



# VBrick Systems H.264/MPEG-2 Set Top Box

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AminNET130 v1.2.3 Set Top Box  
Quick Start Guide



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## About VBrick Systems

Founded in 1997, VBrick Systems, an ISO 9001 certified vendor, is a privately held company that has enjoyed rapid growth by helping our customers successfully introduce mission critical video applications across their enterprise networks. Since our founding, VBrick has been setting the standard for quality, performance and innovation in the delivery of live and stored video over IP networks—LANs, WANs and the Internet. With thousands of video appliances installed world-wide, VBrick is the recognized leader in reliable, high-performance, easy-to-use networked video solutions.

VBrick is an active participant in the development of industry standards and continues to play an influential role in the Internet Streaming Media Alliance (ISMA), the MPEG Industry Forum, and Internet2. In 1998 VBrick invented and shipped the world's first MPEG Video Network Appliance designed to provide affordable DVD-quality video across the network. Since then, VBrick's video solutions have grown to include Video on Demand, Management, Security and Access Control, Scheduling, and Rich Media Integration. VBrick solutions are successfully supporting a broad variety of applications including distance learning and training, conferencing and remote office communications, security, process monitoring, traffic monitoring, business and news feeds to the desktop, webcasting, corporate communications, collaboration, command and control, and telemedicine. VBrick serves customers in education, government, healthcare, and financial services markets among others.

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# H.264/MPEG-2 v1.2.3 Set Top Box Quick Start

## Preface

This online help is best viewed with **Internet Explorer 7.0** (Windows), **Safari 3.0** (Macintosh), or **Firefox 2.1** (Linux) at a minimum screen resolution of 1024x768. (The pages and the application may not display or function properly with earlier versions or other browsers.) For best results, please take a few minutes to upgrade your browser from the update pages at [Microsoft](#), [Apple](#), or [Mozilla](#). Copyright © 2010 VBrick, Inc. All rights reserved.

<a href="#">Getting Started</a>	explains how to connect the set top box and configure it for your network.
<a href="#">Using the Set Top Box</a>	explains how to use the handheld, infrared remote control unit.
<a href="#">Configuring an AmiNET130 not Purchased from VBrick</a>	explains how to connect and configure an AmiNET130 not purchased from VBrick.
<a href="#">Frequently Used Options</a>	explains some of the frequently used configuration options.
<a href="#">Upgrading the AmiNET130</a>	explains how to upgrade the AmiNet130 software.

## Getting Help

**If you need help, or more information about any topic, use the online help system.** Use the book icons in the left pane to open documents and the up and down arrows in the right pane to page through them. *Use the Search box to find specific information.* Simply enter one or more words in the box and press **Enter**. The search results will return pages that have all of the words you entered highlighted in yellow (Internet Explorer only). The Search box is not case-sensitive and does not recognize articles (a, an, or the), operators (+ and -), or quotation marks. You can narrow the search by *adding* words. To view all VBrick documentation, including the latest updates, go to [www.vbrick.com/documentation](http://www.vbrick.com/documentation). If you can't find the information you need from the online help, the VBrick documentation, or your certified VBrick reseller, you can contact VBrick [Support Services](#) on the web. Support Services will make every effort to answer your technical questions in 24 business hours or less. VBrick is committed to accurate and reliable documentation. If you find errors or omissions in any of our documents, please send e-mail to [documentation@vbrick.com](mailto:documentation@vbrick.com) and let us know.

## Font Conventions

**Arial bold** is used to describe dialog boxes and menu choices, for example: **Start > All Programs > VBrick**

**Courier fixed-width font** is used for scripts, code examples, or keyboard commands.

**Courier black fixed-width font** is used for user input in scripts, code examples, or keyboard commands.

**This bold black font** is used to strongly emphasize important words or phrases.

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Folder names and user examples in text are displayed in this sans serif font.

**User input in text** is displayed in this bold sans serif font.

*Italics are used in text* to emphasize specific words or phrases.

## **Printer-Friendly**

[AmiNET130 Quick Start Guide](#)

[AmiNET130 Release Notes](#)

▼ To save or **print** a PDF document:

1. Click once to open the PDF document in Acrobat Reader.
2. To save or print a PDF document, right-click and select **Save Target As** or **Print Target**.



## Getting Started

This *Quick Start Guide* explains how to get your AmiNET130 Set Top Box up and running in a few easy steps. The AmiNet130 is a compact set top box manufactured by Amino Systems, that has been reconfigured by VBrick with an easy-to-use graphical user interface. **It connects to a standard TV and plays H.264 and MPEG-2 streams only.** No other streams are selectable for viewing or adding. *It displays live or stored streams—it does not record streams.* These pages explain how to connect and configure the Amino set top box. There is no software installation required—simply connect and configure the device as explained below and you are done. For more detailed installation and configuration instructions, see the documentation on the [Amino](#) website.

---

**Note** If not purchased from VBrick, an AmiNET130 will not have a VBrick channel guide or a user-friendly interface (see [Configuring an AmiNET130 not Purchased from VBrick](#) on page 21 for more details). You should also be aware that it is a copyright violation to use proprietary VBrick software on set top boxes that were not purchased from VBrick.

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**Figure 1.** AmiNET130 Set Top Box

The AmiNET130 is shipped with all of the components listed below. If anything is damaged or missing, contact VBrick, Amino, or your reseller without delay.

- *AmiNET130 Installation Guide*
- AmiNET130 set top box and mounting stand
- Remote control unit and two AAA batteries
- Power cable and power supply
- A/V input cable (with component, composite, and stereo audio connectors)
- USB to serial adapter cable (optional)

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## Step 1. Connecting the AmiNET130

The VBrick EtherneTV Set Top Box is shipped with Audio/Video, S-Video, and power cables and a handheld IR remote control unit. An optional wireless keyboard is also available. Connect the Amino STB to a standard or high definition TV as explained below. Check the components for damage as you unpack the device. The AmiNet130 includes a power supply, a mounting stand, a remote control, and an A/V cable.

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**Note** See the detailed instructions in the *AmiNET130 Installation Guide* if you need help connecting audio and video cables.

