

WHAT IS GEOGENIUS?

GeoGenius is an innovative system that plays broadcast quality, entertaining video and informative audio content on MTR Western motorcoaches at precise GPS coordinates.

HERE'S HOW IT WORKS:

Relying on sophisticated GPS locating devices, MTR Western motorcoaches know exactly where they are on the earth at all times. The system consists of hardware, software, and professionally produced audio and video content—all working in concert to deliver a striking, location-aware, multi-media experience.

HERE'S HOW IT ENHANCES:

GeoGenius adds to the tour experience by providing information about points of interest that are coming up, and sometimes about points of interest your passengers CAN'T see from the motorcoach.

Because we create engaging stories with video, we can also show seldom seen, rare archival photographs along with video and film from past decades. This transports passengers to a different era, giving them a greater appreciation for the area, scenery, culture, heritage and particular point of interest.

GEOGENIUS PRODUCTS

ROAD SHOW: Over-the-road tours, such as Your Man Tours' 14-day National Parks of the Golden West Tour. They include longer segments with more video to give passengers a broad picture about each point of interest or destination.

URBAN AUDIO: City tours, such as Tower Tour's 4-hour San Francisco Tour. These tours replace much of the video with audio-only segments about points of interest, allowing passengers to see more while still experiencing a GeoGenius-powered tour.

DAILY START-UP CHECKLIST

Repeat this entire procedure every morning and after every time the coach is shut down and powered up again.

1. Power up video system
 - a. Change radio to DVD
 - b. Use remote to change input to "AV1"
2. Make sure proper CompactFlash Card is firmly inserted into the DVM-7400, and confirm that the light is slowly flashing green (and not flashing red).
3. Test DVM
 - a. Press test button with a pen or pencil
 - b. Confirm that the correct CompactFlash Card is in the DVM-7400 by watching what appears on-screen
4. While the Test Video Plays, check video and audio (*start of day only*)
 - a. Confirm that video appears on all screens
 - b. Confirm that all speakers are working
 - c. Confirm audio levels throughout coach by making sure the balance and fade are adjusted properly:
 - Balance:** should be level between right and left;
 - Fade:** is the same as "Balance," except it moves the sound from the front to the rear of the coach, instead of left and right. For freeway driving, the fade should be 25% louder in the rear to compensate for engine noise.
5. Close DVM hatch/compartment
6. You are ready to greet the passengers!

NOTE: When driving on the freeway, increase the volume 10%-20% in order to compensate for road noise.

DVM-7400 DRIVER'S INFORMATION

(based on Digital Video Machine User's Manual, Document Revision 1.7)

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1.0 Introduction

The Digital Video Machine, or DVM for short, is designed to be an ultra reliable video playback source.

The Digital Video Machine DVM-7400 offers a wide variety of standard features including:

- GPS (Global Positioning Satellite) triggering capability
- Seamless video transitions
- Stores many individual video files
- Plays from solid state Removable CompactFlash Card

The DVM-7400 is the machine that powers your GeoGenius tour content.

2.0 Definitions

Definitions for terms used throughout this manual:

Audio – Fade/Balance – On the audio console of the coach (the Radio/DVD), you can adjust the volume, the balance, and the fade. Volume is self-explanatory. Balance relates to the levels in the left and right speakers and should be even. Fade is like balance, but moves between the forward and rear speakers, and the rear speakers should be louder (by about 25%) to compensate for engine noise.

Card Slot – On the DVM-7400, this is the horizontal slot where you put the CompactFlash Cards. You push the Card all the way in, firmly, so that the “eject” button next to the Card pushes all the way out and the green light should go on.

Be Careful: The CompactFlash Card slot is poorly designed. Don't let the Card fall into the body of the unit! Make sure you are pushing the Card on the track, like a drawer.

CompactFlash Card – These are where the videos are stored. Each Card only carries the video and GPS trigger points for that particular day of travel. If the wrong Card is in the player, then nothing will play.

Console – This is what we call the part of the coach with the radio/DVD player.

DVM-7400 – This is the machine that plays the video segments at specific GPS locations.

Eject Button – Inside the Card Slot there is a small black button. When the CompactFlash Card is seated in the Card Slot, the button will be completely forward. In order to eject the CompactFlash Card, use a pen or pencil to press the Eject Button which will then push it out.

