

Troubleshooting

Introduction

The Lynx System Supervisor Unit (SSU) has no error message display to directly prompt the user of an error state, these messages are displayed on the KCU and CCU displays. Please refer to the appropriate operator manual, for a description of error messages.

Simple diagnostics can be done at the SSU to determine any communication problems between it and connected equipment.

Diagnostics Block

The Diagnostics section of the SSU contains five test point terminals for access to diagnostic signals, an LED tally display, and an Emergency All Stop key.

Diagnostic Test Points

Four of the five test points in the Diagnostics block provide access to the signals that appear on the SSU's various communications ports; the fifth test point (the bottom one in the column of five) is chassis Ground. All test point signals are buffered signals at a nominal 5 volt peak level, which are referenced to the GND test point.

XMT Data

Transmit Data - The top test point in the column of five provides access to the serial data stream being transmitted by the SSU, on the selected serial port. There will be a signal on the XMT Data test point, if an active serial communication port has been selected with the [SELECT] key and [SELECT] knob.

RCV Data

Receive Data - The second test point provides access to the serial data stream being received by the SSU, on the selected serial port. There will only be a signal on the RCV Data test point, if an active serial communications port has been selected with the [SELECT] key and [SELECT] knob.

FRM CLK

Frame Clock - The third test point provides access to the Frame Clock signal, which is transmitted on Pin 5 of the RS422 serial cable. The signal on the FRM CLK test point is a resynthesized version of the master clock signal that is transmitted to all devices in the system. The frame clock signal is always present on the test point, regardless of whether there is a serial port selected on the Diagnostics section.

Field 1

The fourth test point provides access to a clock signal that is derived from the Frame Clock and runs at 1/4 the current Frame Clock rate. In NTSC systems, this field 1 signal runs at approximately 7.4925 Hz, and in PAL systems, runs at approximately 6.25 Hz. The Field 1 signal is present on this test point whenever the SSU is operating.

Diagnostic LED Indicators

The column of LEDs next to the Diagnostics test points are used to indicate certain types of activity on the processor and/or serial busses. Each LED is driven through a buffer directly from the specified signal, so the illumination of the LED reflects the relative duty cycle of the signal.

Diagnostic Terminal

The Diagnostic Terminal can be used with a “dumb” terminal, or a PC with a Terminal Emulator, to check a number of SSU functions.

There are six SSU tests, which can be accessed using the front panel Diagnostic Connector. At present, only Test ‘5’ is implemented. Using dummy loop-back connectors, the user can check the SSU serial communications ports.

Procedure

Turn the SSU on. Using an RS232 cable, connect the terminal to the SSU. Turn the terminal on and press Escape. The terminal will show software versions and:

Lynx SSU Diagnostic Terminal

1. GPI Test
2. Reference Test
3. GEN Test
4. Logic I/O
5. Serial Port
6. Error Display

Press '5' on the terminal. You will see:

- | | | |
|------|-------------------|-----|
| 1: | Reset CTRL port 1 | 255 |
| 2: | Reset CTRL port 2 | 255 |
| 3: | Reset TRIB port 1 | 255 |
| 4: | Reset TRIB port 2 | 255 |
| 5: | Reset TRIB port 3 | 255 |
| 6: | Reset TRIB port 4 | 255 |
| 7: | Reset MIDI port | 255 |
| 8: | | |
| 9: | Reset ALL ports | |
| 0: | Exit, stop test | |
| Esc: | continue test | |

To run diagnostics for a Computer/Keyboard Control Port, connect a 25-pin sub D connector with the following pins jumpered together: Pins 1 to 2, and pins 14 to 15. This loops back the serial data lines into the SSU for testing.

With the loop-back connector placed into Computer/Keyboard Control Port 1, press '9' on the terminal. The number display should change from 255 to zero, showing that there are zero errors on that port. Repeat the same steps for Computer/Keyboard Control Port 2.

To run the diagnostics for a Trib Port, connect a 9-pin sub D connector with the following pins jumpered together: Pins 2 to 8 and pins 7 to 3. This loops back the serial data lines into the SSU for testing.

With the loop-back connector placed into Trib Port 1, press '9' on the terminal. The number display should change from 255 to zero, showing that there are zero errors on that port. Repeat the same steps for Trib Ports 2, 3 and 4.

To run the diagnostics on the MIDI port, loop a MIDI cable from the MIDI IN connector to the MIDI OUT connector. Press '9' on

the terminal. The number display should change from 255 to zero, showing that there are zero errors on that port.

Press '0' to stop the test. Remove the RS232 connector from the terminal and power the SSU off then on, to resume normal use of the SSU.

Communications Errors

There are simple troubleshooting checks than can be performed if the SSU is not communicating properly with Lynx-2 modules or other devices connected to the SSU. The following table can be used to help troubleshoot communication problems.

Table 5-1. Troubleshooting

Problem	Solution
No TRIB PORT 1 communication to the Lynx-2 modules.	<ol style="list-style-type: none"> 1. Check and make sure the RS422 cable is properly installed between each Lynx-2, and the SSU. 2. Check that the Lynx-2 modules are powered on and put ON LINE. 3. Check that the Lynx-2 modules have been Polled at the Editor/Controller being used. For example, TRIB PORT 1 will not exhibit any serial communication UNTIL the KCU or CCU has Polled the Lynx-2 modules being used.
No COMPUTER/CONTROL PORT 1 communication to the KCU or CCU	<ol style="list-style-type: none"> 1. Check that the correct cable is installed between the KCU or CCU and the SSU. 2. Check that the KCU or CCU is powered on.
The SSU is not communicating with the Neve Flying Faders computer	<ol style="list-style-type: none"> 1. Check that the RS422 to RS232 connector between TRIB PORT 4 and the NEVE computer is installed correctly. 2. Check that the NEVE computer has powered on and is properly initialized. (Note: A Transport Reset on the Flying Faders system may be required.) 3. Check that the correct SSU time code output is connected to the NEVE computer.
The SSU is not communicating with the SSL G series computer	<ol style="list-style-type: none"> 1. Make sure the SSU SSL card is properly installed in the SSU. This can be confirmed by checking that the OPT 1-4 LEDs are on when the SSU is powered on. 2. Check that the Synchronizer Status Panel Cable is properly connected between "S117E" connector on the SSL Synchronizer Status Panel and "S117-SYNC PANEL" connector on the SSU. 3. Check that the Computer Control Cable is properly connected between S88E-2 '78' Card Port 2 in the SSL Computer frame and "S88 Data" connector on the SSU. <p>Note: Maximum length of this cable is 2 meters (6.5 feet), as recommended by SSL. Data transfer reliability and display stability cannot be guaranteed if this cable is extended.</p>
The NEVE or SSL computers are not receiving time code from the SSU	<ol style="list-style-type: none"> 1. Check that the correct time code generator is connected from the Audio I/O connector on the SSU. Time Code Generator #1 is used for SSL, and Time Code Generator #2 is used for NEVE. Time Code Generator #3 is used by the SSL in Stripe Mode. 2. Check that the generator output level is adequate. The generator output trim pots on the front of the SSU can be adjusted as necessary.
The SSU will not recognize external video sync	<ol style="list-style-type: none"> 1. Check that a BNC type cable is connected to the SSU VID REF port from a proper video, or black burst sync generator. 2. Make sure the video sync signal is properly terminated.