RADVISION®
Delivering the Visual Experience®

SCOPIA® INFRASTRUCTURE

SCOPIA Elite 5000 Series MCU

Safety Guide
Version 7.5

Notice

For further information contact RADVISION or your local distributor or reseller.

RADVISION SCOPIA Elite 5000 Series MCU Regulatory Compliance and Safety Guide, July 2010

http://www.radvision.com

Table of Contents

Symbols Used in This Manual

CAUTION
This is the user caution symbol. It indicates a condition where damage of the equipment or injury of the service personnel could occur. To reduce the risk of damage or injury, follow all steps or procedures as instructed.

WARNING
This is a warning symbol. It indicates potential for bodily harm and tells you how to avoid the problem.
Also this is the electrical hazard symbol. It indicates that there are dangerous voltages inside the shelf.

Danger of electrostatic discharge!

This is a symbol indicating a danger of electrostatic discharge. The shelf contains static sensitive devices. To prevent static damage you must wear an ESD wrist strap.

Regulatory Compliance

USA

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

FCC Compliance Statement for Class A Devices

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. 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 his own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

WARNING
This is a Class A product. If not installed in a properly shielded enclosure and used in accordance with this Safety Guide, this product may cause radio interference in which case users may need to take additional measures at their own expense.

Canada

English Statement of Compliance

This class A digital apparatus complies with Canadian ICES-003.

French Statement of Compliance

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Europe (EU)

This apparatus complies with CISPR 22/EN55022 Class A and EN55024 standards when used as ITE/TTE equipment, and EN300386 for Telecommunications Network Equipment (TNE) in both installation environments, telecommunication centers and other indoor locations.

JAPAN - VCCI Class A Notice

WARNING

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

警告

これは、情報処理装置等電波障害自主規制協議会（VCCI）の規定に基づくクラスA装置です。
この装置を家庭環境で使用すると、電波妨害を引き起こすことがあります。この場合には、
使用者が適切な対策を取るように要求されることがあります。

Taiwan and Other Traditional Chinese Markets - Class A Notice

WARNING

This is a Class A Information Product, when used in residential environment, it may cause radio frequency interference, under such circumstances, the user may be requested to take appropriate countermeasures.

警告

這是甲類資訊產品，在居住環境中使用時，可能會造成射頻干擾，
在這種情況下，使用者會被要求採取某些適當的對策。

Korea - Class A Notice

WARNING

This is a Class A Device and is registered for EMC requirements for industrial use. The seller or buyer should be aware of this. If this type was sold or purchased by mistake, it should be replaced with a residential-use type.

주의

A급 기기 이 기기는 업무용으로 전자파 적합 등록을 한 기기이
오니 판매자 또는 사용자는 이 점을 주의하시기 바라며 만약
잘못 판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

Chassis-related Safety Information

Unpacking

CAUTION
To minimize any possibility of physical damage to equipment, ensure that floor space at the installation site is neat and uncluttered. Ensure that a mechanical lift can be maneuvered in the area to lift the shelf from the shipping pallet.

WARNING
All poly strap-shipping bands that secure the chassis packaging are stretched tight and are under tension. Wear eye protection to prevent possible eye injury when cutting the strap, as the strap tension is released, and strap ends recoil outward.

Follow these recommendations while unpacking:

- After the equipment arrives at the installation site, carefully inspect each carton for signs of shipping damage. If the package is damaged, document the damage with photographs and contact the transport carrier immediately.

CAUTION
Always cut any shrink wrapping material away from the packing carton; do not physically pull and tear the fabric. Physically pulling the shrink wrapping from the shipping carton without cutting it first may create an electrostatic charge that could damage electronic equipment.

- Remove all items from the box. If any items listed on the purchase order are missing, notify customer service immediately.
- Inspect the product for damage. If there is damage, notify customer service immediately.
- Save the box and packing material for possible future shipment.

CAUTION
Two people are required to lift the chassis. Grasp the chassis underneath the lower edge and lift with both hands. To prevent injury, keep your back straight and lift with your legs, not your back. To prevent damage to the chassis and components, never attempt to lift the chassis with the handles on the power supplies or on the interface modules. These handles were not designed to support the weight of the chassis.

Installation

This unit may be intended for stationary rack mounting. Prior to mounting the unit, verify that the rack is designed to support a unit of this kind. The SCOPIA Elite 5200 Series MCU is a 3U unit and the SCOPIA Elite 5100 Series is a 1U unit.

