TiVo Onsite Installation Guide

for MSOs

v9.0

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Preparing for Onsite Installation

<div style="text-align: right">**1**</div>

The *TiVo Onsite Installation Guide for MSOs* is designed to ensure that the MSO's field installer (you) has sufficient knowledge of TiVo products to install and test the products, as well as to instruct subscribers about basic product use.

CableCo is the generic name used to represent any domestic Multi-System Operator (MSO).

The following chapters are included in this document:

- Chapter 1, *Preparing for Onsite Installation*—Explains the requirements for onsite installation and the tasks you need to perform before leaving the MSO's site.
- Chapter 2, *Warehouse Configured Headend Installation*—Provides instructions for performing a warehouse configured headend installation.
- Chapter 3, *Installer Configured Headend Installation*—Provides instructions for performing an installer configured headend installation.
- Chapter 4, *Additional Devices Installation*—Provides instructions for installing additional devices.
- Chapter 5, *Subscriber Education*—Provides tips and guidelines for showing subscribers how to use their installed TiVo equipment.
- Chapter 6, *Troubleshooting*—Provides guidance for resolving problems that might arise during installation or activation.
- Appendix A, *Ports and Connections for TiVo Devices*—Shows the back panels of the TiVo devices mentioned in the guide.

This preparation chapter explains what you need to know and do before going to the subscriber's site for onsite installation. The following topics are included:

- *Audience for this document* on page 7
- *Planning the installation* on page 8
- *Requirements* on page 9
- *Gathering the devices, accessories, and tools* on page 11
- *Pairing the CableCARD (if applicable)* on page 12
- *Additional information* on page 12

Audience for this document

The *TiVo Onsite Installation Guide for MSOs* is designed for MSO installers, those doing provisioning as well as field installers.

Planning the installation

Before you install a system at the subscriber's site, it's important that you understand the MSO's requirements and the subscriber's environment so you can plan the installation efficiently.

- The time required for installing the TiVo features is controlled by TiVo.
- The time required to implement other items depends on subscriber and MSO requirements and agreements.

Reviewing the MSO's requirements

An MSO typically has different tools, systems, processes, and business mandates that might change some of the steps or tasks in this guide. Be sure that you understand these specifics before leaving the MSO's site.

- Deployment scenario—The MSO's deployment scenario will determine what tasks you will be performing for the particular subscriber.
- Leave-behind material—In many cases, the MSO has specific information that they want you to deliver, including leave-behind material, such as the Start Here installation poster, a sheet describing new features, email registration form, and so on. Consult with the appropriate MSO groups to find out about these requirements.

Reviewing the subscriber's environment

The MSO provides you with a copy of the subscriber's order, which includes a list of the applications supported for the subscriber.

Before going to the subscriber's site, review the subscriber's order carefully and make sure you understand the subscriber's needs. Keep the following in mind:

- Is this a new or established subscriber?
- If established, what's already installed?
- Does this installation include MoCA?
- What sort of subscriber education will be needed?

Finding out what type of installation you will do

Check with your MSO to determine how much installation setup can be done at the MSO's warehouse, or if they prefer that the entire process be performed at the subscriber's site. Depending on the MSO's preference, much of the device setup might have already been done before you go to the subscriber's site.

There are two types of onsite installation: Warehouse Configured Headend or Installer Configured Headend.

Warehouse Configured Headend installation

For the Warehouse Configured Headend installation, the TiVo device has already been configured for the subscriber's *specific* headend and the Program Guide Data (PGD) has been indexed during the warehouse staging process. You will need to set the service state and perform some setup tasks, but you won't need to perform Guided Setup.

Because most of the DVR setup has been completed in the warehouse, this installation takes less time onsite than the Installer Configured Headend installation.

For instructions, see Chapter 2, *Warehouse Configured Headend Installation*.

Installer Configured Headend installation

For the Installer Configured Headend installation, device configuration for the subscriber's *specific* headend has *not* been done during warehouse staging. The additional steps that you perform will configure the device to the subscriber's correct channel lineup based on their subscription.

An Installer Configured Headend installation requires a briefer warehouse staging time, but a longer time at the subscriber's site.

Tip: TiVo recommends that you run the setup procedure for TiVo DVRs before leaving the MSO's site. Doing this will save you time after you arrive at the subscriber's site. However, this is ultimately the MSO's decision.

For instructions, see Chapter 3, *Installer Configured Headend Installation*.

Subscriber education

After the installation has been performed successfully, it's important to ensure that the subscribers are comfortable with their new TiVo equipment. For guidelines and tips to help educate subscribers, see Chapter 5, *Subscriber Education on page 47*.

Requirements

The requirements in this section are specific to TiVo devices.

Note: The MSO might have additional requirements for installation, so be sure to check for these before you leave the MSO's site.

Basic installation requirements

The following requirements apply to a simple, out-of-the-box installation. For more detailed information about installing several devices and networking them together using Multimedia over Coax Alliance (MoCA), refer to *MoCA requirements*.

The following elements are required to install TiVo devices:

- Connection to a local network via MoCA, Ethernet, or a WiFi adapter, if supported

  Note: A wireless network connection is only supported for a stand-alone TiVo DVR. A Whole Home solution does not support a wireless network connection.

- Broadband Internet (cable signal not required)
- Coaxial cable (connection to the headend) or antenna video source

Network requirements

- TiVo power adapter or cord
- TiVo remote control
- Cables for connecting a TiVo device to a TV (preferably HDMI)

Find out what type of network the subscriber has: Ethernet, MoCA, coaxial, or wireless.

MoCA requirements

Be sure to check the MSO's MoCA deployment scenario to determine the material and steps that will be needed.

Note: If you plan to use a wireless network connection, Ethernet or MoCA are the only networking options supported for Whole Home solutions.

For general information about MoCA, see What Is MoCA? on the TiVo Support website. For detailed information about setting up a MoCA network using an existing coaxial network, see the instructions in Option 2: MoCA connection in Connect your TiVo box to your home network on the TiVo Support website.

The following additional network hardware might be required to complete the MoCA installation:

- MoCA network adapter (also called an Ethernet to Coax Bridge, or ECB)

  Most TiVo devices are MoCA-enabled and can connect to a MoCA network. However, there must be something that acts as the single bridge between an Ethernet network and a MoCA network (needs to be accomplished once). This can be accomplished by either installing a MoCA router or by using a MoCA network adapter (ECB). The ECB bridges the connection between an Ethernet network and a MoCA network, so you can access high-speed Internet in every cable-ready room in the house. If an ECB is necessary, it should be connected to the router. An external ECB can be used, or the built-in ECB on certain supported TiVo DVRs can be used.

  Table 1–1 indicates which devices are MoCA-enabled and which have a built-in ECB.

Table 1–1: MoCA-enabled TiVo devices

TiVo device	MoCA-enabled	Built-in ECB
TiVo T6 DVR	Yes	Yes
TiVo Roamio DVR	No	No
TiVo-Pace MG1 DVR	Yes	Yes
TiVo Premiere Q DVR	Yes	Yes
TiVo Preview	Yes	No
TiVo-Evolution IP Hybrid set-top box	Yes	No
TiVo Mini	Yes	No
TiVo-Pace Mi3	Yes	No

- Point of Entry (POE) filter

  A MoCA POE filter keeps the MoCA signals concentrated in the home and might improve the MoCA home network performance. Install it at the cable point of entry to the house to keep the MoCA signals from leaking out of the home's interconnected coaxial infrastructure. This provides security by preventing neighbors from joining the MoCA network.

- Coaxial splitter

  A coaxial splitter directs one coaxial input to two or more outputs. When you go to the subscriber's site, it's good practice to bring a variety of splitters (for example, splitters that provide 2-, 3-, 4-, and 5-way outputs).

Gathering the devices, accessories, and tools

Be sure that you have everything that is specified on the MSO's order for the subscriber before going to the subscriber's site.

Devices

Onsite installation applies to one or more of the following devices:

- TiVo DVRs—TiVo T6 DVR, TiVo Roamio DVR, TiVo-Pace MG1 DVR, and TiVo Premiere Q DVRs
- TiVo Preview
- TiVo-Evolution IP Hybrid set-top box
- TiVo Mini
- TiVo-Pace Mi3
- TiVo Stream

Accessories

- TiVo DVR model-specific power adapter or cord
- TiVo remote control
- Batteries (should be included with remote control)
- TiVo DVR model-specific cables, including:
    - 6 ft. HDMI cable
    - 6 ft. AC power cord
    - 6 ft. composite (audio/video) cable
    - 6.5 ft. Ethernet cable

Standard tools and materials

Be sure that your standard tool set is fully stocked. Also, ensure that the contents of your standard installation kit have been restocked since the last installation.

Pairing the CableCARD (if applicable)

Typically, pairing the CableCARD takes place at the MSO's warehouse. If this hasn't been done, follow these instructions:

1. Connect the TiVo device to a TV by using any video connection type (HDMI, component, or composite), and then switch the input on the TV.

2. Connect the TiVo device to the Internet via a wireless network (fast) or directly to the router/hub via the supplied Ethernet cable (faster).

3. Plug the TiVo device into the power source.

    TiVo Central appears.

4. From TiVo Central, choose **Settings & Messages** > **Settings > Remote, CableCARD, & Devices** > **CableCARD Decoder** > **CableCARD options (for Installers)**.

    Follow the on-screen instructions.

Additional information

- If you have any difficulties during installation, see Chapter 6, *Troubleshooting.*
- Additional help can be found in the articles on the TiVo Support website: http://support.tivo.com/.
- For detailed information about the staging process, refer to the *TiVo Warehouse Staging Guide for MSOs*.
- To learn about the TiVo devices and products, see the *TiVo Product Support Handbook*.

Warehouse Configured Headend Installation

<div style="text-align: right;">**2**</div>

When you perform the Warehouse Configured Headend installation at the subscriber's site, the TiVo DVR has already been configured for the subscriber's *specific* headend and the Program Guide Data (PGD) has been indexed during the staging process. You won't need to run Guided Setup manually.

The basic tasks include installing the TiVo DVRs, and then installing any additional devices, such as TiVo Preview, TiVo Mini, TiVo-Pace Mi3, or TiVo Stream. See Chapter 4, *Additional Devices Installation on page 41*.

This chapter covers the following topics:

Before you begin

Make sure that you have reviewed the material and met the requirements presented in *Preparing for Onsite Installation* on page 7.

Step 1. Activate all TiVo devices

TiVo device activation might have already been performed at the warehouse. For information about finding out if a device has been activated, see *"Please activate service" message* on page 63.

If a device has not been activated, use the procedures provided by the MSO. Activate all the TiVo devices that will be installed at the subscriber's site.

After activating the TiVo devices, the amount of time it takes for the devices to call in and receive authorization updates, such as the TiVo Service Account Status, varies according to MSO requirements.

Note: Activation might take up to 1 minute plus any internal MSO delays.

Step 2. Perform Home Certification

1. Verify the coaxial connection to the MSO headend.

2. Ensure that a network connection to the Internet access exists.

3. Ensure that there is a means to connect a TiVo device to the local network.
   - Check the router.
   - Verify that each TiVo device has its own IP address.

Step 3. Install TiVo devices (DVRs or set-top boxes)

The procedure for installing TiVo set-top boxes is almost identical to the TiVo DVR installation procedure—any differences between the two device installation procedures are noted.

Note: A wireless network connection is only supported for a stand-alone TiVo DVR. A Whole Home solution does not support a wireless network connection.

If you're planning to also install non-DVR devices (TiVo Preview, TiVo Mini, TiVo-Pace Mi3, or TiVo Stream), you must install the DVRs first, and then install the non-DVR devices. For instructions on installing non-DVR devices, see Chapter 4, *Additional Devices Installation on page 41*.

1. Verify that all the devices are activated.

2. Connect the coaxial cable to the Cable input on the TiVo device.

   Note: Some TiVo devices have a connection that is labeled **Antenna** or **To TV**. Make sure the coaxial cable is *not* connected to the **Antenna** or **To TV** connection.

3. Connect audio and video to the TV.

4. Connect to the local network that has Internet access.

   Some TiVo DVRs/STBs have built-in MoCA support. For more information about MoCA, see *MoCA requirements* on page 10.

   a. If you plan to connect to a MoCA network, the coaxial cable connection also serves as the network connection.
   b. If you plan to use a supported TiVo DVR as the Ethernet-to-MoCA Bridge (in Bridge mode), connect both the coaxial cable and Ethernet cable to the TiVo device.

5. Connect the TiVo device to the power source by first connecting the power adapter cable into the device power connector, and then connecting the power adapter to the power source.

   Note: The TiVo device takes approximately five minutes to start.

Step 4. Update the TiVo device service state and authorizations

The Test Internet Connection procedure described in this section does not download the full PGD or software. For this reason, the procedure is briefer than a full TiVo Service call.

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Network** > **View network diagnostics** > **Test Internet connection**.

   A successful Test Internet Connection performs the following operations:

   * Confirms that the connection to the Internet and the TiVo Service is correct.
   * Sets the service state from 22 (Grace period) to 3 (Account in good standing).
   * Assigns the MAK.
   * Assigns the Sharing group and Sharing certificate.
   * If Multi-Room Streaming is enabled by default, the Multi-Room Streaming flag is enabled.
   * If Live TV Streaming is enabled by default, the Live TV Streaming flag is enabled.

   Note: Multi-Room Streaming and Live TV Streaming are enabled by the MSO and are not settings you can control.

2. When this test is complete (about three minutes), press **Select** to continue.

3. Ensure that the MAK has been assigned.

   From TiVo Central, choose **Settings & Messages** > **Account and System Information** > **Media Access Key** (Figure 2–1).

Figure 2–1: Media Access Key screen

4. If there is no MAK assigned, wait a few minutes and issue another **Test Internet Connection**.

After activating the TiVo devices, the amount of time it takes for the devices to call in and receive authorization updates, such as the TiVo Service Account Status and MAK, varies according to MSO requirements.

Step 5. (Optional) Assign a name to the TiVo device

TiVo recommends that you assign a name to the TiVo device because it will be easier to identify in a Whole Home solution. If you choose not to assign a name, the default name is *Living Room*.

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Remote, CableCARD, & Devices** > **Name this DVR**.

2. Choose a name from the list of default names, or choose **Enter your own name** to create a name the subscriber wants.

