

CREATOR Electronics

Education Control System

User Manual

Please read this manual carefully before using this product.

NOTES:

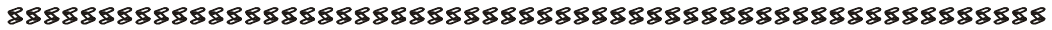
This Education Control System – User Manual is only regard as operation direction, not for maintenance service purpose. After that, the new functions and amendment of other parameters will be explained in additional written form, and you can refer to the dealer for details.

Copyright of Education Control System – User Manual are reserved for the manufacturer of the CREATOR. Any unit and individual are prohibited to use this manual in whole or in part for commercial purpose without the permission of copyright holder.

This manual is applied to PC-950/PC-1200/PC-3900II Education Control System.

All product function is valid till 2006-6-30

 Safety Operation Guide



In order to guarantee the reliable operation of the equipments and safety of the staff, please abide by the following proceeding in installation, using and maintenance:

(1)

The system must be earthed properly. Please do not use two blades plugs and ensure the alternating power supply ranged from 100v to 240v and from 50Hz to 60Hz.

(2)

Do not put the switcher in a place of too hot or too cold.

(3)

As the power generating heat when running, the working environment should be maintained fine ventilation, in case of damage caused by overheat.

(4)

Please cut off the general power switch in humid weather or left unused for long time.

(5)

Before following operation, ensure that the alternating current wire is pull out of the power supply:

- A. Take off or reship any components of the equipment.
- B. Take off or rejoin any pin or other link of the equipment.

(6)

As to non-professional or without permission, please DO NOT try to open the casing of the equipment, DO NOT repair it on your own, in case of accident or increasing the damage of the equipment.

(7)

DO NOT splash any chemistry substance or liquid in the equipment or around.

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1、 Introduction of Education Control System

As the modern education developing, various multimedia devices have been brought into many classrooms. For example: multimedia computer, VCR, VCD, projector, video presentation platform, electrical curtain and amplifier etc.. It's not convenient for the teacher to manipulate all these above.

The Education Control System is developed to resolve the problem. By controlling the multimedia devices on a computer or the control panel, the course of control becomes simple.

The Education Control System provides power-fail locale protection function. It is able to restore the system information if there was a power failure.

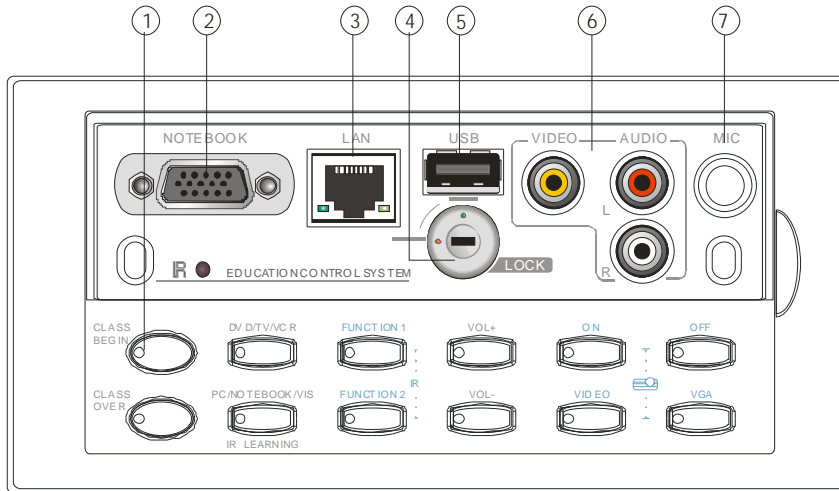
Traits diagram:

Specifications	PC-950	PC-1200	PC-3900II
IR learning module	✓	✓	✓
Video matrix switch module	4x1	4x1	6x2
Audio matrix switch module	5x1	6x1	8x2
Computer matrix module	3x1 split 2	3x1 split 2	3x1 split 2
RS232 programmable port	1	1	1
RS232 control port	1	1	1
Volume control module	✓	✓	✓
Numeric I/O port	3	3	3
IR output port	1	2	6
Mic input	1	No	1
Power voltage	DC12V	AC 100/220V	DC12V
size(mm)	174L× 87W ×57H	250L× 158W ×57H	485L× 171W ×45H

2、 Introduction of Education Control System

2.1. PC-950 Function

2.1.1 Front Panel



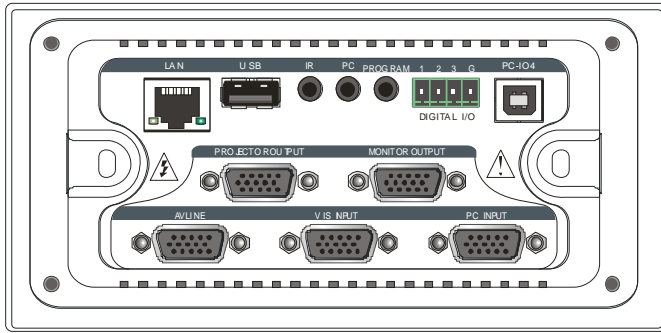
Notebook	<p>Portable Computer VGA Signal Input Port</p> <p>Connect to portable computer VGA port, adopting standard 15HDF interface</p>
LAN	<p>LAN</p> <p>Directly connect to the Ethernet port on rear panel</p>
USB	<p>USB</p> <p>Directly connect to the USB port on rear panel</p>
Video Audio	<p>AV Signal Input</p> <p>Input the AV signal from external devices to the system. By default setting, the AV signal transmits to amplifier or projector output only when user switches input from projector to portable computer</p>
MIC	<p>Microphone Port</p> <p>Connect to microphone.</p>
IR	<p>IR Learning</p> <p>Point the remote to the window to send IR code.</p>
Electric lock	<p>Electric lock</p> <p>Only a special key can open this lock. It equals to the function of “begin class” and” finish class”.</p> <p>NOTE No button is controllable when locked.</p>
Begin class	<p>Begin class button</p> <p>Press” CLASS BEGIN”, electrical screen moves down and projector power on. 7 seconds later the projector start working. Nothing would perform when pressing “CLASS BEGIN”</p>


	again
	NOTE Only after pressing the “CLASS BEGIN” can other button be controllable.
Finish class	<p>Finish class button</p> <p>Press “CLASS OVER”, the system carry out finish class order at a fixed time. When perform the order, the electrical screen moves up and the projector will be cut off through RS232 code. At this moment, only “CLASS BEGIN” is controllable.</p> <p>Finish class delay time: 0~60 min</p> <p>Close projector delay time: 2~6 min</p> <p>NOTE Only after pressing the “CLASS BEGIN” can other button be controllable.</p>
DVD/TV/VCR	<p>DVD/TV/VCR</p> <p>Press “DVD/TV/VCR” in order to transmit AV signal from DVD to projector, and transmit the RS232 code(the “DVD/TV/VCR” indicator light turns red when switch to DVD); Press for the second time, it will transmit AV signal from TV to projector(the “DVD/TV/VCR” indicator light turns green when switch to TV); Press for the third time, it will transmit AV signal from VCR to projector(the “DVD/TV/VCR” indicator light turns orange when switch to VCR)</p>
PC/NOTEBOOK/VIS	<p>PC/NOTEBOOK/VIS</p> <p>Press “PC/NOTEBOOK/VIS” in order to transmit VGA and audio signals from computer to projector, and send the RS232 code(the “PC/NOTEBOOK/VIS” indicator light turns red when switch to PC); Press for the second time, it will transmit VGA and audio signals from laptop computer to projector(the “PC/NOTEBOOK/VIS” indicator light turns green when switch to NOTEBOOK); Press for the third time, it will transmit VGA signal from digital platform to projector(the “PC/NOTEBOOK/VIS” indicator light turns orange when switch to VIS)</p>
IR Learning	<p>IR Learning button</p> <p>The buttons include “FUNCTION1、FUNCTION2、ON、OFF、VIDEO、VGA”</p> <p>Steps:</p> <ul style="list-style-type: none"> n Press “IR LEARNING” for 2 seconds, it will turn to IR Learning mode and other buttons become uncontrollable. The “IR LEARNING” will light for 10 seconds, and then it light off if not receives any IR code. n Point the remote controller directly to IR receiving window and press corresponding buttons, then 6 IR learning buttons blink after receiving the IR code. It will quit learning mode 10 seconds later when not receives any IR code. n Press the learning button within 10 seconds in order to make IR learning successful. Then it lights off after blinking 3 times.
Function 1	Function 1、 sending IR codes after IR learning
Function 2	Press for 3 seconds to move down screen
	Function 2、 sending IR codes after IR learning
	Press for 3 seconds to move up screen
Volume+	Volume+、 Volume-
Volume-	VOL+ output volume up
	VOL- output volume down
ON	ON OFF Video VGA

OFF	ON——Send IR and RS232 codes to open the projector when press “ON”.
Video	OFF——Send IR and RS232 codes to close the projector when press “Off”.
VGA	VIDEO——Send IR and RS232 codes of projector video when press “VIDEO”.
	VGA——Send IR and RS232 codes of computer signal when press “VGA”.

