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Time-Out periods are adjusted by pressing and releasing the CTRL key twice, followed by F6.

**CTRL** , **CTRL** , **F6**

Each time this hot key sequence is entered, 1 to 4 beeps will sound, designating a time-out period of **5**, **10**, **20**, or **40** seconds respectively.

## Specifications

<b>Master-IT SUN</b>			
	<b>SR-14</b>	<b>SR-18</b>	<b>SR-28</b>
# of Console ports	1	1	2
# of ports SUN computer	4	8	8
keyboard/mouse supported	SUN ( type 4, 5, 6 )		
VGA bandwidth	180Mhz		
VGA resolution	1920 x 1440		
Computer power status LED	4		8
Computer selected LED	4		8
Front pushbuttons	4		8
Scan interval	3, 8, 15, 30 seconds		
VGA connectors to SUN	HDB15 x 4		HDB15 x 8
Keyboard/mouse to SUN	mini-DIN8 x 4		mini-DIN8 x 8
Console connector for VGA	HDB15 x 1	HDB15 x 1	HDB15 x 2
Console connector for keyboard/mouse	mini-DIN8 x 1	mini-DIN8 x 1	mini-DIN8 x 2
User Timeout	N/A		5, 10, 20,40 Sec
Multimedia module	MAV-108		
Weight			
Power supply	DC 9V 500mA		
Dimension			

## INTRODUCTION

### Single Console Master-IT

The **SR-14** and **SR-18**, 4-port and 8-port SUN KVM switches, represent another addition of reliable KVM switches from **ConnectPRO™**. They allow one user to control up to 64 SUN computers with one keyboard, mouse and monitor. This exciting product is the answer most IT managers are looking for.

Each SUN computer is connected to the **Master-IT** KVM switch by only two cables, one for the keyboard/mouse and the other for the VGA monitor. Automatic keyboard and mouse simulation technology ensures trouble-free SUN computer boot-up and seamless switching among SUN computers. Selecting a SUN computer is as easy as pushbutton pressings or hotkey commands. Easy-to-use automatic scan facility catches system failures early.

The **SR-14** and **SR-18** are built on ConnectPRO's proven success with the **Master-IT Professional** line, including hot plug-and-play, hot configurability, reliable switching and ease of use. This pure SUN KVM switch is the most cost-effective solution for contemporary server room management. Now, save space, eliminate extra costly peripherals, enhance control and improve the Manageability of IT data centers with Connectpro's **SR-14** and **SR-18**.

### Dual-Console Matrix Master-IT SUN

The advanced Dual-console matrix **Master-IT SR-28**, enables two separate users to manage over eight servers with two sets of keyboards, mice, and monitors simultaneously. When

cascaded, they can easily be expanded for dual user access of up to 32 servers. Combined with all the advanced features, this true 8-port matrix switch is the ultimate solution for network managers.

## Features

- Manage 4 or 8 SUN computers with one or two consoles.
- All hot-swappable ports.
- Select computers by front panel buttons, or hotkey commands
- Supports 1920 x 1440 video resolution.
- Auto-Scan facility.
- 19" rack-mountable.
- Two-Tier cascadable.
- Buzzer sound for switching confirmation
- Dual-Color front panel LEDs for each SUN computer.

## Configurations

There are several models of SUN KVM switches each supporting a different number of computers and consoles:

<i>Master-IT SUN Models</i>			
Model	<i>SR-14</i>	<i>SR-18</i>	<i>SR-28</i>
No. of consoles supported	1	1	2
No. of SUN systems supported	4	8	8

### *Single Master-IT SUN Configuration*

Connecting a SUN keyboard, a SUN mouse and a monitor directly to their designated CONSOLE ports will configure that switch as the MASTER. (There are two **CONSOLE** ports on the SR-28 for two sets of SUN keyboards, mice and monitors).

Any computer can be changed to a different port without having to be powered OFF, however, always issue a "STOP A" command prior to disconnecting it, then issue a "GO" command once it is reconnected to the desired port.

