

thinklogical

A **BELDEN** BRAND

Q-Series

Q-4300, Q-2300 & Q1300 Modular Chassis



PRODUCT MANUAL

Rev. D, October 2018

thinklogical®

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Milford, Connecticut 06460 U.S.A.
Telephone: 1-203-647-8700

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thinklogical®

Subject: Q-4300, Q-2300, Q-1300 Chassis Product Manual (Q-Series Fiber Extension)
Revision: D, October 2018

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PREFACE

About Thinklogical A BELDEN BRAND



Thinklogical, A BELDEN BRAND
100 Washington St.
Milford, CT 06460

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.

Governments, entertainment, scientific and industrial customers worldwide rely on Thinklogical's products and solutions for secure, high performance, continuous operation and ease of integration. Thinklogical products are designed and manufactured in the USA and are certified to the ISO 9001:2015 standard.



JITC



Information Assurance

Thinklogical is headquartered in Milford, Connecticut and is owned by Belden, Inc., St. Louis, MO (<http://www.belden.com>). For more information about Thinklogical products and services, please visit www.thinklogical.com.

Follow Thinklogical on LinkedIn at <http://www.linkedin.com/company/thinklogical>, on Facebook at <http://www.facebook.com/ThinklogicalUSA>, and on Twitter at <https://twitter.com/thinklogical>.



Note and Warning Symbols

Throughout this manual you will notice certain symbols that bring your attention to important information. These are **Notes** and **Warnings**. Examples are shown below.



Note: Important Notes appear in blue text preceded by a yellow exclamation point symbol, as shown here.

A note is meant to call the reader's attention to **helpful** information at a point in the text that is relevant to the subject being discussed.



Warning! All Warnings appear in red text, followed by blue text, and preceded by a red stop sign, as shown here.

A warning is meant to call the reader's attention to **critical** information at a point in the text that is relevant to the subject being discussed.

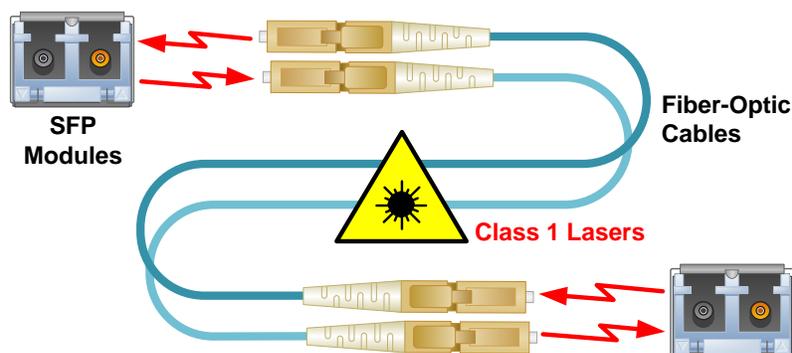
BEFORE STARTING ANY PROCEDURE, IT IS RECOMMENDED THAT YOU READ THE INSTRUCTIONS THOROUGHLY!

Class 1 Laser Information

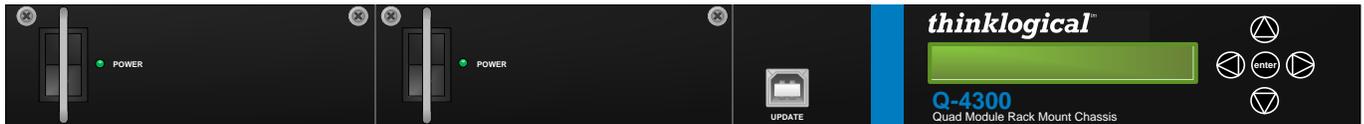
Q-Series Matrix Switches and Extenders, like all Thinklogical® products, are designed and identified as **Class 1 LASER products**. This means the maximum permissible exposure (MPE) cannot be exceeded when viewing the laser with the naked eye or with the aid of typical magnifying optics (e.g. telescope or microscope).



CLASS 1 LASERS do not require any special precautions under conditions of normal use.



