

# Classnet Twist Audio User Guide



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## 1. What is the Classnet Twist Audio system?

The Classnet Twist Audio system from Minicom gives a teacher full control over a computerized classroom, together with full duplex audio communication.

## 2. Adding a Classnet Twist Multiloop

By adding a Classnet Twist Multiloop to the Twist Audio system you can connect up to 63 Student units and increase the overall System cable length to 300m / 990ft.

There are 3 things to consider when deciding whether to add the Multiloop to your Classnet Twist Audio system. These are:

- The number of Student units to be connected
- The length of the System cable
- The screen resolutions and refresh rates

We recommend installing the Multiloop when either there are more than 15 Student units or the overall cable length exceeds 110m / 360ft.

This recommendation depends on the screen resolution and refresh rates of the computers. You can install the Classnet Twist Audio system for more than 15 Student units without the Multiloop and still achieve acceptable screen transfer results. However, if you use high screen resolutions and refresh rates then consider the Multiloop option.

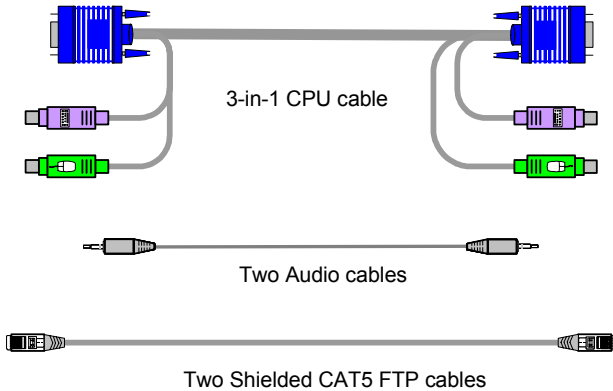
## 3. The Classnet Twist Audio system components

The Classnet Twist Audio system consists of the following:

- Teacher Interface Unit (TIU)
- Teacher Control Unit (TCU)
- Up to 63 Student Interface Units (SIU)
- (Optional) Multiloop
- Cables (illustrated below)

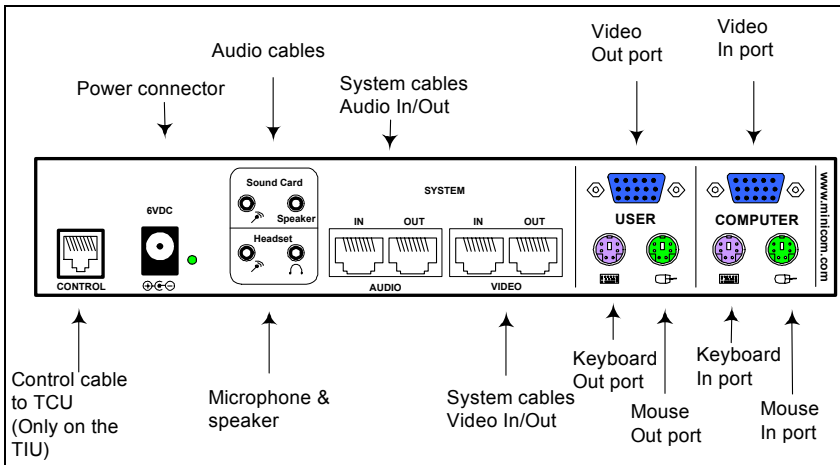
## 4. The Twist Audio cables

The cables below come with each Twist Audio unit. Shielded CAT5 FTP cables connect the Twist Audio system.



## 5. The Twist Audio ports

The figure below illustrates the ports on the Twist Audio TIU. The ports on the SIU are identical except for the Control port - Only the TIU has a Control port.



