Installation

Introduction

This chapter will help you install the Console Control Unit (CCU) hardware. The first part of the chapter describes the different hardware elements which must be considered. The second part of the chapter is an Installation Quick Check.

System Setup Planning

Before you install and configure your equipment, there are several installation issues to consider and plan.

Power
The CCU uses a DC power supply. You must connect and use the power supply that is shipped with the CCU. The CCU power supply should be plugged into a surge protected MAINS outlet.

Placement
The CCU is generally installed into the center section of the console. A TimeLine System Supervisor (SSU) is required to operate the CCU. The SSU is normally installed in the console automation computer rack.

Special hardware installation kits are available to mount the CCU in some consoles. Kits are available for:

Neve V Series Consoles
SSL Consoles
Euphonic Consoles

Cabling
The CCU requires power, transport, and communications cables.

Quick Test
Before permanently mounting the CCU into your system, perform a quick check to verify operation and compatibility.
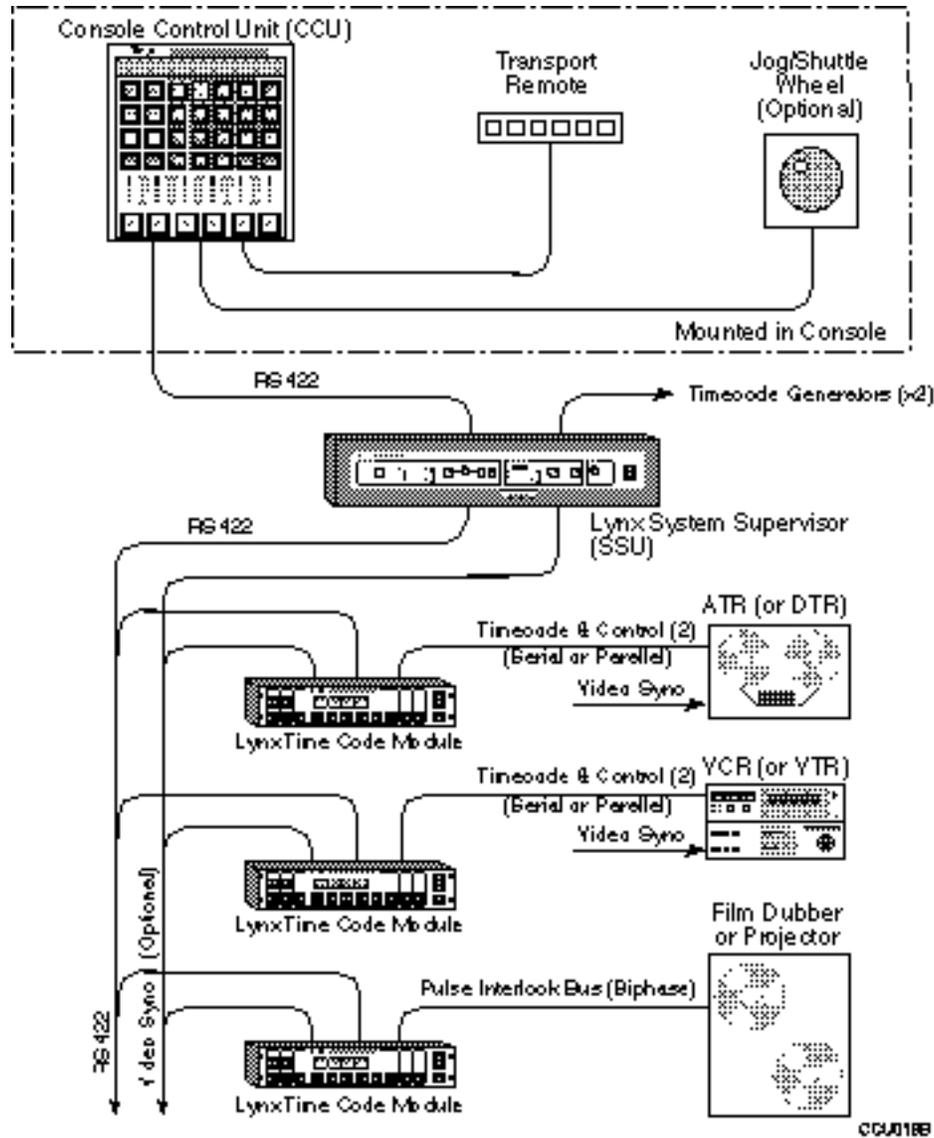
Figure 3-1. General Installation Block Diagram

Cable Installation

Careful connection and routing of cables for the CCU, System
Supervisor (SSU), and console communications will ensure a quick and
successful installation. The installation procedure has 3 steps:

1. Connect the Lynx modules to the transports and the
    System Supervisor.
2. Mount the CCU hardware.
3. Connect the CCU cables.

Power

Use the DC power supply provided with the CCU. Power supplies for the United States and Japan are specific for use in 110-120 VAC environments.

A switching power supply is used for 220-240 VAC environments. It will automatically adjust to the AC voltage in your area.

The power supply must be plugged into a surge protected MAINS outlet.

Fuses

The correct fuses are installed in the CCU by the factory. Fuse and voltage ratings are as follows:

Table 3-1. F1, +12 VDC Power Line Fuse

Country	Supply Voltage	Fuse Type
All	120/230 volts, AC mains	1/4 Amp, 250 volts, GMA

Table 3-2. F2, +5 VDC Power Line Fuse

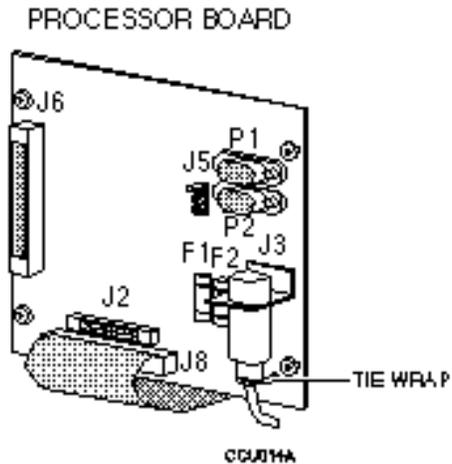| Country	Supply Voltage	Fuse Type
All	120/230 volts, AC mains	1.5 Amp, 250 volts, GMA

