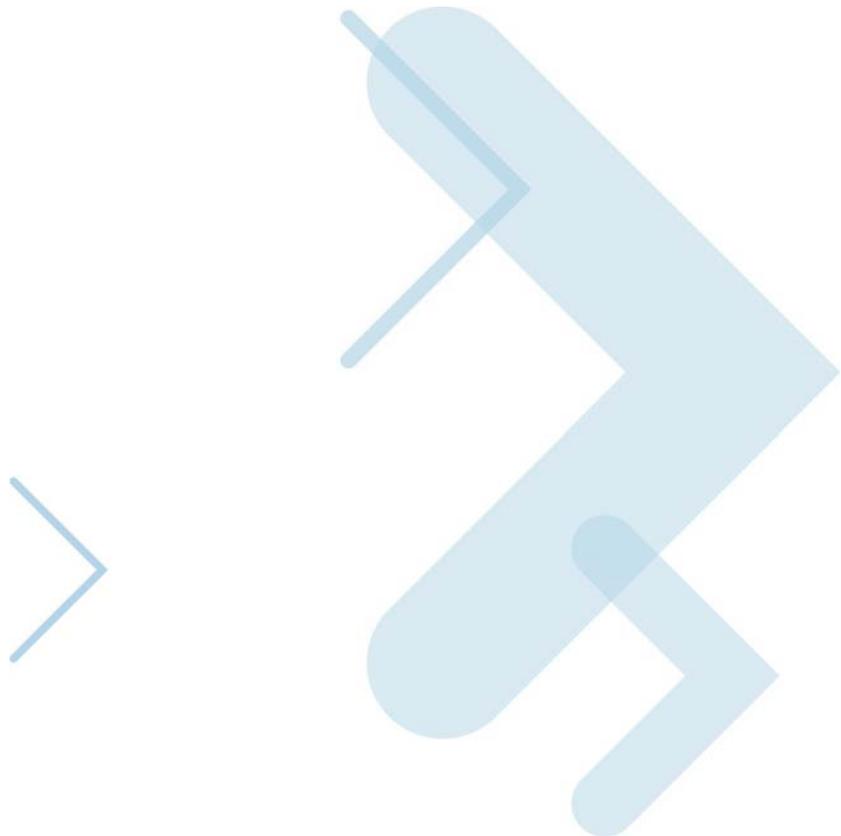


External DVR Storage

Motorola DVR Set-tops

User Guide





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1

Overview

Introduction

The External Drive Feature allows you to expand the recording capacity of your Motorola DVR cable box beyond the capabilities of the internal hard drive. Upon connection of an external drive to the cable box's eSATA port, Motorola's user interface screens will automatically guide you through the use of this feature. Your cable service provider must enable this feature in order for you to enjoy the additional storage capabilities.

Cable Boxes that Support External Drives

The use of external drives is compatible with a variety of Motorola DVR cable boxes. The following cable box models are capable of supporting the use of external drives:

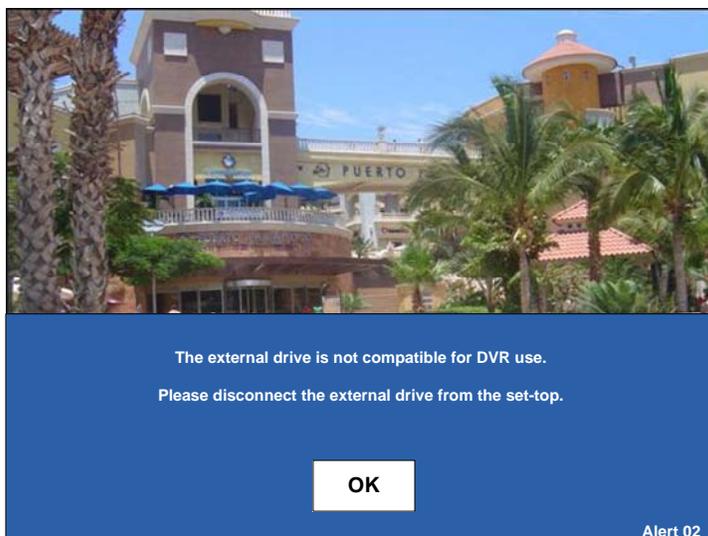
- DCT6412-P3
- DCT6416-P3
- DCT3080
- DCT3412
- DCT3416
- DCH6416
- DCH3416
- DCX3400
- DCX3400-M



External Drives Compatible with Motorola DVR Set-tops

Motorola qualifies specific external drive models for use with DVR cable boxes to ensure compatibility and performance levels. For a list of compatible external drives approved by Motorola, please go to <http://TBD.motorola.com>. If you attempt to use an external drive model that has not been approved by Motorola, you may experience compatibility and/or performance issues.

If an external drive is not compatible with your Motorola DVR cable box, you will be notified by an on-screen message after you connect an external drive to your cable box or during the external drive formatting process.





Storage Capacity

Motorola's DVR cable boxes are available with various sized internal hard drives. Check with your cable television service provider for availability.

Internal Drive Size	Estimated Recording Hours	
	Standard Digital Channels	High Definition Channels
160 GB	55 to 100	14 to 21
250 GB	80 to 150	20 to 30
320 GB	110 to 210	30 to 45
500 GB		

Connecting an external drive to your Motorola DVR cable box provides the following additional recording capacity.

External Drive Size	Estimated Recording Hours	
	Standard Digital Channels	High Definition Channels
500 GB		
1 TB (1,000 GB)		

Note: All recording hours shown are approximate. The actual hours a subscriber can record are a function of program bit rate, the IPG type, and the reserved buffer space.



2

Connecting Your External Drive

This section describes how to connect an external drive to your Motorola DVR cable box

Guidelines:

- Requires connection of your external drive to the cable box's eSATA port.
- USB connection currently not supported for external drive use.
- Supports up to 16 different external drives for use with a cable box.
- Only one external drive can be connected to your DVR cable box at one time.
- Do not place your external drive directly on top of your Motorola DVR cable box. Placing your external drive directly on top of the cable box may result in overheating and damage the external drive.