## ==== Dual Console *Master-IT SUN*

The advanced Dual-Console *Master-IT SUN* enables two separate users to simultaneously manage over eight computers with two sets of keyboards, mice, and monitors. When cascaded, it can easily be expanded for dual user access of up to 32 computers. Combined with all the advanced features, this true 8-port matrix switch is the ultimate solution for network managers.

Selecting a computer is the same as the *Single Console* version if both users are not accessing the same computer.

Each computer can only be operated by one user at a time. If a second user tries to access the computer already operated by the other one; his screen becomes black and the keyboard LED's will flash on and off indicating the computer is restricted from access. The restricted user can either wait until the screen shows up again or select another computer with hot-keys or the front panel buttons.

Once the time-out period has elapsed for the active console, either user may gain access to that computer. The elapse period for timeout can be adjusted.

## Audio Stick

An optional multimedia module (Part # MAV-108) can be connected to the *Master-IT SUN* for selecting microphone and stereo speaker signals. *Audio Stick* is either ON or OFF. When set to ON, audio selection will follow computer selection. When set to OFF, audio selection stops following computer selection, which allows the monitoring of a particular computer's audio signal while operating other computers.

To initiate an *ON* or *OFF* state, press and release the CTRL key twice, followed by the F5 key once.

**CTRL** , **CTRL** , **F5**

Each time this hot-key sequence is entered, one or two beeps will sound, indicating ON or OFF respectively.

## Toggle Between Current & Last Computer

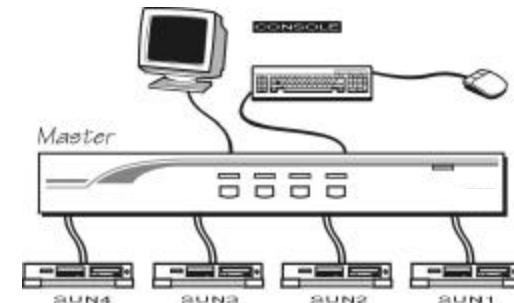
Switching back and forth between the currently selected computer and the previous one is done by pressing and releasing the CTRL key twice, followed by the F7 key once.

**CTRL** , **CTRL** , **F7**

## Configuration Changes

Whenever a stand-alone MASTER, has a SLAVE added to it, that slave MUST be powered OFF before being connected to the master.

Then, connect multiple sets of mini-DIN8 cables and monitor cables to the "PC" ports of the *Master-IT*. See figure 1.



**Figure 1.** Single Console Connection

## Cascade Configuration (Master/Slave)

A second level of one or more *Master-IT SUN* switches can be connected to PC Ports 1~4 (SR-14) or PC Ports 1~8 (SR-18 & SR-28) of a MASTER unit. Cascade configurations expand system capacity allowing more computers to be selected from the MASTER or SLAVE. There is only one MASTER. It has the SUN keyboard, mouse and monitor directly connected to its CONSOLE port, from which the operator will access any computer.

Once connected, the *Master-IT SUN* will automatically configure itself to be either MASTER or SLAVE. SR-14s, SR-18s, & SR-28s can be mixed in cascade configuration. **[Note: The MASTER must have an equal number or more PC ports than the Slaves, i.e., if an SR-14 is a Master, another SR-14 can be a slave, but an SR-18 or SR-28 can not be a slave.]** See figure 2.

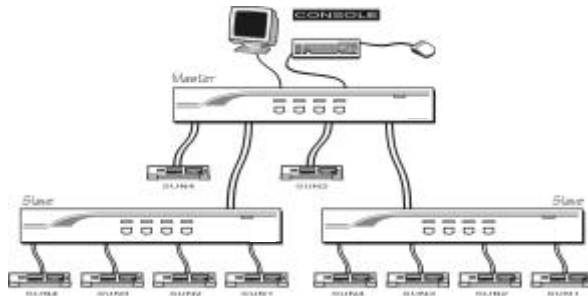


Figure 2. Cascade Configuration

## INSTALLATION

Prior to beginning the installation procedures, verify that all computers are powered OFF.

Once all connections are made, first power ON the *Master-IT SUN* KVM switch, then power ON the computers.

