**SHIFT**] + [**SLOMO**] (PRESET SLOMO).	

TBAR AUTOENABLE	Press Softkey [**ON**] to enable slomo to be engaged by moving the TBAR.	
WHEEL AUTOENABLE	Press Softkey *{JOG}* OR *{SHUTTLE}* to enable that function to be engaged by turning the Wheel, or press softkey *{OFF}* to disable function.	
VIDEO STANDARD	Press Softkey to select *{NTSC}*, *{PAL}*, or *{24P}* video standard, depending on the standard you're using.	
GANG MODE	Press Softkey to select *{PERMANENT}* GANG (described in the FUNCTION Table) or *{TEMPORARY}* GANG. 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.	

ST300 SETUP	ST300 SETUP Clear Cues SetDefault Press Softkey beneath *{ClearCues}* to clear all Cue Points to 00:00:00:00. Press Softkey *{YES}* when asked "Are You Sure?" Press Softkey beneath *{SetDefault}* to set ST300 to default settings. Press Softkey *{YES}* when asked "Are You Sure?" Press softkey *{NO}* to leave Setup without changes.
DISPLAY SOFTWARE VERSION	The version number for the currently installed software is displayed.
DROP FRAME	Press Softkey to select DROP FRAME *{ON}* or *{OFF}*. Used to preset the VTR's Timecode Generator.

RECORD KEY	Press Softkey to select single button or 2-button record.
	                RECORD = *{[REC]}* Only
	                OR
	                RECORD = *{[REC] + [PLAY]}*

FREEZE	Press Softkey to enable or disable FREEZE at Record Outpoint. Changing mode automatically clears FREEZE point.
INPUT VIDEO DELAY	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.
TRANSMIT CUELIST	Transmits Cuelist to another ST300 or to a PC.
RECEIVE CUELIST	Receives Cuelist from another ST300 or from a PC.

8. FUNCTION TABLE

Function	Key Press	Description
EE ON/OFF	[**EE**]	Toggle EE mode on/off. Status indicator is on when EE is on.
EJECT TAPE	[**SHIFT**] + [**REWIND**]	Eject tape from VTR.
ENTER TIME	[**ENTER TIME**]	To manually enter timecode number into the currently displayed Cue Point, enter the desired timecode number using the numeric keypad. Press [**ENTER**] to save your entry **OR** [**ESC**] to exit without saving. To enter a GOTO location without altering the contents of the Cue Point, enter the desired timecode number using the numeric keypad. Press [**GOTO**] to search to the entered time. Press [**ESC**] to exit without searching.
DSR GOTO EE	[**EE**]	Press [**EE**] to view live video.
DSR START RECORD	[**SHIFT**] + [**RECORD**]	Press [**SHIFT**] + [**RECORD**] to start recording on selected record channel.
DSR STOP RECORD	[**SHIFT**] + [**STOP**]	Press [**SHIFT**] + [**STOP**] to stop recording on the selected record channel.
FFWD	[**FFWD**]	Press and HOLD to FFWD. Release key to stop. Set WIND Speed in MENU.
FREEZE ENABLE	[**FREEZE**]	Toggles the Freeze on/off. When the light is ON, the Freeze is enabled. When the light is OFF, the freeze is disabled. **NOTE**: This is <u>NOT</u> a REC OUT freeze, it <u>IS</u> a user defined Freeze.
FREEZE	[**SHIFT**] + [**FREEZE**] (Active in SLO-MO only).	To enter or mark the Freeze time, press [**SHIFT**] + [**FREEZE**]. The display shows the current freeze time. You can enter the Freeze time using the numeric keypad or MARK the current time into the Freeze time by pressing [**MARK**].
FREEZE ON LAST GOOD VIDEO	Active in SLO-MO only.	In SLO-MO mode, STILL frame the VTR when the current timecode is within 6 frames of the last Record Out point (memorized automatically upon exiting Record mode). Enable, disable or clear the FREEZE point from SETUP MENU. See FREEZE ENABLE.
GOTO CUE or ENTERED TIME	[**GOTO**]	Search the VTR to the contents of the currently displayed Cue Point. If ENTER TIME is active (LED is on), search the VTR to the entered time. To enter a GOTO location without altering the contents of the Cue Point, press [**ENTER TIME**]. Enter the desired timecode number using the numeric keypad. Press [**GOTO**] to search to the entered time. Press [**ESC**] to exit without searching.

