

FR1 and FR2

Video Card Frames

(Models FR1, FR1-D, FR2 and FR2-D)

Published: 7/13/10

Installation and Operation Guide

Because it matters.

AJA[®]
VIDEO SYSTEMS

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Contacting Support

To contact AJA Video for sales or support, use any of the following methods:

180 Litton Drive, Grass Valley, CA, 95945 USA
Telephone: +1.800.251.4224 or +1.530.274.2048
Fax: +1.530.274.9442

Web: <http://www.aja.com>
Support Email: support@aja.com
Sales Email: sales@aja.com

When calling for support, have all information on the product (serial number etc.) at hand prior to calling.

Limited Warranty

AJA Video warrants that this product will be free from defects in materials and workmanship for a period of five years from the date of purchase. If a product proves to be defective during this warranty period, AJA Video, at its option, will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, you the Customer, must notify AJA Video of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. The Customer shall be responsible for packaging and shipping the defective product to a designated service center nominated by AJA Video, with shipping charges prepaid. AJA Video shall pay for the return of the product to the Customer if the shipment is to a location within the country in which the AJA Video service center is located. Customer shall be responsible for paying all shipping charges, insurance, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. AJA Video shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than AJA Video representatives to install, repair or service the product, b) to repair damage resulting from improper use or connection to incompatible equipment, c) to repair any damage or malfunction caused by the use of non-AJA Video parts or supplies, or d) to service a product that has been modified or integrated with other products when the effect of such a modification or integration increases the time or difficulty of servicing the product.

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Important Safety Information

See the Safety & Regulatory information in Appendix A at the back of this manual.

Introduction

The AJA FR1 and FR2 are multiple-card frames that support both AJA's R-series video card modules and other industry standard modules. They bring high-density packaging, high capacity power supplies, and forced fan cooling to your rack—so you don't need to reserve space above or below the frames.

Model FR1

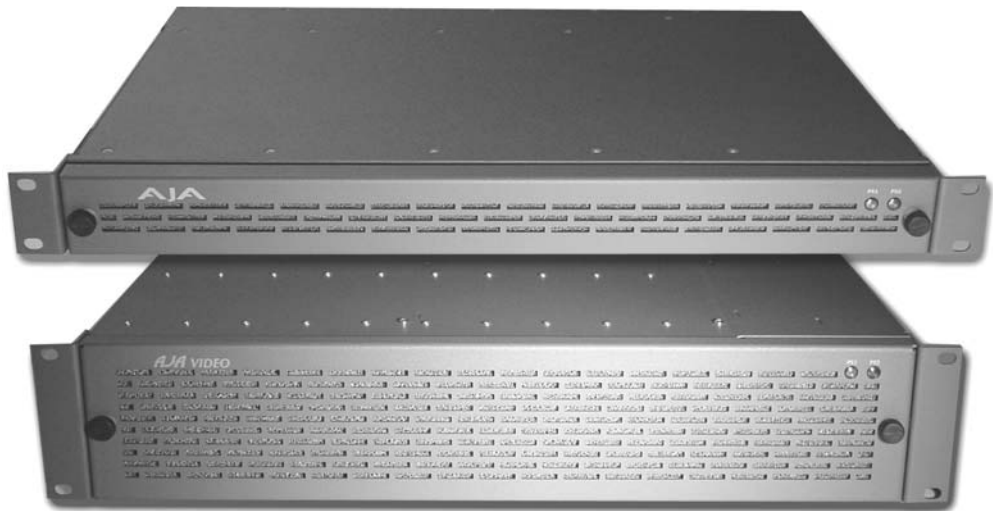
The FR1 frame offers space for four modules in a 1-RU space. AJA's own R5 and R20 modules fit into the frame, as well as industry standard modules. Color black reference can be connected at a rear panel BNC for distribution passively to all frame modules.

Model FR2

The FR2 frame provides greater space, housing up to ten modules in a 2-RU space. Like the FR1, the FR2 supports both AJA's own R-series modules as well as industry standard modules. Color black reference in the FR2 is also distributed to all modules, but it's actively distributed rather than passively. Optional redundant power supplies are available for the FR2 frame, and all power supplies are easily hot-swapped from the front of the unit (one screw on the rear panel must be removed on each power supply prior to removal).

Features

The FR1 and FR2 frames offer a variety of unique features for easy connectivity and ease of installation in any environment.



