COMM-TEC

UP-1200 Switching Scaler

Operating Instructions

Thank you for purchasing our product. Please be sure to read this instruction manual carefully before using our product.

Version 1.1

The meaning of symbols

■ Safety instructions

For your safe and correct use of equipments, we use a lot of symbols on the equipments and in the manuals, demonstrating the risk of body hurt or possible damage to property for the user or others. Indications and their meanings are as follow. Please make sure to correctly understand these instructions before reading the manual.

	This is A level product, which may cause radio interference in the living environment. In this case,users may need to take the feasible measures to get around the interference.
	Remind users that the dangerous voltage without insulation occurring within the equipment may cause people suffer from shock
	CE certification means that the product has reached the directive safety requirements defined by the European Union. Users can be assured about the use of it
	SGS certification means that the product has reached the quality inspection standards proposed by the world's largest SGS.
	This product passed the ISO9001 international quality certification (certification body: TUV Rheinland,Germany).
	Warning: in order to avoid electrical shock, do not open the machine cover, nor is the useless part allowed to be placed in the box. Please contact the qualified service personnel.

■ General information instructions

	It lists the factors leading to the unsuccessful operation or set and the relevant information to pay attention to

Important note

Warning

In order to ensure the reliable performance of the equipment and the safety of the user, please observe the following matters during the process of installation, use and maintenance:

The matters needing attention of installation

 Please do not use this product in the following places:the place of dust,soot and electric conductivity dust, corrosive gas, combustible gas; the place exposed to high temperature, condensation,wind and rain; the occasion of vibration and impact . Electric shock, fire, wrong operation can lead to damage and deterioration to the product, either;

In processing the screw holes and wiring, make sure that metal scraps and wire head will not fall into the shaft of controller, as it could cause a fire, fault, or incorrect operation;

When the installation work is over, it should be assured there is nothing on the ventilated face, including packaging items like dust paper. Otherwise this may cause a fire, fault, incorrect operation for the cooling is not free;

Should avoid wiring and inserting cable plug in charged state, otherwise it is easy to cause the shock, or electrical damage;

The installation and wiring should be strong and reliable,contact undesirable may lead to false action;

For a serious interference in applications, should choose shield cable as the high frequency signal input or output cable, so as to improve the anti-jamming ability of the system.

Attention in the wiring

Only after cutting down all external power source, can install, wiring operation begin, or it may cause electric shock or equipment damage;

This product grounds by the grounding wires .To avoid electric shocks, grounding wires and the earth must be linked together. Before the connection of input or output terminal, please make sure this product is correctly grounded;

Immediately remove all other things after the wiring installation. Please cover the terminals of the products cover before electrification so as to avoid cause electric shock.

Matters needing attention during operation and maintenance

Please do not touch terminals in a current state,or it may cause a shock, incorrect operation;

Please do cleaning and terminal tighten work after turning off the power supply. These operations can lead to electric shock in a current state;

Please do the connection or dismantle work of the communication signal cable , the expansion module cable or control unit cable after turning off the power supply, or it may cause damage to the equipment, incorrect operation;

Please do not dismantle the equipment, avoid damaging the internal electrical component;

Should be sure to read the manual, fully confirm the safety, only after that can do program changes,commissioning,start and stop operation;

Matters needing attention in discarding product

Electrolytic explosion:the burning of electrolytic capacitor on circuit boards may lead to explosion;

Please collect and process according to the classification, do not put into life garbage;

Please process it as industrial waste, or according to the local environmental protection regulations.

Contents

Chapter One: Overview

The UP-1200 is a new generation of scalers that can switch different types of signal input to an HDMI and HDBase output. It has 9 different input video signal sources: CVBS,(Y,Pb/Cb,Pr/Cr), VGA, HDMI and HDBaseT signals can be converted and switched to unified HDMI/HDBaseT signal outputs at an user-defined output resolution.

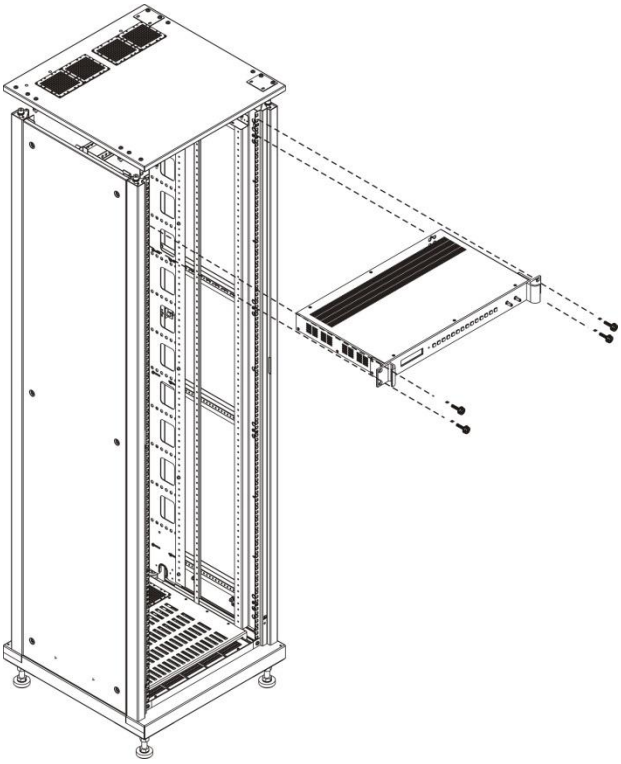
The UP-1200 also supports 9 unbalanced analog stereo audio inputs. The HDMI inputs and outputs support audio embedding an de-embedding. For controlling purposes the scaler offers front panel buttons, RS232, IR and Ethernet control as well as HDBaseT remote control. Therefor the UP-1200 can be widely used in broadcast environments, conference rooms, education facilities, command and control centers and other occasions.