3. If you choose **Enter your own name**, type in the name the subscriber wants and press **Done entering name**.

Step 6. Confirm the MSO branding

Confirm that the MSO's logo appears in TiVo Central (Figure 2–2).
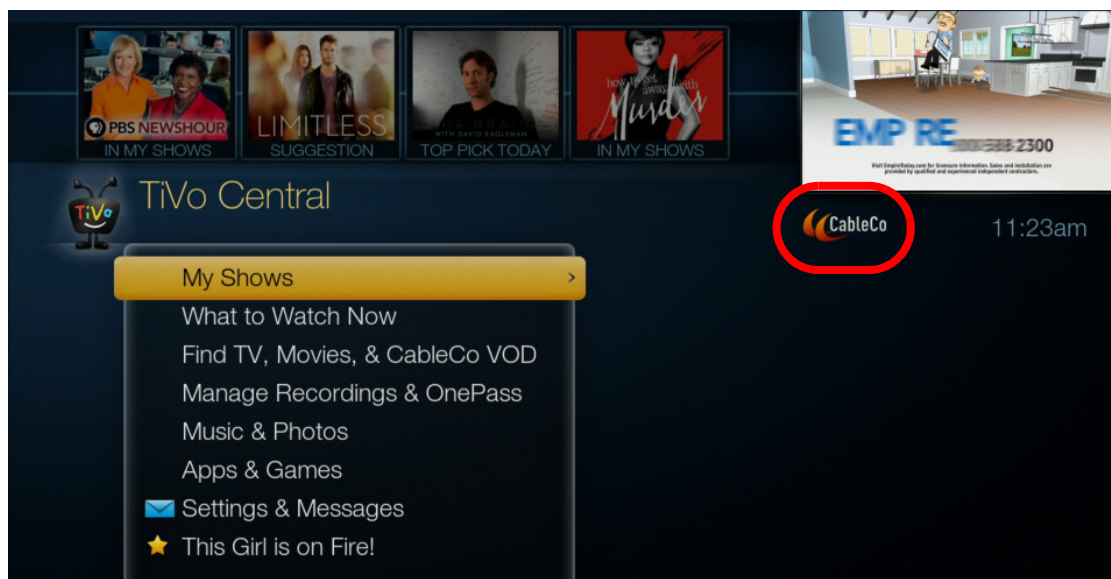
Figure 2–2: TiVo Central with MSO branding

If the branding is incorrect, contact your escalation team who can then contact TiVo.

Step 7. Enable PPV channels for DVRs or TiVo Preview

Note: This step may not be necessary if the MSO has configured either PPV or premium channels to be checked by default.

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Channels** > **Channel List** (Figure 2–3).

Figure 2–3: Channel List screen

2. On the Channel List screen, enter the channel number for a Pay Per View (PPV) channel or scroll to see the list of PPV channels.

3. Choose the PPV channels that the subscriber wants to see in the Guide.

4. Press the right arrow to highlight **Done**, and then press **Select**.

Step 8. Verify that the correct applications are listed

Verify that the correct applications are installed by comparing the installed product at the subscriber's site with the list of supported applications that the MSO provided to you.

From TiVo Central, the installed applications are listed under **Apps & Games**.

Step 9. Force a connection to the TiVo Service

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Network** > **Connect to the TiVo Service now**.

   If the device has less than 1 day of PGD, forcing a connection should get 1 - 3 days of PGD. Another service call is scheduled about 30 minutes later to download the full 12 – 14 days of PGD in the background.

2. To do other things while the process works in the background, press the **TiVo** button.

   TiVo Central appears.

Step 10. Set up the remote control

To set up the remote control, you need to pair it to the TiVo DVR, and then find a TV manufacturer remote code to pair with the TV.

To pair the standard TiVo remote control to enable RF transmission

The TiVo DVR ships with an MSO-branded remote control. The TiVo Series 5 remote control is the current standard TiVo remote control.

The standard TiVo remote control must be paired to a TiVo device to enable radio frequency (RF) transmission. For most installations, the TiVo remote control and the TiVo device automatically pair with each other. This is the case when you have a brand new or newly warehouse-staged TiVo DVR and a new remote control. Successful pairing is indicated when the remote control activity indicator flashes amber (versus red) with each button press. If the remote control has been automatically paired, skip to *To find the remote code for a specific TV manufacturer* on page 19.

Note: A TiVo remote control can be paired *only* to one DVR at a time.

Note: RF transmission is only supported on the TiVo T6 DVR, TiVo Roamio DVR, TiVo-Pace MG1 DVR, TiVo Mini, and TiVo-Pace Mi3.

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Remote, CableCARD, & Devices** > **Remote Control Setup**.

2. On the Remote Control Setup screen, choose **Part 5: Remote control pairing** (Figure 2–6), and then press **Select**.

Figure 2–4: Remote Control Setup screen

3. While you are within 3 feet of the TiVo device, press and hold the **TiVo+Back** buttons until the activity indicator lights (Figure 2–5).
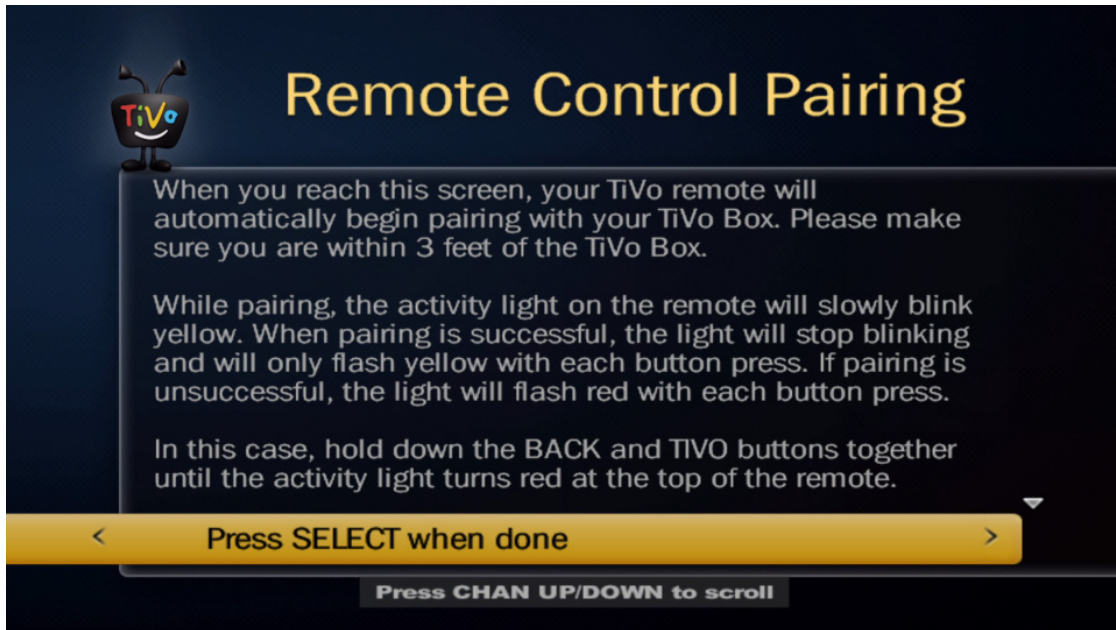
Figure 2–5: Remote Control Pairing screen

4. When done, press **Select**.

To find the remote code for a specific TV manufacturer

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Remote, CableCARD, & Devices** > **Remote Control Setup**.

2. On the Remote Control Setup screen, choose **Part 1: TV power, volume, and mute** (Figure 2–6), and then press **Select**.

Figure 2–6: Remote Control Setup screen

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3. On the Television Brand screen, use the **Channel Down** and **Channel Up** buttons on the remote control to scroll through the TV brand list and locate the manufacturer of the TV, and then press **Select** (Figure 2–7).
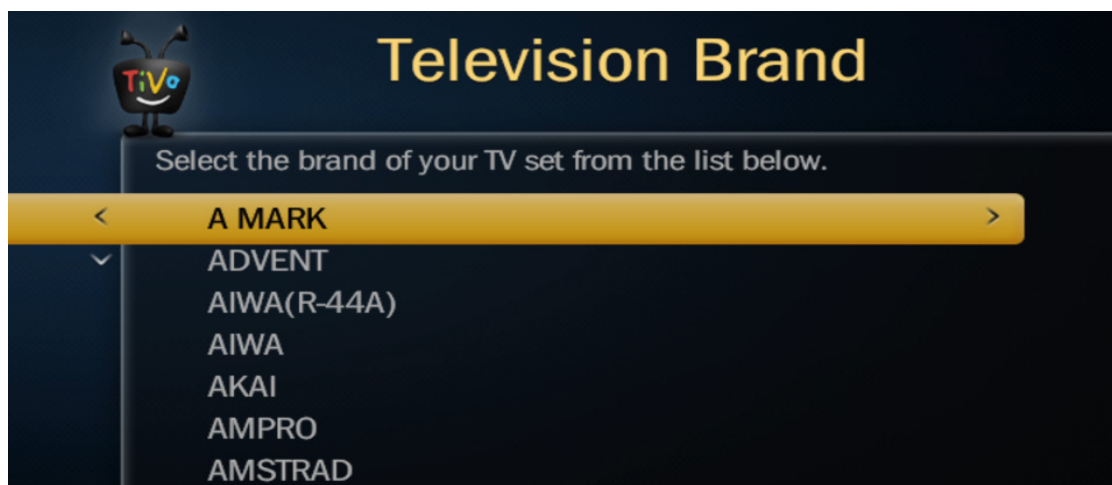
Figure 2–7: Television Brand screen

The TV Remote Codes screen appears (Figure 2–8).

Figure 2–8: TV Remote Codes screen

4. Press and hold the **TiVo+TV Pwr** buttons until the red (or amber) LED at the top of the remote control remains on.

5. Enter the first of the four-digit remote control codes that are displayed at the top of the TV Remote Codes screen.

6. Press the **TV Pwr** button on the remote control.

7. If the TV doesn't power up, repeat Steps 4, 5, and 6 to enter the next TV remote code until you find the one that works.

Note: If you aren't able to find a TV manufacturer remote code to pair with the TV, see the next section, *To run a universal remote code search*.

8. When done, press **Select**.

To run a universal remote code search

You might not find a TV manufacturer remote code to pair with the TV. In this case, perform the following steps:

1. Cover the end of the TiVo remote control with your hand.

2. Hold down the **TiVo** and **TV Pwr** buttons simultaneously until the red (or amber) LED at the top of the TiVo remote control remains on.

3. Remove your hand from the end of the TiVo remote control.

4. Enter code **0999**.

   After you enter the code, the red (or amber) light flashes three times and then remains on.

5. Press **Channel Up** once every two seconds.

   Doing this tests hundreds of TV remote codes, one by one.

   Note: Do not go any faster than this or you might skip over a remote code that works.

6. If you press **Channel Up** and the TV turns off, press **Enter** to select the code.

7. To test the code, press the **TV Pwr** button.

   If the TV turns on, you have successfully set up the remote control.

If you cycle through all the codes, the red LED will go off, indicating that you have tried all the codes. If this happens, or if you selected a code, but the TV does not respond to the test, try again to make sure you didn't skip over a working remote code by going too fast.

Where to go next

If you need to install additional TiVo devices, proceed to *Additional Devices Installation* on page 41.

If you don't need to install any additional devices, the Warehouse Configured Headend installation is done. Proceed to *Subscriber Education* on page 47.

Installer Configured Headend Installation

In the Installer Configured Headend installation, the TiVo DVR has been staged to a *default* headend that is not necessarily the actual headend where the TiVo DVR will be installed. The Program Guide Data (PGD) has *not* been loaded.

You will run Installer Express Setup to configure the TiVo DVR to the subscriber's correct channel lineup, download the PGD, and set up the remote control. Instructions for installing any additional devices, such as TiVo Preview, TiVo Mini, TiVo-Pace Mi3, or TiVo Stream are contained in *Chapter 4, Additional Devices Installation on page 41*.

This chapter covers the following topics:

Before you begin

Make sure that you have reviewed the material and met the requirements presented in *Preparing for Onsite Installation* on page 7.

Step 1. Activate all TiVo devices

TiVo device activation might have already been performed at the warehouse. For information about finding out if a device has been activated, see *"Please activate service" message* on page 63.

If a device has not been activated, use the procedures provided by the MSO. Activate all the TiVo devices that will be installed at the subscriber's site.

After activating the TiVo devices, the amount of time it takes for the devices to call in and receive authorization updates, such as the TiVo Service Account Status, varies according to MSO requirements.

Note: Activation might take up to 1 minute plus any internal MSO delays.

Step 2. Perform Home Certification

1. Verify the coaxial connection to the MSO headend.

2. Ensure that a network connection to the Internet access exists.

3. Ensure that there is a means to connect a TiVo device to the local network.
   - Check the router.
   - Verify that each TiVo device has its own IP address.

Step 3. Install TiVo devices (DVRs or set-top boxes)

The procedure for installing TiVo set-top boxes is almost identical to the TiVo DVR installation procedure—any differences between the two device installation procedures are noted.

Note: A wireless network connection is only supported for a stand-alone TiVo DVR. A Whole Home solution does not support a wireless network connection.

If you're planning to also install non-DVR devices (TiVo Preview, TiVo Mini, TiVo-Pace Mi3, or TiVo Stream), you must install the DVRs first, and then install the non-DVR devices. For instructions on installing non-DVR devices, see Chapter 4, *Additional Devices Installation on page 41*.

1. Verify that all the devices are activated.

2. Connect the coaxial cable to the Cable input on the TiVo device.

   Note: Some TiVo devices have a connection that is labeled **Antenna** or **To TV**. Make sure the coaxial cable is *not* connected to the **Antenna** or **To TV** connection.

3. Connect audio and video to the TV.

4. Connect to the local network that has Internet access.

Some TiVo DVRs/STBs have built-in MoCA support. For more information about MoCA, see *MoCA requirements* on page 10.

a. If you plan to connect to a MoCA network, the coaxial cable connection also serves as the network connection.

b. If you plan to use a supported TiVo DVR as the Ethernet-to-MoCA Bridge (in Bridge mode), connect both the coaxial cable and Ethernet cable to the TiVo device.

5. Connect the TiVo device to the power source by first connecting the power adapter cable into the device power connector, and then connecting the power adapter to the power source.

Note: The TiVo device takes approximately five minutes to start.

Step 4. Update the TiVo device service state and authorizations

The Test Internet Connection procedure described in this section does not download the PGD or software. This happens during Installer Express Setup in *Step 5. Initiate Installer Express Setup* on page 26.

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Network** > **View network diagnostics** > **Test Internet connection**.

A successful Test Internet Connection performs the following operations:

- Confirms that the connection to the Internet and the TiVo Service is correct.
- Sets the service state from 22 (Grace period) to 3 (Account in good standing).
- Assigns the MAK.
- Assigns the Sharing group and Sharing certificate.
- If Multi-Room Streaming is enabled by default, the Multi-Room Streaming flag is enabled.
- If Live TV Streaming is enabled by default, the Live TV Streaming flag is enabled.

Note: Multi-Room Streaming and Live TV Streaming are enabled by the MSO and are not settings you can control.

2. When this test is complete (about three minutes), press **Select** to continue.

3. Ensure that the MAK has been assigned.

From TiVo Central, choose **Settings & Messages** > **Account and System Information** > **Media Access Key** (Figure 3–1).

Figure 3–1: Media Access Key screen

4. If there is no MAK assigned, wait a few minutes and issue another **Test Internet Connection**.

After activating the TiVo devices, the amount of time it takes for the devices to call in and receive authorization updates, such as the TiVo Service Account Status and MAK, varies according to MSO requirements.

Step 5. Initiate Installer Express Setup

In this procedure, be sure you don't accidentally start Guided Setup, which takes significantly longer than Installer Express Setup. Follow the instructions carefully.

1. From TiVo Central, choose **Settings & Messages** > **Help** > **Restart or Reset** > **Restart or Reset** > **Repeat Guided Setup**.

