Installation

Introduction

This chapter describes installation and interface procedures for the Lynx System Supervisor Unit (SSU). It also includes a quick initialization check, to verify that the SSU is communicating properly.

As the SSU offers almost no operational features on its own, this chapter will concentrate on installations utilizing various TimeLine and other manufacturers equipment.

Part I of this chapter describes SSU installation logistics. Part II describes SSU installation with TimeLine controllers, Lynx Modules, and console automation computers. The interface diagrams in Part II of this chapter will also help you determine the appropriate configuration. Part III is an SSU communications check procedure.

These procedures assume that you know the optimum system configuration for your facility, or that you have studied the applications chapter of this manual.

System Setup Planning

Before you install and configure your equipment, there are several fundamental issues to consider

AC Power

An AC outlet is required for the SSU. If there is more than one piece of equipment in the rack, use a surge-protected power distribution strip, fitted with an adequate extension cable.

Each SSU comes with a 3-wire, IEC power cable. The SSU is fitted with an internally fused power supply, which operates without adjustment over a wide range of conditions: 90-265 VAC, 50-60 Hz.

Power On Initialization

As there are no operational parameters that can be selected on the SSU, without an external controller connected (e.g., KCU or CCU), only a few checks can be performed with the SSU alone.

On power-up, the SSU will illuminate every switch and LED except for XMT DATA and RCV DATA. After a short time the lights will extinguish EXCEPT for the PROC 1, 2, and 3 LEDs, and the EXT VID light, which will flash.

As equipment is connected to the SSU, certain LEDs will turn on to verify communication to that device. For example: If Lynx-2 modules are daisy-chained to the SSU, via their 9-pin RS422 connector to TRIB PORT 1, the TRIB PORT LED will illuminate on the front panel.

Part I - Installation

Rack Mount Installation

The SSU conforms with industry standard dimensions, for 2U rack installation. Each SSU is supplied fitted with two rack "ears". To install the SSU in the rack, you will need a Phillips screwdriver.

1. Slide the SSU into position in the equipment rack.
2. Secure by inserting two, #8-32 rack screws through each ear and into the threaded rack rail, then tightening.
3. Attach a power cable to the SSU.

Cabling

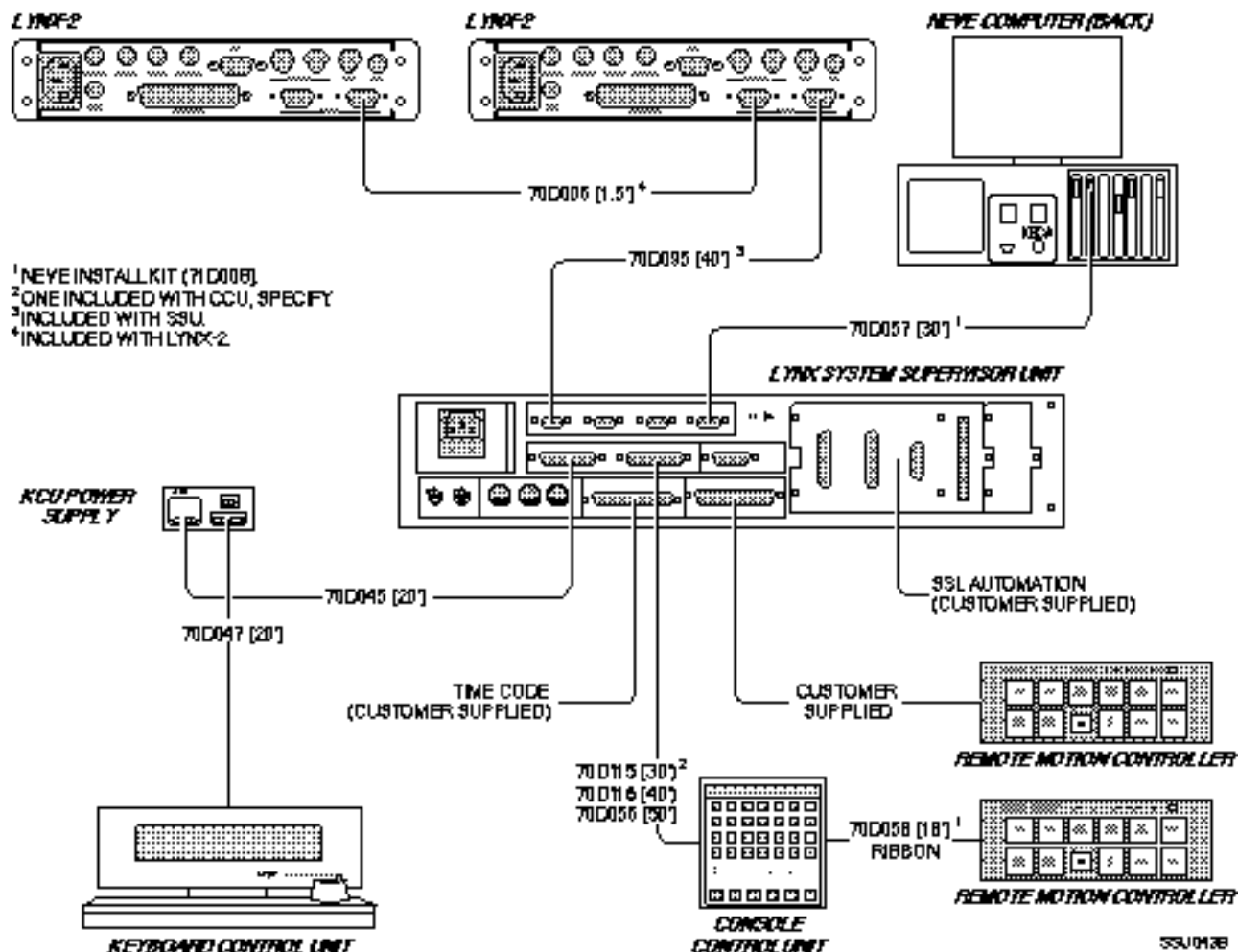The SSU requires both equipment specific and generic cabling.

