

5×1 HDMI™/USB-C 4K60 Seamless Presentation Switch with HDBaseT 3.0 70m Out

1. INTRODUCTION

This 5×1 seamless presentation switch features 3 HDMI™ inputs, 2 USB-C inputs (DP Alt mode, USB 2.0, 100M Ethernet and 60W charging), 1 HDMI™ output and 1 HDBT mirrored output. HDBT supports standard PoE power supply and can extend uncompressed signal up to 230ft/70m (4K@30Hz 4:4:4) or 131ft/40m (4K@60Hz 4:4:4) via a single CAT6A (F/FTP) cable. The output supports single full screen or multiview modes (Single/PIP/PBP/Triple/Quad).

The switch supports USB 2.0 local KVM switching and local Hub/HDBT USB pass-through (TX to RX), bi-directional RS-232 and IR control signal pass-through. It features 1 analog audio input, 1 analog audio output, and Dante® 2×2 audio I/O with a built-in 3×3 audio matrix with independent EQ/volume/delay per output.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection is highly recommended.

Cable Note — The HDBaseT connection requires direct wiring only. Do not cross-connect. Use F/FTP shielded CAT6A cable. Wire to T568B standard: White/Orange, Orange, White/Green, Blue, White/Blue, Green, White/Brown, Brown.

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2. FEATURES

- ✓ HDCP 2.2, HDMI™ 2.0b, DP 1.2, HDBaseT 3.0 compliant — 18Gbps video bandwidth
- ✓ Input resolution up to 4K@60Hz 4:4:4; uncompressed 4K60 over HDBT to 132ft/40m, 4K30/1080p to 230ft/70m via single CAT6A (F/FTP)
- ✓ 5×1 seamless switching (single screen) and fast switching (multiview); up to 5 multiview modes: Single / PIP / PBP / Triple / Quad
- ✓ USB-C inputs: DisplayPort Alt mode (A/V), USB 2.0, 100M Ethernet, and 60W PD charging
- ✓ Dante® 2×2 audio I/O with built-in 3×3 audio matrix — independent EQ, volume, and delay per output
- ✓ Local USB 2.0 KVM switching and USB 2.0 pass-through over HDBT 3.0 to receiver
- ✓ Analog audio I/O: 1× Line In, 1× Line Out — embedding/de-embedding from audio matrix
- ✓ CEC/RS-232 control for external device power on/off; advanced EDID management
- ✓ Front panel buttons, IR remote, RS-232, TCP/IP, Web GUI control; PoE power supply (TX_PSE / RX_PD)
- ✓ Bi-directional RS-232 and IR signal pass-through over HDBaseT



3. PACKAGE CONTENTS

- ✓ 1× SW-5X1PS-70M Seamless Presentation Switch (TX)
- ✓ 1× HDBaseT Receiver (RX)
- ✓ 1× IR Blaster Cable (1.5m)
- ✓ 1× IR Wideband Receiver Cable (1.5m)
- ✓ 2× 3-pin 3.5mm Phoenix Connector (male)
- ✓ 3× 5-pin 3.5mm Phoenix Connector (male)
- ✓ 4× Mounting Ears & 8× Machine Screws
- ✓ 1× 24V/8A Desktop Power Supply & AC Cord (1.5m)
- ✓ 1× IR Remote
- ✓ 1× User Manual