CAUTION Must finish connecting , IR learning and codes recording then to use it.

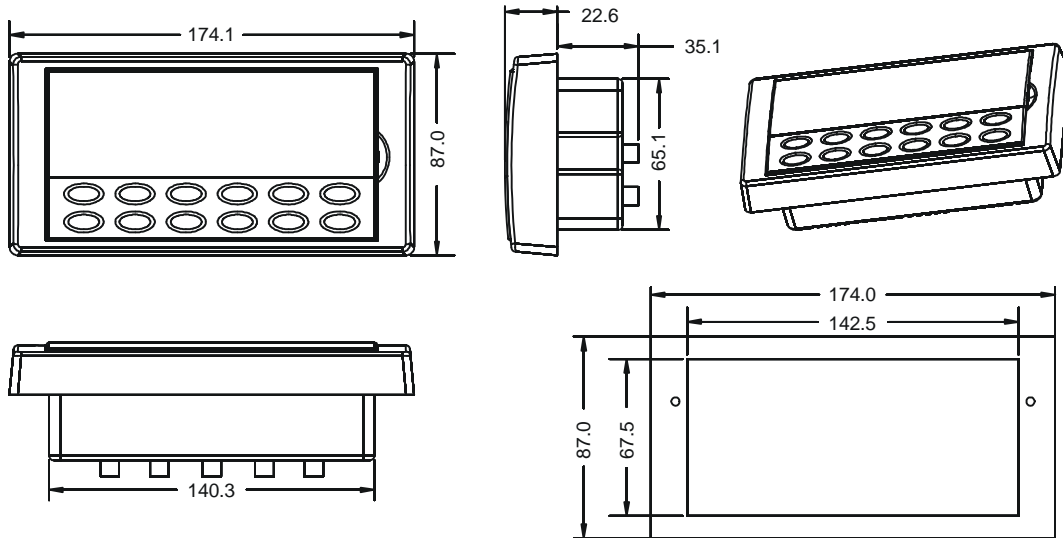
2.1.2 Rear Panel



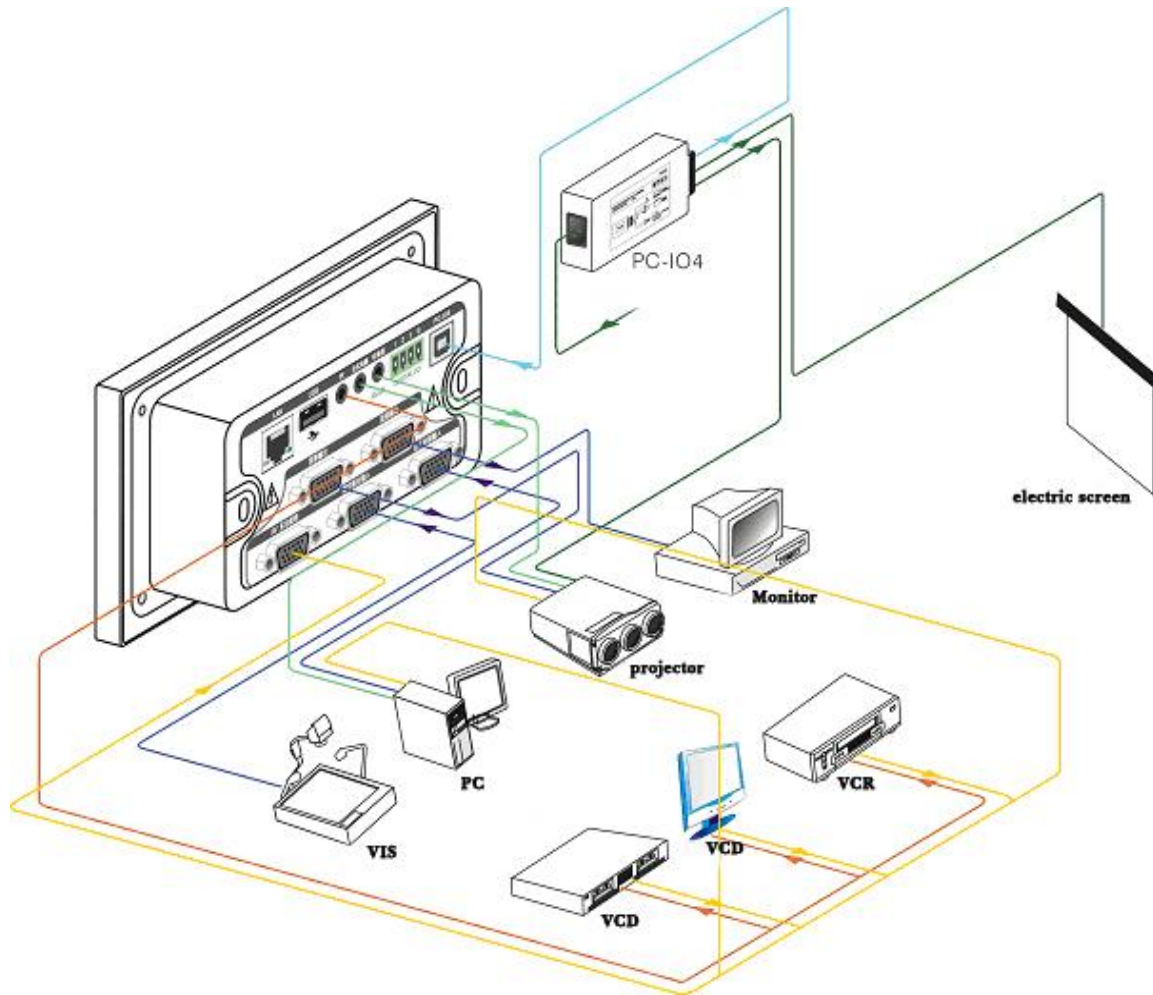
LAN	LAN Directly connect to the Ethernet port on front panel.
USB 	USB Directly connect to the USB port on rear panel
IR	IR code sending port Send IR control code to external device by using IR transmission stick, such as DVD、VCD. Steps: Plug the socket in the infrared transmission stick into the jack of infrared transmission port in the host, and place the transmission head close to the infrared receiving window in the application equipment, and keep it in correct direction
PC	PC Connect to computer and can be controlled by software
Programmable	Programmable port Programmable serial interface, send RS232 code
DIGITAL I/O	DIGITAL I/O The first I/O channel is used to begin class, the second I/O channel is used to finish class, and the third I/O channel is power supply which control 8 switch channels simultaneously by transmit eight codes at one time
PC-IO4	PC-IO4 Connect to PC-IO4 and supply with power. PC-IO4 also can supply electric screen and projector with power to control them
Projector output	Projector output Connect to projector, output VGA signal to projector
MONITOR output	MONITOR OUTPUT Connect to VGA monitor, output any VGA signal.
AV	AV multifunction line

multifunction line	Connect to multifunction AV signal cable, including 4 AV signals and 1 audio signal of desktop computer 3 AV signal input: VCD TV VCR 1 AV signal output 1 Audio signal: PC
VIS input	VIS input Connect to digital presentation platform and input the VGA signal
PC input	PC input Connect to desktop computer VGA interface, adopting standard 15HDF interface

2.1.3 Hole Dimension (unit: mm)

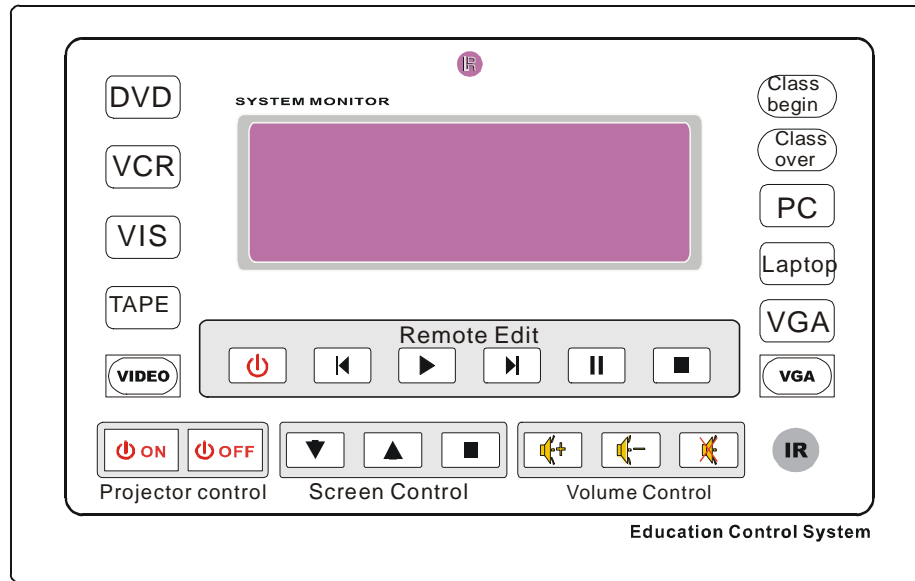


2.1.4 Connection



2.2 PC-1200 function

2.2.1 Front Panel



Class begin

Class begin

Press the CLASS BEGIN button to open a class with the action of dropping down the electromotive screen and turning on the projector then transmitting the IR code or the RS232 command of opening the projector after 6 seconds delay.

