

Amulet® 500/550 Series

HYBRID MEDIA HUB

entone



Key Features

- Optimized for digital video broadcast and streaming media services (OTT)
- Easily integrates with existing in-home networks and broadband services
- Optional dual tuners for broadcast reception
- Whole-home wireless HD video distribution with Wi-Fi options
- Universal Storage Module (USM) and SD card options for flexible DVR applications
- Energy efficient with DeepSleep™ to reduce power consumption up to 99% in standby mode

Robust & Future-proof Platform for Advanced TV & Broadband Services

Amulet 500/550 is the latest addition to Entone's enduring Amulet product line and is also the most flexible and feature-rich to date. Entone's Amulet 500/550 series provides modular storage, carrier grade wireless networking, dual TV support* and CableCARD* for co-existence with legacy conditional access systems. These new features are layered on top of Amulet's renowned support for leading middleware and DRM solutions, making Amulet 500/550 a winning choice for IPTV, hybrid TV and CATV deployments.

More Flexibility With Modular Storage Options

Universal Storage Module (USM) is the world's first industry standard for removable storage made safe for consumer handling without compromising performance. Entone's Amulet 500 series incorporates a USM port concealed behind a securable door at the front of the unit – making it easy to install, upgrade or replace.

USM uses SATA, a hard disk drive's native high performance interface. Other removable storage options attach with Universal Serial Bus (USB), which requires conversion between USB and SATA. Inefficiencies in this conversion can reduce disk drive performance in excess of 80% and introduce unwanted latency. Wide variations among USB conversion implementations lead to unpredictable performance and thorny customer support issues if consumers purchase USB-based removable storage through retail channels.

USM provides maximum flexibility to manage DVR offerings. USM drives can be installed at the factory or in the field. Subscribers can conveniently install, replace or upgrade their storage capacity at any time by purchasing the USM drive through retail channels or from their service provider.

More Home Networking Options, Still No New Wires

With the introduction of the Hydra 100 video gateway in 2004, Entone was the first to offer IPTV operators an alternative to the costly prospect of rewiring homes for Ethernet. Since then, Entone has continued to deliver additional options for multi-room deployment without new wires – making installation faster, less expensive and more convenient.

Amulet offers two new options for carrier-grade wireless distribution of

HD video: Celeno's dual-band 802.11 a/b/g/n and Quantenna's 802.11ac Wi-Fi solution. Beam forming and other advanced QoS technologies enable operation in large homes and masonry construction. When matched with an accompanying access point (AP), these Wi-Fi technologies are capable of speeds over 450 Mb/s and provide whole-home coverage.

Optimum Performance & Enhanced Software Support

The Amulet 500/550 series features an enhanced dual-core CPU that is 40% faster than its predecessor. Enhanced 2D and 3D hardware graphics acceleration adds support for Open GL 2.0 ES and WebGL for faster, more eye catching user interfaces and casual gaming. The enhanced CPU and graphics support advanced web technologies including HTML5, CSS3, Adobe Flash, and Adaptive Bit Rate streaming over HLS.

These features allow greater ability to innovate and differentiate with extensible software applications and compelling web content. To minimize truck rolls and reduce support costs, Amulet also provides automatic configuration and remote administration via TR-069.

Reduce CAPEX with Dual TV*

Entone's Amulet 550 model offers a dual TV feature that supports two simultaneous TV sessions. This feature reduces capital expense by halving the number of set-top boxes in the home and supports

deployment scenarios where a set-top box is impractical or unwanted (e.g. kitchen or bath). The primary session supports HDMI, component and composite outputs while the secondary session is output as an RF modulated carrier over coax (supports NTSC). Both sessions can watch live TV, pause or record programs and access all middleware features. No additional receiver is required at the second viewing location. An RF remote control enables control of the secondary session.

Future-proof with CableCARD*

Amulet 550 model supports cable's leading proprietary conditional access solutions. This allows co-existing support for legacy encrypted linear content in the same box with advanced web applications and IP delivered content. One device, one remote, one input all managed by the operator. Continue to offer the TV programs subscribers love and **satisfy consumers' growing demand** for new applications and content sources without losing control of the viewer relationship.

Energy Efficient

Entone's patent-pending DeepSleep™ technology reduces power consumption by up to 99% in standby mode. DeepSleep enables Amulet to resume full operation almost instantly, based on subscriber activity or at a prescheduled time – such as, to record a program or to receive a scheduled software update.



*Feature available for Amulet 55x only.