2. On the remote control for this TiVo device, press **Thumbs Down** three times, and then press **Enter** (Figure 3–2).
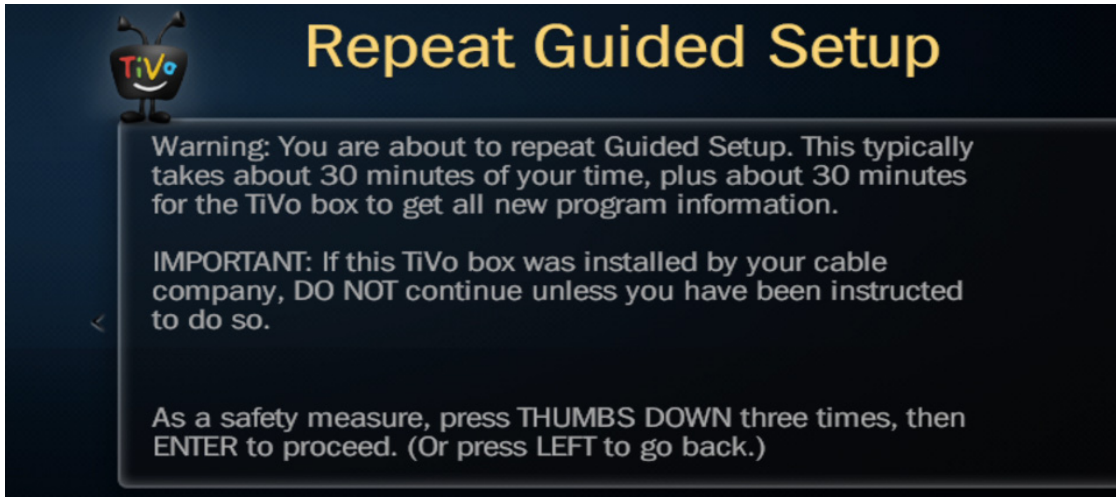
Figure 3–2: Repeat Guided Setup screen

3. From the Welcome screen, choose the country (Figure 3–3).

Figure 3–3: Welcome screen: United States option

Caution: In the following step, it is very important that you press the **Enter** button. *Do not* press the **Select** button—doing so will start Guided Setup which could result in a significantly longer installation time.

4. With the Getting Started screen (Figure 3–4) in view, press the **Enter** button in the lower right-hand corner of the TiVo remote control.
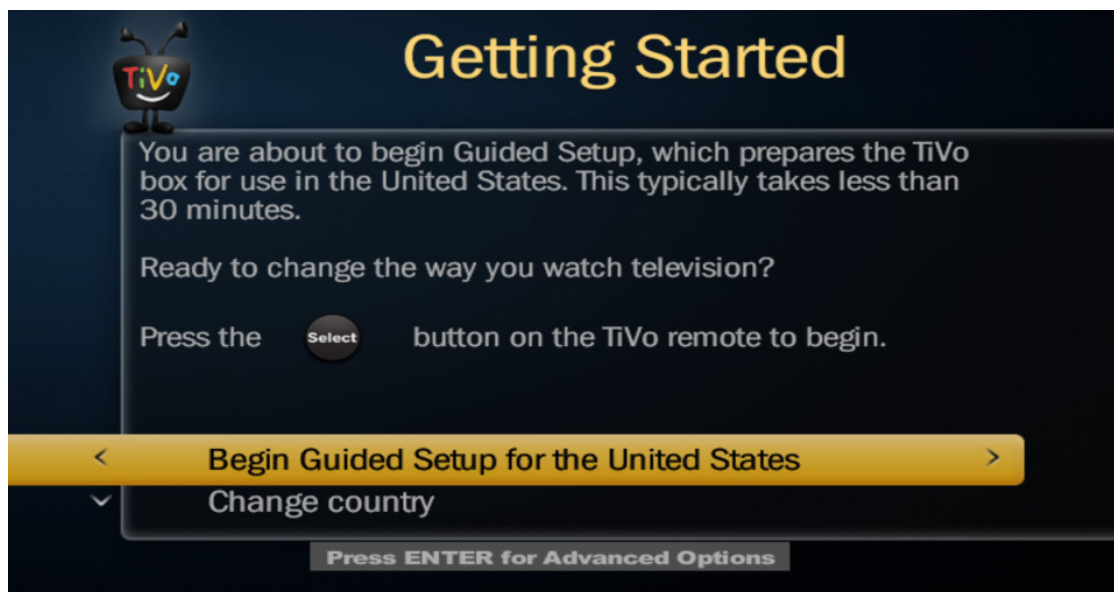
Figure 3–4: Begin Guided Setup for the United States option

The Getting Started screen now includes the **Installer Express Setup** option.

5.   Select **Installer Express Setup** (Figure 3–5).
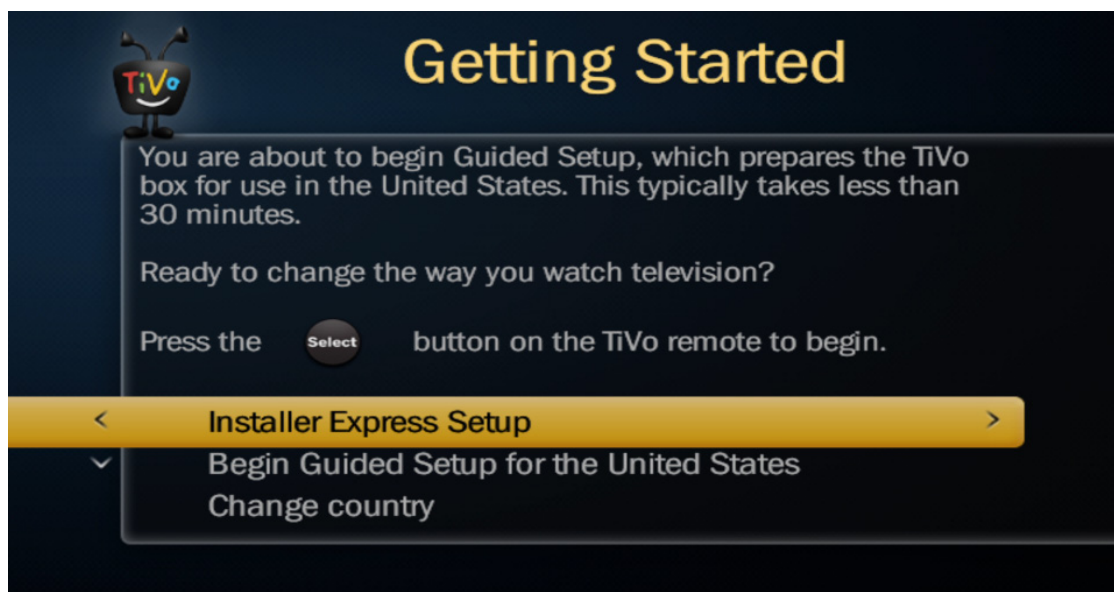
Figure 3–5: Installer Express Setup option

6.   On the Enter ZIP Code screen, enter the subscriber's ZIP code (or Postal code), and then press **Select** (Figure 3–6).
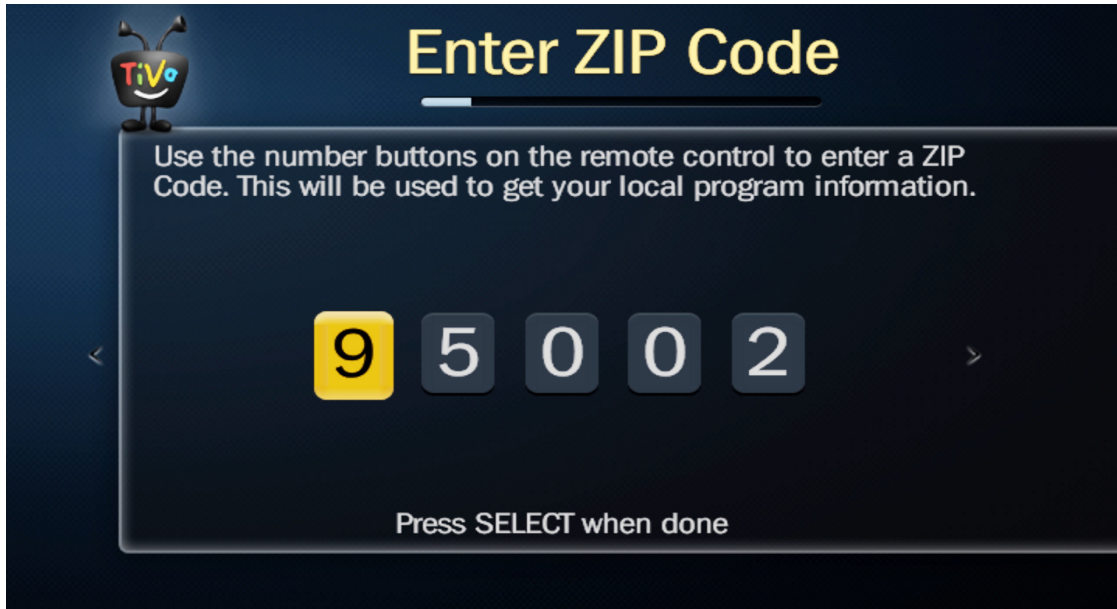
Figure 3–6: Enter ZIP Code screen

Step 6. Set up the home network

After you specify the ZIP code, the Choose Network Hookup screen appears (Figure 3–7).
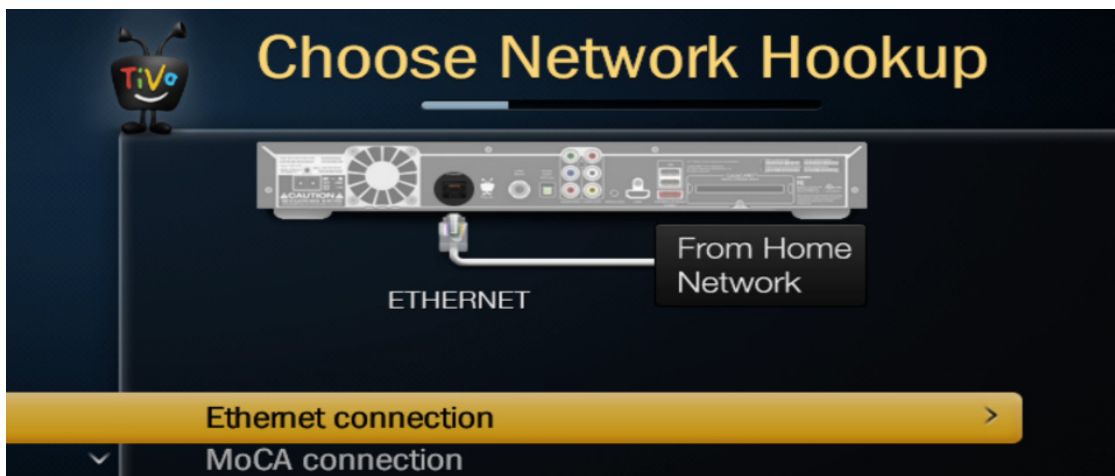
Figure 3–7: Choose Network Hookup screen

TiVo devices need a high-speed Internet connection to receive program listings, TiVo Service updates, and VOD content. The type of network connection you choose depends on what the subscribers want to do with their TiVo devices, and whether it's possible to connect an Ethernet cable to their TiVo devices.

Step 6. Set up the home network

You must use a wired connection— either **Ethernet connection** or **MoCA connection**.

1. From the Choose Network Hookup screen, choose the appropriate network connection for the subscriber's home network, and then press **Select**.

2. Follow the on-screen instructions until the Network Setup Complete screen appears (Figure 3–8).

Figure 3–8: Network Setup Complete screen

3. Press **Select**.

   The Getting Setup Info screen appears (Figure 3–9) and the TiVo DVR proceeds to retrieve its headend information from the TiVo Service.
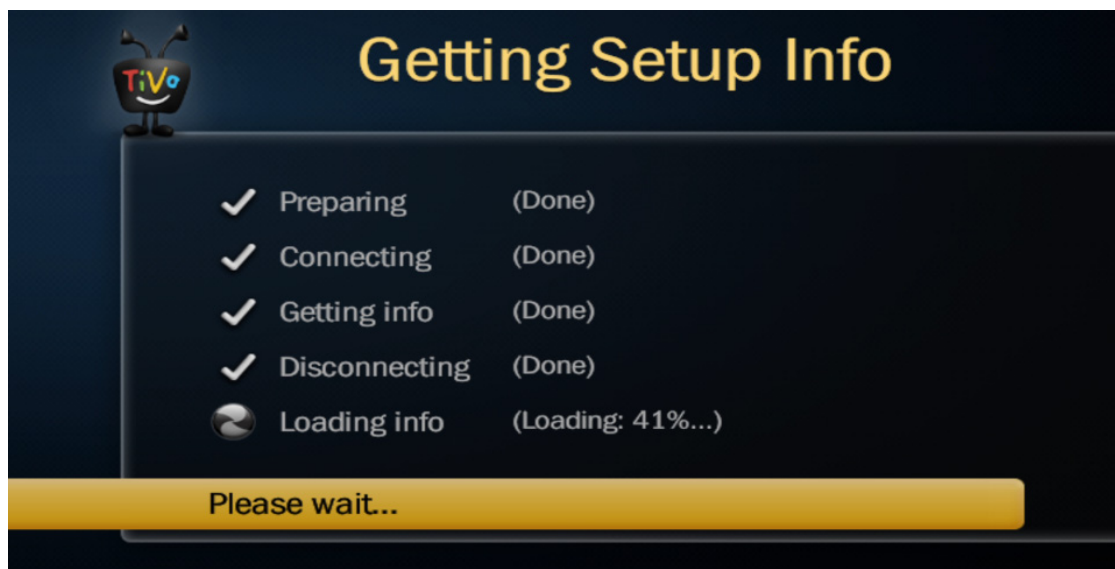
Figure 3–9: Getting Setup Info screen

4. Wait for three to four minutes for the process to complete.

Step 7. (Optional) Assign a name to the TiVo device

When network setup is complete, the Name This DVR screen appears (Figure 3–10).

TiVo recommends that you assign a name to the TiVo device because it will be easier to identify in a Whole Home solution. If you choose not to assign a name, the default name is *Living Room*.

Figure 3–10: Name This DVR screen

1. Choose a name from the list of default names, or choose **Enter your own name** to create a name the subscriber wants.

2. If you choose **Enter your own name**, type in the name the subscriber wants and press **Done entering name**.

Step 8. Choose the cable provider

After naming the TiVo DVR, the Cable Provider screen appears (Figure 3–11).

Note: In this step, it's very important that you select the correct cable provider. Failure to do so could result in a longer installation time.

Figure 3–11: Cable Provider screen

From the cable provider list, highlight the subscriber's cable provider, and press **Select**.

Step 9. Choose the cable lineup

After you select the cable provider, the Select Cable Lineup screen appears (Figure 3–12).
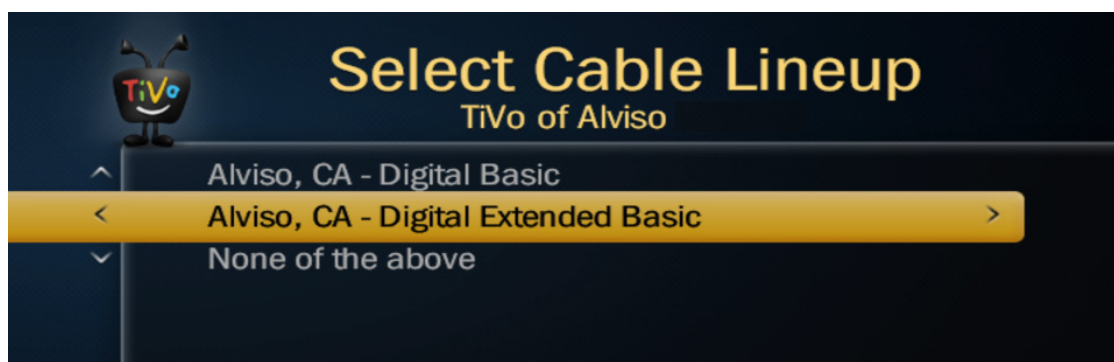
Figure 3–12: Select Cable Lineup screen

1. Choose **Digital Extended Basic**, and then press **Select**.

   All the extended channels are automatically selected.

