Guide for Using DIRECTV® SWM Technology with Winegard® Mobile Satellite TV Antennas

For up-to-date information on receiver compatibility & programming, visit www.winegard.com/receivers
Receivers Compatible with SWM Technology

Winegard mobile satellite TV antennas that operate with Multi-switch technology require separate accessories to operate with DIRECTV Single Wire Multi-switch (SWM) only technology receivers. For an up-to-date list of DIRECTV DVR and non-DVR receiver models that are only compatible with SWM technology, visit www.winegard.com/directv. This website also lists Winegard mobile satellite TV antennas that are compatible with DIRECTV. If unsure of your receiver model, check the back of the receiver or the inside front door of the smart card slot.

SWM Kit Parts

For proper SWM operation with Winegard satellite TV antennas that operate with Multi-switch technology, the SWM8, DIRECTV PI-28 or PI-29 power supply, and DIRECTV approved splitter (typically 2, 4, or 8 port) must be used. Failure to use this equipment may cause issues with your system. Note that Model SK-SWM3 TRAV’LER antenna operates with DIRECTV SWM technology without separate accessories.

The DIRECTV power inserter PI-28 or PI-29 may damage a DIRECTV receiver if improperly connected in the system. The SWM output of the power inserter should never be directly applied to the input of a receiver. During installation, verify all wiring before applying power to the power inserter.

Calculating Tuners for SWM Installation

DIRECTV SWM8 allows the use of up to eight tuners with a Winegard satellite antenna. Count the tuners in your SWM installation to check that there are less than or equal to eight tuners being used with SWM8. Keep in mind the following when counting the number of tuners:
• A non-DVR receiver counts as one tuner.
• A DVR receiver has dual tuners and counts as two tuners (even though only one coaxial cable is needed to connect to a DVR receiver). The exceptions are the DIRECTV Genie** and HR34 DVR receivers, which have five tuners and count as five tuners when calculating tuners for a SWM installation.

Number of non-DVR receivers + 2 x Number of DVR receivers = Total tuners for SWM8 installation

Example

Two non-DVR receivers and three DVR receivers are being used for a SWM8 installation.
2 non-DVR receivers + 2 x 3 DVR receivers = 8 total tuners for SWM installation

Warnings

• Never use B-Band converters with SWM8.
• Do not use a DIRECTV PI-21 power inserter with a SWM8. Use a DIRECTV power inserter PI-28 or PI-29.
• Never power on all receivers at once. Sequentially power receivers since every receiver must get a SWM assignment.
• The power inserter must be installed inside the vehicle.

Winegard Mobile Satellite TV Antennas that Require Separate Accessories to Operate with SWM Technology

<table>
<thead>
<tr>
<th>Model number</th>
<th>Power Inserter</th>
<th>SWM8</th>
<th>Splitter</th>
<th>Wiring Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAV’LER SK-3005 DIRECTV Slimline</td>
<td><img src="image1" alt="Diagram of TRAV’LER SK-3005 DIRECTV Slimline" /></td>
<td><img src="image2" alt="Diagram of SWM8" /></td>
<td><img src="image3" alt="Diagram of Splitter" /></td>
<td><img src="image4" alt="Diagram of Wiring Diagram" /></td>
</tr>
<tr>
<td>TRAV’LER SK-3003 DIRECTV Triple LNB</td>
<td><img src="image5" alt="Diagram of TRAV’LER SK-3003 DIRECTV Triple LNB" /></td>
<td><img src="image2" alt="Diagram of SWM8" /></td>
<td><img src="image3" alt="Diagram of Splitter" /></td>
<td><img src="image4" alt="Diagram of Wiring Diagram" /></td>
</tr>
<tr>
<td>Carryout, GM-1518, GM-1599, RoadTrip® Mission &amp; MiniMax™ and DuraSAT®</td>
<td><img src="image6" alt="Diagram of Carryout, GM-1518, GM-1599, RoadTrip® Mission &amp; MiniMax™ and DuraSAT®" /></td>
<td><img src="image2" alt="Diagram of SWM8" /></td>
<td><img src="image3" alt="Diagram of Splitter" /></td>
<td><img src="image4" alt="Diagram of Wiring Diagram" /></td>
</tr>
<tr>
<td>Carryout Anser.</td>
<td><img src="image7" alt="Diagram of Carryout Anser." /></td>
<td><img src="image2" alt="Diagram of SWM8" /></td>
<td><img src="image3" alt="Diagram of Splitter" /></td>
<td><img src="image4" alt="Diagram of Wiring Diagram" /></td>
</tr>
<tr>
<td>Carryout MP1.</td>
<td><img src="image8" alt="Diagram of Carryout MP1." /></td>
<td><img src="image2" alt="Diagram of SWM8" /></td>
<td><img src="image3" alt="Diagram of Splitter" /></td>
<td><img src="image4" alt="Diagram of Wiring Diagram" /></td>
</tr>
<tr>
<td>Crank-ups, Dish &amp; Tripod Kits (TR-6018, PM-2000)</td>
<td><img src="image9" alt="Diagram of Crank-ups, Dish &amp; Tripod Kits (TR-6018, PM-2000)" /></td>
<td><img src="image2" alt="Diagram of SWM8" /></td>
<td><img src="image3" alt="Diagram of Splitter" /></td>
<td><img src="image4" alt="Diagram of Wiring Diagram" /></td>
</tr>
</tbody>
</table>