To Change the Fuses:

PROCESSOR BOARD

Figure 3-2. CCU Fuse Location (F1, F2)

1.
Unplug the CCU DC power supply from the AC power source.

2. Unscrew and remove the console mounting panel.

3. Turn the panel over so that the underside is exposed.

4. Refer to Figure 3-2 and locate the two fuse holders (F1 and F2) next to the Power input on the CCU processor board.

5. Use a small screwdriver and gently pop the fuse out of the fuse holder.

6. Check the fuse rating against the chart. Replace the fuse, press securely into place.

7. Reconnect the CCU power supply.

8. Replace and secure the console mounting panel.

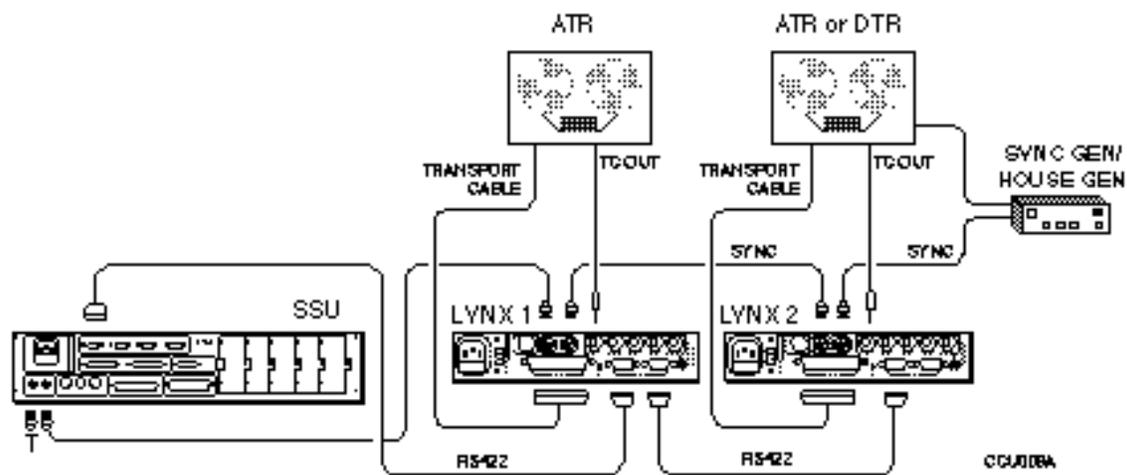# Connect Lynxes, Transports, and the System Supervisor

Figure 3-3. Connect Lynxes, Transports, and the System Supervisor

Each transport must be connected to a Lynx Module. The Lynx modules are connected to the System Supervisor. Specific interconnection instructions for the Lynx modules, transports, and System Supervisor are located in their respective manuals.

Procedure

1. Connect the 50-pin transport cable to the Lynx **TRANSPORT** jack and the transport. Initialize each module for its specific transport.

   Initialization procedures for the Lynx module are located in the Getting Started chapter of the Lynx Operating Manual (V500)

2. Connect the 1/4" stereo time code cable from the Lynx **TC OUT** jack to the transport.

3. Daisy-chain the 9-pin RS422 cables between the Lynx modules, and the System Supervisor (SSU), **TRIB PORT 1**.

4. Daisy-chain the sync source/external video cable (BNC) between the Lynx modules (transports if required), and the System Supervisor (SSU).

   If the SSU provides the video sync source, daisy-chain the sync cables from the SSU to the Lynx modules.

Mount the CCU in the Console
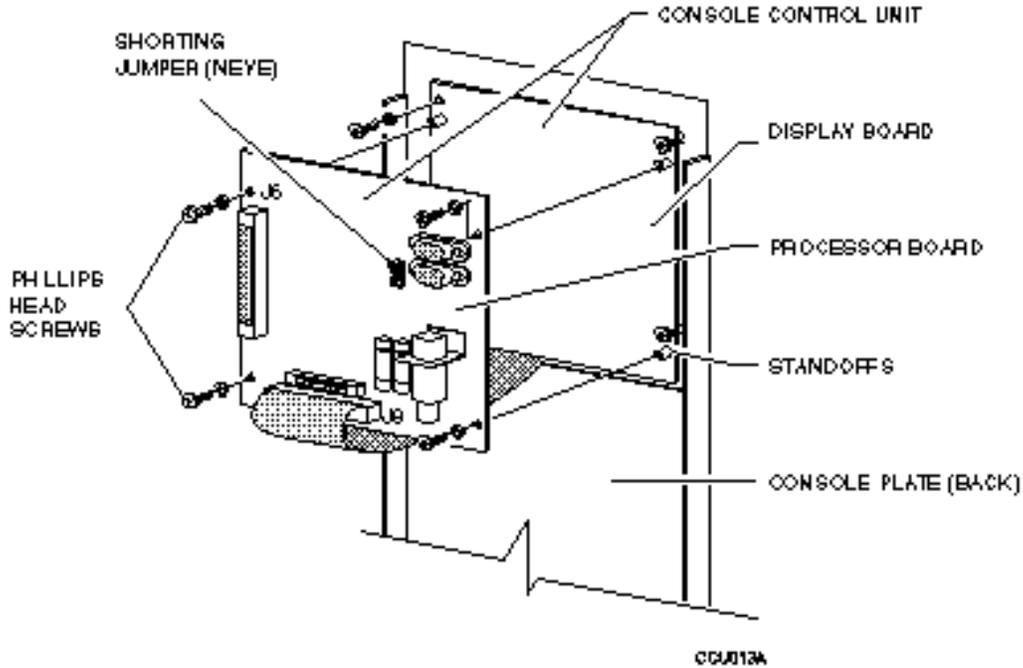

Figure 3-4. CCU Mounting Hardware

The CCU comes with a general installation kit which includes the following items:

1   AC to DC Power Supply
1   CCU
1   RS422 Cable
1   Hardware mounting kit

If you ordered the CCU with a specific console installation kit: Neve, SSL, or Euphonix, there will be installation components and instructions that are specific to the console.

