



**DVB-H IP Encapsulation IPE 10**

**IP features**

- QoS enforcement using HFSC policy
- IPv6 encryption
- Multicast Ipsec
- Ipv6/MPE FED encapsulation
- SI/PSI table generation
- Time slice enforcement on the ASI interface
- Any source & source specific multicasts
- Loss free handover between different cells
- Downstream DVB network jitter compensation
- Support of FEC signalling

**Administration features**

- CLI administration interface for configuration
- Alarm management
- Central management from IPE Manager

**DVB-H IPE Manager**

**IPE Management**

Config Push, Software Upgrade, Statistic consolidation

**Network Description**

Area/Cell Partitioning, Handover Topology, DB Signalization

**D.O. Profile**

Channels Allocations, Sub-channel definition, Area Limitation

**Content Session**

Timing, Access Rights, Source authentication, IP FEC

**Hardware Specifications**

**DVB-H IP Encapsulation / DVB-H IP Manager**

Casing	: 19"x2Ux610mm
Power supply	: autoswitch 110/240ACV
Motherboard	: socket 478-2 PCI, 2 DE with optional bi-processing
<b>Network Interfaces</b>	
- Ethernet	: 2x 10/100 base-T NIC
- ASI board	: Computer Modules DVB Master 2 TX
- I/O connectors	: standard connectors for display, PS/2 keyboard, 2 serial slots



**DVB-T/H Transmitters, Transposers Atlas™ Series**

**Inputs**

ASI-input	: 2 x type BNC female; 75 ohm acc. to EN 50083-9
Telecom interfaces (option):	: type BNC female; 75 ohm
- E3 signal (DVB standard ETS300813)	
- DS3 Signal (DVB standard ETS300813)	
- STM-1 Signal (DVB standard ETS300814)	
RF input	: type N female; 50 ohm
Reference frequency input	: type BNC female; 50 ohm
1 PPS input	: type BNC female; 50 ohm
GPS antenna input	: type SMA female; 50 ohm

**Remote Control**

Straight forward diagnostics	: Graphical user Interface and Web browser interface
	: Alarming via SMS, e-mail, SNMP

**RF Output**

Frequency range	: 470 - 862MHz
Crest factor	: max. 13dB
END	: <=0.7dB
MER	: >34dB
Harmonics (before filter)	: <-40B
Output Power (before Filter)	
- air cooled Series	: 5W, 40W, 100W, 200W, 400W, 750W, 1kW, 1.5kW, 2.9kW
- liquid cooled Series	: 1.25kw, 1.7kW, 2.5kW, 3.4kW, 4.7kW, 6.2kW, 7.0kW, 9.0kW

**Hardware Specifications**

Dimensions	HxWxD
Stand-alone version 6RU	: 285x445x517mm (without handles)
Stand-alone version 10RU	: 462x445x525mm (without handles)
Air cooled cabinet version 42RU (400W)	: 2077x606x1022mm

Air cooled cabinet version 42RU	
- 750W to 1.5kW	: 2150x610x1250mm
- 1.9kW to 2.9kW	: 2150x1220x1250mm
Liquid cooled cabinet version 42RU	
- 1.25kW to 3.4kW	: 2077x606x1239mm
- 4.7kW to 6.2kW	: 2077x1212x1239mm
- 7.0kW to 9.0kW	: 2077x1818x1239mm
Mains voltage	
- up to 400W	: 230ACV (±15%); 1-phase
	: 115ACV (±15%); 1-phase
	: 48Hz to 62Hz
- 750W to 2.9kW air cooled Series	: 3x400/230ACV (±15%)
	: 1x230ACV (±15%)
	: 3x120/208ACV (±15%)
	: 1x120ACV (±15%)
	: 48 ... 52Hz (58 ... 62Hz as option)
- 1.25kW to 9kW liquid cooled Series	: 3 x 230/400ACV (-15% / +10%) and
	: 1 x 230ACV (+/-15%); or
	: 3 x 120/208ACV (-15% / +10%) and
	: 1 x 120ACV (+/-15%)
	: 48 ... 52Hz (58 ... 62Hz as option)