Notice: It will not function anything to repeat pressing the CLASS BEGIN button. The other

NOTE buttons will not work before pressing the CLASS BEGIN button. ;

Class over

Class over

Press the CLASS OVER button to close a class with the action of raising the electromotive screen and transmitting the IR code or the RS232 command of closing the projector then turning off the projector after 3 minutes delay. The time of delay is displayed on the VFD displayer and can be reset

by the control software on the console PC. After pressing the CLASS OVER button, all the other buttons except the CLASS BEGIN is ineffectual.

Class over delay time: 0~60 min;

Projector power off delay time: 2~6 min;

.NOTE. buttons will not work before pressing the CLASS BEGIN button.

SYSTEM MONITOR

SYSTEM MONITOR

VFD displayer with time and date display function and operation feedback.



IR window

Receive IR code when IR learning

VCD














Signal switch

VCR

Press "VCD" to transmit AV signals to projector and amplifier.

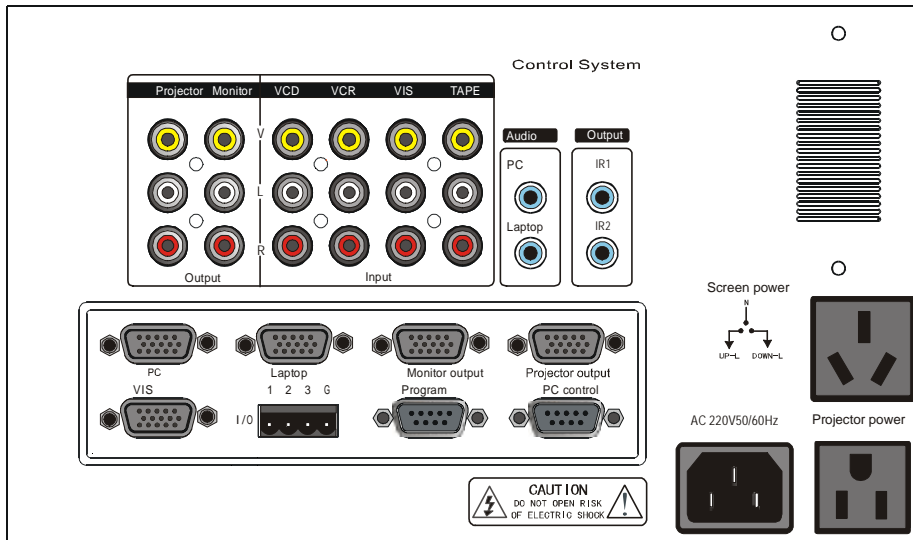
VIS

Press "VCR" to transmit AV signals to projector and amplifier

TAPE	<p>Press “VIS” to transmit AV signals to projector and amplifier</p> <p>Press “TAPE” to transmit AV signals to projector and amplifier</p>
PC	VGA signal switch
NOTEBOOK	<p>Select the input source from DVD, VCR, VIS and TAPE. For example, when pressing DVD, the audio and video signal of DVD will be switched to the output channels of PROJECTOR and MONITOR.</p> <p>And the REMOTE EDIT buttons only have effects on DVD player.</p>
VIDEO	Projector video
	Press “VIDEO” switch to video signal input, transmit RS232 and IR codes
VGA	Projector PC signal
	Press “VGA” switch to VGA signal input, transmit RS232 and IR codes
projector	Projector power
ON OFF	<p>Control the projector status by “ON” and “OFF” buttons. Select the input source of projector by “VIDEO” and “VGA” buttons. It must recording RS232 codes before using it.</p>
Remote edit	<p>Remote edit</p> <p>Use IR transmit port to control VCD, VCR etc..</p> <p> Power</p> <p> choose forward</p> <p> play</p> <p> choose backward</p> <p> pause</p> <p> stop</p> <p>NOTE Perform IR learning before using them</p>
Screen control	<p>Screen control</p> <p> move down</p> <p> move up</p> <p> stop</p>
Volume control	<p>Volume control</p> <p> volume up</p> <p> volume down</p> <p> mute</p>
	<p>IR learning</p> <p>Press this button to start IR learning.</p>

CAUTION Must finish connecting , IR learning and codes recording then to use it.

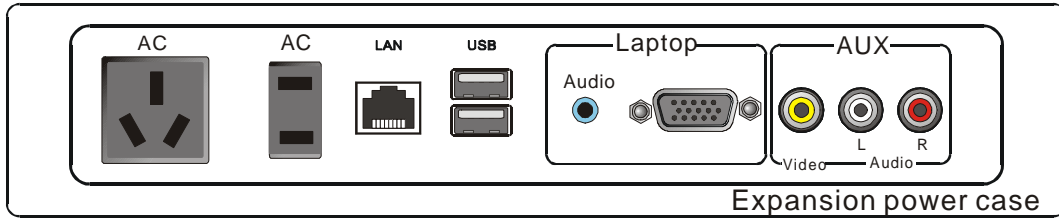
2.2.2 Rear Panel



Projector	Signal output Connect to projector video and amplifier audio ports, output them to projector and amplifier
monitor	Signal output Connect to monitor video and audio port, output them to monitor
VCD	Signal input port
VCR	VCD Connect to VCD video and audio port, then input them
VIS	VCR Connect to VCR video and audio port, then input them
TAPE	VIS Connect to VIS video and audio port, then input them TAPE Connect to TAPE video and audio port, then input them
Audio input	PC, laptop audio signal input
PC	PC input PC audio signal
Laptop	Laptop input laptop audio signal
output	IR1、IR2 two ways
IR1	IR1、IR2 transmit IR code to control external device. Use together with IR transmission stick. Connection: plug the stick in the jack and the head of stick points to device.
IR2	
PC	VGA signal input Input the VGA signal of PC
Laptop	VGA signal input input the VGA signal of laptop
VIS	VGA signal input input the VGA signal of VIS
I/O	I/O input/output The first channel used for class begin ; The second channel used for class over ; The third channel is sequence power, transmitting 8 codes to control IO-8

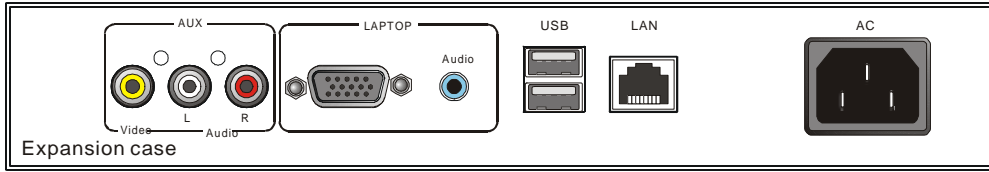
programmable	programmable transmit RS232 codes
Computer control	Computer control connect to COM port to control host by computer
Projector output	VGA output port Connect to projector, output the any signal of PC, laptop or VIS to projector. Switching by press "PC/NOTEBOOK/VIS"
Monitor output	VGA monitor output Output VGA signal from PC to monitor
AC 110V/220V	AC 110V/220V Supply power to host
Electric screen power	electric screen power supply power to electric screen and control it to up, down and stop
Projector power	Projector power supply power to projector