GPS Antenna – There is an antenna permanently hooked into the DVM-7400 that acquires GPS coordinates and uses them to trigger the appropriate videos.

Segments – Each specific video that plays at a specific GPS location is called a “Segment.”

Status Light – On the front of the DVM-7400, just to the left of the Card Slot, there is an LED light. When the unit is on and it is receiving a GPS signal, there will be a slowly flashing green light. When there is trouble, the light will be red. See “Troubleshooting” for more information.

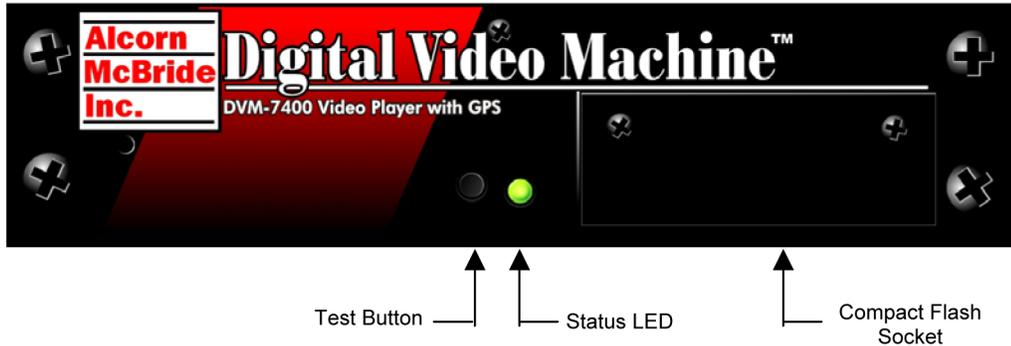
Test Button – To the left of the light there is another hole with the Test Button in it. You need a pen or pencil to press the test button, which will then play the test video from the CompactFlash Card. If you hit the Test Button while a video is playing, you will pause that video. When you hit the Test Button again, however, it will start playing the original video from the beginning.

WARNING: Do not press and hold the test button. If you do, you run the risk of “reformatting” and erasing the CompactFlash Card.

Trigger Points – These are the GPS coordinates that have been preprogrammed onto the CompactFlash Cards. When the coach passes a trigger point, the video associated with that location will play.

3.0 Controls and Indicators

The front panel of the DVM incorporates a test button, status indicator, and a CompactFlash Card socket.



3.1 Test Button

A push-button is located on the front of the unit. This button is used to “test” play the unit and will play the test video file on the media.

WARNING: Do not press and hold the test button. If you do, you run the risk of “reformatting” and erasing the CompactFlash Card.

3.2 Status LED

A multi-color LED located on the front of the DVM indicates status.

<i>LED Behavior</i>	<i>LED Meaning</i>
Steady green	Playing
Steady orange	Paused, Stilled, Searched, Formatting Media
Steady red	Audio Muted
Flashing red	Fault, No CompactFlash Card
Flashing green	Drive Access or GPS input active
Flashing green/red/orange	Updating OS
Off	Idle

The LED blinks green briefly during initialization.

4.0 GPS Control - How it Works

The Digital Video Machine automatically triggers the appropriate GeoGenius video segment whenever it enters into a predetermined geographical area, called a “trigger.”

The DVM accomplishes this by reading a data stream from a GPS (Geographical Position Satellite) sensor. This sensor is an antenna that outputs a serial data stream containing Longitude and Latitude data obtained from orbiting GPS satellites.

The Longitude and Latitude data supplied by the GPS sensor is compared to geographical points stored in a GPS playlist, found on each GeoGenius CompactFlash Card. Each entry in a GPS playlist contains a command supported by the DVM’s Command Protocol as well as GPS coordinates that are associated with that command.