**Synchrony DVB-T SFN Adapter**

- The insertion of the Mega-frame Initialisation Packet (MIP) into the MPEG2-TS as specified in the ETSI standard TS101191.
- The transmitters controlled via MIP as specified in the ETSI standard TS10191.
- The MPEG2 adaptation: RS decoding and encoding, NIT update, bit rate adaptation and PCR computing.
- The processing of two MPEG2-TS (HP and LP) for DVB-T hierarchical application is fully DVB-H compliant.
- Input redundancy with automatic switching (only in regular mode).
- Integrated generation of PRBS 20 bits and 23 bits for test purposes.
- Ethernet control with SNMP/FTP/HTTP protocols.

**Hardware Specifications**

Casing (WxHxD)	: 483x44x490mm (19" 1HU)
Power Supply	: autoswitch 85 to 264ACV / 47 to 63Hz

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Specifications subject to change without notice



**DVB-H System Solution**

**DVB-H IP Encapsulation**

**DVB-H Network Management**

**SFN MIP Insertion**

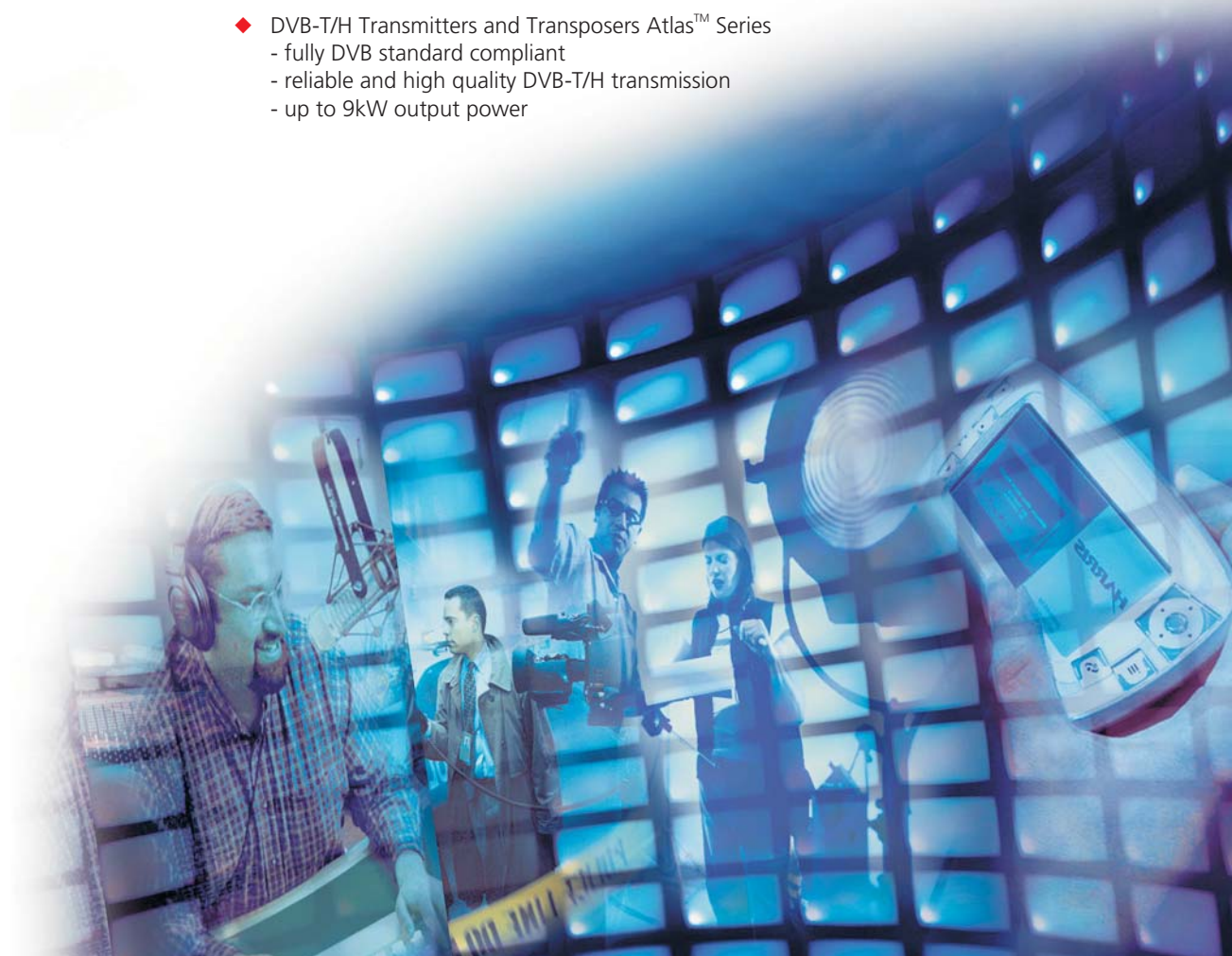
**DVB-T/H Transmitters and Transposers ATLAS™ Series**

