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# Model No. ST300-S/SM

## SLOW MOTION CONTROLLER

### USER MANUAL

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# 1. DESCRIPTION

High –quality, low-cost Slow Motion Controller

All the features and functions would expect to find in a \$10,000 unit,  
For Less Than \$3500.

TBAR or detented Wheel for Fast and Easy slomo-ing:  
0-200% or –100% to + 200% of Play speed.

Quickly and easily store and recall 400 cue points.  
All cue points are retained when power is off.

Small, space saving desktop unit, simple and easy to use.

## FEATURES

- ❑ Power setup menu. Configure the Slow Motion Controller for the way you work.
- ❑ Small footprint, 12”X6” fits almost anywhere, even in your lap.
- ❑ Quickly and Easily store and recall up to 100 cue points.
- ❑ Press 1 key to Mark Cue Point. Press 2 Keys to Recall 400 Cue points.
- ❑ Fast and Easy to search to a cue Point, Manually entered Timecode number or Record out Point.

Manually enter/edit Cue points.

Set Preroll duration form one frame to one hour.

Freeze on Last Good video (Record out Point.)

Customize features and functions for your specific application.

## DEFINITIONS

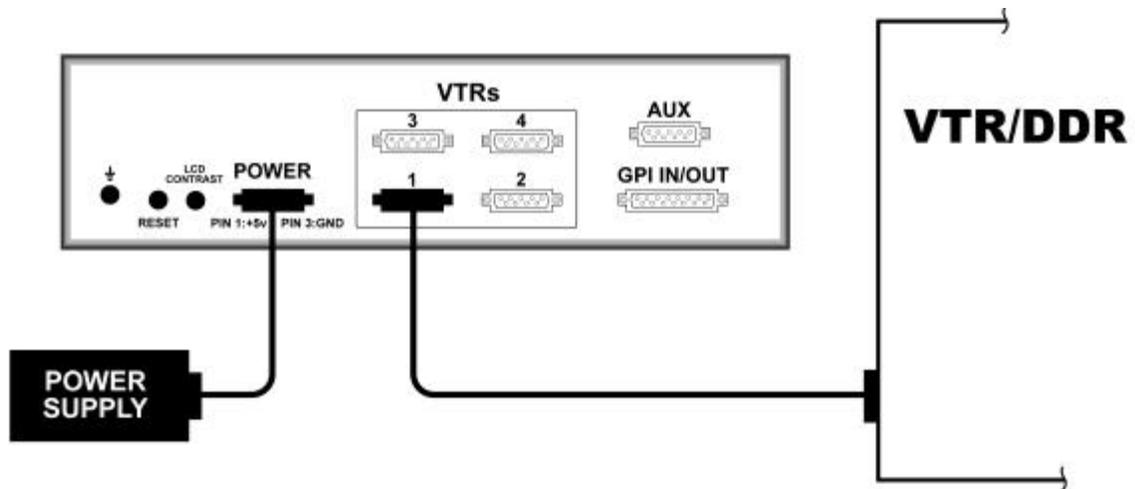
- ❑ Throughout this document VTR, DDR, VDR & Video Server will be referred to collectively as “Video Server”.
- ❑ The ST300-S/SM as the ST300.
- ❑ Words surrounded by brackets, for example, [ENTER], are keys on the ST 300.
- ❑ [XXX] + [XXX] means hold the two keys down simultaneously.

## 2. INSTALLATION

1. Plug one end of a 9 conductor, RS422 serial cable in to the 9 pin 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. Plug the POWER SUPPLY into a wall outlet, 90 VAC TO 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.

Installation is complete.

### Connection Diagram



### LCD DISPLAY

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

### 3. OPERATION

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 current 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.

#### A. CUEPOINTS

##### SELECT A CUE POINT

1. Press the [**NEXT CUE**] or [**LAST CUE**] keys to step through the Cue Points.  
**OR**  
Manually enter the desired Cue Point number using the numeric keypad.
2. The current Cue Point number and its contents will be shown on the second line of the display.