Instructions:

1. Connect the AC power cord to the external drive and plug the external drive's AC power adapter into an electrical outlet.
2. Allow approximately 15 to 30 seconds for the external drive to reach operating speed.
3. Connect one end of the eSATA cable to your Motorola HD/DVR cable box.
4. Connect the other end of the eSATA cable to the external drive.
5. Follow the on-screen instructions.

Multiple External Drives:

If you already have an external drive configured for use with your cable box and would like to format an additional drive, simply disconnect your current external drive and connect the new external drive to the cable box. Then, follow the on-screen instructions.

If you need assistance connecting an external drive, follow the instructions on the following pages.



Connecting Your DCT6412 P3 / DCT6416 P3 to Your External Drive

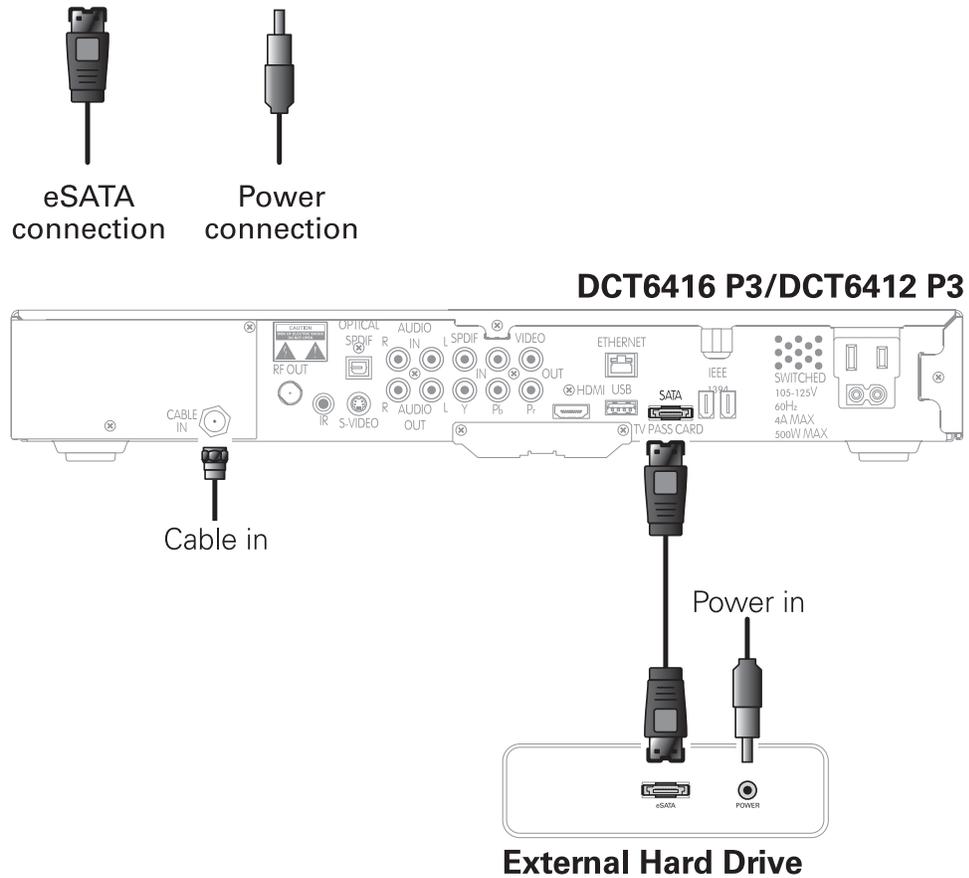


Figure 1 – DCT6416 P3/DCT6412 P3 Connection Diagram



Connecting Your DCT3412 / DCT3416 to Your External Drive

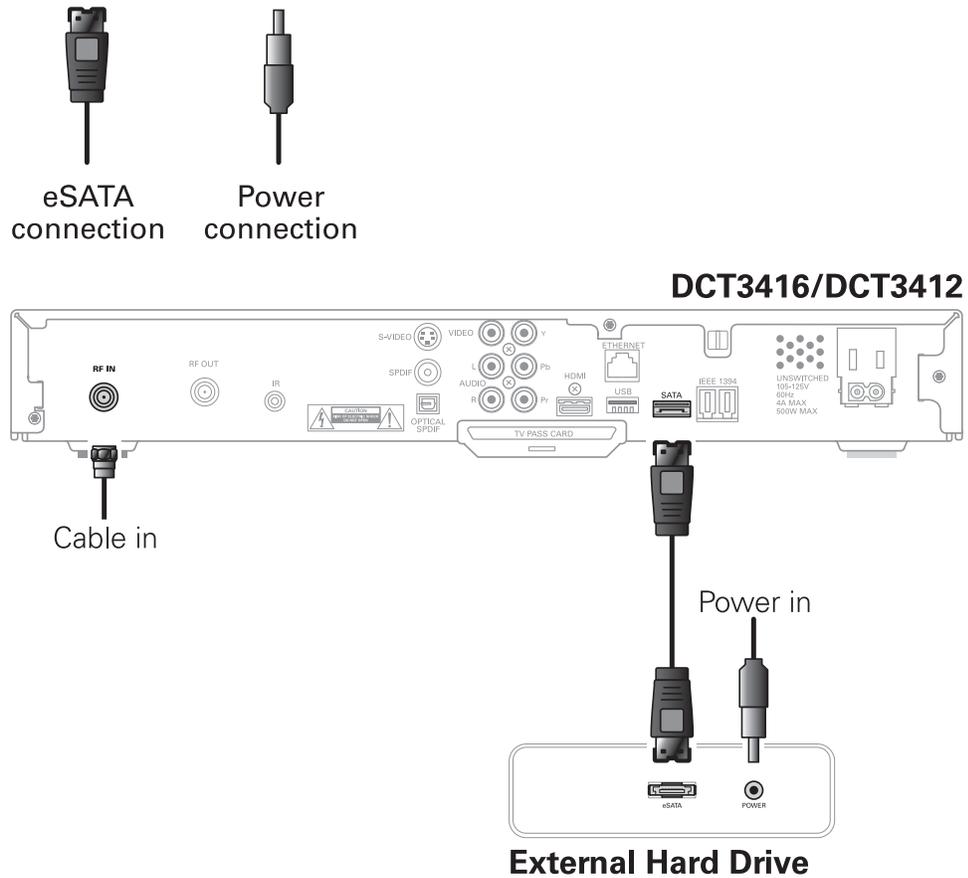


Figure 2 – DCT3412 / DCT3416 Connection Diagram



Connecting Your DCH6416 to Your External Drive

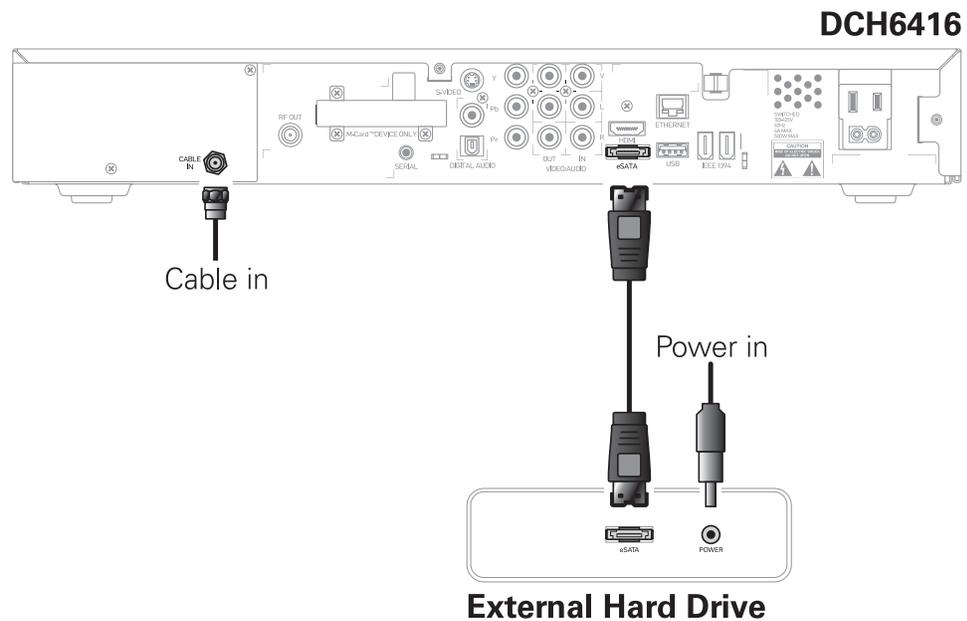
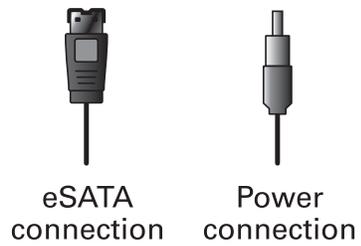


