User Instructions for
VIP-708 Series "MegaSwitch"™
Keyboard, Mouse and Video Switch

INTRODUCTION

The VIP-708 "MegaSwitch"™ Keyboard/Mouse/Video Switch is a 1 u high, rack mounted KVM Switch. It allows one KVM Peripheral set consisting of a PC Keyboard, a PS/2 Mouse, and video Monitor to control and work with up to eight PC's. Up to 64 PC's can be controlled using the expansion feature to interconnect up to eight "MegaSwitches". Dedicated expansion connectors are used, allowing each switch to handle its full eight PC capacity. All MegaSwitches are full function electronic KVM Switches with keyboard control switching and full keyboard and mouse emulation giving error-free boot-up under all conditions and for all platforms.

Note: The MegaSwitch does not come with keyboard, mouse, or VGA extension cables. They may be ordered from VETRA separately, or you may use your own.

INSTALLATION

Before making any connections, make sure that all PC's are powered down.

1. Bank Dip Switch Settings

The MegaSwitch has the capability to be daisy-chained to seven more units (for a total of 8), giving you access to over 64 computers. Each MegaSwitch unit is defined as a "BANK". BANK numbers range from 1 to 8. BANK 1 is the MASTER unit, while banks 2 through 7 are the slave units. The MASTER unit is the unit to which the keyboard, mouse, and monitor are to be connected to.

The Bank Dip switches located on the front of the VIP-708 MegaSwitch must be set correctly for proper operation. See the table below for the actual settings.

If you are using the MegaSwitch in a single unit configuration, it must be set as the MASTER unit (BANK 1, all four switches UP), which is the factory default setting. If it is to be used as a slave unit, then it must be set to any unused unique BANK number 2 through 7. The slave BANK numbers need not be consecutive, but they need to be unique.

BANK DIP SWITCH SETTINGS

DIP SWITCH #				BANK ADDRESS
1	2	3	4	
UP	UP	UP	UP	BANK 1 MASTER
DOWN	UP	UP	DOWN	BANK 2 SLAVE
DOWN	UP	DOWN	UP	BANK 3 SLAVE
DOWN	UP	DOWN	DOWN	BANK 4 SLAVE
DOWN	DOWN	UP	UP	BANK 5 SLAVE
DOWN	DOWN	UP	DOWN	BANK 6 SLAVE
DOWN	DOWN	DOWN	UP	BANK 7 SLAVE
DOWN	DOWN	DOWN	DOWN	BANK 8 SLAVE

2. Connect KVM Peripherals to MegaSwitch:

a). Connect the keyboard to the 6-pin DIN connector marked "KBD IN".

b). Connect the PS/2 mouse to the 6-pin DIN connector marked "MSE IN".

c). Connect the VGA monitor to the 15-pin HDD connector marked "MONITOR IN".

3. Connect PC's to the MegaSwitch:

a). Connect the keyboard inputs of the PC's to the MegaSwitch using 6-pin PS/2 male/male extension cables, one for each PC. Keyboard port of PC #1 connects to the connector marked "PC1 KBD". Connect PC's #2 through #8 keyboard ports to connectors marked "PC2 KBD" through "PC8 KBD".

b). Connect the mouse inputs of the PC's to the MegaSwitch using 6-pin PS/2 male/male extension cables, one for each PC. Mouse port of PC #1 connects to the connector marked "PC1 MSE". Connect PC's #2 through #8 mouse ports to connectors marked "PC2 MSE" through "PC8 MSE".

c). Connect the Video outputs of the PC's to the Switch using 15-pin HDD15 male/female extension cables, one for each PC. Although standard VGA cables can be used, for lengths greater than 6 feet (2 m) we recommend the use of high quality, mini-coax video cables, such as the VETRA model number VIP-302-CVGA series of cables, to maintain video quality. Connect the video output port of PC #1 to the connector marked "TO PC1 MON". Connect PC's #2 through #8 video outputs to connectors of the MegaSwitch marked "TO PC2 MON" through "TO PC8 MON".

