> Data Sheet – 778 Multi Format Input SD/HD, MPEG-Encoder

The MediaStar Evolution range of MPEG Encoders are a powerful and ultra reliable, solid state "out of the box" solution for all MPEG encoding needs and when used in conjunction with the MediaStar DVB-T and DVB-S LAN-casters, will meet your entire IP Television Headend, Digital Signage and Digital Media encoding and IP distribution requirements.

Models: 778-S-SD, 778-S-720p, 778-S-HD, 778-S-HLS.

▸ Supports both SD & HD MPEG encoding

▸ Compatible with virtually all video input interfaces and resolutions

▸ Auto configuration with Evolution Media Manager Software

▸ Compact, Up to 9 Units in 3RU

▸ Output resolutions up to 1080i50/60 1080p25/30

▸ Compatible with standard viewers/ QUICK TIME® & HLS clients

▸ Easy software upgrade path; SD to HD, HD to HLS operation

▸ Low power consumption (18W)

The MediaStar Evolution MPEG encoder streams live video and audio feeds from cameras, set top boxes and DVD players to distribute news, sport and entertainment directly onto your IP network.

The unit is a 'hot swappable' blade that easily fits into a MediaStar Evolution Powered Chassis (Part 770) which has a capacity for up to nine units.

Its unique multi format input circuitry allows users to input content in a wide variety of video and PC formats, HDMI; YPbPr; S-Video and CVBS as well as RGBHV. In addition the 778 has an onboard scaling engine, providing the ability to transcode SD TV inputs to HD resolutions.

Each unit can encode an incoming digital or analogue video to an H264 or MPEG2 format at either HD or SD resolution and stream it over an IP network to any PCs using the MediaStar Evolution desktop viewing

software (Part 761) or video screens equipped with MediaStar Evolution Digital Media Decoder (Part 780). In addition, in HLS mode it can stream to a MediaStar HLS server (Part 700-469) to serve iOS or Android laptops, tablets and smartphones.

Initial configuration and stream setup using a laptop or tablet can be via the built in web server with its advanced web UI or by simply using the front panel buttons and LCD status display. Alternatively, multiple units within a system can be networked under the control of the Evolution Media Manager software (Part 467).

Front panel RS232 and USB Comms connectors allow local connectivity and can also be utilised to pass IP command signals generated by remotely located Touch Screens and management systems, for control of headend located RS232 devices.

Twin Infra red blasters support IR Routing. This enables IR commands from III party RCUs to be passed back from any display screen equipped with a MediaStar Media Decoder (Part 780) to the 778 for the control of other headend located IR devices.

A unique SD to HD, HD to HLS software upgrade option enables cost effective SD system implementation with future proofed full HD or HLS capability ensured, all with no hardware change.

This coupled with maintenance free operation, small physical size and low power consumption make the 778 ideally suited for both large scale distributed applications or simple single unit deployments.

Included within the scope of delivery:

▸ 778 Encoder Blade

▸ Quick Start Guide

▸ 2.0m RJ45 Cat-5 patch cable

▸ 1.0m HDMI cable

▸ 1.5m YPbPr component video cable

▸ 2m SVGA cable (15 way HDD plugs)

▸ 1m 3.5mm jack 2 x Phono (audio) cable

▸ IR Blaster assembly (Part 911-4153)

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Product Specification

System Inputs

Video Inputs
- HDMI 1.3 Digital - Resolutions: All YPbPr/RGB (SoG) and VGA resolutions listed below
- YPbPr/RGB (SoG), via phono connectors - Resolutions 480i, 576i, 480p, 576p, 720p50, 720p60, 1080i50, 1080i60,1080p25, 1080p30, 1080p50, 1080p60
- VGA, via female HD-15 connector - Resolutions: 640x480@60Hz, 800x600@60, 1024x768@60, 1280x720@60, 1280x800@60, 1280x1024@60, 1366x768@60, 1440x900@60, 1600x1200@60, 1680x1050@60, 1920x1080@60, 1920x1200@60(RB)
- S-Video: via 2 x phono connector
- CVBS: via 1 x phono connector, PAL/NTSC