##### MARK/ENTER/EDIT A CUE POINT

1. Press the [**MARK KEY**] to mark the VTR's time into the Cue Point.  
You are done.

**OR**

2. Press the [**ENTER TIME**] key to manually enter a time using the numeric keypad.  
The ENTER TIME key indicator will turn on.
3. Manually enter a time on the numeric keypad.  
Press [**ENTER**] to save the entered time.

**OR**

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

## **GOTO/PREROLL TO A CUE POINT**

1. Select the desired Cue Point.  
The Cue number and its contents are shown on the bottom line of the display.
2. Press [**GOTO**] to search to the Cue Point. The GOTO key indicator will turn on. When the VTR reaches the Cue Point time, the GOTO key indicator will turn off. You are done.
3. Press [**PREROLL**] to preroll to the Cue Point.  
The PREROLL key indicator will turn on.

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

You are done.

## **GOTO/PREROLL TO A MANUALLY ENTERED TIME**

1. Press the [**ENTER TIME**] key to manually enter a time using the numeric keypad. The ENTER TIME key indicator will turn on.
2. Manually enter a time on the numeric keypad.
3. Press [**GOTO**] OR [**PREROLL**] to search to the entered time.  
**OR**
4. Press [**ESC**] to exit without searching.  
The ENTER TIME key indicator will turn off.

## **RECORD MODE SELECTION**

1. Press the [**MENU**] key. The MENU key 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 [**MENU**] key 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 black line graphic from the bottom of the display to the Softkey.

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

**OR**

Turn the Wheel to for other setup options.

## 4. **SETUP MENU**

1. Press the [MENU] key. The MENU key indicator will turn on.  
Turn the Wheel to select item to change.

2. Press [MENU]

**OR**

3. Use the Softkeys to change the desired mode for that option.  
Turn Wheel at any time to select another item.

4. Press [ESC] at any time exit **SETUP MENU**.  
The MENU key indicator will turn off.

**MODES:** (Turning Wheel clockwise)

**RECORD** Press [MENU] key 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.

**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  
with**

ST300 display shows:

SLOMO with:	WHEEL	
TBAR	Speed	Prset

Press TBAR (or WHEEL) Softkey to toggle between TBAR and WHEEL.

The T-BAR has two speed ranges:

0→+200 with a detent at +100 x play speed

OR

0→+100 with a detent at +100

**For Wheel only:**

Press Speed Softkey to select SLOMO speed ranges:

Press Softkey to select: 0 ->+200 **OR** -100 -> +200.

Press “BACK” Softkey to return to SLOMO MENU.

Press the [ESC] key to exit SETUP MENU.

**OR** turn the wheel to select another item.

**For Wheel only:**

Press “Prset” Softkey 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: ThePreset Speed register is NOT updated when exiting SLOMO mode. It is only changed by [SHIFT] + [SLOMO] (PRESET SLOMO).

**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 VTR's that you want to include in the gang. Release the keys. The led on the monitored VTR blinks, all other VTR's in the gang stay on constantly. To break the temporary gang, press any VTR# key.

**SEARCH  
SPEED**

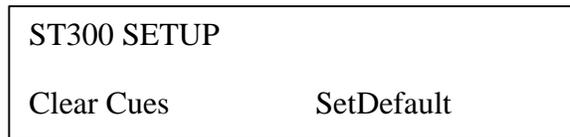
Press Softkey to select ST300 or VTR to control the search speed of the VTR.

Either the ST300 or VTR mode will be faster.

HINT: Select VTR mode if you will be controlling multiple VTRs.

Select ST300 if you will be controlling older VTR's

**ST300  
SETUP**



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?”