*DIRECTV primary 101 programming only. Toggling to alternate satellites is not supported.
**Availability of channels on Satellites 110 and 119 is dependent upon the satellite port to which Port C of the TRAV’LER interface is connected.
***Each antenna will see satellites as listed in the above table. Note that additional parts (not included) are needed for the combined setup of the TRAV’LER antenna and domed antenna with SWM technology.
The wiring diagram below applies to dome antennas, including the Carryout GM-1518 & GM-1599, RoadTrip Mission & MiniMax and DuraSAT antennas. The diagram applies to both stationary and tracking models. Model GM-1518 Carryout automatic antenna is shown below.

For access to 99°/101° satellite programming, connect all four ports of the SK-3005 TRAV’LER antenna to all four inputs on the SWM8.

For access to 101° satellite programming, connect the primary and secondary ports of the antenna to both SWM inputs corresponding to Satellite 99°/101°.

If connecting to a DVR receiver, do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).

Terminate unused splitter outputs with a 75 ohm termination cap.
SK-3005 TRAV’LER Antenna with Dome Antenna

Wiring Version 1

Set the Dish Type to 04: Slimline-5, and set the Switch Type to 01: SWM. For more information on receiver setup and complete step-by-step instructions, refer to your product manual or go online to http://www.winegard.com/receivers/setupguide.php.

When the receiver settings above are used with the SK-3005 TRAV’LER antenna, all HD and SD programming will be available. The same receiver settings will also work for the dome antenna but will display the “Searching for Signal” message on HD channels. To remove the “Searching for Signal” message, change the preferences setting in the Display Menu to “Hide all HD Channels” when in dome operation. However, the receiver would need to be changed back to “Display All Channels” or “Hide All SD Duplicates” when changing back to TRAV’LER SK-3005 mode.

NOTE: It may take several minutes for the DIRECTV receiver to load HD channels or to purge HD channels from the channel guide.

A/B Switch (75 ohm) Specifications

Frequency Range (DC): 2250 MHz.
Current Capacity: ≥ 2A
Isolation: > 25 dB
Insertion Loss: < .25 dB
Return Loss: ≥ 11 dB or VSWR ≤ 2:1

Only one A/B switch (not included) is required for operation. The A/B switch must meet the specifications above.

KEY
- Coaxial Cable
- Power Cable (attached to power inserter)

Terminate unused SWM outputs with a 75 ohm termination cap.

Terminate unused splitter outputs with a 75 ohm termination cap.

If connecting to a DVR receiver, do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).
Wiring Version 2

Set the Dish Type to 04: Slimline-5, and set the Switch Type to 01: SWM. For more information on receiver setup and complete step-by-step instructions, refer to your product manual or go online to http://www.winegard.com/receivers/setupguide.php.

When the receiver settings above are used with the SK-3005 TRAV’LER antenna, all HD and SD programming will be available. The same receiver settings will also work for the dome antenna but will display the “Searching for Signal” message on HD channels. To remove the “Searching for Signal” message, change the preferences setting in the Display Menu to “Hide all HD Channels” when in dome operation. However, the receiver would need to be changed back to “Display All Channels” or “Hide All SD Duplicates” when changing back to TRAV’LER SK-3005 mode.

NOTE: It may take several minutes for the DIRECTV receiver to load HD channels or to purge HD channels from the channel guide.

A/B Switch (75 ohm) Specifications
- Frequency Range (DC): 2250 MHz
- Current Capacity: ≥ 2A
- Isolation: > 25 dB
- Insertion Loss: < .25 dB
- Return Loss: ≥ 11 dB or VSWR ≤ 2:1

Two A/B switches (not included) are required for operation. The A/B switches must meet the specifications above.

A/B Switch #1

A/B Switch #2

Terminating unused splitter outputs with a 75 ohm termination cap.

- If connecting to a DVR receiver, do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).
Wiring Version 1
All three ports of the SK-3003 TRAV’LER antenna must be connected as shown to three inputs on the SWM8 for access to 101° odd and even transponders, 119° odd transponder only programming.

Even (18V) transponders will not be available in Wiring Version 1. This will be verified in the receiver installation status screen shown to the right.

If connecting to a DVR receiver, do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).

Terminate unused SWM outputs with a 75 ohm termination cap.

≤40 ft between antenna & SWM

Wiring Version 2
All three ports of the SK-3003 TRAV’LER antenna must be connected as shown to three inputs on the SWM8 for access to 101° odd and even transponders, 110° and 119° even transponder programming.

Odd (13V) transponders will not be available in Wiring Version 2. This will be verified in the receiver installation status screen shown to the right.

