

***thinklogical***<sup>®</sup>

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A **BELDEN** BRAND

# How to Change a TLX Matrix Switch's IP Address

Rev. D, March 2019

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**Subject:** How to Change a TLX Matrix Switch's IP Address  
**Revision:** D, March 2019



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## PREFACE

### About Thinklogical A BELDEN BRAND



**Thinklogical, A BELDEN BRAND**  
**100 Washington St.**  
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Thinklogical, A BELDEN BRAND, is the leading manufacturer and provider of fiber-optic and CATx video, KVM, audio, and peripheral extension and switching solutions used in video-rich, big-data computing environments.

**Thinklogical offers the only fiber-optic KVM matrix switches in the world that are accredited to the Common Criteria EAL4, TEMPEST SDIP 24 Level B, and NATO NIAPC Evaluation Scheme: GREEN and the U.S. DoD DISA JITC UCR 2013 APL information assurance standards. And Thinklogical Velocity products are the first system with both KVM and video matrix switching capabilities to be placed on the Unified Capabilities Approved Product List (UC APL) under the Video Distribution System (VDS) category. Thinklogical products are designed and manufactured in the USA and are certified to the ISO 9001:2015 standard.**



JITC



#### Information Assurance

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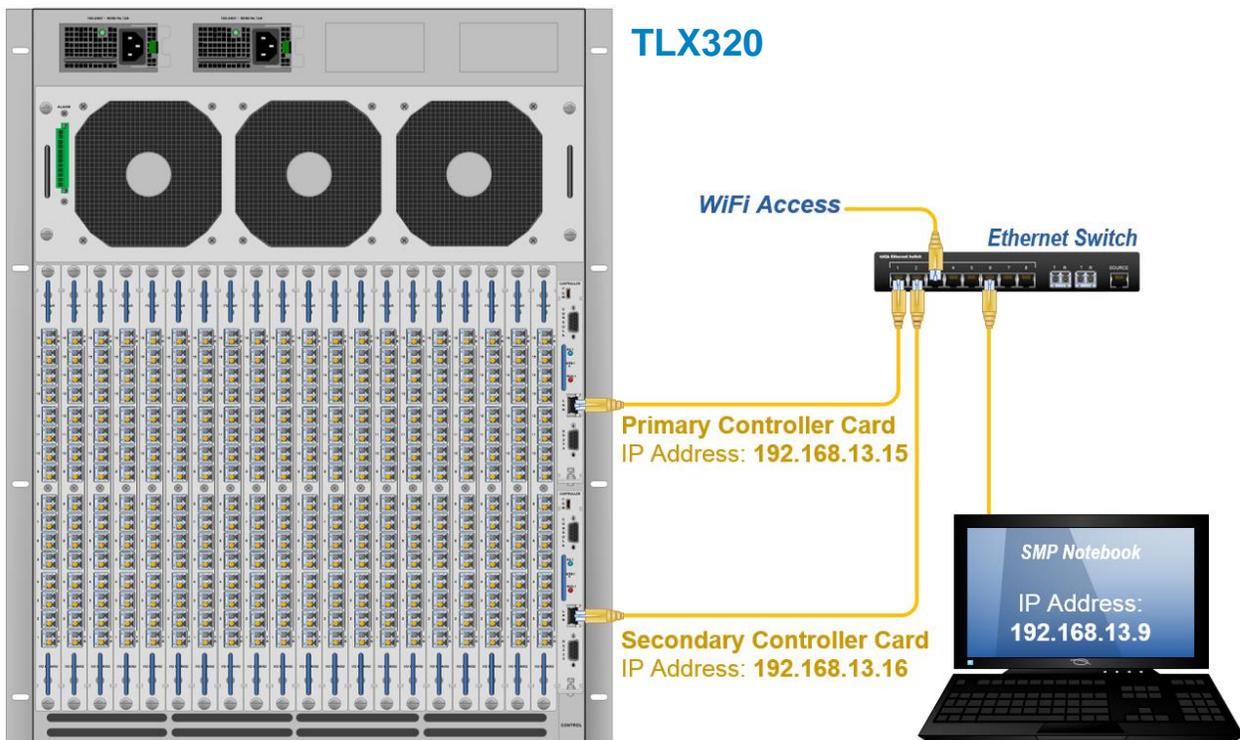
## Introduction

Thinklogical's TLX12, TLX24, TLX48, TLX80, TLX160, TLX320, TLX640 and TLX1280 modular, non-blocking 10G Matrix Switches® are connected to a network for complete, end-to-end routing of video and peripheral signals over multi-mode or single-mode fiber optic cables.