**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 in conjunction with Timecode Generator preset.

**RECORD** 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.

## 5. FUNCTION TABLE

Function	Key Press	Description
EE On/Off	[EE]	Toggle EE mode on/off. Status indicator is on when EE is on.
ENTER TIME	[ENTER TIME]	<p>To manually entered timecode numbers into the currently displayed Cue Point. Enter the desired timecode number using the numeric keypad. Press [ENTER] to save your entry, OR [SHIFT] to exit without saving.</p> <p>To enter a GOTO location without altering the contents of the Cue PointEnter the desired timecode number using the numeric keypad. Press [GOTO] to search to the entered time. Press [ESC] to exit without searching.</p>
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 FREEZE point from SETUP MENU (see MENU).
GOTO CUE or ENTERED TIME	[GOTO]	<p>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.</p> <p>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.</p>
GANG	[SHIFT] + [VTR#1] OR [SHIFT] + [VTR#2] OR [SHIFT] + [VTR#3] OR [SHIFT] + [VTR#4]	Press and hold the [SHIFT] key and press the key of the VTR whose status you want to monitor. The led above the VTR# key starts blinking. Release the [SHIFT] key and the VTR key. The light continues blinking. Press the VTR#'s for the other VTR's to include in the Gang. Their lights come on and stay on constantly. Press [SHIFT] to exit.

<b>Function</b>	<b>Key Press</b>	<b>Description</b>
GOTO FREEZE POINT	[SHIFT] + [GOTO]	Search VTR to FREEZE point (last Record Out point).
FFWD	[FFWD]	Press and HOLD to shuttle. Release key to stop. Set WIND Speed in MENU.
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, (see MENU Function), 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 [SHIFT] to exit without saving entry.
RECORD	[REC]	Places VTR in the Record mode selected by RECORD MODE in the SETUP MENU, (see MENU). One button record.
REWIND	[RWD]	Press and HOLD to shuttle. Release key to stop. Set WIND Speed in MENU.
SHUTTLE	[SHUTTLE]	Select SHUTTLE mode and enable the Wheel.
SLOMO	[SLOMO]	Press SLOMO to slomo 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- Press [SHIFT] + [SLOMO] to preset the slo-mo speed. Turn wheel to select desired speed. Press [SHIFT] 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.
EJECT TAPE	[SHIFT] + [REWIND]	Eject tape from VTR.
TIME PRESET (Generator Preset)	[SHIFT] + [TIME MODE]	Press to enter Time Preset. Press [ENTER] to load Time Generator. OR press [SHIFT] to exit without saving.

## 6. SPECIFICATIONS

Power	90 VAC to 265VAC 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" wide]
Weight	4 lbs
Real Panel Connectors	VTR1, VTR2, VTR3, VTR4 (All DB9F) GPI (DB15F) Power (DB9M) Aux (DB9F)
Display:	Easy to read 2 line, backlit LCD display (User adjustable contrast)
Jog/Shuttle Wheel	With mechanical detents.
Optional "T"-bar	Slomo 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, female (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		

### GPI IN/OUT CONNECTOR 15 Pin D type, female(DB15F)

Pin #	1	GPI 1 Out	Pin#	9	GPI 1 In
	2	GPI 2 Out		10	GPI 2 In
	3	GPI 3 Out		11	GPI 3 In
	4	GPI 4 Out		12	GPI 4 In
	5	GPI 5 Out		13	GPI 5 In
	6	GPI 6 Out		14	GPI 6 In
	7	GPI 7 Out		15	GPI 7 In
	8	Ground			

NOTE: Consult your dealer or DNF for custom options available for GPI I/O.

# ST300 KEY CONFIGURATION

# STANDARD

1     2     3     4  
 \_\_\_\_\_ VTR \_\_\_\_\_

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

GO TO     PRE-ROLL     (YELLOW KEYCAP) MARK

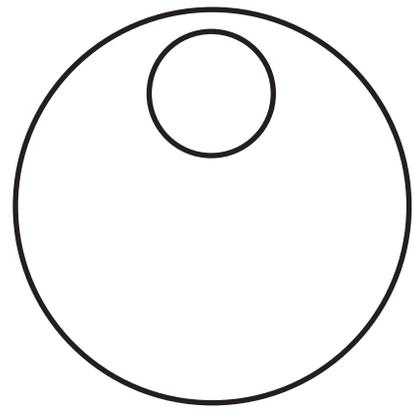
JOG     SHUT

ENTER TIME     LAST CUE     NEXT CUE     EE     TIME MODE     MENU

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

RWD     FFWD     (BLUE KEYCAP) STOP     PLAY     SLOMO

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



ST300 VTR / DDR Controller