



**Installation Guide and
Ethernet Setup Guide For MLM Software**

Yamaha LC2 Installation Guide and MLM Software Ethernet Setup Guide

Contents	Page
-----------------	-------------

LC2 Installation

List of LC2 Controller Parts	1
Step 1: Positioning of Instrument in Class	2
Step 2: Standard Installation of LC2	3
Split Mode	4
LC2 Settings	4
Computer Control of LC2	5
Other Optional Items	5

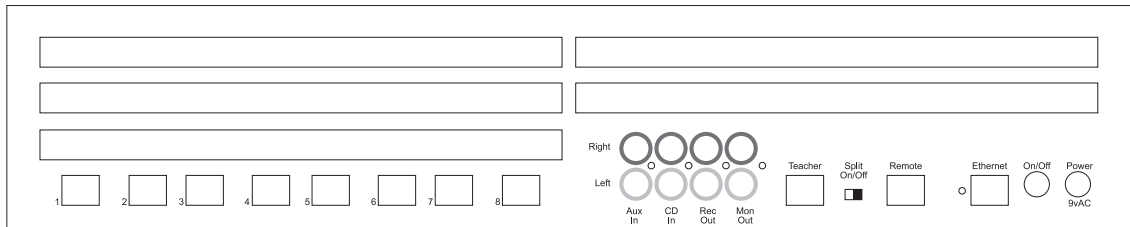
MLM Software Ethernet Setup

Setting up Windows to Communicate with LC2 using Optional MLM software	6
Configuring Your Network Settings in Windows .	6
Connecting the LC2 Lab to Your Computer.	7
Changing the IP Address of the LCH-1 Hub	7
Using the LC2 System While on a Network	8
Using the MLM Software	8

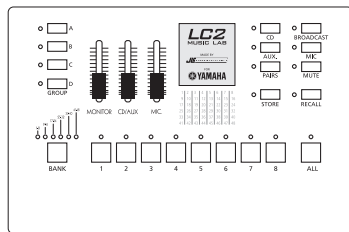
LC2 Installation

List of LC2 Controller System Parts

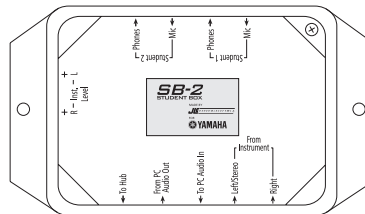
LCH1 Class Hub with power adapter (1)



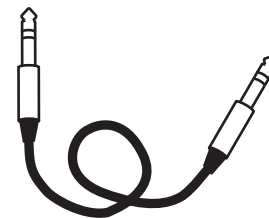
LC2 Controller Unit (1)



SB-2 Student Box (9)



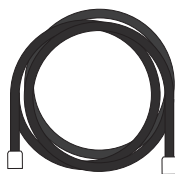
Stereo Instrument Cables (9)



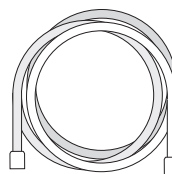
Stereo Headphones with Microphone (9)



RJ45 Lab Connector Cable, 10 meters (10)



Ethernet Crossover Cable (1)