1.1 Features

- Supports 9 video signal inputs:
  1x CVBS, 1xY,Pb/Cb,Pr/Cr, 2x VGA, 3x HDMI, 1x DisplayPort, 1xHDBaseT input;
- 2 video signal outputs:
  1x HDMI,1x HDBaseT
- 9 analog audio inputs
  unbalanced stereo, 20Hz~20KHz;
- stereo audio amplifier output:
  2x20W@4Ω
- Each audio input has a coarse volume , the output has a fine volume control;
- Input and output resolution can be up to WUXGA (1920x1200)
- Seamless switching without a blank screen or sync loss.
- Support for HDM 1.2a, HDCP1.3, Display Port 1.1
- Audio embedding and de-embedding for HDMI inputs and outputs
- Brightness and contrast adjustment
- Auto adjustment for VGA inputs
- EDID manager
- .

1.2 Installation

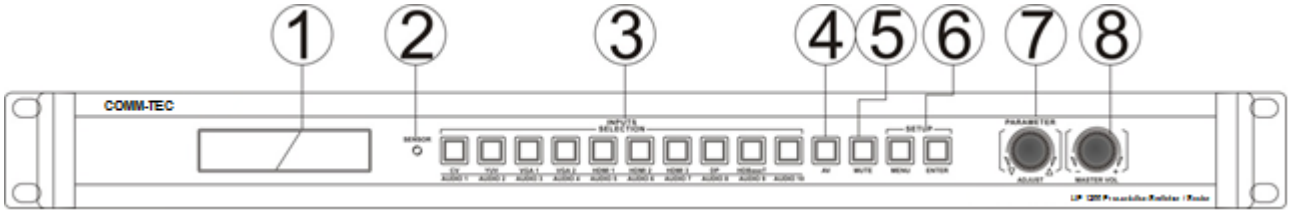
The UP-1200 can be installed on the standard 19-inch racks as shown below:



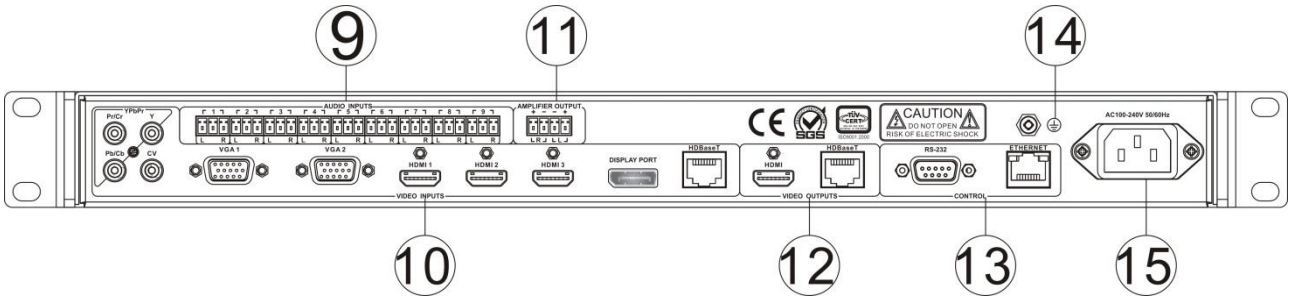
Chapter Two: System Introduction

2.1 Panel layout

Front panel:



Rear panel:



1. LCD display

Displays various status information.

2. SENSOR (infrared receiver)

For use with the infrared remote control

3. INPUT SELECTION BUTTONS

With these buttons you can select an input from the AV and audio sources.

4. AV (Video / Audio select button)

Usually the digital video sources use their own embedded audio signal if you switch between the inputs (“audio follows video”). But you can manually select a different audio source (“audio breakaway”) for a video source: By pressing the AV button you can manually select an audio source to be combined with the current video source..

5. MUTE

With the MUTE button the audio output of the amplifier can be switched off and on.

The silent mode set by the MUTE button does not apply to the DisplayPort audio signal.

6. MENU

With this button you can enter the setup menu of the UP-1200.

7. ENTER

Press the ENTER button to confirm a selected function in the setup menu.

8. PARAMETER

With this rotary knob you can navigate and set parameters in the setup menu.

MASTER VOL

With this rotary knob you can adjust the amplifier output between -20dB and +8 dB in steps of 0.5dB.

9. AUDIO INPUTS

The UP-1200 offers 9 unbalanced audio inputs, wherein AUDIO INPUTS 1-4 correspond to the analog video sources as follows:

AUDIO INPUT 1 → CV video signal.
AUDIO INPUT 2 → YPbPr video signal
AUDIO INPUT 3 → VGA1 video signal
AUDIO INPUT 4 → VGA2 video signal

The audio inputs 5-9 are not assigned and can be combined with any video source.

VIDEO INPUTS——1 CVBS, 1 component video YPbPr,2 VGA,3 HDMI,1 DisplayPort,1 HDBaseT input.