1. Introduction



The Q-4300 Chassis

H: 1.72" (4.40cm) x **D:** 18.02" (45.8cm) x **W:** 17.45" (44.5cm), **50 Watts** per unit

1.1. Product Overview

Each multiple-module **Q-Series Chassis** provides a framework for mounting, powering, upgrading and interfacing with a variety of modules that perform the functions of a KVM and video distribution system. Our most diverse chassis, the Q-4300, supports up to 4 modules and features redundant power supplies. Along with the two-module Q-2300, each chassis features an LCD/button interface and provides convenient upgrade ports for the chassis and modules. Fans mounted inside the chassis provide cooling and all modules and power supplies are hot swappable. The Q-4300 and Q-2300 Chassis may be rack or desktop mounted. The stand-alone Q-1300 (one module) is a desktop model. Installable modules include our DVI, RGB/DVI and SDI lines of extenders.

The Q-4300 can combine up to four modules, including both transmitters and receivers, for a space-saving and cost effective solution to the challenges of the most demanding applications.

VQM Transmitter (TX) Modules, designed to fit all Q-Series Chassis, feature a video input and, in many cases, a local video output which can be used for DDC modification and for displaying video at the source. The TX also has fiber connectors used for transferring video and data to the Receiver. Most models include audio, USB, Serial or network jacks. Status LEDs are provided for system information.

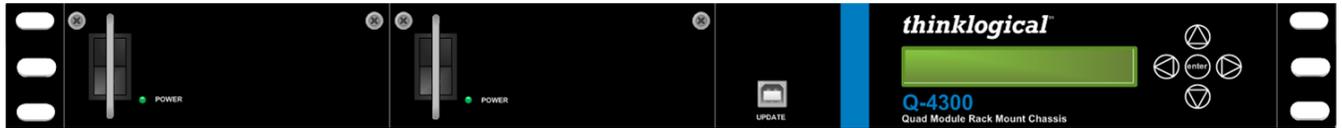
VQM Receiver (RX) Modules, also designed to fit all Q-Series Chassis, feature 2 video outputs. The RX also has fiber connectors used to receive video and data and to transfer data to the TX. Most models include audio, USB, Serial or network jacks.

SDI Transmitter Modules feature dual 3G/HD/SD SDI video inputs and an RS422 Serial Port.

SDI Receiver Modules feature dual 3G/HD/SD SDI video outputs and an RS422 Serial Port.

1.3 General System Features

- The Q-4300 provides a desktop or rack mount chassis for up to four modules.
- The Q-2300 provides a desktop or rack mount chassis for up to two modules
- The Q-1300 provides a desktop chassis for one module.
- Single-Link DVI and Dual-Link DVI modules are available with audio and networking options.
- SDI Modules that support two SD/HD signals or one 3G signal (as well as dual-link HD-SDI) are also available.
- Many modules provide a Dry Contact Alarm for power failure or over-temp notification.
- All physical connections to Q-Series modules use industry-standard connectors.



Q-4300 Chassis: (VQS-004300) Supports up to four DVI, RGB/DVI or SDI Q-Series modules. Dual interface and current sharing power supplies. Desktop or 19" rack-mount.



Q-2300 Chassis: (VQS-002300) Supports up to two DVI, RGB/DVI or SDI Q-Series modules. Desktop or 19" rack-mount.



Q-1300 Chassis: (VQS-001300) Supports one DVI, RGB/DVI or SDI Q-Series module. Desktop only.

The Q-4300 Chassis includes the following features:

Desktop/Rack-mount unit can accommodate up to 4 modules in any combination of transmitter or receiver. Features include:

- Hot swappable power supplies to minimize down time
- Current sharing power supplies
- Hot swappable modules
- Front LCD panel status monitoring and control
- Fully compatible with all of Thinklogical's VXRouter line of products.
- Simple plug and play

The Q-2300 Chassis includes the following features:

Desktop/Rack-mount unit can accommodate up to 2 modules in any combination of transmitter or receiver. Features include:

- Hot swappable modules
- Front LCD panel status monitoring and control
- Fully compatible with all of Thinklogical's VXRouter line of products.
- Simple plug and play

The Q-1300 Chassis includes the following features:

Desktop unit can accommodate any one Q-Series transmitter or receiver module. Features include:

- Hot swappable module
- Fully compatible with all of Thinklogical's VXRouter line of products.
- Simple plug and play

1.4. Mixing Q-Series Modules and TLX Modules in a single Chassis

Besides Q-Series products, Thinklogical also carries the TLX line of 10G extension products in a modular form. **Non-Q-Series modules, such as TLX, are compatible with the Q-4300, Q-2300 and Q-1300 chassis as well as their own CHS-4, CHS-2 and CHS-1 chassis.** However, because VQM modules generate less heat than TLX modules, they were not deigned to allow air-flow through their enclosures as in TLX modules.