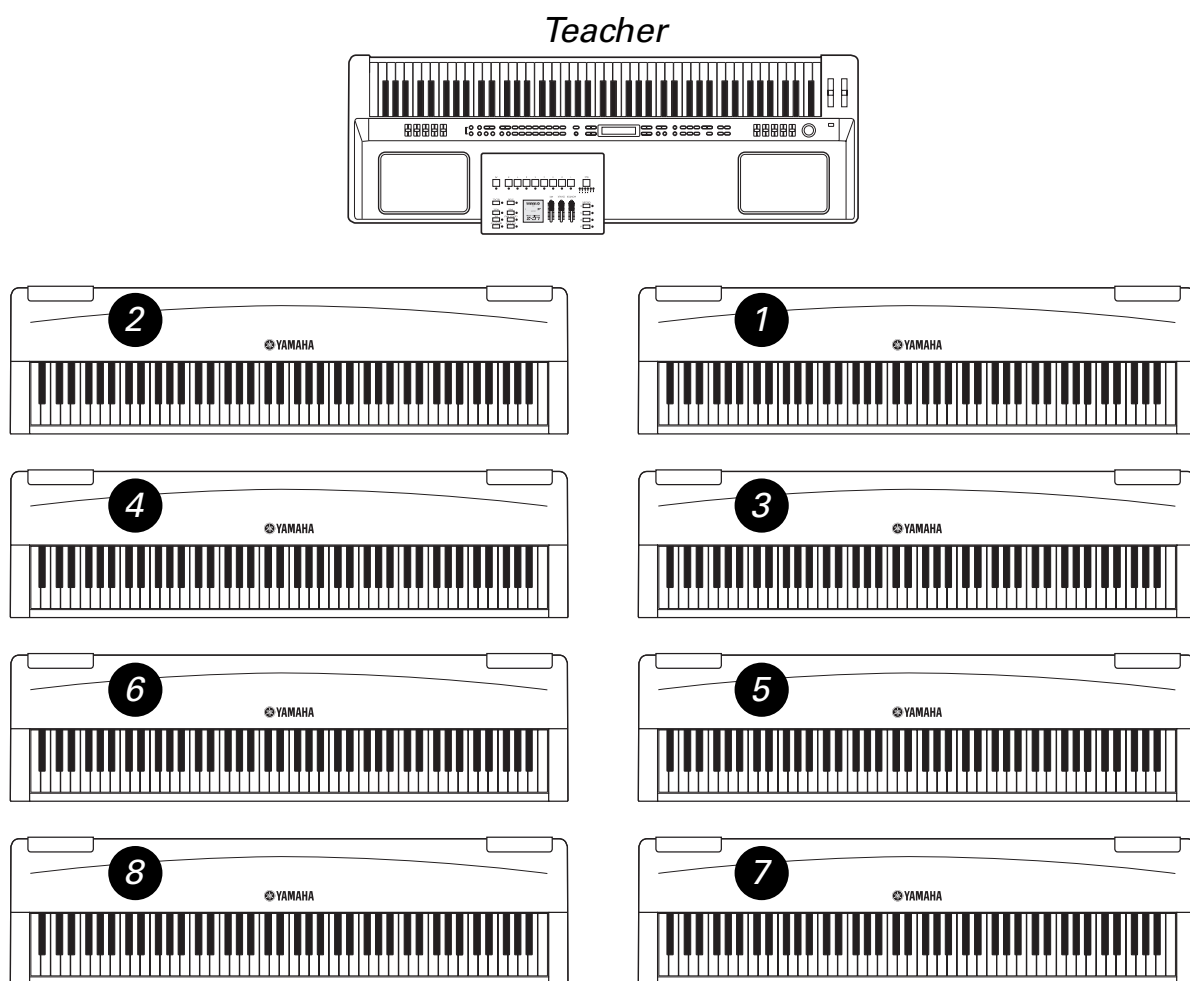
Velcro strip pairs for Student Boxes (9)



Note: If installing more than the eight station base system, follow the steps outlined in the LC2 Expansion Kit Installation Guide packaged with the expansion.