   Note: If you accidentally choose **Digital Basic**, you will have to select the channels you want manually.

   The Cable Lineup # screen appears (Figure 3–13).
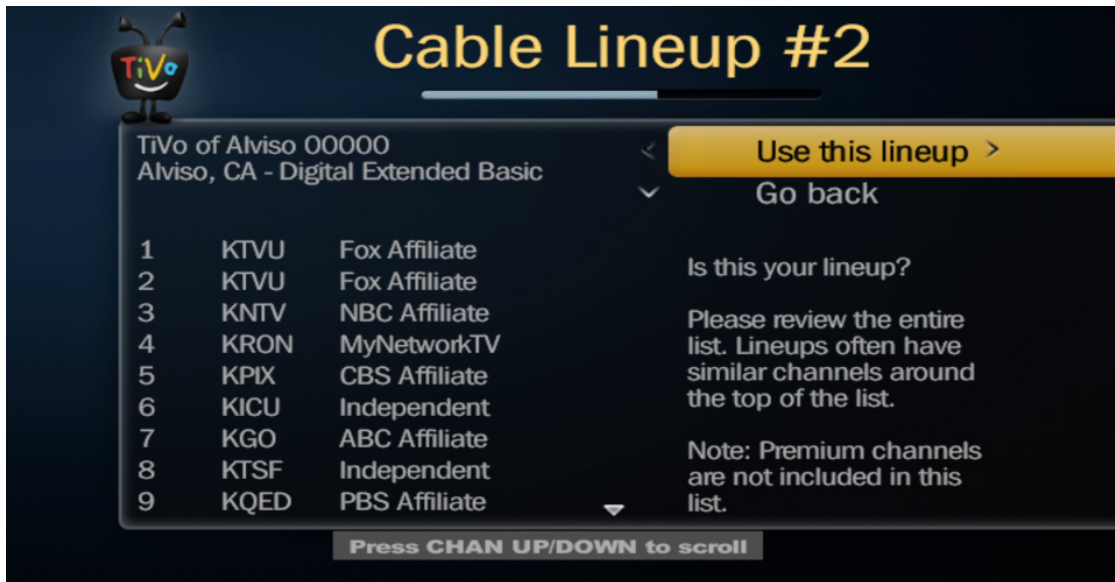
Figure 3–13: Cable Lineup verification

2. Verify that the channels are correct, and then press **Use this lineup**.
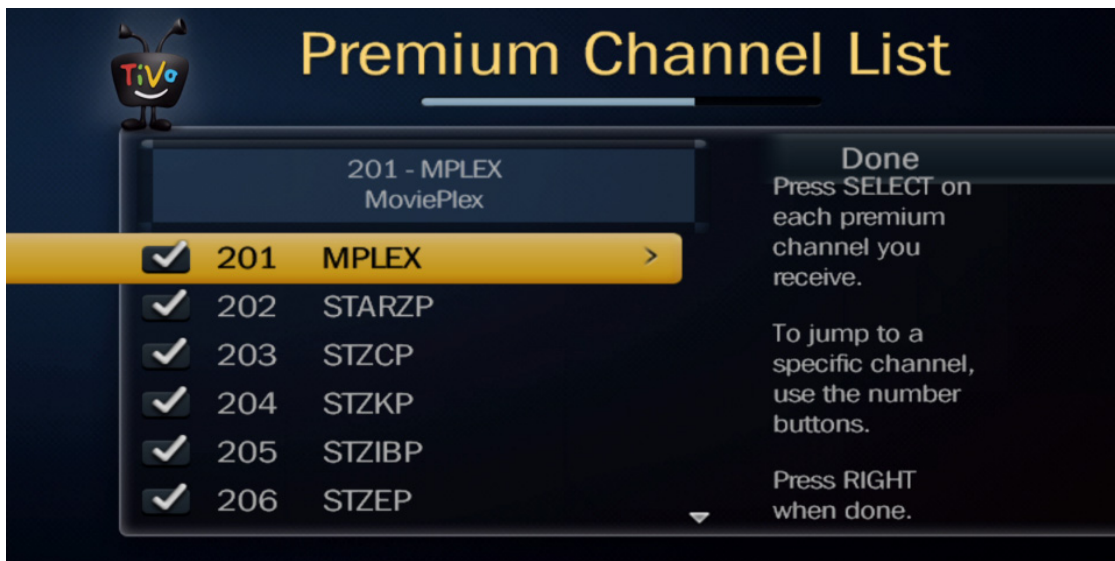
Figure 3–14: Premium Channel List screen

3. On the Premium Channel List screen (Figure 3–14), select all the premium channels that the subscriber wants to display in the Guide.

    Note: This step may not be necessary if the MSO has configured either PPV or premium channels to be checked by default.

4. Press the right arrow to highlight **Done**, and then press **Select**.

    When the Congratulations screen appears, you have completed setup.

5. To do other things while the process works in the background, press the **TiVo** button.

    TiVo Central appears.

Step 10. Confirm the MSO branding

Confirm that the MSO's logo appears in TiVo Central (Figure 3–15).
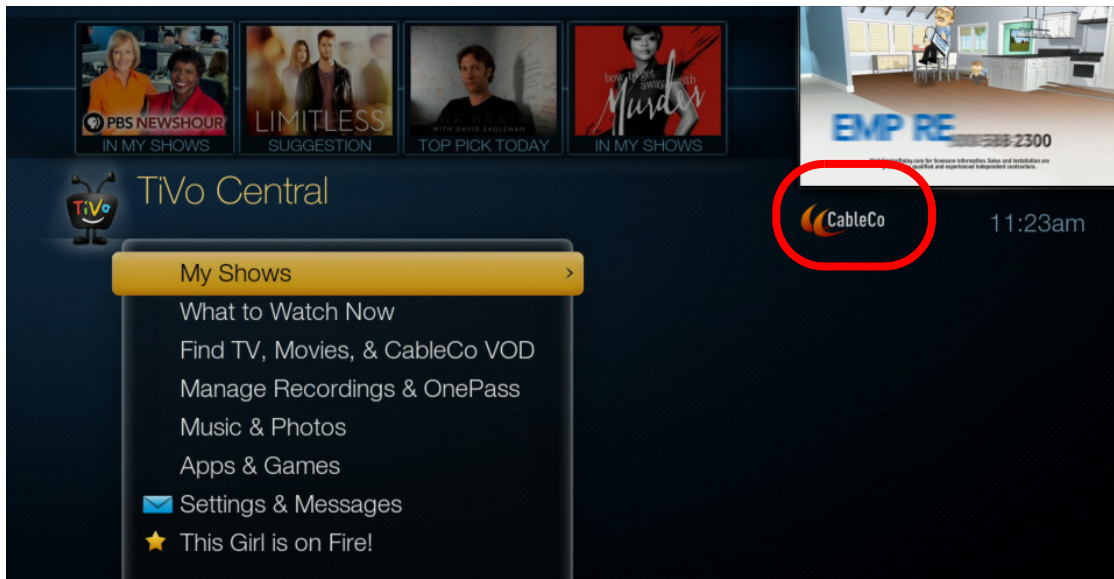
Figure 3–15: TiVo Central with MSO branding

If the branding is incorrect, contact your escalation team who can then contact TiVo.

Step 11. Enable PPV channels for DVRs or TiVo Preview

Note: This step may not be necessary if the MSO has configured either PPV or premium channels to be checked by default.

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Channels** > **Channel List** (Figure 3–16).

Figure 3–16: List of PPV channels

2. On the Channel List screen, enter the channel number for a Pay Per View (PPV) channel or scroll to see the list of PPV channels.

3. Select the PPV channels that the subscriber wants to see in the Guide.

4. Press the right arrow to highlight **Done**, and then press **Select**.

Step 12. Verify that the correct applications are listed

Verify that the correct applications are installed by comparing the installed product at the subscriber's site with the list of supported applications that the MSO provided to you.

From TiVo Central, the installed applications are listed under **Apps & Games**.

Step 13. Set up the remote control

To set up the remote control, you need to pair it to the TiVo DVR, and then find a TV manufacturer remote code to pair with the TV.

To pair the standard TiVo remote control to enable RF transmission

The TiVo DVR ships with an MSO-branded remote control. The TiVo Series 5 remote control is the current standard TiVo remote control.

The standard TiVo remote control must be paired to a TiVo device to enable radio frequency (RF) transmission. For most installations, the TiVo remote control and the TiVo device automatically pair with each other. This is the case when you have a brand new or newly warehouse-staged TiVo DVR and a new remote control. Successful pairing is indicated when the remote control activity indicator flashes amber (versus red) with each button press. If the remote control has been automatically paired, skip to *To find the remote code for a specific TV manufacturer* on page 37.

Note: A TiVo remote control can be paired *only* to one DVR at a time.

Note: RF transmission is only supported on the TiVo T6 DVR, TiVo Roamio DVR, TiVo-Pace MG1 DVR, TiVo Mini, and TiVo-Pace Mi3.

1.   From TiVo Central, choose **Settings & Messages** > **Settings** > **Remote, CableCARD, & Devices** > **Remote Control Setup**.

2.   On the Remote Control Setup screen, choose **Part 5: Remote control pairing** (Figure 3–19), and then press **Select**.

Figure 3–17: Remote Control Setup screen

3.   While you are within 3 feet of the TiVo device, press and hold the **TiVo+Back** buttons until the activity indicator lights (Figure 3–18).

Chapter 3 — Installer Configured Headend Installation
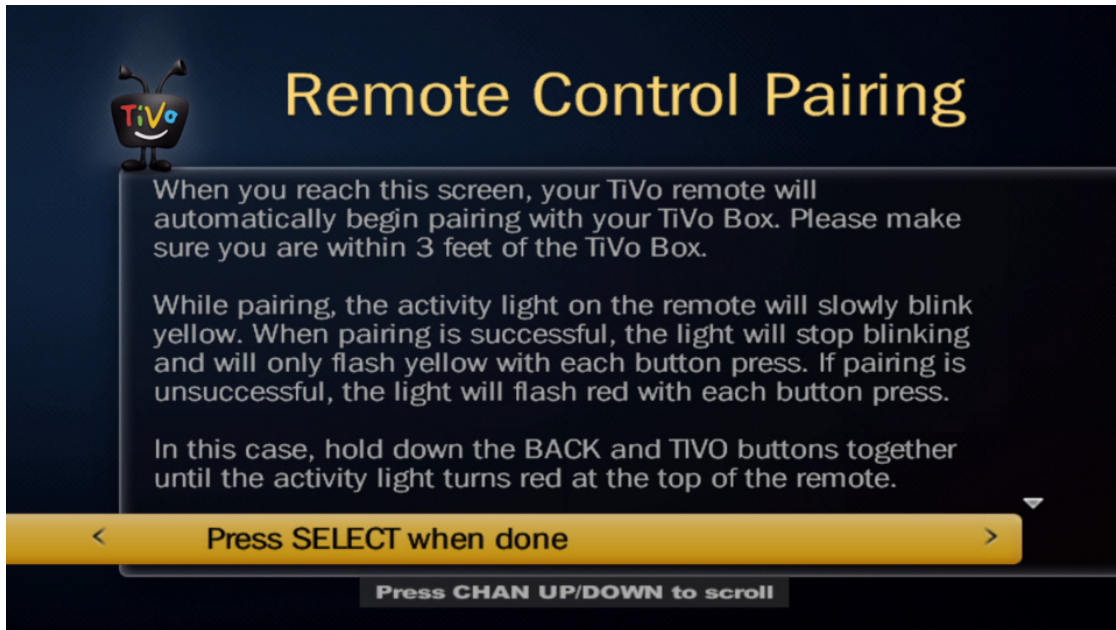
Figure 3–18: Remote Control Pairing screen

4. When done, press **Select**.

To find the remote code for a specific TV manufacturer

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Remote, CableCARD, & Devices** > **Remote Control Setup**.

2. On the Remote Control Setup screen, choose **Part 1: TV power, volume, and mute** (Figure 3–19), and then press **Select**.

Figure 3–19: Remote Control Setup screen

3. On the Television Brand screen, use the **Channel Down** and **Channel Up** buttons on the remote control to scroll through the TV brand list and locate the manufacturer of the TV, and then press **Select** (Figure 3–20).

Figure 3–20: Television Brand screen

The TV Remote Codes screen appears (Figure 3–21).

Figure 3–21: TV Remote Codes screen

4. Press and hold the **TiVo+TV Pwr** buttons until the red (or amber) LED at the top of the remote control remains on.

5. Enter the first of the four-digit remote control codes that are displayed at the top of the TV Remote Codes screen.

6. Press the **TV Pwr** button on the remote control.

7. If the TV doesn't power up, repeat Steps 4, 5, and 6 to enter the next TV remote code until you find the one that works.

Note: If you can't find a TV manufacturer remote code to pair with the TV, refer to the next section, *To run a universal remote code search*.

8. When done, press **Select**.

To run a universal remote code search

You might not find a TV manufacture remote code to pair with the TV. In this case, perform the following steps:

1. Cover the end of the TiVo remote control with your hand.

2. Hold down the **TiVo** and **TV Pwr** buttons simultaneously until the red (or amber) LED at the top of the TiVo remote control remains on.

3. Remove your hand from the end of the TiVo remote control.

4. Enter code **0999**.

    After you enter the code, the red (or amber) light flashes three times and then remains on.

5. Press **Channel Up** once every two seconds.

    Doing this tests hundreds of TV remote codes, one by one.

    Note: Do not go any faster than this or you might skip over a remote code that works.

6. If you press **Channel Up** and the TV turns off, press **Enter** to select the code.

7. To test the code, press the **TV Pwr** button.

    If the TV turns on, you have successfully set up the remote control.

If you cycle through all the codes, the red LED will go off, indicating that you have tried all the codes. If this happens, or if you selected a code, but the TV does not respond to the test, try again to make sure you didn't skip over a working remote code by going too fast.

Where to go next

If you need to install additional devices, proceed to *Additional Devices Installation* on page 41.

If you don't need to install any additional devices, the Installer Configured Headend installation is done. Proceed to *Subscriber Education* on page 47.

Additional Devices Installation 4

After you have completed the basic installation tasks, you can add more TiVo devices (up to 12 total devices) to the subscriber's home network.

This chapter covers the following topics:

- *Installing additional TiVo DVRs/set-top boxes* on page 41
- *Installing TiVo Mini and TiVo-Pace Mi3 devices* on page 41
- *Installing TiVo Stream devices* on page 43

The back panels of the devices are shown in Appendix A, *Ports and Connections for TiVo Devices*.

Installing additional TiVo DVRs/set-top boxes

When installing multiple TiVo devices in a home network, all TiVo devices must be:

- Running the same software version
- Activated to the same TiVo account
- On the same wired network
- Connected to broadband Internet

For installation instructions, see *Step 3. Install TiVo devices (DVRs or set-top boxes)* on page 24.

Installing TiVo Mini and TiVo-Pace Mi3 devices

This section provides instructions for installing TiVo Mini and TiVo-Pace Mi3. Before you begin, make sure that all the equipment you will be using are unplugged.

The procedure for installing TiVo Mini is almost identical to the TiVo-Pace Mi3 installation procedure—any differences between the two device installation procedures are noted.