Function	Key Press	Description
GANG	[**SHIFT**] + [**VTR#1**] OR [**SHIFT**] + [**VTR#2**] OR [**SHIFT**] + [**VTR#3**] OR [**SHIFT**] + [**VTR#4**]	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 [**ESC**] to exit. The VTR LEDs that are on show the gang. The flashing LED shows which VTR is currently selected.
GO TO FREEZE POINT	[**SHIFT**] + [**GOTO**]	Search VTR to FREEZE point (last Record Out point).
JOG	[**JOG**]	Select JOG mode and enable the Wheel.
LAST CUE	[**LAST CUE**]	Step to the previous Cue Point Location.
MARK CUE POINT	[**MARK**]	Save the current time in the currently displayed Cue Point. Per SETUP MENU, the Cue Point Location will advance to the next Cue Point location or remain the same.
NEXT CUE	[**NEXT CUE**]	Step to the next Cue Point Location.
PREROLL	[**PREROLL**]	Preroll the VTR to the contents of the currently displayed Cue Point.
PREROLL VALUE	[**SHIFT**] + [**PREROLL**]	Enter desired Preroll Value. Press [**ENTER**] to save entry **OR** press [**ESC**] to exit without saving entry.
RECORD	[**REC**] or [**REC**] + [**PLAY**]	Places VTR in the Record mode selected by RECORD MODE in the SETUP MENU.
REVERSE SLOMO	[**REV**]	For T-BAR ONLY – HOLD key to play video in reverse. RELEASE key to play forward.
REWIND	[**RWD**]	Press and HOLD to rewind. Release key to stop. Set WIND Speed in MENU.
SHUTTLE	[**SHUTTLE**]	Select SHUTTLE mode and enable the Wheel.
SLOMO	[**SLOMO**]	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 **OR** press any transport key to exit.
SLO-MO SPEED PRESET	[**SHIFT**] + [**SLOMO**]	For WHEEL ONLY - to preset the slo-mo speed. Turn the Wheel to select desired speed. Press [**ESC**] **OR** any transport key to exit.
STOP	[**STOP**]	Press once to STILL frame VTR. Press again to put VTR into STOP mode.
TIME MODE SELECT	[**TIME MODE**]	Press to toggle between Timecode (TC), VITC (VT) or Tape Timer (TM) display modes.

Function	Key Press	Description
TIME PRESET (Generator Preset)	[**SHIFT**] + [**TIME MODE**]	Press to enter Time Preset. Press [**ENTER**] to load Time Generator with 00:00:00:00. **OR** enter the time desired via the numeric keypad and press [**ENTER**] to load that time. **OR** press [**ESC**] to exit without saving.

9. SPECIFICATIONS

Power:	90 VAC to 265 VAC adapter supplied with IEC connector
Size:	(L" x W" x H") 12" 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 2-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 PORT RS422 SERIAL CONNECTOR
9-Pin D-Type, Female

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

GPI IN/OUT CONNECTOR
15-Pin D-Type, Female (DB15F)

Pin #	Description	Function	Pin #	Description	Function
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	RECORD
4	GPI 4 Out	REWIND tally out	12	GPI 4 In	REWIND
5	GPI 5 Out	FFWD tally out	13	GPI 5 In	FFWD
6	GPI 6 Out	SLOMO tally out	14	GPI 6 In	SLOMO
7	GPI 7 Out		15	GPI 7 In	STILL
8	Ground				

10.   KEY LAYOUT

ST300 KEY CONFIGURATION — ST300-SSM (& -T)

Rev 040203

NOTE- The "REV" key is only available on T-BAR(-T) models

ST300 CONTROLLER +0.00
0000 00:00:00:00

VTR — 1 2 3 4

MARK (YELLOW KEYCAP) / PRE-ROLL / GO TO

SHUT / JOG

MENU / TIME MODE / EE / NEXT CUE / LAST CUE / ENTER TIME

SHIFT ESC / FREEZE (WHITE KEYCAP) / REV / REC (RED KEYCAP)

