12843 Foothill Blvd. Suite C
Sylmar, California 91342
V: 818.898.3380
F: 818.898.3360
sales@dnfcontrols.com

# Model No. ST200-S

# Universal VTR/DDR

# Controller

# USER MANUAL

**Manual Version……..…….. 3.11 102506**
**Document No……..……..… ST200-S_User_Manual**

# Table of Contents

# 1. REVISION HISTORY

| | | |
|---|---|---|
| 010504 | Rev. 3.1 | Company header information revised.<br>Added DNF Controls Limited Warranty. |
| 102506 | Rev. 3.11 | Added Timecode select function. |

# 2. DESCRIPTION

The ST200 UNIVERSAL Controller provides low cost control over a wide range of RS422 VTR and DDR formats and brands in your facility.

- Simple and easy to use.
- No complicated menus to search through.

All the functions you need at the press of a button. Eliminates the need for multiple remote controllers and the associated clutter of several pieces of control hardware.

Numeric Keypad provides easy entry of “Search To:” locations

One ST200 UNIVERSAL VTR/DDR controller controls them all: D1, D2, D3, D5, DCT, Betacam, MII, 1-inch, ¾-inch, S-VHS and Hi-8.

Sony, BTS, Panasonic, JVC, Grass Valley Group, Leitch and Drastic Technologies.

24-function keypad gives you the functions you need at the press of a button.

# 3. FEATURES

Timecode/tape time display; Jog/Shuttle Wheel.

12-function keypad provides the functions you need at the press of a button.

Small footprint desktop unit, 8 ½” x 5 ½”.

Can be easily customized for your specific needs. Customize the ST200 with the transport control functions and status indicators you require for your specific applications.

Can be used though your facility’s existing RS422 Control router, RS422 patchbay or 9-pin switch box.

## a. TIME CODE DISPLAY

Display timecode or CTL Tape Timer per the mode selector switch on the front panel of the VTR. The Time Mode can be selected manually by pressing the **[SHIFT**] + **[JOG]** keys, each press will step to the next Time Mode: CTL Tape Time, Timecode, VITC.

## b. TOP ROW OF KEYPAD

| | |
|---|---|
| Search To Cue #1 | (CUE1) |
| Search To Cue #2 | (CUE2) |
| Preroll | (PREROL) |
| Record Setup | (SETUP) |
| Standby On/Off | (STDNBY) |
| GOTO To Time | (GOTO) |
| Mark/Enter CUE1 | (SHIFT + CUE1) |
| Mark/Enter CUE2 | (SHIFT + CUE2) |

## c. BOTTOM ROW OF KEYPAD

| | |
|---|---|
| Record | (REC) |
| Play | (PLAY) |
| Stop | (STOP) |
| Rewind | (RWD) |
| Fast Forward | (FFWD) |
| Jog/Shuttle Select | (JOG) |

**NOTE**: Jog/Shuttle Wheel- Active **ONLY** from STOP/STILL, JOG and SHUTTLE modes.

## d. NUMERIC KEYPAD

When entering GOTO or CUE time, the ST200's keypad now has the following functions:

| **Switch** | **Numeric Keypad Function** |
|---|---|
| CUE1 | 0 |
| CUE2 | 1 |
| PREROL | 2 |
| SETUP | 3 |
| STNDBY | 4 |
| GOTO | GOTO- Begin Search |
| RECORD | 5 |
| PLAY | 6 |
| STOP | 7 |
| RWD | 8 |
| FFWD | 9 |
| JOG | DELETE- Move cursor left one position |
| SHIFT | ESCAPE enter mode |

# 4. INSTALLATION

a. Plug one end of a 9-conductor, RS422 serial cable in to the 9-pin connector on the rear of the ST200. Plug the other end of the cable into the 9-pin remote connector on the VTR.

b. Plug the 9-pin female connector, of the Universal Power Supply, into the POWER connector on the rear of the ST200.

Plug the free end of the Universal Power Supply into a wall outlet, 90 VAC to 240 VAC, ($\pm$10%).

c. Select REMOTE mode on the VTRs front panel.

d. Set the RECORD SELECTOR SWITCHES, located on the rear panel of the ST200, for the desired record mode per the "RECORD SELECTOR CHART" below.

**NOTE**- for AMPEX 1-inch and D2 VTRs, set VTR ID to 0001.

Installation is complete.