FR1 and FR2 Frames

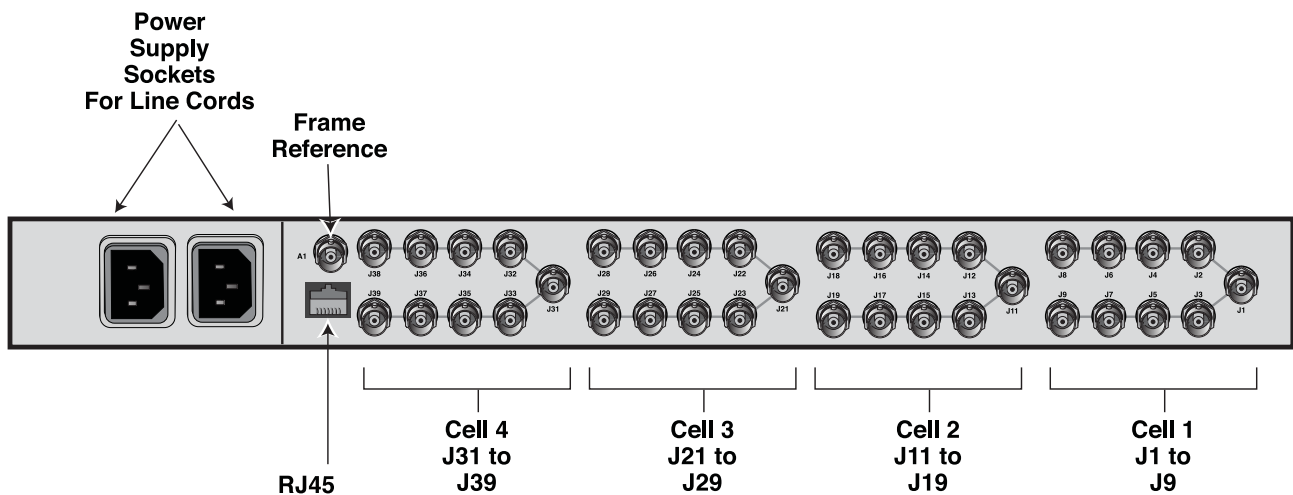
FR1 Features

- Dual fan forced-air cooling
- Optional redundant power supply, diode isolated
- Universal power supply is auto-ranging from 90 to 240 VAC with 50 Watts capacity
- 4 module slots (cells)
- Each module cell is provided with 9 BNC inputs or outputs
- Single frame reference BNC distributes passively to all cells
- Remote power supply monitoring via RJ45 port on rear panel
- Power LEDs on front panel show power status
- Compatible with common industry frames—video cards only (Leitch™ 6800-series)

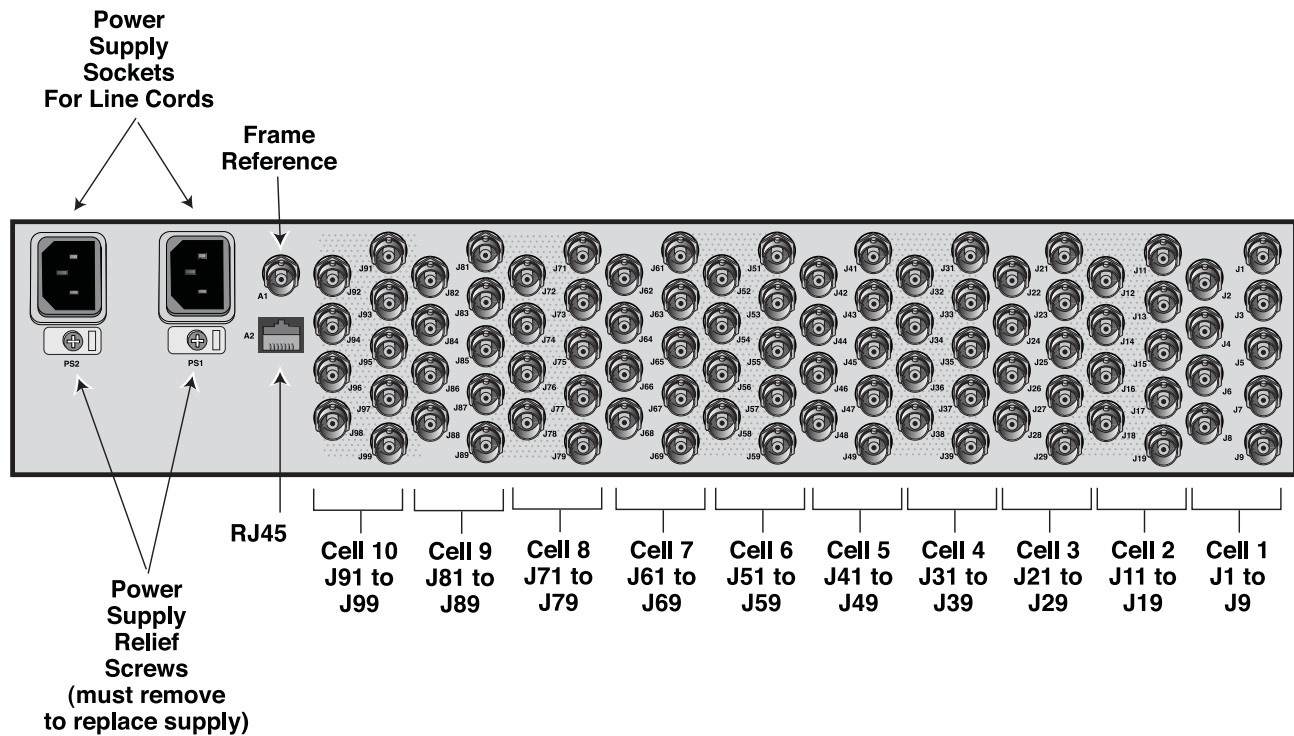
FR2 Features

- Triple fan forced-air cooling inside removable access door
- Hot-swappable power supplies
- Optional redundant power supplies, diode isolated
- Universal power supply is auto-ranging from 90 to 240 VAC with 100 Watts capacity
- 10 module slots (cells)
- Each module cell is provided with 9 BNC inputs or outputs
- Single frame reference BNC distributes actively to all cells via an internal distribution amplifier
- Remote power supply monitoring via RJ45 port on rear panel
- Power LEDs on front panel show power status
- Compatible with common industry frames—video cards only (Leitch™ 6800-series)