Figure 3-1. Cabling

Lynx-2 Cabling

Use the 9-pin to 9-pin RS422 cable supplied with the SSU, to connect the first Lynx-2 Time Code Module to the SSU TRIB PORT 1.

Use the short 9-pin to 9-pin RS422 cables, supplied with each Lynx-2 module, to daisy chain the modules together.

Keyboard/Computer Control Cabling

Use a 9-pin to 25-pin 'D' cable to connect the CCU to the SSU Keyboard/Computer Control Port. Use a 15-pin to 25-pin 'D' cable to connect the KCU to the SSU Keyboard/Computer Control Port.

Note:

If only one TimeLine controller is being used, connect to Keyboard/Control Port 1.

Remote Motion Controller Cabling

Use a 50-pin 'D' to 50-pin 'D' cable to connect the RMC to the SSU Logic I/O connector.

Time Code Cabling

Use the supplied 37-pin D connector to connect the appropriate time code generator outputs from the SSU Audio I/O connector. Refer to the Appendix for pin-out and connector specifications.

Generic Cabling

Use standard BNC cables to connect the SSU to external video sync sources. The VID REF BNC jacks are wired in parallel and can be used to loop from the SSU to other equipment.

Use a standard 5-pin MIDI connector to connect to the MIDI time code output.

Basic Interface Connections

Specific cable installation is application dependent. If needed, please refer to Part II of this chapter for help in determining your cabling requirements.

Basic interface requires a minimum of three connections:
- Connect a video reference source.
- Connect a RS422 communications cable to the Lynx-2 modules.
- Connect a Keyboard Serial communication cable from an external TimeLine Controller.

Video Reference Source

The video reference source should be either NTSC or PAL black-burst, color bars, or composite sync, and should come from a reliable reference sync generator or house sync generator. The reference source should be properly terminated.
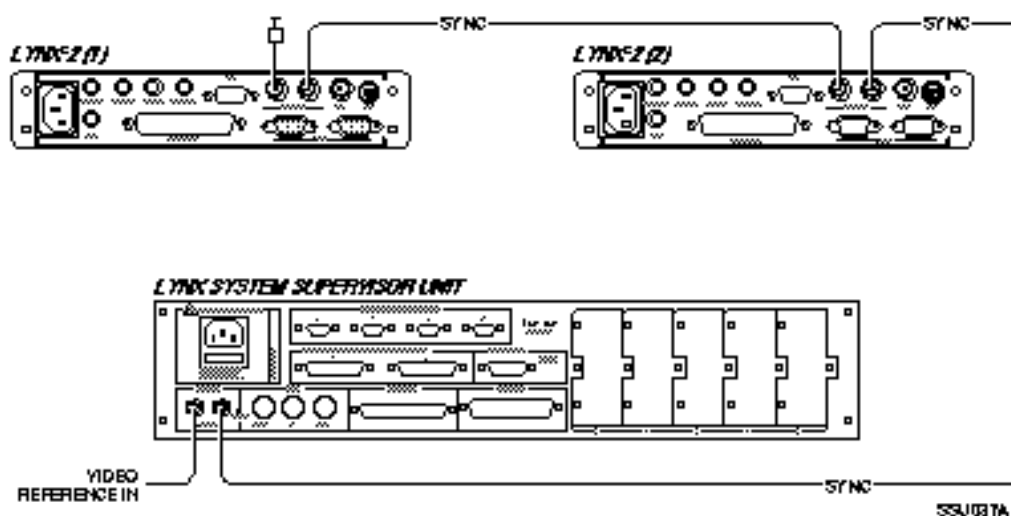