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- ▼ To setup and connect the AmiNET130:
1. Mount the Amino either vertically or horizontally as explained in the *AmiNet130 Installation Guide*.
  2. Connect the Amino to your network using a standard Ethernet cable (not supplied) with an RJ-45 connector.
  3. Connect the Amino to the TV as follows.
    - a. Connect one end of the Amino A/V lead to the DIN connector on the Amino.
    - b. Connect the other end to the TV using the Composite, Component, or HDMI cable (not supplied).
  4. Connect the power supply and install two AAA batteries in the remote control.



**Figure 2.** AmiNET130 Rear Panel (left to right)

Power input	Connects to power supply.
LAN	Connects to your Ethernet network.
USB port	Use to connect a USB keyboard.
HDMI output	Used to connect to an HDMI-compatible TV
SPDIF	Used with 5-in-1 audio cable.
A/V output	Component, Composite, and stereo connectors.
RF cable output	Not used.
RF cable input	Not used.

## Step 2. Configuring the AmiNET130

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**Note** You can purchase an AmiNET130 STB from VBrick which has preconfigured software and a user-friendly graphical interface. Or you can purchase a standard AmiNET130 STB from Amino. The standard Amino device has no TV program guide. See [Configuring an AmiNET130 not Purchased from VBrick](#) on page 21 for more about this option.

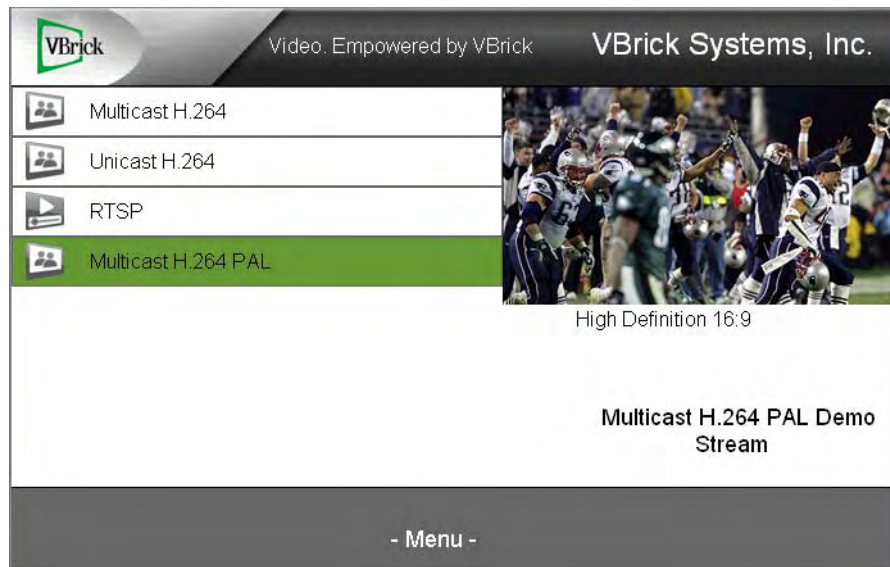
---



The AminNET130 STB is shipped with a handheld IR remote control (and an optional wireless keyboard). *You must use a USB keyboard or the wireless keyboard for initial configuration.*

▼ To configure the Amino using a keyboard:

1. Connect the Amino, the network, and the TV monitor as explained above. See the *AminNET130 Installation Guide* for more detailed instructions.
2. When done, connect the power supply and apply power. This will display the VBrick "Channel Guide" (Figure 3).



**Figure 3.** Local Channel Guide

3. Use the blue button on the remote control unit to display IP and DHCP information.
  - If a DHCP server is present and the IP address is okay, go to Step 4.
  - If the IP address must be set or changed, go to [Setting a Static IP Address](#) on page 5. When done, return to Step 4.
4. Press **Ctrl+Up Arrow** and a popup box will display. Then click **OK**.
5. Then press **Alt+M** and enter the "administrator" password (see Table 1 [AminNET130 Management Passwords](#) below).

**Note** When navigating the management and preferences pages, use the **Tab** key to navigate between fields; use the **Shift-Arrow** keys to navigate through options; and use the **Enter** key to select options. You must enter a password (see Table 1) *before* you can **Save Changes**. If a reboot is required, you will need to exit back to the main menu (**STB Management**) and scroll to the **Reboot** option at the bottom of the page.

6. Go to **Video Setup** and verify the **TV Standard** as **NTSC** (default) or **PAL**.
7. Reboot the device: exit back to the main menu, scroll to the bottom of the page, and click **Reboot**.
8. When done, press **Alt+P** to display the **Preferences** page.
9. Go to **Video Settings > Output Resolution** and select the maximum resolution your TV monitor will support.

Resolution	TV Input
------------	----------

---

Standard Definition	Default
480p	NTSC
576p	PAL
720p	HDMI
1080i	HDMI

10. When done, scroll to the bottom of the page, enter the "save" password, and click **Save Changes**.
11. Then exit back to the main menu, scroll to the bottom of the page, and click **Reboot**. After a minute or two, the splash page will be displayed.

**Table 1.** AmiNET130 Management Passwords

Function	Password
VBrick "administrator" password	<b>admin</b>
VBrick "save" password	<b>admin</b>
VBrick Telnet password	username: <b>root</b> password: <b>admin</b>
Standalone "administrator" password †	<b>leaves</b>
Standalone "save" password †	<b>snake</b>
Standalone Telnet password †	username: <b>root</b> password: <b>root2root</b>

† "Standalone" refers to a set top box not purchased from VBrick and not configured with a graphical user interface.

## *Displaying the STB Management Page*

Most configuration changes are made on the **STB Management** page. When the STB management pages are displayed, use Tab, Esc, Enter and the arrow keys to navigate through the menus.

- ▼ To display the **STB Management** page:
  1. When the VBrick splash page is displayed, press **Ctrl+Up Arrow** and click **OK**. (If the Opera splash page is displayed, go to Step 2.)
  2. Then press **Alt+M** and enter the administrator password (see Table 1).
  3. Make any configuration changes as necessary. **Use Alt+P** to display Preferences.
  4. When done, scroll to the bottom of the page, enter the "save" password, and click **Save Changes**.
  5. If a reboot is required, exit back to the main menu, scroll to the bottom of the page, and click **Reboot**.

---

**Note** After making configuration changes you may need to reboot to commit the changes. If so, exit back to the main menu and scroll to **Reboot** at the bottom of the page.