I/O Connections



FR1 Multiple Card Frame, Rear Panel Connectors



FR2 Multiple Card Frame, Rear Panel Connectors

Input/Output BNCs (groups of 9 per cell)—Each unique slot in the FR1/FR2 frames connect to a group of 9 BNCs on the frame rear panel. The actual function of the BNC connectors is dependent on the video card installed. Each group of 9 BNCs corresponds to the card installed in the same position; for example the right-most card connects to the right-most group of connectors at the position on the rear panel.

Frame Reference BNC—Both the FR1 and FR2 frames have this frame reference input BNC connector, which feeds an external reference video signal to all modules installed in the frame. How the signal is distributed differs for the FR1 and FR2 frames. Additionally, individual modules can usually be strapped as to whether external reference is distributed from the frame or directly to BNCs on the module's corresponding cell group (the 9 BNCs on the rear panel). See the "Note" below for more information on looping reference inputs in the cell group.

FR1 Frame: the external reference signal is distributed passively to all frame modules. Cards installed in the frame should have "FRAME" reference selected, and one and only one card in the frame should have "TERMINATION" set to "ON." All other cards in the frame should have TERMINATION set to "OFF."

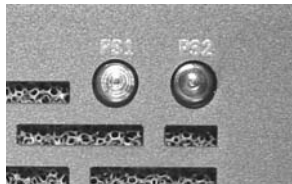
FR2 Frame: the external reference signal is distributed by an in-frame distribution amplifier to all frame modules. This system terminates the Frame Reference input BNC and buffers the signal to all slots. Cards installed in the FR2 frame should have "FRAME" set for reference select, and all cards should have TERMINATION set to "OFF."

Note: Each cell group of 9 BNCs contain two BNCs that can be used for a looping reference connection for the corresponding card module. If this method is used, then the reference select setting on that module should be set to “LOOP” and the TERMINATION setting on the module should be set to “OFF” (no termination). Optionally, if you’re using only one of the looping reference BNCs, then the TERMINATION setting should be set to “ON.”

Power Supply Monitoring RJ45 Port—Standard RJ45 10BaseT-style connector offers access for monitoring power supply voltages (see pinout at back of manual) from the power supply (or supplies in the case of the FR2).

AC Power Connectors—The FR1/FR2 have one AC power connection socket; the FR1-D/FR2-D have two—one for each of their power supplies (these models offer redundant power supplies).

User Controls



Power LEDs (2)—The PS1 and PS2 LEDs on the FR1/FR2 front door indicate which (if any) power supply is currently powered up and supplying power to the frame modules. You can tell at a glance if a supply is powered up and functional by its associated LED.

Note: If the front door is removed while power is applied, the fans in the front door and the power monitoring LEDs will not operate until the door is replaced.

Installation

Typically, installation consists of the following:

1. disconnect power from the frame (remove line cord)
2. remove the FR1/FR2 front panel
3. install AJA R-series or other industry-standard card modules
4. apply external color black reference at the frame’s External Reference BNC
5. replace the FR1/FR2 front panel door
6. apply power to the frame by connecting a north american-style power cord from the frame to mains power (90 to 260 VAC)

Please follow all manufacturer’s instructions for the video cards being installed, noting any cautions or special instructions.

Instructions for removing the front door for module installation and power supply exchange/removal (FR2 only) are provided in the following discussions.

Front Door Removal/Installation

To remove the front door, firmly grasp both removal knobs and rotate them in opposite directions. Hang on to the knobs so that as the door releases you can hold on to the door and remove it without it falling off.



Caution!

The FR1/FR2 front fan door is heavy and is not hinged. Remove with Caution.

Power Supply Removal (FR2)

To remove an FR2 power supply, follow these steps:



Warning!

Ensure Mains Power is disconnected before installing the FR1 or FR2 frame R-series modules into the frame, or installing and removing options. If a Mains switch is not provided, the power cord(s) of this equipment provide the means of disconnection. The socket outlet must be installed near the equipment and must be easily accessible.