**All you need for DVB-H transmission**

- ◆ DVB-H IP Encapsulation - insert DVB-H IP content into standard MPEG2 Transport Stream
- ◆ DVB-H Network Management - Manage and setup content sessions as well as cell handover in DVB-H MFN networks
- ◆ Single frequency network MIP insertion - synchronize all DVB-T/H Transmitters in a single frequency network
- ◆ DVB-T/H Transmitters and Transposers Atlas™ Series - fully DVB standard compliant
- reliable and high quality DVB-T/H transmission
- up to 9kW output power



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## System Description

### Standard DVB-H IPE

- ◆ ETSI EN301192 compliant, including MPE Forward Error Correction
- ◆ Time slicing enforcement, ensuring the proper and timely delivery of IP packets in MPEG2 bursts
- ◆ SI table generation, consistent with the centralized network configuration

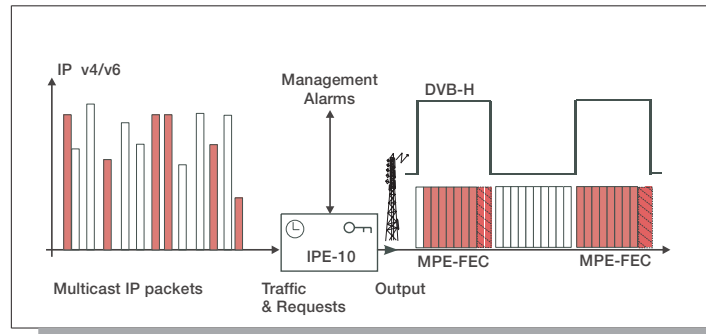


Fig. 2: DVB-H IP encapsulator

### Centralized and synchronized IPE management in MFN networks

- ◆ Stream synchronization and time slice phase shifting for loss free handovers
- ◆ IPE-Manager centralized configuration managing simultaneously hundred of IPEs
- ◆ Secured and separate SNMP and HTTP access to the IPE-Manager for both the network operator and datacast operators.