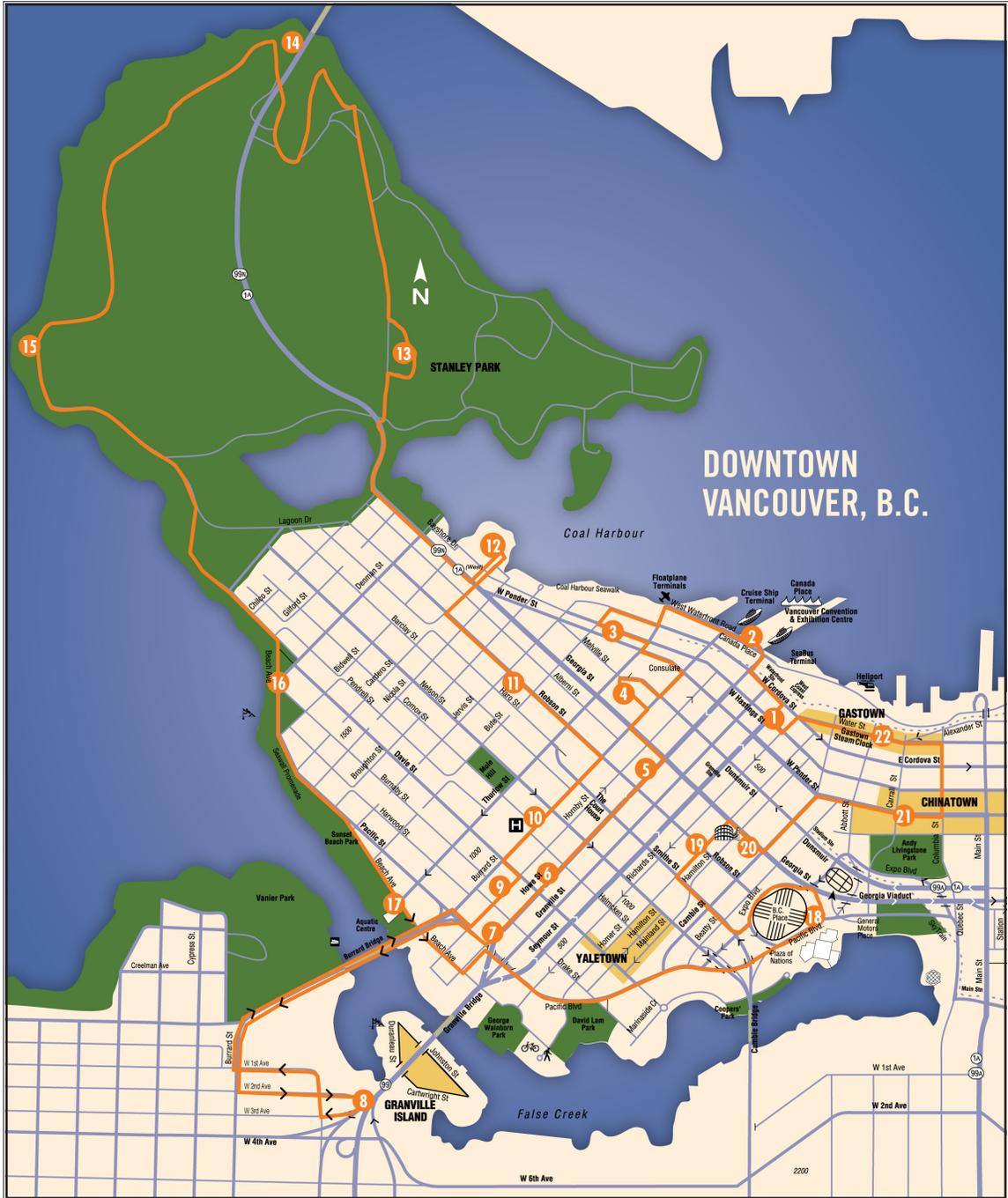
The incoming coordinates are compared to those listed in the GPS Playlist on the CompactFlash Card. When a match is found, the command is executed, and the corresponding video segment plays.

5.0 Updating Firmware

From time to time, new updates become available for the computer instructions, or “firmware” that enables the DVM to operate. We will never need to do this in the middle of a tour.

If such an update becomes available before a new tour, we may ship you a CompactFlash Card with the new firmware on it. Should this happen, follow these steps to install the new firmware.

1. Power down the coach. Make sure no power is going to the DVM-7400 by confirming that the light is out.
2. Load the firmware CompactFlash Card into the DVM-7400
3. Power on the coach as usual
4. The status LED will display the following colors during the update process:
 - Solid Green – Verifying OS.NEW file
 - Solid Red – Erasing Flash Memory
 - Solid Orange – Programming Flash Memory
5. Wait for LED to go out completely.
6. You’re done! You may power down the coach and remove the firmware CompactFlash Card.



VANCOUVER HOHO 2009 – GEOGENIUS TOUR BREAKDOWN

01 Approaching – Sightline Harbour Centre

Trigger Location: on Water after Cambie

Stop Location: Lookout Tower on Richard Street

The Sightline offices and sweeping views of the city.