IMPORTANT
Before installing the Rack Mount Kit, ensure there will be adequate vertical space to install the chassis in addition to other equipment installed.

Rack mounting information:

CAUTION
System weight may be minimized prior to mounting by removing all hot-swappable equipment. Mount your system in a way that ensures even loading of the rack. Uneven weight distribution can result in a hazardous condition. Secure all mounting bolts when rack mounting the enclosure.

Ethernet and Serial Connection

WARNING
Connect the Ethernet cables only to intra-building or non-exposed wiring or cabling.

Preventing Electrostatic Discharge Damage
Electrostatic discharge (ESD) damage, which occurs when electronic cards or components are improperly handled, can result in complete or intermittent failures. The switch processor and line modules each consist of a printed circuit card that is fixed in a metal carrier. Electromagnetic interference (EMI) shielding and connectors are integral components of the carrier. Handle the carriers by the carrier edges only; never touch the cards or connector pins. Although the metal carrier helps to protect the cards from ESD, use a preventive antistatic strap whenever you handle the processor or line modules.

Power Connection

Follow these basic guidelines when working with any electrical equipment:

- Before beginning any procedures requiring access to the chassis interior, locate the emergency power-off switch for the room in which you are working.
- Disconnect all power and external cables before moving a chassis.
- Do not work alone when potentially hazardous conditions exist.
- Never assume that power has been disconnected from a circuit; always check.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Carefully examine your work area for possible hazards such as moist floors, ungrounded power extension cables, and missing safety grounds.
- To prevent the MCU from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 113°F (45°C).

Power connection information:

- Connecting the shelf to earth ground

WARNING
Protective ground must be connected to the chassis before connecting any external power. Not connecting the grounding cable creates a high voltage hazard condition.

- Recommended minimum specifications for the grounding cable and its connection include the following:
  - Recommended Minimum Wire Size: 18 AWG (1 mm^2)
  - Recommended Terminals: Use only 4M ring terminal
- Verify the supply output voltage (DC or AC) and the connection rating limitation (circuit breaker).

WARNING
Depending on the particular chassis design, operations with open equipment enclosures can expose the installer to hazardous voltages with a consequent danger of electric shock.
Ensure that line power to the equipment is disconnected during operations that make high voltage conductors accessible.

AC Power Connection

WARNING
Verify that the power cord and the outlet are compatible. Use only appropriate power cords for your power outlet configurations.

WARNING
Ensure that each power domain supply circuit breaker is switched *OFF* while completing the following power connection procedure. Failure to comply can result in personal injury.

WARNING
HAZARDOUS CONDITIONS—POWER SUPPLY Hazardous voltage, current, and energy levels are present inside the power supply enclosure. There are no user-serviceable parts inside it; therefore servicing should only be done by technically qualified personnel.

WARNING
This product relies on the building's installation for short-circuit (over current) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A by U.S. standard or 240 VAC, 10A by international standard is used on the phase conductors (all current-carrying conductors).

DC Power Connection

WARNING
Avoid electric overload, heat, shock, or fire hazard: Only connect the system to a properly rated supply circuit as specified in the product user manual. Do not make connections to terminals outside the range specified for that terminal. For information about power connection, see the SCOPIA Elite 5200 Series MCU Installation Guide.

CAUTION
Output voltages from the external power supply must be verified before power leads are connected to the chassis PEMs. Failure to verify can damage the shelf and will require replacement of affected components.

CAUTION
All input power and return wiring should be specified, configure, and installed by a qualified electrician in order to prevent damage to the equipment.
Perform wiring according to recommendations to prevent damage to the shelf.

WARNING
Ensure that each power domain supply circuit breaker is switched *OFF* while completing the following power connection procedure. Failure to comply can result in personal injury.

WARNING
When external power is applied, the chassis is energized at all times. Power to the chassis is controlled only from the external power source, and cannot be switched off at the chassis. Failure to observe can result in personal injury.

NOTE In a typical telecommunications environment, the VRTN path of the -48 VDC supply is grounded to protective earth (PE) of the building.

Airflow Information

If you plan to install the chassis in an equipment rack, follow these precautions to avoid overheating condition:

- Install the chassis in an enclosed rack only if it has adequate ventilation or an exhaust fan; use an open rack whenever possible.
- Note that a ventilation system that is too powerful in a closed rack might prevent cooling by creating negative pressure around the chassis and redirecting the air away from the chassis intake vent. If necessary, operate the chassis with the rack open.
- Use baffles inside the enclosed rack to assist in cooling the chassis.