Twist Audio ports

## 6. Power supply

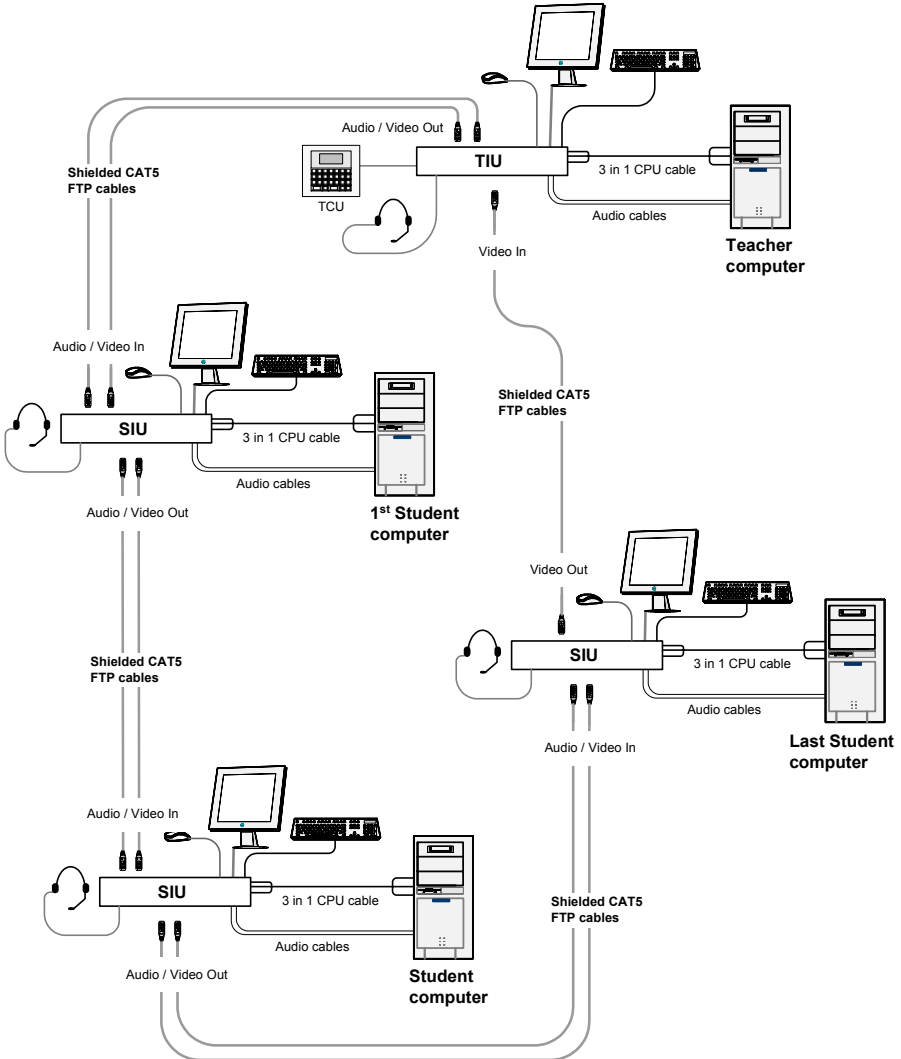
Connect the units to the power supply with the power adapters provided.

## 7. Pre-installation instructions

Cables should be placed away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.