DisplayPort audio interface input signal can not be output from the amplifier balanced audio interface.

10. AMPLIFIER OUTPUT ——1 amplifier balanced audio output

11. VIDEO OUTPUT——1 HDMI, 1 HDBaseT output;

Wherein when the CV, YPbPr, VGA1,VGA2 video input interface and AUDIO INPUTS 1~4 audio interface have access to signals:
AUDIO INPUTS 1 and CV signal default fixed synthesis HDIM output.
AUDIO INPUTS 2 and YPbPr signal default fixed synthesis HDIM output.
AUDIO INPUTS 3 and VGA1 signal default fixed

synthesis HDIM output.
AUDIO INPUTS 4 and VGA2 signal default fixed synthesis HDIM output.

12. CONTROL——signal control district

RS-232——RS-232 control port, with the baud rate of 115200,is to connect a computer or other equipment with RS232 control interface to achieve the goal of controlling the device.
ETHERNET——Ethernet control port can get into the internet to achieve the goal of controlling the device.

13. Ground column

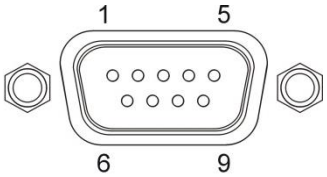
14. System power input port

Controller power input,support AC100~240V 50/60Hz.

2.2 Interface description

2.2.1 COM port description

The UP-1200 switching scaler can be controlled via RS-232 or via Ethernet.



Male

COM port pin description is as follows:

Pin-out	signal	description
1	-	-
2	TXD	Sending data
3	RXD	Receiving data
4	-	-
5	GND	Signal ground
6	-	-
7	-	-
8	-	-
9	-	-

2.2 RJ45 network cable

This system used CAT-5 (five wire) as materials, and installed RJ45 connectors at both ends of CAT-5(commonly known as crystal head), thus to connect the network device. Twisted Pair standard connection provisions is designed to ensure the layout symmetry of the cable connector, thus you can make the interference between the cable connector cancel each other out. General UTP cable have four pairs of thin twisted lines and they are marked with different colors. There are two methods of twisted pair connection: EIA/TIA 568B standard and EIA/TIA 568A standard.

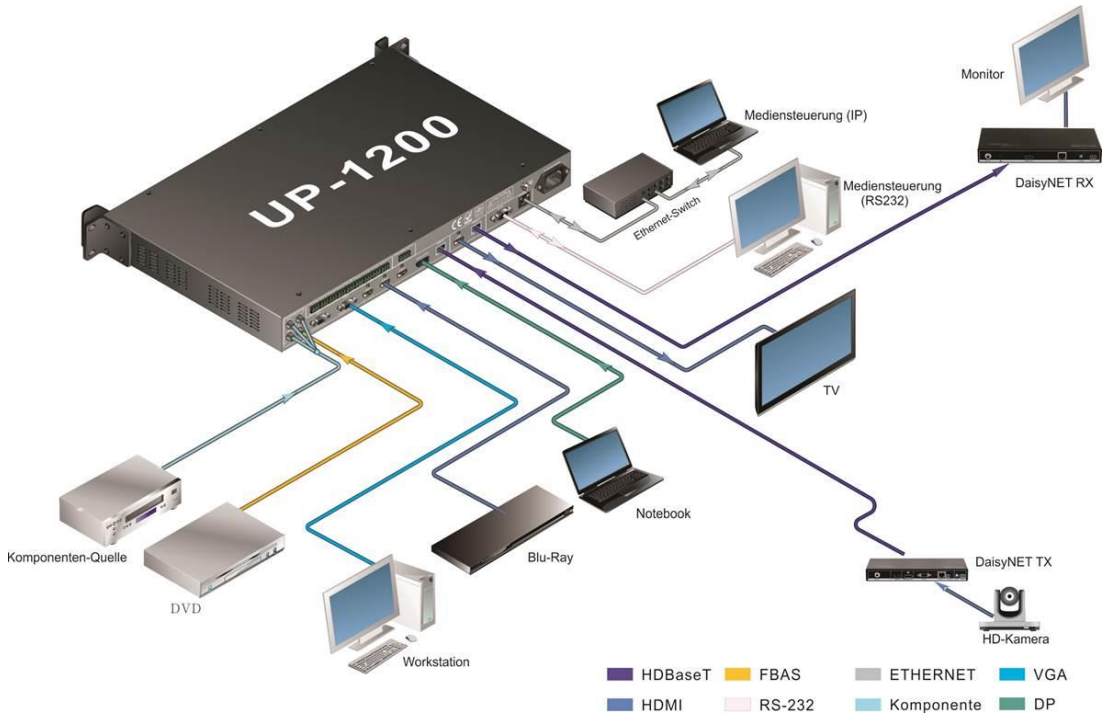
T568A line order							
1	2	3	4	5	6	7	8
White and green	green	White and orange	blue	White and blue	orange	White and brown	brown

T568B line order							
1	2	3	4	5	6	7	8
White and orange	orange	White and green	blue	White and blue	green	White and brown	brown

Straight-through line:both ends are connected according to T568B standard.
Crossover cable:one end is connected according to T568A standard, the other end is connected according to T568B standard.

When connected to a network switch or router, please use a straight-though line connection method. When directly connected to a PC computer, please use a crossover cable.

