VGA VIDEO MATRIX SWITCH
VEEMUX®

Switch video from many computers among multiple monitors

- Configure and control the switch through Ethernet, serial port, front panel buttons, or optional IR remote control.
- Matrix Control Software with Graphical User Interface is included.
- Equipped with Liquid Crystal Display (LCD) for front panel operation.
- Inputs and outputs can be named.
- Connect any output to any input.
- Broadcast one input to all outputs.
- Stand-by mode offers reduced power. Available on 8-input models.
- Supports 1920x1200 video resolution at a refresh rate of 85 Hz.
- All units pass vigorous testing with 24-hour minimum burn-in, heat testing, and load test of all ports.
- Ideal solution for any application where information from many computers is being presented, such as:
  - Classrooms
  - Boardrooms
  - Trade shows
  - Conference and entertainment facilities
  - Digital signage
  - Courtrooms
  - Command centers
  - Control rooms

VEEMUX® SM-8X8-15V-LC (Front and Back)

The VEEMUX® VGA Video Matrix Switch routes video from many computers to multiple displays (projectors, monitors, etc.). Signals from a range of input sources can be distributed to various output devices, in essence creating a "matrix" pattern of interconnection possibilities. A single computer video output can be routed to one or more monitors. Each image will be as crisp and clear as if directly connected to the original source. Each video output is buffered from each input, insuring signal integrity throughout the system.

Specifications

Video Input
- Female 15-pin HD connectors
- Impedance: 75 Ohms

Power
- 100 to 240 VAC at 50 or 60 Hz via IEC connector
- The smaller models use AC adapters as their power source.

Video Output
- Female 15-pin HD connectors
- 1920x1200 video resolution with no degradation
- Impedance: 75 Ohms
- Bandwidth: 200 Mhz, fully loaded

Environmental
- Operating temperature: 32°F to 100°F (0°C to 38°C)
- Storage temperature: -22°F to 140°F (-30°C to 60°C)
- Operating and Storage Relative Humidity: 5 to 90% non-condensing RH
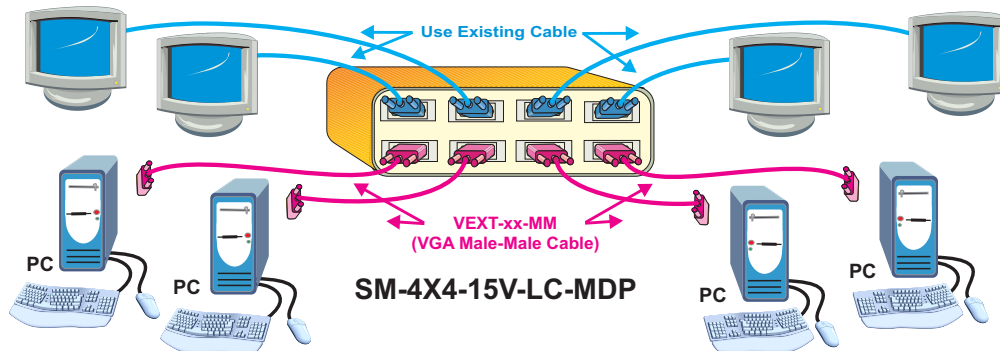
Regulatory Approvals
- 8-input models: CE, RoHS
- 16- and 32-input models: CE, FCC, RoHS
- TAA compliant

Package Includes
- 8X2, 8X4, 8X8 Models:
  - Video Matrix Switch
  - IEC Line Cord, country-specific
  - DB9 female to RJ45 female adapter
  - 5-ft CAT5e super flat patch cable
  - Mounting hardware
- 16X4, 16X8, 16X12, 16X16, 32X8, 32X16 Models:
  - Video Matrix Switch
  - IEC Line Cord, country-specific
  - Mounting hardware

NETWORK TECHNOLOGIES INCORPORATED

1.800.RGB.TECH (800.742.8324) Toll Free: US & Canada
330.562.7070 International calls
330.562.1999 Worldwide fax
sales@ntigo.com
www.networktechinc.com

Switch video from many computers among multiple monitors

Configuration and Cable Illustration of VEEMUX Video Matrix Switch

Use Existing Cable

VEXT-xx-MM
(VGA Male-Male Cable)

SM-4X4-15V-LC-MDP

PC

Control Methods

Front Panel Interface

- Configuration and control can be done using the front panel buttons.
- Keypad allows selection of the input source to be routed to the desired outputs.
- LED Matrix Display visually shows which inputs are connected to which outputs. (Available on the 16x8, 16x12, 16x16, 32x8 and 32x16 video matrix switches.)

