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# Model No. 2000CL-AX (& 2000CL-AX-T)

## 200 CLIP INSTANT ACCESS SYSTEM

FOR *ACCOM AXESS* PROTOCOL

## USER MANUAL

# Table of Contents

<b>SECTION</b>	<b>CONTENTS</b>	<b>PAGE</b>
1.	Revision History .....	3
2.	System Description.....	3
3.	System Installation.....	3
4.	Video Server Setup.....	5
5.	Clip List .....	6
6.	Learn.....	6
	From the Shotbox.....	6
	From the ST300.....	6
7.	Recall.....	7
	From the Shotbox.....	7
	From the ST300.....	7
8.	View Contents of Cue Points.....	7
9.	Shotbox Display.....	7
10.	Shotbox Shotkey Maps.....	8
11.	Shotbox Control Switches.....	8
12.	Transferring Cuelists.....	8
13.	Setup Menu .....	10
14.	Function Table.....	12
15.	Specifications.....	13
16.	DNF Controls Limited Warranty .....	15

Manual Version..... 2.3 110303  
Document ID..... 2000CL-AX User Manual

# 1. REVISION HISTORY

091603 2.2 Company header information revised.

110303 2.3 Added DNF Controls Limited Warranty.  
Updated Receive Cue List & Transmit Cue List function description.

# 2. SYSTEM DESCRIPTION

The 200 Clip Instant Access System consists of the ST300-SSM VTR Controller, ST320 SHOTBOX and Shotlist Software.

SHOTLIST provides fast access to existing video clips stored on *Axess*.

The SHOTLIST contains up to 200 CLIP IDs, stored in non-volatile memory in the ST300.

Any clip in the SHOTLIST can be quickly loaded by simply entering the associated 3 digit number of its location, then pressing [**LOAD**]. Press [**PLAY**] to play the clip. Press [**RECUE**] to recue to the beginning of the clip or to the “recalled” time if defined.

## DEFINITIONS

- Throughout this document, the Accom *Axess* will be referred to as the Video Server.
- The ST300-S/SM as the ST300.
- The ST320SHOTBOX is referred to as “SHOTBOX.”
- SHOTKEY refers to the 1-50 switches on the SHOTBOX.
- Words surrounded by brackets, for example, [**ENTER**], are keys on the ST300 or the SHOTBOX. [**XXX**] + [**XXX**] means hold the two keys down simultaneously.

# 3. SYSTEM INSTALLATION

## SHOTBOX

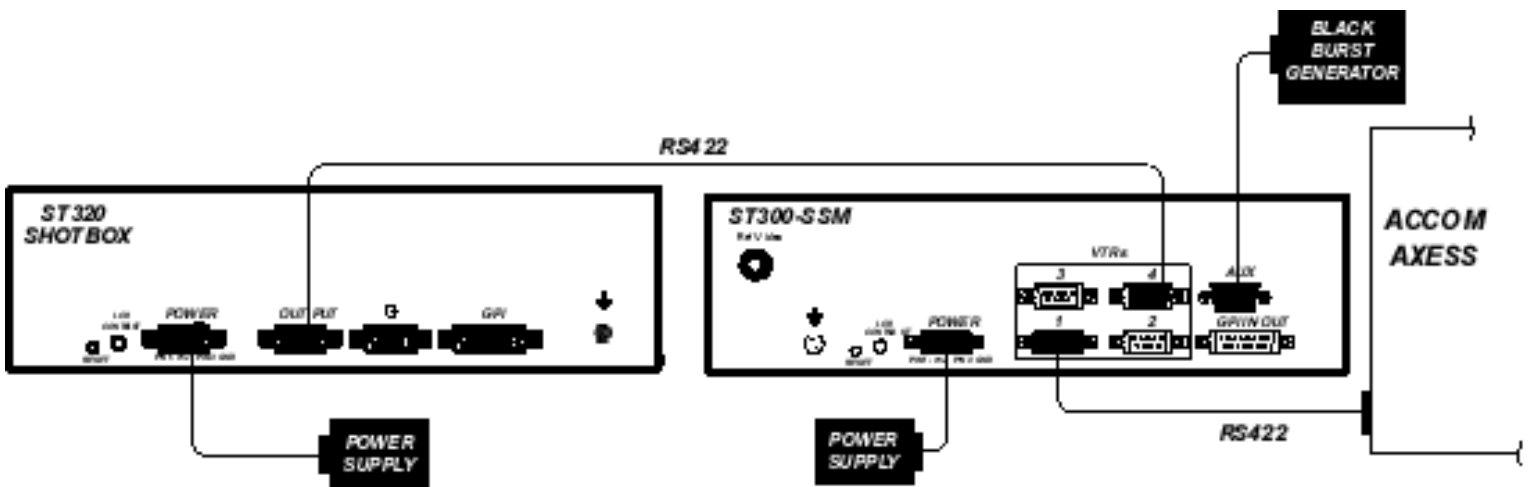
1. Plug one end of a standard 9 pin, RS422 serial cable, into the OUTPUT connector, 9 pin female, on the rear of the SHOTBOX. Plug the other end of the cable into the 9 pin connector, VTR4, on the rear of the ST300.
2. Connect the 5 VDC, 1Amp POWER SUPPLY into the POWER connector on the rear of the SHOTBOX. Plug the Power Supply into an outlet, 90VAC - 240 VAC.