Step 1: Positioning of Instruments in Classroom

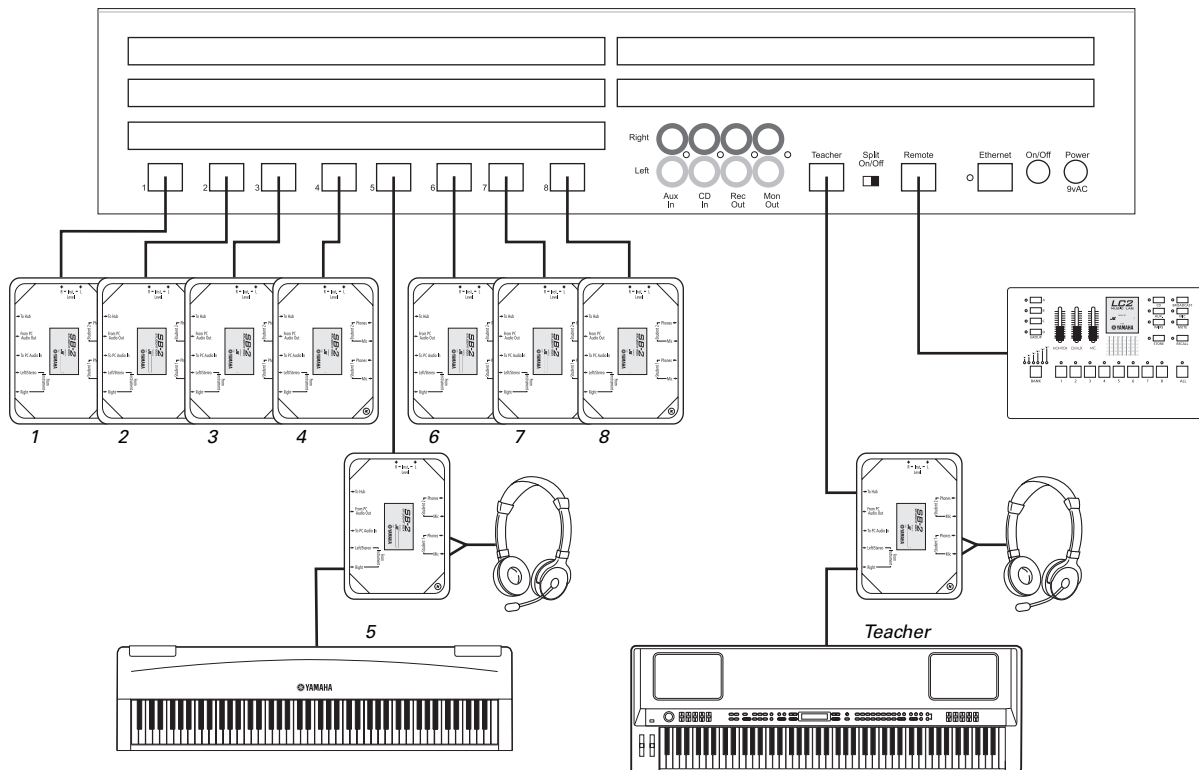
1. With input from the instructor, determine where instruments will be placed. Some teachers want to see student hand positions in keyboard labs. Others want all students facing forward.
2. Determine the numbering system for instruments. The student buttons on the CONTROL UNIT are labeled 1-8 left-to-right. It might be helpful to arrange students in that order from the teacher's perspective. (See illustration below)
3. Determine where cable and power cords are to be run. If possible, avoid places where students would walk over cables. If cables will run across the floor, determine one spot where the cables from each row of instruments will run. Obtain cord covers (from a hardware store) to cover the cables so students don't trip.
4. Place instruments in position.



Pictured: one CP300 keyboard with LC2 controller, eight P70 digital pianos

Step 2: Standard Installation LC2

1. Determine the position of the Hub in the room. Keep in mind that parts of the LC2 Lab must be connected to the hub so several cables will run to it.
2. Connect the headphone out of all instruments to the FROM INSTRUMENT input on their respective Student Boxes (SB-2) using the stereo instrument cables.
3. Plug a headset into the STUDENT 1 jacks on each SB-2. Plugs are marked with headphone  and mic  icons. Make sure that the plastic plugs snap firmly and fully into the SB-2 jacks.
4. Connect each student's SB-2 to their respective student number jack on the Hub using RJ45 connector cables. If the cable is too long, the excess should be stored near the student station.
5. Connect the teacher's SB-2 to the TEACHER jack on the Hub using an RJ45 cable.
6. Connect the Control Unit to the REMOTE input on the Hub using an RJ45 cable.
7. Make sure the SPLIT switch on the Hub is set to OFF.
8. Plug in the power supply to the Hub.
9. Turn on the Hub.