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## Setting a Static IP Address

By default, the set top box is configured for DHCP (Dynamic Host Configuration Protocol) and will automatically retrieve an IP address from a DHCP server if present. If a DHCP server is not present or unavailable, you can configure the set top box with a static IP address and other network options.

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**Note** By default, DHCP is used to retrieve a dynamic IP address for the STB. If you are not using a DHCP server, you must configure the STB to use a static IP address.

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- ▼ To set a static IP address:
  1. Open the **STB Management** page as explained above.
  2. Select **Network Configuration** and set **DHCP Info** to **Do not use DHCP**.
  3. Then go to **IP Address** and enter the new IP address and other network data (netmask, gateway, etc.) as necessary.
  4. When done, scroll to the bottom of the page, enter the "save" password, and click **Save Changes**.

## Step 3. Configuring the Start Mode

At startup, the set top box can be configured differently depending on the requirements at your site. It can be configured using one of the methods listed below. *Note that when configuring a Direct Connection or Local Channel Mode, the use of Telnet command syntax other than what is explicitly described here can corrupt memory, make the unit inoperable, and void the warranty.*

- **Portal Server Mode** – the set top box displays a channel guide populated by the VEMS Portal Server.
- **Direct Connection** – a dedicated stream from an attached VBrick H.264 appliance is launched in full screen mode every time the STB is powered on.
- **Local Channel Mode** – a channel guide is displayed showing local streams available at your site. You select channels with the remote control. This is the default mode.

## Configuring Portal Server Mode

If configured for Portal Server mode, the Amino STB gets a channel guide of H.264 streams from the VEMS Portal Server. You must use the Amino wireless keyboard to configure Portal Server mode.

- ▼ To configure the Amino using the wireless keyboard
  1. Connect the Amino, the network, and the TV as explained above and power on the STB.
  2. When the Amino splash page is displayed, press **Alt-m** on the keyboard.
  3. Enter the read management password (default = **admin**).

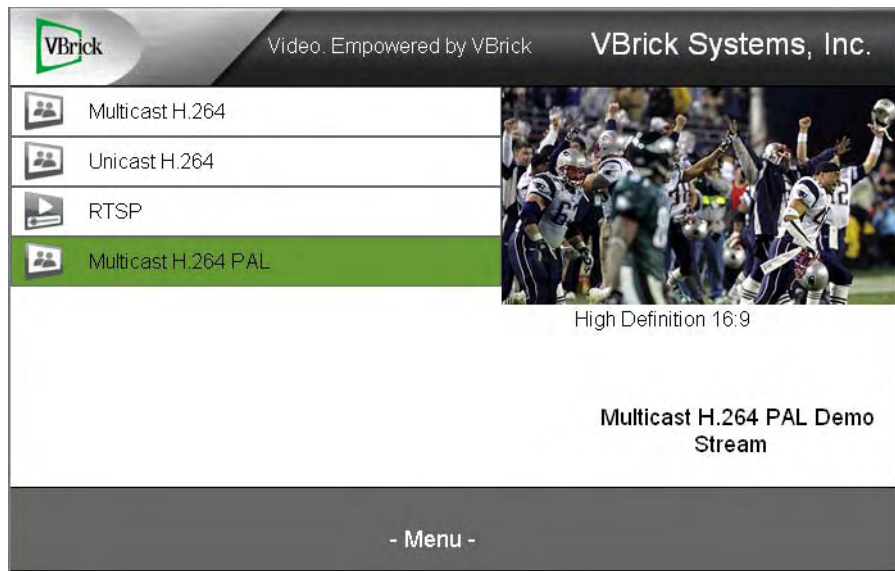
---

**Note** When the Amino Admin pages are displayed, you must use **Shift + Arrow Up/Arrow Down** to navigate through the menus.

---

4. If a DHCP server is present, the Amino IP address is automatically obtained from the DHCP server.

5. If a DHCP server is not present, and you want to set a static IP address, select **Network Configuration**, set **DHCP Info** to **Do not use**, and enter the new IP address and other network data.
6. Select **Trusted Domains** and add the Portal Server IP address or host name to the list of trusted domains in the format: **<ip\_address>** or **<hostname>** (do not use http://). Also verify that **Macrovision** and **JavaScript** are enabled.
7. Save changes and enter the write management password (default = **admin**).
8. Return to main menu and select **Browser Setup**.
9. In the **Home Page** field, enter the Portal Server URL as **http://<PortalServerIPAddress>**
10. When done, scroll to the bottom of the Admin page and click **Reboot**.
11. This will display the VEMS Channel Guide (Figure 4).



**Figure 4.** Local Channel Guide

12. An additional configuration step is required in the VEMS Portal Server configuration to enable recording of H.264 streams. By default, H.264 transport streams from an AmiNET130 STB (or a PC player) are not automatically ingested to VOD-W server(s). To enable ingestion (and allow user recording of H.264 transport streams):
  - a. Open the Admin console for the VEMS Portal Server and go to Global Assignments > Servers.
  - b. Check the option labeled **Support H.264 STB**.

---

**Note** If the **Support H.264 STB** checkbox is unchecked for all VOD-W servers, any user recording of an H.264 transport stream will fail. To enable recording, at least one VOD-W server that a user can access must have H.264 STB support enabled.

---

**Add/Modify VoD/FTP Servers**

Number of Connection Licenses:

Note: when purchasing a Video On-Demand Server from VBrick, you are permitted one connection license for each server purchased. If you wish to use Video On-Demand Servers from other sources, you must purchase a connection license from VBrick for each connected server to continue to use the software in a legal manner.

IP or Domain	Server Description	FTP User Name	Server Type
172.17.2.74		ftpuser	VOD-D
172.22.130.20		vbrickuser	VOD-W
172.22.2.142		vbrickuser	VOD-W

172.22.2.142  vbrickuser VOD-W

FTP Password:   Enable URL Password Protection:

Confirm Password:  Confirm Password:

Publishing Local Path:

Publishing Directory:  Web Service Port (HTTP):

Streaming Alias (IP or Domain):   Support H.264 STB

HTTP Tunneling Port:  (This server is in the LAN Zone)  Support HTTP Tunneling?