Assumptions

TiVo Mini and TiVo-Pace Mi3 devices must be:

- Running the same software version
- Activated to the same TiVo account
- On the same wired network
- Connected to broadband Internet
- Unplugged

Requirements

This section lists the requirements for installing TiVo Mini and TiVo-Pace Mi3.

Activation requirements

TiVo device activation might have already been performed at the warehouse. For information about finding out if a device has been activated, see *"Please activate service" message* on page 63.

If a device has not been activated, use the procedures provided by the MSO. Activate all the TiVo devices that will be installed at the subscriber's site.

After activating the TiVo devices, the amount of time it takes for the devices to call in and receive authorization updates, such as the TiVo Service Account Status, varies according to MSO requirements.

Note: Activation might take up to 1 minute plus any internal MSO delays.

Ventilation requirements

If either TiVo Mini or TiVo-Pace Mi3 has insufficient ventilation, such as being located in a cabinet with the doors closed, damage to the equipment or surface might occur.

- Make sure the ventilation holes on both the top and bottom of the device are not blocked.
- Place the device on a hard surface so the "feet" can provide a space between the bottom ventilation holes and the surface the device is resting on.
- Do not put the device on a soft surface, such as a bed, sofa, rug, carpet, and so on.
- Do not put the device in a built-in installation, such as a bookcase or cabinet that has doors. This might impede the flow of air through the ventilation holes.
- Do not place the device on a heat source, such as other audio/video equipment.
- Never place anything on top of TiVo Mini and TiVo-Pace Mi3.

Wall mounting requirements

- Do not mount TiVo Mini on a wall without using the TiVo Mini Wall Mount Kit.
- Before installing, read the instructions that come with the mounting kit carefully.

Host DVR requirements

Ensure that the intended host DVR is:

- A model currently supported for Live TV Streaming
- Running software version 20.2.2 or later
- Connected to the network via a hardwired connection (wired Ethernet or MoCA)

  Note: TiVo Mini doesn't support a TiVo DVR connected wirelessly.

- On the same TiVo account as TiVo Mini or TiVo-Pace Mi3 (this is controlled by the MSO)

Required materials

- Power adapter
- 6 ft. HDMI cable
- TiVo remote control with batteries

To install one or more TiVo Mini and TiVo-Pace Mi3 devices

For details on the connections and ports of TiVo Mini and TiVo-Pace Mi3, see *Ports and Connections for TiVo Devices* on page 67.

1. If the TiVo Mini/TiVo-Pace Mi3 is being installed at the subscriber's site with an existing TiVo DVR, then force the host DVR to call the TiVo Service *first*.

   From TiVo Central, choose **Settings & Messages** > **Settings** > **Network** > **View network diagnostics** > **Test Internet connection**.

2. Connect audio and video to the TV.

   Note: HDMI is recommended, but if you are using component and/or composite connections, a special breakout cable is required (available from TiVo).

3. Connect to the local network with Internet access.

   Note: TiVo Mini and TiVo-Pace Mi3 support MoCA and Ethernet.

4. Connect TiVo Mini or TiVo-Pace Mi3 to the power source.

   TiVo Mini and TiVo-Pace Mi3 take approximately five minutes to start.

5. Wait for the Welcome screen to appear, and then complete Guided Setup to connect the TiVo device to a compatible host DVR.

   From TiVo Central, choose **Settings & Messages** > **Settings** > **Remote & Devices** > **TiVo DVR Connection.**

   Note: Make sure to select the correct host DVR if there is more than one DVR at the subscriber's site. If only one host DVR is detected, it is automatically connected for you.

6. Set up the standard TiVo remote control. For more information, see *Step 13. Set up the remote control*.

Installing TiVo Stream devices

TiVo Stream is a network (Ethernet) attached transcoding device that converts MPEG-2 streams to MPEG-4 streams, and then streams the converted video to Apple iOS or Android mobile devices.

Assumptions

- TiVo Stream has been activated.
- The TiVo DVRs have already been installed into the subscriber's home network.
- TiVo Stream is running TiVo Stream software version 19.1.2a or later.

Requirements

This section lists the requirements for installing TiVo Stream.

Ventilation requirements

If TiVo Stream has insufficient ventilation, such as being located in a cabinet with the doors closed, damage to the equipment or surface might occur.

- Make sure the ventilation holes on both the top and bottom of the device are not blocked.
- Place the device on a hard surface so the "feet" can provide a space between the bottom ventilation holes and the surface the device is resting on.
- Do not put the device on a soft surface, such as a bed, sofa, rug, carpet, and so on.
- Do not put the device in a built-in installation, such as a bookcase or cabinet that has doors. This might impede the flow of air through the ventilation holes.
- Do not place the device on a heat source, such as other audio/video equipment.
- Never place anything on top of TiVo Stream.

Home network and account requirements

- TiVo Stream must be on the same TiVo account as the source TiVo DVR.
- All devices must be on the same network and subnet.
- The accounts for all devices must be activated and in good standing.
- The host TiVo DVR must be connected to the home router via a high-bandwidth connection (Ethernet or MoCA).
- No more than 12 devices (with a TiVo Service Number) can be associated with a single user account.

Required materials

- Power adapter
- 3 ft. Ethernet cable
- TiVo remote control with batteries

To install TiVo Stream

For details on the connections and ports of TiVo Stream, see *TiVo Stream back panel* on page 76.

1. Verify that the TiVo DVR is connected to the home network using either a wired Ethernet connection or a MoCA connection.

    Note: TiVo Stream does not support a TiVo DVR that is connected wirelessly.

2. Use an Ethernet cable to connect TiVo Stream to an open port on the router.

3. Connect the power cord from the power connector on the back panel of TiVo Stream to a power source.

4. Wait for the status LED on the back panel of TiVo Stream to turn solid white.

   The status LED usually turns solid white in about three minutes, but when installing new software, this can take up to ten minutes.

To set up TiVo Stream on a mobile device

This process should be completed on the subscriber's mobile device, and must be repeated on each mobile device the subscriber wants to use with TiVo Stream.

Note: You must fully complete installation of all TiVo DVRs before subscribers can install TiVo Stream on their mobile devices.

1. Ensure that you have access to the subscriber's mobile device.

   The subscriber must be present to enter any passwords (for WiFi, iPad, App Store, and so on).

   If the subscriber's device is not available, you can use your own mobile device to verify TiVo Stream functionality. In this case, the subscriber needs to complete the setup on his or her own mobile device at a later time.

2. On an iPad or other mobile device, download or update the TiVo App.

   Note: The TiVo App is compatible with iPad, iPhone, and iPod touch devices running Apple iOS 7.x-8.1, and Android devices running Android 4.1 or later. For additional device compatibility information, go to TiVo Stream and then select **Specifications** from the primary menu.

   To stream or download shows from a TiVo DVR, the latest version of the TiVo App is required.

   ● If the TiVo App is not installed, download it from the App Store and install it on the mobile device.
   ● If the TiVo App is already installed on the mobile device, make sure it's up to date with no updates pending.

   Note: Some programs can't be transferred due to copy protection mechanisms used by copyright owners under the FCC encoding rules (47 C.F.R. 76.1904).

3. Ensure that the mobile device is connected via WiFi to the same local network as TiVo Stream and the TiVo DVRs.

4. On the iPad or other mobile device, launch the TiVo App.

5. Follow the on-screen instructions to set up the TiVo App and connect to the TiVo DVR.

   If the on-screen instructions don't appear automatically, go to the TiVo App Settings menu and tap **Settings > Setup**.

   Streaming Setup checks for streaming devices. If you have more than one streaming device on your wireless network, you must select the streaming device you want to set up.

6. If preferred, select **Set up out-of-home streaming** (Figure 4–22).

   In-home streaming is automatically selected.
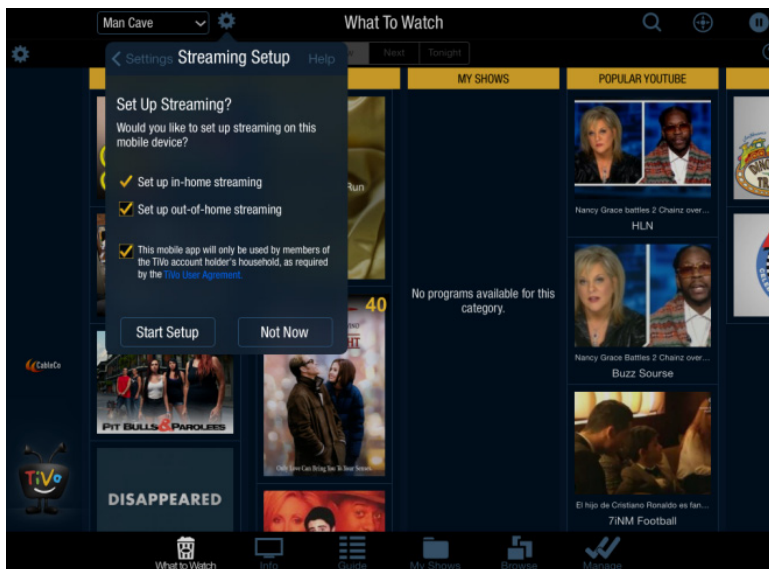
Figure 4–22: TiVo Stream Setup option in the TiVo App

7.   Agree to the TiVo User Agreement.

8.   Tap **Start Setup**, and then tap **Done** or **Tutorial** after successfully completing the setup
     (Figure 4–23).
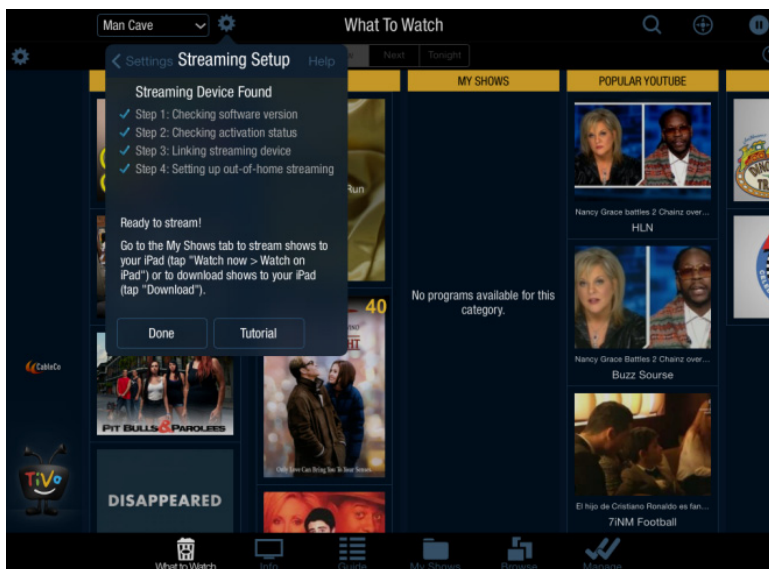
Figure 4–23: Ready to stream

Subscriber Education

5

Before you leave the subscriber's site, it's important that the subscriber is comfortable with the new TiVo equipment. Be ready to provide the subscriber with some tips and suggestions on how to operate the devices, and be able to answer any questions.

This chapter covers the following topics:

- *About subscriber education*
- *Demonstrating the remote control* on page 48
- *Demonstrating Live TV* on page 51
- *Demonstrating the Guides* on page 52
- *Demonstrating how to record shows* on page 55
- *Demonstrating VOD* on page 55
- *Demonstrating Parental Controls* on page 56
- *Demonstrating Purchase Controls* on page 57
- *Demonstrating multi-room features (if applicable)* on page 57

About subscriber education

Subscriber education is not the same for every subscriber, nor is it the same for every installer. In many cases, the MSO has specific information that they want you to deliver, including leave-behind material, such as a sheet describing new features, a printed Quick Start Guide, and so on. Consult with the appropriate MSO groups to find out about these requirements.

You should also deliver any additional information that you think is important to the specific subscriber. There are several idle periods during the installation that you can use to learn what is important to the subscriber.

Be sure to point the subscriber to the MSO resources that are available, such as product support articles, product tutorials, and information on how to use the TiVo interface and how to find installation and troubleshooting information.

- MSO's Support website
- TiVo Support website: http://support.tivo.com/
- There might be other resources available. Check with your TiVo team for details.

Demonstrating the remote control

The TiVo DVR ships with an MSO-branded remote control. The TiVo Series 5 remote control is the current standard TiVo remote control. However, some subscribers might still be using the TiVo Series 4 remote control. This section includes both.

TiVo Series 5 remote control

Figure 5–1 shows a TiVo Series 5 remote control and defines the buttons used when watching Live TV, or recording or browsing the Guide. The callout numbers are explained in Table 5–1.
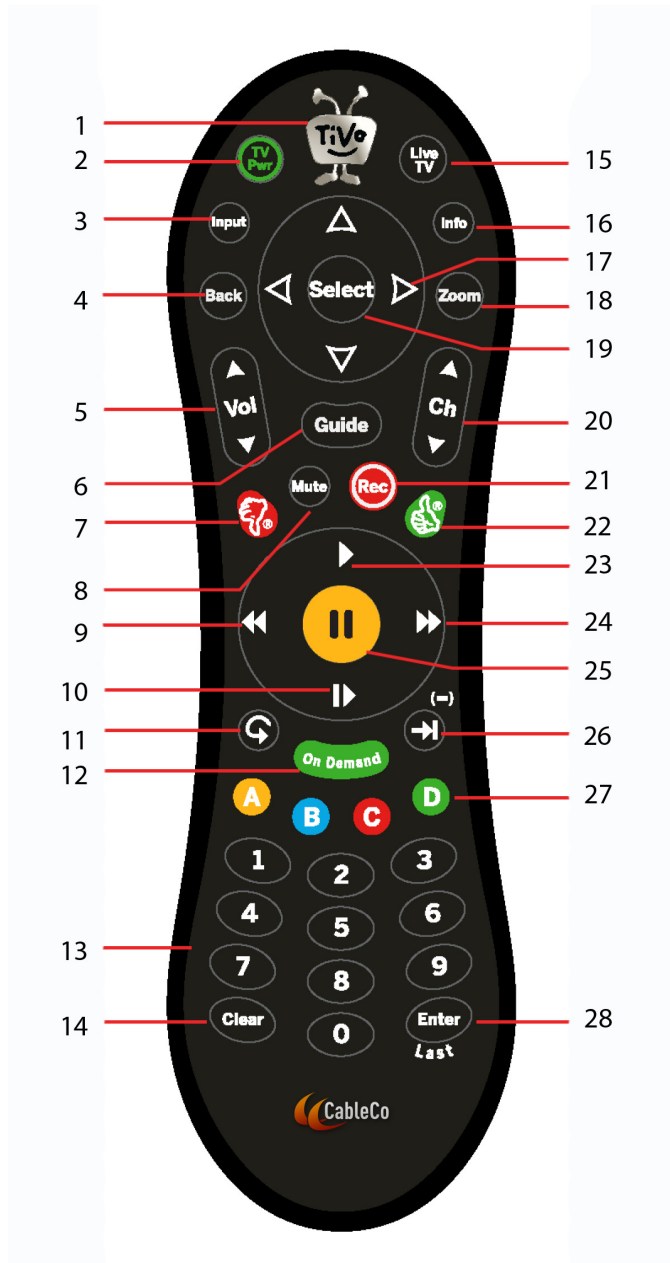
Figure 5–1: TiVo Series 5 remote control

Table 5–1: TiVo Series 5 remote control actions

Number	Button	Action
1	**TiVo**	Goes to TiVo Central screen, the starting point of all TiVo features and settings.
2	**TV Pwr**	(If already set up) Turns the TV on or off.
3	**Input**	(If already set up) Selects the input that the TV will display, such as DVD player or game system.
4	**Back**	Goes back to the previous screen (in certain applications).
5	**Volume**	(If already set up) Controls the volume on the TV or A/V receiver.
6	**Guide**	Goes to the Guide, where you can find shows to watch or record. Press Guide again to see filtered views.
7	**Thumbs Down (red thumb)**	Gives a negative rating to a show, collection, or video provider. These ratings are used for TiVo Suggestions.
8	**Mute**	(If already set up) Mutes the volume on the TV or A/V receiver.
9	**Rewind**	Rewinds a show. Press up to three times for faster rewind speeds.
10	**Slow Motion**	Plays a show in slow motion.
11	**Instant Replay**	Repeats the last eight seconds of the show. Press and hold to jump to the beginning of a show.
12	**On Demand**	Goes to the VOD Options screen.
13	**Numbers**	Uses the number keys to enter channel numbers or numbers in the online keyboard.
14	**Clear**	Removes the display of the Info banner or Guide, and deletes titles from the My Shows or To Do List.
15	**Live TV**	Goes to Live TV. While watching TV, uses the Live TV button to swap to another tuner.
16	**Info**	Shows the Info banner while watching Live TV. Press Info again to make the banner disappear.
17	**Arrows**	Navigates the TiVo menus and Guide.
18	**Zoom**	Changes the aspect ratio of shows on the TV.
19	**Select**	Chooses menu items or, when watching Live TV, brings up the Mini Guide.
20	**Channel Up/ Down**	Changes the channel and pages up or down while in the Guide or TiVo menus.
21	**Record**	Starts recording the show you're watching, or sets up a recording for a show selected in the Guide.

