## VOPEX® Series

# VOPEX-2/4KVIM-A
## VOPEX PS/2 KEYBOARD, MONITOR, and MOUSE SPLITTER
## Installation and Operation Manual

*Note:  Any internal building wiring must be performed by a local licensed electrician and comply with the National Electrical Code (NEC) requirements.*

**CE Statement**

We, Network Technologies Inc, declare under our sole responsibility that the VOPEX-2KVIM-A and VOPEX-4KVIM-A is in conformity with European Standard EN55022.

**UL Listing/CUL File E238791**

This information technology equipment is UL-Listed and CUL Listed or CSA-Certified for the uses described in this manual.

# TABLE OF CONTENTS

## INTRODUCTION

This VOPEX allows 1 IBM compatible CPU to support multiple users (either 2 or 4, depending on the VOPEX model).  The PS/2 devices (keyboards and mice) of many different manufacturers can be plugged into the VOPEX when powering up.  Also, any combination of devices will work.   (e.g. a mouse on port 2, keyboards on ports 3 and 4).  Hot plugging devices at any time is fully supported with the possible exceptions listed in "SPECIAL MOUSE CONSIDERATIONS"  (page 3).

### Features
- Multiple users can enter data from multiple locations
- Compatible with all PS/2 style PCs, RS6000, SGI, and HP9000
- Compatible with most PS/2 mice
- Keyboards and mice are hot-pluggable
- Interconnect NTI switches and splitters for complex applications
- Supports 1900 x 1200 resolution at 150MHz bandwidth


**Option:**  VOPEX  wtih stereo audio support- connect an audio source and up to 4 self-powered-stereo audio speakers- Order **VOPEX-4KVIMA-A** (4-port) or **VOPEX-2KVIMA-A** (2-Port)


## MATERIALS


### Materials Supplied with this kit
- VOPEX 2/4KVIM-A  2 or 4 Port PS/2 KVM Splitter
- 110 or 220VAC at 50 or 60Hz-5VDC/2A AC Adapter
- Line cord,  country specific
- A set of cables connecting the VOPEX to the IBM compatible CPU:
    - VEXT-3         -Connects the Video port of the CPU to the VOPEX
    - VVKINT-3-MM     -Connects the PS/2 keyboard and mouse ports of the CPU to the VOPEX
    - SA-3-MM         -Connects the Audio port of the CPU to the VOPEX **(models with audio support only)**


### Optional Materials

- A cable for each device to be connected to the VOPEX.  The maximum length of these cables is 100 feet.

    - VVKINT-*xx*   -PS/2 Keyboard or Mouse extension cable (3, 6, 10, 15 and 25 foot lengths available)
    - VVKEXT-*xx*   -PS/2 Keyboard or Mouse extension cable (35, 50, 75, and 100 foot lengths available)
    - VEXT-*xx*        -VGA video extension cable (3,6,10,15,25,35,50,75 and 100 foot lengths available)
    - SA-xx-MF     - Audio Extension cable (3,6,12,14, 25, and 50 foot lengths available)

*where*:      *xx* is the length of the cable in feet, and
          *MM* indicates male-to-male connectors.


*Cables can be purchased from Network Technologies Inc by calling (330) 562-7070,  or (800) RGB-TECH (800-742-8324), or by visiting our website at http://www.networktechinc.com.*


***Note:  Any internal building wiring must be performed by a local licensed electrician and comply with the National Electrical Code (NEC) requirements.***

## INSTALLATION

Turn OFF power to the CPU that will be connected to the VOPEX before connecting or disconnecting any cables.

> **WARNING!** **If power to the CPU is not turned OFF before connecting or disconnecting cables, damage to the CPU may result.**

### Connect the CPU

1.  Connect a VEXT-3 cable from the video port of the CPU to the male 15HD port labeled "VIDEO IN" on the VOPEX.
2.  Connect the purple male 6 miniDIN connectors of the VVKINT-3-MM cable from the keyboard port of the CPU to the female 6 miniDIN port labeled "KYBD FROM CPU" on the VOPEX.
3.  Connect the green male 6 miniDIN connectors of the VVKINT-3-MM cable from the mouse port of the CPU to the port labeled "MOUSE FROM CPU" on the VOPEX.