4. SPECIFICATIONS

TECHNICAL	
HDCP Compliance	HDCP 2.2
Standards	HDMI™ 2.0b • DP 1.2 • HDBaseT 3.0
Video Bandwidth	18 Gbps
Input Resolution	480i – 4K@60Hz 4:4:4
Output Resolution	Auto, 3840×2160p60/50/30/25, 4096×2160p60/50, 1920×1200p60RB, 1920×1080p60/50, 1360×768p60, 1280×800p60, 1280×720p60/50, 1024×768p60
Color Depth	Input: 8/10/12-bit (8-bit at 4K60 4:4:4) • Output: 8-bit
Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
HDBaseT Distance	4K30/1080p → 230ft/70m • 4K60 → 131ft/40m via CAT6A (F/FTP)
HDR	Input supports HDR; HDR output not supported
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap) / ±4kV (Contact)
IR Level / Frequency	12Vp-p / Wideband 20K–60KHz
Multiview Modes	Single / PIP / PBP / Triple / Quad
AUDIO — TX ANALOG	
Formats	LPCM 2.0 • Sample Rate: 48kHz
Line In / Out Level	Max 8.2dBu (2Vrms) balanced / 2.2dBu (1Vrms) unbalanced
Frequency Response	(+0.5dB, –1dB) 20Hz–20kHz • S/N: 93dB @ 2Vrms, 1kHz A-weighted
THD+N / Impedance	<0.1% @ 0dBV, 1kHz • In: 10kΩ / Out: 330Ω
Audio Delay	0–50ms sync delay
AUDIO — DANTE®	
I/O / Sample Rate	2×2 Dante (RJ45) • 44.1, 48, 88.2, 96kHz at 24-bit
Network Bandwidth	100Mbps • THD+N <0.1% @ 0dBV, 1kHz
Audio Delay	2ms, 3ms, 4ms, 5ms, 10ms
CONNECTION	
TX Inputs	3× HDMI™ Type A • 2× USB-C (DP Alt, USB 2.0, 100M ETH, 60W PD) • 1× Line In [5-pin 3.5mm Phoenix] • 1× Dante [RJ45]
TX Outputs	1× HDMI™ Type A • 1× HDBT [RJ45] • 1× Line Out [5-pin 3.5mm Phoenix]
TX Control	RS-232 [3-pin Phoenix] • LAN [RJ45] • USB HOST [USB-B] • 2× USB DEVICES [USB-A] • IR IN/OUT [3.5mm]
RX Inputs	1× HDMI™ IN [Type A] • 1× HDBaseT IN [RJ45]
RX Outputs	1× HDMI™ OUT [Type A] • 1× Line Out [5-pin 5mm Phoenix]
RX Control	RS-232 [3-pin Phoenix] • USB HOST [USB-B] • 2× USB DEVICES [USB-A] • SERVICE [Micro USB] • IR IN/OUT [3.5mm]
USB Bandwidth	TX DEVICES → TX HOST/USB-C: 480Mbps • RX DEVICES → TX HOST: 350Mbps • RX DEVICES → RX HOST: 480Mbps
Network / LAN	100Mbps (LAN and USB-C)
MECHANICAL & ENVIRONMENT	
TX Dimensions	220mm (W) × 150mm (D) × 44mm (H) • 1.21kg
TX Power	DC 24V/8A (included) • TX_PSE (powers RX via HDBaseT) • Max 150W
RX Dimensions	140mm (W) × 105mm (D) × 21.5mm (H) • 424g
RX Power	PoE 802.3at (via HDBT from TX) or DC 24V (RX_PD)
Housing	Front panel: Aluminum • Rear case: Metal Enclosure • Color: Black
Operating Temp	0°C – 40°C / 32°F – 104°F • Storage: –20°C – 60°C
Humidity	Operating: 20%–80% RH • Storage: 10%–90% RH (non-condensing)
Certifications	CE • FCC • UL (power supply)

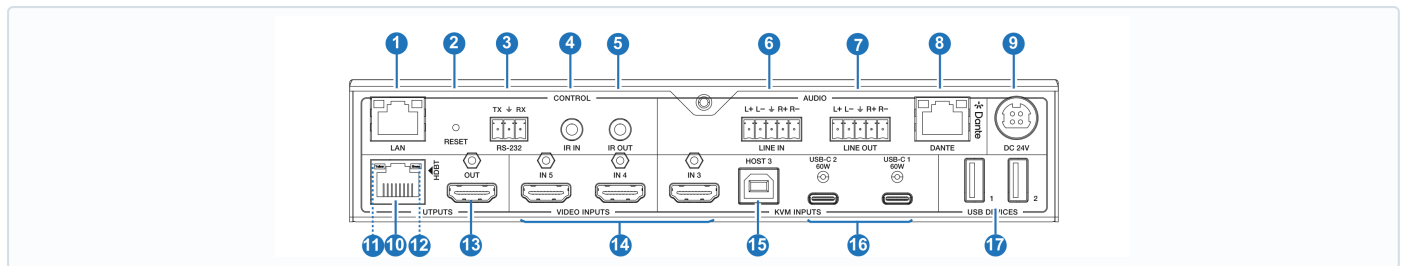


5. OPERATION CONTROLS AND FUNCTIONS — 5.1 SWITCH PANEL

Front Panel

No.	Name	Function Description
1	IR Window	IR signal receiving window for the IR remote control.
2	USB-C 1/2, HDMI 3/4/5 Buttons	In single screen mode, press to select the input channel; button light turns on. In multiview mode, lit buttons indicate active channels for each window. Press any input button to return to single screen mode. Button lights auto-off after 1 second.
3	POWER button	Hold 3 seconds to enter standby (button light on). Short press to power on from standby (button light off).
4	PRESET button	Cycle through preset application scenes. Scenes are configured via the Web GUI. Button light auto-off after 1 second.
5	AUTO button	Enable/disable auto switching function. Button light on = auto switching enabled.