Procedure

1. Remove the hardware holding the peripheral equipment plate on your Console face plate.

   If there are no prepunched areas for adding peripheral equipment, please contact your dealer for a new face plate.

2. Place the CCU packing materials on your console for protection. Fold the Console face plate back over the top of the console.

3. Mount the CCU onto the console plate.

   a. Remove the four phillips head screws holding the two CCU printed circuit boards together.

   b. Disconnect the ribbon cable between the processor and Display boards.

   c. Expose the Display board. Place the Processor board on a static safe work surface.

   d. Lay the Display board into position on the CCU control panel. Line up the 4 mounting holes on the Display board with the existing Console face plate mounting standoffs or bolts and spacers that have been installed to match the hardware template. The hardware template is located in the Appendix in the back of this manual.

   e. Insert the four mounting screws into the Control Console face plate and tighten.

   f. Place the CCU Processor board onto the Display board (backs or soldered sides together).

   g. Replace and tighten the four phillips screws which hold the two boards together.

   h. Reattach the ribbon cable that connects the CCU Processor (J8) and Display boards. When attaching the ribbon cable, verify that the connector is correctly seated. Improper seating may leave bent or exposed pins.

Connect the CCU Cables

Once the hardware is correctly and securely installed, connect the cables to the CCU. There are two cables to be connected.

1. Power cable

2. Serial communications cable to SSU

Procedure

Figure 3-5. Cable Connections

Power Cable
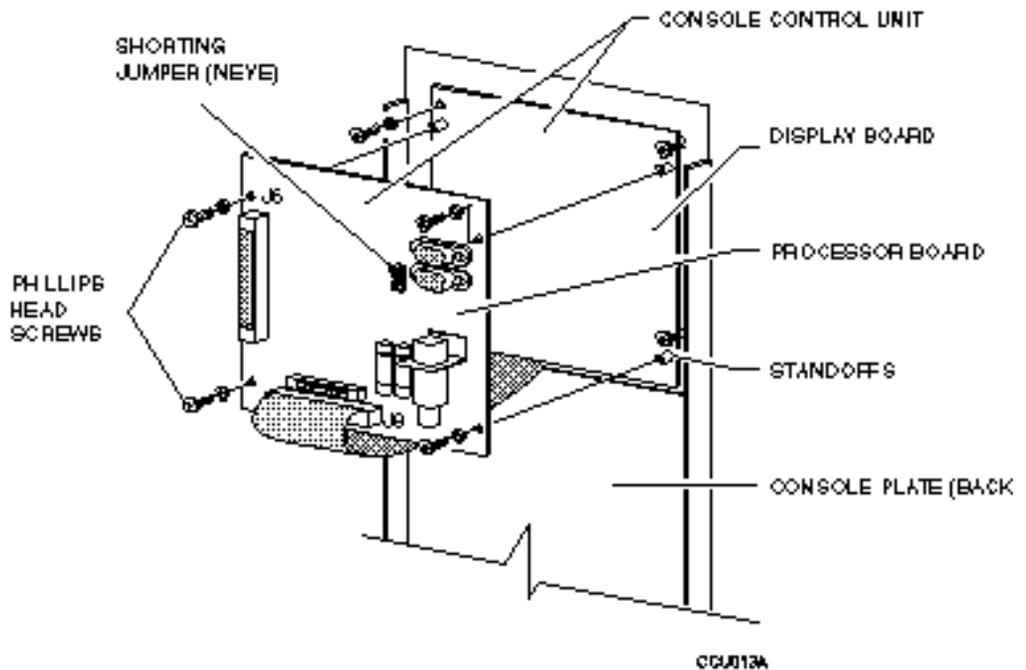
1. Insert the DIN type connector from the CCU power supply to J3 on the CCU processor board.

2. Pass a tie-wrap through the holes on the CCU Processor circuit board and around the DIN connector. Refer to Figure 3-2 for location. Tighten the tie-wrap.

3. Although installation of the tie-wrap is optional, it will provide strain-relief for your cable and make it less susceptible to breaking.

Serial Interface (RS422) Cable to the System Supervisor.

1. Insert the DB-9 end of the TimeLine supplied RS422 cable into connector P1 on the CCU Processor board.

2. Insert the DB-25 end of the RS422 cable into the Keyboard/Computer Control Port 1 on the System Supervisor.

Table 3-3. Serial Interface Cable Pinouts

Pin No.	P1, 9-pin	Pin No.	P2, 25-pin
1	Shield		
2	SERIAL DATA RECEIVE -	15	SERIAL DATA RECEIVE -
3	SERIAL DATA TRANSMIT +	1	SERIAL DATA TRANSMIT +
4	GND	10	GND
5	FRAME CLOCK	6	FRAME CLOCK
6	NC		
7	SERIAL DATA RECEIVE +	2	SERIAL DATA RECEIVE +
8	SERIAL DATA TRANSMIT -	14	SERIAL DATA TRANSMIT -
9	NC		

Motion Control Interface Option

Console or remote motion control switches may be connected to the CCU. Use connector J6 on the CCU Processor Board to provide an interface between the TimeLine Motion Control Bank and the CCU. Use Table 3- 3 to build a cable on a 40-pin header if you are using a different Motion Control Switch matrix and Figure 3-4 to install the header.

Table 3-4. Motion Control Interface Connector Pinouts

Pin	Signal	Pin	Signal
1	Rewind Switch	2	Rewind Return Switch
3	NC	4	NC
5	Fast Forward Switch	6	Fast Forward Return Switch
7	NC	8	NC
9	NC	10	NC
11	Play Switch	12	Play Return Switch
13	NC	14	NC
15	Stop Switch	16	Stop Return Switch
17	NC	18	NC
19	Record Switch	20	Record Return Switch
21	NC	22	NC
23	Rewind Lamp	24	Rewind Return Lamp
25	Fast Forward Lamp	26	Fast Forward Return Lamp
27	Stop Lamp	28	Stop Return Lamp
29	Play Lamp	30	Play Return Lamp
31	Record Lamp	32	Record Return Lamp
33	Reset	34	Spare
35	Serial Clock	36	Spare
37	Serial Out Data	38	Spare
39	Serial Strobe	40	+5V

Warning

The lamps in the Motion Control keys must be replaced in order for the CCU to control them. Replacement lamps must be 12 V, max 40 mA.