CAUTION
Avoid equipment overheating hazard: Ensure that filler panels are installed in all empty blade cage slots, front and rear. Missing filler panels or other openings in the chassis may cause equipment damage due to cooling fan airflow disruption.

Performing Service and Maintenance Procedures

General Information

Safety instructions

Before handling the board, read the instructions and safety guidelines in the following pages to prevent damage to the product and to ensure your own personal safety.

CAUTION
Do not attempt to service the system yourself, except as explained in the SCOPIA Elite 5100/5200 Series MCU Installation Guide or Administrator Guide. Follow installation and maintenance instructions closely.

- Always use caution when handling or operating the chassis. Only qualified, experienced, authorized electronics service personnel should access the interior of the unit. The power supplies produce high voltages and energy hazards, which can cause bodily harm.
- Use extreme caution when installing or removing components. Refer to the installation instructions in the SCOPIA Elite 5100/5200 Series MCU Installation Guide for installation procedures. If you have any questions, contact RADVISION Technical Support.

WARNING
High voltages are present inside the chassis when the unit's power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply, and then disconnect the power cord from its source before removing the chassis cover. Turning off the system power switch does not remove power to components.

WARNING
This product contains static-sensitive components and should be handled with care. Failure to employ adequate anti-static measures can cause irreparable damage to components.

Preventing Electrostatic Discharge

Static electricity can harm system boards. Perform service at an ESD workstation and follow proper ESD procedure to reduce the risk of damage to components. RADVISION strongly encourages you to follow proper ESD procedure, which can include wrist straps and smocks, when servicing equipment. Take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component's antistatic packing material until you are ready to install the component in the chassis. Just before unwrapping the antistatic packaging, be sure you are at an ESD workstation or grounded. This will discharge any static electricity that may have built up in your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components at an ESD workstation. If possible, use antistatic floor pads and workbench pads.
- Handle components and boards with care. Do not touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket.
- Do not handle or store system boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.

WARNING

Because static electricity can cause damage to electronic devices, take the following precautions:

- Keep the board in its anti-static package, until you are ready to install memory.
- Wear a grounding wrist strap before removing the board from its package; this will discharge any static electricity that may have built up in your body.
- Handle the board by the faceplate or its edges
- Never remove any of the socketed parts except at a static-free workstation.

Preventing Surge

WARNING

This product is designed to meet intra building surge signals, other location are required additional protective elements to needed to be added.

Board Hot Swap and Installation

WARNING

- Do not touch internal components on the blade when the unit is installed and powered.
- Do not perform maintenance procedures on the blade without removing it from the chassis.
- Do not remove the blades without activating the hot-swap mechanism, because it can damage the board.

Because of the high-density pinout of the hard-metric connector, some precautions must be taken when connecting or disconnecting a board to/from a backplane:

- Rail guides must be installed on the enclosure to slide the board to the backplane.
- Do not force the board if there is mechanical resistance while inserting the board.
- Screw the front plate to the enclosure to firmly attach the board to its enclosure.
- Use extractor handles to disconnect and extract the board from its enclosure.

WARNING

Always use a grounding wrist wrap before installing or removing the board from a chassis.

WARNING

Pull the lower ejector for hot-swap mechanism activation

Removing the blades prematurely can lead to device corruption or failure.

CAUTION

Removing the backing plate can damage the components on the board and may void the warranty.

No user-serviceable parts are available under the PCB. Do not remove the face plate or backing plate.

External airflow must be provided at all times during operation to avoid damaging the CPU. It is recommended that you use a fan tray above or below the card rack to supply the external airflow. Unused slots should be covered with blank filler panels to maintain airflow past the board.

Do not expose this device to rain or other moisture.

This board must be protected from static discharge and physical shock. Wear a grounded wrist strap when servicing system components.

Safety Information for SCOPIA Elite 5200 Series MCU

Servicing Media Blade

Supplied control cables are shielded.
If other source is used for management cable, shielded model should be use.

WARNING
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries following manufacturer's instructions.

CAUTION
The Media Blade contains a lithium battery. There is a danger of explosion if the battery is incorrectly replaced or handled. Do not disassemble or recharge the battery. Do not dispose of the battery in the fire. When the battery is replaced, the same type or an equivalent type recommended by the manufacturer must be used. Used batteries must be disposed of according to the manufacturer's instructions. It is recommended that the board should be returned to DTI for battery service.

