



Hydra™ HD IP Video Gateway



Keeping Video Deployment Costs In Line

The costs of equipping and installing television subscribers' homes are a challenge to IPTV service operators. Oftentimes consumer premise equipment (CPE) and related costs represent the single largest area of expenditure in an IPTV service rollout, and can make or break a business case.

Pristine Video Over Existing In-Home Networks

To help operators reduce those costs, Entone has developed the Hydra HD IP video gateway—an innovative technology breakthrough that the telco industry has needed to facilitate a quick return on investment for new media business models. By sharing the electronics across multiple televisions and using the existing home wiring, video service operators' CPE costs are kept under control. Customers often cite Hydra HD as being the key enabler to their cost-effective IPTV business.

The Hydra HD is an integrated device that supports simultaneous decoding and display of three video streams—with the primary stream being high definition (HD)—via a single Ethernet or HPNA connection. The comprehensive unit comes with one HD/standard-definition (SD) decoder that supports the primary stream and with two SD decoders that support streams 2 and 3 in the MPEG-1, MPEG-2, MPEG-4 part 10, AVC, H.264, and Microsoft VC-1 compression formats. The primary HD stream is simultaneously downscaled to SD and is also available for distribution via the in-home coax.

Hydra HD provides a modular digital video recorder (DVR) capability. Hydra HD supports modular disk drives with storage capacity of up to one terabyte. Hydra HD's modular DVR feature provides IPTV service operators more flexibility for deploying DVR service—while offering subscribers more DVR options.

Residential Gateway to Business Success

Consumer equipment for telco video services typically comes in the form of a set-top box with a single decoder. Most U.S. homes have three or more televisions. With single decoder set-top boxes, this means having to install multiple set-top boxes in the home and, typically, new CAT-5 wiring throughout the house. Compared to other video service offerings from cable TV or satellite operators, this can result in installation complications, additional costs, and unsightly exposed wiring.

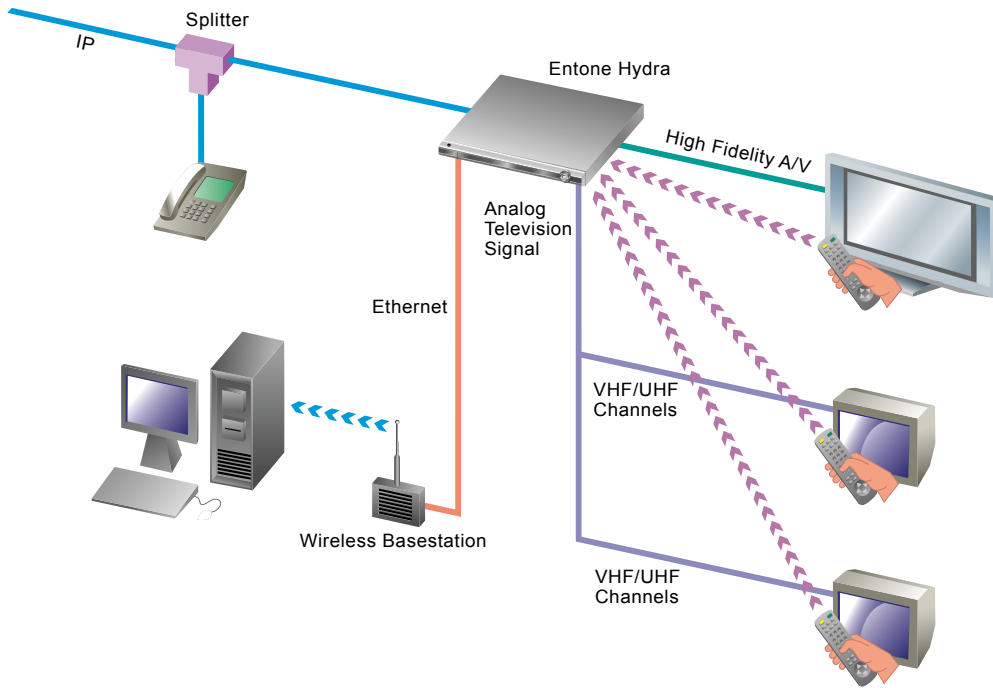
Entone's Hydra HD leverages the consumer's existing in-home coax cabling, so there's no new wires to be installed, no unsightly wiring exposed, and no added costs or complexities associated with new installations. With Hydra HD, material costs and installation hurdles are reduced, and—with HD video, DVR functions, content security and features like Caller ID, Call Waiting Caller ID, and other alerts displayed on the television screen—customer satisfaction and a successful business case is ensured.

Key Features

- ◆ Simultaneous decoding of up to three AVC video streams
 - One High-Definition (HD) and two Standard-Definition (SD) decoders
- ◆ Whole-home Digital Video Recorder (forward/rewind/pause) capabilities
- ◆ Amplified, analog coax for in-home signal distribution
- ◆ RF remote for viewing controls throughout the entire house
- ◆ Uses existing in-home coaxial cabling
- ◆ Open protocols and interfaces
- ◆ MPEG-2, MPEG-4 part 10, H.264 and VC1 video processing and decoding
- ◆ Integrated HomePNA 3.0 interface for high-speed IP service over existing in-home coax and phone line

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Technical Specifications

CPU & Graphics

- Embedded 300MHz 32-bit CPU for operating system, middleware and applications
- 32MB Flash and 256MB of DDR SDRAM
- Integrated real-time Linux operating system
- 2D graphics accelerator (up to 100 Msamples per second operation for most operations)
- 32-bit OSD with flicker filtering and scaling
- Optional de-interlacing of interlaced sources
- Arbitrary scaling of video and graphics up to 1920x1080 pixels
- Alpha mixing of video, graphics, cursor and OSD

Highly Secure DRM/CA Solution

- Separate CPU to securely execute DRM and conditional access software
- Encrypted DRAM and flash memory, secure boot loader, secure PKI, encrypted I/O interfaces, battery backed-up real-time clock
- ISO 7816 smart card interface
- Supports a wide variety of DRM and conditional access solutions

On Screen Caller ID

- Caller ID, Call Waiting Caller ID using ADSL input
- Incoming caller ID displayed on TV screen

IO Standards

- 10/100Base-T Ethernet interface with auto-cross over and integrated cable fault diagnostics
- Dual USB 2.0 interfaces
- SATA interface for secure DVR disk attachment
- HomePNA 3.0 over coax

Video Decoding Standards

- Video decoding of MPEG-1, MPEG-2 MP@HL, MPEG-4. 2 ASP@L5 (720p), MPEG-4.10 (H.264) BP@L3, MP@L4.1, HP@L4.1, WMV9/VC-1 MP@HL and VC-1AP@L3
- Hardware accelerated baseline JPEG decoding
- Error concealment, deblocking filter

Audio/Video Interfaces

- HDMI output
- NTSC/PAL composite and s-video outputs with optional Macrovision protection
- Analog YPbPr/RGB video outputs with optional Macrovision protection in 480i, 576i, 480p and 576p YPbPr output modes
- Five I2S serial digital outputs support 7.1-channel plus 2.0-channel downmixed audio simultaneously
- Digital serial S/PDIF (IEC 60958) audio output

Peripherals

- Smart card ISO7816 for conditional access

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