Audio Inputs
- HDMI socket, PCM digital stereo audio
- 3.5mm jack socket, analogue stereo audio, 2.2V pk-pk into 10k Ohms

Encoding & Stream Protocols

Video Encoding
- MPEG 4-10/H.264 MP@L4, CBR/VBR encoding, supported bit rates 1.5 Mbps to 12 Mbps
- MPEG-2 MP@ HL, CBR/VBR encoding, supported bit rates 1.5 Mbps to 15 Mbps

Audio Encoding
- MPEG-1 Layer 2- 32, 44.1, 48 KHz sampling, 64 - 448 Kbps Stereo
- AAC LC encoding - 16, 32, 44.1, 48, 88.2, 96 KHz sampling, 40 - 576 Kbps Stereo

Output Streams:
- Multicast/Unicast UDP MPEG2-TS
- Multicast RTP video and audio streams (for use with Quicktime via onboard RTSP server)
- HLS - HTTP Live Streaming

Video Resolutions
- Model 778-S-SD: 480i, 576i
- Model 778-S-720p: 480i, 576i, 720p50, 720p60
- Model 778-S-HD: 480i, 576i, 720p50, 720p60, 1080i50, 1080i60, 1080p25, 1080p30
- Model 778-S-HLS: All UDP stream resolutions as Model 778-S-HD (shown above) plus HLS only resolutions: 352x288@25Hz, 640x576@25Hz, 352x288@30, 640x360@30, 640x480@30, 1280x720@30

Network & Interfaces

LAN
- RJ45 802.3 10/100/1000 Base-T Auto MDIX
- Static or DHCP IP Address
- DSCP stream tagging for QoS

Network Protocols
- UDP, TCP, ARP, DHCP, ICMP, IGMP V2, HTTP, Telnet, SNMP, Syslog, SAP/SDP, SMTP, DSCP, HLS

USB Comms
- USB 2.0, type A: Host port for software upgrades
- USB 1.1, type B: Serial Comms for external configuration and/or control

RS232 Port
- Rx, Tx, CTS, RTS up to 115,200 Baud Configured for SIPI external configuration/control or IP to RS232 bidirectional pass through for external device control

Infra-Red Blasters
- 2 separate outputs supporting Sky, Sky+, SkyHD IR formats with web page or IP command remote activation.
- Remote IP command generates any IR remote control keypress
- 30 - 56 KHz modulated IR waveforms supported

Unit configuration
- Via On board web server using laptop or tablet
- Via front panel buttons and LCD status display
- Remotely using MediaStar Media Manager software

Control Interface
- RS232, USB 1.1 serial interface
- Telnet for third part connectivity via TCP control such as touch panel interfaces

External IP control interface
- ASCII Command/configuration via IP interface
- USB comms and RS232 comms interfaces

Configuration & Monitoring

Upgradability
- Enablement codes to upgrade models from SD to HD, SD to HD & HLS (in situ, all with no hardware change required)

Software
- Fully upgradable with ONLY protected Cabletime software from an HTTP server or by front panel USB Key

SAP Announcements
- SAP (Session Announcement Protocol) notification of IP streams

Temperature Monitoring
- Unit operating temperature available remotely via web interface

Event & Status Monitoring
- Key operating functions reported via SNMP or Syslog traps sent to third party SNMP manager (MIB available on request)
- Automatic e-mail of Event log files via external SMTP server
- Front panel LED unit status indicators

Other Information

Power	18W (from 770 rack)
Weight	0.500Kg (17.5oz)
Dimensions	W41 x D225 x H129mm (W1.6" x D8.8" x H5.1"), occupies 1 (of 9) 770 rack slot
Environmental	0º - 40ºC (32 - 104 ºF) 770 rack ambient
Approvals	FCC, CE, CB, TUV Approved

Companion Models & Accessories

467 Evolution Media Manager Software
761 Desktop Viewing Application
770 Powered Rack and Mounting Kit
771-RP Spare PSU for 770 rack
779 SD/HD Appliance Encoder Unit
780 Digital Media Decoder
783 DVB-T/T2 LAN-Caster Unit
784 DVB-S/S2 LAN-Caster Unit
911-4153 IR Blaster assembly