Jog/Shuttle Option

A Jog/Shuttle wheel may be connected to the CCU. Use Connector J2
on the CCU to connect the Jog wheel. Use
Table 3-5 to build a cable. Connector J2 should be wired
as follows:

Table 3-5. Jog/Shuttle Option Pinouts

Pin No.	Signal Description
1	Encoder A (signal input)
2	Encoder B (signal input)
3	Encoder Common (ground)
4	Jog Switch
5	Shuttle Switch
6	Loop Switch
7	Jog Tally
8	Shuttle Tally
9	Loop Tally
10	+12 V
11	Ground
12	Ground
13	Ground
14	+5 V
15	+5 V
16	NC

Secure the CCU

Once all of the cables are in place, secure the CCU in the Console. Perform the Quick Test procedures described in the next section of this chapter.

Cable Check List

Between Equipment	Connectors	From / To
Lynx to Transport	50-pin, 'D'	Lynx TRANSPORT jack to Transport
Lynx to Transport	1/4" to 1/4" stereo	Lynx TIME CODE OUT to Transport Time Code In
Lynx to SSU	9 to 9 pin, 'D'	RS422 to SSU Trib Port #1
Sync to all equipment	BNC	Lynx EXT VID to SSU EXT VID to Transport
CCU	40-pin, 'D'	J8 CCU Processor Board to CCU Display Board
CCU to Power Supply	5-pin DIN	J3 (Processor Board) to Power Supply
CCU to SSU	9 to 25 pin, 'D'	P1 (Processor Board) to Control Port 1 (SSU)

Procedure

1. Gently lift up the console panel and place it back into position.

2. Replace any mounting hardware that might have been removed to install the CCU.

3. Turn on the power.

Quick Test Procedures

These test procedures are designed to test the ability of the different pieces of equipment to communicate with each other. Upon completing these procedures, you will be ready to run the system.

There are three parts to this test, each must be completed before continuing to the next part.

Procedure to Verify that the SSU Turns On

Press/Turn	You See	Description
1.		MAINS Turn on the SSU. The start up test is automatically performed. During the startup test most of the LEDs and keys should light.
	all LEDs *but* **XMT DATA** and **RCV DATA** turn on	The start up LED test ends after 30 seconds.
2.	**EXT VID** LED on **PROC 1** LED on **PROC 2** LED on **PROC 3** LED on	Other LEDs may be turned on, ONLY the LEDs listed here are significant. If EXT VID is not supplied, **EXT VID** will be flashing.

Table 3-6. What if the SSU doesn't turn on correctly?

Situation	*Solution*	*Conditions*
The SSU does not turn on.	1. Verify that the power cord is securely connected. 2. Check the fuse.	Refer to the SSU manual for fuse rating and changing information.
Some or all of the LEDs do not turn on when initially powering up the SSU.	1. Clear the SSU memory: Hold the SELECT key while turning the power switch off then on. 2. Call the factory.	

Note
The EXT VID may flash, this is a normal condition which indicates that the external video reference is not present. If a valid signal is connected, the LED will stop flashing.

Procedure to Verify That the CCU and SSU Can Communicate

Press/Turn	You See	Description

On the CCU

3.		Turn on the CCU.
	Holding memory	Each line is displayed for approximately 2 seconds
	TimeLine	then the next line is displayed. **GRP** will flash
	Version #.##	To clear the CCU memory, press **SETUP** + **CLR.**
	Ref Src Ext vid	
	Poll: Grp + Setup	

On the SSU

4. **SELECT**	**SELECT** on	This LED is located in the Diagnostic section of
	DIAG ON LED on	the SSU front panel.
5. Turn select knob	**CTRL PORT 1** LED on	Turn the Select knob until the **CTRL PORT 1** LED turns on.
	DIAG ON LED on	When **CTRL PORT 1** LED turns on, these LEDs on the CCU will light.
	MSG OK LED on	Pay close attention to the **RCV DATA** and **XMT DATA** LEDs.
	BREAK LED on	
	RCV DATA	LED flickers
	XMT DATA	LED flickers

Table 3-7. What if the SSU doesn't communicate with the CCU?

Situation	*Solution*	*Conditions*
The **RCV** and **XMT DATA** LEDs do not flicker,	Check the cable connections and refer to the System Supervisor Operating Manual.	The CCU must be turned on.
The CCU and SSU just don't communicate	Check the cable connections. Is the power turned on, re-cycle power switch (off-on-)	The CCU must be turned on.

Procedure to Verify That the SSU and Lynx(es) Can Communicate

Press/Turn	You See	Description
On the Lynx		
6.		Turn on all Lynx modules.
On the SSU		
7. Turn select knob	**TRIB PORT** LED on 1 (in the display)	Turn the Select Knob until a 1 is displayed in the LED display window to the right of the **AUX SELECT** key and the **TRIB PORT** LED turns on.
	DIAG ON LED on **RCV DATA** LED flickers **XMT DATA** LED flickers	When the **TRIB PORT** LED turns on, these LEDs will turn on also If the **RCV** and **XMT** DATA LEDs do not flicker, check the cable connections and refer to the System Supervisor Operating Manual.
8.		The Lynx modules are communicating with the SSU.
9. **GRP** + **SETUP**	**A-F** flashing	Let the CCU poll the Lynx units. At this time each Lynx is automatically assigned to a machine select key by the CCU. Each machine select key that is flashing indicates has a Lynx is assigned to it.
10. **GRP** + [**A-F**]	**A-F** light on machine select letter.	Assign one or more machines to the group by pressing **GRP** and the

Table 3-8. What if the SSU doesn't communicate with the Lynx(es)?