RS232 Control

- Configuration and control can be done through the serial port.
- Baud rate: 1200 to 115200.
- Address up to 15 units with one serial port.
- Changes multiple input-to-output connections quickly and efficiently.

Commands

- CC - save connection configuration.
- RC - recall conncetion configuration.
- RV - read switch type and version.
- CS - causes one INx/OUTx connection to occur.
- CA - causes all inputs to connect to specified output.
- RO - reads what input is connected to specified output.
- RU - reads size of matrix, reports number of inputs and outputs.
- EA - set the IP address.
- EM - set the IP mask.
- EG - set the default gateway.
- ET - set the webserver timeout.
- GO* - read input connected to specified output.
- GM* - read input connected to all outputs.
- SS* - enables/disables port change auto status.

*Not GUI compatible.

Ethernet

- Female RJ45 connector.
- 10/100 BaseT Ethernet interface.
- Supported protocols: HTTP, HTTPS, Telnet.
- Configuration and control can be done over the Internet via Web Server or Telnet.

Web Server

- Password (optional SSL encryption) and Administrator configurable timeout to ensure security.
- Up to 25 users can be logged into the web page at one time.
- Users and administrators can access the following pages:
  - Switch page – connect any input to any output, save and recall up to 10 connection configurations, force compensation on all ports. Ports can be listed in order by port name or port number.
  - Change password page – administrator and users can change their password.
  - Help page – review documentation on the usage of the web interface.
  - Update Webserver page – restart the webserver to resynchronize all settings with the VEEMUX proper.
  - Logout page – view currently active users and logout of the web interface.
- The Administrator can access the following Administrative only pages:
  - Web setup page – configure IP address, subnet mask and timeout.
  - Serial setup page – configure serial speed and serial settings.
  - Ports settings page – assign names to inputs/outputs.
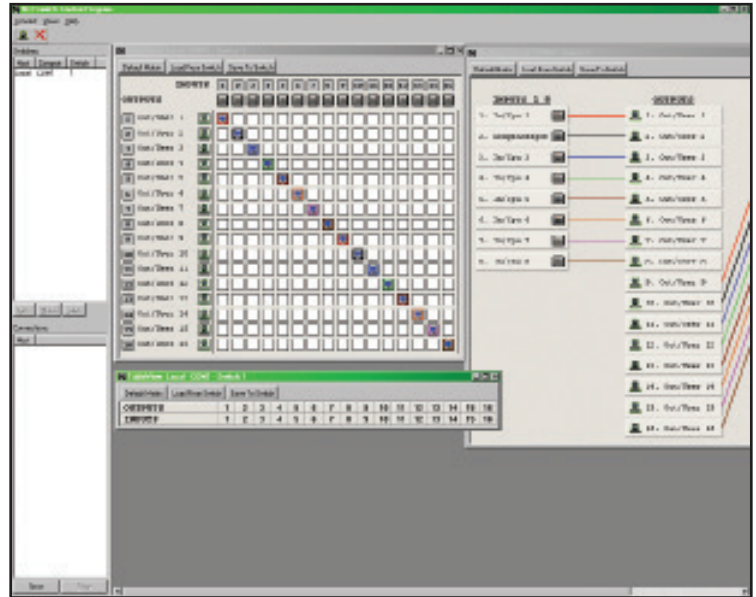 - Update Firmware page – load firmware updates.

Telnet

- Security is ensured by the Administrative password.
- Commands are similar to RS232 commands.
- The telnet server listens on ports 2000 and 2005.
  - Port 2000 is for an operator telnet session.
  - Port 2005 is intended for a software control type session.

Switch video from many computers among multiple monitors

Matrix Control Software

- Supports Microsoft Windows® 95/98/NT/ME/2000/XP/Vista.
- Intuitive graphical software provides fast switch control of up to 15 switches using an RS232 connection.
- Control switches with simple drag-n-drop interfaces.
- Supports control over daisy-chained configurations.
- Save and load feature allows frequently used matrix switch configurations to be recalled with the click of a button.
  - Up to nine configurations can be saved/recalled from the switch's internal memory.
- Automatically displays status for all attached switches each time the program is started.
- Inputs and outputs can be named.
- Auto-Update: the view will automatically update when the switch changes configuration.
- Includes HTML help feature.
- View and control multiple switches simultaneously with three unique and powerful views:
  - Matrix View.
  - Table View.
  - Line View.