Secondary Server Address:  (IP or Domain of second NIC or NAT)

**Add/Modify Video On-Demand Content Folders**

## Configuring a Direct Connection

If configured with a direct connection the TV monitor will display one stream from a connected VBrick H.264 appliance in full screen mode. It covers the entire screen and there are no user controls available. **Volume** and **Mute** are the only controls available from handheld remote control unit. When the STB is running with a direct connection, you can only view one channel and it is displayed at full screen on the monitor. You cannot select other videos or navigate to other channels.

**Note** Do not add, delete, or rename any of the files (including `channels.xml`) on this set top box. Any of these actions can make the set top box inoperable.

▼ To configure a direct connection to a VBrick H.264 appliance:

1. Modify the `channels.xml` file as shown below (see [Put and Get the Channels File](#) on page 9) and be sure to delete unused portions of the file.
2. Add message and stream data that is appropriate for your stream (see Table 2 on page 10).
3. Set `DefChannel = 1` and `FullScreen = 1`.

```
<?xml version="1.0" encoding="utf-8"?>
<STBLocalUI>
  <!-- this is general information -->
  <Title>VBrick Systems, Inc.</Title>
  <GlobalMsg>High Definition 16:9</GlobalMsg>
  <DefChannel>1</DefChannel>
  <FullScreen>1</FullScreen>

  <!-- Multicast H.264 stream -->
  <Stream type="IGMP">
```

---

```
<ProgramName>Multicast H.264</ProgramName>
<Message>Multicast H.264 Demo Stream</Message>
<Channel>1</Channel>
<IP>239.22.2.151</IP>
<Port>4444</Port>
</Stream>
</STBLocalUI>
```



**Figure 5.** Direct Connection – Full Screen Mode

### *Configuring a Local Channel Guide*

To configure the set top box with a channel guide you will need to modify an xml file that has the channel URLs. The `channels.xml` file contains the local mode program information shown on the VBrick splash page (see Figure 3). This file will need to be modified (and FTPed) so that the IP addresses, port numbers, and program data correspond to the actual streams that are available at your site. As explained below, several steps are required to modify and FTP this file.

- ▼ To configure a channel guide:
  1. Configure your local PC for FTP.
  2. Telnet to the Amino STB and from there "ftpput" the `channels.xml` file on your local PC.
  3. On your local PC make any program changes to the file using a text or xml editor.
  4. When done go back to the Amino STB and "ftpget" the file from your PC.
  5. Reboot the Amino STB to display the new channel guide.

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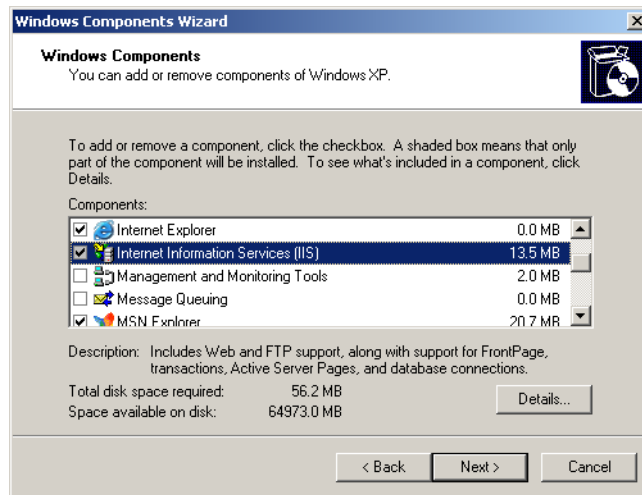
**Note** Do not add, delete, or rename any of the files (including `channels.xml`) on this set top box. Any of these actions can make the set top box inoperable.

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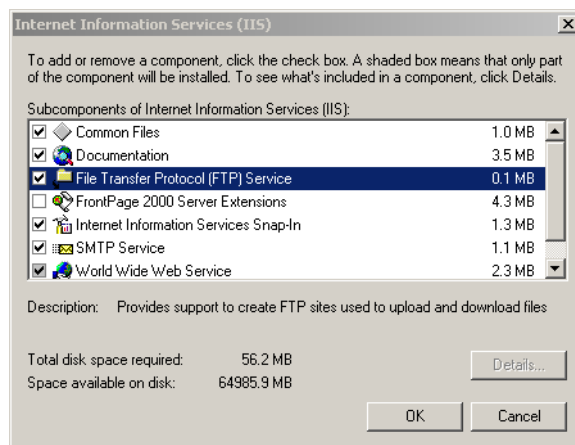
### **Configure Your PC for FTP**

In order to modify "put" and "get" files, your Windows PC must be configured for FTP.

- ▼ To configure Windows for FTP:
  1. Go to **Start > Control Panel > Add or Remove Programs**.
  2. Select **Add/Remove Windows Components** in the left navigation pane.



3. Check **Internet Information Services (IIS)** and then **Details**.



4. Check **File Transfer Protocol (FTP) Service**, then **OK**, **Next**, and **Finish**. (Initially when the FTP service is added, the user name and password is **anonymous**.)

## Put and Get the Channels File

The following steps show how to put, modify, and get the channels file. The complete command syntax follows.

---

**Note** In order to greatly simplify changes to `channels.xml` on all of the set top boxes in your network, you may wish to host the required STB files on a PC. See [Step 4. Hosting the Set Top Box Files on a PC](#) on page 12 for details.

---

- ▼ To put and get the channels file:
  1. Telnet to the AmiNET130.
  2. Login with `userid = root`, `password = admin`
  3. On the AmiNET130, type:
    - a. `cd /mnt/nv`

- b. `ftpput <FTPServer_IP_address> -u <pc_ftp_username> -p <pc_ftp_password> / channels.xml`
4. On your desktop, modify the file as necessary using a text editor. See [Modify the Channels File](#) below.
5. On the AmiNET130, type:
  - a. `cd /mnt/nv`
  - b. `ftpget <FTPServer_IP_address> -u <pc_ftp_username> -p <pc_ftp_password> channels.xml channels.xml`

### *Put and Get Command Syntax*

#### **ftpput**

`ftpput [options] remote-host remote-file local-file`  
Store a local file on a remote machine via FTP.

#### Options:

`-v, --verbose`                      Verbose  
`-u, --username`                      Username to be used  
`-p, --password`                      Password to be used  
`-P, --port`                            Port number to be used

#### **ftpget**

`ftpget [options] remote-host local-file remote-file`  
Retrieve a remote file via FTP.