# 5. OPERATION

Select the desired transport function by pressing the appropriate key on the front of the ST200.

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

For example: Pressing PLAY will put the VTR into the PLAY mode. The PLAY Status Indicator will light when the VTR is in PLAY mode.

Press only [**RECORD**] to put the VTR into Record mode.

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

Loss of serial communication with the VTR is indicated by ALL status LEDs turned ON. Selecting LOCAL control on the VTRs from panel will turn OFF all status LEDs.

## a. NUMERIC KEYPAD

To turn on the Numeric Keypad, press the [**GOTO**] key.

**NOTE:** The transport control functions are inoperative while the Numeric Keypad is turned on. The status indicators will turn off and the transport will remain in the last selected mode.

Press the desired number key to enter a number. The entered number will be displayed in the current time location. The cursor will move one location to the left with each entry. Press DEL to move the cursor one location to the right.

Press GOTO to search to the entered time location **OR** press ESCAPE to exit the numeric keypad without searching.

## b. CUE POINT ENTRY

Press [**SHIFT**] + [**CUE1**] or [**SHIFT**] + [**CUE2**] to enter a time into the selected Cue Point.
The cursor is placed at the far right and the Numeric Keypad is turned on.

**NOTE**: The transport control functions are inoperative while the Numeric Keypad is turned on. The status indicators will turn off and the transport will remain in the last selected mode.

Press the desired number key to enter a number. The entered number will be displayed at the cursor. The cursor will move one location to the left with each entry. Press DEL to move the cursor one location to the right.

To automatically load the current time into the Cue Point, press the [**GOTO**] key.

When finished, press [**ESCAPE**] to turn off the Numeric Keypad.

## c. SEARCH TO CUE POINT

Press [**CUE1**] or [**CUE2**] to search to the saved time location.

## d. RECORD MODE SELECTION

Four (4) Record modes are available: Crash Record (Full Record), Assemble Record, Insert Record and Record Lockout.

The ST200 offers 2 methods of selecting the desired RECORD MODE, Rear Panel DIP switches or Front Panel SETUP.

**1) METHOD #1 - Rear Panel DIP Switches**

This method allows selection of the RECORD MODE using the Rear Panel DIP Switches. Set the DIP Switches per the following **Record Selector Switches** table. Any attempts to change the RECORD MODE from the Front Panel SETUP function will be inhibited.

**2) METHOD #2 - Front Panel SETUP**

Set the Rear Panel DIP Switches per the **Record Selector Switches Table** to enable the Front Panel Record SETUP function.

Press the [**SETUP**] key on the front panel. The current record mode will be displayed.

Press the [**RECORD**] key to select **Record Lockout**, **Assemble**, **Crash**, or **Insert** Record modes.

For **Insert** selection, Press Number Key- "0" for Video.
[**1**] for Audio 1.
[**2**] for Audio 2.
[**3**] for Audio 3.
[**4**] for Audio 4.

Press [**ESCAPE**] to save the currently displayed Record mode and exit the SETUP function.

Upon exiting SETUP, the VTR will be configured for the selected Record Mode.

## e. RECORD SELECTOR SWITCHES

| Mode | S1 | S2 | S3 | S4 | S5 | S6 |
|---|---|---|---|---|---|---|
| Record Lockout | OFF | OFF | OFF | OFF | OFF | OFF |
| Assemble Record | ON | OFF | OFF | OFF | OFF | OFF |
| Crash Record | OFF | ON | OFF | OFF | OFF | OFF |
| Insert Record | ON | VID | AUD1 | AUD2 | AUD3 | AUD4 ActiveON |
| Front Panel SETUP | OFF | OFF | OFF | OFF | OFF | ON |

**NOTE:** AUD3 & AUD4 should be ON ONLY for VTRs that support 4 channels of audio (i.e. D1, D2 and D3 type VTRs)

## f. TIME CODE DISPLAY

Display timecode or CTL Tape Timer per the mode selector switch on the front panel of the VTR. The Time Mode can be selected manually by pressing the **[SHIFT**] + **[JOG]** keys, each press will step to the next Time Mode: CTL Tape Time, Timecode, VITC.