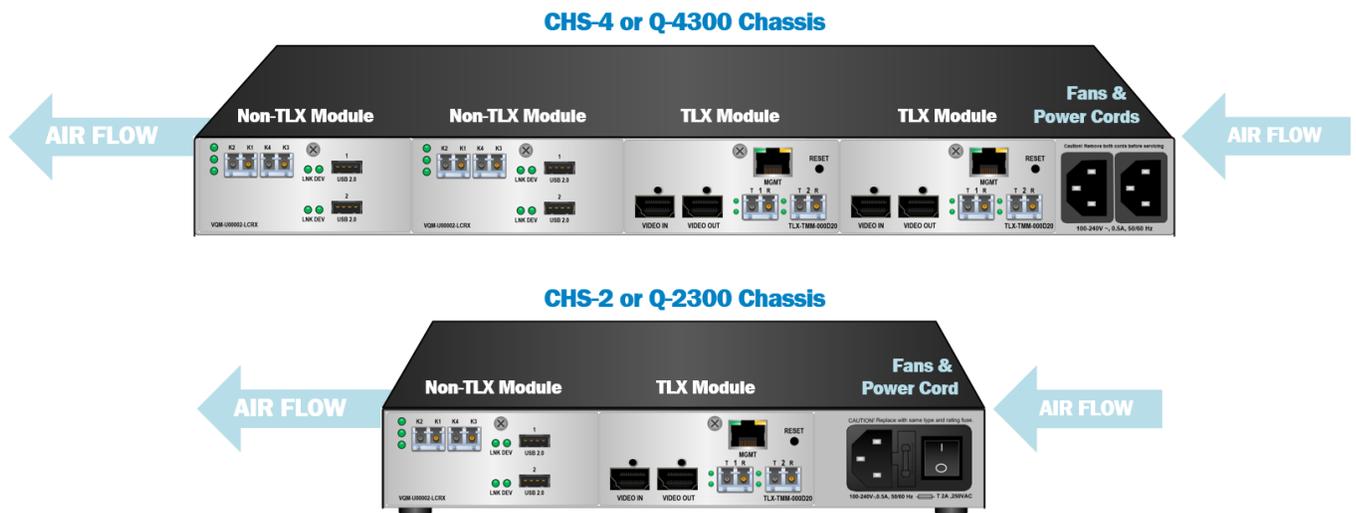
Air-Flow through VQM Modules

To avoid over-heating of TLX modules when mixed with non-TLX modules, the simple solution is to always install all non-TLX modules on the left side of the chassis (as looking from the back where the modules are loaded) and install all TLX modules on the right side, next to the cooling-air intake fans (The side next to the power cord receptacles). This will allow proper air-flow over the warmer TLX modules and will prevent over-heating. *This is true for both the Q-4300 and Q-2300 Chassis and for both the CHS-4 and CHS-2 Chassis.*

Warning! To avoid over-heating of TLX modules, always install all non-TLX modules on the left side of the chassis (as looking from the back where the modules are loaded) and install all TLX modules on the right side, next to the cooling-air intake fans (The side next to the power cord receptacles) .



Note: Non-TLX modules, such as Thinklogical's Q-Series (VQM), were not deigned to allow air-flow through their enclosures as in TLX modules.



To avoid over-heating, always install all non-TLX modules on the left side of the chassis and install all TLX modules on the right