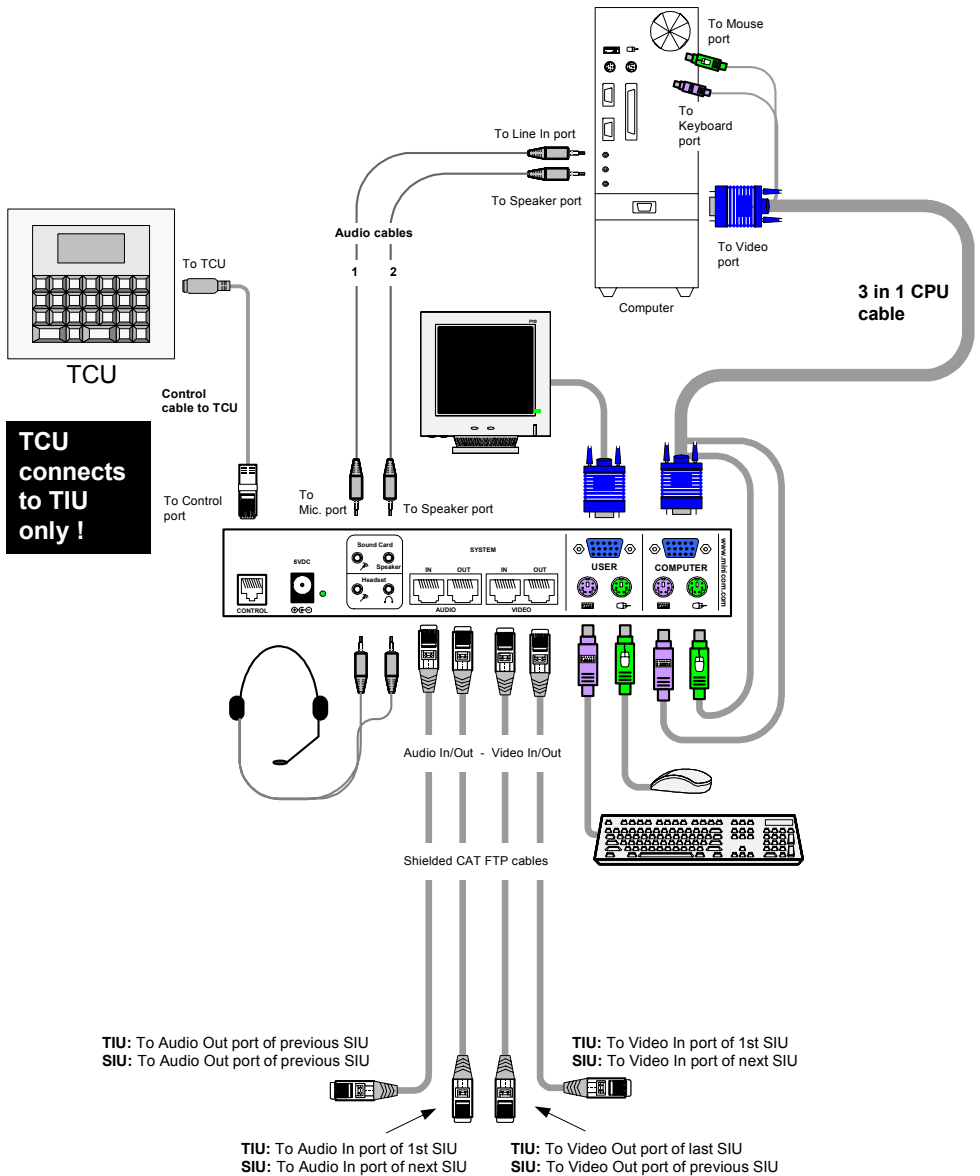
## 8. The Twist Audio system configuration – no Multiloop

The figure below illustrates the Twist Audio system configuration (without a Multiloop) showing the teacher and student positions. Connect the system in a Daisy chain (illustrated) or a Loop. To connect in a Loop connect a Shielded CAT5 FTP cable to the TIU Audio In port and an SIU Audio Out port.



## 9. The Twist Audio system - detailed connections

The illustration below shows the detailed connections of the TIU and SIU.

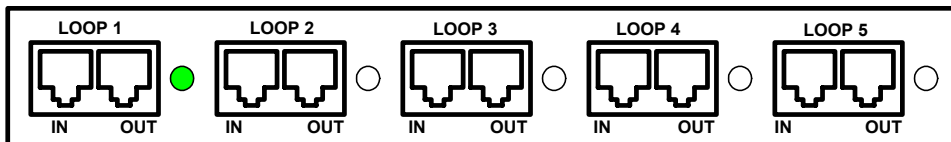


## 10. Installing the Multiloop

The figures below illustrate the front and rear of the Multiloop.