2.3 Sample application of the UP-1200



2.4 Panel operating instructions

2.4.1 LCD display

After 30 seconds without operation, the LCD backlight will turn off. Pressing any button will turn the backlight on. After powering the unit up, the unit boots up and the LC displays shows ”Loading”. When the boot sequence has been completed, the unit is ready for operation and the main screen will show the product name:

COMM-TEC

UP-1200

2.4.2 Illuminated buttons

The front panel features illuminated buttons. When you press a button, it will light up red. You can setup the device by pressing the button “MENU” Menu operation steps can be summarized as:

→

Enter the menu → choose option with parameter knob → select option with “ENTER” button → change parameter with rotary knob → press “ENTER” to confirm selection → Press “MENU” to return to the previous menu item.

After 30 seconds without operation, the system will automatically exit the menu without saving any unconfirmed parameter changes.

2.4.3 Operation introduction

a. Video channel switching

Step one: If the AV button lights are off, simply press the desired input button. The button of the selected input will light red.

Step two: If the current state of the UP-1200 is the audio mapping setting (AV button lights up), then press the AV button again to return to the video channel selection.

b. Audio channel switching

By default the digital inputs use their embedded audio. The analog video inputs are mapped to the analog inputs as shown on the front panel (e.g. CV→ Audio 1, VGA1 → Audio 3). But you can map any of the 9 analog audio inputs to any video input by using the audio mapping function of the UP-1200 as follows:

Step one: Press the AV button to choose an analog audio input to be mapped to the current video input. The button of the selected audio input lights red.

Step two: Press the "AV" button again to store the audio mapping and to leave the audio mapping menu.

3,Setting the menu options

Step one: Press any button to light up the LCD screen, then press "MENU" to enter the menu option.

Step two: Turn the "PARAMETER" knob to select the desired setting, then press "ENTER"

Step three: Turn the "PARAMETER" knob to change the desired parameter, then press "ENTER" to confirm the selection.

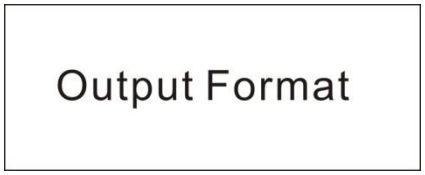
Step four: Press the "MENU" to return to the previous menu.

If the current operation is in the menu structure (as shown below), press "MENU" to return to the previous menu. If the current state is audio and video channel switch, press "MENU" to display the main menu page of scaler.

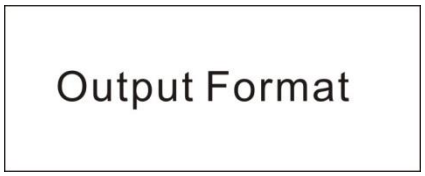
2.4.4 Operation examples

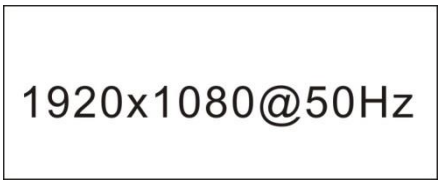
In this example we set the output resolution to 1280X1024@60Hz, the brightness to 60 and adjust the output volume to + 10.5dB.

1.Press "MENU" to enter into the option menu The LCD will show:

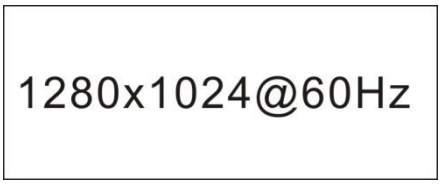


Press "ENTER" to select the option settings, and turn the PARAMETER knob to set the "OUTPUT Format" parameter. When you enter the menu, the resolution will display the current resolution, in this example 1920X1080@50Hz.





3. Rotate the "PARAMETER" knob to select the desired resolution 1280X1024@60Hz.



4. After selecting the new resolution, press "ENTER" to confirm the changes. The LCD will show the new resolution.

ENTER OK
1280x1024@60Hz

5. After setting the resolution, press “MENU” to return to the previous menu option. Rotate the “PARAMETER” knob to select the “Image Setting” option.

Image Setting

6. Press “ENTER” to select the option, rotate the PARAMETER and select the “Bright Adjust” option.

Bright Adjust

7. Press “ENTER” to enter the option parameter settings. The LCD shows the current brightness value. Use the “PARAMETER” knob to set the brightness value to “60”.

