

Quick Start Guide

> MediaStar Evolution 770 Rack Installation guide

The MediaStar 770 rack is a 19" 3RU enclosure that is used to house any combination of MediaStar Evolution 'blade' based processor modules. These include the MediaStar 772 & 778 MPEG Encoders, the 773 DVB-T LAN-Caster and the 774 DVB-S2 LAN-Caster units (these units are supplied separately to the rack enclosure). Any combination of up to 9 processor modules can be fitted in a single rack.

The 770 Rack is supplied with a 771 DVB/Encoder power supply module (PSU) which converts the electrical mains input voltage to low voltage DC power for each of the processor modules. It also provides forced air cooling to the whole 770 rack enclosure. When the processor modules are fitted in the rack, their RF or Video inputs protrude from the rear side, and network and control interfaces are available on the front side. Mains voltage input to the rack is via an IEC connector on the rear.

What's in the box

- 770 Rack with 771 Power supply module
- AC mains power cable
- RS232 serial comms cable
- USB comms cable and driver CD
- Rack mounting screw set



Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. This unit must be installed using a mains (AC supply) plug and socket that contains a protective earth (ground) connection. The mains socket must be located near the equipment, remain operable and be easily accessible to disconnect the unit in the case of an emergency.
10. Do not defeat the safety purpose of the polarised or grounding-type plug. A polarised 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.

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

12. Only use attachments/accessories specified by the manufacturer.

13. Use only with the cart, stand tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



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

15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus 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 apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning: There are no user serviceable parts within the MediaStar 770 Rack.

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Installation

Before installing the MediaStar 770 Rack, ensure that the Regulatory Requirement Notices and Important Safety Instructions at the beginning of this guide have been read.

Ensure that the mains supply has an adequate capacity and a reliable protective earth connection, particularly when power distribution strips are used in equipment racks. If connecting a rack overloads a mains fuse or over-current trip, all the equipment on that mains supply will be shut down. The mains power required for the rack can be found on the rear of the unit.

If there is any doubt whatsoever about these installation requirements, a qualified electrician must be consulted.

Atmospheric Electricity

Connection of the MediaStar 770 rack or processor modules directly or indirectly to a roof top antenna without suitable protection devices can leave the unit vulnerable to lightning strike/ atmospheric electrical discharge that may result in damage and void the manufacturer's warranty.

To minimise the possibility of damage from atmospheric electricity always: -

- Follow best practice as dictated by your local electrical code and/or trade association.
- Use coaxial over voltage protection units.
- Bond all masts and antennas to the building protective earth and where available, the lightning protection system.
- Ensure that the screens of all coaxial cables entering and leaving the headend and/or amplifiers are bonded to the protective earth.

Note: Reliance upon the MediaStar 770 rack safety earth provided by the AC power cord alone is insufficient to protect the unit from atmospheric voltage discharges.

Mounting the 770 unit in a 19" rack

All MediaStar Evolution equipment has a maximum operating temperature of 40°C. When mounting inside an enclosed 19" rack tower, ensure there is sufficient free ventilation airflow to keep MediaStar equipment below its maximum operating temperature. When mounting the 770 unit, ensure that the ventilation

and fan grills in the sides remain un-obstructed.

The hub must not be installed anywhere where there is the possibility that it will be exposed to condensation, dripping or splashing liquids. No containers filled with fluid should be located in the vicinity of the hub.

Use the mounting screws provided to fix the 770 unit to the rack rails in all four positions.

Connect the 770 unit to the mains with the IEC mains cable provided. On the power supply module, the front panel '12V' and '5V' indicator leds will be illuminated, indicating that the internal DC power supply rails are operating normally. The red 'Fan Warning' led should be off.

If a ventilation fan fails during normal service and stops rotating the 'Fan Warning' led will be illuminated. If this occurs, the 771 PSU module should be swapped out with a new unit. Please contact Cabletime or your supplier to obtain a replacement 771 Power supply module.

Installing processor modules in the 770 Rack

Any combination of MediaStar Evolution 772, 773, 774 or 778 processor modules can be installed in a 770 rack. Modules may be installed with the 770 rack power on or off. If modules are inserted or removed with the power on, care has to be taken to ensure modules do not touch each other when being moved.

If the 770 rack is to be powered down to install a new processor module, remember that all the services being provided by the equipment in that rack enclosure will be lost while it is powered off.

Electrical static discharge precautions should be taken when handling all processor modules.

To install a new processor module, do the following:

1. Remove the blue blanking panel from the front of the rack. This is done by unscrewing the top and bottom finger-screw fasteners.
2. Carefully locate the top and bottom edges of the module's printed circuit board (PCB) into the plastic rack slides, and gently push the module in. Care must be taken to ensure both PCB edges are located in the slides correctly. As the module reaches the back of the rack, a plastic aperture cover on the rear of the rack will be pushed off by the module's connectors. Collect the discarded aperture cover and

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dispose of it correctly. Assuming the rack is powered up, the new module will automatically power up as it is pushed in. LEDs on the front of the individual module will be lit appropriately.

3. Tighten the top and bottom finger screw fasteners to hold the module in the rack.
4. Connect the appropriate video input or RF input cables to the processor module connectors protruding from the rear of the rack. Connect the appropriate network and control interface cables to the processor modules on the front side of the rack.
5. Configure the processor module according to its own instructions.

Removing processor modules from the 770 Rack

To remove a processor card from the 770 rack:

1. Remove the video or RF input cables from the rear of the processor module.
2. Unscrew the top and bottom finger screw fasteners on the front panel of the processor module.
3. Withdraw the processor module from the rack taking care not to touch adjacent cards. Avoid touching the exposed electronic components to prevent damage

from static electricity discharges. Store the processor module in a 'static proof' bag.

4. Replace the original blue front panel cover that was supplied with the rack. Cover over the rear panel aperture with adhesive tape to maintain the cooling airflow within the rack.

Correct Disposal of this product

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.



Technical Specifications

| | |
|--|-----------------------------------|
| Power Input | 100 – 240 VAC maximum 2.2 – 1A |
| | 47 - 63 Hz |
| | 200 watts via IEC Mains connector |
| Enclosure Power Dissipation | 130 watts (typical) |
| | 200 watts (maximum) |
| External LNB power drain (from 774 DVB-S2 modules) | 3A total |
| | 450mA per 774 DVB-S2 module |
| Dimensions | 19" rack mounting, 3RU |
| Weight | 3.6 Kg with 0 processor modules |
| | 8.1 Kg with 9 processor modules |
| Environmental | 0 – 40° C |
| Approvals | FCC Part 15, CE, CB |

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> Regulatory Requirement Notices

EUROPE



Cabletime Limited declare that the products described in this manual conform to the requirements of the following Directives:

- 2004/108/EC EMC Directive
- 2006/95/EC Low Voltage Directive

THE STANDARDS APPLIED ARE:

| | |
|---------------------------|--|
| EN55022:2006 | Information technology equipment. Radio disturbance characteristics |
| EN61000-3-2:2006 | Electromagnetic compatibility (EMC). Limits for harmonic current emissions |
| EN61000-3-3:2008 | Electromagnetic compatibility (EMC). Limits. Limitations of voltage changes, voltage fluctuations and flicker |
| EN61000-6-1:2001 | Electromagnetic compatibility (EMC) Part 6-1 Immunity |
| EN60950-1:2006 + A11:2009 | Information technology equipment. Safety General requirements |
| IEC60950-1:2005 | Specification for safety of information technology equipment, including electrical business equipment, with CB variations for US, Canada, Japan, and Australia |

To ensure the continued EMC performance of this unit, all network connections should use shielded CAT5/5e/6 cables.

UNITED STATES OF AMERICA

Cabletime Limited declare 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 Subpart B (15.107, 15.109). 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.

- This device complies with part 15 of the FCC Rules.

Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

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