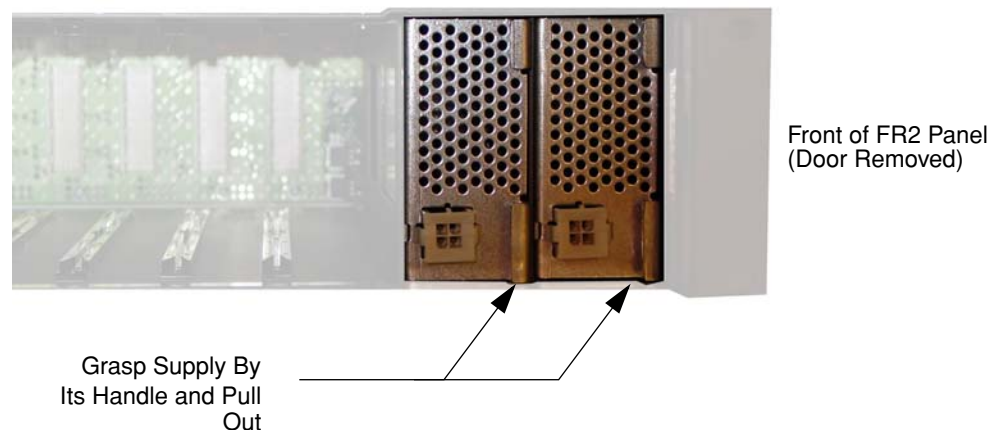
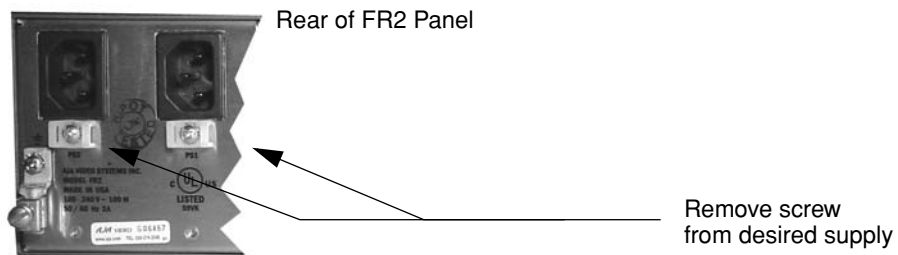


Warning!

FR2 Dual Power Cord Notice—please read this. To reduce the risk of electrical shock, disconnect both power cords before servicing equipment.

1. Remove the frame front panel door as explained earlier.
2. Locate which of the two supplies you wish to remove. On the rear panel, remove the strain relief screw that secures the power supply to the frame, saving the screw.
3. From the front of the frame, grasp the two pull handles on the front of the desired power supply and gently pull it out of the frame.

Installation of a new supply is the reverse of this removal procedure.



FR2 Power Supply Removal

Note: FR1 power supply replacement requires disassembly of the chassis frame. It is not user-serviceable; power supply replacement should be referred to a qualified AJA service center.



Warning!

Disconnect the external AC power supply line cord(s) from the mains power before moving the unit.

Specifications

FR1 Specifications

Item	Specification
Capacity	4 slots, 1 Rack Unit
Inputs	<ul style="list-style-type: none"> • Group of 9 BNCs (I/O) for each module (4 groups) • Reference Input BNC
Power	50 Watt Capacity Universal Input 90-240 VAC Power Supply Optional Redundant Power Supply, Diode-Isolated
Cooling	Dual fan, forced-air
Physical Dimensions	Width: 19" Height: 1.75" Depth: 14.75" Rack Units: 1
Compatibility	Leitch™ 6800-series
Options	FR1-PS Power Supply Module for FR1 Frame
Models	FR1—FR1 frame with one power supply FR1-D—FR1 frame with two (redundant) power supplies

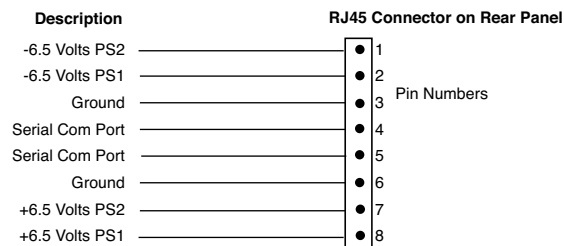
FR2 Specifications

Item	Specification
Capacity	10 slots, 2 Rack Units
Inputs	<ul style="list-style-type: none"> • Group of 9 BNCs (I/O) for each module (10 groups) • Reference Input BNC, active DA to all slots
Power	100 Watt Capacity Universal Input 90-240 VAC Power Supply Optional Redundant Power Supply, Diode-Isolated
Cooling	3-fan, forced-air

Item	Specification
Physical Dimensions	Width: 19" Height: 3.5" Depth: 13" Rack Units: 2
Compatibility	Leitch™ 6800-series
Options	FR2-PS Power Supply Module for FR2 Frame
Models	FR2—FR2 frame with one FR2-PS power supply FR2-D—FR2 frame with dual power supplies FR2-PS—FR2 Power supply

FR1/FR2 Power Monitoring

The power supply outputs can be monitored via the RJ45 connector on the rear panel. The following diagram shows the pinouts where supply values can be measured.