Situation	*Solution*	*Conditions*
A 2 instead of a 1 is displayed.	Press the **AUX SELECT** key until a 1 is displayed	This test must be performed on TRIB PORT 1 not TRIB PORT 2.
The **RCV** and **XMT DATA** LEDs do not flicker	The CCU must be turned on before the Lynx Verify that the Lynx is "On line" Verify that each Lynx has a unique address.	CCU to SSU communications must be established before Lynx to SSU communications. If you turn off the units, turn the CCU back on first. If you change the Lynx modules or their setup, you must repoll the CCU (press **GRP** + **SETUP**).
Lynx(es) and SSU do not communicate.	Check the cables, especially the daisy-chained **RS422**. Verify that each Lynx has a unique address.	LYNX: Is the **422** LED turned on? Are the Lynx addresses correctly set? Each Lynx must be set to a unique address. CCU: Press **GRP** + **SETUP** to repoll.
Pressing **GRP** + **POLL** shows **GRP** & a letter, then defaults back to **GRP** + **POLL**	Two of the Lynx modules are set to the same address. Each Lynx *MUST* have a unique address.	After changing a Lynx address, you must repoll by pressing GRP + POLL. Any Lynx address or module change requires repolling by the CCU.

Verify CCU - Motion Control Keys Communication

If you installed the Motion Control option, verify that the Motion Control keys can control a selected transport.

Procedure

This portion of the procedure is performed on the Motion Control Keys. Solo each of the machines being controlled by the CCU. Perform steps 11-14 for each machine. Then select the group and perform steps 18-19.

Press/Turn	You See	Description
Solo mode		
11. **SOLO** A	**SOLO** light on A light on	The machine select key of the machine will turn on. To select a The tape machine assigned to A will run.
` **SOLO** + **B**	**B** light on	To select a different machine, press the appropriate machine select key while pressing **SOLO**.
12. PLAY	Time code CODE LED on	Press PLAY on the motion control keys. Time code should be read and displayed by the CCU and Lynx.
13. >> (Fast Forward)		Tape machine should fast forward.
14. STOP		Tape machine stops and no time code is read.
15.		Repeat steps 11-14 for each machine select key assigned to a transport. When all individual machines have been tested, check group mode.
Group mode		
16. **GRP** **A B C**	**GRP** light on **A B C** lights on	Select group mode and which machines will be part of the group.
17.		Perform steps 11-14.

Table 3-9. What if the Motion Control Keys don't control a transport?

Situation	*Solution*	*Conditions*
The busy LED on the CCU flashes	Turn the associated Lynx module "On line".	The Lynx, SSU, and CCU must all be turned on.
Time code is not displayed in PLAY.	Verify the Lynx to transport cabling.	The transport cable, RS422, and TCIN cables must be properly seated.
Motion control keys do not correctly put the transport into PLAY, Fast Forward, or STOP.	Check the CCU to Motion Control Keys cable; is it correctly oriented & properly inserted. Verify that the Lynx is setup for the correct transport.	Other peripheral equipment attached to the motion control keys must be connected to the 'Y' on the CCU to Motion Control Keys.

Neve Installation

Prepare the CCU for the Neve Console

The Neve Hardware Mounting Kit includes the following:

4 screws   1 cable tie
5 lamps   1 shorting bar
1 40 pin ribbon cable

1. In your hardware kit, you received a shorting bar. Place it between pins 1 and 2 on J5 which is located on the CCU Processor board.
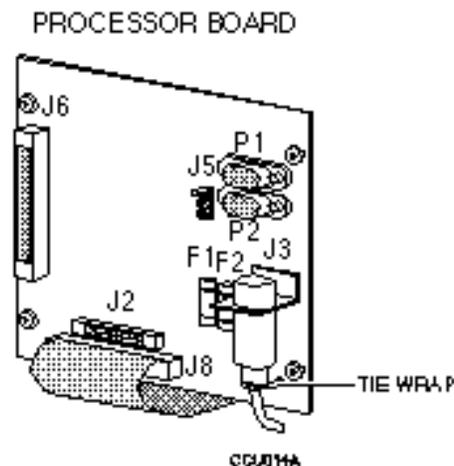

Figure 3-6 Bach View of the CCU

2. Turn over the Console Control panel. Gently remove the 5 motion keycap covers: >>, <<, >, **STOP**, and **RECORD**.

3. Use a small slotted screwdriver and right-angled needle nose pliers to remove the lamp bulbs. Insert the lamp bulbs supplied in your hardware kit. The Rollback and Locate keys can not be lit by the CCU, so these lamp bulbs will not be replaced.

Note

The CCU uses 12 VDC instead of 24 VDC. Your motion control push buttons will only operate correctly if you replace the lamps with 12 V, 40ma bulbs.

Procedure

1. Remove the hardware holding the peripheral equipment plate on your Console face plate.

   If there are no prepunched areas for adding peripheral equipment, please contact your dealer for a new face plate.

2. Place the CCU packing materials on your console for protection. Fold the Console face plate back over the top of the console.

3. Mount the CCU onto the console plate.

   a. Remove the four phillips head screws holding the two CCU printed circuit boards together.

   b. Disconnect the ribbon cable between the processor and Display boards.

   c. Expose the Display board. Place the Processor board on a static safe work surface.

   d. Lay the Display board into position on the CCU control panel. Line up the 4 mounting holes on the Display board with the existing Console face plate mounting standoffs or bolts and spacers that have been installed to match the hardware template. The hardware template is located in the Appendix in the back of this manual.

   e. Insert the four mounting screws into the Control Console face plate and tighten.

   f. Place the CCU Processor board onto the Display board (backs or soldered sides together).

   g. Replace and tighten the four phillips screws which hold the two boards together.

   h. Reattach the ribbon cable that connects the CCU Processor (J8) and Display boards. When attaching the ribbon cable, verify that the connector is correctly seated. Improper seating may leave bent or exposed pins.

