VizExperts
Powering the Industrial Metaverse

Hardware Training And Maintenance Manual

for

Indian Institute of Technology (IIT Bombay)

Supply Order Number # 4300000660 for

“Cubic Immersive VirtualReality System”

VizExperts
Powering the Industrial Metaverse

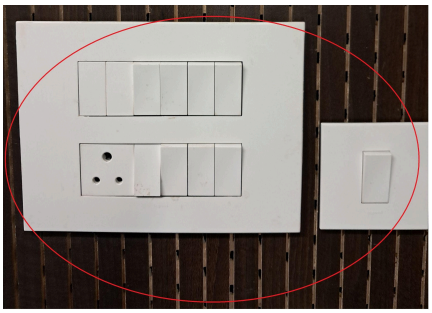
Practices for Hardware Maintenance and Troubleshooting

Hardware Devices List:

S.No	NAME OF DEVICE
01	Projectors
02	Projection Screen
03	Server 42U Rack
04	Vizdisplay Server
05	Sound Amplifiers and Speakers
06	AMX
07	BSS
08	ART Tracking Systems
09	VizDisplay Monitors and Controller
10	3D Glasses

Steps to Power On and Operate

1. Main Power on and lights on.

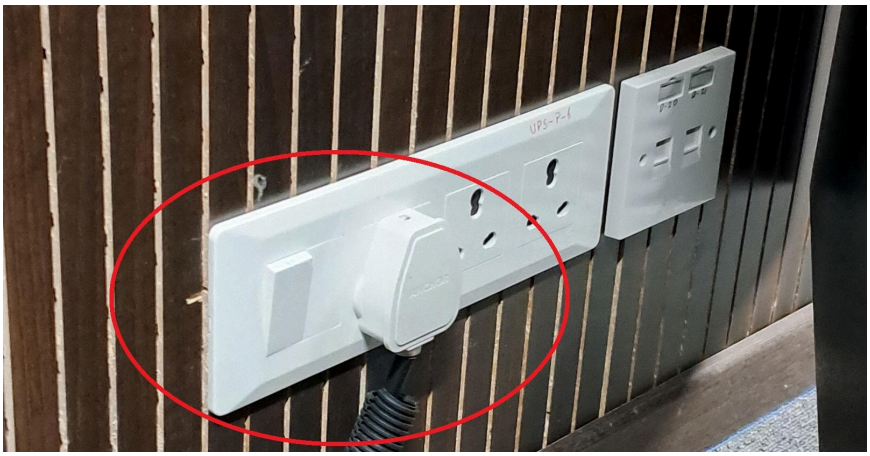


2. Turn on the AC power and maintain a temperature of 18-22°C in the room. After 15 minutes, turn on all devices.

3. To power on the UPS, first pull up the main MCB and the input MCB to allow raw power. Then, press the power button once and pull up the output MCB.

4. Turn on the projectors.

5. Turn on the server rack.

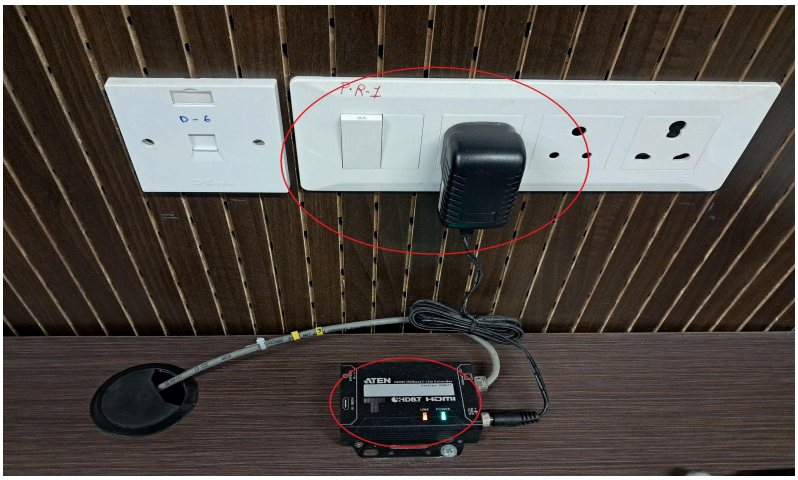


6. Turn on the Vizdisplay Server.

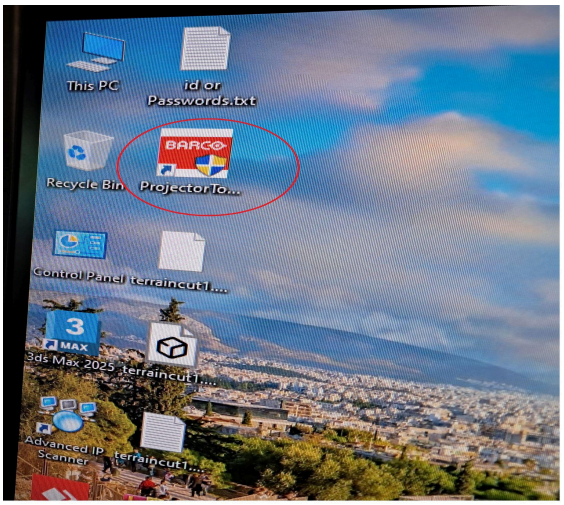
7. Check inside the rack all Equipment is Powered on (it takes 2-3 Minutes).