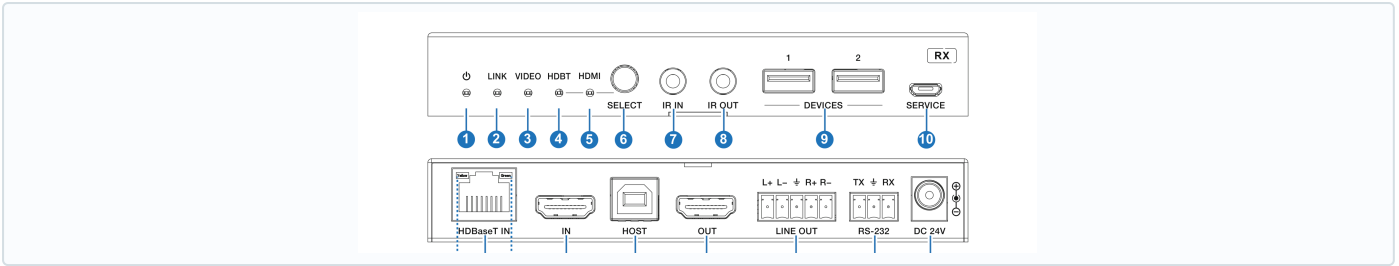
Rear Panel



No.	Name	Function Description
1	IR IN port	Connect IR receiver cable for IR signal pass-through or IR remote control of this product.
2	IR OUT port	Connect IR blaster cable. IR signal originates from the IR IN port of the HDBaseT Receiver.
3	RS-232 port	Bi-directional RS-232 serial port for pass-through or controlling this product via RS-232 commands. [3-pin 3.5mm Phoenix]
4	LAN port	Connect to a router or switch for USB-C Internet access (100Mbps) or Web GUI control.
5	RESET button	Hold 5 seconds to restore factory default settings.
6	LINE IN port	Analog audio input. Supports balanced (L+, L-, GND, R+, R-) and unbalanced (L+, GND, R+) up to 2Vrms. [5-pin 3.5mm Phoenix]
7	LINE OUT port	Analog audio output. Balanced up to 2Vrms / Unbalanced up to 1Vrms. [5-pin 3.5mm Phoenix]
8	TX/RX DANTE	Dante® Network ports (RJ45). Connect to network switch with other Dante® devices. Supports both transmit and receive.
9	DC 24V port	Power input. Connect included 24V/8A desktop power adapter.
10	HDBT OUTPUT	HDBaseT 3.0 mirrored output. 4K60 → 40m, 4K30/1080p → 70m via CAT6A (F/FTP). Powers RX via PoE (TX_PSE).
11	HDMI OUT	HDMI™ 2.0b local output. Connect to presenter display.
12	HOST 1-3	USB-B host ports. Connect PCs for USB 2.0 KVM switching.
13	USB-C 1/2	USB-C inputs: DP Alt mode (A/V), USB 2.0, 100M Ethernet, 60W PD charging.
14	HDMI IN 3/4/5	HDMI™ 2.0b video inputs. Connect to source devices (PC, DVD, Blu-ray, codec).
15	USB DEVICES	USB-A peripheral ports (keyboard, mouse, USB camera, storage) for KVM.
16	LINK LED (Green)	On: TX and RX in good connection. Flashing: poor connection. Off: not connected.
17	VIDEO LED (Yellow)	On: HDMI signal input with HDCP. Flashing: HDMI signal without HDCP. Off: no HDMI signal.



5.2 HDBASET RECEIVER PANEL



No.	Name	Function Description
1	Power LED (Red)	Lights when the receiver is powered on.
2	LINK LED (Green)	On: TX and RX in good connection. Flashing: poor connection status. Off: not connected.
3	VIDEO LED (Yellow)	On: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Off: no HDMI signal.
4	HDBT LED (Green)	On when HDBaseT IN is selected as the active signal input channel.
5	HDMI LED (Green)	On when HDMI IN is selected as the active signal input channel.
6	SELECT button	Press to toggle between HDBaseT IN and HDMI IN as the active input source.
7	IR IN port	Connect IR receiver cable. IR signal is forwarded to the IR OUT port of the TX.
8	IR OUT port	Connect IR blaster cable. IR signal originates from the IR IN port of the TX.
9	DEVICES (USB)	2× USB-A ports for keyboard, mouse, USB camera, or storage (KVM extension over HDBaseT).
10	SERVICE port	Micro USB port for firmware update.
11	HDBaseT IN	RJ45 HDBaseT input. Connect to TX HDBT OUTPUT using CAT6A (F/FTP) cable.
12	HDMI IN port	HDMI™ source input for local display without HDBaseT.
13	HOST port	USB-B host port. Connect PC for USB 2.0 KVM at the receiver location.
14	HDMI OUT port	HDMI™ output to remote display (TV, monitor, or projector).
15	LINE OUT port	Analog audio output. Balanced up to 2Vrms / Unbalanced up to 1Vrms. [5-pin 5mm Phoenix]
16	RS-232 port	Bi-directional RS-232 pass-through for controlling devices at the receiver location.
17	DC 24V port	Power input (if not using PoE from TX via HDBaseT). Connect 24V adapter.
18	LINK (Green)	On: TX-RX link good. Flashing: poor connection. Off: not connected.
19	DATA (Yellow)	On: HDMI+HDCP. Flashing: HDMI, no HDCP. Off: no HDMI signal.