4. Connect Power to the MegaSwitch:

Normally, the MegaSwitch derives its power from powered up PC's. The power used by the keyboard and mouse varies with the particular type of these peripherals, and the power provided by PC's on their keyboard and mouse connectors varies as well. For this reason, the MegaSwitch may optionally be powered from an external power source, such as the VETRA model VIP-210 regulated power supply, rated at +5 Vdc DC, 1 A output. The MegaSwitch does not come with a power supply. You may order the VIP-210 separately from Vetra. **Use of other power supplies without the advance approval of Vetra Systems Corporation may void the warranty.**

If the VIP-210 power supply is used, first check that the POWER switch on the front of the MegaSwitch is in the "0" (OFF) position, then plug the power output plug of the VIP-210 into the mating jack on the back panel of the Switch marked "+5VDC ", and only then plug the supply into a suitable AC source.

5. Connecting Multiple MegaSwitch Units to Control up to 64 PC's

Up to eight VIP-708 MegaSwitch units may be connected together to allow one set of KVM peripherals to control up to 64 computers.

Recall that the Bank Dip switches on the MASTER unit must be set to BANK 1 (all four switches UP) and for the slave units to a unique BANK (any number from 2 through 7). See the beginning of this section for more information on the Bank Dip Switch Settings.

After setting the Bank Dip switches on the slave units, connect the computers to the slave MegaSwitch units using the same procedures outlined earlier. The keyboard, mouse and monitor connect to the MASTER only, not to slaves.
To connect to multiple MegaSwitch units, standard Cat5 and VGA HDD15 male-to-female expansion cables are used. To maintain video quality, it is recommended that high quality, mini-coax, video cables, such as the VETRA model number VIP-302-CVGA series of cables be used.

Starting at the MASTER unit, connect one end of the Cat5 cable to the RJ-45 connector marked "EXP OUT", the other end to a slave's "EXP IN" connector. Connect additional slaves by connecting the "EXP OUT" of one slave to "EXP IN" of another. To connect video, use a VGA cable to connect the "EXP MON" HDD15 connector on the MASTER unit to the "MONITOR IN" connector on the next slave. Similarly, connect the next slave by connecting the "EXP MON" HDD15 connector to the "MONITOR IN" connector on the next slave.

OPERATION

1. Power-Up Sequence:

The MegaSwitch is normally powered from connected PC's. A power on switch, marked POWER, on the front of the MegaSwitch applies power to the keyboard, mouse and common electronics. It may also be used to reset the MegaSwitch. The PC's may be powered up in any order, and may be powered down at any time and in any order without affecting the operation of the MegaSwitch or its attached PC's. Similarly, the MegaSwitch may be powered down at any time without

affecting the operation of the attached PC's. However, in a multiple MegaSwitch configuration, if the MASTER unit has no power, the keyboard, mouse and monitor will not operate

When the MegaSwitch is powered up, check that the front panel LED marked "PWR ON" comes on, and that when PC's #1 through #8 are powered up their corresponding green "ON" indicators are on.

2. PC Selection:

Selection of a PC to operate (the active PC) can be done either by keyboard hot key sequence, or by the "NEXT PC" button. In addition to individual selection, the PC's may be accessed automatically, in sequence, by invoking the Auto Scan mode. This selection process is slightly different for single unit systems and for expanded systems.

a). The NEXT PC Button: Pressing the NEXT PC button cycles you through all powered PC's on the MegaSwitch starting from 1 thru 8 and then back to 1 again, or starting from the PC that is already selected to the next higher numbered PC. If there is no higher numbered PC with power on, the selection cycles to the next lowest number PC with power. If only one PC is powered, no action occurs. Channels with powered down PC's or without a connected PC are skipped. When selection of the PC is complete, the corresponding green "SEL" indicator will be on.