Servicing Chassis Air Filter

The SCOPIA Elite 5200 Series MCU is equipped with a user-serviceable air filter that prevents dust from being drawn into the router. Once a month (or more often in dusty environments), examine the air filter for damage and cleanliness.

CAUTION
A damaged air filter can restrict airflow, cause overheating in the router, and degrade EMI performance. Be careful when cleaning or replacing the filter.

CAUTION
Be careful not to damage the honeycomb screens on the back of the air filter door and in the fabric card cage. Damage to the honeycomb screens can restrict airflow, cause overheating, and affect EMI performance.

CAUTION
Do not vacuum the air filter while it is installed in the chassis. Before you clean it, you must remove the air filter completely to prevent contaminants from being drawn into the system.

Servicing Chassis Fan Tray

The SCOPIA Elite 5200 Series MCU unit is equipped with a two user-serviceable fan try that. Once a month (or more often in dusty environments), examine the air filter for damage and cleanliness.

CAUTION
Never operate the system if the fan assembly is not functioning properly or if one is not reinstalled quickly. An overheating condition can result in severe equipment damage.

Servicing AC or DC Power Module

The SCOPIA Elite 5200 Series MCU unit is equipped with a removable power supply in AC configuration and DC power entire module in DC that can be removed and replaced. The unit can be replaced at failure.

CAUTION
To prevent damage to the power shelf backplane connector, do not use excessive force when inserting the power module into the power shelf.

AC Power

WARNING
To ensure that power remains off while you are extracting the power supply unit, move the circuit breaker switch to the OFF (0) position.

WARNING
This unit might have more than one power cord. To reduce the risk of electric shock, disconnect the two power supply cords before servicing the unit.

DC Power

WARNING
To avoid overloading wiring always connect the unit to the supply circuit.

WARNING
Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and move the switch handle of the circuit breaker to the OFF position.

Product Disposal Warning

WARNING
Ultimate disposal of this product should be handled according to all national laws and regulations.

BATTERIES

Batteries in this product do not contain mercury, lead or cadmium.

- The batteries used in this product comply with EU Directive 91/ 157/ EEC, EU Directive 93/ 86/ EEC, EU Directive 98/101/EEC, and EU Directive 2006/66/EC.
- The product documentation includes instructional information on the proper removal and disposal of the batteries used in this product.

These batteries are used in the unit:

Battery Description – Internal Batteries	Battery Type
BATTERY LITHIUM COIN-CELL 3V 48mAh for 1mA in CR1225 case	Lithium Coin

Other batteries may be delivered in this system, depending on customer options. The optional internal batteries are batteries containing either Lithium or Nickel Metal Hydride.

California Perchlorate Information: The following statement appears in the printed product user documentation shipped with the product.

> Perchlorate Information
> This product's coin cell battery may contain perchlorate and may require special handling when recycled or disposed of. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

EU Battery Directive: The following statement either appears in the printed product user documentation or on a CD shipped with the product.

Batteries Directive – Information for Users
In the European Union, this label indicates that the batteries in this product should be collected separately and not be disposed of with household waste. Substances in batteries can have a potential negative impact on health and environment and you have a role in recycling waste batteries thus contributing to the protection, preservation, and improvement of the quality of the environment. You should contact your local authority or retailer for details of the collection and recycling schemes available.

Taiwan Battery Statement: The following statement appears in the printed product user documentation shipped with the product.

電池聲明 (台灣)

廢電池請回收

About RADVISION

RADVISION (NASDAQ: RVSN) is the industry's leading provider of market-proven products and technologies for unified visual communications over IP and 3G networks. With its complete set of standards based video networking infrastructure and developer toolkits for voice, video, data and wireless communications, RADVISION is driving the unified communications evolution by combining the power of video, voice, data and wireless – for high definition video conferencing systems, innovative converged mobile services, and highly scalable video-enabled desktop platforms on IP, 3G and emerging next generation networks. For more information about RADVISION, visit www.radvision.com

USA/Americas	EMEA	APAC
T +1 201 689 6300	T +44 20 3178 8685	T +852 3472 4388
F +1 201 689 6301	F +44 20 3178 5717	F +852 2801 4071
infoUSA@radvision.com	infoUK@radvision.com	infoAPAC@radvision.com

RADVISION
Delivering the Visual Experience