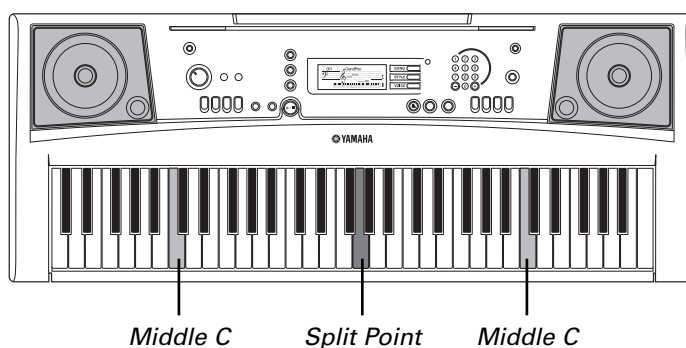


Split Mode

If you would like to have two students at each instrument working independently of each other, all that is required is setting your instrument properly and adding additional Yamaha CM500 headset microphones to your system. Each student instrument must have the following settings made for SPLIT MODE to work properly:

1. Split Keyboard into two voices (sometimes called LEFT voice).
2. Octave shift both the RIGHT and LEFT voices. This allows each student to have their own “Middle C” on their part of the keyboard.
3. Pan the RIGHT and LEFT voices to “hard right” and “hard left” respectively. This isolates each student so they don’t hear each other (unless controlled by the teacher).
4. Switch any REVERB effect off. This ensures, for example, that Student 1 won’t hear an echo of Student 2 in their headphones.

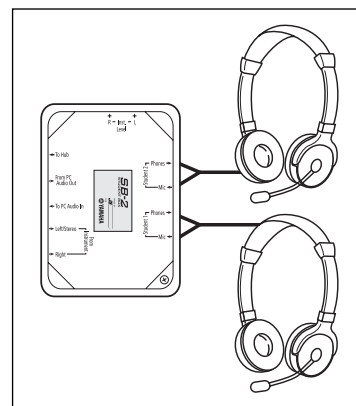
As you can see, there are many settings to perform on each student instrument each time they’re powered up. The LC2 settings only need to be set once. If your instruments have a memory or recall function (sometimes called Registrations), it’s a good idea to store these settings to get your classes ready as soon as possible.



If your instruments (like the Yamaha PSR-e303 above) meet these requirements, then follow the next three steps to start working in SPLIT MODE.

LC2 SETTINGS

1. Plug the first headset into the “student 1” jacks on SB-2. Plugs are marked with headphone and microphone icons.
2. Plug in optional second headsets to the STUDENT 2 jacks on each SB-2.
3. Move the SPLIT switch on Hub to the ON position.



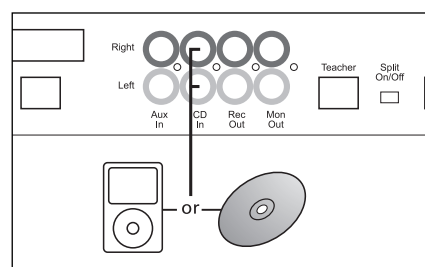
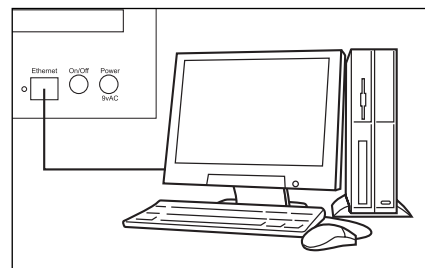
Computer Control of LC2

This feature is only available if the Hub is either connected to a Local Network or directly to a Windows-compatible computer using the provided Ethernet cable.

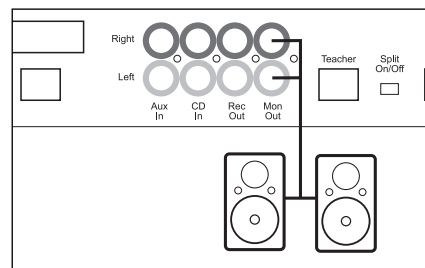
With the Hub powered on and connected to the computer, start the computer and load the Music Lab Management (MLM) software package. See page 7 for detailed installation instructions.