5.3 IR CABLE PIN ASSIGNMENT

The IR receiver and IR blaster cables use the following 3.5mm stereo mini-jack pin assignment. The angle between the IR receiver and remote control affects range: $\pm 45^\circ = 0\text{--}5\text{m}$; $\pm 90^\circ = 0\text{--}8\text{m}$.

PIN	IR RECEIVER	IR BLASTER
Tip	IR Signal	IR Signal
Ring	Power 12V+	Power 12V+
Sleeve	Grounding (-)	Grounding (-)



6. IR REMOTE

The included IR remote controls all primary functions of the SW-5X1PS-70M. Point at the TX IR Window (front panel) or the IR receiver cable connected to the IR IN port.

<p>① Power</p> <p>POWER — Power on or set to standby mode</p>	<p>③ AUDIO Buttons</p> <p>USB-C 1 / USB-C 2 / HDMI 3 / HDMI 4 / HDMI 5 / WIN 1 / AIN / DANTE — Select audio input channel for HDMI/HDBT output</p>
<p>② VIDEO Buttons</p> <p>USB-C 1 / USB-C 2 / HDMI 3 / HDMI 4 / HDMI 5 — Select input source in single screen mode. Corresponding front panel button lights blue.</p>	<p><i>Note: USB-C 1, USB-C 2, HDMI 3, HDMI 4, HDMI 5, WIN 1 belong to Main In audio channels. AIN = Analog Line In. DANTE = Dante® In.</i></p>
<p>« / » — Circularly select previous/next input source</p>	<p>MUTE — Mute/unmute Master Out audio</p>
<p>AUTO — Enable/disable auto switching function</p>	<p>VOL- / VOL+ — Decrease/increase Master Out audio volume</p>
<p>PRESET — Cycle through preset application scenes</p>	<p>IR Remote Layout Reference: Top row: POWER VIDEO group: USB-C 1, USB-C 2, HDMI 3, HDMI 4, HDMI 5, AUTO, PRESET, FREEZE, RES., RX HDMI, RX HDBT, «, », Multiview AUDIO group: WIN 1, AIN, DANTE, USB-C 1, USB-C 2, HDMI 3, HDMI 4, HDMI 5, MUTE, VOL-, VOL+</p>
<p>Multiview ▶ — Short press to cycle: Single → PIP → PBP → Triple → Quad</p>	
<p>RES. — Cycle through output resolutions</p>	
<p>FREEZE — Freeze/unfreeze the screen</p>	
<p>RX HDBT — Select HDBaseT IN as RX input channel</p>	
<p>RX HDMI — Select HDMI IN as RX input channel</p>	



7. WEB GUI USER GUIDE

The SW-5X1PS-70M can be controlled via Web GUI over a network connection.

Connection & Login

Step 1: Get the current IP address. Default IP is **192.168.0.100** (when not connected to a router). You can also retrieve the current IP via RS-232 command: send ASCII command `r ip addr` through a serial command tool.

Step 2: Connect the TX LAN port to a PC via UTP cable. Set the PC IP to the same network segment as the switch.

Step 3: Enter the switch IP address in your browser. At the Login interface, enter credentials:

USERNAME	PASSWORD	ACCESS LEVEL
Admin	admin	Full admin control (all pages)
User	user	Preset, Video, Master Out controls only

Domain Name: PS51KVM-75AA.local can be used as an alternative to the IP address to access the Web GUI.

Admin Pages Overview

Information: Model name, firmware version (MCU, Web, Scaler, FPGA, RX), IP information, and current device temperature. Top-right controls: Master Out volume, current username, power standby toggle, logout.

Status: Displays input/output port connection status, resolution, color space, color depth, and HDCP for all ports.

Preset: Save up to 5 preset scenes with custom names (Chinese not supported). Use Save, Clear, and Recall buttons per preset slot.

EDID: Set EDID mode per input port from 16 options (Auto, Copy HDMI OUT, Copy HDBT OUT, 4K2K60_444, 4K2K30_444, 1080P, 720P, 1920×1200, 1680×1050, 1600×1200, 1440×900, 1360×768, 1280×1024, 1024×768, User Defined 1–2). Download or upload .bin EDID files.

Video Page

Switch Mode: Toggle Auto Switch on/off. Set Fallback Input (Auto / USB-C 1 / USB-C 2 / HDMI 3 / HDMI 4 / HDMI 5). Auto switching sequence: USB-C 1 → USB-C 2 → HDMI 3 → HDMI 4 → HDMI 5. Auto switching is available in single screen mode only.