The Multiloop front view



The Multiloop rear view

Set up the classroom layout by evenly dividing the Student units between all five loops. The maximum number of Classnet Twist Audio units in each loop should not be more than 16. The maximum length of the System cable in each loop should be less than 60m / 198ft.

The Multiloop is used for KVM signals only. The Audio system cables are NOT connected through the Multiloop.

In the figure on page 7 the Multiloop is installed in a classroom of 1 teacher and 63 students.

## 11. Connecting the Teacher unit

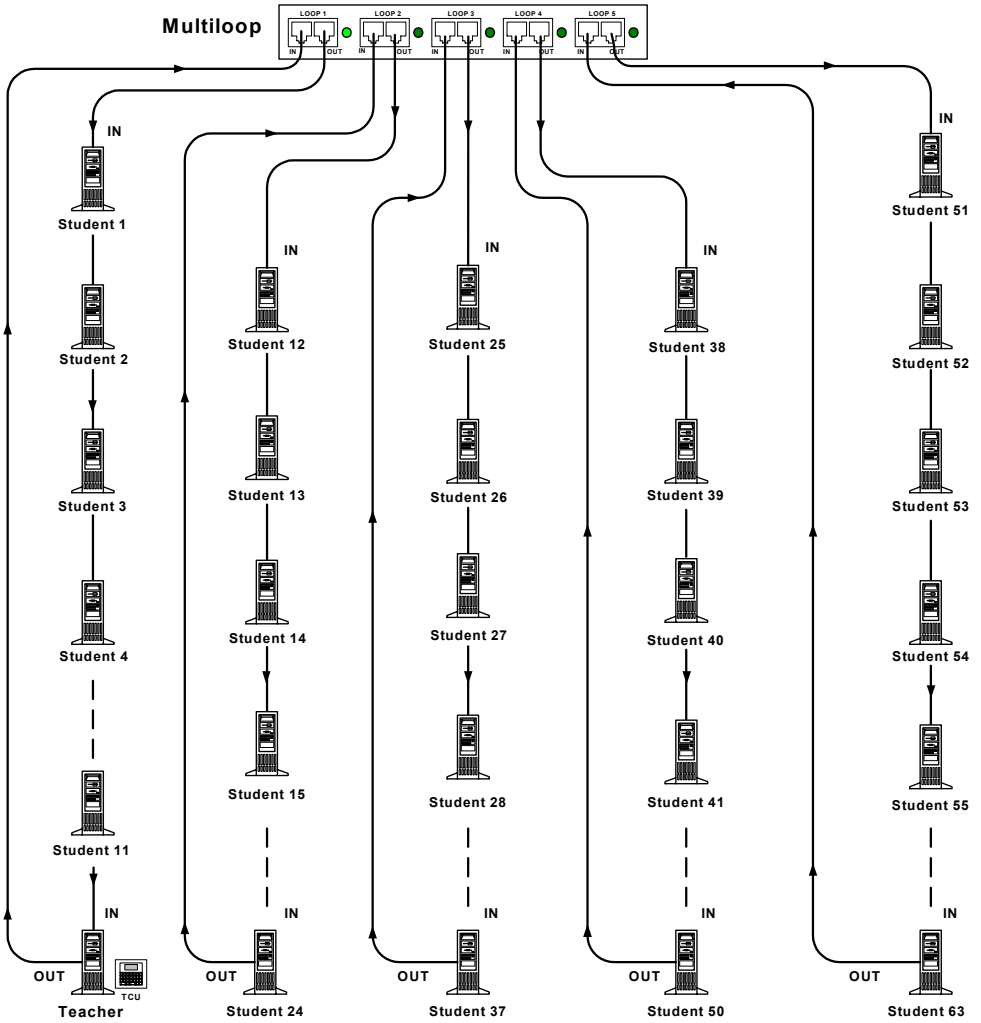
The Teacher unit **MUST ALWAYS BE** in loop 1.

