Chapter 3 Installation

Introduction

This chapter will help you install the Micro Lynx system hardware. The first part of the chapter describes the different hardware elements. The second part of the chapter is an Installation Quick Check.

Hardware Supplied

The Micro Lynx system includes the following items:

1 Keyboard Controller (KBD)
1 System Unit (SU)
1 KBD to SU Cable
1 AC to DC Power Supply

System Setup Planning

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

Power The Micro Lynx uses a DC power supply. Connect and use the power supply shipped with the Micro Lynx. The power supply should be plugged into a surge protected MAINS outlet.

Placement The System Unit is fitted with rack mount hardware and is generally installed in a 19" equipment rack. The Keyboard Controller has a rubber mat base and can be placed on a console, table or similar flat surface.

Cabling The Micro Lynx requires power, transport, time code and communications cables. Careful connection and routing of cables will ensure a quick and successful installation. Power supply and Keyboard cables are included with the Micro Lynx. You must order the correct transport control and time code cables with your Micro Lynx to complete an installation.

Initialization Power up the Micro Lynx, select the transport type settings and perform a quick check to verify correct system operation.

Power

The Micro Lynx has an external power supply.

The Power Supply Unit is a switched mode type which automatically adjusts to the correct AC voltage for your area. It is suitable for operation at any voltage in any country.

USA, Japan	110-120 VAC
Outside USA	220-250 VAC

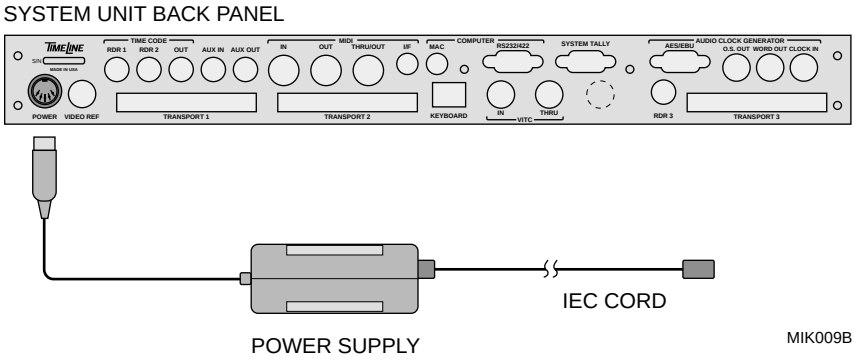

Figure Chapter 3 -1. Power Supply Connection

1. Insert the Power Supply Unit DIN type connector into the socket marked POWER on the back of the Micro Lynx as shown in Figure 3-1. Connect the Power Supply IEC cord to the AC supply.
2. Press the Power Switch on the System Unit front panel.
3. If the Power ON LED on the front panel lights, then there is power to the unit. If not, check the connections between the AC outlet and the System Unit.
4. After approximately three seconds, the SU system DATA and VALID LEDs should light.
5. Power down the unit.

Fuses

The correct fuse is installed in the Power Supply by the factory. This fuse is not replaceable. If the Power Supply Unit should fail, contact your local dealer or TimeLine for a replacement unit.

Placement

The System Unit and the Keyboard Controller are connected by a 25 foot cable.

Mount the System Unit (SU)

The System Unit is designed as rack mount equipment. However, the top and bottom covers provide adequate protection for table top operation.

Rack Mount Procedure

The System Unit is a standard 19" rack mount case. When deciding placement, provide adjacent mounting space for the Micro Lynx Power Supply Unit.

Procedure

1. Slide the System Unit into a 1U high space in a 19" equipment rack.
2. Mount and secure the Micro Lynx Power Supply close to the System Unit.

Warning

Do *NOT* add an extension to the 5-pin DIN cable between the Power Supply and the System Unit.

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3. Insert the four mounting screws into the front panel of the System Unit and secure it to the equipment rack.
4. If required, use an AC MAINS (with ground) extension cable for the Power Supply Unit.

Cabling

The Micro Lynx can control and synchronize an entire Studio system. Use the following table to determine what equipment will be connected to the Micro Lynx and to verify that the correct cables are available.

Cabling connections are critical. Bad or poorly routed cables are often the cause of installation problems. It is essential that the correct, high quality cables are used to ensure reliable and trouble-free operation.