Technical Specifications

Video Formats**	<ul style="list-style-type: none"> • H.264/AVC Main and High Profile to Level 4.1 (HD), Level 3.1 (SD) • VC-1 Advanced Profile @ Level 3, Simple and Main Profile • HD/SD MPEG-2 Main Profile at Main and High levels • MPEG still image decode • SD MPEG-4 P2 SP/ASP • HD DivX 3.11/4.11/5.x/6x/Home Theater
Audio Formats**	<ul style="list-style-type: none"> • AAC LC, AAC LC+SBR Level 2, AAC+ Level 2, AAC-HE • Dolby® Digital, Dolby Digital Plus • MPEG I layers 1, 2, and 3 (MP3) • Windows Media® and Windows Media Pro audio • 3D SRS audio support • Transcoding operations including AAC to DTS 5.1 or AC3+ to AC3
Advanced Graphics	<ul style="list-style-type: none"> • High-performance 3D-effects graphic engine • Studio-quality text and graphics at HD resolution • Digital noise and contour reduction (DNR/DCR) • Supports simultaneous HD+SD display • Motion-adaptive de-interlacer with reverse 3:2/2:2 pull-down
Video Outputs	<ul style="list-style-type: none"> • NTSC-M/J, PAL-BDGHIN/M/Nc, SECAM analog outputs • 480i/480p/576i/576p/720p/1080p/1080i output formats • Macrovision® 7.1/NICAM support • HDMI 1.4/DVI 1.0 Mac and PHY with HDCP 1.1
Content Security	<ul style="list-style-type: none"> • AES/1DES/3DES/CSS/CPRM/DTCP copy protection • MPEG-2/DIRECTV/DVB/ARIB data transport demux with 1DES/3DES/DVB/Multi2/AES descramblers
Networking Options	<ul style="list-style-type: none"> • Internal 802.11n (2.4 GHz) Wi-Fi • External pre-802.11ac (5.4 GHz) Wi-Fi <ul style="list-style-type: none"> – Real-time Transmit Digital Beam Forming (MIMO) – Baseband 3Tx3R, up to 3 spatial streams – Client-to-client direct connection (TDLS) – Digital beam forming for up to 4.5db gain – Standards: pre-802.11ac, 802.11a, 802.11h, 802.11n, 802.11e, 802.11i – Wi-Fi Compliant: WMM, WMM-PS, WPA, WPA2, WPS – Encryption: AES, TKIP, WEP64/128 – RF: 2.4GHz, 4.9GHz – 5.85GHz – Modulations: BPSK, QPSK, 16-QAM, 64-QAM – FEC: 1/2, 2/3, 3/4, 5/6 – Max PHY Rate: 450 Mb/s
Hybrid Tuner Options	<ul style="list-style-type: none"> • Dual ATSC • Dual QAM • Dual ISDB-T
Energy Management	<ul style="list-style-type: none"> • Power 1.5A maximum at 12V • 0.5W power consumption in standby mode • ENERGY STAR compliant
Type Approvals	<ul style="list-style-type: none"> • FCC Part 15, CEA-60065

**Supported video and audio formats listed include optional technologies that may require additional fees and licenses.



Amulet 500/550

Technical Specifications (continued)

Front & Side Panels	<ul style="list-style-type: none"> • Illuminated power standby button • Indicators for network status, HD and recording status • Single USB 2.0 Host Type A • IR receiver • Capacitive touchpad with Menu, OK, Back and directional Up, Down, Left and Right arrows* • 4-digit clock display • USM port • SD slot • CableCARD and Smart Card SIM format*
Back Panel Connectors	<ul style="list-style-type: none"> • RJ-45 10/100Base-T Ethernet with integrated status LEDs • USB 2.0 Host Type A • HDMI • DC power • S/PDIF optical transmitter • RF output and antenna input • RCA component and composite video • Stereo audio
CPU & Memory	<ul style="list-style-type: none"> • Broadcom BCM7231 with 742.5MHz dual core, 2000 DMIPS • 256MB (Flash) / 512MB (DRAM)
Mechanical	<ul style="list-style-type: none"> • 8.5w x 4d x 1h inches • 5-35°C (40-95°F) operating temperature • 30-95% relative humidity

Part Number

Description

99-800400-11	Amulet 501 Hybrid Media Hub with 2.4 GHz Wi-Fi & IR remote
99-800500-11	Amulet 501 Hybrid Media Hub with dual-band 2.4 GHz/5 GHz Wi-Fi & IR remote
99-804000-11	Amulet 505 Hybrid Media Hub with 320 GB HDD & IR remote
99-804500-11	Amulet 506 Hybrid Media Hub with 320 GB HDD, dual-band 2.4 GHz/5 GHz Wi-Fi & IR remote
99-804430-11	Amulet 508 Hybrid Media Hub with 320 GB HDD, 2.4 GHz Wi-Fi, dual DVB-T tuners & IR remote
99-804450-11	Amulet 508 Hybrid Media Hub with 320 GB HDD, 2.4 GHz Wi-Fi, dual ATSC/QAM tuners & IR remote
99-804000-12	Amulet 555 Hybrid Media Hub with 320 GB HDD, Dual TV, CableCARD & RF remote
99-804450-12	Amulet 558 Hybrid Media Hub with 320 GB HDD, 2.4 GHz Wi-Fi, dual ATSC/QAM tuners, Dual TV, CableCARD & RF remote
99-301000-07	320GB USM Drive
99-302000-07	500GB USM Drive

*Feature available for Amulet 55x only.

© 2013 Entone, Inc.
Entone, Amulet, Hydra and connecting the home are registered trademarks of Entone, Inc. All rights reserved. V3.1013 NA