For best performance the Teacher unit should be in the loop by itself, if this is impractical, it should at least be the last unit in the loop.

## 12. Connecting the Power adapter

Connect the Power adapter to the Power connector on the front panel of the Multiloop and plug the Power cord into a wall socket.

# CLASSNET TWIST AUDIO



The Classnet Twist Multiloop configuration



## 13. Connecting the Multiloop

**Note!** For optimal performance **ALL** loops should be connected even if this means the overall cable length is higher.

The Twist Audio units connect as set out on pages 2-4 with the exception of the Shielded CAT5 FTP Audio In/Out cables. These are connected in loops as follows:

1. Connect the OUT port of loop 1 of the Multiloop to the Audio IN port of the first Twist unit.
2. Connect the Audio OUT port of the last Twist unit in the loop to the IN port of loop 1 of the Multiloop. For best performance, connect the Teacher unit as the last station in loop 1.
3. Connect the other loops to the rest of the Twist Audio units, as above.

## 14. Assigning ID numbers to the Twist Audio units

After installing and connecting the system, assign ID numbers using the TCU and each computer's keyboard.

To assign ID numbers:

On the TCU, press **Print – All – Enter**.

You can now program the ID numbers.

### Assigning the teacher's ID number

1. On the teacher's keyboard press **Shift – Shift – F1 – 0 – 0 – 0**

**Note!** Only use the keyboard numbers above the alphabet keys.

Pressing **Shift – Shift** temporarily disables the local mouse.

2. Press **ESC** to save the teacher ID number and exit the teacher's computer.

### Assigning the student ID numbers

The procedure is the same for assigning all students a unique ID number.

**Note!** All ID numbers must contain 3 digits. So ID number 1 is 001. ID number 2 is 002 and so on.

3. On the first student's keyboard press **Shift – Shift – F1 – 0 – 0 – 1 – Esc**
4. On the second student's keyboard press **Shift – Shift – F1 – 0 – 0 – 2 – Esc**.

And so on for each student.

**Note!** ID numbers do not have to be sequential. For example the first two students in the class can have ID numbers 15 and 7.

## 15. Mapping the classroom layout (only for Multiloop)

Map the classroom layout before operating the **Classnet Twist** system. When using Minicom's AristoClass or Teacher Control Software refer to the User Guide for each software program.

To map the classroom layout:

1. Switch on all computers and Classnet Twist units.
2. Press the following key sequence on the Teacher Control Unit (TCU):

**Print-Mastr-Enter-Print-Print-5-5-Enter.**

Mapping takes less than 30 seconds. During the mapping, all five green LEDs on the Multiloop rear panel illuminate. Once finished the LEDs darken.

3. After 30 seconds press **Print**. The Classnet Twist system is now operational. When a Classnet command is sent, the LED of the loop from which it is sent will illuminate.

**Perform the classroom mapping procedure every time you change the classroom setup.**

## 16. Changing the mapping hotkey (only for Multiloop)

The default mapping hotkey is 55 (**5-5** see step 2 above). This figure can be altered to any 2 digits from 01 to 63.

To change the mapping hotkey:

1. Disconnect the Teacher Interface Unit (TIU) and the Multiloop from the system.
2. Connect the Multiloop to Teacher Interface Unit (TIU) using 2 System cables. Connect one cable to the OUT port of the TIU and to the IN port of loop 1 of the Multiloop. Connect the other cable to the OUT port of loop 1 and to the IN port of the TIU.
3. On the Teacher Control unit (TCU) press the following keys:
  1. **Group-7**. This group number appears on the TCU LCD screen.
  2. **Clear-Clear-Group-7**.
  3. Any 2 digits from 01 to 63. These 2 digits will represent the new mapping hotkey for that Multiloop.
  4. **Enter**.

For example to input the number 44, press:

**Group-7-Clear-Clear-Group-7-4-4-Enter.**

4. Press:

**Print-Mastr-Enter-Print-Print-Group-7-Enter-Print.**

The new hotkey is assigned to that Multiloop.