Screen shot of NTI's matrix control management software with a GUI interface.

Infrared Control Option
(For 4- and 8-Input SM-nXm-15V-LC Models)

IRT-UNV
Infrared Control Option
(For 4- and 8-Input SM-nXm-15V-LC Models)

- Transmitter can be up to 30 feet away.
- Control up to 15 switches with one remote.
- Power: Two AAA batteries (included).
- Option available for 4- and 8-input SM-nXm-15V-LC models only.
  - IRT-UNV is sold separately.

Infrared Control Option
(For 16- and 32-Input SM-nXm-15V-LCD Models & All SM-nXm-AV-LCD Models)

IRT-64X32
Infrared Remote Control
(For 16- and 32-Input SM-nXm-15V-LCD Models & All SM-nXm-AV-LCD Models)

- Transmitter can be up to 50 feet away.
- Control up to 4 switches with one remote.
  - Controls a maximum of 64 inputs and 32 outputs.
- Power: Two AA batteries (included)
- Add "-IR" to part number to specify this option.
- Option available for 16- and 32-input SM-nXm-15V-LCD models and all SM-nXm-AV-LCD models.
  - IRT-64X32 is sold separately.

NTI® **NETWORK TECHNOLOGIES INCORPORATED**

1.800.RGB.TECH (800.742.8324)
Toll Free: US & Canada

330.562.7070
International calls

330.562.1999
Worldwide fax

sales@ntigo.com
www.networktechinc.com

Switch video from many computers among multiple monitors

Ordering Specifications

This example explains the VEEMUX (8-inputs) switch part number by breaking it down into the available options. When ordering, choose the options that you require.

Number of Inputs (Computers)
Number of Outputs (Monitors)
15-pin VGA

SM - n X m - 15V - LC

"n" = 8   "m" = 2, 4, 8   LC = Low Cost

VGA Video Matrix Switch Models (8-Inputs)

NTI Part #	# of Video Inputs (n)	# of Video Outputs (m)	Desktop Size WxDxH	Rack Units	Rack Size WxDxH
SM-8X2-15V-LC	8	2	15.3x7.7x1.75 in (389x196x45 mm) (without supplied rackmount kit)	1RU	19x7.7x1.75 in (483x196x45 mm) (with supplied rackmount kit)
SM-8X4-15V-LC	8	4	15.3x7.7x1.75 in (389x196x45 mm) (without supplied rackmount kit)	1RU	19x7.7x1.75 in (483x196x45 mm) (with supplied rackmount kit)
SM-8X8-15V-LC	8	8	15.3x7.7x1.75 in (389x196x45 mm) (without supplied rackmount kit)	1RU	19x7.7x1.75 in (483x196x45 mm) (with supplied rackmount kit)

This example explains the VEEMUX (16- or 32-inputs) switch part number by breaking it down into the available options. When ordering, choose the options that you require.

Number of Inputs (Computers)
Number of Outputs (Monitors)
15-pin VGA
Optional Control Method

SM - n X m - 15V - LCD - IR

"n" = 16, 32   "m" = 2, 4, 8, 12, 16   LCD = Liquid Crystal Display Standard   IR = Infrared

Video Matrix Switch Models (16 or 32 Inputs)

NTI Part #	# of Video Inputs (n)	# of Video Outputs (m)	Rack Units	Rack Size WxDxH
SM-16X4-15V-LCD	16	4	1RU	19x12x1.75 in (483x305x45 mm)
SM-16X8-15V-LCD	16	8	2RU	19x12x3.5 in (483x305x89 mm)
SM-16X12-15V-LCD	16	12	2RU	19x12x3.5 in (483x305x89 mm)
SM-16X16-15V-LCD	16	16	2RU	19x12x3.5 in (483x305x89 mm)
SM-32X8-15V-LCD	32	8	2RU	19x12x3.5 in (483x305x89 mm)
SM-32X16-15V-LCD	32	16	3RU	19x12x5.25 in (483x305x133 mm)

Cables

- Interface cables between the computers and the switch are required for proper operation.
- Cables not included.

- Recommended NTI video cables:
  - VGA interface cable (VEXT-xx-MM).
  - VGA to BNC cable (VINT-5B-6).