Q-Series Chassis Technical Specifications

Dimensions	<p><u>Q-4300:</u> Rack Size: EIA 19" Height: 1.72" (4.37 cm) 1U Depth: 14.62" (37.13 cm) Width: 17.49" (44.42 cm) (Tolerance: ± .0394" (.100cm)</p> <p><u>Q-2300:</u> Height: 1.72" (4.37 cm) 1U Depth: 10.66" (27.08 cm) Width: 10.74" (27.28 cm) (Tolerance: ± .0394" (.100cm)</p> <p><u>Q-1300:</u> Height: 1.72" (4.37 cm) 1U Depth: 10.66" (27.08 cm) Width: 4.31" (10.95 cm) (Tolerance: ± .0394" (.100cm)</p>
Weight	<p><u>Q-4300:</u> 15 lbs (6.8 kg) per unit Shipping Weight: 30 lbs (13.6 kg)</p> <p><u>Q-2300:</u> 4 lbs (1.8 kg) per unit Shipping Weight: 18 lbs (8.16 kg)</p> <p><u>Q-1300:</u> 1 lb (.454 kg) per unit Shipping Weight: 10 lbs (4.54 kg)</p>
Power Consumption	<p><u>Q-4300:</u> 50 watts Supply Voltage: 100-240 VAC, 47-63 Hz, Universal AC Power Supplies</p> <p><u>Q-2300:</u> 30 watts Supply Voltage: 100-240 VAC, 47-63 Hz, Universal AC Power Supplies</p> <p><u>Q-1300:</u> 15 watts Supply Voltage: 100-240 VAC, 47-63 Hz, Universal AC Power Supplies</p>
Operating Temperature	0°-50°C; (32°-122°F)
Optical Distance	Up to 65 meters with Type OM1 Up to 350 meters with Type OM2 Up to 650 meters with Type OM3 Up to 1000 meters with Type OM4
Operating Temp & Humidity	0° to 50°C (32° to 122 °F), 5% to 95% RH, non-condensing
Compliance	Approvals for US, Canada, and European Union
Warranty	12 months from date of purchase. Extended warranties available.

2 Using the Q-Series Chassis and Modules

2.1 Types of Connections

All physical connections to our Q-Series products use industry-standard connectors. Non-supplied cables that may be needed are commercially available. All interface connections are found on the modules, located in the rear of the Q-4300 and Q-2300 chassis and on the front of the Q-1300 Chassis.

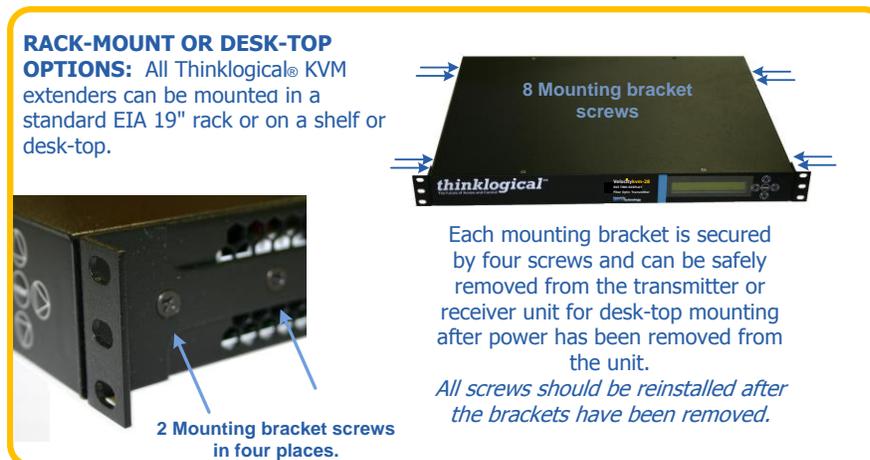
Typical copper cable types used in Q-Series applications:

- DVI-D, Single- and Dual-Link Video
- USB A-B
- RJ45M to RJ45M CAT5
- 3.5mm Audio
- BNC, M to M, 50Ω
- RS-232/422 Serial