# 6. SPECIFICATIONS

## TOP PANEL

| | |
|---|---|
| 12 Status LEDs | Record, Play, Stop, Rewind, FFwd, Jog<br>Cue 1, Cue 2, Preroll, Setup, Standby, Goto |
| 3 Direction LEDs | Indicates direction of Jog Shuttle |
| Switches | Record, Play, Stop, Rewind, Fast Forward, Jog, Shift,Reset<br>Cue 1, Cue 2, Preroll, Setup, Standby, Goto |
| Display | 2-Line LCD |
| Jog/Shuttle Wheel | With Mechanical Detents at 1X Play Speed |
| Size | L x W x H, 8-1/2" x 5-1/2" x 1-1/2" (Front) 2-1/2" (Rear) |
| Weight | 3lbs. |

## REAR PANEL

| | |
|---|---|
| RS422 Serial Out | 9-pin D-type connector, female (DB9-F) |
| DIP Switches | RECORD MODE: Lockout, Crash, Insert Assemble |
| Display | Contrast adjustment |
| Power: | 5 volt D.C., 500 ma. 90-265 VAC,<br>50/60 Hz converter supplied (Rack Mount or Tabletop) |
| GPI | 15-pin D-type connector, female (DB15F)<br>Switch Input: SPST contact closure, momentary |
| Status Output: | Open collector, sink 50mA. |

## RS422 SERIAL CONNECTOR
### 9-Pin D-Type, Female (DB-9F)

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

## POWER CONNECTOR
### 9-Pin D-Type, Male

| | | | | |
|---|---|---|---|---|
| Pin # | 1 | +5V DC | 6 | Not Used |
| | 2 | Not Used | 7 | Not Used |
| | 3 | Ground | 8 | Not Used |
| | 4 | Not Used | 9 | Not Used |
| | 5 | Not Used | | |

## GPI CONNECTOR
### 15-Pin, Female, (DB15F) Version 6 Hardware

| PIN | FUNCTION | NOTE |
|---|---|---|
| 1 | +5v DC | |
| 2 | SHIFT Switch | Active Low |
| 3 | Record Tally | Active Low, Open-Collector |
| 4 | Play Tally | Active Low, Open-Collector |
| 5 | Stop/Still Tally | Active Low, Open-Collector |
| 6 | Rewind/ Reverse Tally | Active Low, Open-Collector |
| 7 | Fast Forward/ Forward Tally | Active Low, Open-Collector |
| 8 | Jog Tally | Active Low, Open-Collector |
| 9 | Command Common | |
| 10 | Record Command | Active Low |
| 11 | Play Command | Active Low |
| 12 | Stop Command | Active Low |
| 13 | Rewind Command | Active Low |
| 14 | Fast Forward Command | Active Low |
| 15 | Jog/Shuttle Select Command | Active Low |

**NOTE:** There are **no** internal current limiting resistors for the open-collector Tally Outputs. Limit each Tally Output current to 40ma.

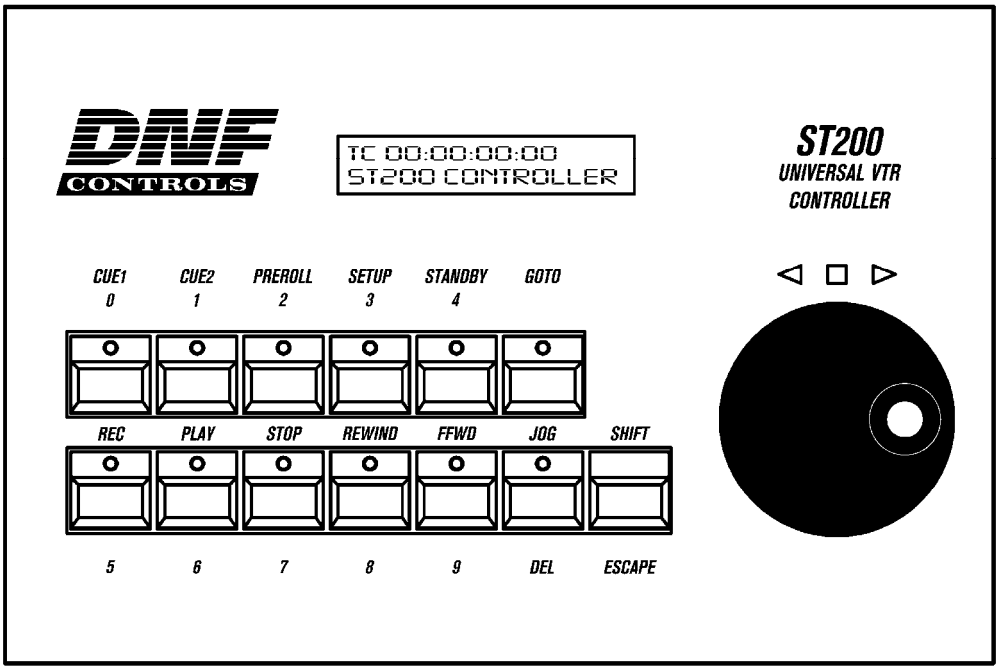
## GPI CONNECTOR
### 26-Pin D-Type, Female (DB26F) Version 7 Hardware ONLY