### Console Connections

A SUN monitor or regular VGA monitor with either a 13W3 or HDB15 cable connector can be connected to the CONSOLE port.

Monitors with 13W3 connectors will use a 13W3 (Female) to DB-15 (Male) Adapter (Provided with the *Master-IT SUN*) to connect to the CONSOLE video port. (See Figure 3.)

Monitors with HDB-15 connectors do not require an adapter.

### Auto Scan

Auto Scan will automatically scans powered-ON computers one at a time, at regular intervals. During Auto Scan mode, any console activity that is detected will suspend the scanning and reset the count down timer until console activity stops. It will then resume with the next computer in sequence. The length of the *Auto Scan* interval (*Scan Rate*) is adjustable.

To initiate Auto Scan mode, Press and Release the left CTRL key twice, followed by the F1 key once.

**CTRL** , **CTRL** , **F1**

To discontinue *Auto Scan* mode, press and release the left CTRL key twice.

**CTRL** , **CTRL**

During Auto Scan, the *Scan Rate* sets the duration before switching to the next computer.

To adjust the *Scan Rate*, press and release the left CTRL key twice, followed by the F3 key.

**CTRL** , **CTRL** , **F3**

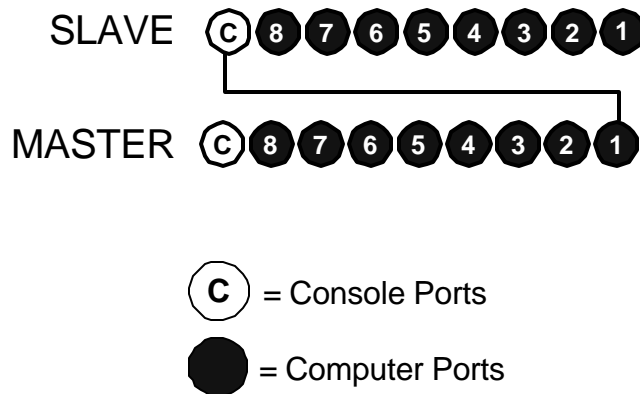
Each time this hot-key sequence is initiated, one to four beeps will sound, indicating a change in scan interval of **3**, **8**, **15** and **30** seconds respectively.

In a cascade configuration, any port on the MASTER can be used to cascade to the CONSOLE ports of the SLAVE.

For example: To select a computer which is connected to port #5 on the SLAVE, when port # 1 of the MASTER is used as the daisy-chain port, press and release the left CTRL key twice, then press and release the #1 key, then press and release the #5 key. (See Figure 8.)

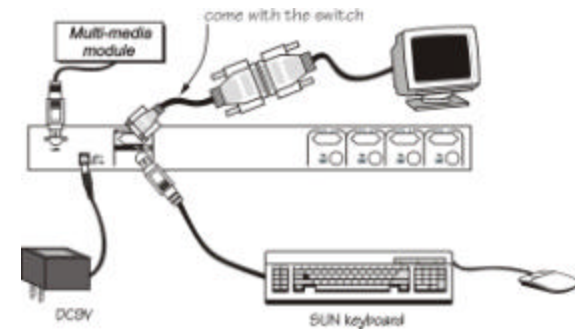
**CTRL**, **CTRL**, **1**, **5**

A slave MUST have an equal or less number of computer ports than the master. Do not attempt to configure a slave with more ports than its' master.



**Figure 8.** Cascade Port Diagram

The SUN keyboard / mouse cable will connect to the corresponding Mini-DIN 8 CONSOLE port.



**Figure 3.** Console Connections

## Computer Connections

Each SUN computer is connected to the *Master-IT SUN KVM* switch with one straight-through (1-1, 2-2, 3-3... , 8-8) mini-DIN8 cable and one male-to-male HDB-15 VGA cable.

For SUN computers that have 13W3 video ports, a 13W3(male)-to-HDB-15(female) adapter is required. It will be connected from the computers' video port to the HDB-15 cable (ConnectPRO™ Part #: SR-C) (See Figure 4.).