Each of Thinklogical's TLX Matrix Switches (except the TLX12 and TLX24) includes at least one Controller Card (a secondary, Back-up Controller Card is recommended) that has an Ethernet port to connect it to a local network. **By default, the Thinklogical family of TLX Matrix Switches uses three static IP addresses;** two for the primary controller and one for the Back-up controller. **A fourth IP address is used for the user's external control server.**

### THE CONTROLLER CARDS

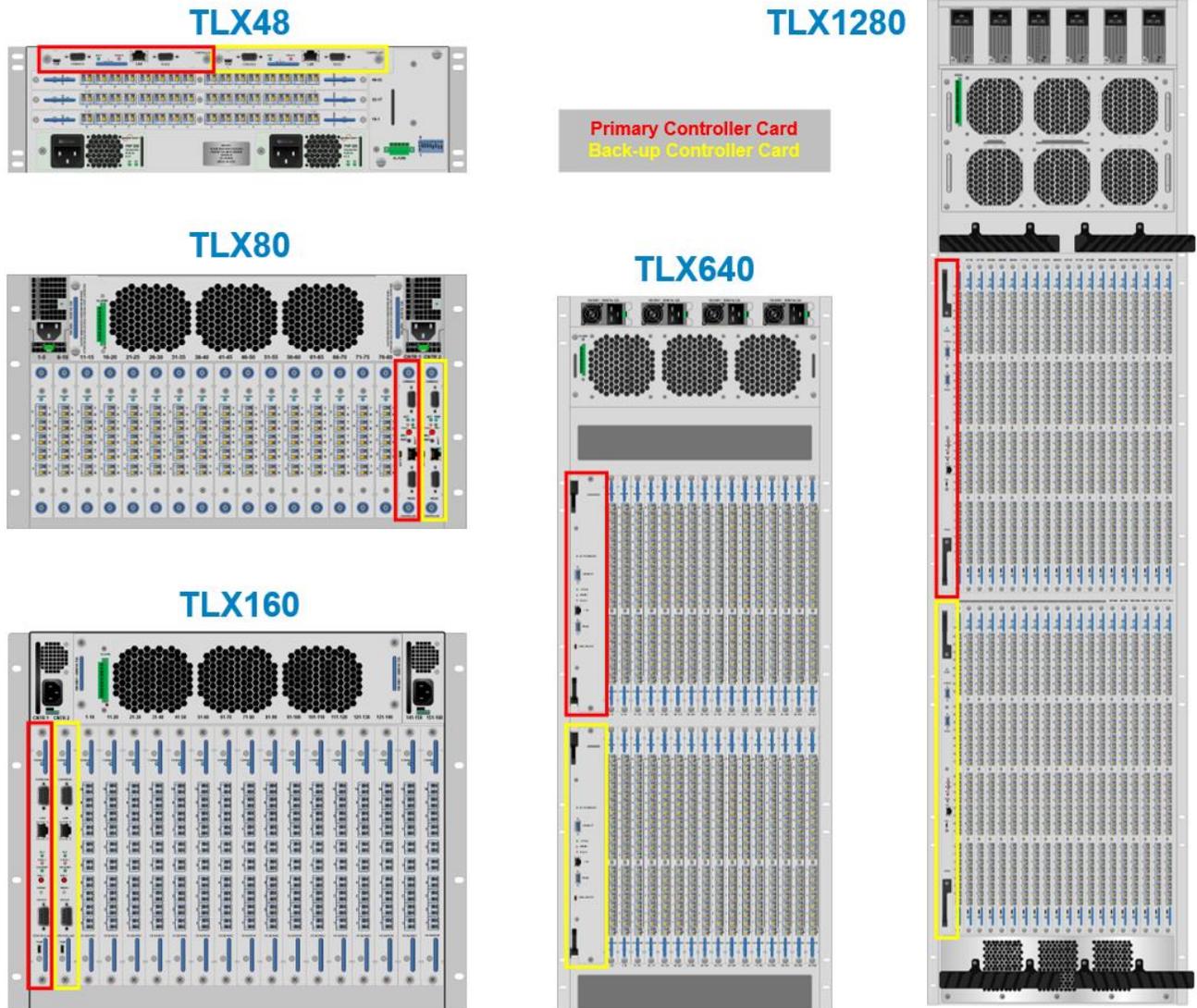
The hot-swappable Controller Cards connect the Matrix Switch to an External CPU. The RS-232 serial port may be used for third party controller integration (such as Crestron, AMX or home-spun interfaces).