2.2 Desktop or Rack Mount

2.2.1. Mounting the Q-4300 Chassis

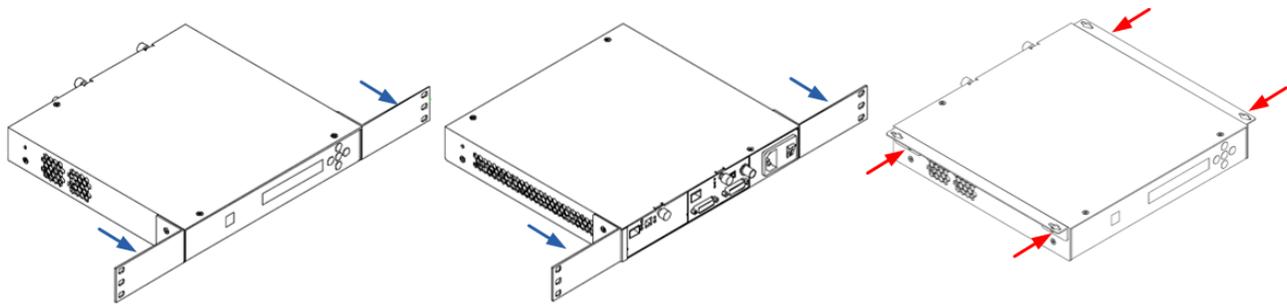
You may choose to place your **Q-4300 Chassis** on or under a shelf or desktop (rubber feet included, under-desk mounting brackets, Kit ENCA000797, available), or rack mount it using the supplied EIA 19" mounting brackets. In any mounting configuration, the front panel should be visible and unobstructed so that the navigation buttons and LCD display are accessible. All connections are made to the modules on the rear of the chassis. The Q-4300 chassis does not need to be opened or accessed. The sturdy metal case allows units to be stacked as needed (**maximum of four units per stack, with a minimum of two inches of clearance between stacks for adequate ventilation**). See Appendix A (page 20) for under-desk mounting.



Q-4300 Rack-Mounting Bracket Removal

2.2.2. Mounting the Q-2300 Chassis

You may choose to place your **Q-2300 Chassis** on or under a shelf or desktop (rubber feet and mounting brackets included). Standard 19" rack-mount brackets (VED-000001) are available upon request. In any mounting configuration, the front panel should be visible and unobstructed so that the navigation buttons and LCD display are accessible. All connections are made to the rear of the chassis. The Q-2300 chassis does not need to be opened or accessed. The sturdy metal case allows units to be stacked as needed (**maximum of four units per stack, with a minimum of two inches of clearance between stacks for adequate ventilation**).



The available 19" rack-mounting brackets (VED-000001) can be installed to allow access to either the front or rear panels.

The included mounting brackets can be installed for fixed desktop mounting or under-desk mounting simply by removing two screws per bracket.



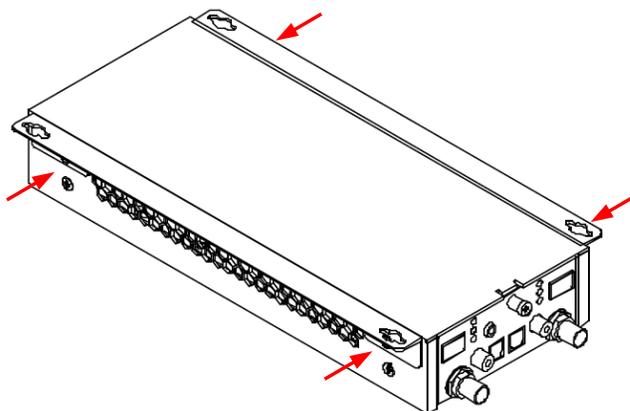
Removable mounting brackets installed for under-desk mounting.

Removable mounting brackets installed for fixed desktop mounting.

Q-2300 Mounting Options

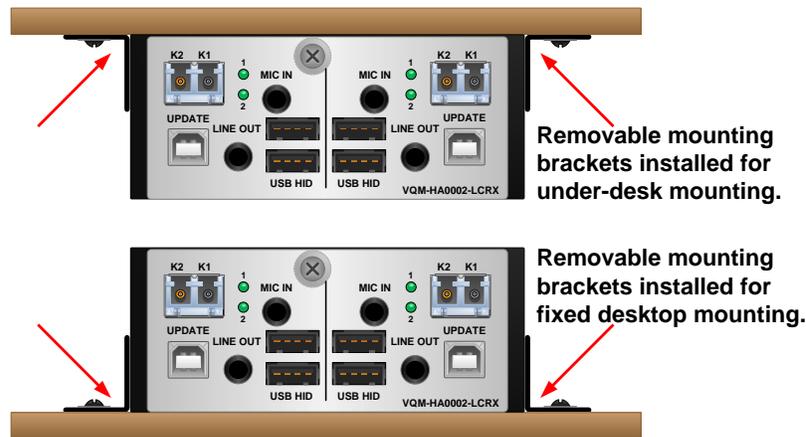
2.2.3. Mounting the Q-1300 Chassis

You may choose to place your **Q-1300 Chassis** on or under a shelf or desktop (rubber feet and mounting brackets, ENC-001394, are included). In any mounting configuration, the module's connector panel should be visible and unobstructed so that the receptacles are accessible. All connections are made to the module on the front of the chassis. The Q-1300 chassis does not need to be opened or accessed. The sturdy metal case allows units to be stacked as needed (**maximum of four units per stack, with a minimum of two inches of clearance between stacks for adequate ventilation**).



