

# Torpedo

DVB to IP Gateways



Intelligent IP Video

## DVB TO IP GATEWAYS

### Repackage Digital Video Broadcasts for IP Networks

**Haivision's Torpedo** allows enterprises to get digital broadcast transmission onto their IP networks without the need for re-encoding the video. Digital satellite (DVB-S/S2) and digital terrestrial (DVB-T/T2) broadcasts contain audio/video programming using industry standard compression (MPEG-2 or H.264) contained within MPEG-2 transport streams. The Torpedo gateway tunes to particular channels, as delivered over RF by the DVB antennas or satellite dishes, extracts and filters the MPEG transport stream packets, and delivers the program content over IP networks eliminating the need to re-encode. A single Torpedo can support up to 15 content channels, each re-broadcast as unicast or multicast IP video data streams.

### Product Features

Haivision's Torpedo supports SD and HD satellite (DVB-S and DVB-S2) and terrestrial (DVB-T and DVB-T2) signals. The Torpedo provides a standard DVB-CI slot to allow decryption, decoding and streaming of Pay TV content with a suitable CAM and subscription card. This allows Torpedo to be the perfect standalone solution.

For configuration and monitoring, the Torpedo comes with an on-board HTML setup browser. Through this interface administrators can scan all available DVB multiplexes, choosing up to 15 individual channels from a single multiplex. The Torpedo then transmits each channel as a separate IP video unicast or multicast stream. Management of Torpedo is through Web Interface.

Other configuration and monitoring features include:

- Multicast and Unicast address for output of video stream
- Static IP address or DHCP assignment of Torpedo unit
- Supports Netmask, Gateway Address, DNS Server Addressing
- Command Line Interface available over Telnet or serial RS-232/USB
- SNMP: monitoring of key operating functions reported via on-board SNMP agent
- Management through Web Interface or CLI.



### Signal Inputs:

- Torpedo DVB-T/T2: RF input of Digital Terrestrial Television (DVB-T2); TV and radio channels via a 75ohm IEC aerial connector
- Torpedo DVB-S/S2: RF input of Digital Satellite Television (DVB-S2); TV and radio channels via a 75ohm type F female connector
- Delivers up to 15 channels from a DVB Multiplex and from Pay TV services Torpedo can decrypt as many of these as your DVB-CI conditional access module will support
- Supports both SD and HDTV broadcasts

The Torpedo is available as a standalone appliance or as a blade within Haivision's 1U 6-slot and 4U 21-slot rack mountable chassis. Each chassis can hold any combination of the DVB-T/T2 and DVB-S/S2 models as well as Haivision's Makito and Barracuda H.264 encoder blades. The Torpedo blades supporting Conditional Access (CAM) decryption occupy 2 slots within the multi-slot chassis.



## SPECIFICATIONS

### **Torpedo Blade (x-380-x)**

#### **INPUT INTERFACE (x-380-T2 models)**

##### *DVB-T, DVB-T2*

- 75 ohm IEC 169-2 aerial input connector
- 75 ohm IEC 169-2 aerial output connector (for signal test)

#### **INPUT INTERFACE (x-380-S2 models)**

##### *DVB-S, DVB-S2*

- 75 ohm F-type input connector
- 75 ohm F-type output connector (for pass-through)

#### **CAM MODULE (x-380-xxCAM models)**

- DVB-CI (EN 50221)
- Decryption of multiple channels with suitable CAM and subscription card

#### **STREAMING PROTOCOLS**

- Unicast Streaming
- Multicast Streaming
- MPEG Transport Stream over UDP
- 10/100 Base-T network
- Session Announcement Protocol (SAP)

#### **ENCRYPTION - future**

- AES Encryption (128/192/256-bit)
- to InStream Desktop Players
- to Stingray Set Top Boxes

#### **MANAGEMENT and CONTROL**

##### *IP:*

- 10/100 Base-T interface using Telnet, Syslog and SNMP

##### *USB:*

- USBv1.1 interface for control and configuration

#### **CAPACITIES**

##### *Simultaneous Streams*

- 15 unicast/multicast channels from a single multiplex

### **Appliance (S-380-x)**

#### *Dimensions:*

- 41mm H x 143mm W x 220mm D
- 1.7" H x 5.7" W x 8.7" D

#### *Weight:*

- 1.1Kg (2.42lbs)