Figure 3 – DCH6416 Connection Diagram



Connecting Your DCH3416 to Your External Drive

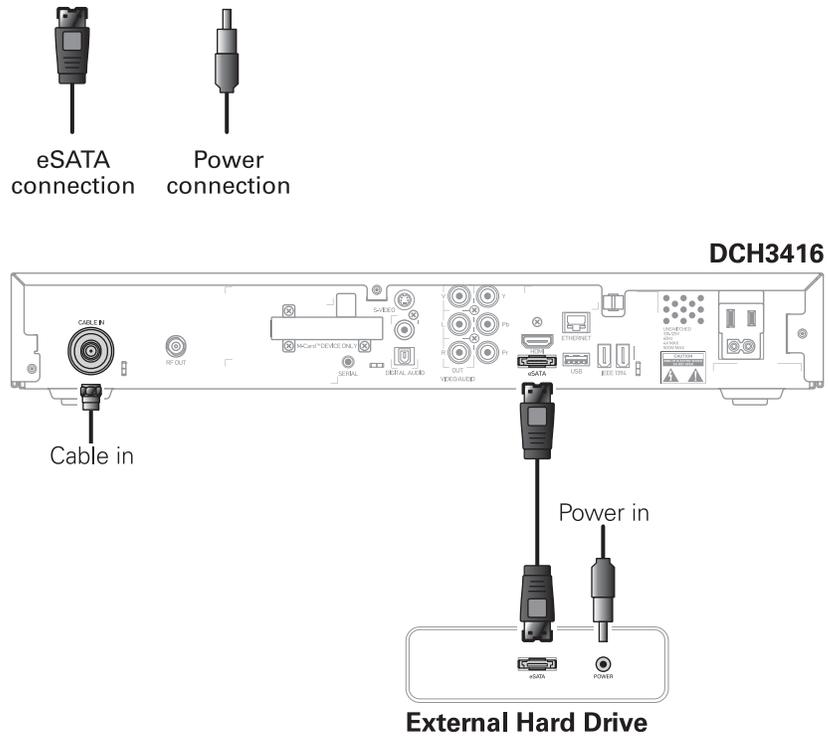


Figure 4 – DCH3416 Connection Diagram



Connecting Your DCX3400 / DCX3400-M to Your External Drive

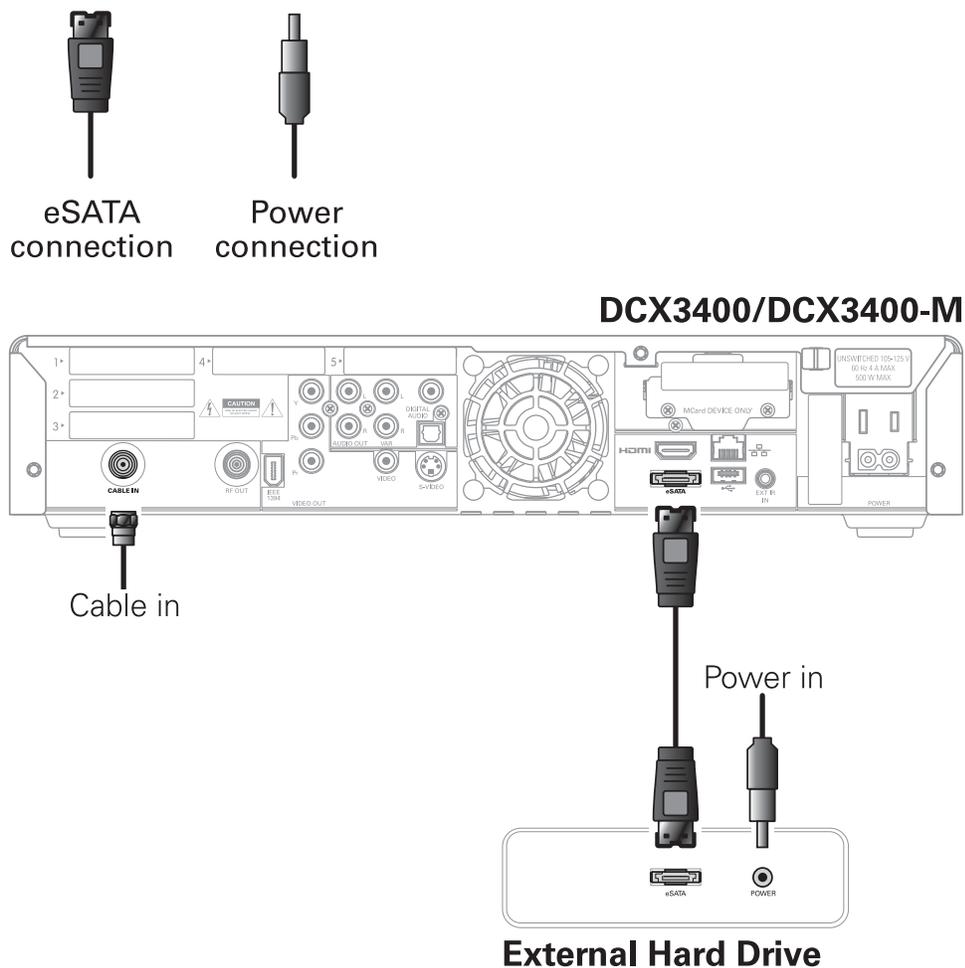
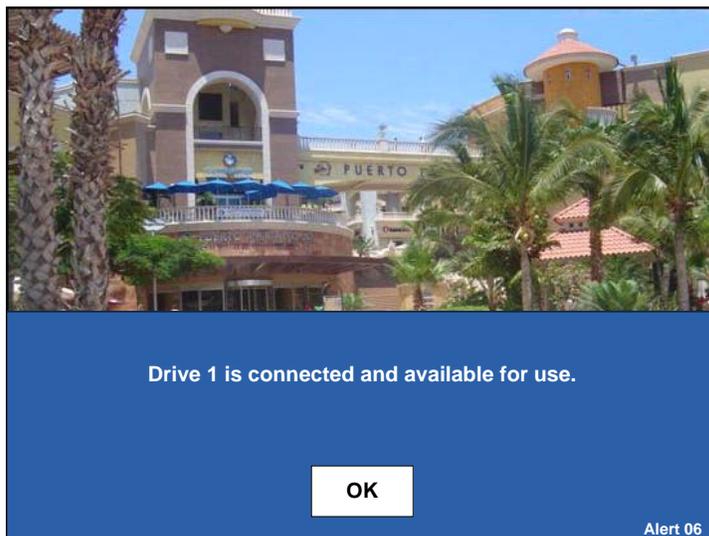


Figure 5 – DCX3400/DCX3400-M Connection Diagram



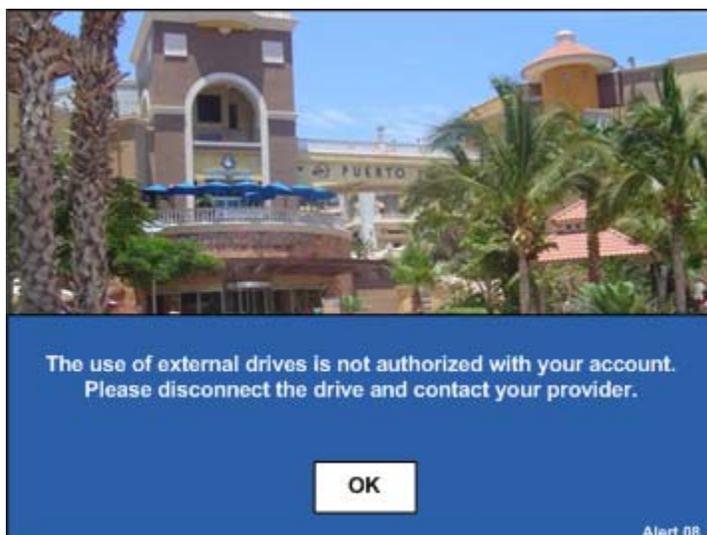
Reconnecting an External Drive

If you have temporarily disconnected your external drive from your cable box, reconnecting the external drive to the cable box's eSATA port will cause the following on-screen message to automatically appear.



Account Authorization

In order to use Motorola's External DVR Storage feature, your cable service provider must authorize your account for use of this feature. If your account has not been authorized to use this feature, you will be notified by an on-screen message upon connection of an external drive to your Motorola DVR cable box.





3

Formatting Your External Drive

When you connect an external drive to your cable box, it will need to be formatted for DVR use. An on-screen message will prompt you to begin the formatting process. If the external drive was previously used with another device, all existing contents on the drive will be erased. Once the formatting process is complete, the external drive can only be used with the last cable box that was used to format the external drive.