**Rear View of VOPEX-4KVIM-A**
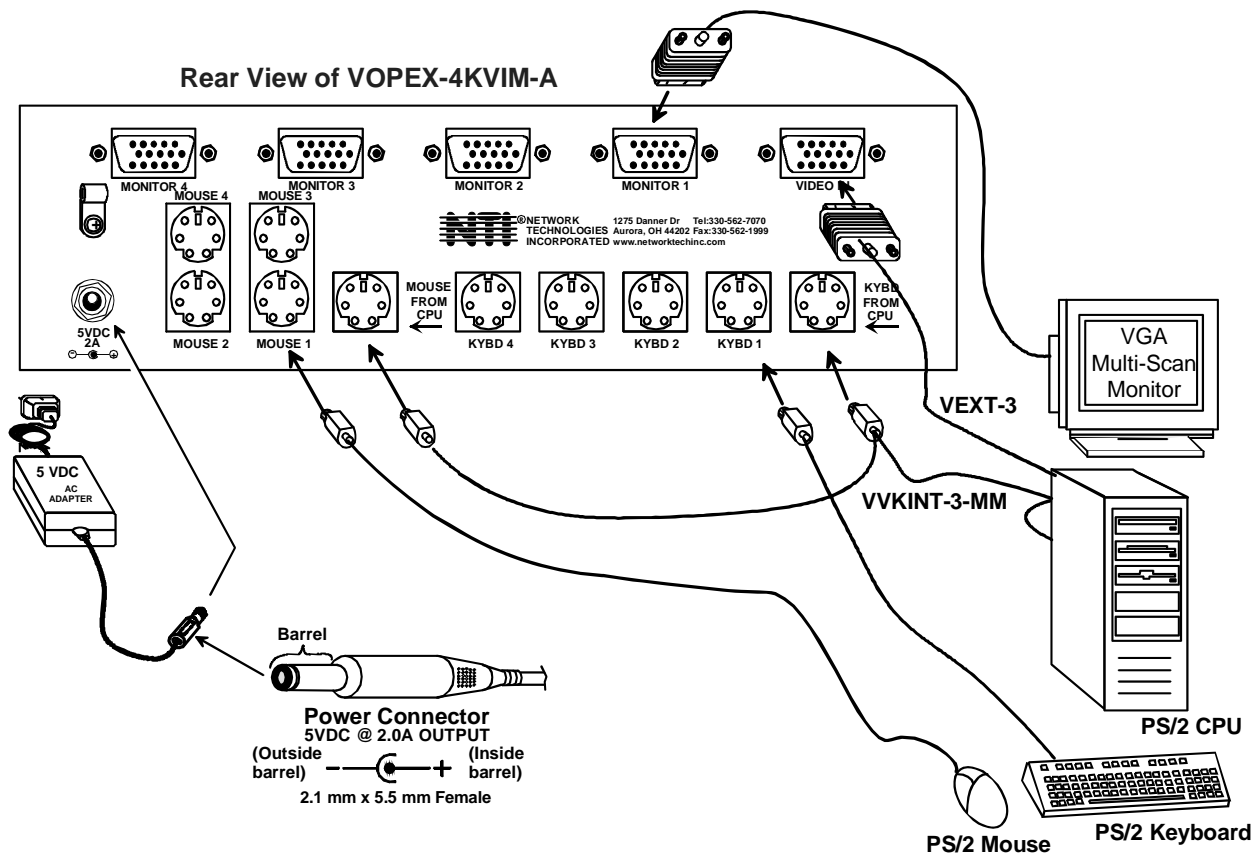
### Connect the Monitor(s)

1.  Connect a monitor to  "MONITOR 1"  on the back of the VOPEX (see figure above)**.**

*NOTE: A monitor must be connected to the port labeled "VGA MON1" for the monitor device driver to function properly.*

2.  Connect any other monitors to any of the other "MONITOR x" ports on the back of the VOPEX.

### Connect the Mouse(Mice)

1.  Connect a mouse to the "MOUSE1" port on the back of the VOPEX (see figure above).
2.  Connect any remaining mice to other "MOUSEx" ports on the back of the VOPEX.  Note which port number each user is attached to.

### Connect the Keyboard(s)

1.  Connect a keyboard to the port labeled "KYBD1" on the rear of the VOPEX (see figure above).
2.  Connect other keyboards to KYBDx ports on the VOPEX, making sure that each user is connected to a keyboard port and a mouse port with the same number.

### Connect the AC adapter

Connect the AC adapter to the VOPEX and plug it into an AC power outlet.