2.2.3 Expansion power case front panel



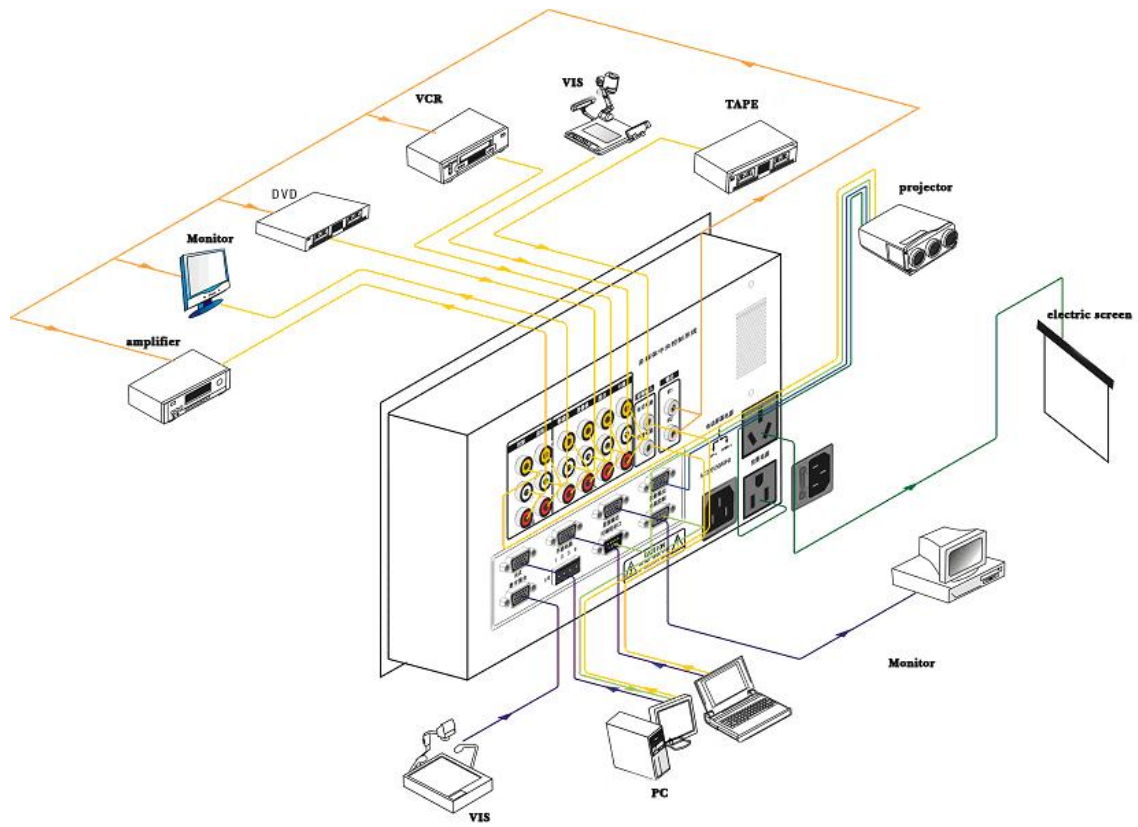
AC 110V/220V OUT	AC 110V/220V OUT AC 110V/220V, supply power to external device
AC 110V/220V	AC 110V/220V AC 110V/220V, supply power to external device
LAN	LAN Connect directly to the LAN port on rear panel, also can connect to Ethernet
USB	USB Connect directly to the USB port on rear panel If connect computer to rear USB, it is easy to make USB store device and PC contacted.
laptop	Laptop VGA、 audio signal input Connect to VGA and audio port of laptop in order to input computer VGA and audio signals to this case. This design is convenient to get laptop connect to system.
AUX	AUX AV signal input Connect directly to rear AV port.

2.2.4 Rear Panel



AUX	AUX AV signal input Connect directly to rear AV port.
laptop	Laptop VGA、 audio signal input Connect to VGA and audio port of laptop in order to input computer VGA and audio signals to this case. This design is convenient to get laptop connect to system.
USB	USB Connect directly to the USB port on rear panel If connect computer to rear USB, it is easy to make USB store device and PC contacted.
LAN	LAN Connect directly to the LAN port on rear panel, also can connect to Ethernet
AC 110V/220V	AC 110V/220V Power supply


2.2.5 Connection



2.3 PC-3900II Function

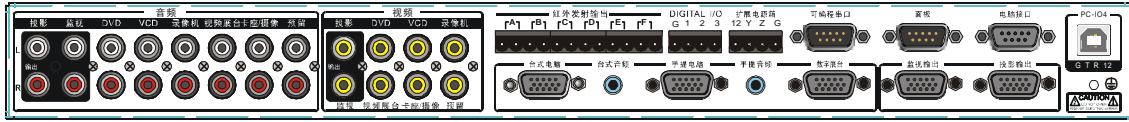
2.3.1 Front Panel



MIC	MIC port Connect to MIC
Power	Power indicator Light on when power on
Act indicator	Act indicator Blinks when there is activity
Recording status	Recording status indicator Light on when IR learning
	IR learning window Point remote to this window to send IR code
IR learning	IR learning button Press this button to start IR learning

CAUTION Must finish connecting, IR learning and codes recording then to use it.

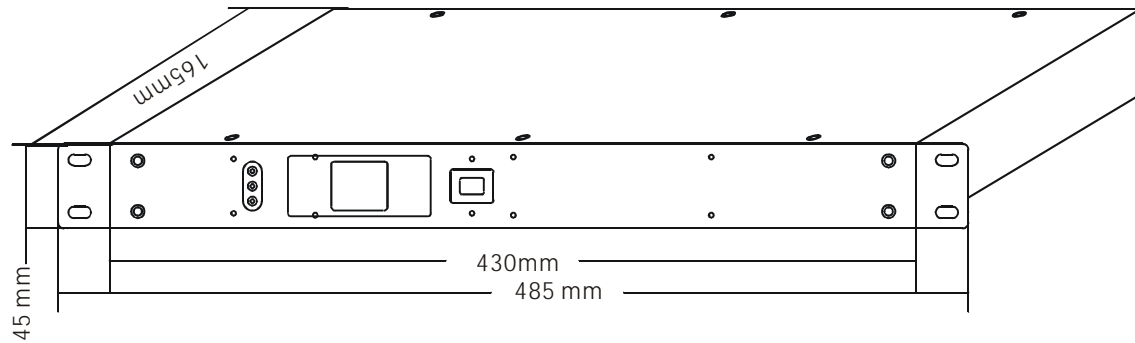
2.3.2 Rear Panel



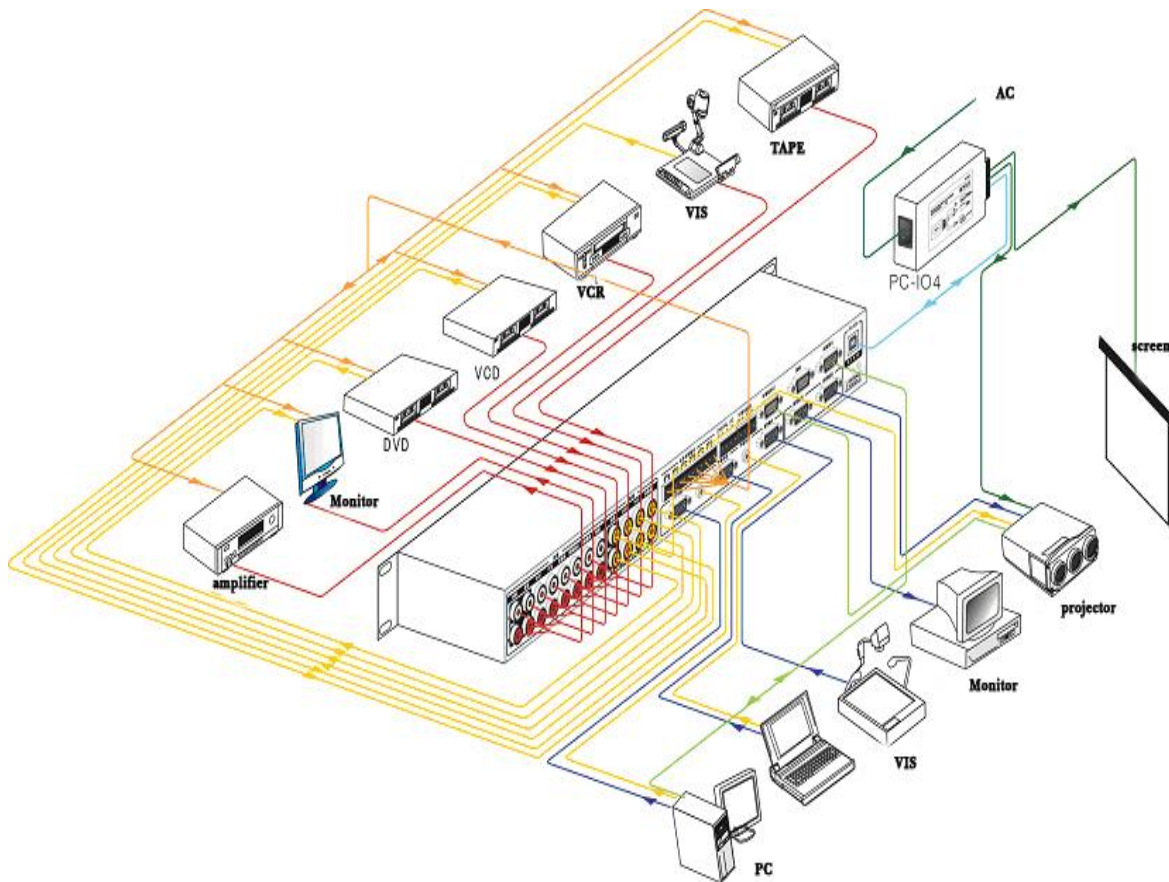
projector	Projector audio、 video signal output output audio and video signal to projector
monitor	Video monitor audio、 video signal output Output audio and video signal to monitor
DVD	DVD audio、 video signal input Input audio and video of DVD
VCD	VCD audio、 video signal input Input audio and video of VCD
VCR	VCR audio、 video signal input Input audio and video of VCR
Video VIS	Video VIS audio、 video signal input Input audio and video of VIS
TAPE/vidicon	TAPE audio、 video signal input Input audio and video of TAPE or Vidicon
AUX	AUX audio、 video signal input Input audio and video of TV or DVD
IR output	IR Code transmission port Send IR control code to external device by using IR transmission stick, such as DVD、 VCD. Steps: Plug the socket in the infrared transmission stick into the jack of infrared transmission port in the host, and place the transmission head close to the infrared receiving window in the application equipment, and keep it in correct direction. CAUTION recording IR codes before using it
DIGITAL I/O	DIGITAL I/O input output The first I/O channel is used to begin class, the second I/O channel is used to finish class, and the third I/O channel is power supply which control 8 switch channels simultaneously by transmit eight codes at one time.
expansion case	expansion case Connect to expansion power case
programmable port	programmable port Connect to the RS232 interface of projector
panel	Control panel Connect to 18 keys panel or 39 keys panel, use them to control other device
computer port	Computer port Computer Connection Connect to COM, control the host by programming on software.