Figure 3-2. Video Reference Source Connection

Connect the video reference source to the VID REF BNC connector on the back of the SSU. There are two parallel BNC input jacks on the SSU. Connect all other equipment requiring the video reference by looping through the SSU.

Lynx RS422 Input

Connect a 9-pin to 9-pin RS422 cable from the first Lynx module in the Lynx daisy-chain to the SSU TRIB PORT 1 connector. It is important to connect to TRIB PORT 1, since the other Trib Ports do not accept Lynx serial communication.
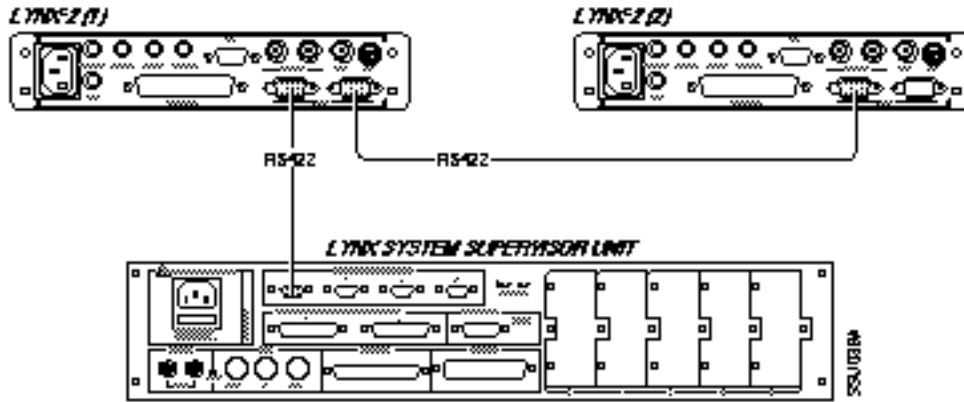

Figure 3-3. RS422 Trib Port

TimeLine Controller Inputs

If you are using a CCU, connect the 9-pin 'D' connector of the 9-pin to 25-pin 'D' cable into P1 on the CCU Processor Board, and the 25-pin end into the SSU Keyboard/Computer Control Port 1.

If you are using a KCU, connect the 15-pin end of the 15-pin to 25-pin 'D' cable to the KCU power supply GPI/Supervisor connector. Connect the 25-pin end to the SSU Keyboard/Computer Control Port 1.

> Note:
>
> If you wish to use two Controllers simultaneously, it does not matter which Controller is connected to Port 1 or 2. If, however, you are connecting a single Controller, use Port #1.
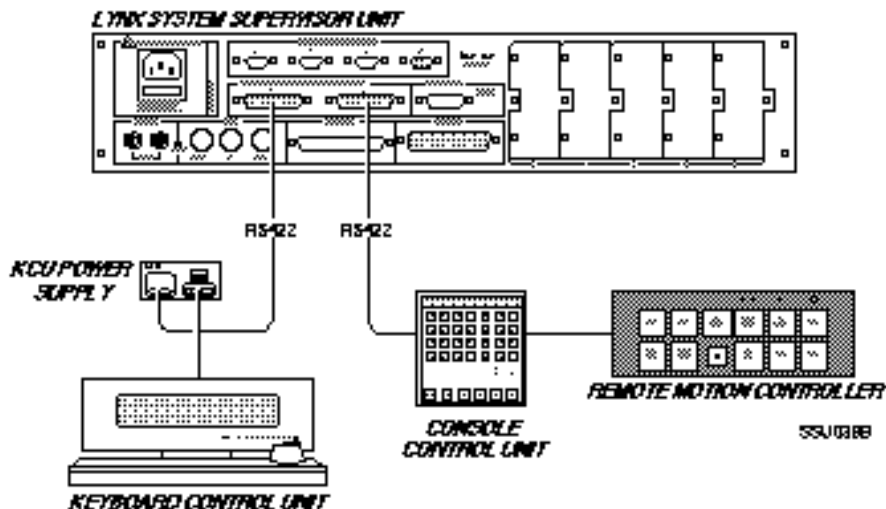
Figure 3-4. CCU and KCU Connections to SSU