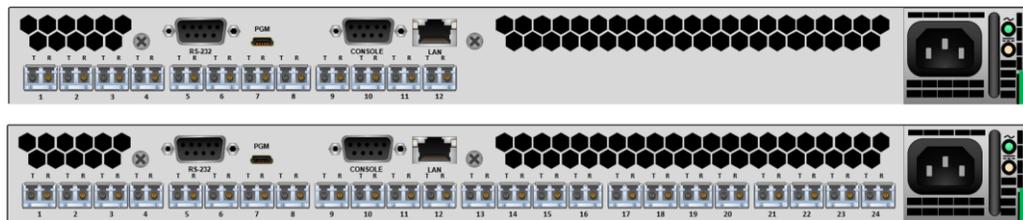
*The Controller Cards can be accessed from the Rear Panel (TLX320 shown above).*

A Back-up Controller Card ensures uninterrupted functionality if the Primary Controller Card should fail or need to be replaced. (The Primary Controller Card should always be in the upper controller slot on the TLX320, TLX640 and TLX1280 and in the left slot on the TLX48, TLX80 and TLX160.) The Back-up card must have a LAN connection that allows it to communicate with the Primary Controller. Both controller cards must have the same CPU Module/Processor. The TLX12 and TLX24 do not have Controller Cards. Connectors are on the Back Panel.

## thinklogical® 10G KVM Matrix Switches



Controller Card Locations



TLX12 and TLX24

## Manually Configuring A TLX Matrix Switch

### The Default Addresses

The **Primary Controller** uses default address **192.168.13.15** and alternate address **192.168.13.115**. The **Back-up Controller** uses default address **192.168.13.16**. The user's External Control Server address is **192.168.13.9**. This auto configuration allows a controller to work in either slot. If this auto configuration is changed, each controller will only work in its respective slot.

**To manually configure a Matrix Switch with one controller, one IP address is required.**

**To manually configure a Matrix Switch with redundant controllers, four IP addresses are required; two for the primary controller, one for the Back-up controller, and one for the external control server.**

During a failed condition, when the Back-up controller has taken control of the system from the primary controller, the Back-up controller will use the primary controller's IP address so that all external control servers will be unaffected by the failure. During this condition, the failed primary controller can still be reached using its alternate IP address.

### Configuring the Network

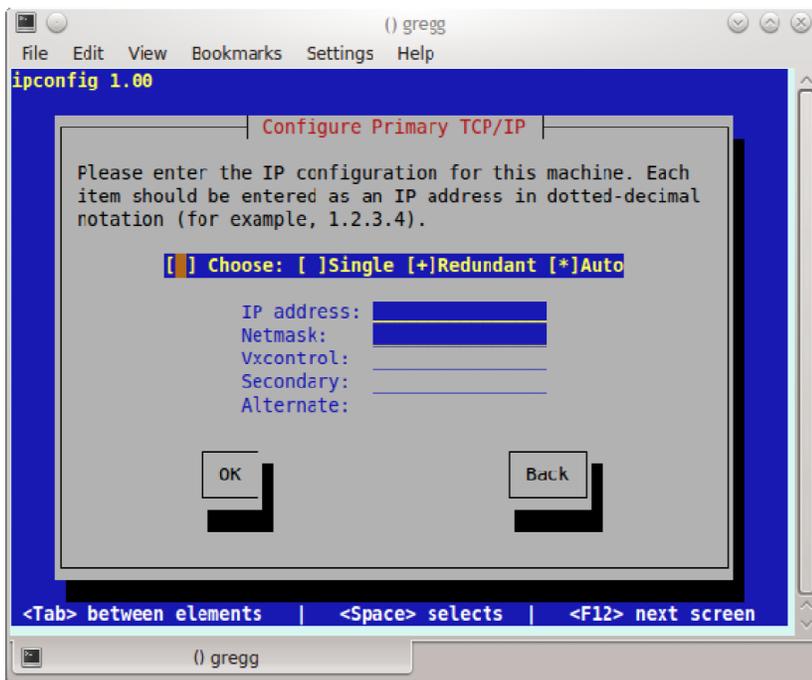
The easiest way to manually configure the network on your Matrix Switch is to run the "ipconfig" utility. You will need to login as root user and give the command: **# ipconfig** (The # represents the command prompt for the root user. You do not need to type it.) The **ipconfig utility** will ask you if you would like to set up networking. Use the space bar to select the "Yes" button. Use the tab key to move between items and the space bar to select.

### The Primary Controller

Three options are available on the Primary Controller. Use the space bar to toggle between **Single**, **Redundant** and **Auto**.

### The Single Option, Primary Controller

Select the **Single** mode to configure a Matrix Switch with one controller. (The [ ] **Choose** bracket will display what is selected from the [ ] **Single**, [ + ] **Redundant** or [ \* ] **Auto** brackets.)



#### IP address

IP address of the primary controller.