Table Chapter 3 -1. Cable Requirements

Keyboard Controller (KBD)

Between Equipment	Connector	Supplied By	From/To
KBD to SU	8-pin RJ 45	TimeLine	Keyboard to System Unit

System Unit (SU)

Between Equipment	Connector	Supplied By	From/To
SU to Power Supply	DIN-5	TimeLine	System Unit to Power Supply Unit
SU to Transports	40-pin	TimeLine	System Unit to each transport remote or synchronizer connector
SU and Transport time code inputs and outputs	1/4" stereo	**Customer**	System Unit RDR (1,2,3), OUT & Aux to Transport time code output, time code input and appropriate Aux transport inputs and outputs
SU to EXT Video	BNC	**Customer**	System Unit to Video Reference Sync source or VTR/DTR Video Sync input if TimeLine VSG option installed
SU to MIDI equipment	DIN-5	**Customer**	System Unit MIDI In/Out or Thru/Out to Sequencer, Synthesizer, keyboard, or drum machine
SU to Macintosh Computer	MIN DIN-8	**Customer**	System Unit MAC I/F to Macintosh computer serial interface
SU to IBM Computer	9-pin, 'D'	**Customer**	System Unit Serial Computer Port to Ext control computer
SU to Studio	9-pin, 'D'	**Customer**	System Unit GPI, Mute and Lock to Console/Mon system
SU ACG to AES/EBU	9-pin, 'D'	**Customer**	System Unit ABS/EBU to Digital Audio Equipment I/O
SU ACG to Workstation	BNC	**Customer**	System Unit Word Clock & Oversample Clock outputs to Digital Audio Workstation or DTR
SU VITC to Video	BNC	**Customer**	System Unit to VTR output and Video Mon equipment input

