

Specification

NVDAK-10xxP Computer Unit

NVDAK Series	Computer Unit	Console Unit
MAX. Resolution	3840x2160@30Hz (4:4:4) for 4K Models 1920x1080@60Hz (4:4:4) for 1080P Models	
Video Extension	HDMI / DVI / DP x 1 (In) (Depend on Model*)	HDMI x 1 (Out) (Depend on Model)
Audio Extension	3.5mm SPK Jack x 1 (In) (Audio Embed)	3.5mm SPK Jack x 1 (Out) (Audio Extract)
IR Extension	3.5mm IR Jack x 1 (In) 3.5mm IR Jack x 1 (Out)	3.5mm IR Jack x 1 (Out) 3.5mm IR Jack x 1 (In)
USB 2.0 Extension**	USB-B x 1	USB-A x 2 (KB/MS) USB-A x 1 (Keypad) USB x 1 (Front USB 2.0)
Serial Control	RJ11 x 1	RJ11 x 1
Unit ID Setting***	Rotary Switch x 3 (MAX. 999)	Rotary Switch x 2 (MAX. 99)
Putton & Switch	Function Putton x 2 Reset Button x 1 Slide Switch x 1	Function Putton x 2 Reset Button x 1 Slide Switch x 1
HDCP Compliance	HDCP 1.4	
Link Port	RJ45 x 1 (CAT.5e/6/7) or 1.25Gbps SFP Module (Duplex LC, Single-Mode Fiber)	
Extension Range	MAX. 100M with CAT.5e/6 (to LAN HUB) MAX. 70KM with Single-Mode Fiber (to LAN HUB)****	
Power Supply	DC 12V or PoE (Depend on Model) (PoE Models Also Have Optional DC Jack)	
Operation Environment	0~40°C, Humidity<80%	
Storage Temperature	-20~60°C	
Material	Aluminum	Aluminum
H x W x D (mm)	40 x 135 x 100	40 x 135 x 100
Weight (g)	560	560

* See Order Information for Model Numbers

** Display Units Do Not Have USB Extension Function

*** Console MAX. Units and Display Units (Rx) Support ID Up to 599

**** Fiber Models' Extension Range Depends on the Fiber Modules Applied

Description



Label	Description
Ps	Power Supply Connect to DC 12~48V Power Supply (Optional for PoE Models)
Br	Reset Button Click to Restart Unit
Si	Selector Input Connect to 3.5mm Selector for Video Conference Application
Xc	LAN Link Port Connect to LAN HUB via CAT.5e/6 Cable or SFP Fiber Module (Duplex LC)
Vi	Video Input Connect to Computer's Video Output (Main Desktop)
Wa	Audio Input Switch Switch to Enable/Disable Audio Embed Function
Ai	Audio Input Connect to 3.5mm Analog Audio Source
Up	USB Computer Port Connect to Computer's USB 2.0 Port
S1	Function Button 1 Click to Connect to the Console Unit Whose ID=001
S2	Function Button 2 Click to Connect to the Console Unit Whose ID=002
Lr	Reset LED Flash Green = Initiating Procedure, Emit Blue = Working Now
ID	ID Switch Switch to Determine Computer Unit's ID Number (001~999)
Sc	Serial Control Port Connect to Serial Control Computer via RJ11 Cable
Ro	IR Extension (IR Out) Connect to External IR Blaster
Ri	IR Extension (IR In) Connect to External IR Sensor
Ls	Status LED Emit Green = LAN Unconnected, Emit Blue = Communicate Properly, Flashing = No Incoming Video Signal

Features

NVDAK-10xxP Computer Unit

- **Matrix Control System** Allows User to Assign Any Computer to Any Console Station inside a LAN System (MAX : 999 Tx / 599 Rx)
- **Fast and Easy Installation** Empowered by the 3-Steps Easy Install (Connect - ID Assign - Scan)
- Intuitive and Easy-to-Learn Control Methods :
 - Easy Keypad Hotkey
 - Keyboard Hotkey
 - Serial Control
 - IR Control
- Supports Most Popular Resolutions Up to FHD or 4K@30Hz (Depend on Model)
- HDCP 1.4 Compliance Ensures Uninterrupted Video Playback
- DVI / HDMI / DisplayPort Models Available for The Computer Unit
- Single-Monitor / Dual-Monitor Models Available
- IR Extension Facilitates Remote Control of Display or Sources
- **Group Setting** Allows Multiple Consoles / Video Walls Switch Together
- **Anchor Setting** Allows Quick Return to the Favorite Channel Mapping
- **Name Setting** Allows Assignment of Meaningful Names to the Units
- **Video Wall** Function Up to 5x5 or 3x8 (MAX. 25 Displays)
- Optional : Mouse Roaming KM Switch / Programming Keyboard
- Ideal for : Control Room / Emergency Response Center / Data Center / Mission Control / Industrial Control / Automation / Video Conference / Education