#### Options:

`-c, --continue`                      Continue a previous transfer  
`-v, --verbose`                      Verbose  
`-u, --username`                      Username to be used  
`-p, --password`                      Password to be used  
`-P, --port`                            Port number to be used

### **Modify the Channels File**

The following code shows the `channels.xml` file that is used to create the channel guide. There is a file header and separate section for each stream. Modify this file so that the IP addresses, port numbers, and messages reflect the actual streams you have available at your site. Cut and paste as necessary to add new streams and be sure to delete any unused streams. For best results, copy this file to your PC for future reference.

**Table 2.** Channels.xml File Entries

<b>File Header</b>	
<code>Title</code>	Info message above preview window (see Figure 4). Default = VBrick Systems, Inc. Use 18 characters or less to avoid overwriting the (Video. Empowered by VBrick) banner image.
<code>GlobalMsg</code>	Info message below preview window.
<code>DefChannel</code>	Default channel number launched at STB power up.
<code>FullScreen</code>	0 = program guide at startup. 1 = full screen at startup.
<b>Stream Definition</b>	



Type	<ul style="list-style-type: none"> <li>• IGMP – Internet Group Management Protocol. Used for multicast within a network.</li> <li>• UDP – User Datagram Protocol. Commonly used Internet protocol.</li> <li>• RTSP – Real Time Streaming Protocol. Commonly used with streaming media servers.</li> </ul>
Program Name	Stream title displayed in the program guide for each channel and/or full screen window.
Message	Text displayed in lower-right message area under the preview window.
Channel	Channel number assigned to stream. <i>The numbers must be sequential.</i>
IP	Stream IP address.
Port	Stream port number.
RTSPName	RTSP content name used in URL, for example: <code>rtsp://&lt;ip_address&gt;/&lt;rtspname&gt;</code>

```
<?xml version="1.0" encoding="utf-8"?>
<STBLocalUI>
  <!-- this is general information -->
  <Title>VBrick Systems, Inc.</Title>
  <GlobalMsg>High Definition 16:9</GlobalMsg>
  <DefChannel>4</DefChannel>
  <FullScreen>0</FullScreen>

  <!-- Multicast H.264 stream -->
  <Stream type="IGMP">
    <ProgramName>Multicast H.264</ProgramName>
    <Message>Multicast H.264 Demo Stream</Message>
    <Channel>1</Channel>
    <IP>239.22.2.151</IP>
    <Port>4444</Port>
  </Stream>

  <!-- Unicast H.264 stream -->
  <Stream type="UDP">
    <ProgramName>Unicast H.264</ProgramName>
    <Message>Unicast H.264 Demo Stream</Message>
    <Channel>2</Channel>
    <IP>0.0.0.0</IP>
    <Port>1234</Port>
  </Stream>

  <!-- RTSP -->
  <Stream type="RTSP">
    <ProgramName>RTSP</ProgramName>
    <Message>RTSP</Message>
    <Channel>3</Channel>
    <IP>172.22.130.20</IP>
    <RTSPName>xport_264.mpg</RTSPName>
  </Stream>

  <!-- Multicast H.264 stream -->
  <Stream type="IGMP">
```

```

        <ProgramName>Multicast H.264 PAL</ProgramName>
        <Message>Multicast H.264 PAL Demo Stream</Message>
        <Channel>4</Channel>
        <IP>239.22.128.57</IP>
        <Port>4444</Port>
    </Stream>

<!-- Multicast MPEG2 stream -->
    <Stream type="IGMP">
        <ProgramName>Multicast MPEG2 </ProgramName>
        <Message>Multicast MPEG2 Demo Stream</Message>
        <Channel>4</Channel>
        <IP>239.25.128.58</IP>
        <Port>4444</Port>
    </Stream>

```

## Step 4. Hosting the Set Top Box Files on a PC

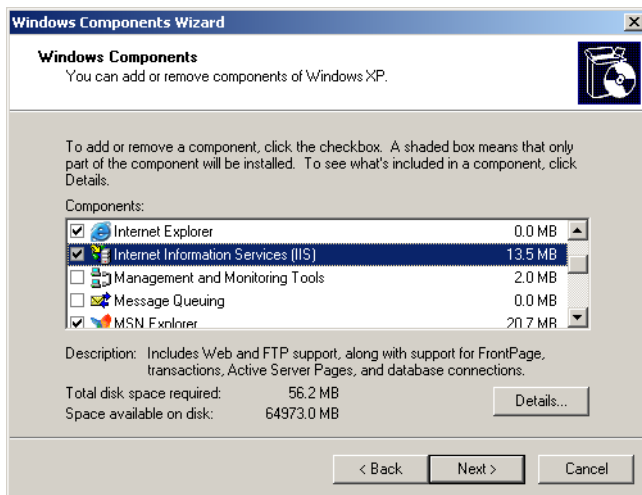
**Optional.** In order to greatly simplify changes to `channels.xml` on all of the set top boxes in your network, you may want to host the required STB files on a PC. To do this you will need to configure Windows for FTP and then use your PC to host the STB files. When the channels file changes (for example if you add or change streams), you simply update the file in `c:\inetpub\wwwroot` as explained below and reboot the set top box(es). The set top boxes will then read the channels file from the PC.

### *Configuring a PC as a Web Server*

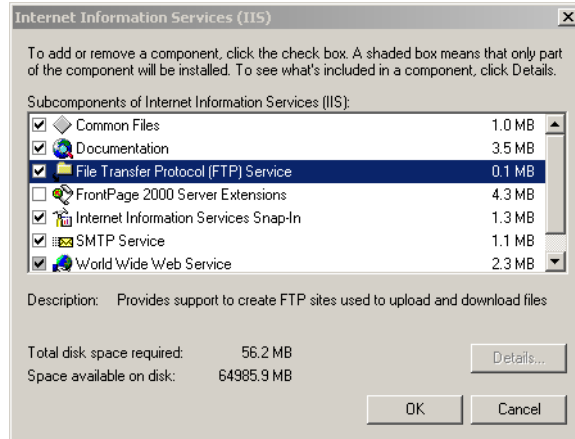
In order to host the set top box files on a PC, it must be configured as a web server. Use the following steps to configure a PC as a web server or to verify that it's configured properly.