Connect the Transports and the System Unit

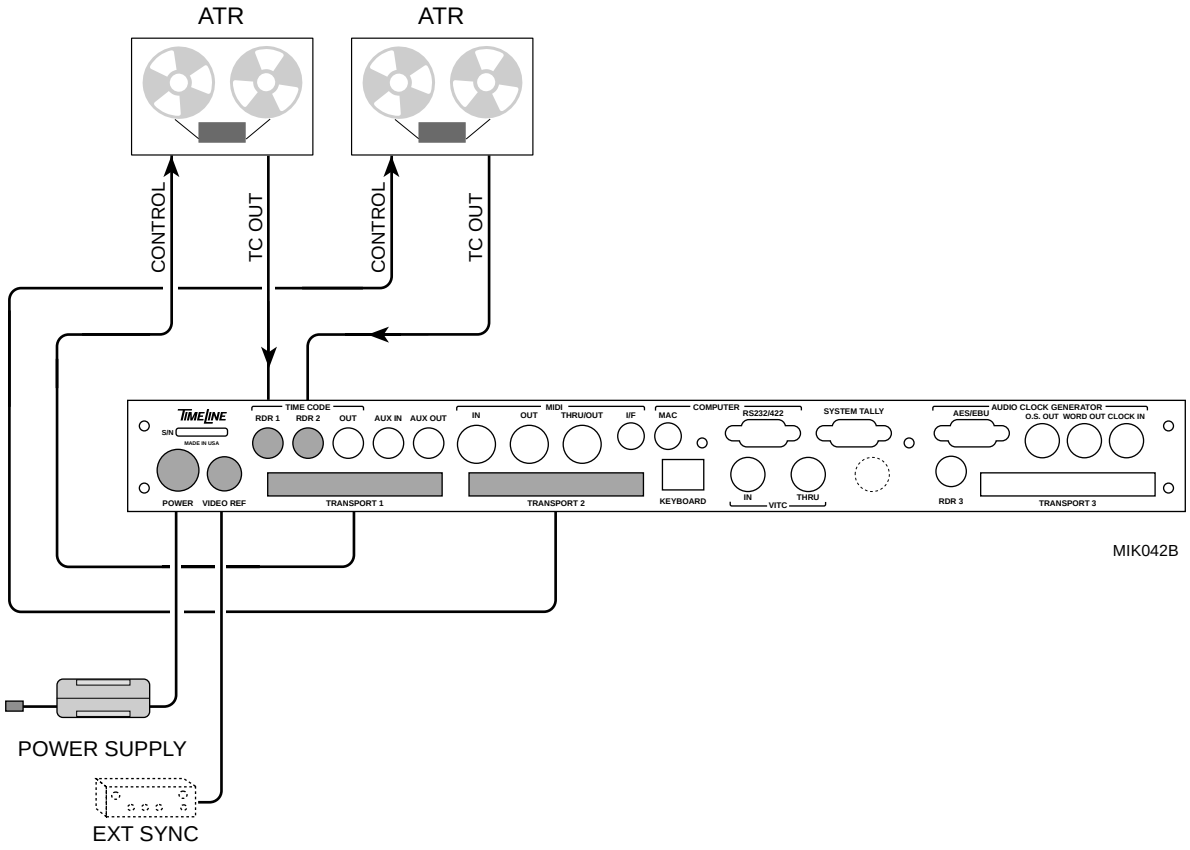

Figure Chapter 3 -2. Connect the Transports to the System Unit

Each transport must be directly connected to the Micro Lynx System Unit.

Procedure

1. Connect each transport (40-pin transport cable) to the System Unit.
   a. Connect the Transport 1 port to the remote or synchronizer port on the first machine.
   b. Connect the Transport 2 port to the remote or synchronizer port on the second machine.
   c. If the M3 card is installed, connect the Transport 3 port to the remote or synchronizer port on the third machine.
2. Connect the time code cables.
   a. Connect the Transport 1 time code output cable to the System Unit time code RDR 1 input.
   b. Connect the Transport 2 time code output cable to the System Unit time code RDR 2 input.

c. If the M3 option card is installed, connect the Transport 3 time code output cable to the System Unit time code RDR 3 input.

Note: If the transport being controlled is a Sony RS422 machine control protocol, a separate LTC connection is not required. The Micro Lynx will use Serial Time Code on the RS422 connector to synchronize the machine.

3. For video or digital audio transports, connect the video sync reference.

   a. Connect the System Unit Video Reference VID REF connector to the same video sync reference as the VTR/DTR.

   b. If the TimeLine VSG option is installed, connect the System Unit Video Reference VID REF connector to the Video Sync input on the VTR/DTR machine.

   Note: The Micro Lynx VID REF BNC connector is used for either input or output of video reference signals. If external video reference is selected, then the internal VSG card is inhibited. It is not possible to damage the VSG card by connecting an external video reference signal.

Table Chapter 3 -2. Cable Check List

Between Equipment	Connector	From / To
SU and Transports	40-pin	System Unit to each transport remote or synchronizer connector
SU and Transport time code inputs and outputs	1/4” stereo	System Unit RDR IN to the transports time code output connector
SU to EXT Video	BNC	System Unit to Video Reference Sync source or VTR/DTR Video Sync input if TimeLine VSG option installed

Connect the Keyboard Controller Cables

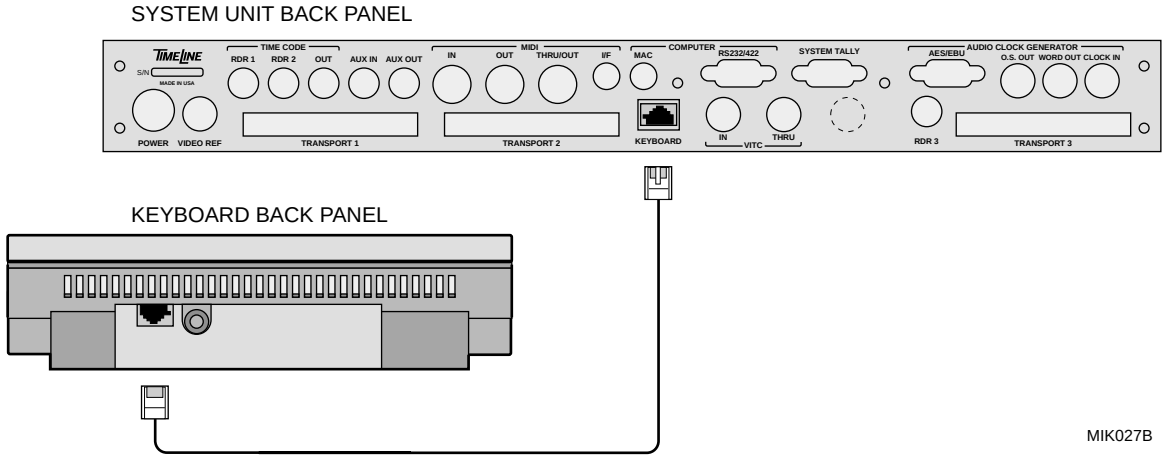

Figure Chapter 3 -3. Micro Lynx System Unit to Keyboard Controller Connection

Procedure

1. Insert one end of the telephone style cable (8-pin RJ 45) into the KEYBOARD connector on the System Unit.
2. Route the cable to the Keyboard Controller.
3. Insert the other end of the cable into the SYSTEM jack on the Keyboard Controller.
4. Press the POWER switch on the System Unit front panel.
5. The POWER ON and SYSTEM VALID LEDs should light. After a few seconds, the KEYBOARD DATA and VALID LEDs should light and the Keyboard Controller will initialize.