## ST300-S/SM, VTR/DDR CONTROLLER

1. Plug one end of a 9 conductor, RS422 serial cable into the 9 pin connector (VTR 1, VTR 2, VTR 3) on the rear of the ST300. Plug the other end of the cable into the 9 pin remote connector on the Video Server.
2. Connect the +5, +12, -12 VDC POWER SUPPLY into the POWER connector on the rear of the ST300. Plug the Power Supply into an outlet, 90 VAC - 240 VAC.
3. Check SETUP MENU prior to using the ST300 to confirm proper Record mode and other User settable modes.
4. Connect the black burst generator (or house sync) to the AUX port on the rear of the ST300 through the provided Sync Adapter.

Installation is complete.

### CONNECTION DIAGRAM



## 4. VIDEO SERVER SETUP

1. Assign a serial port on the VIDEO SERVER through which the ST300 will control the server.
2. Connect the same sync signal that goes into the ST300 AUX port to the Sync connector on the back of the *Axess*. Setup the *Axess* to use External Sync using the *Axess* OnAir panel.

**NOTE:** The ST300 will default to Tape Time if a non-supported time mode is selected.

The ST300 in Clip List mode will display 'Waiting for Axess' message on the first line of the display due to the delays in the *Axess* Protocol.

Setup is complete.

## 5. CLIPLIST FUNCTION

1. Select a VTR by pressing VTR [1], VTR [2] or VTR [3].
2. LOAD the desired Clip.
  - a. Press [CLIP LIST] to view the list of Clips that are in the VIDEO SERVER.
  - b. The first line will show: "Enter starting point"  
The second line will show the numeric ID of the currently loaded clip.
  - c. Turn the wheel to scroll through clips starting from the currently displayed clip.
  - d. Turn the wheel. The top line of the display will show "xxxxxy"  
Where "xxxxxx" is the numeric CLIP ID, y= 'S' if it is a Still, or 'C' if it is a Clip. Turn the wheel to scroll forward through the list of available clips.
3. Enter a numeric ID (1-9,999,999) using the numeric keypad. The *Axess* will load the entered CLIP ID or go to the next available ID if the entered ID does not exist. You will see the CLIP ID changing as the *Axess* tries to find the next available ID. You can terminate search by hitting any key and entering a new starting point.
4. Press [LOAD] to load the current CLIP ID shown on the top line of the display.
5. Locate the clip to the desired IN time.

**OR**

## 6. LEARN

1. Load the desired clip using the CLIP LIST function.
2. Repeat until clips are loaded into the desired VTRs. Set the GANG mode, if required. (Refer to the Function Table for Details).

### LEARN on the ST300

1. Select the desired Cue Point by pressing [NEXT CUE], [LAST CUE] or by manually entering the Cue Point using the numeric keypad.  
The selected Cue Point number is shown on the bottom line of the display.
2. Press [SHIFT] + [MARK] to initiate the LEARN.
3. The display will show:

Press VTR:
MARK-Lrn      ESC-Cancel
4. Press the VTR key desired [1], [2] or [3].
5. Press [MARK] and the ST300 will: LEARN (save) the VTR Number (1,2,3), loaded CLIP ID and current time in/out to the selected Cue Point.