Table 5–1: TiVo Series 5 remote control actions (continued)

Number	Button	Action
22	**Thumbs Up (green thumb)**	Gives a positive rating to a show, collection, or video provider. These ratings are used for TiVo Suggestions.
23	**Play**	Plays a show from My Shows.
24	**Fast forward**	Moves forward rapidly through a show. Press up three times for faster forwarding speeds.
25	**Pause**	Freezes a show. Press again to resume playing the show.
26	**Advance**	Moves forward through a show in 30-second increments. Press and hold to jump to the end of the show. When fast-forwarding or rewinding, press Advance to jump to the next tick mark.
27	**A, B, C, D**	Sorts and filters views. Look for the on-screen tips.
28	**Enter/Last**	Returns to the last channel tuned to in Live TV.

TiVo Series 4 remote control

Demonstrating Live TV

Live TV is usually what the subscriber uses most. Explain the main navigation techniques using the buttons on the TiVo remote control.

- **Live TV**—Explain that when they're watching a show as it broadcasts, they are watching Live TV. Press **Live TV** to go to Live TV from any TiVo screen.

  Mention that if Live TV is already on, pressing **Live TV** switches tuners.

- **Info**—Show how pressing **Info** while watching Live TV makes the Info banner appear.

  Show that pressing **Info** again makes the Info banner disappear.

- **Pause**—Show how pressing **Pause** puts Live TV on pause for up to 30 minutes.

  Explain that when they pause Live TV, the live cache status bar appears (Figure 5–2) showing a one-hour period.

Figure 5–2: Live cache status bar

Explain how the live cache status bar works:

- The green segment displays the portion of the hour that has been saved by the TiVo DVR.
- The white line marks the current point in time. When the white line is back in the green segment, they're *behind* live TV. They can be behind Live TV for up to an hour and not miss anything.
- To return to watching the program, press **Play**.

To use Trick Play

Explain that Trick Play allows subscribers to use the TiVo remote control with digital video in much the same way they do with a DVD.

Show how the following Trick Play features work by using the remote control buttons:

- **Play**—Play a program.
- **Pause**—Pause the program.
- **Fast Forward**—FF1(3x), FF2 (18x), FF3 (60x). FF2 and FF3 have overshoot correction, which predicts the place in a program where they expect to be when they stop fast-forwarding or rewinding.
- **Rewind**—RW1 (3x), RW2 (18x), and RW3 (60x). RW2 and RW3 also have overshoot correction.
- **Instant Replay**—Jump back approximately eight seconds.
- **Slow Motion**—Play at one-fifth real time.

- **Frame-by-Frame**—Press **Pause** followed by **Fast Forward** to jump forward one frame. Press **Pause** followed by **Rewind** to jump backward one frame.

- **Advance**—Press to scan forward 30 seconds. Press and hold to go to the end (that is, to catch up with Live TV).

- **Skip-to-tick**—Jump to the ticks that TiVo marks every 15 minutes in the video buffer.

  When fast forwarding a recorded program, press **Advance** to skip to the next tick. When rewinding a recording program, press **Instant Replay** to skip to the previous tick.

- **30-second advance**—Explain that they can queue as many as ten minutes worth of 30-second advances, for quick browsing through portions of a program without needing to fast forward and press **Play**.

  Explain that when they press **Play** using a 30-second advance, there is no overshoot correction.

Demonstrating the Guides

Press **Guide** on the TiVo remote control to display up to two weeks of TV programming.

Show how the Guide can be displayed as the Live Guide or the Grid Guide. Press the **A** button to show them how to display Guide Options and how to choose the view they want.

Live Guide

The Live Guide displays channels in the left pane, and the selected channel's programming in the right pane (Figure 5–3).

Figure 5–3: Live Guide
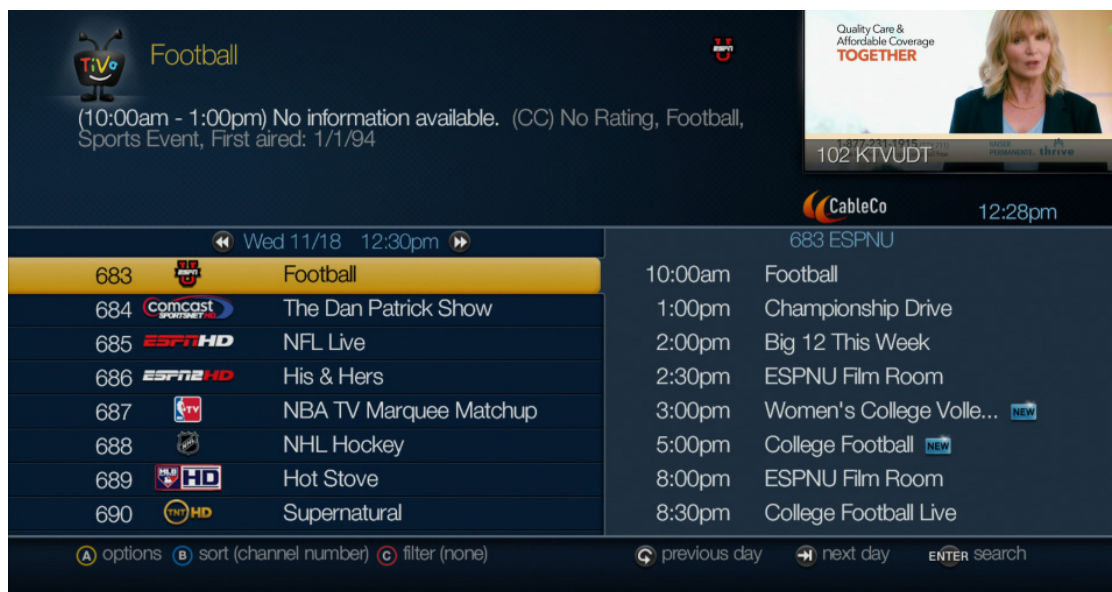
To move around in the Live Guide, use the up and down arrows to highlight a channel in the left pane.

Grid Guide

The Grid Guide displays channels in the left column, and each channel's programming to the right in half-hour increments (Figure 5–4).
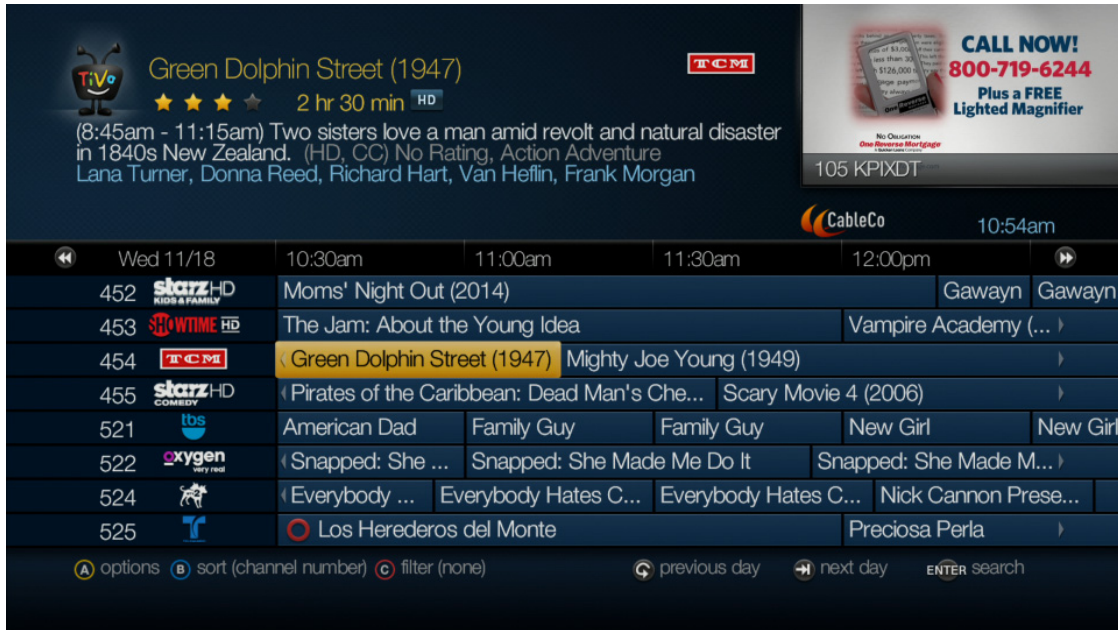
Figure 5–4: Grid Guide

To move around in the Grid Guide, use the up and down arrows to highlight a channel in the left column.

Mini Guide

The Mini Guide is a smaller version of the Grid Guide and shares most of its behavior. The Mini Guide displays what's coming up on the channel they're watching and the next two channels. Subscribers can still see the program that's playing.

Show the Mini Guide by pressing **Select** while watching Live TV (Figure 5–5)

Figure 5–5: Mini Guide

To move around the Guides

Show the subscriber how to move around the Guides:

- **Channel Up** and **Channel Down**—Move up and down through the channel list.
- **Fast Forward** and **Rewind**—Page forward and page back two hours in the Guide.
- Right and left arrows—Move to the next program scheduled on a channel.
- **Advance**—Jump 24 hours ahead.
- **Instant Replay**—Jump 24 hours back.
- After pressing **Select** on a show in progress, the channel changes to that show. To record the show (TiVo DVRs only), press **Record**.
- After pressing **Select** on an upcoming program, a screen appears with options for setting up recordings.

To choose the channels to display

1. Press the **A** button to display the Guide Options screen.

    - **All**—Display all channels in the Channel List.
    - **My Channels** —Display only the channels selected in the Channel List (recommended).
    - **Favorites**—Display the channels the subscriber rated as Favorites in the Channel List.

2. To filter the categories of channels, press the **C** button.

    The subscriber can choose a category of channel types, such as *Movies* or *Kids*. To see all the channels again, choose **All**.

To list all upcoming episodes of a show

For a comprehensive list of all upcoming episodes of a program, including repeats:

1. In the Guide, go to the show, and press **Select**.

2. Choose **Explore this show**, and then choose **Upcoming**.

    Explain that this list of upcoming episodes can be used to decide what to record.

Demonstrating how to record shows

- Show how to use Search or Browse to find shows to record.
- Show how to make a single recording using a combination of the Guides and the TiVo remote control buttons.
- Show how to set up a manual recording, or how to set up a recording by time or by channel.
- Show how to use the OnePass feature to record an entire series, and how to change the OnePass options.
- Show how to use the OnePass Manager to reorder the priority of the OnePasses.
- Show how to use the To Do List to show all the recordings that have been scheduled, as well as how to change recording options or cancel recordings.

Demonstrating VOD

- Show how to access, find, and choose videos for viewing.
- Show how to use TiVo Search to find video assets that might be in the VOD catalog.

Demonstrating Parental Controls

Explain that Parental Controls lets subscribers filter programs so that their children can watch and record only approved content.

- Parental Controls prevent anyone who does not have the PIN from watching or recording a program that exceeds the set limits.

  Parental Controls do *not* prevent deleting a recording.

- Parental Controls do *not* regulate web videos, Netflix, Hulu Plus, or other TiVo Apps.
- TV Rating Limit—TV shows rated TV-Y through TV-MA can be blocked.
- Movie Rating Limit—Movies rated G through NC-17 can be blocked.

From TiVo Central, choose **Settings & Messages** > **Parental Controls** (Figure 5–6).
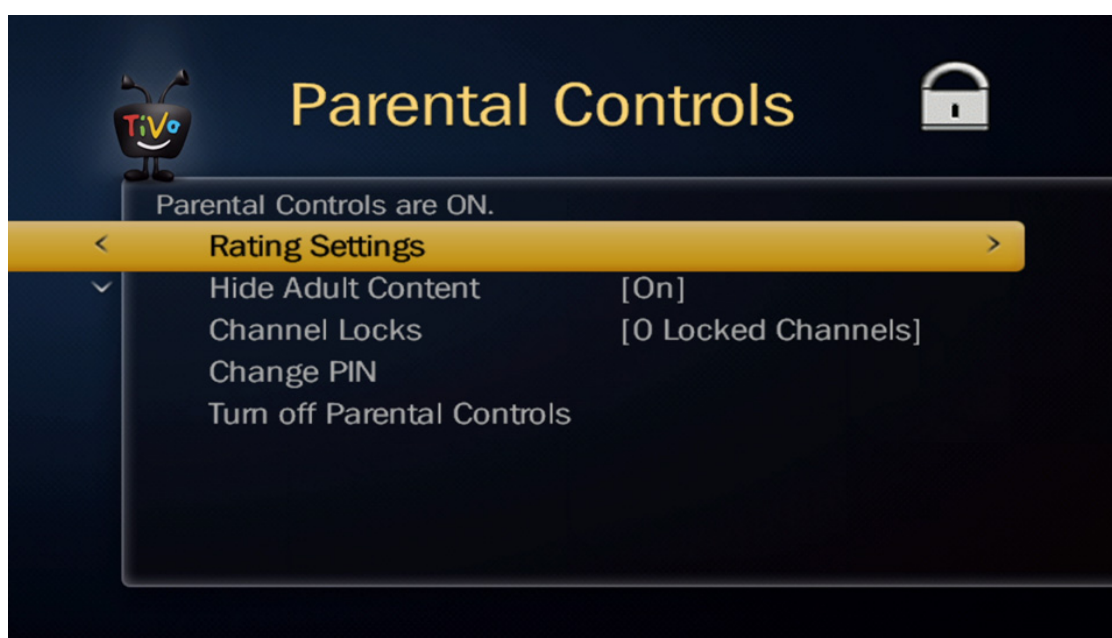

Figure 5–6: Parental Controls screen

Explain how to work with Parental Controls:

- Show how to turn on Parental Controls.
- Show how to turn Parental Controls off temporarily and how to turn them back on.
- Show how to adjust the rating settings.
- Show how to hide adult content.
- Show how to use channel locks.
- Show how to change the Parental Controls PIN.