Connect the AUX Input

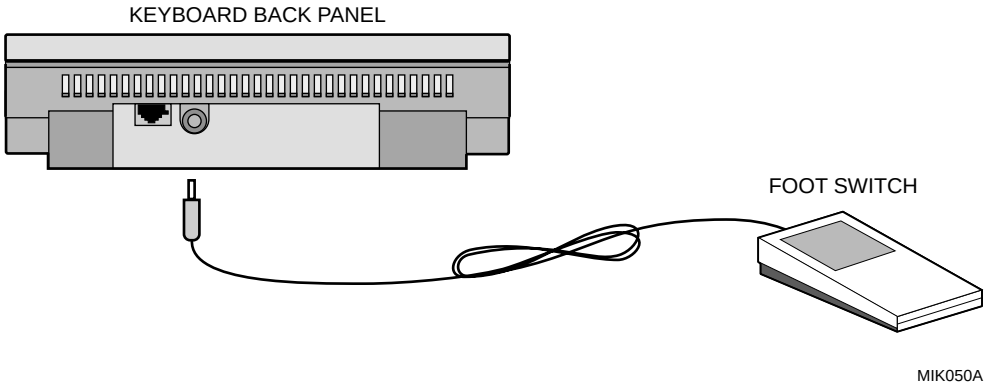

Figure Chapter 3 -4. Micro Lynx Keyboard Controller to Foot Switch

An AUX input socket is provided to connect a foot switch. It may be connected to any kind of switch with a toggle on and off function. The cable is not supplied with the Micro Lynx.

Procedure

1. Insert one end of the 1/4” stereo jack into the AUX jack on the Keyboard Controller.
2. Use a three-pole jack plug wired so that the switch contacts between the tip and the ring.

Warning

Do not use a mono jack plug connector.

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3. The footswitch is programmed to punch the Micro Lynx in and out of record.

Table Chapter 3 -3. AUX Connector Pin Description

Pin	Description
Tip	Switch +
Ring	Switch -
Sleeve	Ground

Quick Test and Initialization Procedure

This procedure tests the ability of the different pieces of equipment to communicate with each other and initializes the Micro Lynx. Upon completing these procedures, you will be ready to run the system.

Procedure

On the Tape Machine:

1. [EXT]

   Place a reel of time coded tape on the machine(s). Set the Tape Machine to external speed (some tape machines will automatically be set to external by the Micro Lynx).

On the System Unit:

2. [POWER]

   POWER LED turns on
   SYSTEM DATA LED on
   SYSTEM VALID LED on
   KEYBOARD SIGNAL LED on
   KEYBOARD VALID LED on

   Turning on the System Unit power also provides power to the Keyboard Controller. System internal communications are operational. Keyboard communications are operational.

On the Keyboard Controller:

3.

```
Lamp test, Holding memory
```

   MOTION CONTROL LEDs are sequentially tested.

4.

```
Micro Lynx Keyboard Control Unit
        Version x.xxx
```

   The software revision number is displayed.

5.

```
Tran: A AUTO Serial TRANSPORT
Tran: B AUTO Serial TRANSPORT
```

   Displays the transport types selected for each machine. If the incorrect transports are displayed, use steps 8-13 to select the correct transport.

```
Tran: C AUTO Serial TRANSPORT
 Ref: IntFix
```

   M3 Card not installed. Displays currently selected system reference.

```
Hold the "GRP" key, and add
groups in order of priority
```

   Display message.

6.

F1 LED on
F2 LED on
F3 LED on
REF LOCK LED on
GRP LED flashing
A LED flashing
B LED flashing
TCG LED flashing
MIDI LED flashing

The Keyboard LEDs light. The 'C' LED will flash if the M3 card has been installed. When TCG is selected, MIDI is automatically selected.