**Note! The Multiloop rear panel LEDs will not illuminate during this procedure. They only illuminate during the class mapping procedure.**

5. Disconnect the Multiloop from the TIU and connect it into its position in the class, with all loops attached.

6. Map the classroom using the new key sequence. On the TCU press:

**Print-Mastr-Enter-Print-Print-YY (The 2 digits chosen in step 2.3 above)-Enter-** after 30 seconds press **Print.**

## 17. Testing the ID numbers

Transfer each student's screen to the teacher's computer to ensure that the ID numbers are set correctly.

To transfer student ID number 1's screen to the teacher:

On the TCU, press **From – 0 – 1 – Mastr – Enter.** The screen transfers.

To cancel the screen transfer, press **From.**

If the screen does not transfer, the ID number is not set correctly. Reset the ID number.

Test the rest of the ID numbers by transferring each student screen to the teacher. When all the ID numbers are set and verified, exit the ID number assigning function.

To exit:

On the TCU press **Print.**

## 18. Adjusting the picture quality / color balance

When a broadcast screen is not clear and sharp, or the colors are unbalanced, adjust the picture, as follows.

1. On the TCU press **Print – All – Enter.**
2. Transfer the desired screen image. To do so, see page 12 below.
3. On the keyboard of the computer to which the screen is broadcast press:

**Shift – Shift – F2** to adjust picture quality

Or press:

**Shift – Shift – F7** to adjust color balance.

4. Press the Left or Right Directional Arrow keys until the image quality / color balance is satisfactory.
5. Press **Esc** to save the adjustment.
6. When all the images are satisfactory go to the TCU and exit the image adjustment mode by pressing **Print**.

**Note!** Image adjustment is relative to distance. The further the screen image is transferred, the more adjustment it requires.

## 19. Setting up a group

There can be up to 10 groups in the class. Group 8 is predefined as all the even numbers in the class, and group 9 is all the odd numbers.

To set up group 1, press **Group – 1**.

Add students (or the teacher) to the group.

To add students 3, 4 and 5 press: **0 – 3 – 0 – 4 – 0 – 5**.

Press **Enter** to confirm, or **Clear** to cancel.

## 20. Operating the Twist Audio system

Once the system is connected, operate the functions using the TCU.

**Note:** Wait for the blinking cursor to appear after each command before continuing.

## **21. Broadcasting a screen + audio**

Broadcast a computer's screen + audio (sound card and microphone) to 1 or more students.

Note! If Audio cable 1 – see the figure on page 5 - is not connected, only the Sound card and not the microphone broadcasts.

<b>Screen + Audio From</b>	<b>To</b>	<b>Press</b>
Teacher	All students	<b>From – Mastr – All – Enter</b>
Teacher	Group 2	<b>From – Mastr - Group – 2 – Enter</b>
Student 3	Student 1	<b>From – 0 - 3 – 0 - 1 – Enter</b>

To end a screen + audio broadcast, press **From**.

## **22. Transferring keyboard mouse control + audio**

Transfer keyboard mouse control with sound card and have a 2-way chat between individual students or the teacher.

<b>KB/M + Audio From</b>	<b>To</b>	<b>Press</b>
Teacher	Student 3	<b>KB – Mastr – 0 - 3 – Enter</b>
Student 3	Teacher	<b>KB – 0 – 3 – Enter</b>

To end the Keyboard/Mouse + audio transfer, press **KB**.

## **23. Audio & Intercom functions**

The Classnet Twist Audio system includes the following 2 functions:

- 1 directional broadcasting
- 2-way chat –

Broadcasting audio to 1 person is always 2-way chat. Broadcasting audio to more than 1 person is always 1 directional.

## 24. Operating the audio functions

**Note!** Once you press the Audio key any Sound card currently broadcasting stops. The tables below outline the audio & intercom functions.