Demonstrating Purchase Controls

Explain that subscribers can use a Purchase Controls PIN to restrict both VOD and Impulse Pay Per View (iPPV) purchases.

Explain that when they choose a video they want to download, or an iPPV show they want to view:

1. They are prompted to provide their:

   - VOD or iPPV provider's email address and password
   - tivo.com password

2. To complete linking to the account, the subscriber is prompted to set up a four-digit Purchase Controls PIN that is used every time a video is rented or purchased from the TV.

Demonstrating multi-room features (if applicable)

This section assumes that you have already installed the additional equipment needed for multi-room features in the subscriber's home network.

When demonstrating how to stream data between TiVo devices, explain the following (as applicable for the subscriber's environment):

- Multi-Room Streaming—Explain how Multi-Room Streaming allows the streaming of recorded content from a TiVo DVR to a client device, such as a TV or mobile device.

- Live TV Streaming—Explain how Live TV Streaming lets them initiate a Live TV session on a client by using an allocated tuner on the host DVR.

- Multi-Room Viewing—Explain how Multi-Room Viewing works between two TiVo DVRs.

- Copying to mobile—Depending on the TiVo devices that the subscriber is using, explain the methods of copying data to a mobile device by using the TiVo App and a transcoder device (such as the TiVo T6 DVR or TiVo Stream).

- Video copyright restrictions—Explain the difference between types of video copyright restrictions (for example, those that can be copied once, those that can be copied freely, and so on).

  A good example is PPV assets, which are typically designated as copy-never, meaning that those assets can't be copied to another device.

To demonstrate Multi-Room Streaming

Multi-Room Streaming allows subscribers to stream video over their high-speed home network within seconds and return to enjoying their favorite shows from any room where they have a TiVo DVR.

Explain the requirements for Multi-Room Streaming:

- At least one TiVo DVR is installed.
- A second TiVo device (not TiVo Stream) is installed.
- All TiVo devices have Multi-Room Streaming enabled.

    Note: Multi-Room Streaming is enabled by the MSO and is not a setting you can control.

- All TiVo devices have a hard-wired connection to the same local network.
- All TiVo devices are on the same account.

If the subscriber is set up for Multi-Room Streaming, demonstrate as follows:

1. If there are no recordings on the TiVo DVR, record a program first. The recording only needs to be a few minutes long.

2. On the TiVo device you want to stream content *to*, from TiVo Central, choose **My Shows**.

3. Choose the TiVo DVR you want to stream content *from*.

    For TiVo devices without a hard drive (such as TiVo Mini or TiVo-Pace Mi3), the default host TiVo DVR is already selected.

4. From the list of shows, highlight the program you want to stream and press **Select**.

5. Choose **Play** or **Resume**.

To demonstrate Live TV Streaming

Live TV Streaming allows subscribers to stream Live TV and their cable company's VOD to a TiVo device by borrowing a tuner from another TiVo device.

Explain the requirements for Live TV Streaming:

- At least one TiVo DVR that supports Live TV Streaming is installed.
- TiVo Mini or TiVo-Pace Mi3 is installed.
- The TiVo DVR has at least one tuner available for networked devices.
- All TiVo devices have a hard-wired connection to the same local network.
- All TiVo devices are on the same account.

If the subscriber is set up for Live TV Streaming, demonstrate as follows:

1. On the TiVo remote control, press **Live TV**.

    After a few seconds, the Live TV stream begins.

2. Tune to other live channels by channeling up and down, via the Guide or by entering the channel number directly.

To demonstrate Multi-Room Viewing

Multi-Room Viewing allows subscribers to transfer programs from one TiVo DVR to another TiVo DVR.

Explain the requirements for Multi-Room Viewing:

- At least two TiVo DVRs are installed.
- On one TiVo DVR, at least one recording that doesn't have a copy protection flag is enabled.
- All TiVo devices are on the same local network.
- All TiVo devices are on the same account.

If the subscriber is set up for Multi-Room Viewing, demonstrate as follows:

1. On the TiVo DVR from which you want to transfer a recording to another room, choose **My Shows** from TiVo Central.

2. Choose the destination TiVo DVR from the My Shows list.

3. Choose the program you want to transfer.

4. Select **Transfer This Recording**.

5. To begin playing back the program that is being transferred, select **Start Playing** on the destination DVR.

Troubleshooting

<div align="right">

6

</div>

This chapter describes situations that commonly occur during installation and activation, and provides information on resolving the issues.

About troubleshooting

Before tackling issues with specific devices or situations, check the following:

- Check to see if the cable connections for all TiVo devices on the account are correct.
- Check to see if the TiVo device is activated (service state 3). If not, see *The Guide is not populated* on page 62.
- Issue a series of service calls on the TiVo devices in the network. For instructions, see *Step 9. Force a connection to the TiVo Service* on page 17.

If you are still experiencing problems, continue to the following sections.

- *Cannot make a TiVo Service call or Test Internet connection fails* on page 61
- *The Guide is not populated* on page 62
- *Lineup is incorrect* on page 62
- *"Please activate service" message* on page 63
- *Service is suspended or degraded* on page 63
- *Some features aren't working or available* on page 63
- *TiVo device doesn't start correctly* on page 64
- *TiVo Mini or TiVo-Pace Mi3 can't select its host* on page 64
- *Video doesn't display correctly* on page 65
- *Whole Home features are not working* on page 65

Cannot make a TiVo Service call or Test Internet connection fails

If you cannot make a TiVo Service call or if **Test Internet connection** fails, there is a network problem.

Solution

1. Make sure the network cables are connected correctly and the network equipment is configured correctly.
2. Determine if the issue is limited to one device or all the devices.

a. If one device, the issue might be with the network settings or the equipment specific to that device.

b. If all devices, it is probably a general network issue at the installation site, such as a problem with the router or the Internet.

3. If the Internet and all other non-TiVo network devices (such as iPads and laptops) don't exhibit network problems, the issue might be TiVo-specific. It might be time to escalate the issue.

The Guide is not populated

At times, the Guide might not show all the programs that are available. It's possible that recent Program Guide Data (PGD) has not been downloaded or is still being processed.

Solution

- If a TiVo Service call is in progress, let the call complete. The PGD is processed as part of the TiVo Service call.
- If the PGD needs to be populated, do a full TiVo Service call to have the PGD downloaded and indexed. For instructions, see *Step 9. Force a connection to the TiVo Service* on page 17.

Lineup is incorrect

When you look at the Guide, channels are missing or the channel list is incorrect.

Solution: If missing channels

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Channels** > **Channel List**.

2. Add any missing channels, and then choose **Done**.

Solution: If wrong lineup

1. Configure the correct `msoServiceId` (market-specific fields) to the device.

2. Run Installer Express Setup to get the correct channel lineup and PGD.

   For instructions, see *Step 5. Initiate Installer Express Setup* on page 26.

"Please activate service" message

During the installation, you might receive the following message: `Please activate service (M63)...`

Solution

Perform the following steps in this order:

1. Check to see if the device is activated:

   a. From TiVo Central, choose **Settings & Messages** > **Account & System Info** > **System Information**.

   b. On the System Info screen, check the TiVo Service Account Status:
      - If the TiVo Service Account Status is 3—The TiVo DVR does not need to be reactivated.
      - If the TiVo Service Account Status is 22—Test the network connection.

2. Test the Internet connection:

   a. From TiVo Central, choose **Settings & Messages** > **Settings** > **Network** > **View network diagnostics** > **Test Internet connection**.

      This test takes about three minutes.

   b. To continue, press **Select**.

3. If the TiVo Service Account Status still displays service state 22, go through the standard reactivation procedures that the MSO uses.

4. After the MSO has issued device reactivation, wait 1 minute to allow the reactivation to fully process.

5. Test the Internet connection again.

Some features aren't working or available

1. Check to see if the TiVo device is activated.

   For instructions, see *"Please activate service" message* on page 63.

2. Check to see if the device needs to have a software upgrade.

Service is suspended or degraded

You might see a message that indicates that service has been suspended or isn't fully active. Sometimes the device appears to be in a degraded functional state. In this case, see *"Please activate service" message* on page 63.

TiVo device doesn't start correctly

There are two possibilities:

- The device is in the process of applying new software.

  This can delay the startup process. A message might appear that asks you to wait for this process to complete.

- The device is broken, in which case, you must replace it.

  This might manifest as a restart loop, in which the same startup screen reappears and the device restarts repeatedly.

TiVo Mini or TiVo-Pace Mi3 can't select its host

TiVo Mini and TiVo-Pace Mi3 both require a valid host TiVo DVR to proceed successfully through the installation process.

Solution

1. Check your network connection.

2. Make sure that the host TiVo DVR is activated on the same account as TiVo Mini or TiVo-Pace Mi3.

3. Make sure the Sharing groups are all on the same account and that they recognize they are all on the same account.

4. Force the host DVR and TiVo Mini/TiVo-Pace Mi3 to call the TiVo Service.

   a. On the host TiVo DVR—From TiVo Central, choose **Settings & Messages** > **Settings** > **Network** > **View network diagnostics** > **Test Internet connection**.

   b. On TiVo Mini or TiVo-Pace Mi3—Run **Test Internet connection**.

   If running **Test Internet connection** is not an available option because TiVo Mini or TiVo-Pace Mi3 is going through Guided Setup, restart the device.

Video doesn't display correctly

If video is not displaying correctly, the aspect ratio or the resolution might not be set to a compatible configuration for the TV that the TiVo device outputs to.

Solution: Video doesn't display on the TV

Some TVs can only support certain aspect ratios and resolutions. If you are unable to see video on the TV, you might need to reconfigure the TiVo video settings.

1. Use the physical **Format** or **Resolution** buttons on the TiVo device to cycle through the resolution modes.

2. If cycling through the resolution modes does not fix the video display, try using a different video cable option.

   Note: If possible, use composite cables. These cables are compatible with most TVs that have video display limitations.

Solution: Video displays but is distorted

If the picture is distorted, this might be due to an incorrect video setting. Reconfigure the video settings to find the combination of aspect ratio and output resolution that is optimized for the TV.

To change the video settings that output from the TiVo device to the TV:

1. From TiVo Central, choose **Settings & Messages** > **Settings** > **Video**.

2. On the Video Settings screen, when you select **Video Output Format**, the format options are shown.

3. Follow the on-screen instructions to adjust your video display.

Whole Home features are not working

1. Check to see if the TiVo device is activated.

   For instructions, see *"Please activate service" message* on page 63.

2. Check to make sure the Media Access Key (MAK) is present and is the same for all the TiVo devices on the account.

   From TiVo Central, choose **Settings & Messages** > **Account and System Information** > **Media Access Key**.

   Note: The MAK is unique per account.

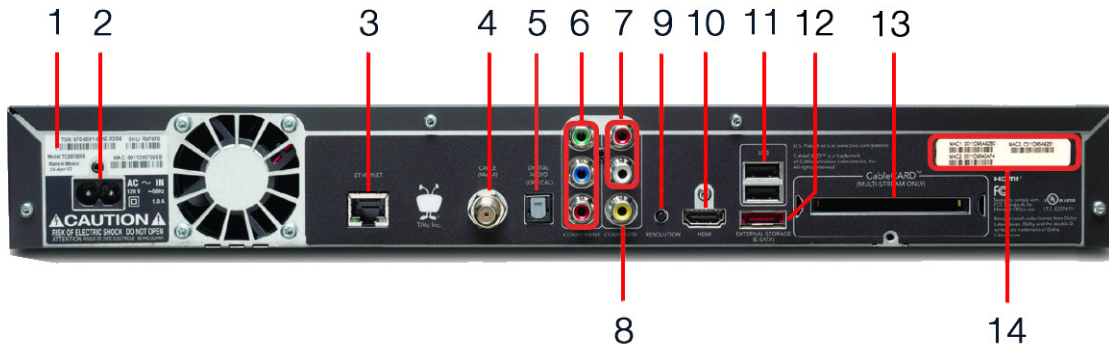3. Make sure that all the TiVo devices have called the TiVo Service.

Ports and Connections for TiVo Devices

This appendix shows the ports and connections on the backs of the TiVo devices that you might be installing at a subscriber's site.

TiVo T6 DVR back panel

This section details the location of the items on the back panel of the TiVo T6 DVR.

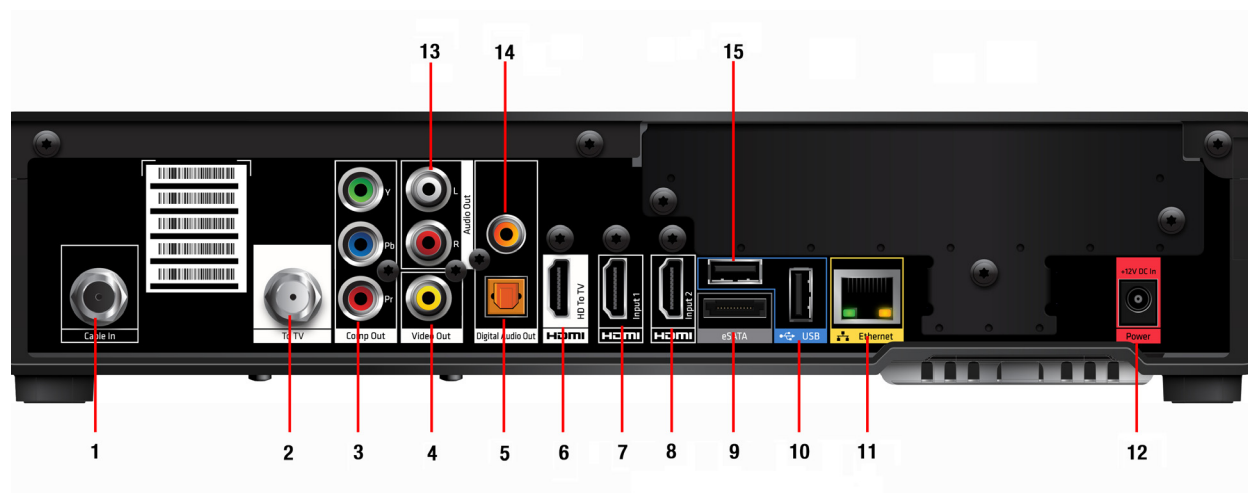| Number	Item
1	TiVo Service Number (TSN)
2	Power connector: 110V AC
3	Ethernet 10/100/1000 Base-T
4	Digital Cable/MoCA coaxial input (QAM) jack
5	Optical digital audio output
6	Component RCA output (green)
7	Analog audio output (red, white)
8	Composite A/V output (yellow)
9	Resolution button—If the screen is black and the TiVo menus are inaccessible, press the button to change the video output format. The available formats are: 480i / 480p / 720p / 1080i / 1080p / 1080p24 / 1080p60 passthrough.
10	HDMI 1.4b output
11	USB 2.0 (two ports)
12	eSATA port for the DVR expander
13	CableCARD (M-Card) slot
14	MAC Address Label, containing: • Ethernet/MoCA interface • Built-in transcoder (TiVo Stream) **Note:** If the subscriber's router is using MAC address filtering, the MSO must add both TiVo T6 DVR MAC addresses to the MAC address filter to control access.

TiVo Roamio DVR back panel

This section details the location of the items on the back panel of the TiVo Roamio DVR.