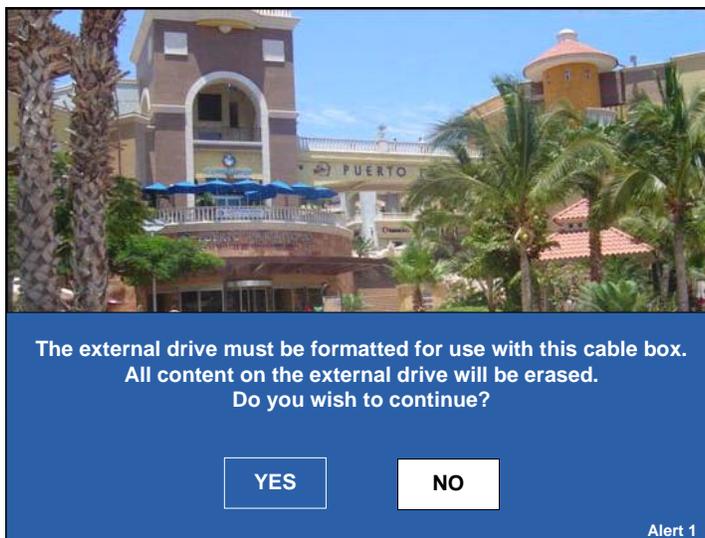
Your external drive can be reformatted for use with other devices, such as a computer or a different cable box. However, reformatting the external drive will erase any previously recorded DVR content.



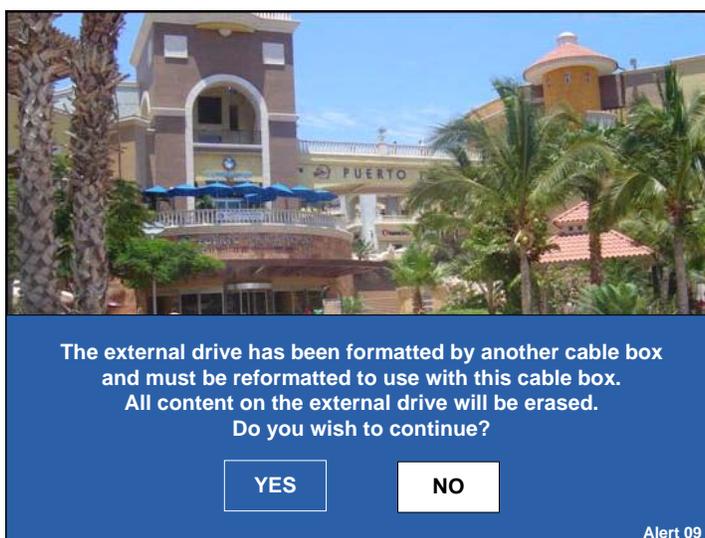
Formatting the External Drive

1. Connect your external drive to your Motorola DVR cable box's eSATA port.

- A. If your external drive has not been previously configured for use with a cable box, Alert 01 will automatically appear on your television screen.

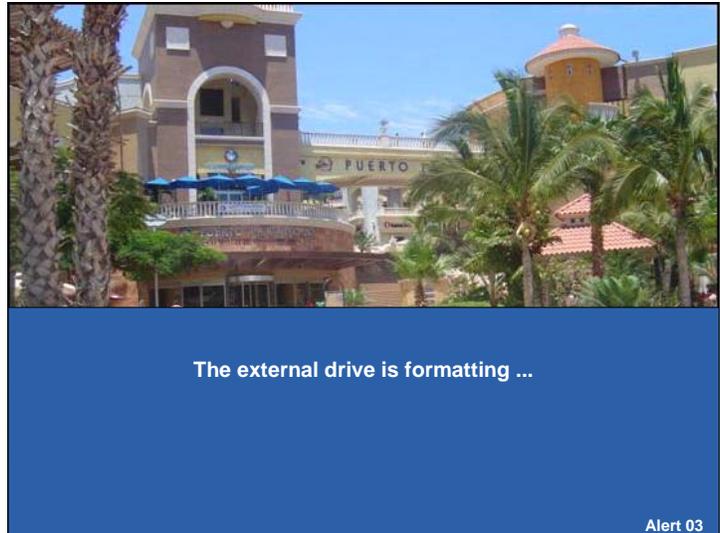


- B. If your external drive has already been configured for use with another cable box, Alert 09 will automatically appear on your television screen instead of Alert 01.

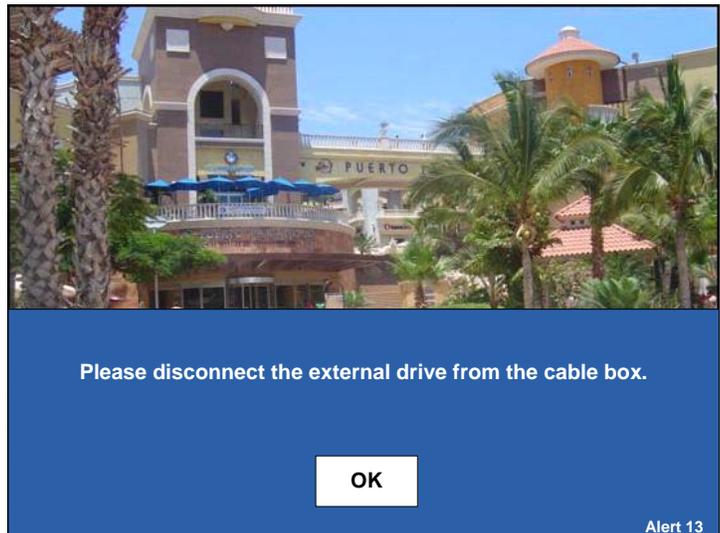


2. Use your remote control's ◀ or ▶ keys to select **YES** and then press **SELECT/OK** to continue with the formatting process. Or, select **NO** to cancel the formatting of the drive.

A. If you select **YES** on Alert 01 or Alert 09 to continue with the formatting process, you will see the following prompt.



B. If you selected **NO** to cancel the formatting process, Alert 13 will be displayed. Disconnect your external hard drive from your Motorola cable box.