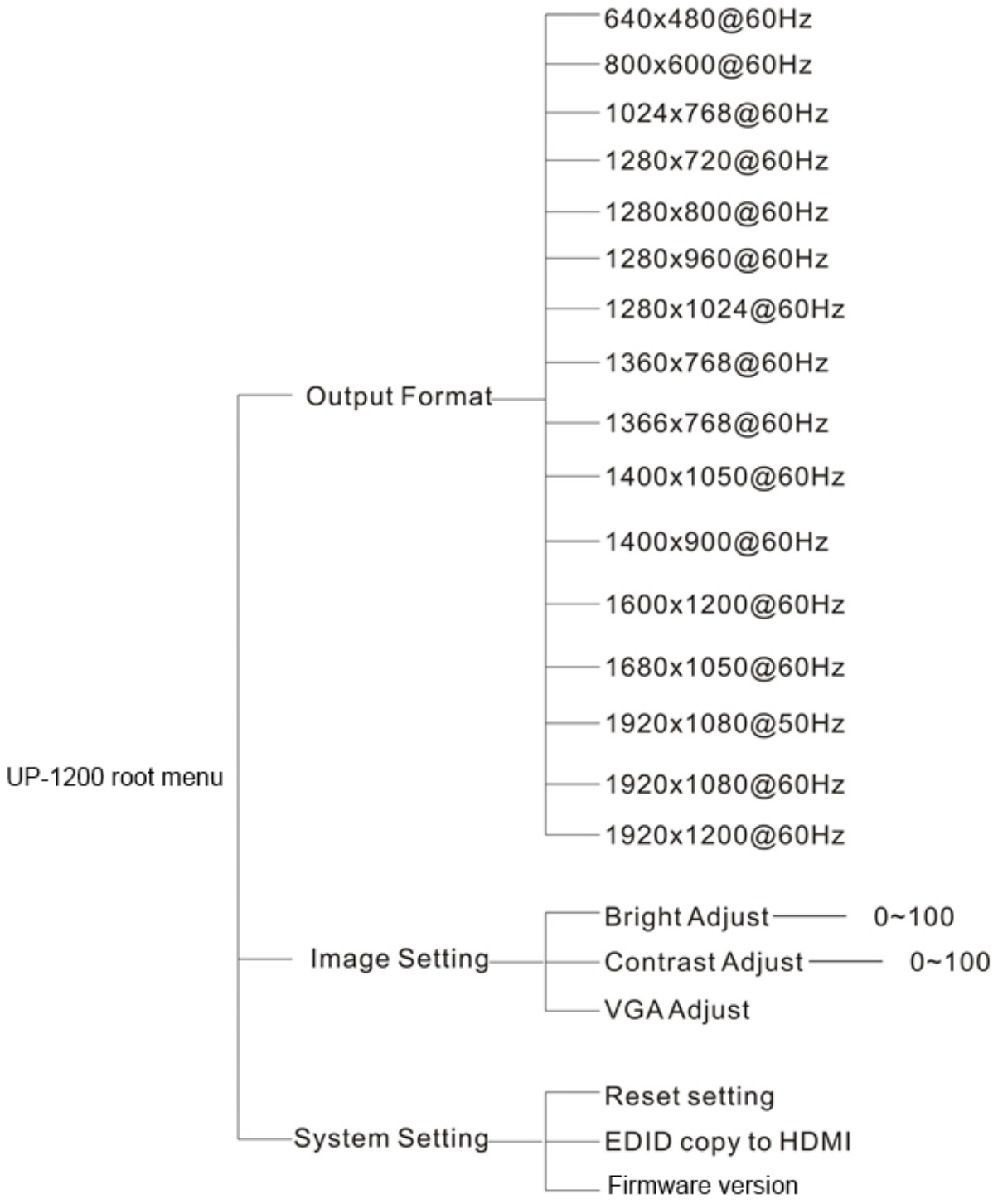
Bright ness 60

8. Press “ENTER” to confirm the changes, then the LCD will show that the new brightness value has been set successfully.

ENTER OK
Bright ness 60

- 9. You can adjust the volume of the integrated amplifier any time, no matter which menu you are currently in. To adjust the output volume to +10.5dB, rotate the “MASTER VOL” knob until the LCD displays the volume of + 10.5dB.

2.5 Menu structure



"VGA Adjust" is only valid when a VGA source has been connected to the UP-1200.

"COPY TO HDMI" in EDID menu is only valid when a sink has been connected to the output of the UP-1200.

Chapter Three: Control Codes

RS232 communication

RS232 communications settings:

Baud rate: 115200 (configurable)

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

TCP/IP communication

The default IP address of the unit is **192.168.1.190** , port **6666**.

Commands List

Video Switch Command

Command	Response	Description
S SOURCE 0.	>SOURCE CV	Select the CV INPUT
S SOURCE 1.	>SOURCE YPbPr	Select the YPbPr INPUT
S SOURCE 2.	>SOURCE VGA1	Select the VGA1 INPUT
S SOURCE 3.	>SOURCE VGA2	Select the VGA2 INPUT
S SOURCE 4.	>SOURCE HDMI1	Select the HDMI1 INPUT
S SOURCE 5.	>SOURCE HDMI2	Select the HDMI2 INPUT
S SOURCE 6.	>SOURCE HDMI3	Select the HDMI3 INPUT
S SOURCE 7.	>SOURCE DisplayPort	Select the DisplayPort INPUT
S SOURCE 8.	>SOURCE HDBaseT	Select the HDBaseT INPUT
R SOURCE.	>Video Input: YPbPr	Read video input port status

Audio Switch Command

Command	Response	Description
S AUDIO 0.	>AUDIO 1 INPUT	Select the AUDIO 1 INPUT
S AUDIO 1.	>AUDIO 2 INPUT	Select the AUDIO 2 INPUT
S AUDIO 2.	>AUDIO 3 INPUT	Select the AUDIO 3 INPUT
S AUDIO 3.	>AUDIO 4 INPUT	Select the AUDIO 4 INPUT
S AUDIO 4.	>AUDIO 5 INPUT	Select the AUDIO 5 INPUT
S AUDIO 5.	>AUDIO 6 INPUT	Select the AUDIO 6 INPUT
S AUDIO 6.	>AUDIO 7 INPUT	Select the AUDIO 7 INPUT
S AUDIO 7.	>AUDIO 8 INPUT	Select the AUDIO 8 INPUT
S AUDIO 8.	>AUDIO 9 INPUT	Select the AUDIO 9 INPUT
S AUDIO 9.	>HDMI & HDBaseT AUDIO INPUT	Use the embedded digital audio for the HDMI & HDBaseT inputs (Display Port supports video only)
R AUDIO.	>Audio Input: AudioAnalog 1	Read audio input port status