7. [SETUP]

SETUP LED flashing
REF LOCK LED on
SYS LED on
LAST LED on
NEXT LED on
+ LED on
– LED on

You are now in setup mode. The LEDs that allow you to move through the menus turn on.

```
    Setup: System options
Selection: LED Brightness: 100%
```

Display Message

8. [TRAN]

TRAN LED on
A LED on

The first transport A (Transport 1) must be identified by manufacturer and machine type.

```
Setup: AUTO Serial TRANSPORT
 Tran:
```

The default transport selection is displayed. You have entered the transport select mode.

9. [NEXT]

```
Setup: AMPEX ATR-100
 Tran:
```

Using the [NEXT] or [LAST] key select the manufacturer of the machine connected to the A (Transport 1) port. For this example select Ampex.

Note: The default transport selection "AUTO Serial TRANSPORT" will automatically detect the presence of most serial transports. Please refer to the Appendix for a complete listing of available transports.

10. [+]

```
Setup: AMPEX ATR-124
 Tran:
```

Press [+] and [–] keys to select the machine type. Refer to the Cable Reference Guide, in the Appendix, for the machines supported.

11. [B]

```
Setup: NO TRANSPORT
 Tran:
```

Select the second transport B (Transport 2), repeat steps 8-11 until all machines (A-C) have been set up.

12. [SETUP]

```
       Hold the “GRP” key, and add
       groups in order of priority
```

Machine selection is complete and the setup is saved.

13. [SOLO]

```
SOLO:a  .                a→          0
                                     0
```

Use the transport controls to check motion.

14. [>]

```
SOLO:a >L                a→00:00:00:00
                                     0
```

Puts the A machine into play, time code numbers will advance if time code has been striped onto the tape.

[<<]

```
SOLO:a <<                a→00:00:00:00
                                     0
```

Puts the machine into rewind, time code should run backward.

[>>]

```
SOLO:a >>                a→00:00:00:00
                                     0
```

Puts the machine into fast forward, time code should run forward.

[ ] STOP

```
SOLO:a  .                a→ 1:01:14:07
                                     0
```

Stops the A machine’s transport and displays the final time code number received.

15. [B]

Solo the b machine. Use the transport controls to check motion.

[ ] STOP

If the M3 card is installed, repeat step 14 and 15, but select machine C.

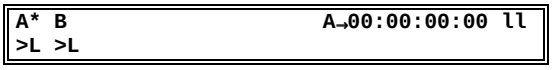
16. [GRP] + [A]
[GRP] + [B]

While holding the [GRP] key, press [A], release [A], continue to hold the [GRP] key, press [B] then release both keys.

17. [ALL STOP]
[ ] STOP

Press [ALLSTOP] then [ ]. Assuming that both machines have the same time code then the b machine will chase A and park at the A time code, ready to synchronize.

18. [PLAY]



The A machine goes into play followed by the b machine. Both machines will lock up, a group lock to internal speed reference (II) will show in the display. The time to lock will be slightly longer the first time as the Micro Lynx learns the transports characteristics, subsequent lock times will improve noticeably.

You are ready to use the Micro Lynx.

Quick Check Troubleshooting

Table Chapter 3 -4. Troubleshooting the System Unit

Situation	*Solution*	*Conditions*
POWER ON LED fails to turn on	Check all power supply connections. Check that the AC MAINS supply is OK.	
SYSTEM DATA & VALID LEDs fail to turn on	Hold [CLR] + [SYS] key on Keyboard to reset SU	SU failed to internally initialize correctly

Table Chapter 3 -5. Troubleshooting the System Unit communications with the Keyboard Controller.

Situation	*Solution*	*Conditions*
SU Keyboard DATA & VALID LEDs fail to turn on	Check the Keyboard to SU cable connection	Communications between the Keyboard and SU failed to initialize correctly
Keyboard display and LEDs fail to turn on	Check that the SU has correctly powered up Check the Keyboard to SU cable connection	
	Reset the Keyboard by holding [CLR] and pressing [SETUP]	Initiate a Keyboard memory clear and reset

Table Chapter 3 -6. Troubleshooting the Micro Lynx communications with the machines.

Situation	*Solution*	*Conditions*
Machine stays in stop or Micro Lynx does not read time code	Check that the transport control cable and time code RDR are connected to the correct transport and time code connectors	Incorrect or cross-wired cables
Machine behaves incorrectly or erratically	Check if correct transport interface cable installed Check if correct transport type is selected	
Machine does not respond	Check machine selected in group select (A-C)	
Machine not synchronizing	Check that the machine is selected for external control	