PC-IO4	PC-IO4 Connect to PC-IO4, supplying power to system, electric screen and projector.
PC PC audio	VGA、 audio signal input input VGA signal from PC input Audio signal from PC
laptop audio	Laptop VGA、 audio signal input input VGA signal from laptop input Audio signal from laptop
VIS	VIS VGA signal input input VGA signal from VIS
monitor output	VGA monitor VGA signal output Monitor PC by connecting to VGA signal input port
projector output	Projector VGA signal output output VGA signal to projector

2.3.3 Dimension(Unit: mm)



2.3.4 Connection



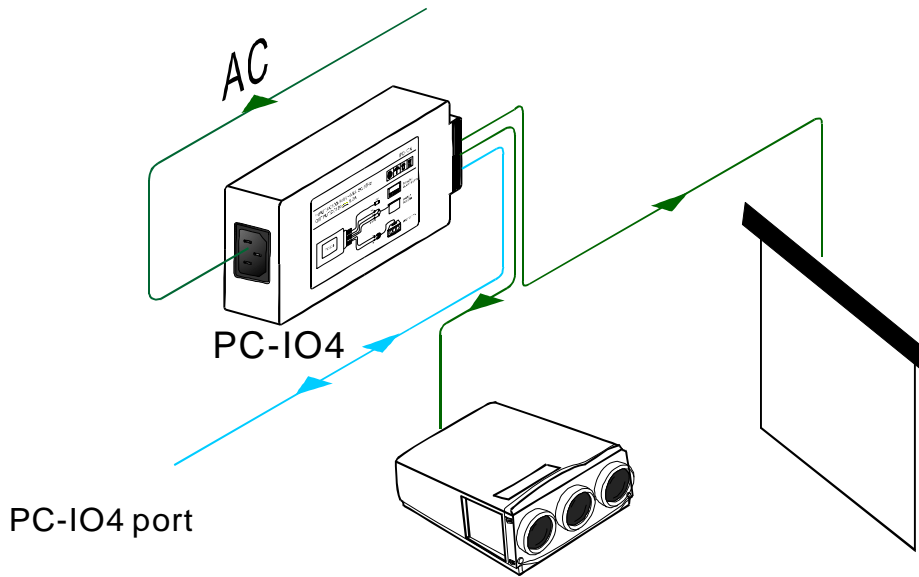
3 Expanded module & Wires

3.1 PC-IO4

3.1.1 Function

CR-PCIO4 is a power controller which is able to communicate and supply power to education control system through USB port. In addition, it can control the main screen and projector. It can delay to open projector and screen when the education center host is on and delay to close projector and screen when the education center host is off. Delaying time can be setup by education system software. For instance, pressing class begin on the host, this device can receive the order, controlling open/close screen, and delay to open projector.

3.1.2 Connection



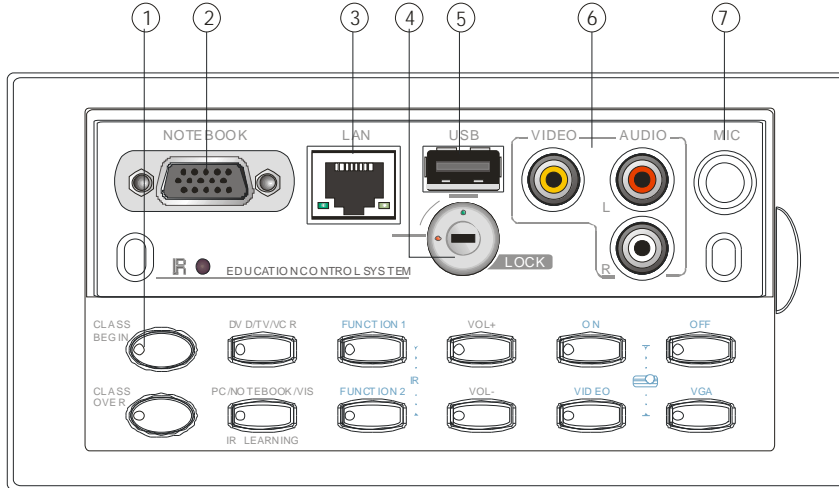
3.2 Cable

PC-950 diagram of program control cable			
Pin	RS-232	Function	
1	—	No	
2	RX	Receive	
3	TX	Transmit	
4	—	No	
5	GND	Ground	
6	—	No	
7	—	No	
8	—	No	
9	—	No	
PC-950 diagram of computer software control cable			
Pin	RS-232	Function	
1	—	No	
2	RX	Receive	
3	—	No	
4	—	No	
5	GND	Ground	
6	—	No	
7	—	No	
8	—	No	
9	—	No	

PC-1200/PC-3900II program control cable			
	Pin	RS-232	Function
	1	—	No
	2	RX	Receive
	3	TX	Transmit
	4	—	No
	5	GND	Ground
	6	—	No
	7	—	No
	8	—	No
	9	—	No
PC-1200/PC-3900II computer software control cable			
	Pin	RS-232	Function
	1	—	No
	2	RX	Receive
	3	—	No
	4	—	No
	5	GND	Ground
	6	—	No
	7	—	No
	8	—	No
	9	—	No
AV line connection			
	Port	Function	
	VCD	VCD	AV signal input
	TV	TV	AV signal input
	VCR	VCR	AV signal input
	Projector	Projector	AV signal output
	PC	PC	AV signal input
Electric screen connection			
	port	function	
	UP-L	Screen up	
	DOWN-L	Screen down	
	N	Zero line	
	M	Electric engine	