Window Layout: Select display mode (Single/PIP/PBP/Triple/Quad). Set Freeze, AV Mute, PIP Position, PIP Size, Display Mode, Display Aspect, and Border color for multiview modes. Click Save to apply.

Output Setting: Select output resolution (Auto or fixed — see Specifications for full list). Set HDMI HDCP and HDBT HDCP versions independently. Click Save to apply.

Audio Page

Source Select: Independently assign audio source for Main In (HDMI/USB-C In), HDMI/HDBT Out, Line Out, and Dante Out. Options: Main In (HDMI/USB-C In), Line In, Dante In.

Input Setting: Set volume or mute independently for Main In / Line In / Dante In.

Output Setting (Master Out): Set volume/mute for HDMI/HDBT Out, Line Out, and Dante Out together or independently. Set per-output delay (0–50ms), audio mix channel (Stereo / Left / Right / L&R), and GEQ preset (Flat / Custom 1–5) or per-band EQ (31 bands).



7. WEB GUI USER GUIDE (CONTINUED)

USB Page

USB Switch Mode:

- ✓ **Auto mode** — Detects USB 5V then switches automatically
- ✓ **Manual mode** — Switch manually to USB-C 1, USB-C 2, or Host 3
- ✓ **Follow Video** — USB follows the video output of Window 1 in multiview mode (HDMI 3 binds with USB Host 3)

Click Save to apply changes.

RS-232 Page

RS-232 Settings: Set Baud Rate, Data Bit, Parity, and Stop Bit independently for the Local RS-232 (TX) and Remote RS-232 (RX) ports.

RS-232 Commands (Display Auto Power): Enable/disable auto power on/off with configurable power on command, delay, input select command, and second delay for both local and remote RS-232. Supports HEX and ASCII command formats.

RS-232 Commands (General): Send arbitrary ASCII or HEX commands to local or remote RS-232 with configurable command ending (Null / CR / LF / CR+LF).

Network Page

Set IP Mode (DHCP or Static), IP Address, Subnet Mask, Gateway, Telnet Port (default: 23), and TCP/IP Port (default: 8000). Modify Admin and User login passwords. Click Save to apply, then reboot network module if IP settings changed.

System Page

Display Control: Enable/disable CEC Command and Display Auto Power. Set Auto Power Off Timer (5 sec, 10 sec, 30 sec, 1 min, 5 min, 10 min) and Control Type (CEC / RS-232 / CEC+RS-232).

System Utilities:

- ✓ **Front Panel Buttons:** Lock/unlock front panel buttons
- ✓ **Beep:** Enable/disable button beep sound
- ✓ **USB-C Ethernet Access:** Enable/disable USB-C network pass-through
- ✓ **PoE Function:** Enable/disable PoE output to RX on HDBT port
- ✓ **Fan Speed:** Auto / 25% / 50% / 75% / 100%
- ✓ **Reboot:** Reboot the switch
- ✓ **Restore Factory Settings:** Reset all settings to factory defaults
- ✓ **Export/Import Settings:** Save or load configuration files

Firmware Update: Update MCU, Web, Scaler, or Receiver firmware. Click Choose File, select the update file, then click Update. Progress bar reaches 100% when complete.

8. DANTE® WEB GUI USER GUIDE

The SW-5X1PS-70M has a built-in Dante® Web GUI for Dante network configuration.

Step 1: Connect the TX DANTE port and your PC to the same network switch with two separate cables.

Step 2: Set the PC network adapter to "Obtain an IP address automatically" (DHCP).

Step 3: Open the **Dante Controller** application on the PC. Find the Dante device on the Routing page. Click the **Device Info** tab to get the Dante device IP address.

Step 4: Enter the Dante device IP address into your browser. At the login page, enter:

USERNAME	PASSWORD
Admin	admin

Dante Domain Name: DEP22-012d43.local can be used as an alternative to the Dante IP address.

Dante Web GUI Pages

Information: Model name, software version, and IP information for the Dante module.

Network: Set Dante IP Mode (DHCP/Static), IP Address, Subnet Mask, Gateway, Telnet Port, TCP Port, and Domain Name. The product model name can also be modified on this page.

System: Modify Admin password. Perform firmware update (DEP SDK). Reset to factory settings or reboot the Dante module independently from the main switch.

Use **Dante Controller** (downloaded from Audinate) to create Dante routing subscriptions between the SW-5X1PS-70M TX/RX Dante ports and other Dante devices on your network.



9. RS-232 CONTROL COMMANDS

Connect the RS-232 port to a PC using a 3-pin Phoenix connector cable and RS-232-to-USB adapter (TX → RX, GND). Use a serial command tool on the PC to send ASCII commands.