Audio Mapping Command

Command	Response	Description
H [X] M [Y]^		Select audio input: [X]: 0 -> AUDIO INPUT 1 1 -> AUDIO INPUT 2 2 -> AUDIO INPUT 3 3 -> AUDIO INPUT 4 4 -> AUDIO INPUT 5 5 -> AUDIO INPUT 6 6 -> AUDIO INPUT 7 7 -> AUDIO INPUT 8 8 -> AUDIO INPUT 9 9 -> AUDIO INPUT 10

		Select video input: [Y]: 0 -> CV 1 -> YUV 2 -> VGA1 3 -> VGA2 4 -> HDMI1 5 -> HDMI2 6 -> HDMI3 7 -> HDBaseT Note：AUDIO INPUT 10 can not be mapped with CV, YUV, VGA1, VGA2.
R [X]^		Query the status of the audio mapping for a selected input: [X]: 0 -> CV 1 -> YUV 2 -> VGA1 3 -> VGA2 4 -> HDMI1 5 -> HDMI2 6 -> HDMI3 7 -> HDBaseT
RemoveB^	>Audio 1 Mapping CV >Audio 2 Mapping YUV >Audio 3 Mapping VGA1 >Audio 4 Mapping VGA2 >Audio 5 Mapping HDMI1 >Audio 6 Mapping HDMI2 >Audio 7 Mapping HDMI3 >Audio 8 Mapping HDBaseT	Delete user mapping settings, restore the factory defaults.
R All^	>Audio 1 Mapping CV >Audio 2 Mapping YUV >Audio 3 Mapping VGA1 >Audio 4 Mapping VGA2 >Audio 5 Mapping HDMI1 >Audio 6 Mapping HDMI2 >Audio 7 Mapping HDMI3 >Audio 8 Mapping HDBaseT	Query the mapping status for all inputs.

Resolution Command

Command	Response	Description
S OUTPUT 0!	>OUTPUT 640x480@60Hz	Set output resolution to 640x480@60Hz
S OUTPUT 1!	>OUTPUT 800x600@60Hz	Set output resolution to 800x600@60Hz
S OUTPUT 2!	>OUTPUT 1024x768@60Hz	Set output resolution to 1024x768@60Hz
S OUTPUT 3!	>OUTPUT 1280x720@60Hz	Set output resolution to 1280x720@60Hz
S OUTPUT 4!	>OUTPUT 1280x800@60Hz	Set output resolution to 1280x800@60Hz
S OUTPUT 5!	>OUTPUT 1280x960@60Hz	Set output resolution to 1280x960@60Hz
S OUTPUT 6!	>OUTPUT 1280x1024@60Hz	Set output resolution to 1280x1024@60Hz
S OUTPUT 7!	>OUTPUT 1360x768@60Hz	Set output resolution to 1360x768@60Hz
S OUTPUT 8!	>OUTPUT 1366x768@60Hz	Set output resolution to 1366x768@60Hz
S OUTPUT 9!	>OUTPUT 1400x1050@60Hz	Set output resolution to 1400x1050@60Hz
S OUTPUT A!	>OUTPUT 1440x900@60Hz	Set output resolution to 1440x900@60Hz
S OUTPUT B!	>OUTPUT 1600x1200@60Hz	Set output resolution to 1600x1200@60Hz
S OUTPUT C!	>OUTPUT 1680x1050@60Hz	Set output resolution to 1680x1050@60Hz
S OUTPUT D!	>OUTPUT 1920x1080@50Hz	Set output resolution to 1920x1080@50Hz

S OUTPUT E!	>OUTPUT 1920x1080@60Hz	Set output resolution to 1920x1080@60Hz
S OUTPUT F!	>OUTPUT 1920x1200@60Hz	Set output resolution to 1920x1200@60Hz
R OUTPUT!	> Output Resolution: 800x600@60Hz	Read resolution

Audio Input Voulume Adjust Command

Command	Response	Description
A [X] INPUT 0%	>AUDIO INPUT [X+1] 0dB	Audio Input [x] setting 0dB
A [X] INPUT 1%	>AUDIO INPUT [X+1] -3dB	Audio Input [x] setting -3dB
A [X] INPUT 2%	>AUDIO INPUT [X+1] -6dB	Audio Input [x] setting -6dB
A [X] INPUT 3%	>AUDIO INPUT [X+1] -9dB	Audio Input [x] setting -9dB
A [X] INPUT 4%	>AUDIO INPUT [X+1] -12dB	Audio Input [x] setting -12dB
A [X] INPUT 5%	>AUDIO INPUT [X+1] -15dB	Audio Input [x] setting -15dB
A [X] INPUT 6%	>AUDIO INPUT [X+1] -18dB	Audio Input [x] setting -18dB
A [X] INPUT 7%	>AUDIO INPUT [X+1] -21dB	Audio Input [x] setting -21dB
R A [X] INPUT%	>AUDIO INPUT [X+1] 0dB	Read audio input [x] volume
R A ALL INPUT%	>AUDIO INPUT [X+1] 0dB	Read all audio input volume