▼ To configure your PC as a web server:

1. Go to **Start > Control Panel > Add or Remove Programs**.
2. Select **Add/Remove Windows Components** in the left navigation pane.



3. Check **Internet Information Services (IIS)** and then **Details**.



4. Check **File Transfer Protocol (FTP) Service** and **World Wide Web Service**, then **OK**, **Next**, and **Finish**. (Initially when the FTP service is added, the user name and password is **anonymous**.)

## Putting the Files on a PC

▼ To put the STB files on a PC:

1. Telnet to the AmiNET130 as explained below and `ftpput` the required files into your PC's IIS **Home Directory**. By default, the home directory for the **Default Web Site** is `c:\inetpub\wwwroot`.
2. Login with `userid = root`, `password = admin`
3. On the AmiNET130, type:
  - a. `cd /mnt/nv`
  - b. `ftpput <FTPServer_IP_address> -u <pc_ftp_username> -p <pc_ftp_password> / channels.xml`
4. Repeat Step 3b for the following files.
 

```
image1.jpg
image2.jpg
image3.jpg
home.htm
main.js
```
5. During transfer the files will be automatically copied to `c:\inetpub\ftproot`.
6. After transfer, manually copy all of the files from `ftproot` to `c:\inetpub\wwwroot`.
7. After you have configured the set top boxes to point to the PC as explained in the next section, reboot the set top box(es) and you are done.
8. If you subsequently need to change the channels file (see [Modify the Channels File](#) on page 10), you simply modify or replace the file in `c:\inetpub\wwwroot` and reboot the set top box(es).

## Configuring the AmiNET Home Page

---

**Caution** Perform this step carefully. If you enter an invalid URL you will be unable to communicate with any of the set top boxes in your network.

---

- ▼ To configure the AmiNET130 Home Page to point to a PC:
  1. On the AmiNET130, open the **STB Management** page (see [Displaying the STB Management Page](#) on page 4).
  2. Go to **Browser Setup > Home Page** and enter the IP address of a Windows PC.
  3. When done, enter a password and click **Save Changes**.
  4. Then repeat for each set top box.

## Step 5. Configuring SAP/SDP Emitter Values

**Optional.** Do not perform this step unless you have a compelling reason to do so or are directed by VBrick Support Services. In most cases you can leave all VBrick Configuration parameters at their default values. VBrick hardware devices emit unique SAPs (session announcements) to identify their presence on the network. These announcements are used by VBrick applications like VEMS and VBDirectory for scheduling, management, and other purposes. As noted, it is unlikely you will ever need to change these values but if you do, use care and reboot to save your changes. *Be aware that there is limited range checking and format validation.* If you enter illegal values and reboot, the set top box will ignore them and automatically revert to the default values. When entering SAP/SDP Emitter values, stay within the ranges (if any) shown Table 3.

- ▼ To configure SAP/SDP Emitter values:
  1. Launch the **STB Management** page (see [Displaying the STB Management Page](#).)
  2. Go to **VBrick Configuration > SAP/SDP Emitter Configuration**.
  3. Modify the parameters as necessary. See Table 3 for the range of values. When done, scroll to the bottom of the page, enter the "save" password, and click **Save Changes**.
  4. Then exit back to the main menu, scroll to the bottom of the page, and click **Reboot**.

**Table 3.** SAP/SDP Emitter Configuration

VBrick Parameter	Default Value	Range
SAP/SDP_EMITTER_ENABLED	yes	yes   no
SAP/SDP_EMITTER_DESTINATION_IP Address	224.2.133.134	valid unicast or multicast IP address
SAP/SDP_EMITTER_DESTINATION_PORT	9876	1040–65535
SAP/SDP_EMITTER_RETX_TIME	10	1–9999
SAP/SDP_EMITTER_TTL	64	0–255
SAP/SDP_EMITTER_TOS	0	0–255
SAP/SDP_EMITTER_GROUP	blank	1–40 (alphanumeric chars)
SAP/SDP_EMITTER_UNIT	1	read-only
SAP/SDP_EMITTER_PART_NUMBER		read-only
SAP/SDP_EMITTER_BOX_CODE		read-only

## Step 6. Configuring Serial Shell Values

**Optional.** The set top box can be configured for serial port passthrough. In a passthrough scenario, scripted commands are sent from a VBrick Enterprise Media System (VEMS) Portal

Server, *through* the AmiNET130, to a connected TV or other device. For more about serial port passthrough, see "Script Devices" in the *Portal Server Admin Guide*. If you change the default values, use care and reboot to save your changes. If you enter illegal values and reboot, the set top box will ignore them and automatically revert to the default values. When entering Serial Shell values, stay within the ranges (if any) shown Table 4.

▼ To configure the serial shell for passthrough:

1. Launch the **STB Management** page (see [Displaying the STB Management Page](#).)
2. Go to **VBrick Configuration** and scroll down to **Serial Shell Configuration**.
3. Modify the parameters as necessary and be sure to enable passthrough. See Table 4 for the range of values. When done, scroll to the bottom of the page, enter the "save" password, and click **Save Changes**.
4. Then exit back to the main menu, scroll to the bottom of the page, and click **Reboot**.

▼ To set up serial port passthrough:

1. Connect the USB end of the serial adapter cable (8100-0024-0000) to the USB port on the AmiNET130.
2. Connect the DB-9 end of the cable to a TV or other connected device.
3. On the VEMS Portal Server, configure the set top box as a Script Device and create a Script. See the *Portal Server Admin Guide* for details about passthrough and scripting.
4. You can also Telnet from a PC or suitable client to the Serial Shell TCP Port and establish a connection. This will let you send keystrokes from the PC, through the set top box, to the TV or connected device.

**Table 4.** Serial Shell Configuration

VBrick Parameter	Default Value	Range	
<code>SERIAL SHELL PASSTHRU ENABLED</code>	yes	yes   no	
<code>SERIAL SHELL TCP PORT</code>	4439	1040–65535	
<code>SERIAL SHELL BAUD RATE</code>	9600	300	9600
		600	19200
		1200	38400
		2400	57600
		4800	115200
<code>SERIAL SHELL STOP BITS</code>	1	1   2	
<code>SERIAL SHELL PARITY</code>	None	None   odd   even	
<code>SERIAL SHELL RTS</code>	Automatic	Automatic   Force-on   Force-off	
<code>SERIAL SHELL DTR</code>	Automatic	Automatic   Force-on   Force-off	

---

## Using the Set Top Box

### *Topics in this section*

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Using the AmiNET130 Remote Control .....	17

### **Browsing the Web**

Use the following steps to display the navigation bar and browse the web. Note that the browser in the set top box has limited functionality and may not function properly on some websites.