4 Panel use

4.1 Front Panel



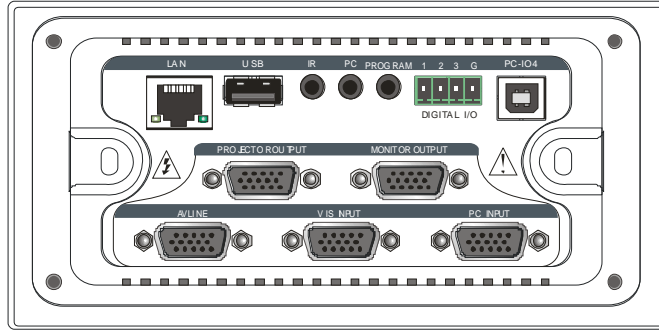
Notebook	<p>Portable Computer VGA Signal Input Port</p> <p>Connect to portable computer VGA port, adopting standard 15HDF interface</p>
LAN	<p>LAN</p> <p>Directly connect to the Ethernet port on rear panel</p>
USB	<p>USB</p> <p>Directly connect to the USB port on rear panel</p>
Video Audio	<p>AV Signal Input</p> <p>Input the AV signal from external devices to the system. By default setting, the AV signal transmits to amplifier or projector output only when user switches input from projector to portable computer</p>
MIC	<p>Microphone Port</p> <p>Connect to microphone.</p>
IR	<p>IR Learning</p> <p>Point the remote to the window to send IR code.</p>
Electric lock	<p>Electric lock</p> <p>Only a special key can open this lock. It equals to the function of “begin class” and “finish class”.</p> <p>NOTE No button is controllable when locked.</p>
Begin class	<p>Begin class button</p> <p>Press” CLASS BEGIN”, electrical screen moves down and projector power on. 7 seconds later the projector start working. Nothing would perform when pressing “CLASS BEGIN” again</p> <p>NOTE Only after pressing the “CLASS BEGIN” can other button be</p>


	controllable.
Finish class	<p>Finish class button</p> <p>Press "CLASS OVER", the system carry out finish class order at a fixed time. When perform the order, the electrical screen moves up and the projector will be cut off through RS232 code. At this moment, only "CLASS BEGIN" is controllable.</p> <p>Finish class delay time: 0~60 min</p> <p>Close projector delay time: 2~6 min</p>
	<p>NOTE Only after pressing the "CLASS BEGIN" can other button be controllable.</p>
DVD/TV/VCR	<p>DVD/TV/VCR</p> <p>Press "DVD/TV/VCR" in order to transmit AV signal from DVD to projector, and transmit the RS232 code(the "DVD/TV/VCR" indicator light turns red when switch to DVD); Press for the second time, it will transmit AV signal from TV to projector(the "DVD/TV/VCR" indicator light turns green when switch to TV); Press for the third time, it will transmit AV signal from VCR to projector(the "DVD/TV/VCR" indicator light turns orange when switch to VCR)</p>
PC/NOTEBOOK/VIS	<p>PC/NOTEBOOK/VIS</p> <p>Press "PC/NOTEBOOK/VIS" in order to transmit VGA and audio signals from computer to projector, and send the RS232 code(the "PC/NOTEBOOK/VIS" indicator light turns red when switch to PC); Press for the second time, it will transmit VGA and audio signals from laptop computer to projector(the "PC/NOTEBOOK/VIS" indicator light turns green when switch to NOTEBOOK); Press for the third time, it will transmit VGA signal from digital platform to projector(the "PC/NOTEBOOK/VIS" indicator light turns orange when switch to VIS)</p>
IR Learning	<p>IR Learning button</p> <p>The buttons include "FUNCTION1、FUNCTION2、ON、OFF、VIDEO、VGA"</p> <p>Steps:</p> <ul style="list-style-type: none"> n Press "IR LEARNING" for 2 seconds, it will turn to IR Learning mode and other buttons become uncontrollable. The "IR LEARNING" will light for 10 seconds, and then it light off if not receives any IR code. n Point the remote controller directly to IR receiving window and press corresponding buttons, then 6 IR learning buttons blink after receiving the IR code. It will quit learning mode 10 seconds later when not receives any IR code. n Press the learning button within 10 seconds in order to make IR learning successful. Then it lights off after blinking 3 times.
Function 1	Function 1、 sending IR codes after IR learning
Function 2	Press for 3 seconds to move down screen
	Function 2、 sending IR codes after IR learning
	Press for 3 seconds to move up screen
Volume+	Volume+、 Volume-
Volume-	VOL+ output volume up
	VOL- output volume down
ON	ON OFF Video VGA
OFF	ON——Send IR and RS232 codes to open the projector when press "ON".
Video	OFF——Send IR and RS232 codes to close the projector when press "Off".

VGA	VIDEO——Send IR and RS232 codes of projector video when press “VIDEO”. VGA——Send IR and RS232 codes of computer signal when press “VGA”.
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CAUTION Must finish connecting, IR learning and codes recording then to use it.

4.2 Rear Panel



LAN	LAN Directly connect to the Ethernet port on front panel.
USB 	USB Directly connect to the USB port on rear panel
IR	IR code sending port Send IR control code to external device by using IR transmission stick, such as DVD、VCD. Steps: Plug the socket in the infrared transmission stick into the jack of infrared transmission port in the host, and place the transmission head close to the infrared receiving window in the application equipment, and keep it in correct direction
PC	PC Connect to computer and can be controlled by software
Programmable	Programmable port Programmable serial interface, send RS232 code
DIGITAL I/O	DIGITAL I/O The first I/O channel is used to begin class, the second I/O channel is used to finish class, and the third I/O channel is power supply which control 8 switch channels simultaneously by transmit eight codes at one time
PC-IO4	PC-IO4 Connect to PC-IO4 and supply with power. PC-IO4 also can supply electric screen and projector with power to control them
Projector output	Projector output Connect to projector, output VGA signal to projector
MONITOR OUTPUT	MONITOR OUTPUT Connect to VGA monitor, output any VGA signal.
AV	AV multifunction line

multifunction line	Connect to multifunction AV signal cable, including 4 AV signals and 1 audio signal of desktop computer 3 AV signal input: VCD TV VCR 1 AV signal output 1 Audio signal: PC
VIS input	VIS input Connect to digital presentation platform and input the VGA signal
PC INPUT	PC INPUT Connect to desktop computer VGA interface, adopting standard 15HDF interface

5 IR Recording and learning

You must to perform IR learning before using the device such as VCD, projector, VCR etc. The all-purpose buttons: ON, OFF, Video, PC, Class begin, Class over.

5.1 PC-950 IR Recording Methods and Steps

The buttons include "FUNCTION1、FUNCTION2、ON、OFF、VIDEO、VGA"

Steps:

- n Press "IR LEARNING" for 2 seconds, it will turn to IR Learning mode and other buttons become uncontrollable. The "IR LEARNING" will light for 10 seconds, and then it light off if not receives any IR code.
- n Point the remote controller directly to IR receiving window and press corresponding buttons, then 6 IR learning buttons blink after receiving the IR code. It will quit learning mode 10 seconds later when not receives any IR code.

Press the learning button within 10 seconds in order to make IR learning successful. Then it lights off after blinking 3 times.

5.2 PC-1200 IR Recording Methods and Steps

1、 Press the IR button on the front panel to start IR learning. At this time, the number 99 will be displayed on the VFD displayer. The other buttons are ineffectual. If no any IR learning actions are detected in 10 seconds after entering IR learning mode, the VFD will display the number 4444 to indicate the failed IR learning.

2、 Aim the transmitter of the remote controller at the top edge of the VFD displayer and press the function button on the remote controller, for example the PLAY button. If the IR code is received, the PC-1000 will give users 60 seconds to save the IR code to a proper button. In the example, users should press the PLAY button on the front panel to save its IR code in 60 seconds. Then, the VFD will display the number 8888 to indicate a successful IR learning. Otherwise, it will display 4444 for the failed operation.

NOTE :

1 Pressing the Projector control buttons ON, OFF, VIDEO and VGA can transmit the IR codes and the RS232 serial commands at the same time. That is to say, this kind of button will cause IR signal

transmitting at the IR port and RS232 serial signal transmitting at the PROGRAMMABLE serial port on the rear panel at the same time. Therefore, users can select the communication way of controlling the projector upon the engineering situation.

2 The 6 REMOTE EDIT buttons have 4 groups of controlling codes to control the DVD, VCR, VIS and TAPE according to the selection of the A/V input source. Consequently, they have 24 IR codes to learn.

3 The buttons on the application software can not learn IR codes, but pressing them can function to transmit the IR code command if it has been already learned and saved by the PC-1000 host.

5.3 PC-3900 IR Recording Methods and Steps

- 1 There are three methods when the host get into IR learning state:
start computer / open Multimedia Central Control System / open control panel of relevant equipment, press "Infrared Learning";
Press "Learning" on PC3900 front panel;
Press "IR LEARNING" on WM12 panel for at least 2 seconds ;
- 2 Indicator of Code Recording in the front panel of the host is on;
- 3 Point the remote transmission port directly to the "IR Receiving" window on the host front panel, apart from the host about 3-5 cm.
- 4 Press any function button of remote controller within 10 seconds.
- 5 The "Code recording" indicator in the host panel blinking means infrared signal has been received.
- 6 Press corresponding function button on software or panel within 10 seconds.
- 7 The "Code Recording" indicator lighting off means learning has finished.
- 8 Then the infrared function keys on the software or panel can emulate corresponding functional operation in the remote controller.

If the system can not control the device yet, that means the recording process is not correct, please try once more!