[X] represents the audio input. For example, when [X] is 9, it means that the audio input are the embedded audio signals of the digital inputs (HDMI1, HMDI2, HDMI3 and HDBaseT). For example: For adjust the second audio input to -12dB, the corresponding command is: A 1 INPUT 4%

Audio Output Volume Adjust Command

Command	Response	Description
A+ OUTPUT%	>Analog AUDIO OUTPUT + 0.5dB	Analog Audio Output setting + 0.5dB
A- OUTPUT%	>Analog AUDIO OUTPUT - 0.5dB	Analog Audio Output setting - 0.5dB
S A XdB%	>Analog Audio Vol: XdB	Analog audio output setting XdB X: Volume value. Range :-20.0dB∽+8.0dB. Step 0.5dB Example: Set Output Volume +5.0dB Cmd : S A +5#0dB% Example: Set Output Volume -15.0dB Cmd: S A -15#0dB%
R A OUTPUT%	>Analog Audio Vol: +0.5dB	Read analog audio output volume
B+ OUTPUT%	>HDMI AUDIO OUTPUT + 0.5dB	HDMI audio output setting + 0.5dB
B- OUTPUT%	>HDMI AUDIO OUTPUT - 0.5dB	HDMI Audio Output setting - 0.5dB
S B XdB%	>HDMI Audio Vol: XdB	Analog Audio Output setting XdB X: Volume value. Range:-20.0dB∽+8.0dB. Step 0.5dB Eg: Set Output Volume +5.0dB Cmd: S B +5#0dB% Eg: Set Output Volume -15.0dB Cmd: S B -15#0dB%
R B OUTPUT%	>HDMI Audio Vol: +0.5dB	Read HDMI audio output volume
MUTE ON%	>MUTE ON	Audio output mute on
MUTE OFF%	>MUTE OFF	Audio output mute off
CLOSE 0%	>Analog AUDIO MUTE ON	Analog audio mute on

OPEN 0%	>Analog AUDIO MUTE OFF	Analog audio mute off
CLOSE 1%	>HDMI AUDIO MUTE ON	HDMI audio mute on
OPEN 1%	>HDMI AUDIO MUTE OFF	HDMI audio mute off
R MUTE 0%	>Analog AUDIO MUTE ON	Read analog audio mute status
R MUTE 1%	>HDMI AUDIO MUTE ON	Read HDMI audio mute status
R MUTE 2%	>MUTE ON	Read audio output mute status
R MUTE 3%	>MUTE ON >Analog AUDIO MUTE ON >HDMI AUDIO MUTE ON	Read all audio mute status

Image Adjustment Commands

Command	Response	Description
Auto Adjust*	>VGA Input Auto Adjust	VGA Image auto adjust
VStart+*	>VGA Input V Start + 1	Move the VGA input image one column up
VStart-*	>VGA Input V Start - 1	Move the VGA input image one column down
HStart+*	>VGA Input H Start + 1	Move the VGA input image one column left
HStart-*	>VGA Input H Start - 1	Move the VGA input image one column right
HTotal+*	>VGA Input H Total + 1	Add 1 column to the total of VGA input images
HTotal-*	>VGA Input H Total - 1	Remove 1 column of the total of VGA input images
Brightness 000*	>Brightness Value: 000	Set Brightness
Brightness*	>Brightness Value: 000	Read Brightness
Contrast 000*	>Contrast Value: 000	Set Contrast
Contrast*	>Contrast Value: 000	Read Contrast

Other Commands

Command	Response	Description
<DEFAULT>	>DEFAULT OK	Restore factory defaults in next charge
<COPYEDID>	>COPY EDID OK	Copy EDID display device to HDMI interface
<BAUD-4800>	>Set Baud Rate 4800. Wait for LCD close, Please power up again	Set baud rate as 4800
<BAUD-9600>	>Set Baud Rate 9600,Wait for LCD close,Please power up again	Set baud rate as 9600
<BAUD-19200>	>Set Baud Rate 19200,Wait for LCD close,Please power up again	Set baud rate as 19200
<BAUD-38400>	>Set Baud Rate 38400,Wait for LCD close,Please power up again	Set baud rate as 38400
<BAUD-57600>	>Set Baud Rate 57600,Wait for	Set baud rate as 57600

	LCD close,Please power up again	
<BAUD-115200>	>Set Baud Rate 115200,Wait for LCD close,Please power up again	Set baud rate as 115200
<BAUD>	>Baud Rate: 115200	Get the baud rate
<SIPR[192-168-1-190]>	>SIPR:192.168.1.190	Set the IP address
<GAR[192-168-1-1]>	>GAR:192.168.1.1	Set the gateway
<SUBR[255-255-255-0]>	>SUBR:255.255.255.0	Set the subnet mask
<SPORT[6666]>	>SPORT:6666	Set connection port number
<SIPR>	>SIPR:192.168.1.190	Get the IP address
<GAR>	>GAR:192.168.1.1	Get the gateway
<SUBR>	>SUBR:255.255.255.0	Get the subnet mask
<SPORT>	>SPORT:6666	Get the connection port number
<BellOn>	>Bell On	Turn on the buzzer
<BellOff>	>Bell Off	Turn off the buzzer
<BellStatus>	>Bell Status: ON	Get buzzer status
<SW>	>LPMCU SW Versions: V1.0 >FPMCU SW Versions: V1.0 >FLMCU SW Versions: V1.0	Get the firmware version