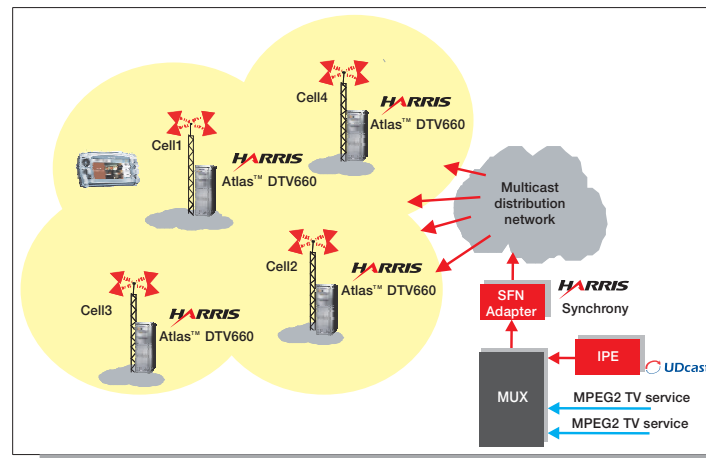


Fig. 4: Single frequency network

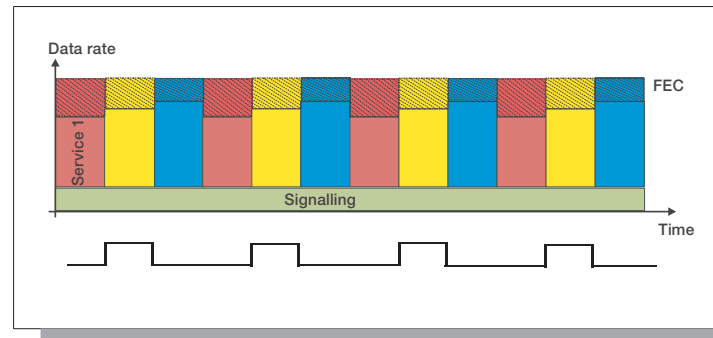


Fig. 1: The concept of Time Slicing

### Enhanced IP features

- ◆ Bandwidth usage enforcement at IP layer, distributed between datacast operators services
- ◆ Full Ipsec security
- ◆ IPv4 to IPv6 translation
- ◆ Schedule start and stop of multicast sessions
- ◆ SNMP alarm management, detecting faulty IPEs or incorrect incoming traffic

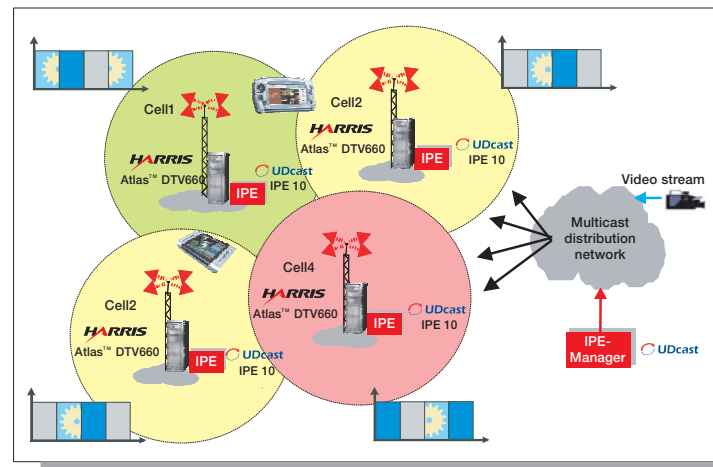


Fig. 3: Multi frequency network

### Single Frequency Network Synchronisation

- ◆ Mandatory and optional MIP management fully compliant to DVB-H
- ◆ 5/6/7/8 MHz Channel Band-width user selectable over Web-GUI
- ◆ Integrated GPS Receiver for time reference
- ◆ Embedded SNMP agent for remote Monitoring & Control

## Product description

### DVB-T / H Transmitters Atlas™ DTV 660 Series

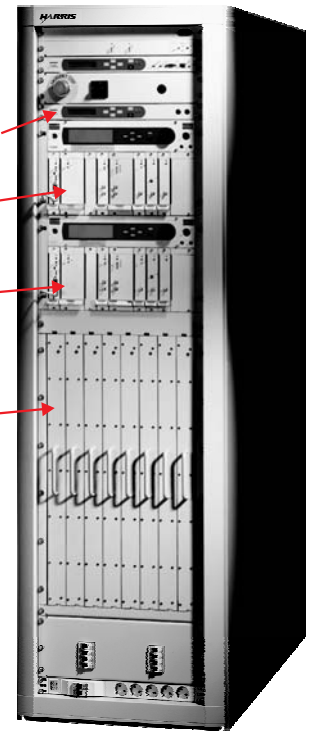
- ◆ Maximum On Air Availability due to proven redundancy design like Dual Drive, 1+1 or N+1
- ◆ GPS-Receiver for time Reference - specially fast SFN applications
- ◆ Optional signal input interfaces for Telecom signals E3, DS3, STM-1 for directly feeding from SDM/PDM networks
- ◆ Optional DVB-T receiver for Rebroadcast operation
- ◆ Optional integrated uninterruptible power supply for operational safety after power supply loss