If a MegaSwitch in a multiple unit system has no selected PC and the NEXT PC button is pressed on that MegaSwitch, then the lowest numbered PC with power becomes the active PC.

b). Keyboard "Hot-Key" Selection:

1) Single Unit: To select an active PC on a single unit system, first hold down the Scroll Lock Key, then pressing and releasing the top row keyboard keys 1 – 8. Then release the Scroll Lock key. The number keys must be released before the Scroll Lock Key. Switching takes place on the **release** of the Scroll Lock Key, which also rearms the keyboard selection mechanism. When selection of the PC is complete, the corresponding green "SEL" indicator will be on.

2) Multiple Units: To select an active PC on a multiple units system, first hold down the Scroll Lock, then press and release a top row keyboard key 1 – 8 (this process will select which BANK of switches to access). Next press and release a top row keyboard key 1 – 8 again (this process will select which specific PC on that BANK to be active). Then release the Scroll Lock key. Switching takes place on the **release** of Scroll Lock, which rearms the keyboard and selection mechanism. When selection of the PC is complete, the corresponding green "SEL" indicator will be on.

If the Scroll Lock key is released prior to the selection of a specific PC (the second step as mentioned in the paragraph above) than the Master unit will select a PC that is connected directly to it self.

An electronic interlock does not allow selection of PC's that are powered down or not connected. If a BANK is selected and it has no powered PC's, all PC's on all other banks are disconnected.

c). Auto Scan Mode:

1) Enable Auto Scan Mode: To enable Auto Scan, first hold down the Scroll Lock Key, then press and release the A key and finally release the Scroll Lock key. Auto Scan starts on the **release** of the Scroll Lock key, which also rearms the keyboard selection mechanism. The first PC selected will be the lowest numbered powered PC on the lowest numbered Bank. When Scan reaches the highest numbered powered PC on a BANK, it sequences to the lowest numbered PC on the next BANK. When Scan reaches the highest numbered powered on PC on the highest numbered BANK it will start from the beginning again with the lowest number powered on PC on the Master unit. Auto Scan will continue to scan all powered on PC's until it is told to stop.

2) Stop Auto Scan Mode: Auto Scan mode can be stopped by using the keyboard to select a PC ("Hot-Key" selection available on all models), using the "NEXT PC" button (on standard models), the "PC SLECTION" button (on DE models) or by the Stop Auto Scan keyboard sequence (available on all models) below:

To stop Auto Scan via keyboard sequence, first hold down the Scroll Lock Key, then press and release the S key and finally release the Scroll Lock key. Auto Scan stops on the **release** of the Scroll Lock key, which also rearms the keyboard selection mechanism.

SPECIFICATIONS

Mechanical Dimensions

Model #	Height	Width	Depth	Weight
VIP-708-KM	1.75" (4.39 cm)	19.00" (48.26 cm)	6.43" (16.34 cm)	2 lb. 7 oz.
VIP-708-KMV	1.75" (4.39 cm)	19.00" (48.26 cm)	6.43" (16.34 cm)	2 lb. 14 oz.

Environmental   Operating Temp: 5 to 104 deg. F (-15 - 40 deg. C)
                                 Storage Temp: -4 to 122 deg. F (-20 - 50 deg. C)

Supported Hardware   Computer: IBM PC/AT, PS/2 and 100% compatibles
                                   Video Monitors: VGA, SVGA
                                   Maximum Resolution: up to 1600 x 1200 to 75 Hz
                                   Peripherals: AT and PS/2 keyboards, PS/2 mouse, IntelliMouse (PS/2 only)

FEDERAL COMMUNICATIONS COMMISSION

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their expense.

CE

This equipment has been tested and found to conform to the directives and standards for a Class A Information Technology Equipment type and for the Commercial Light Industrial equipment class.

275 Marcus Blvd. Ste-J, Hauppauge, NY 11788-2022 USA
Tel 631-434-3185 Fax 631-434-3516
www.vetra.com e-mail: sales@vetra.com