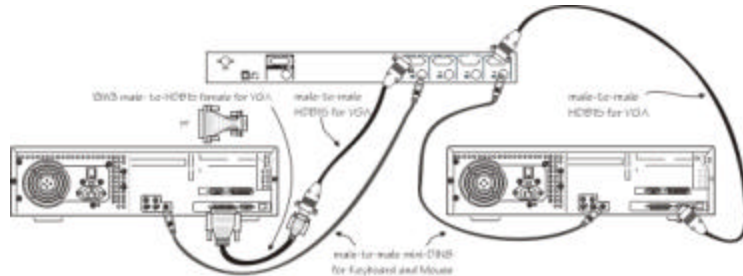


Figure 4. Computer Connections

### Multi-Media Module Connection

The **Master-IT SUN** can facilitate the optional MAV-108 Multi-Media module through it's Mini-DIN-8 link port.

The MAV-108 allows the user to perform audio tasks from either the currently selected computer, or from a computer that is on a different port thereby achieving simultaneous multi-tasking.

### Power-ON Sequence

Once all cable connections have been made, initiate the Power-ON sequence for single and cascade configurations as follows:

*Single Master Configuration:*

1. Power-ON the MASTER.
2. Power-ON each connected computer.

### Hot-Key Commands

Hot-Key commands are short keyboard sequences used to initiate specific functions. The sequence will begin with two strokes of the *left* CTRL key followed by one or more keystrokes, which correspond to the particular function.

A built-in buzzer generates a single beep sound to indicate a correctly keyed command.

A long beep, followed by a short beep indicates an incorrectly keyed command and will not be initiated.

### Master Computer Port Selection

To select a computer on a MASTER, press and release the left CTRL key twice followed by the number key which corresponds to the port which the computer is connected to.

For example: To select a computer that is on port # 4 of the MASTER, press and release the left CTRL key twice, then press and release the #4 key once. (See Figure 8.)

**CTRL** , **CTRL** , **4**

### Slave Computer Port Selection (Cascade)

To select a computer on a SLAVE port, press and release the left CTRL key twice, followed by the number of the port on the MASTER which is being used as the daisy-chain port, then press the number key which corresponds to the port on the SLAVE that the computer is connected to.

To initiate Auto Scan for the **SR-14** from the front panel buttons, simultaneously press and release buttons #3 & #4.

To initiate Auto Scan for the **SR-18** from the front panel buttons, simultaneously press and release buttons #7 & #8.

To initiate Auto Scan for the **SR-28** from the front panel buttons, simultaneously press and release buttons #7 & #8.

The **SR-28** has an **A/B** button at the very lower right of the front panel. It is used to toggle between **User A** and **User B**. Two red LED's are on when two users select different computers, and one red LED is on when both users select the same computer.

To allow **User A** to select a computer:  
Press and Release the **A/B** button once (the left side of the **A/B** LED will flash), then press any front panel button to select a computer.

To allow **User B** to select a computer – Press and Release the A/B button twice (the right side of the **A/B** LED will flash), then press any pushbutton to select a computer.

To allow **User A** to initiate Auto Scan, simultaneously press and release the A/B button and #7 front panel button.

To allow **User B** to initiate Auto Scan, simultaneously press and release the A/B button and #8 front panel button.

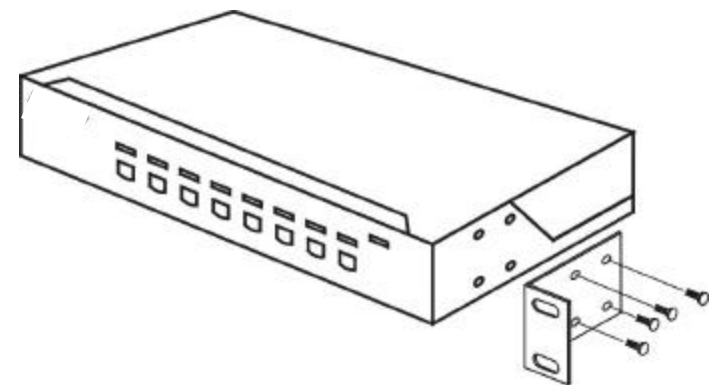
*Cascaded / Daisy-Chain Configuration:*

1. Power-ON the MASTER.
2. Power-ON each SLAVE.
3. Power-ON each connected computer.

Once, each **Master-IT SUN** KVM switch has been Powered-ON, additional computers can be added at any time thereafter. These additional computers **MUST** be Powered-OFF, prior to their installation. Adding computers in this way will not affect any currently operating computers that are already connected.