SLOMO / PLAY / STOP (BLUE KEYCAP) / FFWD / RWD

ST300 VTR/DDR Controller

7 8 9
4 5 6
1 2 3
ENTER 0 DEL
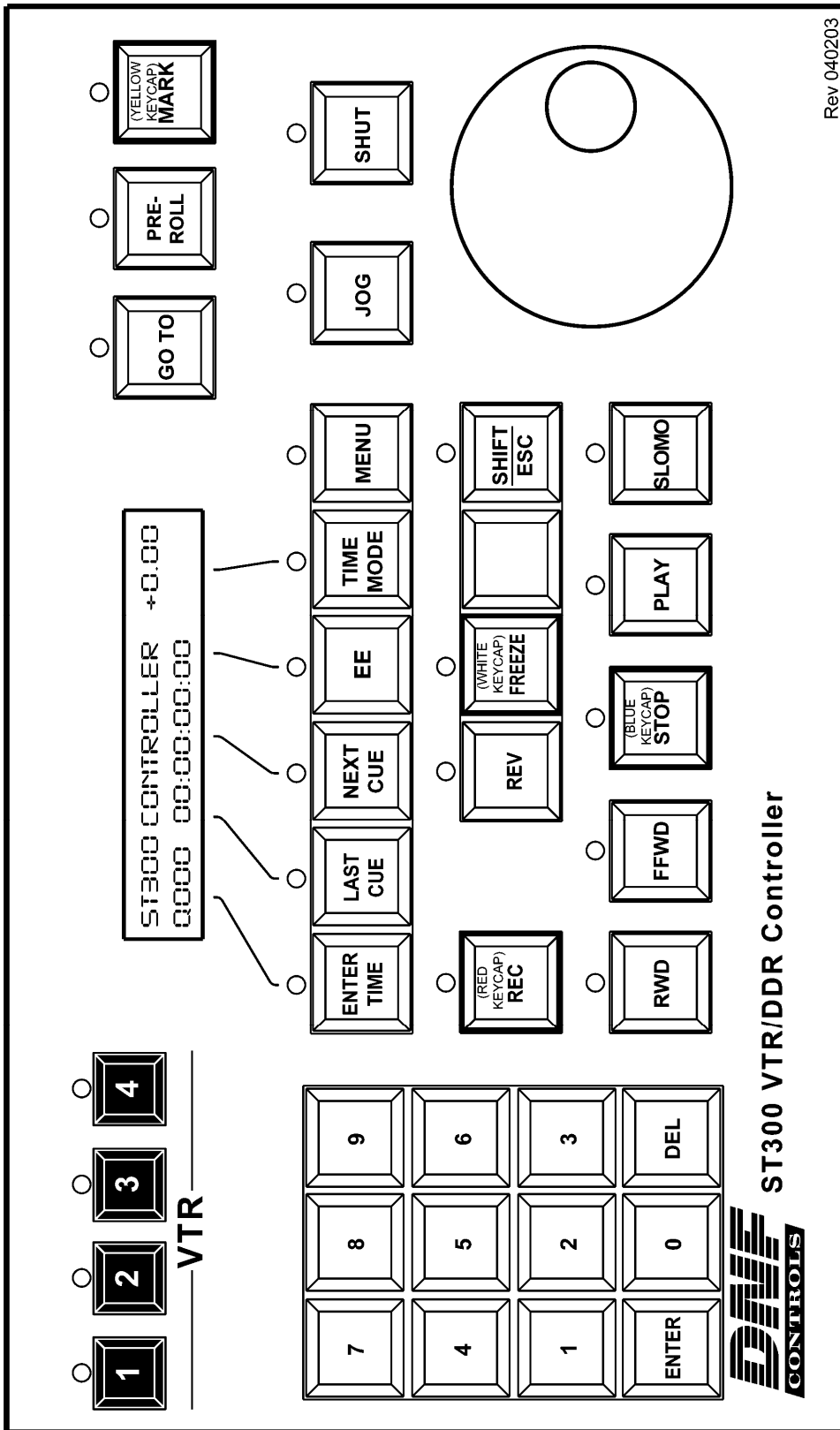
DWG CONTROLS

11. 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 C
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.

# # #