Other Optional Items

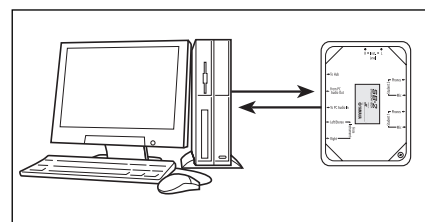
1. **CD or MP3 player.** Use an external music player if you would like students to play along with a recording.
2. **External Powered Speakers.** If it's necessary that the lab be heard in the room without headphones, external powered speakers can be added.
3. **Student Computers.** If your lab involves computers to either record audio from, or play audio to, students, use 1/8" stereo audio cables to get sound in and out of each SB-2. If a student computer also uses 1/8" connectors for audio, the required cable is available at Radio Shack (part #42-2387).



Option 1: Music playback devices



Option 2: Monitor speakers



Option 3: Student computer

Setting Up Windows XP to Communicate with the LC2 Lab System Using Optional MLM Software

This section will guide you through the steps required to use your LCH-1 lab Hub with the MLM software.

You must have a 10baseT or 100baseT Ethernet card installed in your computer and an Ethernet crossover cable (supplied). Alternately, you can plug your computer and LCH-1 lab into an Ethernet hub.

Configuring Your Network Settings in Windows

- Click the “Start” button on your Windows desktop
- Right-click on “My Network Places”
- Click on “Properties” and a window like Figure 1 should appear
- Right-click on “Local Area Connection”
- Select “Properties” and a window similar to Figure 2 should appear
- Double click on “Internet Protocol (TCP/IP)”

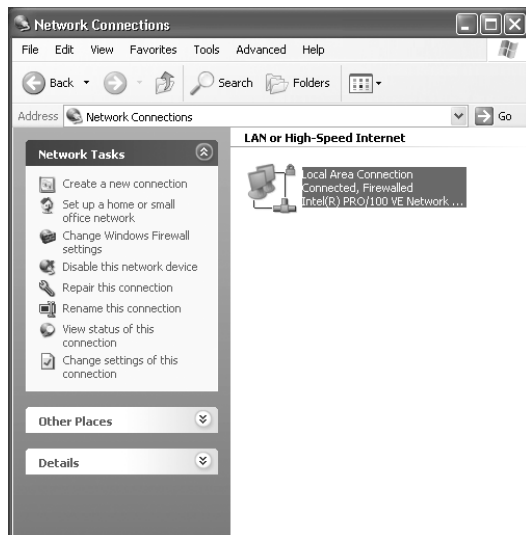


Figure 1

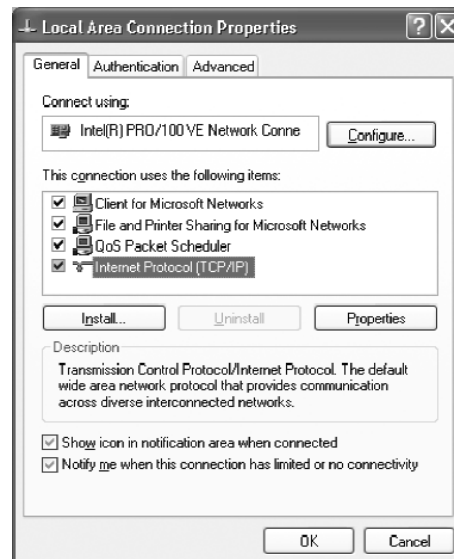


Figure 2

- When you click on the Internet Protocol button, a window like Figure 3 should appear
- Click the radio button “Use the following IP address:” and enter the following values...
 - IP address: 192.168.254.xxx
*The address can be anything **except** 192.168.254.111, because that is the address of LCH-1 Hub. For example, use 192.168.254.110)*
 - Subnet mask: 255.255.255.0
 - Default gateway: leave this blank
 - Preferred DNS server: leave this blank
 - Alternate DNS server: leave this blank
- Click OK

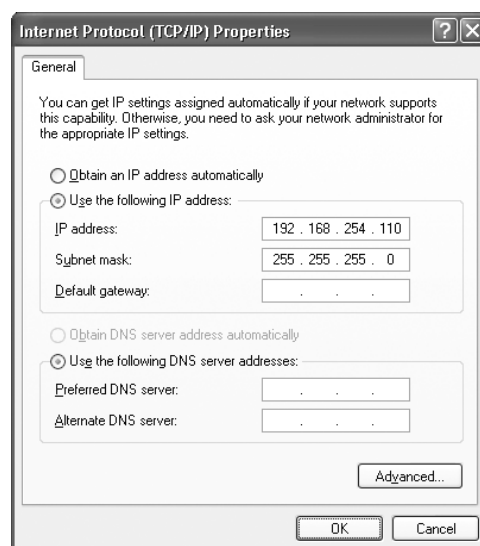


Figure 3

Connecting the LC2 Lab to Your Computer

Connect the LCH-1 Lab Hub to your computer’s Ethernet port using the supplied crossover cable. Optionally, you can connect the LCH-1 Lab Hub to your computer through an Ethernet hub. In this case, you must use a standard or straight-through cable.