Pinout for RJ45 Connector On Rear Panel

Appendix A: Safety & Compliance

Federal Communications Commission (FCC) Compliance Notices

Class A Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. 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. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canadian ICES Statement

Canadian Department of Communications Radio Interference Regulations

This digital apparatus does not exceed the Class A limits for radio-noise emissions from a digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada. Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

European Union and European Free Trade Association (EFTA) Regulatory Compliance

This equipment may be operated in the countries that comprise the member countries of the European Union and the European Free Trade Association. These countries, listed in the following paragraph, are referred to as The European Community throughout this document:

AUSTRIA, BELGIUM, BULGARIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA, LUXEMBOURG, MALTA, NETHERLANDS, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, UNITED KINGDOM, ICELAND, LICHTENSTEIN, NORWAY, SWITZERLAND

Declaration of Conformity

Marking by this symbol indicates compliance with the Essential Requirements of the EMC Directive of the European Union 2004/108/EC.



This equipment meets the following conformance standards:

Safety:

CB- IEC 60065:2001 + A1:2005

NRTL - UL 60065:2003 R11.06, CSA C22.2 NO. 60065:2003 + A1:06

GS - EN 60065:2002 + A1

Additional licenses issued for specific countries available on request.

Emissions:

EN 55103-1: 1996

EN61000-3-2:2006, EN61000-3-3:1995 +A1:2001 +A2:2005

Immunity:

EN 55103-2: 1996

EN61000-4-2:1995 + A1:1999 + A2:2001, EN61000-4-3:2006, EN61000-4-4:2004,

EN 61000-4-5: 2005, EN 610004-6:2007, EN61000-4-11:2004

The product is also licensed for additional country specific standards as required for the International Marketplace.



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 appropriate measures.

Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention! Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

Korea KCC Compliance Statement

1) Class A ITE

A급 기기 (업무용 방송통신기기)	이 기기는 업무용 (A 급) 으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
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1) Class A device

Class A (Broadcasting and Communication Equipment for Business Use)	Please note that this equipment has obtained EMC registration for business use (Class A), and it is intended to use in other than home area.
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Taiwan Compliance Statement

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，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。

This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A.

Japanese Compliance Statement

1. Class A ITE

この装置は、クラスA 情報技術装置です。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講ずるよう要求されることがあります。VCCI-A

This is a Class A product based on the standard of the VCCI Council (VCCI V-3/2008.04). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

Translated caution statements, warning conventions and warning messages

The following caution statements, warning conventions, and warning messages apply to this product and manual.



Warning Symbol



Hazard Warning



Caution Symbol

Before operating your unit, please read the instructions in this document

**Warning!**

Read and follow all warning notices and instructions marked on the product or included in the documentation.

Avertissement ! Lisez et conformez-vous à tous les avis et instructions d'avertissement indiqués sur le produit ou dans la documentation.

Warnung! Lesen und befolgen Sie die Warnhinweise und Anweisungen, die auf dem Produkt angebracht oder in der Dokumentation enthalten sind.

¡Advertencia! Lea y siga todas las instrucciones y advertencias marcadas en el producto o incluidas en la documentación.

Aviso! Leia e siga todos os avisos e instruções assinalados no produto ou incluídos na documentação.

Avviso! Leggere e seguire tutti gli avvisi e le istruzioni presenti sul prodotto o inclusi nella documentazione.

**Warning!**

Do not use this device near water and clean only with a dry cloth.

Avertissement! N'utilisez pas cet appareil près de l'eau et nettoyez-le seulement avec un tissu sec..

Warnung! Das Gerät nicht in der Nähe von Wasser verwenden und nur mit einem trockenen Tuch säubern.

¡Advertencia! No utilice este dispositivo cerca del agua y límpielo solamente con un paño seco.

Aviso! Não utilize este dispositivo perto da água e limpe-o somente com um pano seco.

Avviso! Non utilizzare questo dispositivo vicino all'acqua e pulirlo soltanto con un panno asciutto.

**Warning!**

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Avertissement ! Ne bloquez aucune ouverture de ventilation. Suivez les instructions du fabricant lors de l'installation.

Warnung! Die Lüftungsöffnungen dürfen nicht blockiert werden. Nur gemäß den Anweisungen des Herstellers installieren.

¡Advertencia! No bloquee ninguna de las aberturas de la ventilación. Instale de acuerdo con las instrucciones del fabricante.

Aviso! Não obstrua nenhuma das aberturas de ventilação. Instale de acordo com as instruções do fabricante.

Avviso! Non ostruire le aperture di ventilazione. Installare in conformità con le istruzioni del fornitore.

**Warning!**

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Avertissement ! N'installez pas l'appareil près d'une source de chaleur telle que des radiateurs, des bouches d'air de chauffage, des fourneaux ou d'autres appareils (amplificateurs compris) qui produisent de la chaleur.

Warnung! Nicht in der Nähe von Wärmequellen wie Heizkörpern, Heizregistern, Öfen oder anderen Wärme erzeugenden Geräten (einschließlich Verstärkern) aufstellen.

¡Advertencia! No instale cerca de fuentes de calor tales como radiadores, registros de calor, estufas u otros aparatos (incluidos amplificadores) que generan calor.