▼ To launch web browsing mode:

1. Press **Ctrl+Up Arrow**, and **OK** on the popup, to enable the keyboard; then press **F10** to display the navigation bar.
2. Enter a URL in the Address field to browse to any website.
3. When done, press the **Home** icon on the navigation bar to close the interface.

---

**Note** Be aware that the browser in the set top box has limited functionality. As a result the features and functionality on some websites may not display and/or function as you would expect.

---

### **Using the AmiNET130 Remote Control**

The Amino STB Remote Control is a handheld infrared device you can use to control live and stored H.264 streams running on an AmiNET130 set top box. You can use the Amino remote control (or the wireless keyboard) to select and play streams by pointing the unit at the sensor on the front of the unit. The buttons and functionality on the hand-held remote are explained in Table 5 and Table 6. **The buttons on the Remote Control work differently depending on whether you are using Portal Server Mode or a Local Channel Guide.** Be sure to refer to the right table and see the *AmiNet130 Installation Guide* that was shipped with the set top box for more detailed information. Note that the Amino set top box does not enforce copyright restrictions on stored content.

---

**Note** If desired, you can program the remote to communicate with the TV. In order for the remote to transmit the correct signals to control the TV, it must be programmed with a 3-digit code that matches the TV. See the "TV Brand Codes" topic in the *AmiNET130 Installation Guide* for details.

---

## Portal Server Mode

**Table 5.** Remote Control Buttons – Portal Server Mode †

Button	Function
Power	STB power or TV power.
STB   DVD   TV	Press STB for normal operation. Use TV to communicate with TV.
Colored buttons	<ul style="list-style-type: none"> <li>• Red – go to Live Media.</li> <li>• Green – go to Media Library.</li> <li>• Yellow – displays a list of scheduled streams.</li> <li>• Blue – Bookmark a stream.</li> </ul>
Left/Right Arrows	Use lower row of left arrow, pause, and right arrow buttons (under colored buttons): <ul style="list-style-type: none"> <li>• Left arrow – playlist previous.</li> <li>• Pause – pause current stream.</li> <li>• Right arrow – playlist next.</li> </ul>
Stop button	Stop stored stream.
Red button	Record live stream.
Info	Info for selected stream (tags, keywords, etc.).
Titles	Not used.
Exit	Exit full screen.
Menu	Display channel guide menu.
Video playback controls (in circle)	<ul style="list-style-type: none"> <li>• Volume controls: + and – buttons on left: volume up or down.</li> <li>• Channel controls: + and – buttons on right: scroll up or down one stream at a time.</li> <li>• Unmarked buttons top and bottom: scroll up or down one stream at a time.</li> </ul>
OK	Plays selected stream in preview window.
Mute	Not used (use volume controls on TV).
P<P	Go to full screen.
Back	Go to previous screen.
Guide	Not used.
Number keys	Use with Search function.
Guide	Not used.
AV   PVR	Not used.
Pg Up   Pg Down	Page up or down through available streams.
PIP	Not used.



† Any buttons not defined in the table are not functional.



## Local Channel Mode

**Table 6.** Remote Control Buttons – Local Channel Guide †

Button	Function
Power	STB power or TV power.
STB   DVD   TV	Press STB for normal operation. Use TV to communicate with TV.
Colored buttons	Use blue button to display IP/DHCP information.
Video playback controls	Use arrow keys to start, stop, pause, fast forward, rewind, etc.
Info   Titles	Not used.
Exit   Menu	Not used.
STB/TV/DVD controls	Not used.
Volume controls	Control TV volume.
Channel controls	Control TV channel.
OK	Press to go fullscreen when playing a channel in the preview window.
Mute	Not used (use volume controls on TV).
Back   Guide	Not used.
Number keys	Not used.
Guide	Display program guide.
AV   PVR	Not used.
Page Up   Down	Page up or down through available streams.
PIP	Not used.



† Any buttons not defined in the table are not functional.

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## Configuring an AmiNET130 not Purchased from VBrick

### *Topics in this section*

Configuring an AmiNET130 not Purchased from VBrick .....21

### Configuring an AmiNET130 not Purchased from VBrick

You can purchase an AmiNET130 set top box from VBrick, from Amino, or from other sources. A "standalone" AmiNET130, as defined here, is any AmiNET130 that was not purchased from VBrick. A standalone set top box is fully functional and can be used in a VBrick environment to play H.264 streams but it will not have a VBrick splash page with a channel guide or any user-friendly interface. Also be aware that upgrades are valid only for set top boxes purchased from VBrick. If you did not purchase your set top box from VBrick, do not attempt an upgrade.

This section explains how to configure and use a standalone set top box in an environment with other VBrick devices. **The hardware setup and initial configuration process is the same for VBrick STBs and standalone STBs.** You will still need to set up the box and configure an IP address (see [Step 1. Connecting the AmiNET130](#) on page 2 and [Step 2. Configuring the AmiNET130](#) on page 2). The Start Mode configuration, however as explained here, is a little different. You can still configure a channel guide but the steps are different and there will be no user-friendly interface for the channel guide.

### *Configuring a non-VBrick Channel Guide*

As explained above a standalone set top box will not have a VBrick splash page with a channel guide or any user-friendly interface. A standalone "channel guide" will display the "Opera" page from which you can select channels using the remote control. There are no numbers or descriptive information about the channels and no other customization is possible. *You must know in advance which channel numbers are configured.*

- ▼ To create a standalone channel guide:
  1. Open the **STB Management** page. (see [Displaying the STB Management Page](#) on page 4.)
  2. Go to **Channels** and select a range of channel numbers, for example **0 to 99**.
  3. On the **Channels 0 t 99** page, enter multicast, or unicast, or RTSP URLs in the following formats:

Multicast	<code>igmp://239.33.22.11:4444</code>
Unicast	<code>udp://0.0.0.0:4444</code> (opens port 4444 for video from any source)
RTSP	<code>rtsp://ip_address_of_vodw/vod_asset_name</code>

4. Repeat for each channel. When done, enter a password and click **Save Changes** (a reboot is not required).

- 
5. When you exit the management pages the Amino will display a black page showing the defined channels. Use the remote control to select and play a stream.