Audio I/O Connections

This connection provides three time code generator outputs, generator pilot output, pilot input, and an ADR beep output. TimeLine does not make a pre-made cable for these connections, but does provide a connector that can be wired to your requirements.
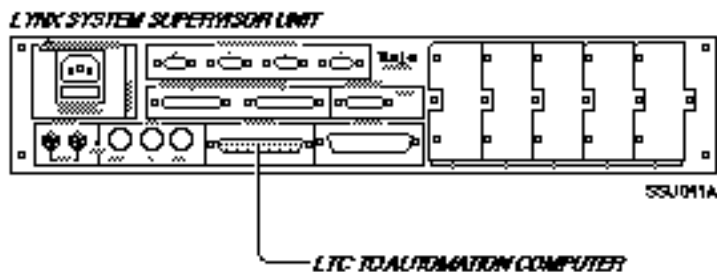

Figure 3-5. Audio I/O Connector

Logic I/O Connections

This connection provides eight GPI relay outputs, five annunciator outputs, ADR beep outputs, and switch closures and tallies for Play, Fast Forward, Rewind, Record, Stop, Loop, Rehearse and Edit. This is the connection used for the optional Remote Motion Controller, as well as user definable options.
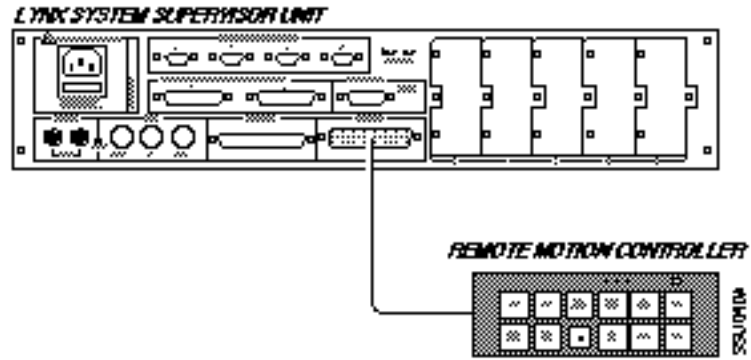

Figure 3-6. Logic I/O Connector

Power Out Connections

The Power Out connector can be used to power auxiliary switches or lamps, or other user devices. External power usage should be limited to two amperes maximum from the +5 volt supply, and to 100 milliamperes each from the +12 and -12 volt supply.
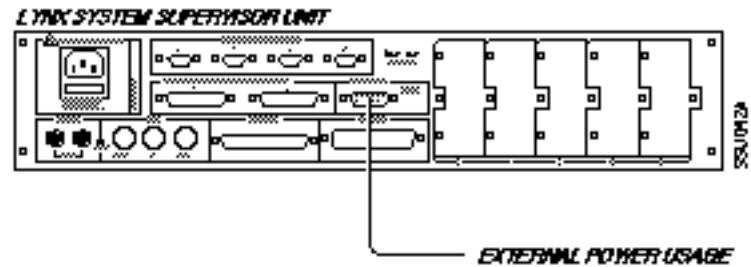