Package Contents

- KVM Matrix Extender Computer Unit x 1
 - Power Adapter Set x 1
 - User's Manual x 1
 - Foot Pad Set x 1
- You May Also Need:
- Console Unit or Display Unit
 - RJ11 Cable + RJ11 to DB9 Adapter (For Serial Control Application)
 - IR Extension Kit (IR Sensor x 1, IR Blaster x 1)
 - Bracket

User's Manual

MAX. 999 Computers

KVM HDMI Matrix Extender over LAN (Computer Unit) with HDMI 1.4, USB 2.0, Audio, IR Extensions with Hotkey, Keypad, Serial, IR Controls

The NVDAK-1000 series control room solution is an over-LAN KVM matrix extender consisting of the computer units (with video options) and 3 options of console units (Console / Console MAX / Display for different purposes). For Dual/Triple/Quad-Monitor users, there's also NVDAK-1200 series to apply.

Order Information

Model	Video	Link Port	MAX. Resolution	MAX. Units
NVDAK-1031PD	FHD DVI	GbE LAN (Non-PoE)	1920x1080@60Hz (4:4:4), 8-bit	999
NVDAK-1031P	FHD HDMI			
NVDAK-1032P	Fiber LAN (SFP Module)			
NVDAK-1038P	4K HDMI	GbE LAN (Non-PoE)	3840x2160@30Hz (4:4:4), 8-bit	999
NVDAK-1041P	4K HDMI			
NVDAK-1042P	Fiber LAN (SFP Module)			
NVDAK-1048P	4K DisplayPort	GbE LAN (Non-PoE)	3840x2160@30Hz (4:4:4), 8-bit	999
NVDAK-1041PP	4K DisplayPort			
NVDAK-1042PP	Fiber LAN (SFP Module)			

Also Required (Consult the Dealer to Match the Computer Unit / Console Unit)

Series	Function	Tx / Rx	Feature
NVDAK-10xxS	Console Unit	Rx	Standard Console Unit for Consoles <99
NVDAK-10xxM	Console MAX Unit	Rx	Supreme Console Unit for Up to 599 Consoles
NVDAK-10xxR	Display Unit	Rx	Display Unit for Multiple Video Walls or Video Broadcast

Also Available : NVDAK-1200 Series **Dual Monitor** Control System

Nueteq Technology, Inc.
11F, No.112, Sec. 1, Zhong-Xiao E Rd.,
Taipei, Taiwan

■ The final specification is the actual product based.
■ Features and functions may be added or changed after the manual was written. Please visit our website to download the latest version of manual for reference.

PP5-MVLK37Z-001



Installation

NVDAK-10xxP Computer Unit

- WARNING**
- Ensure that all devices are powered off before connecting to the Unit.
 - Make sure all devices you will connect are properly grounded.

1. **Connect** the console unit to a computer with proper video cable to the video output (HDMI/DVI/DP, depend on model), with USB A-B cable to the USB 2.0 or 3.2 port, 3.5mm Audio Cable to the SPK output port.
2. Connect the console unit to a LAN HUB with CAT.5e/6 cable(s) or single-mode fiber cable(s). (Depend on Model)

----- After All Units Installed -----

3. **Set unit ID** with the ID rotary switches. (Each Unit Should Have A Unique ID)
4. Apply proper power.
5. **Scan** the entire system with Rx NodeQ command ("Ctrl" + "Ctrl" + " " //NodeQ&& " + "Enter") (See User's Manual of the Computer Units)