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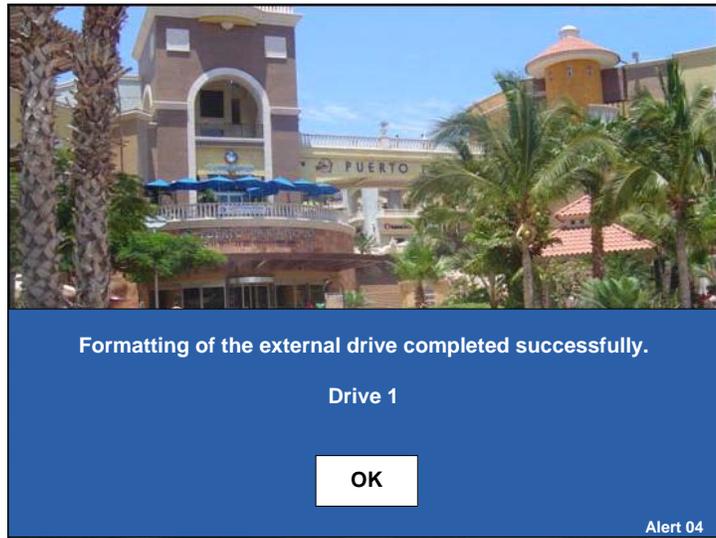
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3. You will be notified when the formatting of your external drive has completed. Press the **SELECT/OK** button on your remote control to continue.

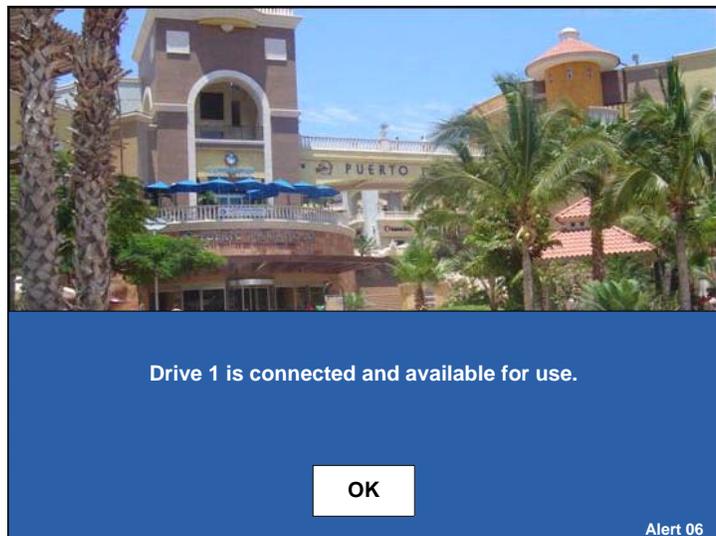
Naming of External Drives:

During the formatting process, a name will automatically be assigned to each external drive that you format for use with your DVR cable box, beginning with "Drive 1." If you plan to use more than one external drive, it is recommended that you label each drive with the assigned name to aid with identification at a later time.



4. You will be notified that the external drive is available for use. Press the **SELECT/OK** button on your remote control to continue.

The formatting process for your external drive is now complete.



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Formatting Failure of External Drives

If the format process is interrupted or fails, you will be notified by Alert 05.

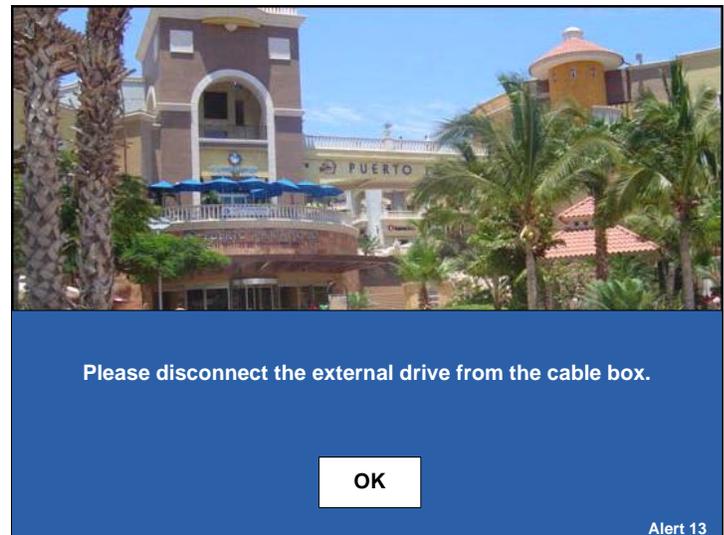
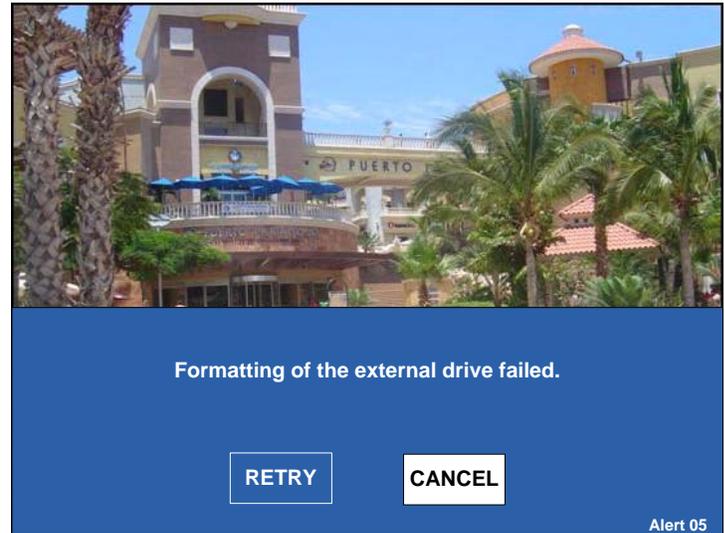
- A. Use the remote control's ◀ or ▶ keys to select **RETRY** and then press **Select/OK** to try the formatting process again.

There is no limit on the number of times that you are allowed to select **RETRY** if the formatting process continues to fail with the connected external drive.

OR

- B. Select **CANCEL** on Alert 05 to stop the formatting process of your external drive. An on-screen message (Alert 13) will appear instructing you to disconnect the external drive from your cable box.

Your external drive will not be configured for use with your DVR.



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4

Recording

Recording Onto Your External Drive

The cable box will automatically determine whether to record to the internal hard drive or the connected external drive based on which drive has the most space available at the time of recording. As a result, you do not have the option of choosing whether the cable box will record to the internal versus the external drive. If both your internal and external drives are full, an on-screen message will alert you to this situation.