Serial Protocol: Baud Rate: 115200 (default) • Data Bits: 8 • Stop Bits: 1 • Parity: None • **TCP/IP Port:** 8000 • x = Parameter 1 • y = Parameter 2

Command Code	Function	Default / Notes
System		
help / ?	List all commands	—
r type	Get device model	PS51KVM
r fw version	Get firmware version	MCU/Web/Scaler/FPGA/RX versions
r status	Get full device status	See status note below
s power on / off	Power on / off device	—
r power	Get current power state	power on / power off
s reboot	Reboot device	—
s reset	Reset to factory defaults	—
s front button x	Lock/unlock panel buttons (x=0 unlock, 1 lock)	Default: 0 (Unlocked)
s beep x	Beep on/off (x=0 off, 1 on)	Default: 0 (Off)
s ir x	IR on/off (x=0 off, 1 on)	Default: 1 (On)
s UsbcAccessNetwork x	USB-C network access on/off (x=0/1)	Default: 1 (On)
s fan speed x	Fan speed (x=0 Auto, 1=25%, 2=50%, 3=75%, 4=100%)	Default: 0 (Auto)
r temp	Get internal temperature	e.g. Temp: 65C
s poe x	HDBT PoE on/off (x=0/1)	Default: 1 (On)
Input / EDID		
s input x EDID y	Set input EDID (x=0-5 input, y=1-16 EDID mode)	x=0: all, 1-5: USB-C1/2, HDMI3/4/5. y=1: Auto, 4: 4K2K60, 5: 4K2K30, 6: 1080P, 7: 720P...
r input x EDID	Get input EDID mode (x=0-5)	Default: Auto (y=1)
Output		
s output res x	Set output resolution (x=1-15)	x=1: Auto, 2: 4K60, 6: 4K30, 9: 1080p60... Default: Auto (x=1)
r output res	Get output resolution	—
s output x hdcp y	Set HDCP (x=0 all, 1 HDMI, 2 HDBT; y=1 Auto, 2 HDCP1.4, 3 HDCP2.2)	Default: Auto
s output avmute x	AV mute on/off (x=0/1)	Default: 0
s output freeze x	Freeze on/off (x=0/1)	Default: 0
s output itc x	Video mode (x=1 Video, 2 PC)	Default: 1
Single Screen & RX		
s auto switch x	Auto switch on/off (x=0/1)	Default: 0 (Off)
s input source x	Route input to output (x=1 USB-C1, 2 USB-C2, 3 HDMI3, 4 HDMI4, 5 HDMI5)	Default: USB-C 1
r input source	Get active input source	—
s rx input x	Set RX input (x=1 HDBT, 2 HDMI)	Default: HDBT
s rx auto switch x	RX auto switch on/off (x=0/1)	Default: 1 (On)



9. RS-232 CONTROL COMMANDS (CONTINUED)

Command Code	Function	Default / Notes
Audio — Source & Volume		
s output x audio y	Set output audio source (x=0-3 output, y=1 Main In, 2 Line In, 3 Dante In)	Default: 1 (Main In)
s main in audio x	Set Main In audio source (x=1 Win1, 2 USB-C1, 3 USB-C2, 4 HDMI3, 5 HDMI4, 6 HDMI5)	Default: 1 (Window 1)
s input x audio vol y	Set input volume (x=0-3 input, y=0-100)	Default: 50
s input x audio vol+ / vol-	Increase/decrease input volume	—
s input x audio mute y	Input mute (x=0-3, y=0 off, 1 on)	Default: 0
s master audio vol x	Set master output volume (x=0-100)	Default: 50
s master audio mute x	Master mute (x=0/1)	Default: 0
s master member x y z	Master member (x=HDMI/HDBT, y=Line, z=Dante; 0=exclude, 1=include)	Default: 1 1 1
s output x audio vol y	Set output volume (x=0-3, y=0-100)	Default: 50
s output x audio mute y	Output mute (x=0-3, y=0/1)	Default: 0
s output x audio delay y	Output delay ms (x=0-3, y=0-50)	Default: 50ms
s output x audio mix y	Audio mix (x=0-3, y=1 Stereo, 2 Left, 3 Right, 4 L+R)	Default: Stereo
s output x audio eq y val z	Set EQ band (x=0-3 out, y=1-31 band, z=0-20 value)	—
s output x audio eq preset y	EQ preset (x=0-3, y=1 Flat, 2-6 Custom1-5)	Default: 1 (Flat)
s output x audio eq reset	Reset EQ for output	—
USB		
s UsbSwitchMode x	USB mode (x=1 Auto, 2 Manual, 3 Follow Video)	Default: 1 (Auto)
s UsbManual x	Manual USB switch (x=1 USB-C1, 2 USB-C2, 3 Host3)	—
s UsbPower x	TX USB device ports 5V (x=0 Force off, 1 Force on, 2 Follow)	Default: 1
s rx usbpower x	RX USB device ports 5V (x=0 Force off, 1 Force on, 2 Follow)	Default: 1
RS-232 / Serial		
s serial x setting y	Set baud (x=0 All, 1 Local, 2 HDBT; y=e.g. 115200-8n1)	Default: 115200-8n1
s serial x enable y	RS-232 enable/disable (x=0-2, y=0/1)	Default: on
s serial x ASCII/HEX power on <y1> delay1 <y2> input <y3> delay2 <y4>	Set power-on command with delay & input select for local/HDBT RS-232	—
s serial x ASCII/HEX power off <y1> delay <y2>	Set power-off command	—
Preset		
s preset save x	Save current settings to preset x (x=1-5)	—
s preset recall x	Recall preset x	—
s preset clear x	Clear preset x	—
s preset x name y	Name preset x (max 16 chars, no Chinese)	—
CEC		
s cec power on / off	Send CEC power on/off command to display	—
s auto power feature x	Display auto power on/off (x=0/1)	Default: 1 (On)
s auto power off timer x	Auto power off delay (x=1-6: 5s/10s/30s/1m/5m/10m)	Default: 4 (1 min)
s auto power control x	Control via (x=1 CEC, 2 RS-232, 3 CEC+RS-232)	Default: 1 (CEC)