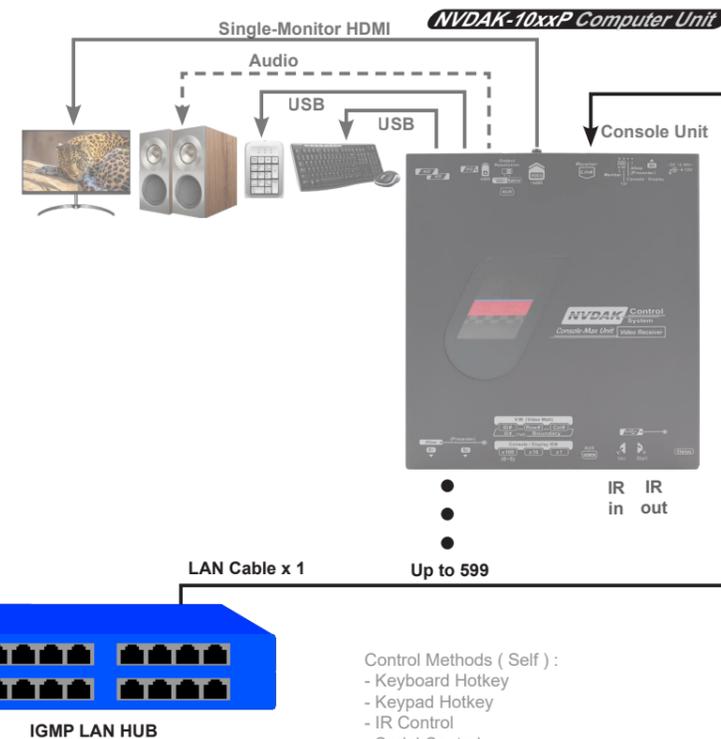
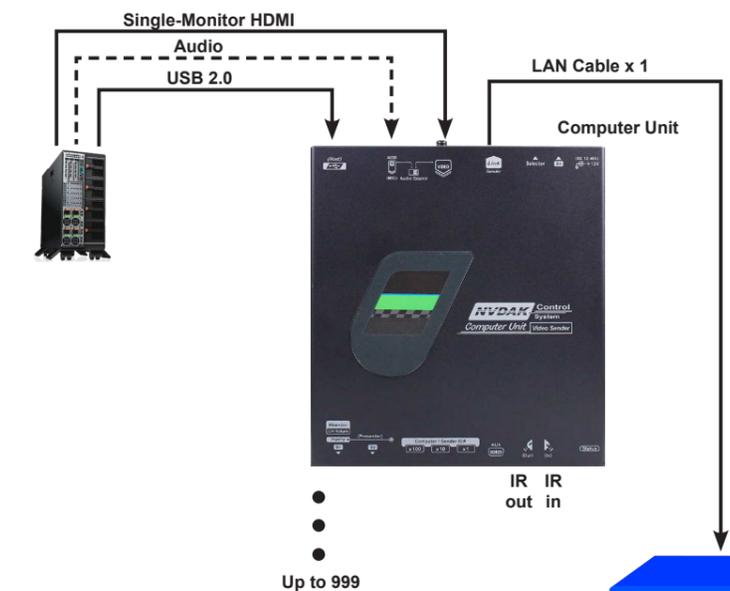
NOTE: If users encounter no screen display in computer connection

1. Make sure the device cables are correctly and firmly attached.
2. Set your display device's input source as HDMI.
3. Check the PC BIOS configuration about the video output setting.
4. Connect your computer to the HDMI Display DIRECTLY to check if the video signal gets through.
5. Slide the switches to the correct positions according to your displays.
6. Apply EDID Copy to your display. (See User's Manual of the Computer Units)

LAN Considerations

1. LAN HUB should be at least 10Gbps (The more the computers, the higher speed the HUB should be)
2. LAN HUB should support **IGMP** (VLAN if the HUB is to be used with other purposes)
3. LAN HUB should have SFP cages when fiber models are to be applied (The SFP modules applied on fiber units and the HUB should be identical)
4. Available SFP module options for fiber units :
(Duplex LC, Single-Mode, 9/125 μm)
(a) SFP Module **Not Included**
(b) **10KM** 1.25Gbps SFP Module
(c) **20KM** 1.25Gbps SFP Module
(d) **30KM** 1.25Gbps SFP Module
(e) **70KM** 1.25Gbps SFP Module
User should specify module option when placing order.
5. For the CAT.5e/6 units, cabling should be connected with due care.
6. Use **≥10Gbps port** when cascading switching HUB.
7. Connect the console units and computer units **only to the 1Gbps ports** of the switching HUB.

Connection Pattern



- Control Methods (Self) :
- Keyboard Hotkey
 - Keypad Hotkey
 - IR Control
 - Serial Control

- Control Methods (Other Consoles) :
- Keyboard Hotkey
 - Keypad Hotkey
 - IR Control
 - Serial Control

Operation

Controls are mostly done with the console units. See console units' user's manual for detail.

Serial Control

The computer units are only capable of limited serial controls. Most serial controls (Full function) are done by the console units or display units. See console units' manual for serial connection. Available serial commands for the computer units (Limited functions) :

Command (+Enter)	Function
//FACTORY	Return to Factory Default
//REBOOT	Reboot
//UPDATE	Update firmware with mini-USB
//BEEP+	Enable Buzzer
//BEEP-	Disable Buzzer

Console Unit and Display Unit Selection Considerations

1. For pure AV (and video wall) applications : Other than the display units, one console unit for keypad and keyboard control is highly recommended.
2. **Do not** mix 4K computer units with 1080P console units or display units. (Console units and display units can be of higher resolution than the computer units, but not vice versa)
3. Multi-monitor applications : Only switch the console units to the computer units with identical monitor count. (Dual-monitor to Dual-monitor ...) Switching console units to the computer unit with different monitor count might not work well for the extended desktops
4. Scale-down function of the console unit and display unit is useful when some of the monitors are of lower resolutions, scaling them down may keep other monitor displaying at their best resolution.
5. If multiple video walls are to be installed, display units or console max units should be applied. If only one video wall is required, console unit should be enough for most applications.
6. For the environment with high EMI or in environment sensitive to EMI, fiber models should be considered.