## Frequently Used Options

### *Topics in this section*

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Configuring the Amino for a Widescreen .....	23
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### Configuring the Remote Control for a TV

The Amino handheld remote control is designed to work with the Amino set top box. During normal operation, the "mode" button should be set for **STB**. It can, however, be configured to work with a standard TV. In order for the remote to transmit the correct signals to control the TV, it must be programmed with a 3-digit code that matches the TV. See the "TV Brand Codes" topic in the *AmiNET130 Installation Guide* for details.

### Configuring the Amino for a Widescreen

This procedure explains how to configure an AmiNET130 for H.264 output to a widescreen (16:9) TV. *When done, repeat these steps if necessary for each Amino set top box.*

▼ To configure for a widescreen:

1. Press **Alt+P** on the keyboard to display the **Preferences** page.
2. Go to **Video Settings > TV aspect ratio** and select **Widescreen 16:9**.
3. When done, save your changes and reboot.

### Setting the TV Aspect Ratio

You can change the **TV aspect ratio** from the **Preferences** page. The following tables show the output from normal and widescreen TVs depending on how the **TV aspect ratio** is set. Be sure to reboot after making changes.

**Table 7.** Video Output with a Normal (4:3) TV

TV Aspect Ratio	Video Output
Standard 4:3 (centre cut-out)	Normal (4:3) video plays normally and 16:9 video has the left and right sides cropped off (centre-cutout).
Standard 4:3 (letterbox)	Normal (4:3) video plays normally and 16:9 video has all the picture viewable with black bars on the top and bottom (letterbox).
Widescreen 16:9	Normal (4:3) video plays stretched and 16:9 video displays normally

---

**Table 8.** Video Output with a Widescreen (16:9) TV

TV Aspect Ratio	Video Output
Widescreen 16:9	16:9 video plays normally and 4:3 video has black bars left and right (pillar box). This relies on the TV responding to aspect ratio switching signals on VBI line 23 (PAL only). On TVs that don't respond to this signal, you must set the TV aspect ratio manually to avoid a stretched or squashed picture.

## Upgrading the AmiNET130

---

**Note** The upgrade software is provided on a separate DVD and is not included in the AmiNET130 Product CD. Contact VBrick Support Services for more information about upgrading your set top box. Also be aware that the upgrade is valid only for set top boxes purchased from VBrick. If you did not purchase your set top box from VBrick, do not attempt an upgrade.

---

### *Topics in this section*

Upgrading the AmiNET130 Set Top Box . . . . . 25

## Upgrading the AmiNET130 Set Top Box

The Amino is upgraded by instructing the device(s) to listen to the Upgrade Server which will be broadcasting the upgrade image at a multicast address.

- 
- Notes**
- It is a copyright violation to use proprietary VBrick software on set top boxes not purchased from VBrick.
  - Before upgrading any set top boxes, be sure to remove all non-VBrick purchased set top boxes from the network.
  - Multicast must be enabled on the network.
  - The VMWare Player and the AmiNET130 Set Top Box(es) must be on the same subnet.
- 

- ▼ To upgrade all Amino STBs on the network:
1. Put the DVD in a computer that's on the same network as the Aminos to be upgraded.
  2. Install VMWare Player from the VBrick DVD.
  3. Copy the entire folder and its contents [AminoUpgradeServer](#) from the DVD to the local computer's hard drive. This will require roughly 4GB of space.
  4. Open the VMWare Player and boot up the AminoUpgradeServer by opening the [Ubuntu.vmx](#) file found in the AminoUpgradeServer that was previously copied to the hard drive.
  5. **IMPORTANT:** It is imperative that the Date/Time on the Amino matches the Date/Time on the AminoUpgradeServer. If the times are not accurate, the Amino is designed to ignore all commands sent to it remotely. The AminoUpgradeServer is automatically synced with an internet time server with the time zone set to **America/New York**. The Amino has a field in the Administrator's Network Configuration page for a "Time Server". If this is set, then all Amino times should be automatically synced with the local network's time. If that is the case, it is likely only necessary to adjust the time zone on the AminoUpgradeServer. Do this by clicking on **Applications > System > Time and Date**. In the dialog, click **Unlock** and enter the password [vbrick](#) and click **Authenticate**. To change

---

the time zone, click **America/New York** at the top and chose the correct time zone to match your network. Close the dialog when complete.

6. Open a terminal window by clicking on the Terminal Icon on the VMware desktop.
7. To verify that the times are in fact matching, we'll test a simple command to one particular Amino device (any device on the network). Type `STBremoteconf <amino ip address> GETVERSION` at the terminal and press Enter. You will be prompted for a passphrase. Type `stbrckey` and press Enter again. Your response should look like this:

```
Connected
0.15.2-A130-opera-gogi-cc-VBrick-1.0.2 or 1.1.3
```

Note that your version number may be different. If the response just says **Got back:** with no version number, the times are not synced properly. Go back and reconfigure them.

8. The upgrade is started by instructing the device(s) to begin listening for the upgrade at a known multicast IP/Port. This can be done by sending the command to an individual Amino device via unicast or by sending the command to all Amino's on the network via the default listening multicast address of 225.10.10.10. **If the multicast address is used, be aware that all Amino devices on the multicast network will be upgraded.** If this is not desired, enter the individual IP address of the Amino device and run the command once for each device. Perform the upgrade by typing the following command at the terminal:

```
STBremoteconf <225.10.10.10 or amino_IP_address> UPGRADEMCAST 225.50.50.63 11111
```

At the prompt: `This command will affect every box listening on this network. Are you sure?`, type **YES** in upper case. When prompted for a passphrase, type `stbrckey` and press Enter again. The terminal will display the prompt again but the upgrade is happening in the background. You can verify this by checking the display on the Amino devices. It should say **Upgrading. Do not Reboot.** After several minutes the devices will reboot and the upgrade will be complete.

9. After the upgrade is complete, verify by again typing:

```
STBremoteconf <amino_ip_address> GETVERSION
```

The version response should now be:

```
0.16.1-A130-opera-gogi-VBrick-1.2.3
```







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