Connect the CCU Cables

CONSOLE CONTROL UNIT

CONSOLE FACE PLATE

TO SSU
KEYBOARD/COMPUTER
CONTROL PORT #1

J6

OPTIONAL
JOG WHEEL

POWER
AC - DC

DISPLAY TO
PROCESSOR
BOARD

CONSOLE
CONTROL
CABLE

TO NEVE COMPUTER
KEYBOARD

NEVE TAPE/KEYBOARD
CONTROLLER

CN6
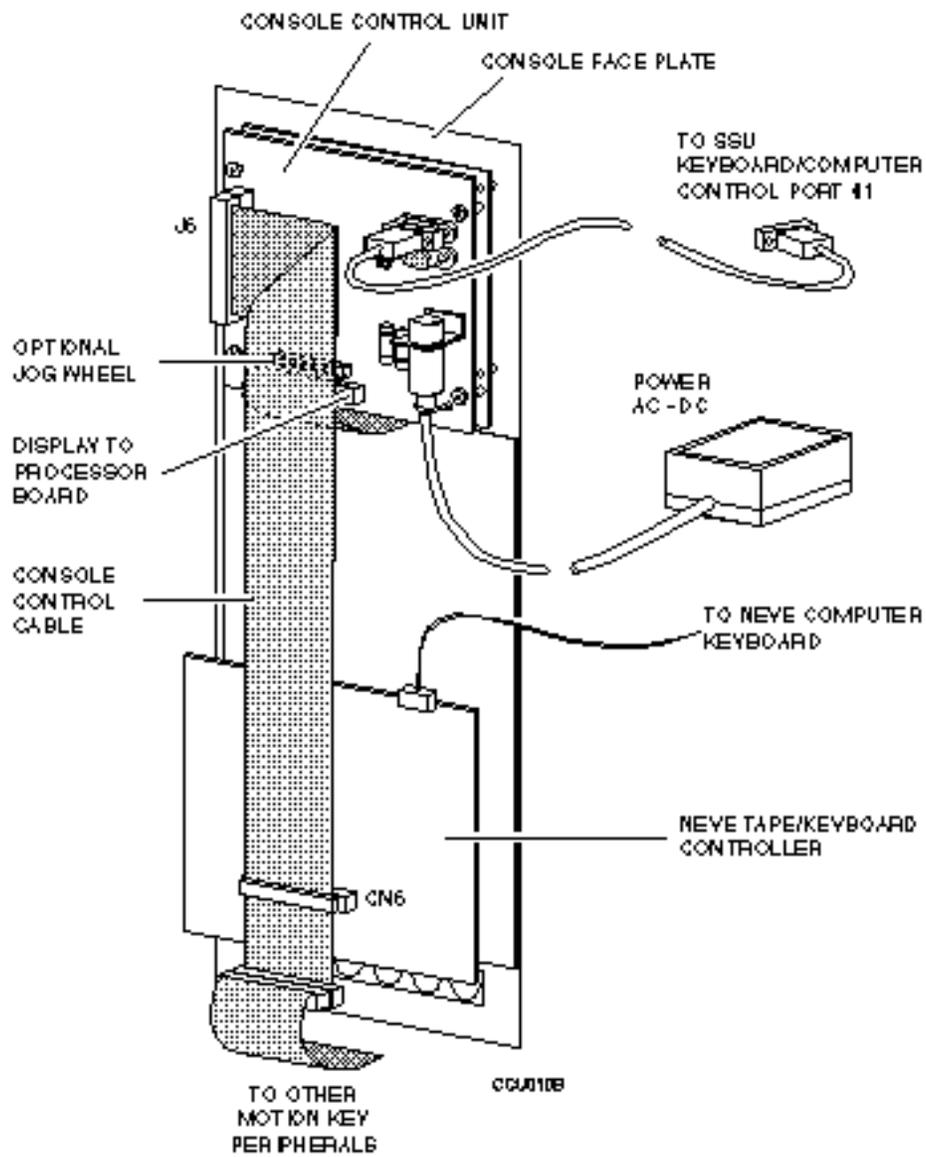
CCU010B

TO OTHER
MOTION KEY
PERIPHERALS

Figure 3-7. Cable Connections

Once the hardware is correctly and securely installed, connect the cables to the CCU. There are two cables to be connected.

1. Power cable

2. Serial communications cable to SSU

3. J6, Motion Control Cable

Procedure

Power Cable

1. Insert the DIN type connector from the CCU power supply to J3 on the CCU processor board.

2. Pass a tie-wrap through the holes on the CCU Processor circuit board and around the DIN connector. Refer to Figure 3-2 for location. Tighten the tie-wrap.

3. Although installation of the tie-wrap is optional, it will provide strain-relief for your cable and make it less susceptible to breaking.

Serial Interface (RS422) Cable to the System Supervisor.

1. Insert the DB-9 end of the TimeLine supplied RS422 cable into connector P1 on the CCU Processor board.

2. Insert the DB-25 end of the RS422 cable into the Keyboard/Computer Control Port 1 on the System Supervisor.

Neve Motion Control Cable

1. Connect the 40-pin ribbon cable between the CCU and the Neve motion keys as shown in Figure 3-7.

   a. If a cable is connected to CN6 on the Neve Control panel, remove it.

   b. Insert the keyed end of the TimeLine supplied 50-pin cable into J6, the Motion Control Interface connector on the CCU.

   c. Approximately 3 inches from the connector fold the ribbon cable back over the top of the connector.

   e. At the fold bend the cable back at a 45 degree angle so that it will lay flat and route directly to connector CN6 on the Neve control board.

   f. Attach the middle connector on the TimeLine supplied 40-pin cable into CN6 on the Neve Control board.

   g. Attach any 40-pin cables that were formerly attached to CN6 on the Neve Control board to the remaining 40-pin connector on the TimeLine supplied cable.