Chapter Four Specifications

Technical Specifications	UP-1200
Analog composite video / component (YPbPr) video	
Gain	0dB
Bandwidth	150MHz @ -3dB
Format	NTSC,PAL,SECAM
Signal type	Composite video(CVBS), Component video(YPbPr/YCbCr)
Interface	RCA female joint (4PIN), 1(CVBS), 1(YPbPr/YCbCr)
Minimum / maximum level	Analog signal: -2V/+2V
Impedance	75 Ω
Return loss	<-30dB@5MHz
Analog VGA video	
Gain	0 dB
Bandwidth	380 MHz
Signal type	VGA
Interface	15-pin HD female interface,2 VGA input
Signal strength	0.63V p-p to 0.9 V p-p
Impedance	75 Ω
Supported resolutions	640x480@60Hz;800x600@60Hz;1024x768@60Hz;1280x720@60Hz;1280x800@60Hz;1280x960@60Hz;1280x1024@60Hz;1360x768@60Hz;1366x768@60Hz;1400x1050@60Hz;1440x900@60Hz;1600x1200@60Hz;1680x1050@60Hz;1920x1080@50Hz;1920x1080@60Hz;1920x1200@60Hz
HDMI video	
Supported protocols	HDMI1.3a, DVI1.0, HDCP1.3
Maximum pixel clock	225MHz
Interface bandwidth	6.75Gbps (RGB: 2.25 Gbps / lane)
Interface	HDMI-A interface (Type A connector),3 HDMI input,1HDMI output
Minimum / maximum level	T.M.D.S. 2.9V/3.3V
Input EDID	Use the system default EDID / supports EDID mapping to the input
Recommended cable length	The cable length on the input and output should be max. 10 meters for 1920x1080p@60. We recommend to use certified HDMI cables.
Supported resolutions	640x480@60Hz;800x600@60Hz;1024x768@60Hz;1280x720@60Hz;1280x800@60Hz;1280x960@60Hz;1280x1024@60Hz;1360x768@60Hz;1366x768@60Hz;1400x1050@60Hz;1440x900@60Hz;1600x1200@60Hz;1680x1050@60Hz;1920x1080@50Hz;1920x1080@60Hz;1920x1200@60Hz
DisplayPort video	
Interface	20-pin DP interface, standard,1 DisplayPort input
Supported protocols	DisplayPort 1.1
Transmission bandwidth	The maximum of transmission bandwidth is 10.8Gb/S
Supported resolution	640x480@60Hz;800x600@60Hz;1024x768@60Hz;1280x720@60Hz;1280x800@60Hz;1280x960@60Hz;1280x1024@60Hz;1360x768@60Hz;1366x768@60Hz;1400x1050@60Hz;1440x900@60Hz;1600x1200@60Hz;1680x1050@60Hz;1920x1080@50Hz;1920x1080@60Hz;1920x1200@60Hz
HDBaseT video	
Interface	RJ-45 female interface;1 HDBaseT input,1 HDBaseT output
Supported protocols	HDCP compliant

Maximum pixel clock	225MHz
Recommended cable length	The maximum transmission distance is ≤100m (we recommend shielded CAT6A cables, e.g. Belden 10GX)
Supported resolution	640x480@60Hz;800x600@60Hz;1024x768@60Hz;1280x720@60Hz;1280x800@60Hz;1280x960@60Hz;1280x1024@60Hz;1360x768@60Hz;1366x768@60Hz;1400x1050@60Hz;1440x900@60Hz;1600x1200@60Hz;1680x1050@60Hz;1920x1080@50Hz;1920x1080@60Hz;1920x1200@60Hz
Audio signal	
Input/output interface	9x 3-pin Phoenix connectors with unbalanced audio input Stereo audio amplifier output on one 4-pin Phoenix connector (not for Display Port audio)
Gain	0 dB
Frequency response	20 Hz~20 kHz
THD + Noise	0.05%@1 kHz (with rated voltage)
Signal-to-Noise(S/N)	>80dB
Stereo separation	>80dB@1 kHz
Signal type	stereo
Impedance	input:>10 kΩ (unbalanced)
maximum input level	+19.5dBu
Control types	
Front panel	Illuminated buttons with LCD screen status display
Serial control interface	RS-232, 9-pin female D-type interface
Baud rate and protocol	Baud rate:115200,Data bits: 8 bits, stop bits:1, no parity
Serial port pinout	2=TX, 3=RX, 5=GND
Ethernet interface	RJ-45 female interface
Ethernet protocol	TCP/IP
Ethernet control rate	Adaptive 10M/100M, full-duplex or half-duplex
HDBaseT remote	HDBaseT remote control (RS232)
Specification	
Power supply	100VAC~240VAC, 50/60Hz
Temperature	Storage and operation temperature:-20°~+70°C
Humidity	Storage and operation humidity:0 ~.95%
Chassis Size	483(L) x 230 (W) x 44mm (H)
Product weight	2.3kg
MTBF	30,000 hours