If connecting to a DVR receiver, do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).

Terminate unused SWM outputs with a 75 ohm termination cap.

≤40 ft between antenna & SWM
If connecting to a DVR receiver, do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).

For access to 101° satellite programming, connect the primary and secondary ports of the antenna to both SWM inputs corresponding to Satellite 99°/101°.

Non-DVR Receiver

DVR Receiver

KEY
- Coaxial Cable
- Power Cable (attached to power inserter)

Terminale unused SWM outputs with a 75 ohm termination cap.

Carryout Anser Antenna with DIRECTV SWM8

Terminale unused SWM outputs with a 75 ohm termination cap.

Carryout MP1 Antenna with DIRECTV SWM8

Terminale unused SWM outputs with a 75 ohm termination cap.

≤40 ft between antenna & SWM8

≤40 ft between antenna & SWM8

For access to 101° satellite programming, connect the primary and secondary ports of the antenna to both SWM inputs corresponding to Satellite 99°/101°.

Non-DVR Receiver

DVR Receiver

KEY
- Coaxial Cable
- Power Cable (attached to power inserter)
The wiring diagram below applies to most portable dishes and tripod kits not already covered. The coaxial connection ports can be found at the base of the LNB for crank-up antennas, dish and tripod kits. For additional tips on connecting coaxial cables to a crank-up antenna, see the back page. Toggling to alternate satellites is not supported.

**Non-DVR Receiver**

- Use Coaxial Cable to connect to the input labeled Satellite 1.
- Terminate unused SWM outputs with a 75 ohm termination cap.
- Connect to Satellite 99°/101° for access to 101° satellite programming.

**DVR Receiver**

- Use Coaxial Cable to connect to Satellite 1 port (labeled FTM or SWM).
- Terminate unused splitter outputs with a 75 ohm termination cap.
- Do not connect a coaxial cable to the Satellite 2 input. With SWM, only connect to the Satellite 1 port (labeled FTM or SWM).

**KEY**

- Coaxial Cable
- Power Cable (attached to power inserter)

**SK-3005 TRAV’LER Antenna with SWM Technology**

- Set the Dish Type for **04: Slimline-5**.
- Set the Switch Type for **01: SWM**.
- Note that B-Band Converters should not be used with SWM Technology.

**SK-3003 TRAV’LER Antenna with SWM Technology**

- Set the Dish Type for **02: 3-LNB (18”x20”)**.
- Set the Switch Type for **01: SWM**.
- Note that B-Band Converters should not be used with SWM Technology.

**Dome Antennas, Carryout Anser & MP1 Antennas, Crank-up Antennas, Dish & Tripod Kits with SWM Technology**

- Set the Dish Type for **01: Round (18”)**.
- Set the Switch Type for **01: SWM**.
- Note that B-Band Converters should not be used with SWM Technology.

**DIRECTV Receiver Settings**


**≤40 ft between antenna & SWM8**

- Terminate unused SWM outputs with a 75 ohm termination cap.

For access to 101° satellite programming, connect the primary and secondary ports of the antenna to both SWM inputs corresponding to Satellite 99°/101°.
Connecting Coaxial Cables to Crank-up Antennas

The coaxial connection ports are located on the base of the LNB. To connect a coaxial cable to each port, it may be necessary to remove the roller in front of the coaxial connection ports.

Complete the following steps to remove the roller and access the coaxial connection ports:

1. Locate the pin that holds the roller to the feed arm.
2. Using a 7/16" wrench, remove the nut from the pin.
3. Remove the pin from the roller, and remove the roller.
4. Connect a coaxial cable to each coaxial connection port.
5. Align the holes in the roller with the holes in the feed arm.
6. Place the pin through the holes in the feed arm and in the roller.
7. Thread a nut onto the pin, and tighten.

In some installations, a clamp may be used to hold down cables on the roof of the RV. If using a clamp, install the SWM8 after the first clamp.

---

www.winegard.com/mobile

For Technical Services, email help@winegard.com or call 1-800-788-4417
For Receivers and Programming, call 1-866-609-9374

For up-to-date information on receiver compatibility and programming, visit www.winegard.com/receivers

---

WINEGARD®

Winegard Company • 3000 Kirkwood St. • Burlington, IA 52601-2000
800/788-4417 • FAX 319/754-0787 • www.winegard.com • Printed in U.S.A.
©2012 Winegard Company Rev3 2/13  2452242

Winegard, TRAV’LER, Carryout, Anser, RoadTrip, Mission, and DuraSAT are registered trademarks of Winegard Company, and MiniMax and MP1 are trademarks of Winegard Company. DIRECTV is a registered trademark and Genie is a trademark of DIRECTV, Inc., a unit of Hughes Electronics Corp.

Disclaimer: although every effort has been made to ensure that the information in this manual is correct and complete, no company shall be held liable for any errors or omissions in this manual. Changes and technological advances are continuously being made in the satellite antenna market. Information provided in this manual was accurate at time of printing.