9. RS-232 CONTROL COMMANDS (CONTINUED)

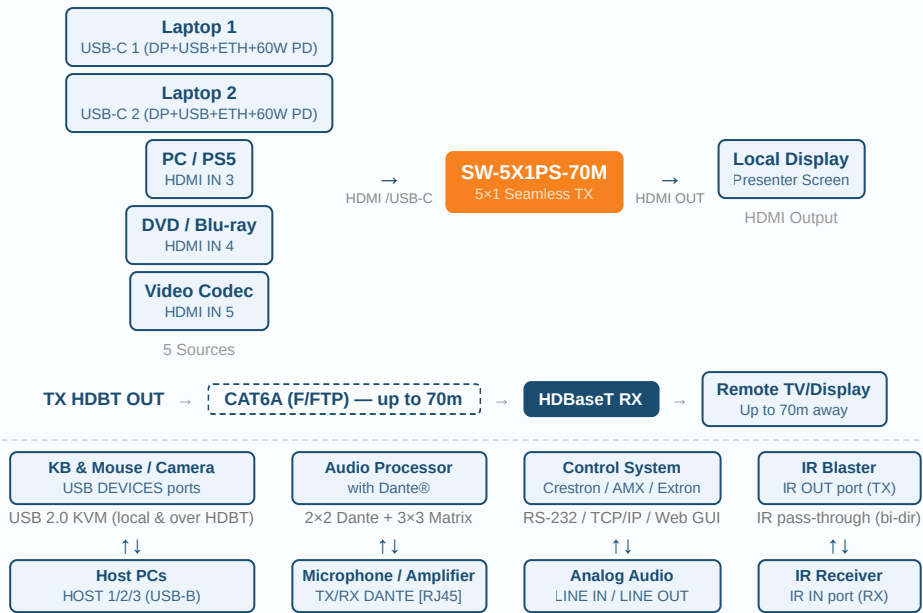
Command Code	Function	Default / Notes
Multiview Window Layout		
s window layout x	Set layout (x=1 Single, 2 PIP, 3 PBP, 4 Triple, 5 Quad)	Default: 1 (Single)
r window layout	Get current layout	—
s window x source y	Set window x (1-4) input source y (1-5: USB-C1/2, HDMI3/4/5)	—
s window x pip size y	PIP size for window x (y=1 Small, 2 Medium, 3 Large)	—
s window x pip position y	PIP position (y=1 Top-Left, 2 Top-Right, 3 Bottom-Left, 4 Bottom-Right)	—
s window x border y	Window border on/off and color	—
Network		
r ipconfig	Get IP configuration (mode, IP, mask, gateway, ports, MAC)	—
r ip addr	Get IP address	—
r mac addr	Get MAC address	—
s ip mode x	IP mode (x=0 Static, 1 DHCP)	Default static: 192.168.0.100
s ip addr xxx.xxx.xxx.xxx	Set static IP address	Requires s net reboot to apply
s subnet xxx.xxx.xxx.xxx	Set subnet mask	Requires s net reboot to apply
s gateway xxx.xxx.xxx.xxx	Set gateway	Requires s net reboot to apply
s tcp/ip port x	Set TCP/IP port (x=1-65535)	Default: 8000
s telnet port x	Set Telnet port	Default: 23
s net reboot	Reboot network module to apply IP changes	—
Password		
s admin password x	Set admin password (max 16 chars)	Default: admin
s user password x	Set user password (max 16 chars)	Default: user
r admin password	Get admin password	—
r user password	Get user password	—

r status feedback format — Returns a full status block including: Firmware versions (TX/Web/Scaler/FPGA/RX); Per-input: Cable, Resolution, ColorSpace, ColorDepth, HDCP, EDID; Per-output: Cable, Resolution, ColorSpace, ColorDepth, HDCP, AVMMute, Source; System: Power, PoE, Key, Beep, IR, UsbcAccessNetwork, FanSpeed, Temp(C), Baud; Network: TCP/IP port, Telnet port, MAC, DHCP/Static IP, Gateway, SubnetMask.