### DVB-T / H Transposers and SFN-GAP Filler Atlas™ TVU-D 665 Series

- ◆ Digital IF filtering instead of SAW filter, allows unique filter performance
- ◆ Processing delay on Selectivity optimised Design to serve individual custom needs
- ◆ Fully adaptive Echo Cancellation upgradeable for SFN applications

### Atlas™ DVB-H/T Transmitter 3400W UHF Dual Drive

- ◆ Redundancy Control Unit
- ◆ Low Power Stage A
- ◆ Low Power Stage B
- ◆ Power Amplifiers



IPE-10 Encapsulator

### DVB-H IP Encapsulation

- ◆ Full DVB-H compliance
- ◆ Unique time-slicing technology
- ◆ Standard DVB-H IP Forward Error Correction
- ◆ Full head-end functionality

### DVB-H IPE Manager

- ◆ DVB-H Infrastructure control
- ◆ Strict global service model
- ◆ Specific IP traffic control
- ◆ IPE Network Management
- ◆ Secured Management

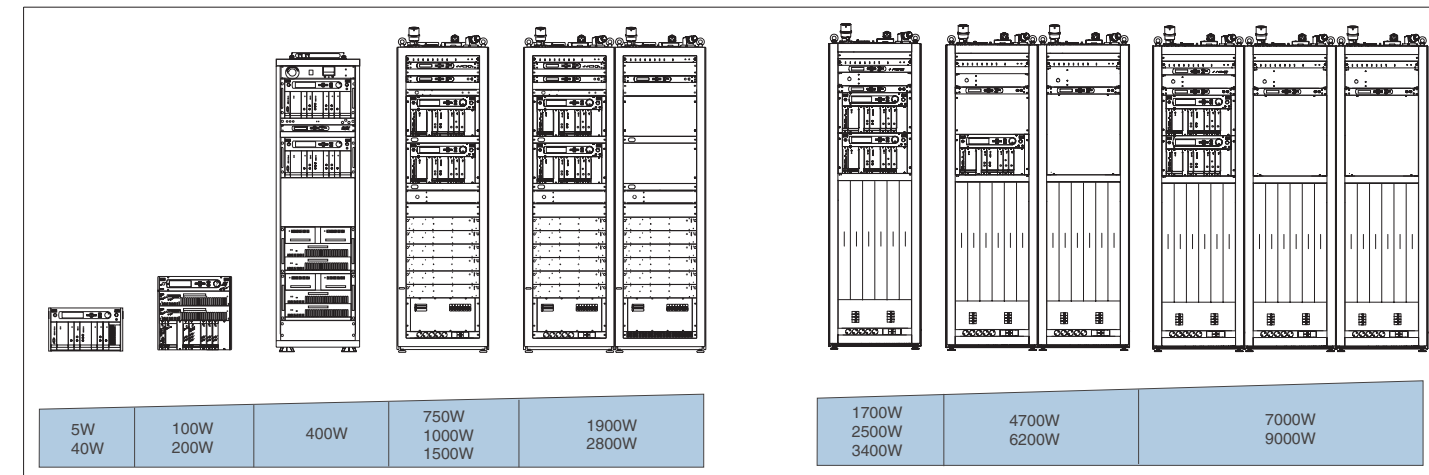


Fig 5: Power classes Atlas™ Solid State air cooled series  
\* Transposer power classes

Power classes Atlas™ Solid State liquid cooled series