Programs that are recorded to your external drive(s) will automatically be included in your Interactive Programming Guide's DVR Recordings List. No graphical differentiation is made within the DVR Recordings List to indicate whether the recorded programs are stored on an internal or external drive.

Never unplug your external drive while a playback or recording is in progress. This can cause unexpected behavior and damage the recording or corrupt the drive.

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Playback of Externally Stored Recordings while Drive is Connected

1. Access the Interactive Programming Guide's DVR Recordings List. Your Interactive Programming Guide will display both your internally and externally stored programs within the same DVR Recordings List.
5. Select a recorded program and follow the normal process for initiating playback of the selected recorded program.
6. If the recording you selected to watch is stored on the internal hard drive or the currently connected external drive, playback will begin seamlessly.

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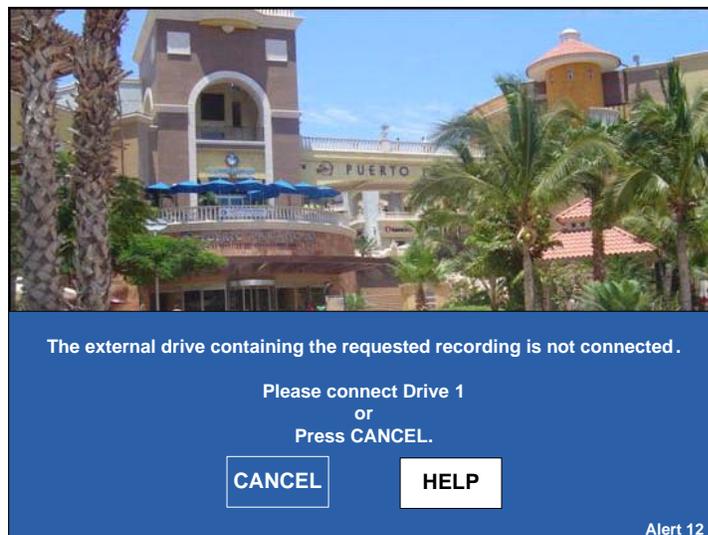
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Playback of Externally Stored Recordings while Drive is Not Connected

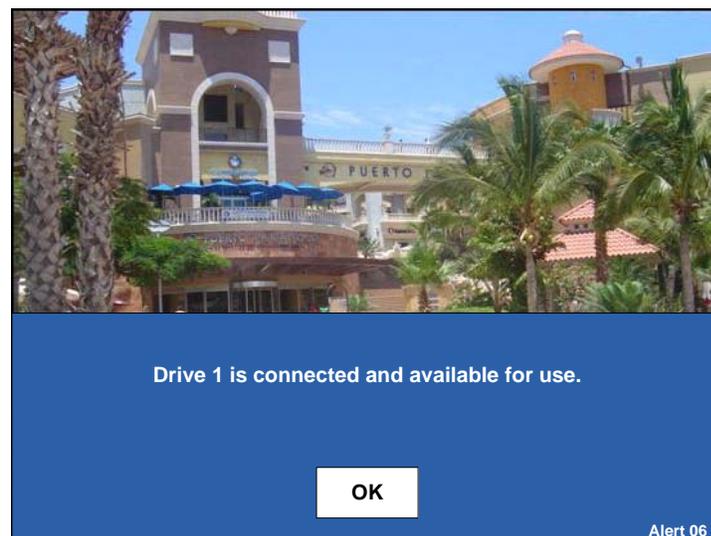
1. Access the Interactive Programming Guide's DVR Recordings List. Your Interactive Programming Guide will display both your internally and externally stored programs within the same DVR Recordings List.
2. Select a recorded program and follow the normal process for initiating playback of the selected recorded program.
3. If the recorded program is stored on an external drive that is configured for use with your cable box but is not currently connected, you will be prompted to connect the appropriate external drive to begin playback.

Note: The HELP button on Alert 12 provides access to the External Drive Utility, which is described in section 6 of this document.



7. Upon connection of the appropriate drive, Alert 06 will appear on-screen to indicate the drive is available for use.

Press **Select/OK** on your remote control to begin playback of the selected recording.



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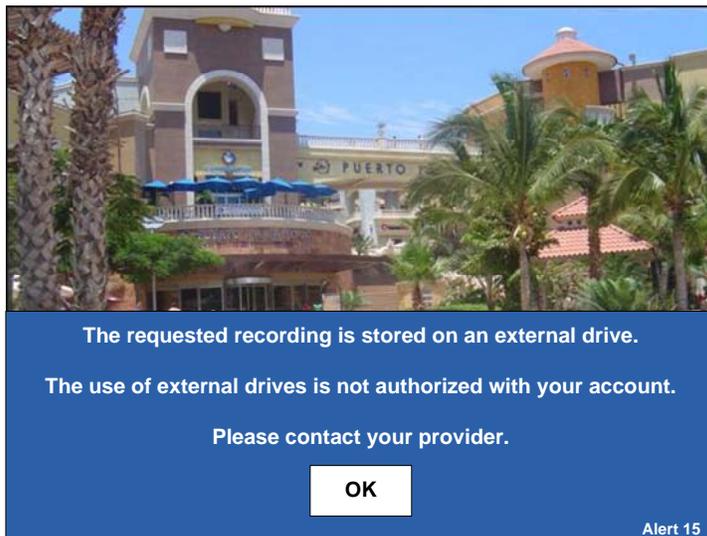
-
8. If you do not wish to connect the external drive to begin playback, use your remote control's ◀ or ▶ keys to select **CANCEL** on Alert 12 and then press **SELECT/OK** to continue. You will be returned to the Interactive Programming Guide's DVR Recordings List.

Note: If you select **CANCEL** on Alert 12, you may be prompted by the Interactive Programming Guide to either **DELETE** or **Do NOT DELETE** the selected recorded program prior to being returned to the DVR Recordings List.

Account Authorization for Playback

If your cable service provider removes the External DVR Storage authorization from your account after you have already completed recordings to an external drive, you will not be able to view the externally stored recordings until authorization is restored.

If you attempt to playback an external recording after authorization is removed from your account, you will be notified by an on-screen message.