| | | | |
|---|---|---|---|
| Pin # | 1 | GPI 1 Out | Record tally out (Open collector) |
| | 2 | GPI 2 Out | Play tally out (Open collector) |
| | 3 | GPI 3 Out | Stop tally out (Open collector) |
| | 4 | GPI 4 Out | Rewind tally out (Open collector) |
| | 5 | GPI 5 Out | Rewind tally out (Open collector) |
| | 6 | GPI 6 Out | Fast Forward tally out (Open collector) |
| | 7 | GPI 7 Out | None |
| | 8 | GPI 8 Out | None |
| | 9 | Common Ground | |
| | 10 | GPI 1 In | Record command |
| | 11 | GPI 2 In | Play command |
| | 12 | GPI 3 In | Stop command |
| | 13 | GPI 4 In | Rewind Command |
| | 14 | GPI 5 In | Fast Forward Command |
| | 15 | GPI 6 In | Pause |
| | 16 | GPI 7 In | None |
| | 17 | GPI 8 In | None |
| | 18 | Common Ground | |
| | 19 | + 5 VDC | |
| | 20 | + 5 VDC | |
| | 21 | No Connection | |
| | 22 | No Connection | |
| | 23 | No Connection | |
| | 24 | No Connection | |
| | 25 | No Connection | |
| | 26 | No Connection | |

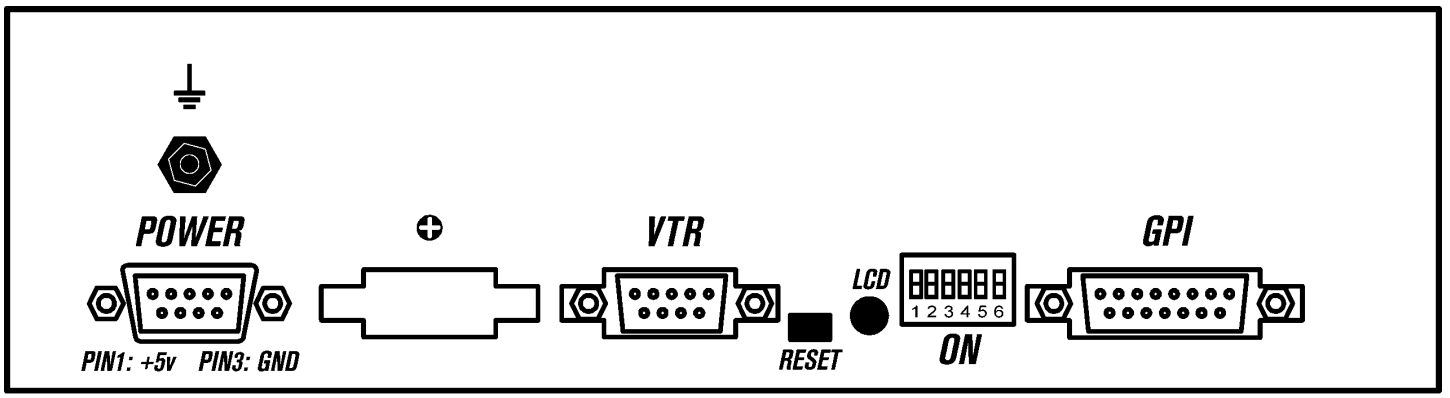
**NOTE:** There are **no** internal current limiting resistors for the open-collector Tally Outputs. Limit each Tally Output current to 40ma.

## 7. TOP VIEW / REAR VIEW

# ST200 Top View




# ST200 Rear View



# 8. 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.

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