## SPECIAL MOUSE CONSIDERATIONS

*NOTE:  If the VOPEX is power-cycled with the CPU ON, the mouse driver must be reloaded for mice to function properly.*

1. **Hot plugging limitations**
   A.   Any mouse to be emulated must be connected to "MOUSE1" at VOPEX power-up.  e.g.   If at a later time the user wants to hot-plug 3-button mice, a 3-button mouse must have been connected to "MOUSE1" at VOPEX power-up.
   B.   If no mice were connected at power-up, VOPEX will default to standard 2-button mode.
2. **ALPS Glidepoint**
   A.   For "taps" function to work properly, ALPS Glidepoint must be connected to "MOUSE1" at power-up and ALPS Mouse Driver must be used.
   B.   Some Microsoft mice may conflict with ALPS Glidepoint.  If a problem occurs, connect ALPS to "MOUSE1" and use a regular Microsoft mouse driver.  NOTE:  "taps" will not function in this configuration.
3. **Microsoft Ballpoint**
   A.   Do not connect Ballpoint to "MOUSE1" if other types of mice are to be used in the VOPEX.  If Ballpoint is connected to "MOUSE1", all other mice must also be Ballpoints.
   B.   At least one Ballpoint must be connected to VOPEX when powering up in order for hot-plugging to work for other Ballpoints.
4. **3-button Mice**
   A.   A 3-button mouse must be connected to "MOUSE1" for any mice to work as 3-button.
5. **Microsoft IntelliMouse**
   A.   All mice connected to VOPEX must be IntelliMouse to be able to use the IntelliMouse.
   B.   The IntelliMouse cannot be hot-plugged.

## POWER-UP SEQUENCE

*NOTE: Any cable longer than 100 feet for the keyboard requires an AC adapter.   If using a COMPAQ keyboard, the adapter and the VOPEX must be powered up at the same time!*

1.   Turn ON power to the VOPEX.
2.   Turn ON power to the monitor(s).

*NOTE:  The monitor(s) MUST be turned ON before the CPU.*

3.   Turn ON power to the CPU.

Keyboards and mice are powered by the VOPEX.

## POWER-DOWN SEQUENCE

1.   Turn OFF power to the CPU.
2.   Turn OFF power to the VOPEX.

## DIAGNOSTIC INFORMATION

At power up, the VOPEX uses the "User x" LEDs on the front panel to report some status.  The sequence of events is as follows:

1.   When unit is first powered, the LED state is indeterminate.
2.   All LEDs are turned OFF, then flashed ON and OFF to indicate processor activity.
3.   One LED for each keyboard detected is flashed ON and OFF.
4.   One LED for each mouse detected is flashed ON and OFF.
5.   The LEDs are left in the proper mode status (see "MODES OF OPERATION" on page 4).

## MODES OF OPERATION

This VOPEX has three basic modes of operation: INSTANT AUTO. DELAYED AUTO, and USERx. Press the "MODE" button on the front panel of the VOPEX to select the desired mode per the chart below:

### Front View VOPEX-4KVIM-A
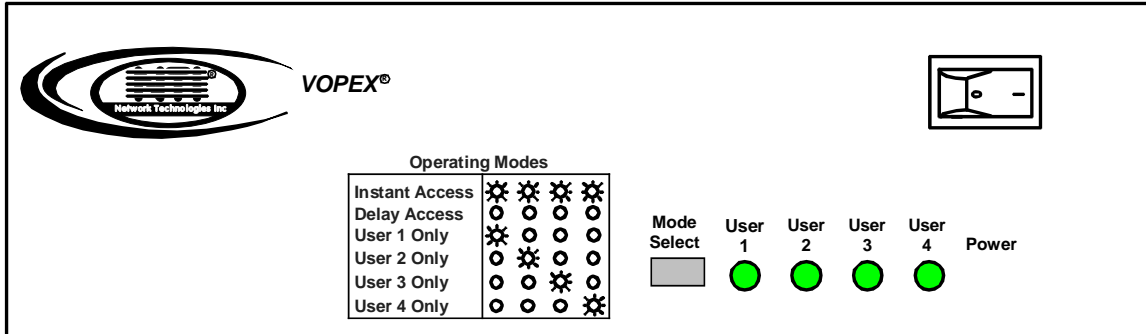


| STATUS OF LED'S | MODE |
| --- | --- |
| All "User x" LED's ON | INSTANT AUTO |
| All LEDs OFF | DELAYED AUTO |
| User 1 ON, All others OFF | User 1 ONLY |
| User 2 ON, All others OFF | User 2 ONLY |
| User 3 ON, All others OFF | User 3 ONLY |
| User 4 ON, All others OFF | User 4 ONLY |

**INSTANT AUTO:** Any user can gain immediate access to the CPU by pressing a key or moving a mouse, unless another user is active.

