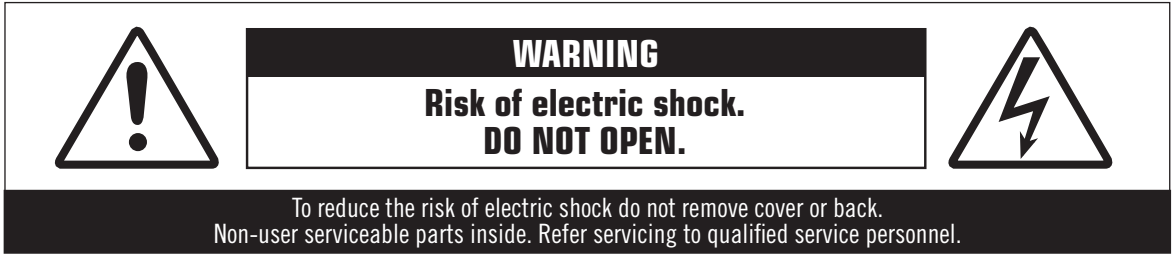
CIS MODEL 6
USER GUIDE

IMPORTANT SAFETY INFORMATION

WARNING: POTENTIALLY LETHAL VOLTAGES INSIDE!

THERE ARE NO USER-SERVICEABLE PARTS INSIDE.
REFER ALL SERVICE TO CLEAR IMAGE SCIENTIFIC SERVICE DEPARTMENT (or an Authorized Distributor).



CHECK VOLTAGE RATING

Verify the maximum voltage rating listed on the side of the box and on the unit before applying power.

WATER

This unit is NOT water proof. Do NOT submerge unit in water or any other fluid. Do NOT operate unit in an environment of water condensation. Do NOT operate unit with standing water on the floor.

INPUT POWER REQUIREMENTS

This unit requires a properly installed AC Mains power connection. Ensure that the AC polarity is correct and that a safety ground is present. Do NOT operate this unit with a cable that has the ground pin disconnected. Do NOT operate this unit with a cheater plug that disables the safety ground connection. ONLY operate this unit with an AC outlet that has a safety ground properly connected.

READ ALL WARNINGS and INSTRUCTIONS BEFORE OPERATING THIS UNIT

INTELLECTUAL PROPERTY

UNPACKING

KEEP PACKING MATERIALS. If you need to ship the unit, you must use the original boxes and protective inserts. Shipping without the original materials will void the warranty and you may not be entitled to claim shipping insurance losses if the unit was improperly packed!

If your packing materials are missing or damaged contact Clear Image Scientific Customer Service to arrange for replacements.

DO NOT PLUG IN THE UNIT UNTIL YOU HAVE READ THE COMPLETE INSTRUCTIONS!

WHAT'S IN THE BOX

- CIS MODEL 6 Power Conditioner
- CIS V14 C19 Power Cord

PRODUCT INFORMATION

The Clear Image Scientific® CIS MODEL 6 is a six-outlet power conditioner that has been recognized by Physicians and Hospitals around the world for its ability to measurably eliminate the affects of component and line-generated noise. Clear Image Scientific® power conditioners are very different than traditional power conditioners or isolation transformers due to their patent-pending noise-isolation technology, which dramatically enhances on-screen images and signal integrity. In case studies, they have dramatically reduced noise while delivering unprecedented improvements in medical and science related imaging. Please see our videos on technologies, measurements and real-world results.

CIS MODEL 6 and CIS V14 shielded power cords have proven to be instrumental in reducing radiated noise while delivering never-before-seen improvements in medical and scientific low-level signal acquisition applications. Some of the most prestigious hospitals are currently using Clear Image Scientific® products to improve signal recognition and imaging performance in advanced medical procedures such as EP (electrophysiology) and neurosurgery.

Please watch our videos for more information about the technologies, measurements and real-world applications.

DISTRIBUTED POWER CONDITIONING

Clear Image Scientific® pioneered the concept of Distributed Power Conditioning to solve the problems associated with power line noise in complex medical and scientific signal acquisition systems. Complex systems may include many components located in multiple locations. These system's may use several different power lines making it almost impossible to effectively reduce power line noise with a single-box power conditioner solution. Clear Image Scientific® solves this problem by intercepting noise at multiple locations in the system using a variety of noise reduction products.