8. The Vizdisplay Controller should be turned on.

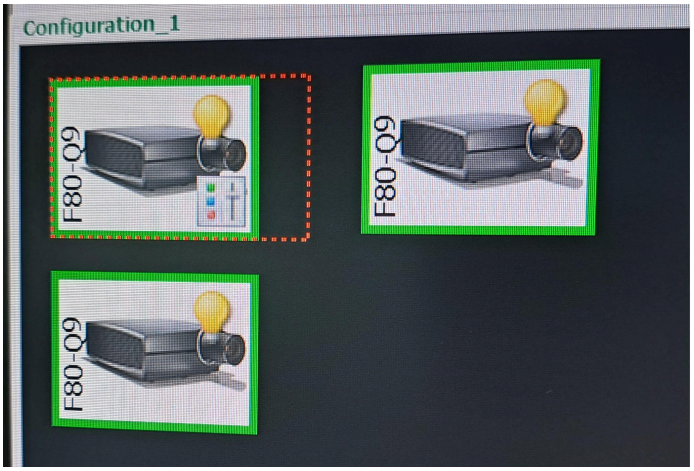
9. Power on the laptop inputs.



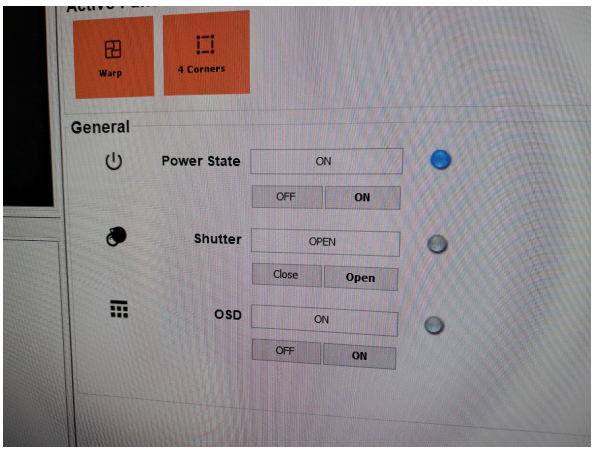
10. Launch the BARCO Toolset Software on the Controller System.



11. Ensure all projectors have a green border, indicating they are in standby mode.



12. Turn on the projector by pressing the power button and wait for it to start.



13. The hardware devices are fully functional and ready for use with our software resources.

LAB Shutdown steps:

1. Close all software consoles and shut down the VIZDISPLAY server.
2. Close all software on the controller except the Barco toolset. Use this tool to shut down the 3 projectors (the shutdown process takes 5 minutes). Then, close the software console and shut down the PC.
3. Turn off the server rack power and ensure all devices are turned off.
4. Switch off all laptop input hubs.
5. Turn off the UPS by pressing and holding the power button until you hear a beep, then release the button (the shutdown process takes 5 minutes).
6. Turn off all INPUT and OUTPUT MCB switches.
7. Switch off all AC units and lights.

Troubleshooting and Maintenance steps:

PROJECTOR:

some basic troubleshooting steps to help you resolve common projector issues

1. Check the projector is plugged in properly and the power cord is securely connected to both the projector and the power outlet.
2. Check Source Cable and Make sure the correct input source is selected.
3. Inspect the DP cable for any visible damages.
4. DP cable is properly inserted into both the projector and the VIZDISPLAY Server.

SCREEN:

1. There are no Troubleshooting steps.
2. The screen surface is very sensitive, so touching it could leave fingerprints, oil marks, or cause scratches.

Do not touch the screen directly

SERVER 42U RACK:

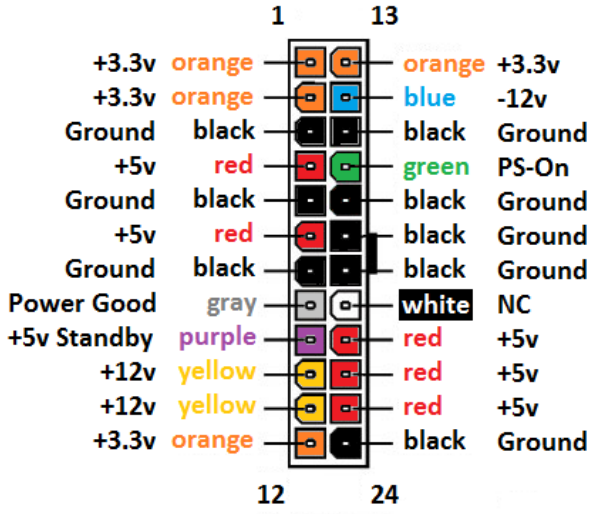
some basic troubleshooting steps to help you resolve common Server Rack issues.