02 Approaching – Canada Place

Trigger Location: after Right on Hastings

Stop Location: in front of Canada Place

Mention of Waterfront Station before we talk about Canada Place and cruise ships.

03 Approaching – Marriott Pinnacle

Trigger Location: after Canada Place approaching Burrard

Stop Location: Hastings Street in tour bus zone

The new, green Vancouver Convention Centre, and Vancouver as “The World’s Most Livable City”.

04 Approaching – Hyatt Regency

Trigger Location: after Right from Hastings onto Thurlow

Stop Location: Melville Street

Bill Clinton slept here. A short preview of some of the sights and stops on the HOHO route.

05 Approaching – Vancouver Art Gallery

Trigger Location: after Right on Burrard

Stop Location: Howe Street at Georgia Street

The saving of Christ Church Cathedral, the historic Hotel Vancouver, and the Vancouver Art Gallery. We also mention the entrance to Pacific Centre Mall and Robson Street as shopping opportunities.

06 Approaching – Holiday Inn

Trigger Location: pulling away on Howe

Stop Location: Howe Street across from hotel

Pacific Cinémathèque is perfect for the adventurous filmgoer and is across the street from the Holiday Inn.

07 Approaching – Quality Hotel

Trigger Location: pulling away on Howe

Stop Location: Howe Street in front of hotel

Vancouver is a multicultural metropolis thanks to immigration.

08 Approaching – Granville Island

Trigger Location: after Right onto Pacific

Stop Location: 2nd Avenue in front of Island Market

The history of Granville Island from Squamish fishing ground through industrial wasteland to must-see marketplace.

09 Approaching – Cascadia / Landis Hotels

Trigger Location: on 3rd approaching Fir, after overpass

Stop Location: Hornby Street in front of hotel

Kitsilano neighbourhood history, the Burrard Street Bridge, and a brief note about Davie Village.

10 Approaching – Sheraton Wall Centre

Trigger Location: after Left from Hornby onto Davie

Stop Location: Burrard Street at the transit zone

How the Sheraton Wall Centre ended up two-tone.

11 Approaching – Robson Street / Blue Horizon

Trigger Location: pulling away from hotel, approaching Nelson

Stop Location: Robson Street in front of the hotel

Celebs like the Sutton Place hotel bar. Robson Street, from “Robsonstrasse” to “Rodeo Drive North”.

12 Approaching – Westin Bayshore

Trigger Location: pulling away from hotel, approaching Jervis

Stop Location: in front parking lot

Howard Hughes stayed here. It's also a good area to rent bikes.

13 Approaching – Stanley Park Rose Garden

Trigger Location: after turning onto Georgia

Stop Location: by the Pavilion and Malkin Bowl

The park was named after Lord Stanley of Preston (originator of the Stanley Cup) and is one of the largest urban parks in North America. Lost Lagoon, Rose Garden, and other things to do nearby.

14 Approaching – Prospect Point

Trigger Location: passing the Stanley Park Pavilion

Stop Location: in the third pullout

Lions Gate Bridge, the Guinness family, Prospect point, and ice cream.

14A Lions Gate Bridge View

Trigger Location: on Stanley Park Drive approaching 1A/99

Stop Location: NO STOP

You can see the bridge to our right.

15 Approaching – Teahouse / Third Beach – FLAG STOP

Trigger Location: after stop sign on Stanley Park Drive

Stop Location: on main road in front of the Teahouse

The storm of 2006, fallen trees, and nursing stumps. The wartime coast defense fort and the so-called "Battle of Stanley Park". This is a flag stop.

16 Approaching – English Bay Beach

Trigger Location: leaving Teahouse stop

Stop Location: Beach and Denman

Second Beach pool and Ceperly Park attractions. History of English Bay. The beach and the Sea Wall.

17 Approaching – Vancouver Aquatic Centre

Trigger Location: after Denman Street light

Stop Location: Beach Avenue ahead of transit zone
Inukshuk, Vanier Park, Aquatic Centre.

18 Approaching – Plaza of Nations / Edgewater Casino

Trigger Location: on Beach after Burrard

Stop Location: on Pacific Avenue

Yaletown: it's history and hipness. The Edgewater is downtown
Vancouver's only full-service casino

19 Approaching – Library Square

Trigger Location: on Pacific just before Griffiths Way

Stop Location: Homer Street at Robson Street

GM Place and BC Place. Library Square architecture and attractions.
How the books were moved from the old library.