DTCD™ DESIGNED (DYNAMIC TRANSIENT CURRENT DELIVERY)

The CIS MODEL 6 was designed using the DTCD™ measurement analyzer. DTCD™ Analysis is a technique that measures instantaneous current through low impedance electrical conductors and contacts. We use it to optimize the design, specification and construction of parts and materials to ensure maximum current delivery performance.

CCI™ NOISE REDUCTION

Traditional power conditioners are designed to block noise coming in from the AC power line but do not address the noise that is generated by the electronic components themselves. In fact, most conditioners reflect noise back onto other components connected to the power conditioner. CCI™ (Component-to-Component Interference) is one of the most significant but often overlooked aspects to power system performance. The CIS MODEL 6 uses proprietary multi-stage CCI™ filters that reduce RFI and power supply generated interference. The CIS MODEL 6 has unprecedented CCI™ noise isolation capacities with measured noise reduction of greater than -60db in the critical 1 MHz to 10 MHz frequency ranges.

NIC™ NOISE REDUCTION

The NIC™ (Noise Isolation Chamber) is a patented technology that reduces high frequency power line noise. NICs™ use a non-reactive ferroelectric substance that actually absorbs high frequency noise. This allows CIS power distributors to reduce noise without any of the negatives effects associated with transformers, coils and large capacitors used in conventional power conditioner designs. ~ Patent US 8,658,892~

HYDRAULIC ELECTROMAGNETIC BREAKER

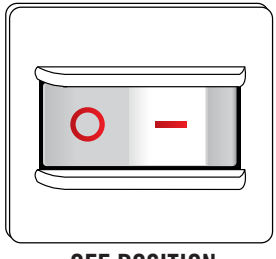
Common power conditioners use fuses or thermal breakers for over current protection. The problem is that these devices cause voltage drops, increased contact impedance, thermal noise, excessive heat generation and current limiting effects when heavily loaded. The CIS MODEL 6 uses a more advanced solution, a hydraulic electromagnetic breaker that can operate right up the to the maximum current level without the limitations of fuses or thermal breakers.

CONNECTIONS and POWER UP

THE ELECTROMAGNETIC BREAKER

This is NOT an ON/OFF switch. The breaker is designed to protect the unit and the components in the event of an over-current event.

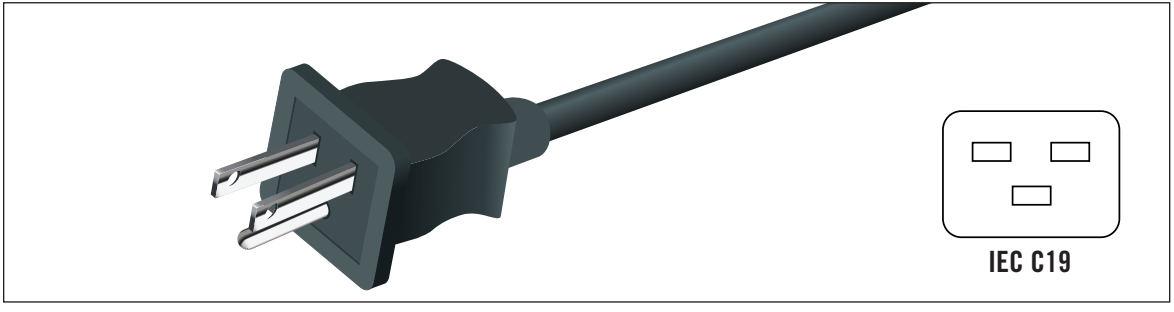
Do NOT use it as a master switch to turn the system ON and OFF.



OFF POSITION

THE POWER CORD

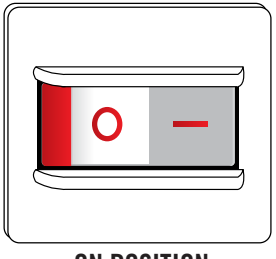
This unit requires a special power cord for proper operation. Only use the power cord that comes with the unit. Do not use a replacement power cord unless it is the exact same type and model.