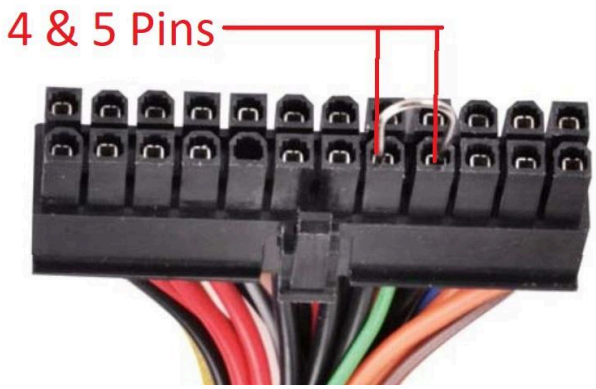
1. Verify the Wall Outlet or Power Source: Ensure that the power source (outlet or power distribution unit) is working. Plug a different device (e.g., a lamp or phone charger) into the same outlet to confirm if it's supplying power.
2. Check the Circuit Breaker: If the outlet isn't working, check if the circuit breaker has tripped. Reset the breaker if necessary.
3. Verify UPS Power: Check if the UPS is turned on. Look for any lights or indicators on the UPS to confirm it's powered up.

VIZDISPLAY SERVER AND CONTROLLER CPU:

some basic troubleshooting steps to help you resolve common VIZDISPLAY Server issues.

1. Check Power Supply: Ensure that the power supply is functioning properly and supplying the correct voltage. If possible, test the power supply with a multimeter or replace it with a known working one.
2. Projector Display: Check the Projector to ensure it's functioning. Sometimes, a failure in the display (e.g., GPU failure or cable issue) might give the impression that the CPU is not working.
3. Power Supply to CPU: Make sure the CPU power connector (usually a 4-pin or 8-pin connector) is securely plugged into the motherboard. A loose or disconnected CPU power cable can prevent the CPU from receiving power.

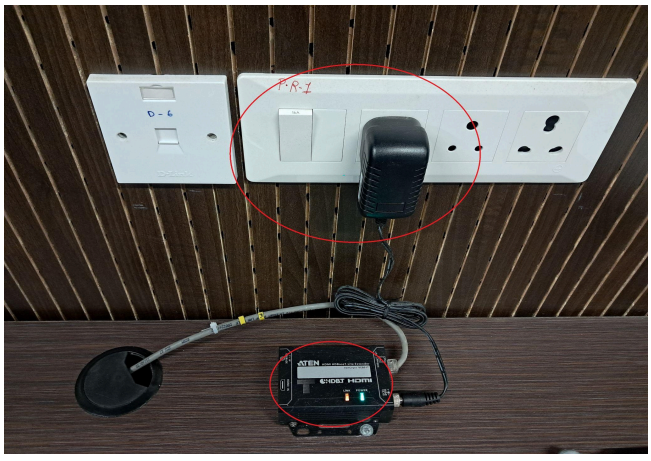




LAPTOP INPUTS:

some basic troubleshooting steps to help you resolve common Laptop Inputs issues.

1. Check the power outlet switches, they need to be turned on.
2. Check the VIZDISPLAY software connectivity, the server IP should be able to ping the controller PC. Verify that the software detects and displays the inputs below the console.
3. Check the HDMI cable and laptop port to ensure they are properly connected.
4. The HDMI cables from Aten must only be removed after powering off the Aten device. Otherwise, the device may be damaged. Burned Aten devices are not covered under warranty.



SOUND AMPLIFIERS AND SPEKERS:

some basic troubleshooting steps to help you resolve common Sound Amplifiers and speaker issues.

1. Ensure the Rack power is on and make sure the amplifier is plugged in and the power switch is turned on. Check if the power indicator light is lit.
2. Test the power cable by using a different cable or plugging the amplifier into a known working outlet.
3. Check the Input Source Ensure the audio source is properly connected to the speakers. Make sure cables are secure and not damaged.

AMX AND BSS:

some basic troubleshooting steps to help you resolve common AMX and BSS issues.

1. Ensure the Rack power is on and make sure the AMX and BSS is plugged in and the power switch is turned on. Check if the power indicator light is lit.
2. Test the power cable by using a different cable or plugging the amplifier into a known working outlet.
3. Check all input, output and Network cables connected properly.

ART TRACKING SYSTEM:

some basic troubleshooting steps to help you resolve common ART tracking system issues.

1. Ensure the Rack power is on and make sure the ART Controller is plugged in and the power switch is turned on. Check if the power indicator light is lit.
2. Check the synchronization USB Driver is properly connected to the Controller.
3. Check the red light should come on all 4 tracking cameras.
4. Check the DTrack software connectivity to ensure it pings with the controller. If a startup error occurs, manually power off the controller, wait for 30 seconds, and then power it on again. This should resolve the issue.

PURPOSE:

This document offers a thorough understanding of effective hardware system operation and maintenance. It covers best practices for setup, handling, and routine operation to maximize performance. Additionally, it provides troubleshooting techniques for common hardware issues to minimize downtime and optimize system reliability. This information helps users manage daily operations and unexpected challenges, extending equipment lifespan and ensuring smooth functionality.