Figure 3-7. Power Out Connector

Part II - Interface Diagrams

This section presents a variety of interface diagrams. Refer to the diagram that most closely represents your system setup and application. Slight differences in equipment may require small configuration modifications.
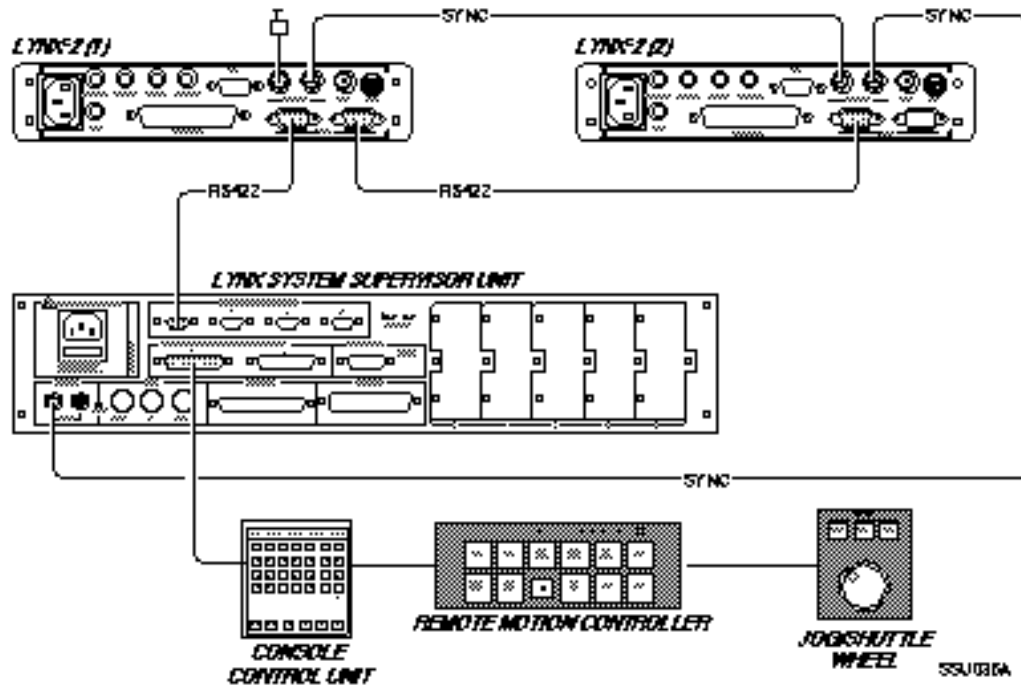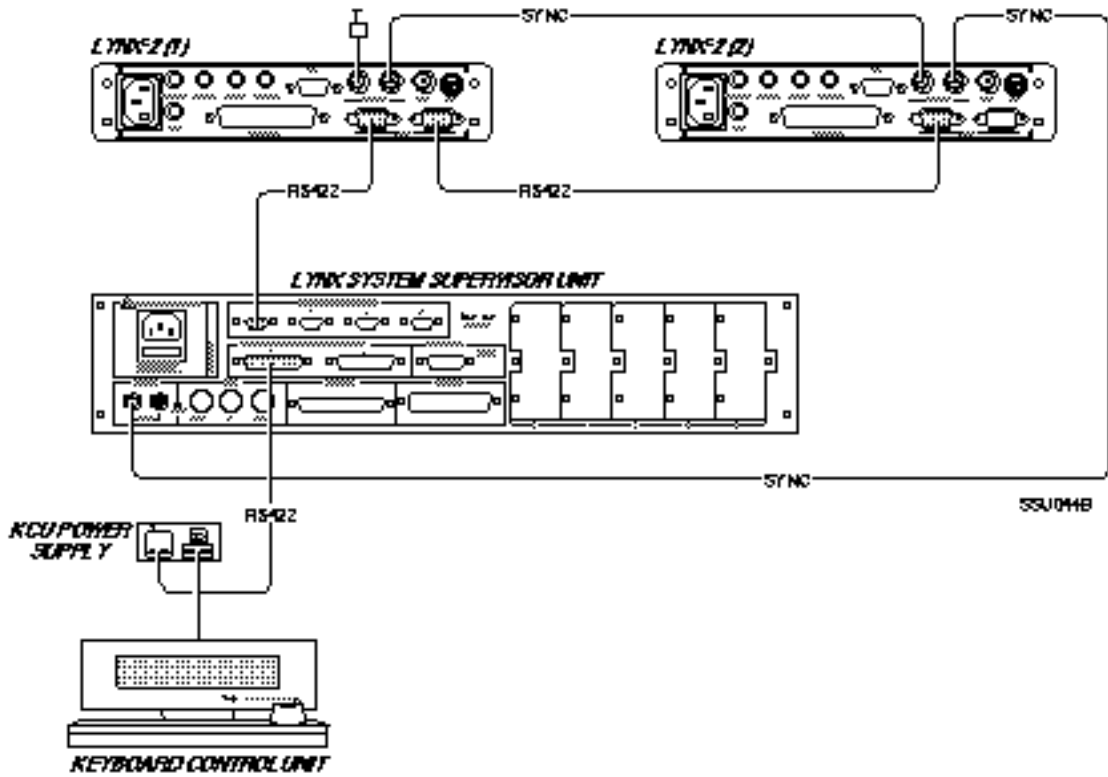