Note: The LCH-1 Lab defaults to an address of 192.168.254.111 and the LC2 software looks for that address. Make sure there is only one LC2 system on your network or the software will not know which to control. If you have multiple LC2 systems connected to your network, you must change the IP address of one of them. (See Figure 4 on the following page.)

Changing the IP Address of the LCH-1 Hub

You can change the IP address of the LCH-1 Hub accessing the IP Address Setup web page (for example, if you have two LCH-1 hubs). To access that web page:

- Slide the Split Mode switch on the rear panel to the left
- Press and hold the button behind the small hole next to the Power LED on the front panel
- Turn the power switch on
- Release the button behind the small hole
- Launch Internet Explorer on the computer connected to the LCH1 hub and browse to the address <http://192.168.254.111/>

- Type the address you want and press “Submit”
- Slide the Split Mode switch back to the previous setting and power cycle the unit
- You will now need to configure the LC2 Software to use the new IP address

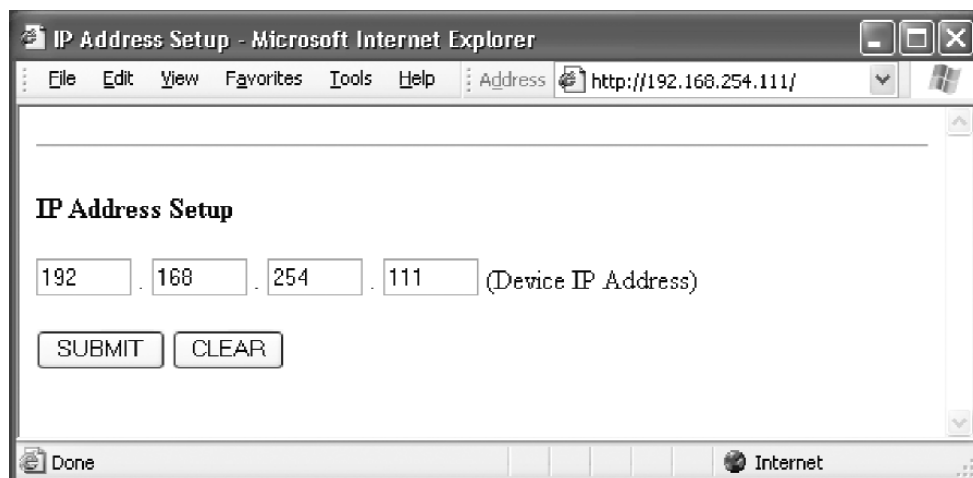
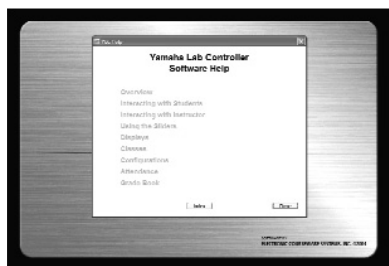


Figure 4



Using the LC2 System While on a Network

To use the MLM software and LC2 lab with a computer on a network, the computer needs two Ethernet ports (one for the LC2 and one for the network). You could purchase a USB-Ethernet adaptor like the one shown here to be used as a second Ethernet port and configure that port as per instructions starting on page 7.



Using the MLM Software

After installing the MLM software and making your connections to the LCH-1 Hub, please launch the software on your computer and refer to the built-in Help menu for complete instructions on how to operate the MLM software.



©2006 Yamaha Corporation of America. www.yamaha.com

"Linksys" is a registered trademark of The Linksys Group, Inc. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation