![MEDIASTAR EVOLUTION]

## Quick Start Guide

> ## Getting started with the MediaStar 780 Digital Media Decoder

The MediaStar Evolution 780 is a fully featured video and audio media player ideally suited for corporate, educational, sports, digital-signage and other commercial applications. It can play out SD and HD MPEG-2 or H264 encoded video  and audio network streams, show live web pages from the internet or show files and web pages stored in internal flash memory (xGB models).

It is specifically designed to be deployed close to the display screen and provides Composite, RGB, YPbPr or HDMI video outputs. The video output resolution can be up to 720p or 1080i for HD and xGB units or 480i/576i for SD units.

### What's in the box

- 780 unit
- AC mains adaptor (non PoE versions)
- HDMI to HDMI cable
- 3.5mm to 2 x Phono (audio) cable
- Phono to Phono (video) cable



### 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. 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.

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

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

12. 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.

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

14. 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 780 Unit.**

## Installation

When locating the 780 unit, ensure that a clearance distance of 25mm (1") is maintained around the ventilation airflow. Items that could accidentally block the ventilation grills or impede the cooling airflow must not be located near the unit.

The 780 must not be installed where there is a possibility of exposure to condensation, dripping or splashing liquids. Containers filled with fluid should not be located in the vicinity of this unit.

Connect the 780 unit to the display device using the desired video interface. Composite Video is available from the yellow CVBS phono connector, Component YPbPr/RGB from the three coloured phono connectors, or HDMI/DVI from the HDMI connector. Connect the stereo analogue audio output from the 3.5mm Jack socket if required. If you are using the HDMI output, digital audio is provided on this cable, as well as digital video.

The 780 unit can be powered using an external mains/DC power supply, or units ordered with the Power over Ethernet (PoE) option (denoted with a part number ending with - PoE) can also be powered with an 802.3af compliant PoE system.

### Powering with an external mains/DC power supply

The external mains/DC power supply input rating must meet the specifications of the mains supply at the installation location. Only the LPS (Limited Power Source) power supply provided with this equipment should be used.

This device must be installed using a mains (AC supply) plug and socket that is located near the equipment, that remains operable and be easily accessible to disconnect the unit in the case of an emergency.

Insert the DC jack plug of the mains/DC power supply unit into the jack socket on the Endpoint unit. Plug in the mains/DC power supply unit, switch on and check that the indicator LED on the connector edge of the unit is lit.

### Powering as a 802.3af PoE Powered Device (PD)

On the PoE equipped network system, power to the 780 unit can be supplied via the CAT5/6/6e/7 cable. The 780 unit will automatically negotiate with the power supply equipment and power up when the cable is inserted in the 780's RJ45 sock. A blue LED (on the side of the unit close to the RJ45 socket) will be illuminated to indicate PoE is operational.

The operation of the 780 is then identical to that when an external DC power supply is used. If a DC power supply is connected at the same time as PoE is in use, the 780 will take most power from the local DC supply, but will maintain the PoE power supply link.

### Booting Up

Once powered, the LED indicator close to the Composite output phono connector will initially be orange. After approximately 15 seconds, the video outputs will become active and then show an initialising screen. During the boot sequence the screen may go blank for a few seconds, then return to showing the initialising prompt. When booting is complete (typically 90 seconds after power up) the indicator LED will turn green and the INFO menu will be shown on screen. When this menu clears, the 780 is fully booted.

The INFO menu will show important information about the 780 unit, including its network IP address settings (these may have been automatically obtained from a network DHCP server). The default 780 settings are as follows:

IP Network Address:     DHCP

Video Output:           HDMI and YPbPr 720p

USB Keyboard/Mouse:   Enabled

The 780's network MAC address is printed on the underside of the unit.

780 configuration can now be carried out using the MediaStar Infra-Red Remote Control unit (RCU) (ordered separately) with on-screen menus, or by using HTTP browser software and the configuration web pages on the 780 unit.

### Infra Red Remote Control

The 780 configuration menus can be setup using the MediaStar Infra-Red Remote Control Unit - RCU (order separately - 791/3W). Ensure the RCU is at least 1 metre (3") away from the IR receiver for reliable operation. Pressing any key on the RCU will cause the green indicator LED to flash off then on again to verify IR reception. If this does not occur, check the RCU batteries and ensure no other IR 'emitters' are in view of the IR receiver (this will corrupt the IR signals from the RCU).

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A remote IR receiver module can be used with the 780 unit if required. This can be ordered separately - part number 911-4141. When the remote IR sensor is used, the IR receiver on-board the 780 is disabled.

Please note that on-screen menus take a short time to update. Repeated key presses are stored and may lead to menu selection difficulties.

When moving around on-screen menus, use the up/down arrows to jump between fields, and the +/- arrows select different field settings.

### Video Output Control

The 780 unit will output active video on either the Composite output or the HDMI/YPbPr outputs. The active output can be switched with the RCU or via web page menus.

To **check your display is connected to the active video output**, press the INFO (or MENU) button on the RCU. If you see the info menu showing the IP address, Unit name, serial number etc (or the main menu), you are watching the active video output. If you see a prompt on-screen saying 'Press [] to move active video to this output' your display is connected to the in-active video output.

To **switch the active video output** using the RCU, press the INFO (or MENU) button. The Info menu (or main menu) will be shown on the active output, and 'Press [] to move active video to this output' is shown on the in-active output. Press the [] button on the RCU - the in-active video output then asks for the GREEN button to be pressed to confirm the change. After a few seconds the active video output will swap displays.

If you do not have an RCU, use the 780's configuration web pages to make this change. In the Video Output Selection/Active output field, select SD for Composite output or HD for HDMI/YPbPr output.

· If you are using the Composite output and the image appears in monochrome, then it is likely the NTSC/PAL setting is wrong.

· If the YPbPr/RGB output image colour is incorrect, it is likely the current YPbPr or RGB video setting does not match your display input. If the YPbPr image cannot be seen, try changing the video refresh rate (50/60Hz).

· If you are using the HDMI output, the 780 will automatically negotiate with the display to select a visible picture format.

## Setting the 780's IP address

Each 780 unit is pre-configured with its IP address set to DHCP. When connected to the network the 780 will automatically obtain an IP address from the DHCP server. The IP address being used can be seen on the Info menu shown after boot-up, or shown when the RCU INFO button is pressed.

If no DHCP server is available on the network, use the RCU and on-screen menus to set a fixed IP address.

The MAC address of the unit can be found on the Info menu and also on the label on the bottom face of the unit.

Once IP connectivity is established with the unit, use standard browser software (MS Windows Internet Explorer or Firefox for example) to access the configuration menus. Enter the IP address (or host name) of the 780 unit into the URL address bar, to see the menus.

The Network Setup menu will allow you to make specific IP network configuration settings. Contact your network administrator to ensure any manual settings made are appropriate for your network.

### Using RS232 Serial or USB Communications

Use a terminal emulator program (e.g. Hyperterminal) to issue commands. The serial communications settings are: **9600 Baud, 8 bits data, 1 stop bit, no parity, no flow control.** To set the static IP address using this method, turn echo on by using the command: **echoon**. Then use the command:

**setipconf, dhcp="false",dnsaddr="", gatewayaddr="", hostname="evo-4011051",localaddr="192.168.66.5", localnetmask="255.255.255.0"**

Please note that the dhcp parameter is set to "true" by default, and will have to be set to "false" before any other network parameters can be configured. Localaddress and localnetmask will have to be specified as a minimum requirement for this command to work.

## 780 Operating Mode

The 780 unit can be configured to work in Standalone mode, in Playlist Mode (for operation with the Drag & Drop Administrator), or in Login Mode (for operation with the MediaStar Pro Administrator system). The operating mode can be set on the Main menu/Operating Mode menu.

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### Standalone Mode

In standalone mode, the 780 unit can be configured to display different types of media, in a similar way to selecting different TV channels at home. Each channel number has video and audio 'media' associated with it, and a URL that enables the 780 to access that content when the channel is selected.

The media can be network UDP TV streams, web pages, JPEG files etc. The channel URLs are defined in menus and stored locally on the unit. Each 780 unit operates on its own, with user channel selection from a RCU or he web page menus.

### Playlist Mode

Playlist Mode allows an unlimited number of 780 units to be configured and administered centrally with the MediaStar Evolution Drag & Drop Administration software. 780 units download a play list file from a central server that defines the media that is shown, its sequence and timing. In addition, user channel changes can be defined that start playing out pre-defined media sequences. See the MediaStar Evolution Drag & Drop Administration Software Guide for more details.

### Login Mode

Login Mode allows the 780 device to operate in conjunction with the MediaStar Pro Admin system. This allows multiple 780 units to have a series of channel tiers defined centrally. Users can change channels in a similar manner to Standalone Mode, and timed channel switching events can also be configured. See the MediaStar Pro Administration Software Guide for more details.

## Configuration Menus

The 780 unit's configuration menus allow operational parameters to be set. These can be accessed on-screen with a RCU or networked units can be accessed with a standard PC browser. The menus are functionally similar in both cases.

When using web pages, full contextual help is provided on the right side of the screen. When changes have been made, press the APPLY button at the bottom of the page to ensure these take effect.

Configuration menus include:

**Status** - shows the current status of the Endpoint, including the IP Address, Netmask, Gateway, DNS, Controller, Software Version, Serial Number, Mac Address, Temperature and Video Output. Please note, the temperature shows the internal unit temperature and not the ambient temperature. Readings up to 70ºC are normal.

**Operating Mode** – specifies the 780 Mode of operation (as described).

**Standalone Channels** - sets the parameters necessary for the standalone channels and the display device such as whether a channel is enabled (on/off) the name displayed on the screen for the channel, the prefix for the URL defining the channel, and the main part of the URL for the channel.

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Channel URLs have the following forms:

udp://multicast_ip_address:port - Specifies an MPEG-2/H264 multicast transport stream.

udp://port - Specifies an MPEG-2/H264 unicast transport stream.

http://server/page OR http://server:port/path - specifies the channel is a rendered HTML page.

file://filename - specifies a video file to display. This will be downloaded from the media download location and stored locally (on xGB units only).

monitor://#off - specifies that the video output is switched off when this channel is selected. This also requires the menu Display Device/Control Display Device to be ticked and the Display type to be set to make it work! Setting Display Type = Videoblanking disables the video signals.

**Network Setup** - allows specification of Network Connection, Static or DHCP addressing, Hostname, IP Address, Subnet Mask, and Default Gateway settings. Confirm these with the network administrator before configuring.

**Video Output Selection** - allows the output video format to be specified, including HD image resolutions and NTSC/PAL composite video standards.

**Display Device** - allows the display device to be switched on/off or switched to a particular input. Supported display devices include Pioneer, Panasonic, Fujitsu, NEC, Sony, Samsung and LG. Inputs supported

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are BNC, DVI, HDMI, AV and Component (appropriate to the display). Video output blanking is also supported.

**On/Off Control** - allows the display device to be set to switch on or off at a specific time each day.

**Date/Time** - allows setting of correct date and time including connection to a NTP Time Server if accessible via the network.

**Update Locations** - specify where the unit will look for software updates, media files and centralised unit configuration files.

**SNMP** - allows configuration of SNMP community and trap targets.

**Email Logs** - configuration of who log files are emailed to and when.

**Event Log** - displays a list of events generated by the unit.

**Media Files** - shows a list of files stored locally on xGB units.

**Display Control** - change channel, volume, mute, brightness, contrast and hue.

**Set 780 Unit  Password** - a password may be set to prevent the unauthorised modification of the 780 configuration. A password must consist of exactly six digits from 0-9. If a password gets lost, contact Cabletime for assistance.

**Enablement** - enter enablement codes here to reconfigure or expand the capabilities or your unit. Details can be obtained from your reseller or Cabletime.