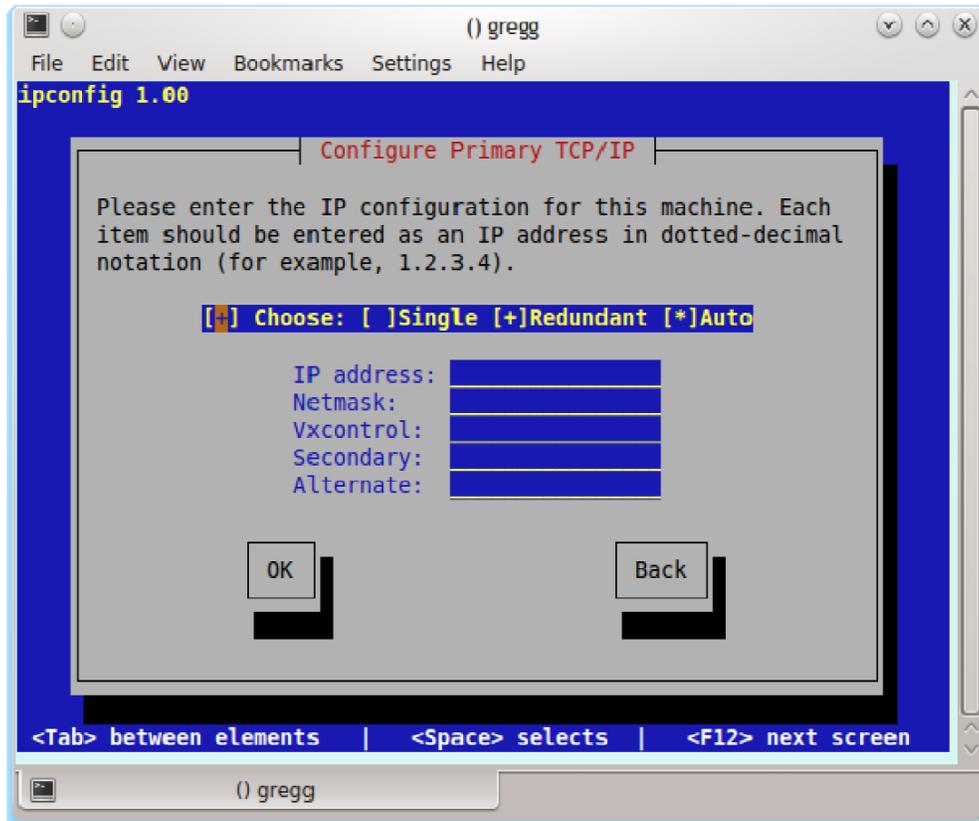
#### Netmask

Network mask of the primary controller.

Use the space bar to press "OK." Reboot the Matrix Switch to have the changes take effect.

## The Redundant Option, Primary Controller

Select the **[ + ] Redundant** mode to configure a Matrix Switch with a primary and Back-up controller.



### IP address

IP address of the primary controller.

### Netmask

Network mask of the primary controller.

### Vxcontrol

IP address of the external control server.

### Back-up

IP address of the Back-up controller.

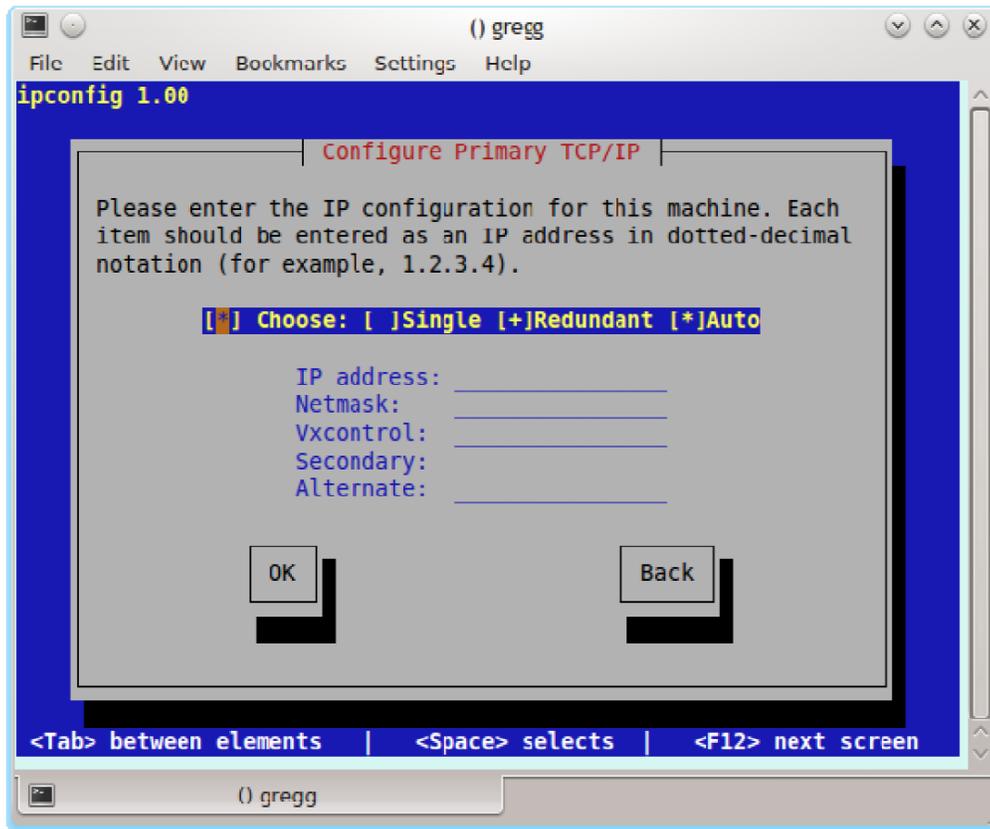
### Alternate

IP address used to reach the primary controller during a failed condition when the Back-up controller has taken control of the system from the primary controller.