10. CONNECTION DIAGRAM

BYOD Conference Room with HDBaseT Extension, Dante® Audio & USB 2.0 KVM



How it works: Connect up to 5 sources to the SW-5X1PS-70M TX. The selected source routes to the local HDMI display and mirrors over a single CAT6A cable to the HDBaseT RX — up to 70m for 4K30/1080p or 40m for 4K60. USB-C inputs carry video (DP Alt), USB 2.0, 100M Ethernet, and 60W charging in one cable. Seamless switching eliminates blackouts in single-screen mode; multiview (Single, PIP, PBP, Triple, Quad) enables simultaneous source monitoring. The 3x3 Dante® audio matrix routes networked audio with independent EQ, volume, and delay per output. USB 2.0 KVM follows the active input locally and extends over HDBaseT to the receiver. IR and RS-232 signals pass through bidirectionally.



TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE & SOLUTION
No video at remote display (RX)	Verify F/FTP shielded CAT6A cable with direct (not crossover) connection. Check LINK LED on RX — if off, reset cable at both ends. For 4K60, max distance is 40m; set output to 4K30 or 1080p for runs up to 70m. Avoid unshielded UTP or substandard patch panels.
USB-C input not detected	Confirm the laptop supports DisplayPort Alt mode over USB-C. Use a certified cable rated for DP Alt mode. Not all USB-C ports output video — check laptop specifications or look for the DP icon next to the USB-C port.
60W charging not working on USB-C	Verify the cable supports USB Power Delivery (PD). Some laptops require the USB-C PD connection before Alt mode activates. Confirm the connected laptop accepts 24V PD charging.
Dante audio not routing	Open Dante Controller on the network and verify TX/RX Dante ports are subscribed. Confirm all Dante devices are on the same subnet. Ensure the network switch supports QoS/multicast. Use the Web GUI to verify 3x3 matrix routing and per-output EQ/volume/delay settings.
KVM not switching	Check USB Switch Mode in Web GUI (or via RS-232: <code>r UsbSwitchMode</code>). In Auto mode, the switch detects USB 5V. In Follow Video mode, USB follows Window 1 source. Try setting Manual mode and switching manually to isolate the issue.
Web GUI not accessible	Default IP: 192.168.0.100 (standalone) or DHCP assigned when connected to a router. Use <code>r ip addr</code> via RS-232 to get the current IP. Ensure PC is on the same subnet. Try domain name <code>PS51KVM-75AA.local</code> .
Multiview sources not displaying correctly	Set window sources via Web GUI (Video page → Window Layout). Auto switching is disabled in multiview mode — sources must be set manually per window. Check display mode (PBP/Triple/Quad) matches the number of active sources.
No audio from analog Line Out	Verify the audio source is routed to Line Out via Web GUI Audio page or RS-232: <code>s output 2 audio y</code> . Check wiring: Balanced = L+, L-, GND, R+, R-; Unbalanced = L+, GND, R+. Check output volume is not muted.
IR remote not working	Point remote at TX front IR window (or connected IR receiver cable). Confirm IR is enabled: <code>r ir</code> via RS-232. Check battery in remote. Ensure angle is within ±45° for 5m range or ±90° for 8m range.
HDR content not passed through	HDR input is supported but HDR output is not. The unit will strip HDR metadata on output. Displays will show SDR output even with HDR source content — this is expected behavior.
HDCP authentication failure	Set HDCP output version to match the sink device via Web GUI (Output Setting) or RS-232: <code>s output 0 hdcp y</code> . Try Auto (y=1) first, then HDCP 1.4 (y=2) or HDCP 2.2 (y=3) as needed.
Fan running loud	Check ambient temperature — operating range is 0°C–40°C. Use Web GUI System page to set Fan Speed to Auto (recommended). Ensure adequate ventilation around the unit. Check <code>r temp</code> via RS-232 for current temperature.

Factory Reset: Hold the RESET button on the TX rear panel for 5 seconds to restore all settings to factory defaults. Alternatively, use Web GUI System page → Restore Factory Settings, or RS-232 command `s reset`.

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