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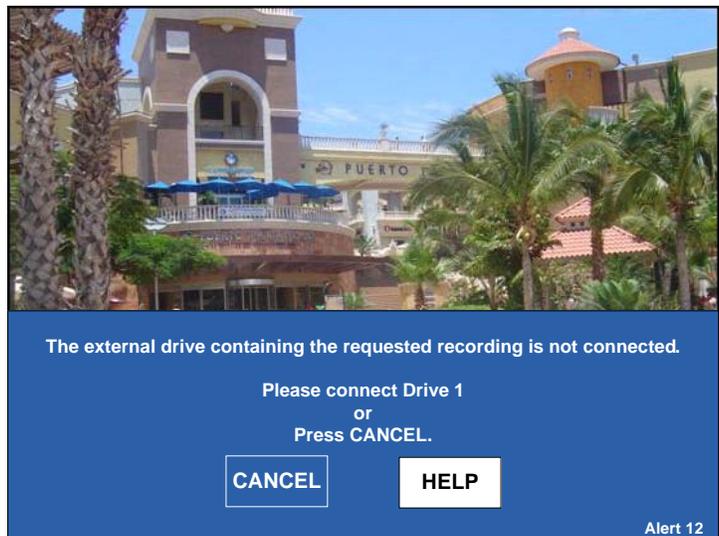
6

External Drive Utility

The purpose of the External Drive Utility is to provide a method for removing all of an external drive's recordings from the DVR Recordings List without having to delete each piece of content individually. This is a particularly helpful feature when a previously used external drive is no longer available for use with your cable box. You may not use the External Drive Utility to delete the contents of the cable box's internal hard drive.

Access to the External Drive Utility is provided by selecting **HELP** on Alert 12, which will appear when you attempt to playback a recording that is stored on an external drive that is not connected to the cable box.

1. To access the utility, use the remote control's ◀ or ▶ keys to select **HELP** on Alert 12 and then press the **Select/OK** button.



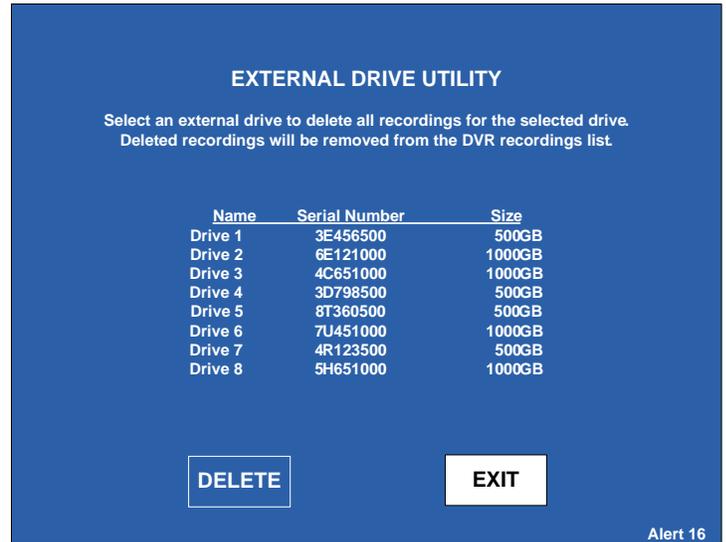
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2. After you select **HELP** on Alert 12, the following External Drive Utility menu will appear:

- A. Use the remote control's **▲** and **▼** keys to scroll through and highlight the external hard drive you would like to delete.
- B. Use the remote control's **◀** or **▶** keys to select **DELETE**.
- C. Press the **Select/OK** button on the remote control.



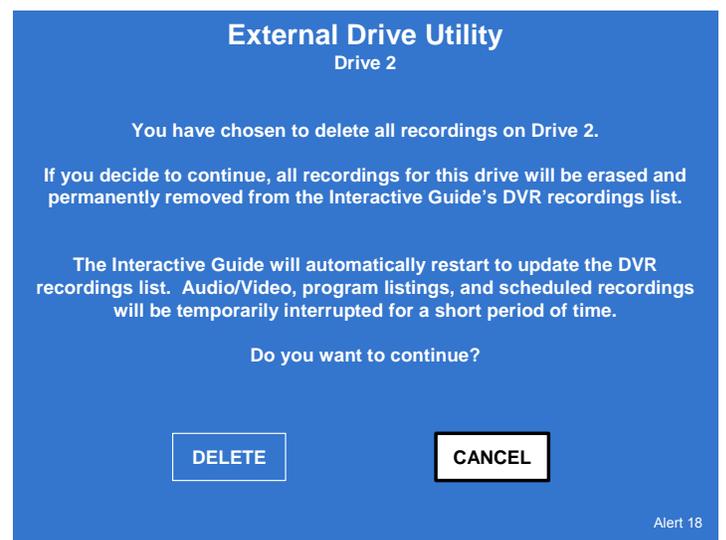
Note: If you wish to exit the utility without deleting an external drive, use the remote control's **◀** or **▶** keys to select **EXIT** and press **Select/OK**. You will be returned to Alert 12.

Note: Alert 16 will automatically time out after ten minutes if no activity is detected and return you to Alert 12.

3. If you choose an external drive and select **DELETE** on Alert 16, you will be asked to confirm the drive deletion on Alert 18.

- A. Use the remote control's **◀** or **▶** keys to select **DELETE**.
- B. Press the **Select/OK** button on the remote control.

Note: Selecting **CANCEL** on Alert 18 will return you to Alert 16.



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-
4. After you have confirmed the external drive for deletion on Alert 18, you will be returned to Alert 16 so that you may select additional external drives for deletion prior to restarting the Interactive Programming Guide.
 5. Once you have returned to Alert 16, if you wish delete additional external drives repeat steps 2 – 3 of this section.
 6. Once you have finished selecting and confirming the external drives to be deleted, you will be returned to Alert 16. Use the remote control's ◀ or ▶ keys to select **EXIT** and press the **Select/OK** button on your remote control.
 7. The Interactive Programming Guide will automatically restart to update the DVR Recordings List. Audio/video, program listings, and scheduled recordings will be temporarily interrupted for a short period of time.

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