Use the space bar to press "OK." Reboot the Matrix Switch to have the changes take effect.

## The Auto Option, Primary Controller

Select the [ \* ] **Auto** mode to configure IP addresses of the Matrix Switch **based on the DIP switch settings** located on the chassis. See pgs. 9-10 for DIP Switch locations and pg. 11 for DIP Switch settings.



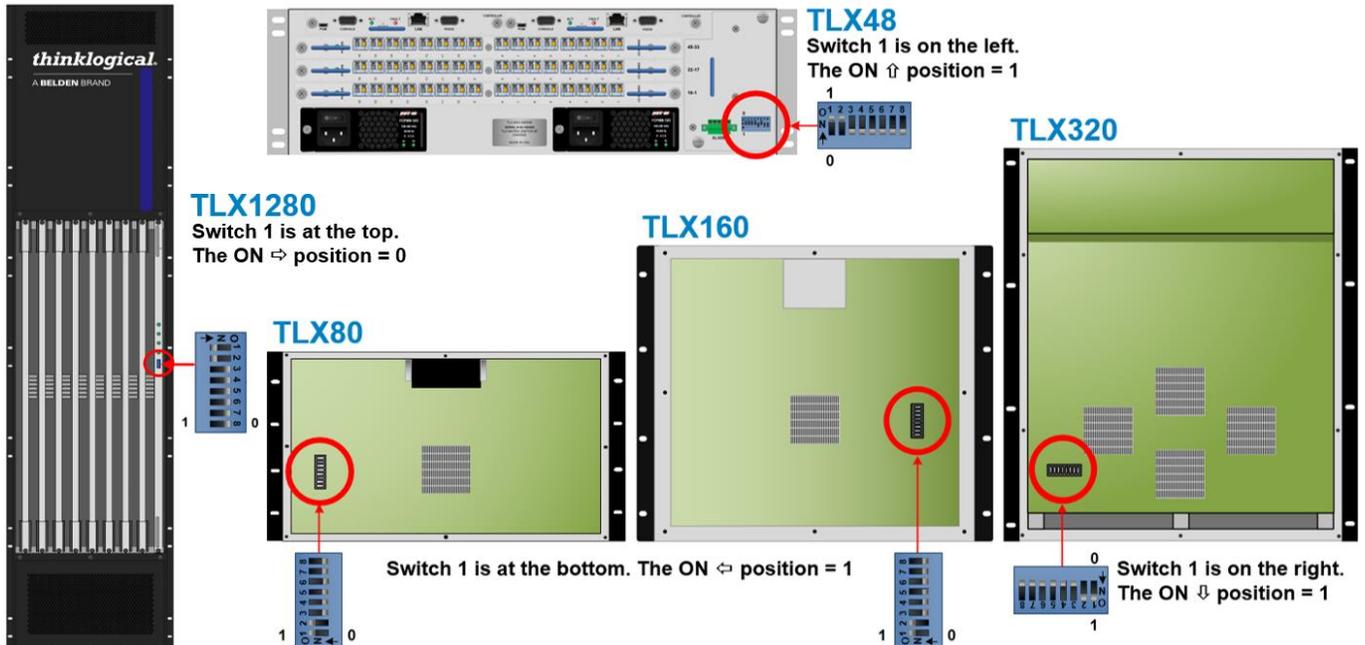
Use the space bar to press “OK.” Reboot the Matrix Switch to have the changes take effect.

## DIP Switch Locations

In Auto mode, the Matrix Switch's addresses are controlled by a DIP switch located on the chassis. The location varies by model. See below for the locations of each DIP Switch.

On the **TLX48**, the DIP switch is located on the rear panel. On the **TLX1280**, **TLX320**, **TLX160** and **TLX80** the front cover must be removed. On the **TLX640** the front door must be removed. (See next page.)

## 8-Position DIP Switch locations on TLX Matrix Switches



The **TLX12** and **TLX24** do not have DIP switches. Addresses are controlled at the **Front Panel LCD**.



**Main Root Menu:** Your chosen *Host Name* is listed on the first line of the display. The model and software version (VX.XX) of the unit are displayed on the second line.