<b>1 directional broadcasting</b>		
<b>Broadcast from</b>	<b>To</b>	<b>Press</b>
Teacher	All students	<b>Audio - All - Enter</b>
Teacher	Group 2	<b>Audio - Group - 2 - Enter</b>

To end an audio broadcast press **Audio**.

<b>2-way chat</b>		
<b>Broadcast from</b>	<b>To</b>	<b>Press</b>
Teacher	Student 3	<b>Audio - 0 - 3 - Enter</b>
Student 2	Student 3	<b>Audio - 0 - 2 - 0 - 3 - Enter</b>

To end a 2-way chat press **Audio**.

## 25. Darkening screens

Darken 1 or more student screens.

To darken screens:

Press **Dark – All – Enter**

When darkening screens, any 1-directional microphone broadcasting currently in progress, continues.

### Ending the screen dark function

To end the screen dark function, press **Dark**

## 26. Memory keys F1 to F4

Memory keys can be used to activate the most commonly used functions in one keystroke. By default the functions are:

<b>F1</b> – From Master to All	<b>F3</b> – Print All
<b>F2</b> – Dark All	<b>F4</b> – Audio All

You can program a different function into the memory keys.

For example to make **F3** darken the screens of group 2 press **Prog – F3 – Dark – Group – 2 – Enter – Prog**.

## 27. Scanning

Scan student screens in sequential order at periods of between 01 – 99 seconds. The default is 30 seconds.

To scan the student screens for the default 30-second period:

Press **From - All - Enter**.

## 28. Keyboard mouse control

While scanning you can get keyboard / mouse control for the duration of the 30 second default scan period.

To do so press **KB - All – Enter**.

## 29. Changing the scan time period

To scan the student screens for a time period other than 30 seconds:

Press **From - All – x - y - Enter**. x - y being any 2 digits between 01 – 99.

## 30. Stopping / resuming / fast forwarding the scan session

To stop the scan, press **From**.

To resume the scan, press **Enter**.

To fast forward to the next student screen, press **Enter – Enter**.

## **31. Technical Specifications**

### **System**

System cable	2 x CAT5 FTP cable
Maximum distance	110m/360ft without Multiloop, 5 X 60m/200ft each loop with Multiloop
Operating systems	DOS, Windows (3x, 9x 2000, NT, ME, XP), Linux
Mouse support	PS/2, Wheelmouse
Resolution	Up to 1280 x 1024 @ 85Hz
Operating temperature	0° to 40° C /32° to 104° F
Storage temperature	-40° C to 70° C/-40° to 158° F
Humidity	80% non-condensing relative humidity
Warranty	3 Years

### **Teacher Interface unit**

Cables	3 In 1 CPU
Connections	Screen - HDD15 Keyboard/Mouse - MiniDin 6 System Audio Out - RJ45 System Video In/Out - RJ45 Mic/Headphone/SC In/SC Out - Jack
Power supply	6VDC, 2A from AC/DC adapter
Dimensions	225.0 x 233.0 x 30.5 mm 8.86 x 9.17 x 1.2"
Weight	1.030 KG / 2.27 pounds

### **Student Interface unit**

Cables	3 In 1 CPU
Connections	Screen - HDD15 Keyboard/Mouse - MiniDin 6 System Audio In/Out - RJ45 System Video In/Out - RJ45 Mic/Headphone/SC In/SC Out - Jack
Power supply	6VDC, 2A from AC/DC adapter
Dimensions	223 x 152 x 43 mm 8.8 x 6.0 x 1.7"
Weight	1.030 KG / 2.27 pounds



### **Multiloop**

Dimensions	222 x 141 x 31 mm 8.74 x 5.55 x 1.22"
Power supply	2 x 9 Vac, 2 x 1 A from AC/AC adapter

### **Teacher Control unit**

Dimensions	91 x 218 x 229 mm 3.58 x 8.58 x 9.0"
Power supply	9 Vac, 1.5 A from AC/AC adapter