Figure 3-8. SSU to CCU and Lynx
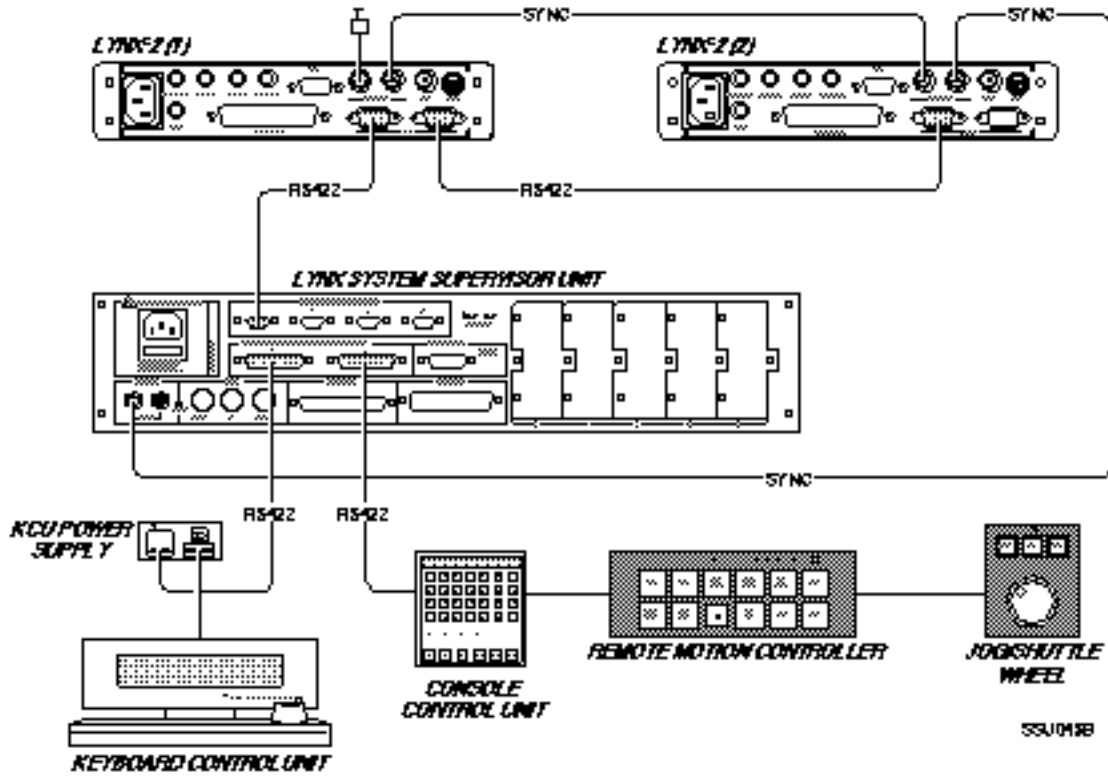
Figure 3-9. SSU to KCU and Lynx

Figure 3-10. SSU to KCU/CCU, RMC and Lynx

Part III - Communications Check Procedure

Serial communications between each piece of equipment connected to the SSU, can be continued by checking the diagnostic LEDs for each port. The following is a check list of these procedures to help verify correct installation.

Trib Port

Verify the RS422 Trib Port 1 communication, with the Lynx-2 Time Code Modules, by performing the following:

1. Press the [SELECT] key so it illuminates.
2. Turn the [SELECT] Knob until the Trib LED lights.
3. Press the [AUX/SELECT] key so it illuminates. The [SELECT] key will go off.
4. Turn the [SELECT] Knob until the number 1, for Trib Port #1, shows in the display.

Verify the following:
- The XMT and RCV Data LEDs flicker, or are on solid.
- The Diag On LED is on solid.
- The MSG OK LED is on solid.

Control Port 1 and Control Port 2

Verify Control Port 1 and 2 communications with the controllers by performing the following:

1. Press the [SELECT] key so it illuminates.
2. Turn the [SELECT] Knob until the Ctrl Port 1 LED lights.

   Verify the following:
   - The XMT and RCV Data LEDs will flicker, or are on solid.
   - The Diag On LED is on solid.
   - The MSG OK LED is on solid.

3. Turn the [SELECT] knob until the CTRL PORT 2 LED lights, and verify the diagnostic LEDs are on for Control Port #1.