**From the Main Menu, press the down arrow ▼ to:**

- **View System Menu:** FPGA Version, Ambient Temp, Physical Temp, Alarm Status
- **View Network Menu:** IP Address, Network Mask, Gateway, MAC Address
- **Program Network:** IP Address, Network Mask, Gateway
- **Reboot/Power Off:** Press **enter** to reboot or power off the system

# TLX640 MATRIX SWITCH

## Setting the DIP Switch

Complete Steps 1-5 to change the TLX640 DIP Switch settings.

**2** Thumb screws (2) on the front panel.

**3** Front Panel

**4** (Example of a typical DIP Switch setting)

**5** Front Door

**Front Panel Removed**

**thinklogical.** TLX 640 MATRIX SWITCH

**Front Door**

**To set the TLX640 DIP Switch, the front door and front panel must first be removed.**

**STEP 1:** Turn both front door latches one quarter turn clockwise (arrow pointing up) to release the door.

**STEP 2:** Holding the door steady with one hand, pull down the upper spring-loaded hinge release and pull the upper portion of the door outward until the latch clears the mounting hole. The door can now be removed and set aside.\*

**STEP 3:** There are two thumb screws holding the front panel to the chassis. Loosen the thumb screws, remove the front panel and set it aside. The DIP Switch will now be exposed.

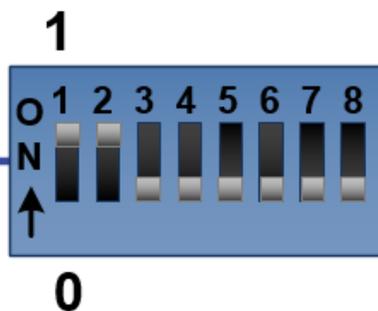
**STEP 4:** Using the chart on the right, set the 8 DIP switches to the desired settings and reinstall the front panel that was removed in Step 3.

**STEP 5:** When reinstalling the door, insert the lower hinge first, then, while pulling down the upper hinge spring-release, guide the door into place and allow the upper hinge to insert itself into the mounting hole. Turn the door latches (see Step 1) one quarter turn counter-clockwise to secure the door closed.

\*The TLX640 Front Door contains air-flow baffles that are integral to the router's cooling system. Do not leave the front door off the chassis for an extended length of time if the unit is running.

## DIP Switch Settings

								Primary Controller IP Addresses	Back-up Controller IP Address
8	7	6	5	4	3	2	1		
0	0	0	0	0	0	0	0	192.168.13.15 & 192.168.13.115	192.168.13.16
0	0	0	0	0	0	0	1	192.168.13.17 & 192.168.13.117	192.168.13.18
0	0	0	0	0	0	1	0	192.168.13.19 & 192.168.13.119	192.168.13.20
0	0	0	0	0	0	1	1	192.168.13.21 & 192.168.13.121	192.168.13.22
0	0	0	0	0	1	0	0	192.168.13.23 & 192.168.13.123	192.168.13.24
0	0	0	0	0	1	0	1	192.168.13.25 & 192.168.13.125	192.168.13.26
0	0	0	0	0	1	1	0	192.168.13.27 & 192.168.13.127	192.168.13.28
0	0	0	0	0	1	1	1	192.168.13.29 & 192.168.13.129	192.168.13.30
0	0	0	0	1	0	0	0	192.168.13.31 & 192.168.13.131	192.168.13.32
0	0	0	0	1	0	0	1	192.168.13.33 & 192.168.13.133	192.168.13.34
0	0	0	0	1	0	1	0	192.168.13.35 & 192.168.13.135	192.168.13.36
0	0	0	0	1	0	1	1	192.168.13.37 & 192.168.13.137	192.168.13.38
0	0	0	0	1	1	0	0	192.168.13.39 & 192.168.13.139	192.168.13.40
0	0	0	0	1	1	0	1	192.168.13.41 & 192.168.13.141	192.168.13.42
0	0	0	0	1	1	1	0	192.168.13.43 & 192.168.13.143	192.168.13.44
0	0	0	0	1	1	1	1	192.168.13.45 & 192.168.13.145	192.168.13.46