## LEARN on the SHOTBOX

1. Press [**LEARN**]. The LEARN indicator will turn on.
2. The display will show the prompt:
3. Select the desired BANK and ShotKey.
4. Press [**STOP**] to exit at anytime.

Select Bank & Switch STOP- Abort
-------------------------------------

## 7. RECALL

### RECALL on the ST300

1. Select the desired Cue Point by pressing [**NEXT CUE**], [**LAST CUE**] or by manually entering the Cue Point using the numeric keypad.  
The selected Cue Point number is shown on the bottom line of the display.
2. Press [**LOAD**] on the ST300.

### RECALL on the SHOTBOX

Select the desired Cue Point by pressing the bank and the switch key.

## 8. VIEW CONTENT OF CUE POINTS

1. Press and hold [**VIEW**].
2. Select a Cue Point by pressing desired bank and switch keys.  
The display will show:

VT1 xxxxxxxx VT2 yyyyyyyy
------------------------------

where xxxxxxxx- is the CLIP ID assigned to the selected Cue Point on VTR1  
where yyyyyyyy- is the CLIP ID assigned to the selected Cue Point on VTR2

3. Press the selected switch again to see clips assigned to this Cue Point on VTR3.

## 9. SHOTBOX DISPLAY

1. If current active VTR on the ST300 is VTR1 or VTR2, the SHOTBOX display shows:  
where xxxxxxxx - clip, loaded on VTR1  
where yyyyyyyy - clip, loaded on VTR2
2. If current VTR is VTR3, the display shows clips loaded on VTR3.

V:1 L: xxxxxxxx V:2 L yyyyyyyy
-----------------------------------

## 10. SHOTBOX SHOTKEY MAPPING TO SHOTLIST LOCATIONS

The SWITCHES on the SHOTBOX access the SHOTLIST locations as follows:

BANK 1, SWITCHES 1 -> 50 access SHOTLIST locations 101 -> 150.

BANK 2, SWITCHES 1 -> 50 access SHOTLIST locations 201 -> 250.

BANK 3, SWITCHES 1 -> 50 access SHOTLIST locations 301 -> 350.

BANK 4, SWITCHES 1 -> 50 access SHOTLIST locations 401 -> 450.

## 11. SHOTBOX CONTROL SWITCHES

These keys control the VTR selected by the ST300 or the last “recalled” VTR

1. Pressing [**PLAY**] puts the VTR into PLAY mode.
2. Pressing [**STOP**] puts the VTR into STOP mode.
3. Pressing [**RECUE**] stops the VTR and rewinds to the start of the clip **OR** to the LEARNED time.

The CONTROL Switch indicators show the real-time status of the VTR.

## 12. TRANSFERRING CUELIST

The TRANSMIT CUELIST 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

### To Transmit Cue Points to the ST300:

1. Connect the VTR4 connector on the back of the ST300 to the VTR4 connector of the receiving ST300 using RS422 9-pin cable with TX and RX lines crossed. (A “Turnaround” cable)
2. Press [**MENU**] and scroll the wheel until  
“Transmit CUE List? YES=Enter, Exit=ESC” is displayed.
3. Press [**ENTER**] to start transmitting. The Display shows “Waiting to transmit”.
4. When the Receiver is ready, transfer starts automatically. The Display now shows  
”Transmitting cue list”.
5. After the transfer is over, the display shows “Transfer is over” for one second and then shows “Waiting to transmit” again.
6. Connect another ST300 to transmit the list again  
**OR** press [**ESC**] twice to exit the MENU mode.

### **To Transmit Cue Points to the PC:**

1. 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.
2. Repeat steps 2-8 of the TRANSMIT CUE POINTS to the ST300 section.

### **RECEIVE CUELIST FUNCTION.**

The RECEIVE CUELIST function allows you to receive your 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

### **To Receive Cue Points from the ST300:**

1. 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)
2. Press [**MENU**] and scroll the wheel until "Receive CUE List? YES=Enter, Exit=ESC" is displayed.
3. Press [**ENTER**] to start receiving. The Display shows "Waiting to receive" on the first line.
4. When the Transmitter is ready, transfer starts automatically. The Display now shows "Receiving cuelist".
5. After the transfer is over the display shows "Done-Success! Press any key..."
6. Press any key. The display shows "Receive cuelist?" message.
7. Press [**ESC**] twice to exit the MENU mode.