Aviso! Não instale perto de nenhuma fonte de calor tal como radiadores, saídas de calor, fogões ou outros aparelhos (incluindo amplificadores) que produzam calor.

Avviso! Non installare vicino a fonti di calore come termosifoni, diffusori di aria calda, stufe o altri apparecchi (amplificatori compresi) che emettono calore.



Warning!

Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

Avertissement ! Référez-vous au personnel de service qualifié pour tout entretien. L'entretien est exigé quand l'appareil a été endommagé de quelque manière que ce soit, par exemple lorsque le cordon d'alimentation ou la prise sont endommagés, que du liquide a été versé ou des objets sont tombés dans l'appareil, que l'appareil a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement ou est tombé.

Warnung! Das Gerät sollte nur von qualifizierten Fachkräften gewartet werden. Eine Wartung ist fällig, wenn das Gerät in irgendeiner Weise beschädigt wurde, wie bei beschädigtem Netzkabel oder Netzstecker, falls Flüssigkeiten oder Objekte in das Gerät gelangen, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht ordnungsgemäß funktioniert oder fallen gelassen wurde.

¡Advertencia! Consulte al personal calificado por cuestiones de reparación. El servicio de reparación se requiere cuando el dispositivo ha recibido cualquier tipo de daño, por ejemplo cable o espigas dañadas, se ha derramado líquido o se han caído objetos dentro del dispositivo, el dispositivo ha sido expuesto a la lluvia o humedad, o no funciona de modo normal, o se ha caído.

Aviso! Remeta todos os serviços de manutenção para o pessoal de assistência qualificado. A prestação de serviços de manutenção é exigida quando o dispositivo foi danificado mediante qualquer forma, como um cabo de alimentação ou ficha que se encontra danificado/a, quando foi derramado líquido ou caíram objectos sobre o dispositivo, quando o dispositivo foi exposto à chuva ou à humidade, quando não funciona normalmente ou quando foi deixado cair.

Avviso! Fare riferimento al personale qualificato per tutti gli interventi di assistenza. L'assistenza è necessaria quando il dispositivo è stato danneggiato in qualche modo, ad esempio se il cavo di alimentazione o la spina sono danneggiati, è stato rovesciato del liquido è stato rovesciato o qualche oggetto è caduto nel dispositivo, il dispositivo è stato esposto a pioggia o umidità, non funziona correttamente o è caduto.



Caution!

This device is a Class A product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures may be necessary to correct the interference at their own expense.

Attention! Le périphérique est un produit de Classe A. Le fonctionnement de cet équipement dans une zone résidentielle risque de causer des interférences nuisibles, auquel cas l'utilisateur devra y remédier à ses propres frais.

Achtung! Dies ist ein Gerät der Klasse A. Bei Einsatz des Geräts in Wohngebieten kann es Störungen des Radio- und Fernsehempfangs verursachen. In diesem Fall muss der Benutzer alle notwendigen Maßnahmen ergreifen, die möglicherweise nötig sind, um die Störungen auf eigene Rechnung zu beheben.

¡Precaución! Este es un producto clase A. El uso de este equipo en áreas residenciales puede causar interferencias nocivas, en cuyo caso, se requerirá que los usuarios tomen cualquier medida necesaria para corregir la interferencia por cuenta propia.

Cuidado! Este dispositivo é um produto Classe A. Operar este equipamento em uma área residencial provavelmente causará interferência prejudicial; neste caso, espera-se que os usuários tomem as medidas necessárias para corrigir a interferência por sua própria conta.

Attenzione! Questo dispositivo è un prodotto di Classe A. Il funzionamento di questo apparecchio in aree residenziali potrebbe causare interferenze dannose, nel cui caso agli utenti verrà richiesto di adottare tutte le misure necessarie per porre rimedio alle interferenze a proprie spese.



Warning!

Disconnect the external AC power supply line cord(s) from the mains power before moving the unit.

Avertissement ! Retirez le ou les cordons d'alimentation en CA de la source d'alimentation principale lorsque vous déplacez l'appareil.

Warnung! Trennen Sie die Wechselstrom-Versorgungskabel vom Netzstrom, bevor Sie das Gerät verschieben.

¡Advertencia! Cuando mueva la unidad desenchufe de la red eléctrica el/los cable(s) de la fuente de alimentación CA tipo brick.

Advertência! Remova os cabos CA de alimentação brick da rede elétrica ao mover a unidade.

Avvertenza! Scollegare il cavo dell'alimentatore quando si sposta l'unità.



Hazard Warning!

High Voltage. This situation or condition can cause injury due to electric shock.

Avertissement ! Tension élevée. Cette situation ou condition peut causer des blessures dues à un choc électrique.

Warnung! Hochspannung. Diese Situation oder Bedingung kann zu Verletzungen durch Stromschlag führen.

¡Advertencia! Alto voltaje . Esta situación o condición puede causar lesiones debidas a una descarga eléctrica.

Aviso! Alta Tensão . Esta situação ou condição pode causar danos devido a choques elétricos.