## Product Specification

| Feature | 780 support |
| --- | --- |
| Physical | 165 x 95 x 31mm, 220g |
| Ambient operating temperature range | 0º - 40º Centigrade |
| Power | 5VDC, 8W, 10W for Power over Ethernet variant |
| Power Supply | Input: 100-240VAC, 47-63Hz<br>Output: +5VDC (+/- 5%), 2.0 - 3.5 Amps, with a DC jack plug<br>(centre positive voltage, 2.5/5.5mm) |
| LAN | 10/100 Base-T, Auto MDIX, Power over Ethernet Powered Device (PD) |
| Composite Output | PAL/NTSC |
| HDMI, YPbPr/RGB | 480i, 480p, 576i, 576p, 720p, 50, 60Hz, 1080i, 50, 60Hz<br>(25, 30 frames per second) |
| HDMI Stereo | Single channel stereo digital audio |
| Analogue Audio | Stereo (2.2V pk-pk into a 10K Ohm load) |
| USB | 1 x USB 2.0 high Speed Host |
| USB Device Support | Memory Stick (for software and Media upgrades only)<br>Keyboard, Mouse |
| Integrated IR Receiver | Yes |
| External IR Receiver | 911-4141 Order separately |
| Infra-Red Remote Control Unit | 791/3W Order separately |
| Ancillary Port | Control interface to external 1/0 devices |
| RS232 Port | Rx, Tx. CTS, RTS up to 115200 Baud |

## Product Specification

| Feature | 780 support |
| --- | --- |
| Internal Storage | 4, 8, 16 GByte options |
| Network Stream Format Support | UDP MPEG2-TS |
| Video Decoder | SD/HD MPEG2, H264 AVC |
| Audio Decoder | MPEG1 part2, AAC Stored File Formats   MPEG2 TS file (*To be expanded) |
| Stored Web Pages | Full web pages including associated content |
| On-board Browser | Firefox to access stored or internet web pages |
| Operating System | Linux 2.6 kernel |
| Operating Modes | Standalone<br>Playlist (with Drag & Drop Admin)<br>MediaStar pro Admin (login) |
| NTP Time Load | User specified time server |
| Date/Time Retention | 2 days with power off |
| Temperature Monitoring | Operating temperature available remotely via web interface or on-screen menu |
| Monitor On/Off | RS232 monitor control<br>Video blanking (no signal output) on all outputs |
| Configuration via Web Browser or On-screen Display | IE 5.5, Firefox, Chrome<br>On-Screen menus used with infra-red Remote Control Unit (RCU) |
| External IP Control Interface | Commands via IP interface, channel change etc.<br>(Specification available on request) |
| SNMP traps | Defined 'Events' sent to third party SNMP manager |
| Remote Software Upgrade | From HTTP server |
| Remote HTTP Playlist and Media Download | Schedulable time-off day network access |
| Download Protocols | HTTP, HTTPS |
| Co-operative (subnet) Media Download | Between units on local network sub-net |
| Playout Synchronisation | Via network IP triggers |
| Proof of Play | Rolling logs, up to 2500 entries held in RAM |
| Automatic Email of Proof of Play Logs | Via external SMTP server |
| Configurable Proxy Support | Yes |
| Config Menus Available in Playlist Mode | All (some menu items can be disabled for centrally controlled systems) |

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### Installation Notes:

IP Address: ...........................................................................................

Unit Name: ...........................................................................................

Serial Number: ...........................................................................................

Unit Location: ...........................................................................................

Output Resolution: ...........................................................................................

Display Type: ...........................................................................................

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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:
- 89/336/EEC amended by 92/31/EEC
- 73/23/EEC amended by 93/68 EEC Low Voltage Directive

### THE STANDARDS APPLIED ARE:

| | |
|---|---|
| EN55022:1998 | Limits and methods of measurement of radio interference characteristics of information technology equipment |
| EN61000-6-3:2001 | Electromagnetic compatibility - generic immunity standard |
| EN61000-6-1:2001 | EMC Immunity |
| EN60950-1:2001 | |
| IEC60950-1:2001 | Specification for safety of information technology equipment, including electrical business equipment, with CB variations for US, Canada, Japan and Australia. |

### 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.  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.

## > Head Office

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