



**Observe all safety information both on the equipment and in this leaflet.**

For all other user documentation please go to [www.asl-control.co.uk/downloads](http://www.asl-control.co.uk/downloads) or scan the QR code.

### WEIGHT



The INTEGRA is heavy (max. > 95 kg). Do not try to move an assembled unit without assistance. Move, and handle with care, the sub-assemblies and batteries to avoid strain or impact injuries.



It is VITAL that the INTEGRA is mounted to suitably robust walls or structures using appropriate fixing for the specific wall type.

Local regulations, wall type and wall condition will all need to be considered, and therefore, the exact fixing method must be determined by suitably qualified engineers or installers.

### EQUIPMENT HANDLING



Take care when handling the INTEGRA and its sub-assemblies. Metal parts may have sharp edges.

### INSTALLATION



The INTEGRA is designed for professional use only and must be installed such that there is no operator access to the internals of the INTEGRA or its wiring.



The INTEGRA must be correctly secured to the building structure according to the instructions in the Install Guide before operating.



Knockouts are provided in the top and back of the INTEGRA for entry/exit of external wiring.

Knockouts must be fitted with cable glands or similar providing at least IP3X ingress protection, to guard against metal or burning objects entering the enclosure and causing a hazard, and to permit compliance to EN 54-16.



Copper connections between peripherals and the INTEGRA should not be run between buildings as the equipment may be subjected to transient voltages due to atmospheric discharges and faults within power distribution systems.

Fibre interconnection is acceptable.

### ENVIRONMENTAL



Always ensure that adequate ventilation is provided for the INTEGRA. Do not block side or front vents and do not obstruct air flow behind enclosure.



The temperature and humidity ranges shown in the specifications for the INTEGRA must not be exceeded.



The INTEGRA should not be installed at altitudes exceeding 2000 m.



The INTEGRA should not be used in tropical environments.



The INTEGRA must not be installed in an area that is subject to a corrosive atmosphere, excessive moisture or may allow water or other liquids to come into contact with the unit or its external connections.



Objects containing liquids should not be placed upon the INTEGRA.

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### POWER CONNECTIONS

Ensure that the Mains Supply cabling is adequately rated for the unit's operating current and temperature and is protected against short-circuit by a correctly rated fuse or circuit breaker.

The rating should not be higher than 20 A. A Type C circuit breaker is recommended.



In normal operation the internal temperature rise above external ambient is 15 °C.

The electrical supply must be designed and installed in accordance with local regulations.

The INTEGRA power rating is provided in the equipment on the top of the Electronics Module and in the Technical Specification section of the Installation Guide.



Always ensure that the INTEGRA is correctly earthed by connection to an AC Mains Supply with a suitably rated protective earth connection.



The INTEGRA is designed for permanent connection to a Mains Supply.

A readily accessible all-pole mains isolator with a separation of 3 mm in each pole shall be incorporated in the electrical installation.



The INTEGRA is protected from overload by single pole phase fusing.

If connected to an unpolarised Mains Supply, the building installation must provide double pole phase/neutral fusing of appropriate rating.

### ISOLATION OF MULTIPLE POWER SOURCES

The INTEGRA has more than one connection supplying hazardous voltages or hazardous energy levels.

Prominent markings located close to the entry point provided for a service person to gain access to the hazardous points shall be provided to indicate which disconnection device or devices isolate the equipment completely and which disconnect devices can be used to isolate each section of the equipment.



Disconnect devices should remain accessible at all times.

### EMC

In the close proximity of some radio frequency transmitters, the signal to noise ratio of the INTEGRA may be reduced. If this occurs, re-location of the INTEGRA or the signal cables is recommended.

### GROUND LOOPS

It is possible to form a ground loop (earth loop or hum loop) when connecting pieces of audio equipment using unbalanced connections that provide alternative earth connections via their cable screens. Such ground loops result in audible 'hum' from the system.



Never disconnect the mains earth from the plug to attempt to cure a ground loop.

In the event of a fault, the equipment casing could become live.

### LED AND LASER COMPONENTS

The INTEGRA is a Class 1 LED product.

The INTEGRA with fibre optic modules is a Class 1 Laser product.

### ESD PRECAUTIONS



The INTEGRA sub-assemblies contain static-sensitive devices.

Observe ESD precautions when handling the interface cards, the amplifier modules or electronics module with covers removed or when making connections.

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### SERVICING AND INSTALLATION



Servicing and installation work should be carried out by qualified personnel only.



Service Access is permitted only to those with the necessary training and expertise and can take responsibility for their own safety when working on the INTEGRA.