## Rack-Mount Kit (Optional)

An optional Rack-Mount Kit (ConnectPRO™ Part # RX-2) is available for 19" Racks (Figure 5.). The kit includes side mount brackets for the **Master-ITSUN**, and a cable support bar which mounts on the back of the rack enclosure.



**Figure 5.** Side Mount Bracket Assembly

Once the side brackets are fastened to the *Master-IT SUN*, and the switch is mounted to the front of the rack, the cable support bar can be assembled and mounted to the vertical rails of the rack behind the switch. (Figure 6.)

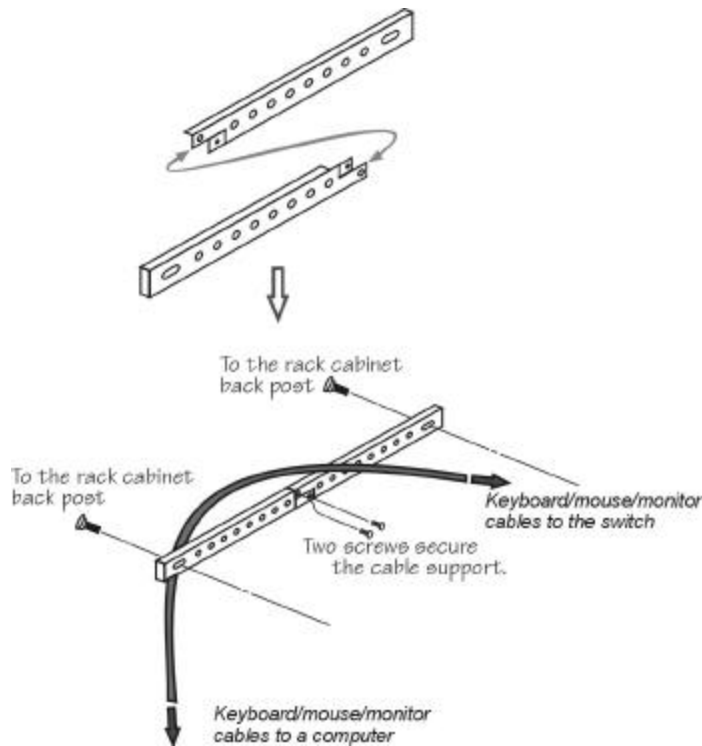


Figure 6. Cable Support Bar Assembly

## OPERATION

The *Master-IT SUN* can be operated by either the front panel buttons or keyboard hot-key sequences to initiate various functions.

Auto Scan mode allows automatic monitoring of selected computers one at a time, at pre-set intervals.

### Front Panel Buttons

Switching is done by pressing the front panel push-button which corresponds to the desired computer. The front panel indicator will change to RED to indicate the selected computer. If the selected port has a powered-ON computer, half of the indicator will be GREEN. The indicator flashes red when it is in *Auto Scan* mode. (Figure 7.)

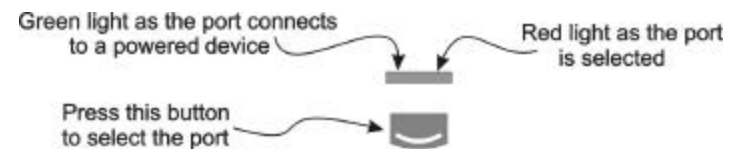


Figure 7. Front Panel Button & Indicator

### Auto Scan

The hot-key sequence used to initiate Auto Scan is different for each model of *Master-IT SUN*.