20 Approaching – Sandman Hotel – FLAG STOP

Trigger Location: mid-block on Homer Street

Stop Location: on Georgia Street in front of hotel

What is a flag stop? This segment explains it.

21 Approaching – Chinatown

Trigger Location: after turning Left onto Beattie

Stop Location: in front of Doctor Sun Yat-Sen Chinese Garden

Red lampposts. History of Chinatown and Chinese in Vancouver. The
Millennium Gate, Doctor Sun Yat-Sen Chinese Garden, markets, etc.

22 Approaching – Gastown

Trigger Location: on Pender approaching Columbia

Stop Location: Water Street at Cambie Street

Gassy Jack and the history of Gastown. The Steam Clock.

TROUBLESHOOTING

1. Power won't go on.

- Check to make sure the power is on in the coach. There is no on/off switch to the DVM-7400, so it turns on and off when the coach does.
- If the coach's power is on, then check that the power cord is still connected to the back of the DVM-7400 (the power cable plugs into the rear right side as you face the machine).

2. No video will play when you hit the test button.

- Make sure you have set up the DVM-7400 according to the daily checklist.
- Be sure there is a Card in the player.
- When you initially switch from the radio to the DVD player on the console, check to make sure the screens are working. If you don't get the DVD "home" screen before switching to "AV1" then you may have a serious issue and you need to talk to maintenance.
- Sometimes the Card won't seat properly. Try ejecting the Card and installing it again. Make sure the light turns green when the card is pushed in.
- If the light flashes red when you hit the test button and nothing plays, then either the Card is not seated fully in the DVM-7400 or the Card is corrupt. Install it again. If it still doesn't work, try installing the back-up card. Make sure it is all the way in. If you believe the original Card is defective, send it back to HQ so we can replace it.

3. The video plays but the audio doesn't.

- Make sure the audio on the radio/DVD console is turned up.
- Switch to the radio and make sure that it works, and then switch back to video.
- If the radio works but the DVM doesn't, then switch the console to the DVD player and see if a DVD works.
- If the radio and the DVD player work, but the DVM-7400 does not, then an audio cord has been disconnected. But if the radio doesn't work at all, then this is more serious. Either way, call maintenance.

4. The test video plays when you first test the system, but the DVM-7400 isn't flashing a green light like it's supposed to.

- Are you in a parking garage? The red light can mean that the DVM-7400 isn't getting a GPS signal from the antenna. Once you pull out from any structure that could be blocking the satellite, the light should change to a slowly flashing green.
- There is a chance that when the Card was inserted it didn't seat correctly. Eject the Card, then push the Card back into the DVM-7400. Test it again.
- There is a slim chance that the GPS antenna has become disconnected. Call maintenance if you think this may have happened.

5. The test video plays, but the GPS-triggered segments aren't playing as we drive.

- Hit the test button and make sure that the correct Card is in the DVM-7400. If the wrong Card is in the player, then swap it out for the proper Card.
- If the test video plays but none of the GPS-triggered segments play, There is a chance that when the Card was inserted it didn't seat correctly. Eject the Card, then push the Card back into the DVM-7400. Test it again. Make sure the DVM-7400 has a slowly flashing green light.
- If the test video plays but none of the GPS-triggered segments play, then you may need to run the segments off of the backup DVD (see next section). At the next stop, replace the Card with the backup. If that doesn't work, report the problem to maintenance.
- If only one of many segments don't play, then there may be trouble with the pre-programmed GPS coordinates. Report the problem to maintenance so we can fix it for subsequent drivers.

USING THE BACKUP DVD

If for some reason the DVM-7400 is not working, you may need to show the video segments using the DVD player. First consult the troubleshooting section of this manual before proceeding.

It should go without saying, but we'll say it anyway: safe driving is more important than triggering the video segments at the appropriate time.

That said, if the GPS system isn't triggering the segments and you need to play the DVD, we've tried to make it as easy as possible.

1. Use the remote to change the console from AV1 to DVD.
2. Insert the DVD
3. Use the "Tour Breakdown" to match the location to the appropriate DVD track number
4. If it's safe, play the DVD track at the appropriate time

Don't forget to report the problems that required the use of the DVD backup.