The removable mounting brackets can be installed for fixed desktop mounting or under-desk mounting simply by removing two screws per bracket.

Supplied Q-1300 Mounting Brackets



Q-1300 Mounting Bracket Configurations

2.3 Cooling

The Q-4300 Extender System uses four DC fans to move air horizontally through the enclosure.* The Q-2300 Extender System uses two DC fans to move air horizontally through the enclosure.* The Q-1300 Extender System uses passive ventilation through chassis vent holes.

Note: Be sure to leave adequate ventilation space on both sides of the units (2" minimum), especially if the units are being stacked

2.4 Hot Swappable Power Supplies

Each Q-4300 Chassis is equipped with dual hot-swappable, current-sharing power supply modules. Each supply has an ON/OFF rocker power switch located on the chassis front panel. When the power supply is ON, the LED on the front of the power supply will be lit.

If a power module ever fails, the replacement can be swapped with no interruption in unit functionality. To hot swap a power supply, simply unscrew the affected module and replace it with a new power supply module which can be ordered from Thinklogical (part number VTM-000001).

2.5 Front Panel Display and Navigation Buttons

Note: On the Q-4300 and Q-2300 Chassis front panel display is a removable decal that identifies the installed modules as configured for your specific application.

The Q-4300 and Q-2300 front-panel LCD display should be visible and accessible for system setup. The front panel buttons are used to gather status, configure special video settings and to review existing configurations.



*See *Mixing Q-Series Modules and TLX Modules in a single Chassis* on page 8.

2.5.1. Navigating the Menus

Main Root Menu: Once the system is powered up, the initial chassis display is shown as follows:

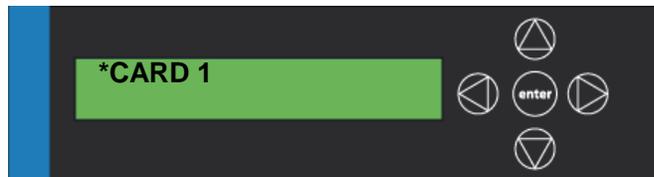
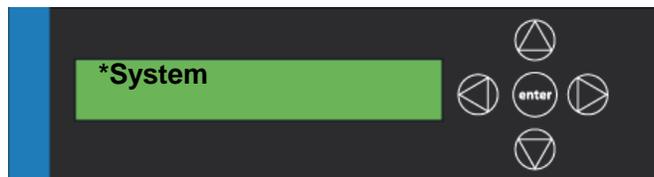


Our company name is listed on the first line of the display. The model and software version (VXX.XX) of the unit is displayed on the second line.



Note: In the front panel menus, the word **CARD** is used in place of **MODULE**, but refers to the same devices described elsewhere throughout this document.

By pressing the down arrow  you will enter the main menu. There is a separate root menu for each of the four cards (modules). **The main root menu items are displayed with an ***. They are as follows:



Once a *root menu item is displayed, you can then use the left arrow  or right arrow  to review settings or make allowable changes.

The Q-4300 menu functionality is as follows:

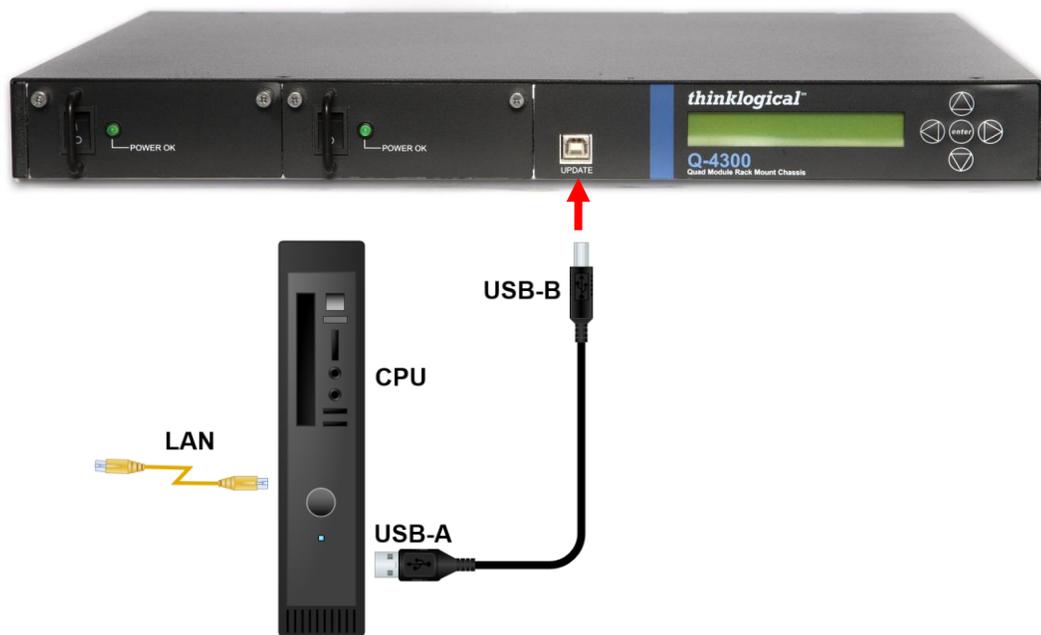
The Chassis will display menus for up to 4 cards, plus the System menu. The examples below are for CARD 1 and the System Menu:

*Card 1	
Card1 Tx/Rx	Tx/Rx=
Card1 Desc.	Desc=
Card1 Type	Type=
Card1 Rev	Rev=
Card1 Sw Rev	Rev=
Card1 Serial Number	S/N=
Card1 Temp in C	
Card1 SFP	Left
Card1 SFP	Right
Card1 SFP LOS #21	Status=
Card1 SFP Des OK #21	Status=

Card1 Input	Port 1/2=
Card1 DDC PROM Emula.	Mode=
Card1 Load Default DDC	Yes/No=
Card1 Load 1080p DDC	Yes/No=
Card1 Acquire DDC	Yes/No=
Card1 Force DDC	Mode=
*System	
Rack Serial Number	S/N=
Allow FPGA Update	Yes/No=
Ctrl Temp in C	
Fan Status F4 F3 F2 F1	
Card Pres. C4 C3 C2 C1	
Alarm Stat. FsC4C3C2C1Mn	Alrm Act=
Pwr Supp Pres. P1 P2	

2.5.2. Firmware Upgrades

FPGA and Firmware Upgrade Applications are available through Thinklogical's® Technical Assistance Department. Please call us at 1-203-647-8700 and we'll be happy to provide you with all the assistance you'll need to keep your system up and running at its optimum performance level.



Firmware Upgrade: Connect a USB A-B Cable from the CPU to the UPDATE Port

3. Regulatory & Safety Compliance

3.1. Safety Requirements

Symbols found on the product

Markings and labels on the product follow industry-standard conventions. Regulatory markings found on the products comply with domestic and many international requirements.

Regulatory Compliance

Thinklogical's Q-Series products are designed and made in the U.S.A. Q-Series products have been tested by a certified testing laboratory and found to be compliant with the following standards (both domestic USA and many international locations):

North America

Safety

ANSI/UL60950-1: 1st Edition (2003)
CAN/CSA C22.2 No. 60950-1-03

LASER Safety

CDRH 21CFR 1040.10
Class 1 LASER Product

Electromagnetic Interference

FCC CFR47, Part 15, Class A
Industry Canada ICES-003 Issue 2, Revision 1

Australia & New Zealand

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

European Union

Declaration of Conformity

Manufacturer's Name & Address: **Thinklogical, A BELDEN BRAND**
100 Washington Street
Milford, Connecticut 06460 USA
Telephone: 1-203-647-8700

These products comply with the requirements of the Low Voltage Directive 72/23/EEC and the EMC Directive 89/336/EEC.