POWER UP SEQUENCE

1. Put the breaker in the OFF position.
2. Plug the CIS V14 C19 power cord into the unit's inlet.
3. Ensure all electronic components are in the OFF position.
4. Plug each component into an available outlet.
5. Put the breaker in the ON position.
6. Turn each of the components on.

Wait approximately 5 seconds between each component.



ON POSITION

POWER DOWN and DISCONNECTION

WARNING: DO NOT PULL THE PLUG

DO NOT ever pull the unit's power cord from the wall outlet while the system is operating. This unit carries very high currents and pulling the cord may cause a large arc that may damage the power cord contact, the wall outlet and potentially the unit's inlet connector.

To remove the unit from the system, reverse the previous procedure.

❶ Turn OFF each connected component.
❷ Turn the unit's Electromagnetic Breaker to the OFF position.
❸ Unplug each of the power cords attached to the unit.
❹ Unplug the unit's power cord from the wall outlet.

Shielded Medical Grade Power Cords

Medical and scientific electronic components generate electromagnetic noise that can radiate through the attached power cords. This interference can affect nearby electronic components and PIU signal cables. Clear Image Scientific® power cords are unique because they are electromagnetically shielded to prevent RFI and EMI interference from affecting nearby electronics.

To reduce system noise isolation, ALL the components connected to the power conditioner should be connected using Clear Image Scientific® electromagnetically shielded power cords.

AC OUTPUT ZONES

The CIS MODEL 6 has three separate output zones which are labeled Z1, Z2 and Z3. Each duplex (2 outlets) has a dedicated CCI™ filter that reduces noise from the components that are connected. For best performance, if there are three components or less, connect each component to a separate zone. If there are more than three components, group the components by function. If more than 6 components are involved in the system, use multiple CIS MODEL 6 units.

AC MAINS WALL OUTLETS

Medical and scientific systems are capable of drawing very high currents. The standard wall outlet is usually not ideal for high current applications. Most wall outlets are of poor quality with flimsy internal contacts. It is strongly recommended that you replace the wall outlet with a high quality medical grade units. We recommend the Hubbell brand medical grade outlets.

USE WITH OTHER POWER CONDITIONERS AND POWER STRIPS

It is NEVER advisable to plug one power conditioner into another. Each power conditioner is a complicated device that is designed to filter power line noise and limit surges or to regulate voltage. There can be adverse reactions when one power product is plugged into another.

In our testing, plugging a CIS MODEL 6 into another power conditioner only degrades the noise reduction capabilities of the CIS unit. Connecting multiple power components in series usually gives unpredictable or poor results. Conditioners and isolation transformers can be highly reactive and may degrade the DTCD™ and the CCI™ advantages built into the CIS MODEL 6.

CIS MODEL 6

CIS MODEL 6 SPECIFICATIONS

ADVANCED TECHNOLOGIES
- NIC™ v2 (Patented)
- QR/BB™ (Patent pending)
- Gemini Surge Module
- CCI™ Medical Grade Filters

MAXIMUM INPUT VOLTAGE
- 90-125 VAC r.m.s. unregulated

INPUT CURRENT RATING
- 20-Amp maximum continuous

OUTPUT CURRENT RATING
- Z1: 15 Amps continuous
- Z2: 15 Amps continuous
- Z3: 15 Amps continuous

OVER CURRENT PROTECTION
- Hydraulic Electromagnetic Breaker: 20A

TRANSIENT SUPPRESSION
- Impulse: 40,000 Amps @ 8/50µs

NOISE SUPPRESSION
- CCI Zone to Zone

> 60db (500 Khz - 10 MHz)
> 24db (100 Khz - 30 MHz)
- AC Input to Z1, Z2 or Z3

> 25db (500 Khz - 30 MHz)

CONNECTORS
- IEC-C20 Inlet
- Medical Grade NEMA 5-20R Outlets

CONSTRUCTION
- All aluminum chassis
- Brushed aluminum, anodized faceplate

DIMENSIONS

Width: 43.5 cm Depth: 25.9 cm
Height: 11.4 cm Weight: 5.4 kg

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