5.4 Following situations may lead to IR code recording incorrectly

- a) The battery of the remote controller is low
- b) The remote controller is beyond the effective distance
- c) The transmission head of the controller does not align with the infrared receiving window
- d) The pressing time is not enough or too long
- e) The time of host confirming the code of the controller exceeds default time
- f) Disturbed by external infrared

6 Education Control System software

6.1 PC-950 software instruction

software function

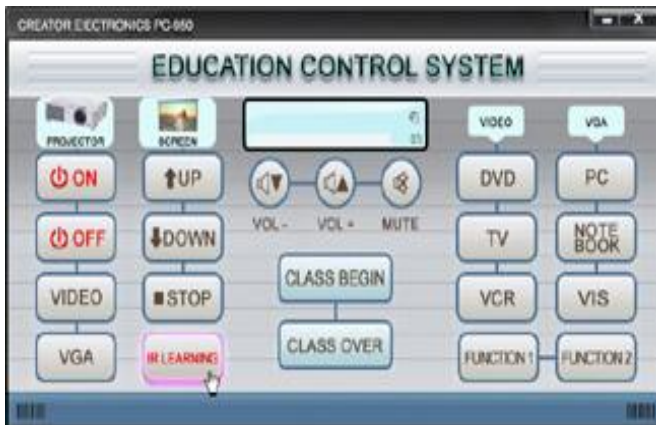


PC-950 main window

This software mainly apply to PC-950
 PC-950 software has these functions:

- n Output signal choosing;
- n IR learning;
- n Control codes recording;
- n Control electric screen;
- n Volume control;
- n Transmit IR codes;
- n Switch on projector, video/pc signal switch

IR learning steps



Step 1

Left click "IR Learning" to start, all the buttons turns gray and there is 10 seconds for you to perform.

NOTE Press the button on host for 2 seconds to start IR learning.



Step 2

Point the remote directly to IR learning window and press the button need to learning, after the host receive codes, all the buttons can be performed IR learning will light on. Then press corresponding button on these 6 buttons. Then the system recover to normal.

Recording the RS232 code manually



setting : click any button of “ON”, “OFF”, “Video”, “PC”, then input RS232 codes and confirm it.

Baud rate : set baud rate

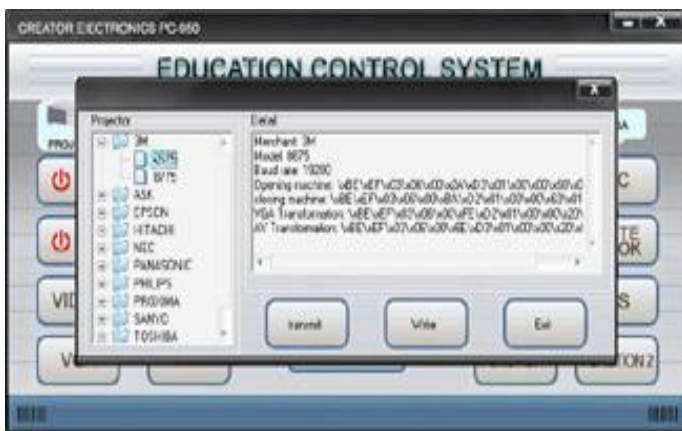
Parity: set the parity

Code : fill in RS232 codes

NOTE RS232 codes principle: fill in with hex form, add \x on head

For example please see left picture :

get projector RS232 codes



This software has its own RS232 codes bank, such as 3M、ASK、EPSON, right click the blank and choose “projector preset” to get RS232 codes bank.

For example, choose 3M 8675 projector’s code and press “write”, it will fill the codes automatically.

button function

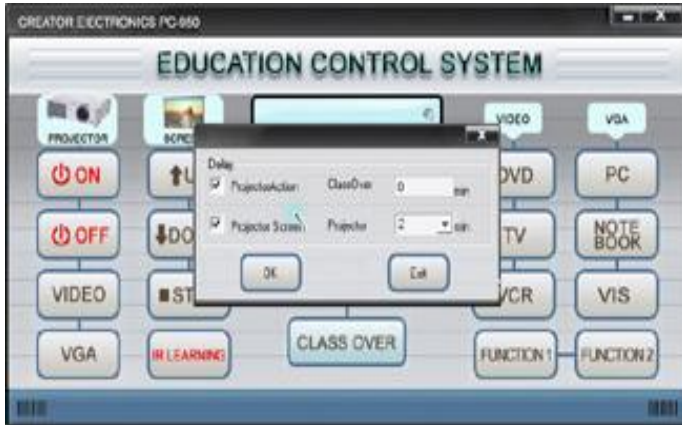


class begin

click “class begin” to star class

right click it to set related action.

If you tick all of them, when perform class begin, the projector and electric screen will be on.



class over

Left click mouse to finish class.

Right click mouse to open following window, and you can set whether allow “Projector Action” Education Control System and “Projector Screen”. Tick what you need and click “Download” to confirm.

You can also set the delaying time.

Setting range Class Over: 0~60min

Setting range Projector: 2 ~ 6min

Then confirm it.

After choosing “Projector Action” and “Projector Screen”, it will transmit RS232 code and IR code to close both projector and projector screen.



projector control:

Project controlling , including “ ON、 OFF、 VIDEO、 VGA” .

First, you must fill RS-232 code in “ON OFF VIDEO VGA”. For example, right click “ON”, then set “Baud、 Byte size、 Parity、 Stop Bits” properly, fill RS-232 code in “Code” and click “Download”. Others share the same way.

Notice: Please set RS232 code according to actually used projector codes.



electric motion control

Up electric screen up

Down electric screen down

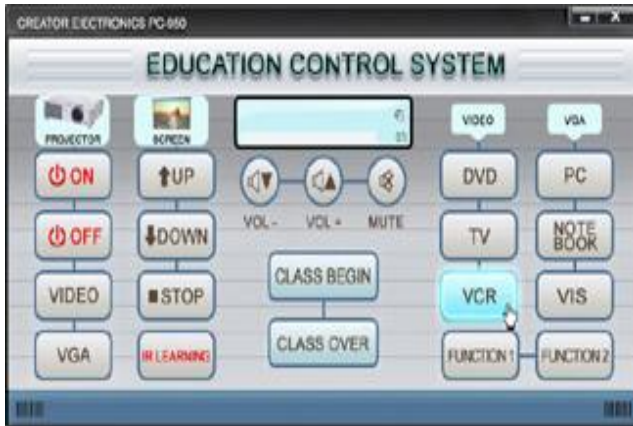
Stop electric screen stop

volume control

volume- volume down

volume+ volume up

mute mute the host



Video signal

DVD input AV signals from DVD to projector and amplifier

TV input AV signals from TV to projector and amplifier

VCR input AV signals from VCR to projector and amplifier

Computer signal

PC output VGA and audio signals from PC to projector and amplifier

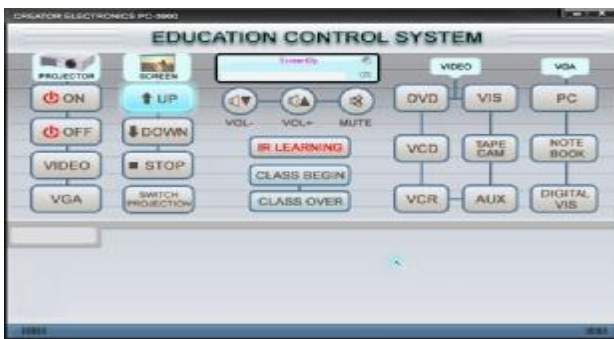
Laptop output VGA and audio signals from laptop to projector and amplifier

VIS output VGA and audio signals from VIS to projector and amplifier

NOTE Recording codes before using

6.2 PC-1200 software

software function



This software mainly apply to PC-1200

PC-1200 software has these functions:

- n Output signal choosing;
- n IR learning;
- n Control codes recording;
- n Control electric screen;
- n Volume control;
- n Transmit IR codes;
- n Switch on projector, video/pc signal switch

IR learning steps



Step 1

Choose the device

Step 2

Left click “IR Learning” to start, all the buttons turns gray and there is 10 seconds for you to perform.

NOTE Press the button on host or 2 seconds to start IR learning.



Step 3

Point the remote directly to IR learning window and press the button need to learning, after the host receive codes, all the buttons can be performed IR learning will light on. Then press corresponding button on these 6 buttons. Then the system recover to normal.

NOTE Can be performed IR learning buttons: DVD,VCR,TAPE,VIS,ON,OFF,Video,PC

Input RS232 codes



setting: click any button of “ON”, “OFF”, “Video”, ”PC”, then input RS232 codes and confirm it.