3.2. Standards with Which Our Products Comply

Safety

CENELEC EN 60950-1, 1st Edition (2001)

LASER Safety

IEC60825:2001 Parts 1 and 2
Class 1 LASER Product

Electromagnetic Emissions

EN55022: 1994 (IEC/CSPIR22: 1993)
EN61000-3-2/A14: 2000
EN61000-3-3: 1994

Electromagnetic Immunity

EN55024: 1998 Information Technology Equipment-Immunity Characteristics
EN61000-4-2: 1995 Electro-Static Discharge Test
EN61000-4-3: 1996 Radiated Immunity Field Test
EN61000-4-4: 1995 Electrical Fast Transient Test
EN61000-4-5: 1995 Power Supply Surge Test
EN61000-4-6: 1996 Conducted Immunity Test
EN61000-4-8: 1993 Magnetic Field Test
EN61000-4-11: 1994 Voltage Dips & Interrupts Test

3.3. Supplementary Information

The following statements may be appropriate for certain geographical regions and might not apply to your location.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.



Warning! This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take corrective measures.



Note: This equipment has been tested and found to comply with the limits for 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 the 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 in which case the user may be required to take adequate corrective measures at their own expense.



Note: This Class A digital apparatus complies with Canadian ICES-003 and has been verified as being compliant within the Class A limits of the FCC Radio Frequency Device Rules (FCC Title 47, Part 15, Subpart B CLASS A), measured to CISPR 22: 1993 limits and methods of measurement of Radio Disturbance Characteristics of Information Technology Equipment.



Note: The user may notice degraded audio performance in the presence of electromagnetic fields.



Note: If using a keyboard that is noise susceptible, a ferrite ring on the keyboard cable may be needed to comply with Immunity Requirements

3.3.1. Product Serial Number

Thinklogical products have a unique serial number, which includes a date-code, printed on an adhesive label that is affixed to the unit. The format for the date-code is 2 digits for the month, dash, 2 digits for the year, plus at least four digits for a unique unit number. **05-160127** for example, indicates the unit was built in the 5th month of 2016, and is unit number 127.

3.3.2. Connection to the Product

Connections and installation hardware for our products use industry-standard devices and methods. All wiring connections to the customer equipment are designed to minimize proprietary or customized connectors and cabling. Power connections are made with regionally appropriate power cords and approved methods.

4. How to Contact Us

4.1. Customer Support

Thinklogical® is an engineering company and we will always do our best to ensure that you receive any assistance you need. 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 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).



Note: 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 for a download.

Email

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

info@thinklogical.com – Information on Thinklogical® and our products.

sales@thinklogical.com – Sales Department - orders, questions or issues.

support@thinklogical.com – Product support, technical issues or questions, product repairs and request for Return Authorization.

Telephone

Thinklogical Operator	1-203-647-8700
Product & Customer Support:	1-203-647-8798
US Commercial & Canada Sales:	1-203-647-8715
US Federal Government Sales:	1-203-647-8716
Toll Free in the Continental US:	1-800-291-3211
International Sales (Europe, Middle East, Africa):	1-203-647-8704
International Sales (Asia Pacific, Central & Latin America):	1-203-647-8734

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 holidays. You can leave voice messages for individuals 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.

4.2. 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. Thinklogical and its suppliers disclaim any and all other warranties.



Note: Thinklogical products carry a one year warranty, with longer term available at time of purchase on most products. Please refer to your product invoice for your products 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).



Note: Thinklogical Inc. products carry a one year warranty, with longer term available at time of purchase on most products. Please refer to your product invoice for your products 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

In the event you must return a product to Thinklogical directly, please contact our **Customer Support** at **1-800-291-3211** or **1-203-647-8700**.

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 (1-203-647-8798)** before sending the unit in.

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 products to Thinklogical® without *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:

Return address for products with Return Merchandise Authorization:

Thinklogical, A BELDEN BRAND

Attn: RMA#

100 Washington Street

Milford, CT 06460 USA

PHONE: 1-203-647-8700



Website: www.thinklogical.com

Facebook: www.facebook.com/ThinklogicalUSA

LinkedIn: www.linkedin.com/company/thinklogical

Google+: <http://plus.google.com/u/0/109273605590791763795/about>

YouTube: www.youtube.com/user/thinklogicalNA

Twitter: [@thinklogical](https://twitter.com/thinklogical)

Appendix A: 19 Inch Chassis Under-Desk Mounting