Avviso! Alta tensione. Questa situazione o condizione può causare lesioni a causa di scosse elettriche.



Warning!

Only use attachments and accessories specified and/or sold by the manufacturer.

Avertissement ! Utilisez seulement les attaches et accessoires spécifiés et/ou vendus par le fabricant.

Warnung! Verwenden Sie nur Zusatzgeräte und Zubehör angegeben und / oder verkauft wurde durch den Hersteller.

¡Advertencia! Utilice solamente los accesorios y conexiones especificados y/o vendidos por el fabricante.

Aviso! Utilize apenas equipamentos/acessórios especificados e/ou vendidos pelo fabricante.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore.



Warning!

Ensure Mains Power is disconnected before installing the FR1 or FR2 frame R-series modules into the frame, or installing and removing options. If a Mains switch is not provided, the power cord(s) of this equipment provide the means of disconnection. The socket outlet must be installed near the equipment and must be easily accessible.

Avertissement ! S'assurer que la source principale d'alimentation est débranchée avant d'installer les modules des cartes série R de boîtier FR1 ou FR2 sur l'appareil, ou avant d'installer ou de supprimer des options. Si aucun commutateur principal n'est fourni, le ou les cordons d'alimentation de cet équipement fournissent le moyen nécessaire pour le débranchement. La prise doit être installée près de l'équipement et doit être facilement accessible.

Warnung! Vor der Installation der FR1 oder FR2 Steckkartenmodule der R-Serie in den Rahmen bzw. vor der Installation oder dem Entfernen von Optionen muss sichergestellt werden, dass der Netzstrom ausgeschaltet bzw. abgetrennt ist. Wenn kein Netzschalter verfügbar ist, kann der Netzstrom mithilfe des/der Netzkabel(s) am Gerät getrennt werden. Die Steckdose muss in der Nähe des Geräts installiert und leicht zugänglich sein.

¡Advertencia! Asegúrese de que la energía de la red de electricidad esté desconectada antes de instalar el módulo de tarjeta de cuadro FR1 o FR2 serie R dentro del cuadro, o antes de instalar o desinstalar opciones. Si el interruptor de la red eléctrica no se encuentra disponible, desconecte el/los cable(s) eléctrico(s) del equipo. La toma de corriente debe ser instalada cerca del equipo y debe estar fácilmente accesible.

Advertência! Certifique-se de que a alimentação principal esteja desconectada antes de instalar os cartões R-series FR1 ou FR2 no quadro ou ao instalar e desinstalar opcionais. Se não houver um interruptor de alimentação principal, o próprio cabo de alimentação do equipamento é o meio de desconexão. A tomada de alimentação deve ser instalada próxima ao equipamento e seu acesso deve ser fácil.

Avvertenza! Verificare che la rete di alimentazione sia scollegata prima di installare i moduli FR1 o FR2 serie R nel telaio, o installare o rimuovere le opzioni. Se non è disponibile un interruttore di alimentazione, il/i cavo/i di alimentazione di questa apparecchiatura forniscono i mezzi di sconnessione. La presa deve essere installata vicino all'apparecchio e deve essere facilmente accessibile.



Warning!

FR2 Dual Power Cord Notice—please read this. To reduce the risk of electrical shock, disconnect both power cords before servicing equipment.

Avertissement ! Notice relative aux doubles cordons d'alimentation de FR2—veuillez lire. Pour réduire le risque de choc électrique, débranchez les deux cordons d'alimentation avec d'effectuer tout entretien de l'équipement.

Warnung! Hinweis zum FR2 mit doppeltem Netzkabel – bitte beachten. Um das Risiko eines Elektroschocks zu verringern, sind beide Netzkabel vor der Wartung des Geräts abzutrennen.

¡Advertencia! Aviso: Cable eléctrico FR2 dual — Por favor leer. Para reducir el riesgo de electrocución, desconecte ambos cables eléctricos antes de reparar el equipo.

Advertência! Aviso do cabo duplo de alimentação FR2 — leia isto. Para reduzir o risco de choque elétrico, desconecte ambos os cabos de alimentação antes de qualquer manutenção no equipamento.

Avvertenza! Avviso cavo a doppia potenza FR2. Per ridurre il rischio di scosse elettriche, scollegare entrambi i cavi di alimentazione prima di effettuare qualsiasi operazione di manutenzione.



Warning!

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Avertissement ! La sécurité de la prise polarisée ou de la prise de type mise à la terre ne doit en aucun cas être empêchée de fonctionner. Une prise polarisée a deux broches, l'une étant plus large que l'autre. Une prise de type mise à la terre a deux broches et une troisième broche pour la mise à la terre. La broche large ou la troisième broche sont fournies pour votre sécurité. Si la prise fournie ne s'insère pas dans votre prise femelle, consultez un électricien pour le remplacement de la prise femelle obsolète.