### **To Receive Cue Points from the PC:**

1. Connect the VTR4 connector on the back of the ST300 to one of the COM ports on the PC using RS422 to RS232 adapter
2. Repeat steps 2-8 of the RECEIVE CUE POINTS from the ST300 section.

### 13. SETUP MENU

Press [MENU]. The MENU indicator will turn on.

Turn the Wheel to select item to change.

Press [MENU] **OR** 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.

**WIND MODE** Press Softkey to select:  
HOLD (fast wind is maintained only while key is depressed)  
**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:

SLOMO with:	WHEEL
TBAR	Speed Prset

Press Softkey [TBAR] (or [WHEEL]) to toggle between them.

The T-BAR has a speed range of 0→+200 with a detent at +100 % play speed **OR** a range of 0→+100 (detent at +100 % Play speed).

**For Wheel only:**

Press Softkey [SPEED] 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 **OR** turn the wheel to select another item.

**For Wheel only:**

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).

**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?”

**DISPLAY SOFTWARE VERSION** The version number for the currently installed software is displayed.

**SHOTBOX ON/OFF** Enables use of SHOTBOX.

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

**TRANSMIT CUELIST** Transmits Cuelist to another ST300 or to a PC

**RECEIVE CUELIST** Receives Cuelist from another ST300 or a PC

## 14. FUNCTION TABLE

Function	Key Press	Description
GOTO ENTERED TIME	[SHIFT] + [RECUE]	Search the VTR to the manually entered time  Use the ST300 numeric keypad. Press [ENTER] or [RECUE].
GANG	[SHIFT] + [VTR #1] OR [SHIFT] + [VTR #2] OR [SHIFT] + [VTR #3]	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.
FFWD	[FFWD]	Press and HOLD to shuttle. Release key to stop. Set WIND Speed in MENU.
JOG	[JOG]	Select JOG mode and enable Wheel.
LAST CUE	[LAST CUE]	Step to the previous Cue Point Location.
NEXT CUE	[NEXT CUE]	Step to the next Cue Point Location.
RECORD	[REC]	Places VTR into the Record mode selected by RECORD MODE in the SETUP MENU. Press [RECORD] or [RECORD] + [PLAY].
REWIND	[RWD]	Press and HOLD to shuttle. Release key to stop. Set WIND Speed in MENU.
SHUTTLE	[SHUTTLE]	Select SHUTTLE mode and enable Wheel.
SLOMO	[SLOMO]	Press [SLOMO] to slo-mo the VTR. Turn the wheel (or move the T-Bar if available) to change the play speed. Press [SLOMO] to STILL frame <b>OR</b> press any transport key to exit SLOMO.
SLO-MO SPEED PRESET	[SHIFT] + [SLOMO]	For WHEEL <b>ONLY</b> : Press [SHIFT] + [SLOMO] to preset the slo-mo speed. Turn 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.
LOOP	[SHIFT] + [PLAY]	Plays the currently loaded clip in a continuous loop.
TIME MODE SELECT	[TIME MODE]	Press to toggle between Timecode (TC), VITC (VT) or Tape Timer (TM) display modes.

## 15. SPECIFICATIONS

### ST300

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)  
Weight: 4 lbs.  
Rear Panel Connectors: VTR1, VTR2, VTR3, VTR4..... All DB9F  
GPI..... DBF15F  
Power.....DB9M  
Aux .....DB9F  
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

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

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

### ST320 (SHOTBOX)

Power: 90 VAC to 265VAC adapter supplied with IEC connector  
Size: (L" x W" x H") 10.5" x 7.25" x 1.75" (front) 3.0" (rear)  
Weight: 4 lbs.  
Rear Panel Connectors: Power.....DB9M  
OUTPUT .....DB9F  
Display: Easy to read 2 line, back-lit LCD display  
(User adjustable contrast)

### RS422 SERIAL CONNECTOR 9 Pin D type, female

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

**POWER CONNECTOR 9 Pin D type, male**

Pin #	1	+5v DC	6	No Connection
	2	+5v DC	7	Ground
	3	Ground	8	Ground
	4	No Connection	9	Ground
	5	No Connection		

## **16. 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.

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