**DELAYED AUTO:** Any user can gain access as long as no "User x" LEDs are currently illuminated. When the active user's keyboard/mouse are idle for at least 5 seconds, the user LED goes out and anyone can then gain access.

**USERx:** The VOPEX has a user mode for each port. When any user mode is selected, that "User x:" LED remains ON and all other users are locked out until the mode is changed by pressing the MODE button.

**MONITORS**

All monitors connected to the VOPEX display exactly the same information. For example, if the user connected to Port 3 is inputting data, then all users connected to the VOPEX see what that user is entering.

## AUDIO SUPPORT

### (Optional)

The VOPEX can be ordered with optional 3.5mm stereo audio ports (ex. VOPEX-4KVIMA-A) for connection to an audio source ("Audio In") and up to 4 self-powered stereo speakers (Audio 1-4).

Audio support provides the following additional features:
- Audio signals from the same CPU that keyboard, mouse, and video signals are from can be received by the user.
- Audio input accepts any standard line level audio (1Vrms or 2.5Vp-p).
- Audio outputs are capable of driving an 8 Ohm speaker load with 200mW of continuous RMS power.

The audio signal is split to all users just as the video signal is split.

**Audio signal out to self-powered speakers**



**Audio signal in from CPU**
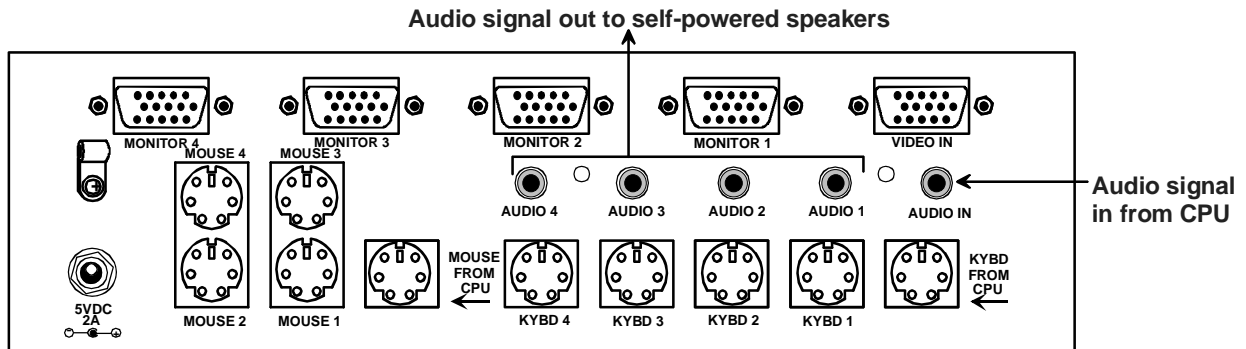
## TROUBLESHOOTING

If any problems are experienced with the VOPEX switch, follow the steps below to see if the problem(s) can be easily corrected:
1. Verify that all cables are securely connected.
2. Verify that a monitor is connected to "MONITOR 1".
3. If a user has both a keyboard and mouse, verify that they are connected to a Keyboard port and Mouse port with the same port number.
4. If a cable is disconnected:
   a) Turn OFF power to the CPU.
   b) Turn OFF power to the VOPEX.
   c) Connect the cable.
   d) Go through the power-up sequence described on page 3.

If trouble is still being experienced, a solution may be found in the knowledgebase on our website at http://information.networktechinc.com/jive/kbindex.jspa or please call us directly at (**800) 742-8324 (800-RGB-TECH)** or **(330) 562-7070** and we will be happy to assist in any way we can.

## WARRANTY INFORMATION

The warranty period on this product (parts and labor) is two (2) years from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at **http://www.networktechinc.com** for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

**SERIAL NO.:** _____

**DATE:** _____

**INSPECTED BY:** _____

☐ VOPEX-2KVIM-A
☐ VOPEX-4KVIM-A
☐ VOPEX-2KVIMA-A
☐ VOPEX-4KVIMA-A

MAN046    Rev. 9/28/12