#### *Power:*

- 100-240V AC, 10 Watts via external DC adaptor

#### *Environmental:*

- 0-40°C; 32-104°F

#### *Certification:*

- CE, CB
- FCC Part 15

### **6 Blade Chassis (F-MB6-AC, F-MB6-MED, F-MB6-DC)**

#### *Dimensions:*

- 19" rack mountable, 1RU
- 44.45mm H x 438.15mm W x 425.45mm D
- 1.75"H x 17.25 W x 16.75"D

#### *Weight:*

- 6 slot empty chassis – 10lbs
- Each blade – 0.5lbs

#### *Power (Internal Power Supply):*

- AC type 90-264VAC 47Hz-63Hz
- 200 Watt max.
- Medical Grade 90-264VAC 47Hz-63Hz
- 300 Watt max.
- DC type 20-36 VDC
- 200 Watt max.

#### *Operating Temperature:*

- 0°C to 50°C (32°F to 122°F)

#### *Non-Operating Temperature:*

- 40°C to 70°C (-40°F to 158°F)

#### *Humidity:*

- up to 85% Non-Condensing

### **21 Blade Chassis (F-280-21DPS)**

#### *Dimensions:*

- 19" rack mountable, 4 RU
- 178mm H x 445mm W x 400mm D
- (7.00"H x 17.50"W x 15.75"D)

#### *Weight:*

- 21 slot empty chassis – 20lbs
- Each blade – 0.5lbs

#### *Power (Internal Power Supply):*

- 90-132V and 180-240VAC 47Hz-63Hz

#### *Operating Temperature:*

- 0°C to 40°C (32°F to 104°F).

#### *Non-Operating Temperature:*

- 40°C to 70°C (-40°F to 158°F).

#### *Humidity:*

- up to 95% Non-Condensing

### **Torpedo™ (For Non US Markets Only)**

#### **Torpedo Appliance - Compact DVB to IP Gateway**

**S-380-S2** **Torpedo DVB-S/S2 to IP Gateway Appliance, for Non US Markets Only** – DVB-S/S2 RF input, up to 15 channels, IP UDP multicast/unicast, 10/100 Ethernet, USB, 90-240 VAC external power.

**S-380-T2** **Torpedo DVB-T/T2 to IP Gateway Appliance, for Non US Markets Only** – DVB-T/T2 RF input & loop-thru, up to 15 channels, IP UDP multicast/unicast, 10/100 Ethernet, USB, 90-240 VAC external power.

#### **Torpedo Blade - Compact DVB to IP Gateway**

**B-380-S2** **Torpedo DVB-S/S2 to IP Gateway Blade, for Non US Markets Only** – DVB-S/S2 RF input, up to 15 channels, IP UDP multicast/unicast, 10/100 Ethernet, USB, chassis required.

**B-380-T2** **Torpedo DVB-T/T2 to IP Gateway Blade, for Non US Markets Only** – DVB-T/T2 RF input & loop-thru, up to 15 channels, IP UDP multicast/unicast, 10/100 Ethernet, USB, chassis required.

**B-380-S2CAM** **Torpedo DVB-S/S2 to IP Gateway Blade with CAM, for Non US Markets Only** – Double height blade, DVB-S/S2 RF input, Conditional Access Module Slot (DVB-CI), up to 15 channels, IP UDP multicast/unicast, 10/100 Ethernet, USB, chassis required.

**B-380-T2CAM** **Torpedo DVB-T/T2 to IP Gateway Blade with CAM, for Non US Markets Only** – Double height blade, DVB-T/T2 RF input & loop-thru, Conditional Access Module, up to 15 channels, IP UDP multicast/unicast, 10/100 Ethernet, USB, chassis required.

#### **Makito/Barracuda/Torpedo Chassis**

**F-280-21DPS** **MB21 - Makito/Barracuda/Torpedo 21 Slot Chassis - Rackmount 4RU Chassis** - Up to 21 Makito/Barracuda mini-blades, dual AC power supply, 90-132V and 180-240VAC 47Hz-63Hz, 400 Watt max.

**F-MB6-AC** **MB6 - Makito/Barracuda /Torpedo 6 Slot Chassis - Rackmount 1RU Chassis** - Up to 6 Makito/Barracuda mini-blades, AC power supply, 90-264VAC, 47Hz-63Hz, 200 Watt max.