Baud rate : set baud rate

Parity: set the parity

Code : fill in RS232 codes

NOTE RS232 codes principle: fill in with hex form, add \x on head

For example please see left picture:

get projector RS232 codes



This software has its own RS232 codes bank, such as 3M、ASK、EPSON, right click the blank and choose “projector preset” to get RS232 codes bank.

For example, choose 3M 8675 projector’s code and press “write”, it will fill the codes automatically.

button function



class begin

click “class begin” to star class
right click it to set related action.

If you tick all of them, when perform class begin, the projector and electric screen will be on.

Class begin delay time: : 0~45 min

If you choose the related action, set the time:30 min



class over

Left click mouse to finish class.

Right click mouse to open following window, and you can set whether allow “Projector Action” Education Control System and “Projector Screen”. Tick what you need and click “Download” to confirm.

You can also set the delaying time.

Setting range Class Over: 0~60min

Setting range Projector: 2 ~ 6min

Then confirm it.

After choosing “Projector Action” and “Projector Screen”, it will transmit RS232 code and IR code to close both projector and projector screen.



projector control:

Project controlling, including “ON、OFF、VIDEO、VGA” .

First, you must fill RS-232 code in “ON OFF VIDEO VGA”. For example, right click “ON”, then set “Baud、Byte size、Parity、Stop Bits” properly, fill RS-232 code in “Code” and click “Download”. Others share the same way.

NOTE: Please set RS232 code according to actually used projector codes.



electric motion control

- Up electric screen up
- Down electric screen down
- Stop electric screen stop

volume control

- volume- volume down
- volume+ volume up
- mute mute the host



Video signal DVD

click VCR, output the AV signal to projector and amplifier

Also, you can control the VCR by using software.

NOTE Recording RS232 codes before using



Video signal VCR

click VCR, output the AV signal to projector and amplifier.

Also, you can control the VCR by using software.

NOTE Recording RS232 codes before using



Video signal TAPE

click TAPE, output the signal to projector.

Also, you can control the TAPE by using software.

NOTE Recording RS232 codes before using



Video signal video VIS

click VIS, output the signal to projector.

Also, you can control the VIS by using software.

NOTE Recording RS232 codes before using



Computer signal

PC output VGA and audio signals from PC to projector and amplifier

Laptop output VGA and audio signals from laptop to projector and amplifier

VIS output VGA and audio signals from VIS to projector and amplifier

NOTE Recording RS232 codes before using

6.3 PC-3900II software

software function



This software mainly apply to PC-3900II
 PC-3900II software has these functions:

- u Output signal choosing;
- u IR learning;
- u Control codes recording;
- u Control electric screen;
- u Volume control;
- u Transmit IR codes;
- u Switch on projector, video/pc signal switch

IR learning steps



Step 1

Choose the device

Step 2

Left click “IR Learning” to start, all the buttons turns gray and there is 10 seconds for you to perform.

NOTE Press the button on host or 2 seconds to start IR learning.



Step 3

Point the remote directly to IR learning window and press the button need to learning, after the host receive codes, all the buttons can be performed IR learning will light on. Then press corresponding button on these 6 buttons. Then the system recover to normal.

Input RS232 codes



setting : click any button of “ON”, “OFF”, “Video”, “PC”, then input RS232 codes and confirm it.

Baud rate : set baud rate

Parity: set the parity

Code : fill in RS232 codes

NOTE RS232 codes principle: fill in with hex form, add lx on head

For example please see left picture:

get projector RS232 codes



setting : click any button of “ON”, “OFF”, “Video”, “PC”, then input RS232 codes and confirm it.

Baud rate : set baud rate

Parity: set the parity

Code : fill in RS232 codes

NOTE RS232 codes principle: fill in with hex form, add lx on head

For example please see left picture:

button function



class begin

click “class begin” to star class
right click it to set related action.

If you tick all of them, when perform class begin, the projector and electric screen will be on.

Class begin delay time: : 0~45 min

If you choose the related action, set the time:30 min



class over

Left click mouse to finish class.

Right click mouse to open following window, and you can set whether allow “Projector Action” Education Control System and “Projector Screen”. Tick what you need and click “Download” to confirm.

You can also set the delaying time.

Setting range Class Over: 0~60min

Setting range Projector: 2 ~ 6min

Then confirm it.

After choosing “Projector Action” and “Projector Screen”, it will transmit RS232 code and IR code to close both projector and projector screen.



projector control:

Project controlling, including “ON、OFF、VIDEO、VGA” .

First, you must fill RS-232 code in “ON OFF VIDEO VGA”. For example, right click “ON”, then set “Baud、Byte size、Parity、Stop Bits” properly, fill RS-232 code in “Code” and click “Download”. Others share the same way.

NOTE: Please set RS232 code according to actually used projector codes.



electric motion control

Up electric screen up

Down electric screen down

Stop electric screen stop

volume control

volume- volume down

volume+ volume up

mute mute the host



Video signal DVD

click DVD, output the AV signal to projector and amplifier

Also, you can control the DVD by using software.

NOTE Recording RS232 codes before using



Video signal VCD

click VCD, output the AV signal to projector and amplifier

Also, you can control the VCD by using software.

NOTE Recording RS232 codes before using



Video signal VCR

Click VCR, output the AV signal to projector and amplifier.

Also, you can control the VCR by using software.

NOTE Recording RS232 codes before using



Video signal video VIS

Click VIS, output the signal to projector.

Also, you can control the VIS by using software.

NOTE Recording RS232 codes before using



Video signal TAPE

Click TAPE, output the signal to projector.

Also, you can control the TAPE by using software.

NOTE Recording RS232 codes before using



Video signal AUX

Click AUX, output the signal to monitor. Then click switch projector to output signal to projector and amplifier.

Also, you can control the AUX device by using software.

NOTE Recording RS232 codes before using



Computer signal

PC output VGA and audio signals from PC to projector and amplifier

Laptop output VGA and audio signals from laptop to projector and amplifier

VIS output VGA and audio signals from VIS to projector and amplifier

NOTE Recording RS232 codes before using

6.4 Technical Specifications

Modes Specifications	PC-950	PC-1200	PC-3900II
Video			
Gain	0dB		
Bandwidth	100 MHz (-3dB), Full loaded 0-60MHz: $\leq +0.1\text{dB} \sim -0.1\text{dB}$		
Crosstalk sum	-50dB @ 5 MHz, -45dB @ 10 MHz		
Switching speed	200 ns (longest time)		
Signal type	Composite video		
Input interface	4 RCA	4 RCA	6 RCA
Output interface	1 RCA	1 RCA	2 RCA
Max/Min level	2.0V p-p		
Impedance	75 Ω		
Audio			
Gain	0dB		
Frequency respond	20 Hz ~ 20 kHz, $\pm 0.05\text{dB}$		
General harmonic	0.03% @ 1 kHz (default voltage)		
S/N	>80dB		
Segregation rate	<-80dB @ 1 kHz, full loaded		
CMRR	>75dB @: 20 Hz ~ 20 kHz		
Signal type	stereo, unbalanced		
Input interface	4 RCA 1 3.5mm stereo	5 RCA 2 3.5mm stereo	6 RCA 2 3.5mm stereo
Output interface	1RCA		
Impedance	input: >10 k Ω unbalanced, output: 50 Ω unbalanced		
Computer signal			
Input interface	3 VGA 15HD port		
Output interface	2 VGA 15HD port		
Input voltage	0.5-5.0V p-p		
Output voltage	4.0-5.0V p-p		
Impedance	input: 75 Ω output: 75 Ω		
voltage	DC12V	AC100V/220V	DC12V
Temperature	-10 $^{\circ}\text{C}$ ~ 60 $^{\circ}\text{C}$		
Message parameter	Baud rate: 1200 data: 8 stop: 1		
External dimension	174L \times 87W \times 57H	250L \times 158W \times 57H	485L \times 171W \times 45H

7 Troubleshooting & Maintenance

1. Can Not control the IR control system
 - A. This control button is carrying on IR learning or not;
 - B. Whether IR learning succeed or not;
 - C. Whether the infrared transmission stick connects to host correctly
 - D. Whether the infrared transmission stick connects to corresponding device correctly and it must connect to IR receiving window.

2. Projector displays: No signal input
 - A. No signal output from control center output port
 - B. What the Control center output does not accord with projector input signal type
 - C. No signals have been transmitted to center host.

3. The projector can not be controlled
 - A. IR learning succeed or not
 - B. The head of IR transmission stick does not connect to IR receiving window
 - C. The output port of IR transmission stick does not connect to control center
 - D. Long time pressing and short time pressing must be distinguished