(Underside of TiVo Roamio)
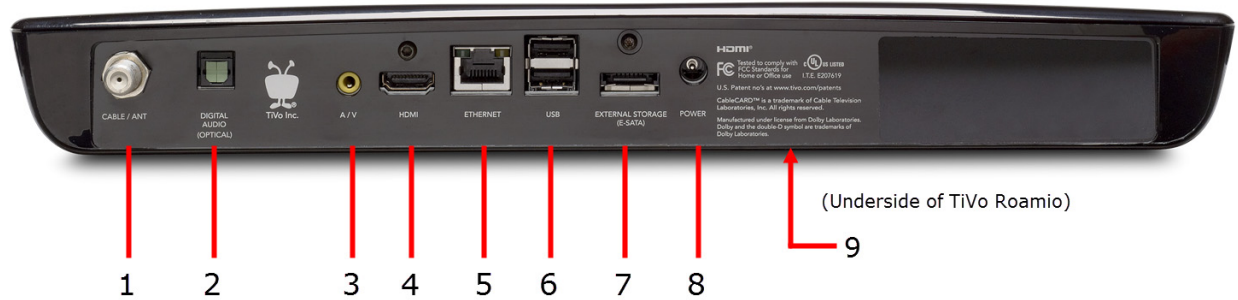
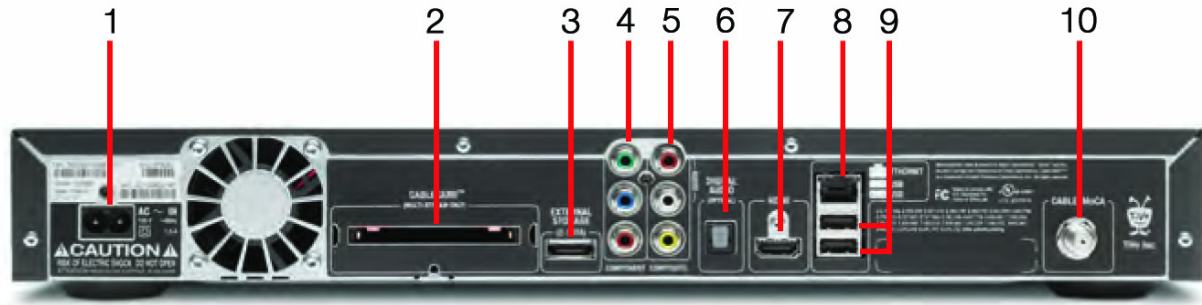| Number	Item
1	Cable/antenna coaxial input
2	Optical digital audio output
3	Composite A/V output (yellow)
4	HDMI 1.4b output
5	Ethernet 10/100 Mbps
6	USB 2.0 (two ports)
7	eSATA port for the DVR expander
8	Power connector: 12V DC
9	CableCARD (M-Card) slot

TiVo-Pace MG1 DVR back panel

This section details the location of the items on the back panel of the TiVo-Pace MG1 DVR.

Number	Item	Number	Item
1	Digital Cable/MoCA coaxial input (QAM) jack	9	eSATA port (external HDD support)
2	To TV	10	USB 2.0 port
3	Component RCA output (green)	11	10/100 Ethernet
4	Composite A/V output (yellow)	12	Power connector: 12V DC input
5	Optical digital audio output	13	Analog audio output (red, white)
6	HDMI 1.4: HD To TV	14	Coaxial Digital audio output
7	HDMI 1.4: input 1 (not enabled)	15	USB 2.0 port
8	HDMI 1.4: input 2 (not enabled)		

TiVo Premiere Q DVR back panel

This section details the location of the items on the back panel of the TiVo Premiere Q DVR.

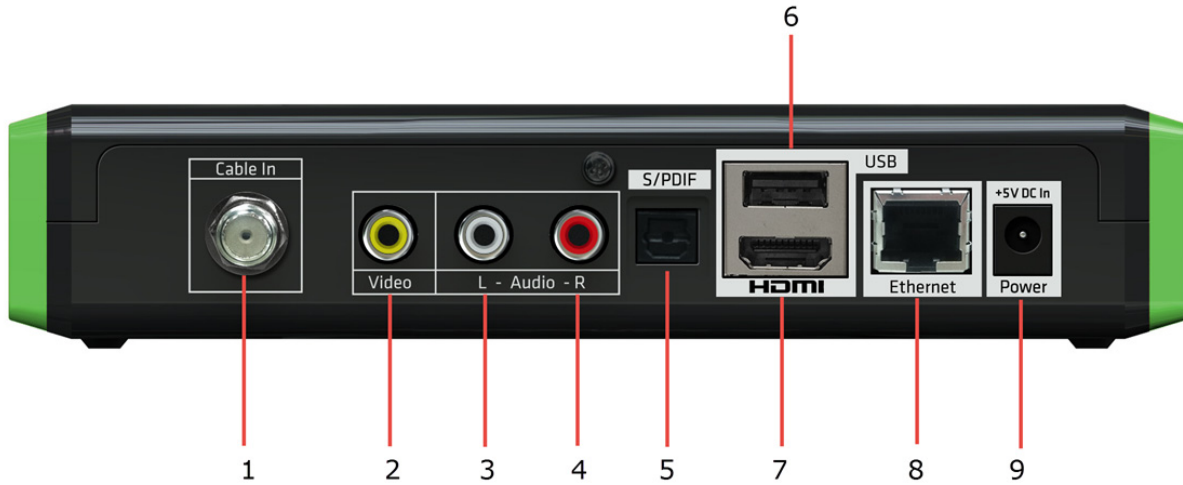| Number	Item	Number	Item
1	Power connector: 110V AC	6	Optical digital audio output
2	CableCARD (M-Card) slot	7	HDMI port
3	External storage (eSATA)	8	10/100/1000 Mbps Ethernet
4	Component RCA output (green)	9	USB 2.0 (two ports)
5	Composite A/V output (yellow)	10	Digital Cable/MoCA coaxial input (QAM) jack

TiVo Preview back panel

This section details the location of the items on the back panel of TiVo Preview.

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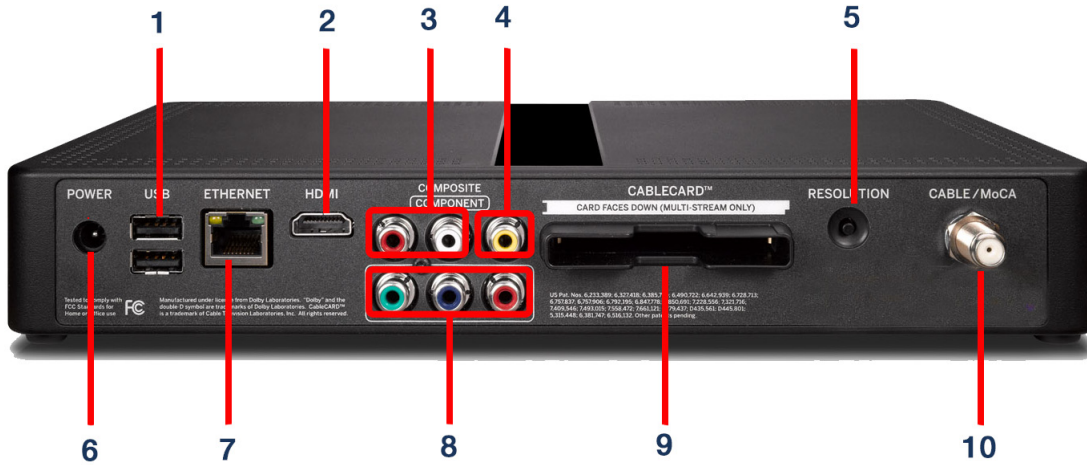
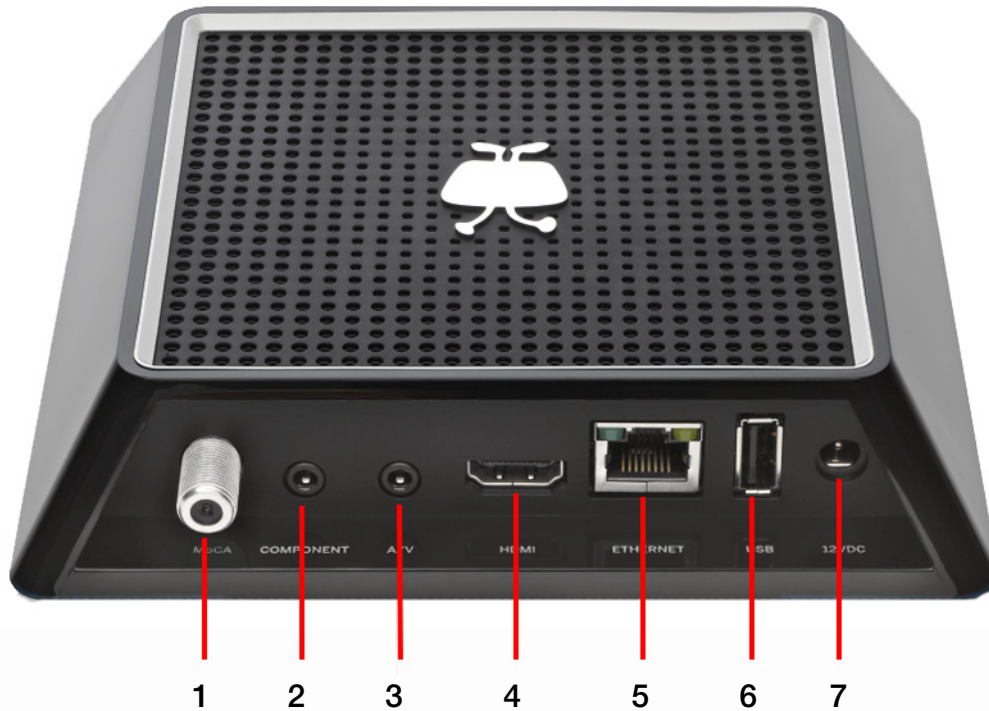| Number	Item	Details
1	USB	Two external USB 2.0 ports for TiVo wireless network and Bluetooth adapters.
2	HDMI port	Connects to a TV, A/V receiver, or home theater system. HDMI provides a pure digital connection for HD video and digital audio in one cable.
3	Composite ports	Analog audio output (red, white).
4		Composite A/V output (yellow).
5	Resolution button	If the screen is black and the TiVo menus are inaccessible, press the button to change the video output format. The available formats are: 480i / 480p / 720p / 1080i / 1080p.
6	Power connector (12V DC)	Connects to A/C power.
7	Ethernet 10/100 Base-T jack	Connects TiVo Preview to your home network by using an Ethernet cable.
8	Component ports	Component (RGB) video output.
9	CableCARD (M-Card) slot	Supports a single M-Card CableCARD; S-Cards are not supported.
10	Digital Cable/MoCA coaxial input (QAM) jack	In a MoCA home network, connects TiVo Preview to your home network. Connect the coaxial RF cable coming from the wall to this jack.

TiVo-Evolution IP Hybrid set-top box back panel

This section details the location of the items on the back panel of the TiVo-Evolution IP Hybrid set-top box.

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Number	Item
1	Digital Cable/MoCA coaxial input (QAM) jack
2	Composite A/V output (yellow)
3	Analog audio output (white)
4	Analog audio output (red)
5	S/PDIF optical digital audio output
6	USB 2.0 port
7	HDMI 1.4a output
8	Ethernet 10/100 Mbps
9	Power connector: 5V DC input

TiVo Mini back panel

This section details the location of the items on the back panel of TiVo Mini.

Number	Item	Details
1	MoCA coaxial input jack	In a MoCA home network, connects TiVo Mini to your home network. Connect the coaxial cable coming from the wall to this jack.
2	Component RCA output (green)	Connects to a TV or A/V system. Component video provides a high-definition (HD) picture using a component video cable.
3	Composite A/V output (yellow)	Connects to a TV or A/V system. Composite video provides very good standard-definition (SD) picture quality. It does not provide HD video.
4	HDMI port	Connects to a TV, A/V receiver, or home theater. The HDMI port provides a pure digital connection for HD video and digital audio all in one cable.
5	Ethernet jack	Connects a TiVo Mini to your home network using an Ethernet cable.
6	USB	Reserved for future use.
7	Power connector (12V DC)	Connects to A/C power.

TiVo-Pace Mi3 back panel

This section details the location of the items on the back panel of TiVo-Pace Mi3.
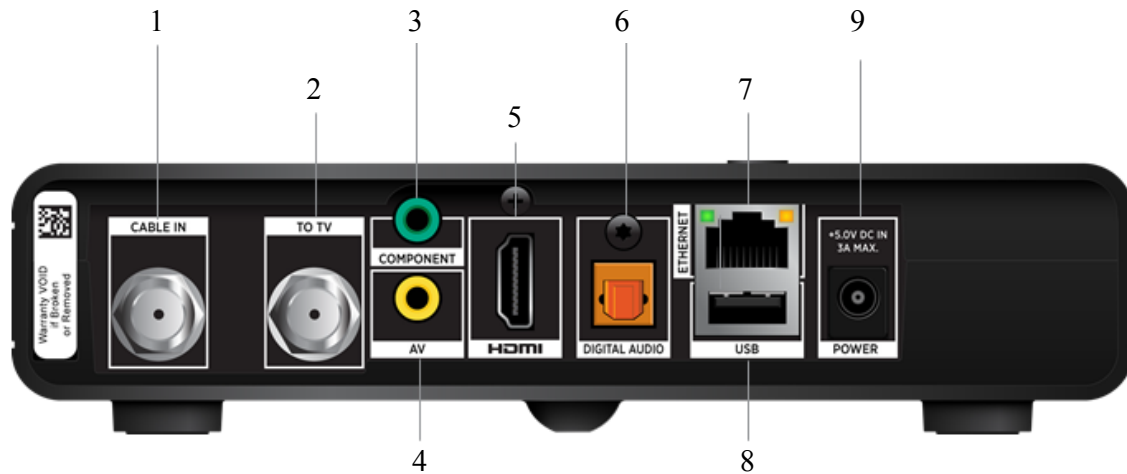
Number	Item	Details
1	Coaxial input jack	The Cable In connector is designed to connect the TiVo-Pace Mi3 to your cable network. Connect the coaxial cable coming from the wall to this jack. You must not connect any other equipment, such as a VCR, to this input.
2	To TV	Coaxial RF cable output to TV.
3	Component RCA output (green)	Connects to a TV or A/V system. Component video provides a high-definition (HD) picture using a component video cable. If your HDTV does not have an HDMI connector, but has component video (YPbPr) inputs, connect your HDTV here.
4	Composite A/V output (yellow)	Connects to a TV or A/V system. Composite video provides very good standard-definition (SD) picture quality. It does not provide HD video. Connect to the composite video and analog audio inputs on your SDTV.
5	HDMI port	Connects to a TV, A/V receiver, or home theater. The HDMI port provides a pure digital connection for HD video and digital audio all in one cable. Connect to the HDMI input on your TV.
6	Optical digital audio output	S/PDIF output. Connect to the optical digital audio equipment, such as an audio decoder or home theater receiver.
7	Ethernet jack	Connects a TiVo Mini to your home network using an Ethernet cable.
8	USB	Reserved for future use.
9	Power connector (5V DC)	Connects to A/C power.

TiVo Stream back panel

This section details the location of the items on the back panel of TiVo Stream.

The TiVo Stream back panel includes:

- Power/status (main) LED
- Gigabit Ethernet connector with Link Activity and Link Status LEDs
- 12V DC power supply