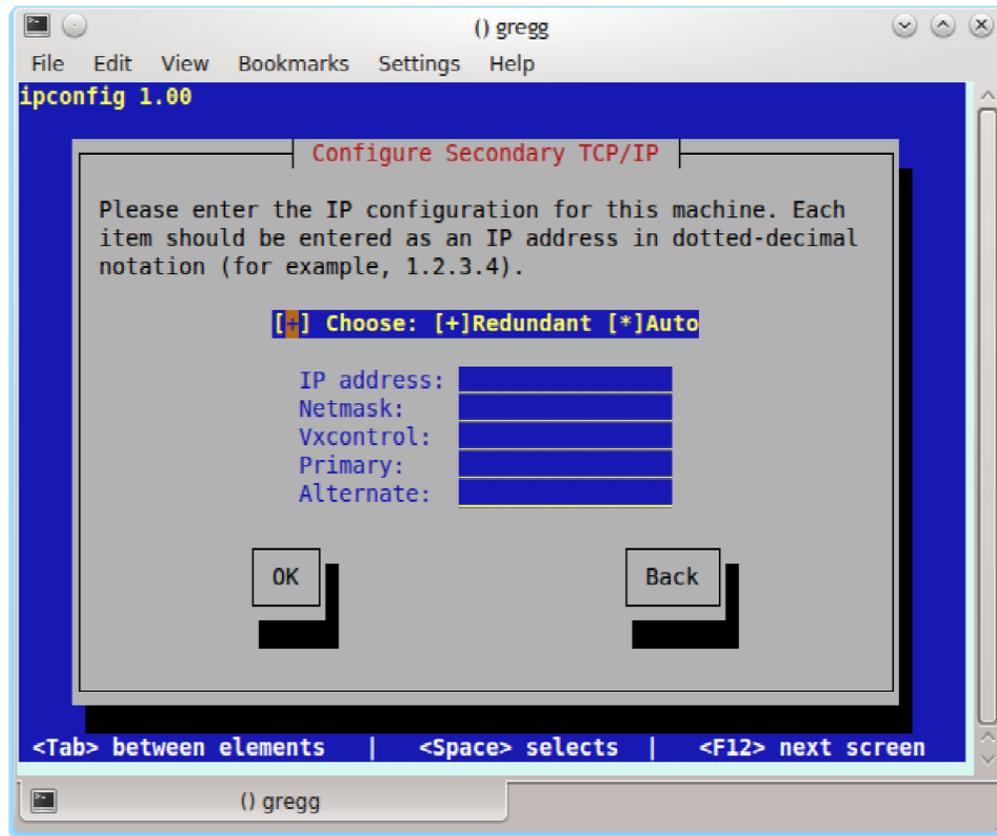
**Switch 1 is on the left.  
The ON ↑ position = 1**

## The Back-up Controller Card

On the Back-up controller, two options are available. Use the space bar to toggle between *Redundant*, and *Auto*.

### The Redundant Option, Back-up Controller

Select the **[+]** **Redundant** mode to configure a Matrix Switch with a primary and Back-up controller.



#### IP address

IP address of the Back-up controller.

#### Netmask

Network mask of the Back-up controller.

#### Vxcontrol

IP address of the external control server.

#### Primary

IP address of the primary controller.

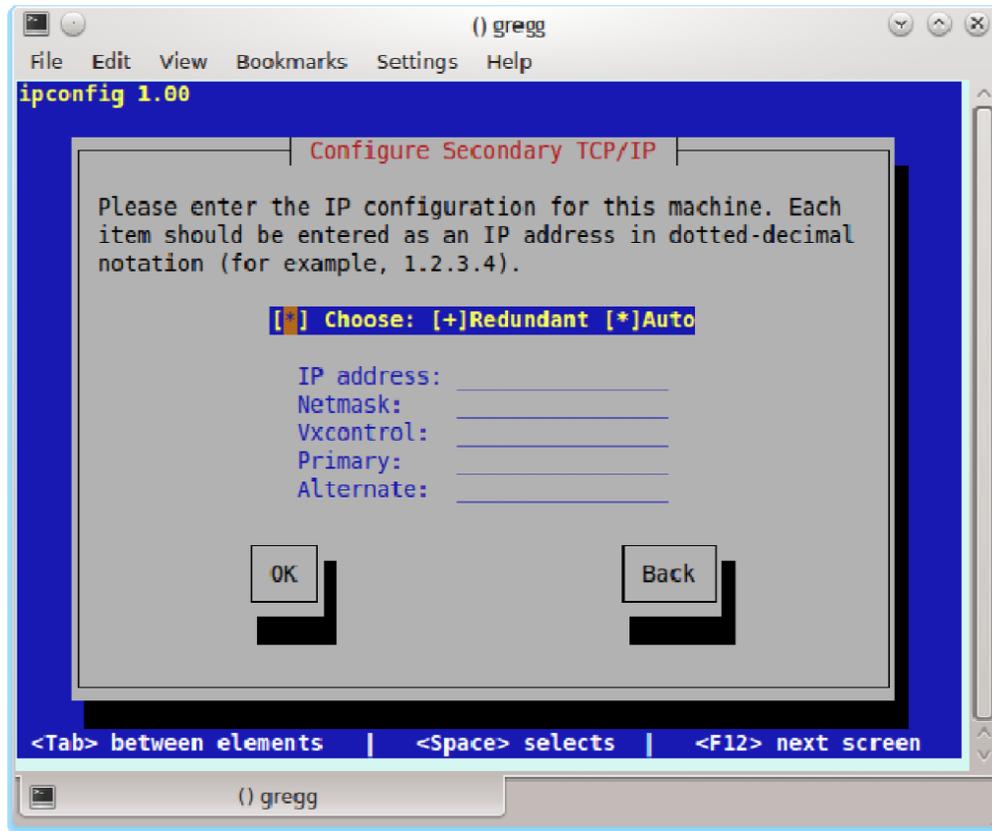
#### Alternate

IP address used to reach the primary controller during a failed condition when the Back-up controller has *take* control of the system from the primary controller.