2. Verify that the 40 pin ribbon cable between the CCU   Display and Processor boards is still securely attached.

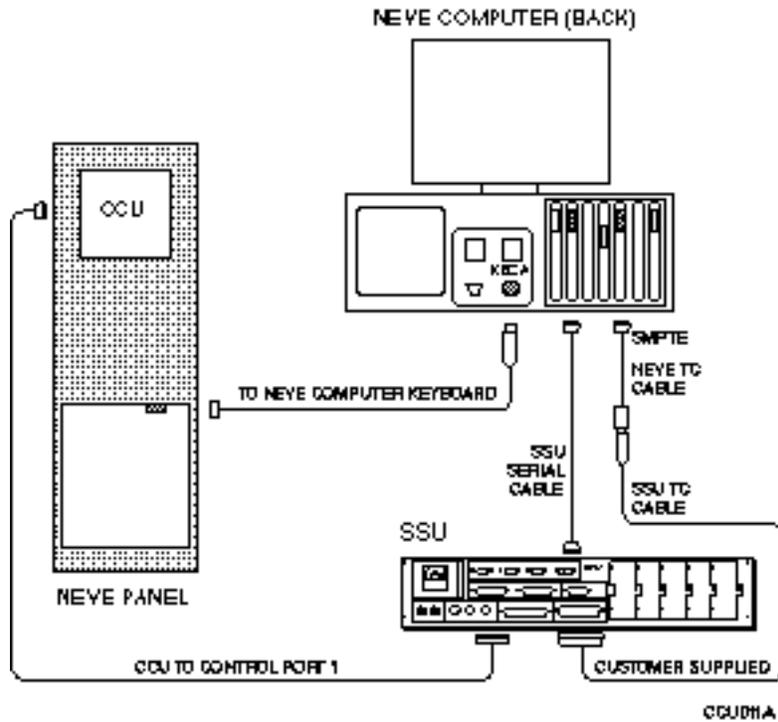# Connect the CCU to a Neve Console

Figure 3-8. Connect the CCU to a Neve Console

The Neve Console is computer controlled. The CCU requires two cables connected between the SSU and the Neve computer for communications.

Procedure

Verify Installation of the Motion Control Cable

1. On the back of the console control panel, where you installed the CCU, locate CN1, a 6-pin right angle connector, on the Neve Console Control board.

2. Verify that the cable connector is securely attached.

3. Verify that the other end of the cable is securely plugged into the back of the Neve computer in the keyboard cable input labeled KECA as illustrated in Figure 3-8.

Install the Neve Serial Data Cable

1. Insert the customer supplied 9-pin serial data cable into the TCCA port on the back of the Neve computer.

2. Connect the Customer supplied 9-pin cable to the TimeLine supplied female DB9 connector.

3. Insert the male end of the DB9 9-pin serial data cable into Trib port # 4 on the back of the System Supervisor.

Install the Neve and SSU Time Code Cable

1. Insert the Neve Time Code 9-pin cable into the SMPTE port on the back of the Neve computer.

2. Use the SSU Time Code cable and insert the DB37 connector into the Audio I/O port on the back of the System Supervisor.

3. Connect the 9-pin side of the SSU Time Code cable into the 9-pin Neve Time Code cable.

Secure the CCU

Once all of the cables are in place, secure the CCU in the Console. Perform the Quick Test procedures described in the next section of this chapter.

Cable Check List

Between Equipment	Connectors	From / To
Lynx to Transport	50-pin, 'D'	Lynx TRANSPORT jack to Transport
Lynx to Transport	1/4" to 1/4" stereo	Lynx TIME CODE OUT to Transport Time Code In
Lynx to SSU	9 to 9 pin, 'D'	RS422 to SSU Trib Port #1
Sync to all equipment	BNC	Lynx EXT VID to SSU EXT VID to Transport
CCU	40-pin, 'D'	J8 CCU Processor Board to CCU Display Board
CCU to Power Supply	5-pin DIN	J3 (Processor Board) to Power Supply
CCU to SSU	9 to 25 pin, 'D'	P1 (Processor Board) to Control Port 1 (SSU)

Procedure

1. Gently lift up the console panel and place it back into position.

2. Replace any mounting hardware that might have been removed to install the CCU.

3. Turn on the power.

Quick Test Procedures

These test procedures are designed to test the ability of the different pieces of equipment to communicate with each other. Upon completing these procedures, you will be ready to run the system.

There are three parts to this test, each must be completed before continuing to the next part.

Procedure to Verify that the SSU Turns On

Press/Turn	You See	Description
1. MAINS		Turn on the SSU. The start up test is automatically performed. During the startup test most of the LEDs and keys should light.
	all LEDs *but* **XMT DATA** and **RCV DATA** turn on	The start up LED test ends after 30 seconds.
2.	**EXT VID** LED on **PROC 1** LED on **PROC 2** LED on **PROC 3** LED on	Other LEDs may be turned on, ONLY the LEDs listed here are significant. If EXT VID is not supplied, **EXT VID** will be flashing.

Table 3-10. What if the SSU doesn't turn on correctly?

Situation	*Solution*	*Conditions*
The SSU does not turn on.	1. Verify that the power cord is securely connected. 2. Check the fuse.	Refer to the SSU manual for fuse rating and changing information.
Some or all of the LEDs do not turn on when initially powering up the SSU.	1. Clear the SSU memory: Hold the SELECT key while turning the power switch off then on. 2. Call the factory.	

Note
The EXT VID may flash, this is a normal condition which indicates that the external video reference is not present. If a valid signal is connected, the LED will stop flashing.

Procedure to Verify That the CCU and SSU Can Communicate

Press/Turn	You See	Description

On the CCU

3.		Turn on the CCU.
	Holding memory	Each line is displayed for approximately 2 seconds
	TimeLine	then the next line is displayed. **GRP** will flash
	Version #.##	To clear the CCU memory, press **SETUP** + **CLR.**
	Ref Src Ext vid	
	Poll: Grp + Setup	

On the SSU

4. **SELECT**	**SELECT** on	This LED is located in the Diagnostic section of
	DIAG ON LED on	the SSU front panel.
5. Turn select knob	**CTRL PORT 1** LED on	Turn the Select knob until the **CTRL PORT 1** LED turns on.
	DIAG ON LED on	When **CTRL PORT 1** LED turns on, these LEDs on the CCU will
light.		**MSG OK** LED on Pay close attention to the **RCV DATA**
and **XMT DATA** LEDs.		
	BREAK LED on	
	RCV DATA LED flickers	
	XMT DATA LED flickers	

Table 3-11. What if the SSU doesn't communicate with the CCU?