Warnung! Der Sicherheitszweck des gepolten bzw. Schukosteckers ist zu berücksichtigen. Ein gepolter Stecker verfügt über zwei Pole, von denen einer breiter als der andere ist. Ein Schukostecker verfügt neben den zwei Polen noch über einen dritten Pol zur Erdung. Der breite Pol bzw. der Erdungspol dienen der Sicherheit. Wenn der zur Verfügung gestellte Stecker nicht in Ihren Anschluss passt, konsultieren Sie einen Elektriker, um den veralteten Anschluss zu ersetzen.

¡Advertencia! No eche por tierra la finalidad del tipo de enchufe polarizado con conexión a tierra. Un enchufe polarizado tiene dos espigas, una más ancha que la otra. Un enchufe con conexión a tierra tiene dos espigas iguales y una tercera espiga que sirve para la conexión a tierra. La espiga ancha, o la tercera espiga, sirven para su seguridad. Si el enchufe suministrado no encaja en el tomacorriente, consulte con un electricista para reemplazar el tomacorriente obsoleto.

Aviso! Não anule a finalidade da segurança da ficha polarizada ou do tipo ligação terra. Uma ficha polarizada tem duas lâminas sendo uma mais larga do que a outra. Uma ficha do tipo de ligação à terra tem duas lâminas e um terceiro terminal de ligação à terra. A lâmina larga ou o terceiro terminal são fornecidos para sua segurança. Se a ficha fornecida não couber na sua tomada, consulte um electricista para a substituição da tomada obsoleta.

Avviso! Non compromettere la sicurezza della spina polarizzata o con messa a terra. Una spina polarizzata ha due spinotti, di cui uno più largo. Una spina con messa a terra ha due spinotti e un terzo polo per la messa a terra. Lo spinotto largo o il terzo polo sono forniti per motivi di sicurezza. Se la spina fornita non si inserisce nella presa di corrente, contattare un elettricista per la sostituzione della presa obsoleta.



Warning!

Since the Mains plug is used as the disconnection for the device, it must remain readily accessible and operable.

Avertissement ! Puisque la prise principale est utilisée pour débrancher l'appareil, elle doit rester aisément accessible et fonctionnelle.

Warnung! Da der Netzstecker als Trennvorrichtung dient, muss er stets zugänglich und funktionsfähig sein.

¡Advertencia! Puesto que el enchufe de la red eléctrica se utiliza como dispositivo de desconexión, debe seguir siendo fácilmente accesible y operable.

Aviso! Dado que a ficha principal é utilizada como a desconexão para o dispositivo, esta deve manter-se prontamente acessível e funcional.

Avviso! Poiché il cavo di alimentazione viene usato come dispositivo di sconnessione, deve rimanere prontamente accessibile e operabile.



Warning!

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device.

Avertissement ! Protégez le cordon d'alimentation pour que l'on ne marche pas dessus ou qu'on le pince, en particulier au niveau des prises mâles, des réceptacles de convenance, et à l'endroit où il sort de l'appareil.

Warnung! Es muss verhindert werden, auf das Netzanschlusskabel zu treten oder dieses zu knicken, besonders an den Steckern, den Steckerbuchsen und an dem Punkt, an dem das Kabel aus dem Gerät austritt.

¡Advertencia! Puesto que el enchufe de la red eléctrica se utiliza como dispositivo de desconexión, debe seguir siendo fácilmente accesible y operable.

Aviso! Proteja o cabo de alimentação de ser pisado ou de ser comprimido particularmente nas fichas, em tomadas de parede de conveniência e no ponto de onde sai do dispositivo.

Avviso! Proteggere il cavo di alimentazione in modo che nessuno ci cammini sopra e che non venga schiacciato soprattutto in corrispondenza delle spine e del punto in cui esce dal dispositivo.



Warning!

Unplug this device during lightning storms or when unused for long periods of time.

Avertissement ! Débranchez cet appareil pendant les orages avec éclairs ou s'il est inutilisé pendant de longues périodes.

Warnung! Das Gerät ist bei Gewitterstürmen oder wenn es über lange Zeiträume ungenutzt bleibt vom Netz zu trennen.

¡Advertencia! Desenchufe este dispositivo durante tormentas eléctricas o cuando no se lo utilice por largos periodos del tiempo.

Aviso! Desconecte este dispositivo da tomada durante trovoadas ou quando não é utilizado durante longos periodos de tempo.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore, quali il treppiedi e l'esoscheletro.



Caution!

The FR1/FR2 front fan door is heavy and is not hinged. Remove with Caution.

Attention ! La porte frontale du ventilateur de FR1/FR2 est lourde et ne repose pas sur des charnières. Retirer avec précaution.

Achtung! Die vordere Gebläsetür des FR1/FR2 ist schwer und lässt sich nicht klappen. Bitte vorsichtig entfernen.

¡Precaución! La puerta del ventilador delantero del FR1/FR2 es pesada y no posee bisagras. Extraer con precaución.

Atenção! A porta frontal de acesso aos ventiladores do FR1/FR2 é pesada e não possui dobradiças. Remova com cuidado.

Attenzione! La porta anteriore della ventola FR1/FR2 è pesante e non è a cerniera. Rimuovere con cautela.