Use the space bar to press "OK." Reboot the Matrix Switch to have the changes take effect.

## The Auto Option, Back-up Controller

Select the [ \* ] **Auto** mode to configure the IP addresses of a Matrix Switch based on the DIP switch located on the Matrix Switch.



Use the space bar to press "OK." Reboot the Matrix Switch to have the changes take effect.

## Thinklogical Support

### Customer Support

Thinklogical® is an engineering company and we offer the best customer support available. You can count on our most knowledgeable engineers to assist you with any questions or problems. *We won't be satisfied until you are satisfied.*

**Thank you for choosing Thinklogical® products for your application.**

*We appreciate your business and are dedicated to helping you successfully use our products.*

***thinklogical® is always here to help you.***

*To contact us, please use the following telephone numbers and internet-based methods:*

### Website

Check out our website at [www.thinklogical.com](http://www.thinklogical.com) for current products, support documents and useful information about all the products and services we offer, including technical specification sheets, quick-start guides and product manuals (for viewing online or for download).

Most online documents are stored as Adobe Acrobat "PDF" files. If you do not have the Adobe Acrobat reader needed to view PDF files, visit [www.adobe.com](http://www.adobe.com) for a download.

### Email

Thinklogical is staffed **Monday through Friday from 8:30am to 5:00pm**, Eastern Time Zone. We will do our best to respond to your email inquiries promptly. Please use the following email addresses:

[info@thinklogical.com](mailto:info@thinklogical.com) – Information on Thinklogical and our products.

[sales@thinklogical.com](mailto:sales@thinklogical.com) – Sales Department - orders, questions or issues.

[support@thinklogical.com](mailto:support@thinklogical.com) – Product support, technical issues or questions, product repairs and request for Return Merchandise Authorization.

### Telephone

**Thinklogical Operator: 1-203-647-8700**

**Product & Customer Support: 1-203-647-8798**

Please contact our expert sales staff in Milford, CT. We are here Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. We'll provide a representative's direct dial phone number when you call.

If leaving a voice message, please provide a preferred time to call back so we may reach you at your convenience.

Our switchboard attendant will direct your call during regular business hours. We have an automated attendant answering our main telephone switchboard after regular business hours and on holidays. Please leave a voice message at any time.

### Fax

Our company facsimile number is **1-203-783-9949**. Please indicate the nature of the fax on your cover sheet and provide return contact information.

## Product Support

Thinklogical's support personnel are available **Monday through Friday, from 8:30am to 5:00pm**, Eastern Time Zone. If your application requires assistance at some time outside of our normal business hours, please contact us beforehand, if possible, and we will have someone available to assist you.

### Warranty

Thinklogical warrants this product against defects in materials and workmanship for a period of one year from the date of delivery, with longer term available at time of purchase on most products. Thinklogical and its suppliers disclaim all other warranties. Please refer to your product invoice for the Warranty Terms & Conditions.

Defect remedy shall be the repair or replacement of the product, provided that the defective product is returned to the authorized dealer within a year from the date of delivery.

If you wish to return your device, contact the Thinklogical authorized dealer where you purchased the device, or if you purchased directly, call Thinklogical at **1-800-291-3211** (USA).

### Return Authorization

If you need to return your Thinklogical® product to us for any reason, please get a  
**Return Merchandise Authorization Number (RMA#)**  
 from Thinklogical's **Product Support Department (1-203-647-8700)** before sending the unit in.

If you must return a product to Thinklogical directly, please contact us at **1-800-291-3211** or **1-203-647-8700**. Customer Support will ask you to describe the problem and will issue you a **Return Merchandise Authorization number (RMA#)**. Pack the device in its original box, if possible, and return it with the RMA# printed on the outside of the box.



**Note: DO NOT return a product to Thinklogical without a *Return Merchandise Authorization*.**

### Our Addresses

If you have any product issues or questions or need technical assistance with your Thinklogical system, please call us at **1-800-291-3211 (USA only)** or **1-203-647-8700** and let us help. If you need to write us or return a product, please use the following address:

*Please include the Return Merchandise Authorization number:*

**Thinklogical, A BELDEN BRAND**  
**100 Washington Street**  
**Milford, CT 06460 USA**  
**Attn: RMA#**



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