Situation	*Solution*	*Conditions*
The **RCV** and **XMT DATA** LEDs do not flicker,	Check the cable connections and refer to the System Supervisor Operating Manual.	The CCU must be turned on.
The CCU and SSU just don't communicate	Check the cable connections. Is the power turned on, re-cycle power switch (off-on-)	The CCU must be turned on.

Procedure to Verify That the SSU and Lynx(es) Can Communicate

Press/Turn	You See	Description
On the Lynx		
6.		Turn on all Lynx modules.
On the SSU		
7. Turn select knob	**TRIB PORT** LED on 1 (in the display)	Turn the Select Knob until a 1 is displayed in the LED display window to the right of the **AUX SELECT** key and the **TRIB PORT** LED turns on.
	DIAG ON LED on **RCV DATA** LED flickers **XMT DATA** LED flickers	When the **TRIB PORT** LED turns on, these LEDs will turn on also If the **RCV** and **XMT** DATA LEDs do not flicker, check the cable connections and refer to the System Supervisor Operating Manual.
8.		The Lynx modules are communicating with the SSU.
9. **GRP + SETUP**	**A-F** flashing	Let the CCU poll the Lynx units. At this time each Lynx is automatically assigned to a machine select key by the CCU. Each machine select key that is flashing indicates has a Lynx is assigned to it.
10. **GRP** + [**A-F**]	**A-F** light on machine select letter.	Assign one or more machines to the group by pressing **GRP** and the

Table 3-12. What if the SSU doesn't communicate with the Lynx(es)?

Situation	*Solution*	*Conditions*
A 2 instead of a 1 is displayed.	Press the **AUX SELECT** key until a 1 is displayed	This test must be performed on TRIB PORT 1 not TRIB PORT 2.
The **RCV** and **XMT DATA** LEDs do not flicker	The CCU must be turned on before the Lynx Verify that the Lynx is "On line" Verify that each Lynx has a unique address.	CCU to SSU communications must be established before Lynx to SSU communications. If you turn off the units, turn the CCU back on first. If you change the Lynx modules or their setup, you must repoll the CCU (press **GRP** + **SETUP**).
Lynx(es) and SSU do not communicate.	Check the cables, especially the daisy-chained **RS422**. Verify that each Lynx has a unique address.	LYNX: Is the **422** LED turned on? Are the Lynx addresses correctly set? Each Lynx must be set to a unique address. CCU: Press **GRP** + **SETUP** to repoll.
Pressing **GRP + POLL** shows **GRP** & a letter, then defaults back to **GRP** + **POLL**	Two of the Lynx modules are set to the same address. Each Lynx *MUST* have a unique address.	After changing a Lynx address, you must repoll by pressing GRP + POLL. Any Lynx address or module change requires repolling by the CCU.

Verify CCU to Neve Computer Communication

This step verifies the ability of the Neve Computer to control the CCU.

Procedure

This portion of the procedure is performed on the Neve computer. Before starting, confirm that the cable from the console motion contol keys to the back of the Neve computer is securely connected.

Press/Turn	You See	Description
11.		On the Neve computer enter the Neve Flying Faders program.

On the System Supervisor (SSU)

12. SELECT SELECT KNOB	**TRIB PORT 4** LED on **RCV DATA** LED flickers **XMT DATA** LED flickers **MSG OK** LED flickers	Select Trib Port 4 on the SSU. Neve is communicating through a serial port to the SSU.

On the Console Motion Keys

13. PLAY	Time code	The tape machine should start rolling. You should see time code on both the CCU and Neve computer displays . This verifies that signals through the SMPTE connector are being correctly ported to the SSU.

Table 3-13. What if the Neve computer doesn't communicate?

Situation	Solution	Conditions
Time code is not displayed in PLAY.	Verify the Lynx to transport cabling.	The transport cable and RS422 cables must be properly seated.
SSU doesn't respond correctly.	Check the SMPTE and TCCA cable connections on the Neve computer	
The tape machine doesn't play.	Check the cabling between the motion control keys and the Neve computer	

Verify CCU - Motion Control Keys Communication

If you installed the Motion Control option, verify that the Motion Control keys can control a selected transport.

Procedure

This portion of the procedure is performed on the Motion Control Keys. Solo each of the machines being controlled by the CCU. Perform steps 11-14 for each machine. Then select the group and perform steps 19-20.

Press/Turn	You See	Description
Solo mode		
14. **SOLO** A	**SOLO** light on A light on	The machine select key of the machine will turn on. To select a The tape machine assigned to A will run.
` **SOLO** + **B**	**B** light on	To select a different machine, press the appropriate machine select key while pressing **SOLO**.
15. PLAY	Time code CODE LED on	Press PLAY on the motion control keys. Time code should be read and displayed by the CCU and Lynx.
16. >> (Fast Forward)		Tape machine should fast forward.
17. STOP		Tape machine stops and no time code is read.
18.		Repeat steps 11-14 for each machine select key assigned to a transport. When all individual machines have been tested, check group mode.
Group mode		
19. **GRP** **A B C**	**GRP** light on **A B C** lights on	Select group mode and which machines will be part of the group.
20.		Perform steps 11-14.

Table 3-14. What if the Motion Control Keys don't control a transport?

Situation	*Solution*	*Conditions*
The busy LED on the CCU flashes	Turn the associated Lynx module "On line".	The Lynx, SSU, and CCU must all be turned on.
Time code is not displayed in PLAY.	Verify the Lynx to transport cabling.	The transport cable, RS422, and TCIN cables must be properly seated.
Motion control keys do not correctly put the transport into PLAY, Fast Forward, or STOP.	Check the CCU to Motion Control Keys cable; is it correctly oriented & properly inserted. Verify that the Lynx is setup for the correct transport.	Other peripheral equipment attached to the motion control keys must be connected to the 'Y' on the CCU to Motion Control Keys.

NOTES