The front door must be kept locked, the key removed and provided only to authorised personnel.



The INTEGRA contains wiring that is energised to 230 V AC mains and 100 V RMS audio signals at up to 20 kHz.

Terminals marked with the ⚡ symbol are hazardous, and the external wiring connected to these terminals requires installation by instructed personnel.



The INTEGRA may be energised after operation of a fuse or power off by the MAINS and BATTERY switches on the Electronics Module.



Caution! Electrical shock hazard. Disconnect all power supplies.

Always isolate the mains and battery supplies by switching off the INTEGRA mains supply at the external isolator and at the internal battery supply circuit breaker before installation, servicing or maintenance.



In installations where the external mains supply isolation switch is not accessible, unplug the mains power supply cable from the Electronics Module.



The INTEGRA may still be energised after isolating the mains and battery supplies.

After the mainframe 'processor' LED has stopped flashing, leave the INTEGRA for another 5 minutes before attempting internal servicing.



Use caution when working with the INTEGRA.

The Electronics Module case temperature can exceed 70°C.

### FUSE REPLACEMENT



Always replace blown fuses with the correct type and rating.

### AMPLIFIER AND INTERFACE CARD REPLACEMENT



Use caution when replacing amplifiers and/or interface cards. The Electronics Module case temperature and amplifier temperature can exceed 70°C.



Caution! Electrical shock hazard. Disconnect all power supplies.

Always isolate the mains and battery supplies by switching off the INTEGRA mains supply at the external isolator and at the internal battery supply circuit breaker before installation, servicing or maintenance.

In installations where the external mains supply isolation switch is not accessible, unplug the mains power supply cable from the Electronics Module.



The INTEGRA may still be energised after isolating the mains and battery supplies.

After the mainframe 'processor' LED has stopped flashing, leave the INTEGRA for another 5 minutes before attempting internal servicing.

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### BATTERY REPLACEMENT, HANDLING AND STORAGE

Caution! Risk of explosion if battery is replaced by an incorrect type.

The INTEGRA box contains two lead-acid batteries. Replace only with type POWERSONIC PS-12750 FR, PG-12V75T FR, PG-12V65 FR or PG-12V80 FR.



- Do not mix battery types with different Ah ratings in an INTEGRA unit.
- To ensure IEC / EN 62368-1 compliance, INTEGRA batteries must be rated to UL 94-V0 flammability. Note that any Power Sonic batteries without FR (V0) product codes are only rated to UL 94-HB flammability.

The Electronics Module contains a lithium battery. The maximum temperature rating of the battery varies from manufacturer to manufacturer. The temperature rating of the chosen battery must be greater than 75°C (for example, Panasonic BR2032 or Murata CR2032X).



Batteries are heavy (max. 25 kg each). Please move and handle with care to avoid personal injuries and/or damage to the batteries.

External 24 V DC batteries connected to this unit can deliver very high currents that could cause fire or burns.



Take care to avoid short-circuits of the battery supply by tools or jewellery. Always use insulated tools. Insulated battery terminal covers must always be fitted.

Do not allow tools or unconnected cables to rest on top of batteries.



When reconnecting the battery always ensure that the BATTERY switch is OFF before the battery circuit breaker is turned on.



Batteries should not be exposed to excessive heat such as sunshine, fire, etc.

External batteries should not be exposed to temperatures exceeding 25°C or stored for periods of more than a few weeks without charging as this can significantly reduce their service life.



Dispose of all batteries responsibly by using authorised Waste Contractors and by ensuring all relevant local waste regulations are followed.



Dispose of used batteries according to the instructions.

Never bury in the ground or incinerate at end-of-life.

### OPTICAL FIBRE CONNECTOR AND MODULE HANDLING

Optical fibre connectors and modules are precision-made components and must be handled accordingly.

Do not expose optical fibre connectors and modules to impact as damage to the surface of optical connectors may cause higher attenuation impairing the transmission quality.

Always fit optical fibre connectors and modules with protective caps to guard them against mechanical damage and contamination. The protective caps should only be removed prior to installation.

Once the protective caps have been removed, check the surfaces of the optical fibre connectors to ensure that they are clean, and clean them if necessary. Clean the optical fibre connectors using a special optical fibre cleaning tool or a clean lint-free cellulose cloth. Isopropyl alcohol (99%) can be used for cleaning.

### BLANKING PLATE DISPOSAL



Any blanking plates and knockouts removed from the INTEGRA as part of the installation process ideally should be recycled as metal or otherwise responsibly disposed of by following WEEE protocols.