

# Tornado M55

IPTV Set Top Box

## PRODUCT OVERVIEW

Tornado M55 is an innovative and feature-rich High-Definition set-top-box (STB), specifically designed for deployment in IPTV and Video-on-Demand infrastructures. The product features H.264 and MPEG4 video compression, which allows it to deliver high quality video streams over IP networks with low bandwidth utilization. Tornado M55 supports High-Definition video up to 1080p resolution which offers a more exciting viewing experience, especially on large format TVs. Additionally, Tornado M55 features a myriad of popular information and communication services, including Web browsing, calendar, calculator, and more.

## Unicast and Multicast operation modes

The STB can operate in several modes to allow universal device deployment: Multicast mode allows deployment in closed Local Area Networks (LAN) where all video/audio content is received in multicast format; Unicast mode allows implementation in Open Wide Area Networks (WAN) and Internet where the video/content is received from remote location and using secure and reliable network connections. The Unicast mode can be achieved using TCP or UDP protocols to guarantee maximum image quality and uninterrupted operation. To prevent interruptions, M55 also supports internal data buffering.

## IPTV and Video-on-Demand Support

Tornado M55 offers delivery of streaming video content, including IPTV and Video-on-Demand (VoD) directly to the TV screens of end-users. The device receives H.264, MPEG4, MPEG2, WMV/VC1 encoded video streams over broadband connections. It then decodes such streams internally and sends the resulting video signal to the TV set of the end-user.

## Digital Music and Internet Radio Delivery

Tornado M55 also supports delivery of streaming audio content, enabling end-users to enjoy digital music and Internet radio channels on their TVs. The product utilizes high audio compression MP3 technology for maximum quality of the delivered audio content.

## H.264, MPEG4, MPEG2 Support

Tornado M55 supports low bit-rate H.264 video compression technology which substantially reduces its bandwidth requirements. Compared to older video compression technologies, H.264 offers better video quality at substantially lower bit rates. Because of more efficient bandwidth utilization, Tornado M55 enables providers to reduce the cost of delivering services to subscribers. Tornado M55 also supports popular MPEG4, MPEG2, Windows Media video compression technologies.



## KEY FEATURES

- Unicast and Multicast operation modes
- IPTV and Video-on-Demand Support
- Digital Music and Internet Radio Delivery
- H.264, MPEG4, MPEG2, WMV/VC1 Support
- High Definition Support
- Online Web Browsing
- Media Center Functionality
- Dolby 5.1 Audio Support

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## IPTV Set Top Box

### High Definition Support

Tornado M55 supports High Definition (HD) video at resolutions up to 1080p. That allows it to deliver video with greater detail, realism and quality, especially to large format TV screens. High Definition video signal from Tornado M55 is delivered to the TV screen via either HDMI or composite cable.

### Online Web Browsing

Tornado M55 enables end-users to browse the Internet while watching their TVs. The Web browser requires the use of USB keyboard and mouse.

### Media Center Functionality

Tornado M55 offers to end-users convenient access to content stored on attached USB hard drive or USB memory. The device offers 2 USB ports that can be used to connect external storage to store and view video and audio data content thus providing data library services. When the end-user selects a file from that media library, Tornado M55 will play it on the TV. In addition, M55 has an integrated client that will allow Local PC computers to write and read data files from/to the device for media library management purposes.

### Dolby 5.1 Audio Support

Tornado M55 supports the Dolby 5.1 Audio standard for exceptional sound quality. The Dolby technology allows up to 6 channels of surround sound to be delivered to end-users. An established standard for high end home theatre systems, surround sound is gaining wider adoption in modern IPTV systems.

### 100+ Over-The-Top (OTT) and Free-To-Air (FTA) Channel Support \*

The server includes over 100 built-in OTT and FTA channels that allow service jump-start with a large number of pre-defined channels. In addition, the OTT channels do not require bandwidth support because the STB devices will access them directly without connecting to the Streaming server. OTT and FTA channels are great IPTV service complement that provides better channel variety and selection.

### Technical Specifications

#### Connectors/Interfaces:

- One Ethernet (RJ-45) 10/100M Port
- Two USB 2.0 Ports
- One HDMI Port
- One Composite Port
- One YPbPr Port
- One L/R Audio Port
- One Infra Red (IR) Interface
- CPU Dual Core 400 Mhz
- HD Digital Signal Processor

#### Video Codecs and Formats:

- H.264
- MPEG4
- MPEG2
- DVX
- AVI
- WMV/VC1
- FLV

#### Audio Codecs and Formats:

- MP3
- AAC
- Dolby Digital 5.1
- 16bit Linear PCM with HDCD Support

#### Resolution:

- H.264: Up to 1920x1080p/1080i at 30fps
- MPEG2: Up to 1920x1080p/1080i at 30fps
- MPEG4: Up to 1920x1080p/1080i at 30fps

#### Protocols:

- UDP (RFC768)
- TCP (RFC793)
- IPv4 (RFC791)
- ARP & RARP
- DNS
- DHCP (RFC2131)
- PPPOE (RFC2516)
- NTP (RFC 1889)
- IGMPv1, v2, v3 (RFC1112, RFC2236, RFC3376)
- IGMP
- BOOTP
- RTP/RTCP
- RTSP
- HTTP
- RTMP

#### Dimensions:

- 9.4" (W) x 1.2" (H) x 6" (D)



SysMaster  
2700 Ygnacio Valley Rd, Suite 210  
Walnut Creek, CA 94598  
United States of America

Email: [sales@sysmaster.com](mailto:sales@sysmaster.com)  
Web site: [www.sysmaster.com](http://www.sysmaster.com)

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