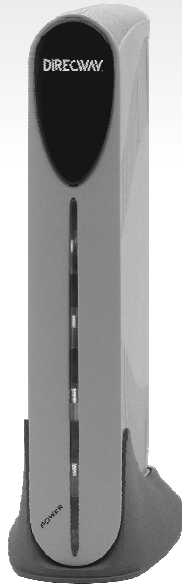


DIRECWAY®

User's Guide For the DIRECWAY® Voice Appliance (VAP)



DW6040 and DW6140

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This system requires professional installation. Visit www.direcway.com for more details. .

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Safety information

Cautions and notes, defined as follows, are used throughout this guide to help you become familiar with possible safety and equipment hazards.

 CAUTION
Indicates a hazard or unsafe practice that might result in moderate or minor personal injury.

CAUTION
Indicates a hazard or unsafe practice that might result in property damage.

Note: A note presents additional information.

This is an "Alpha" release of this document

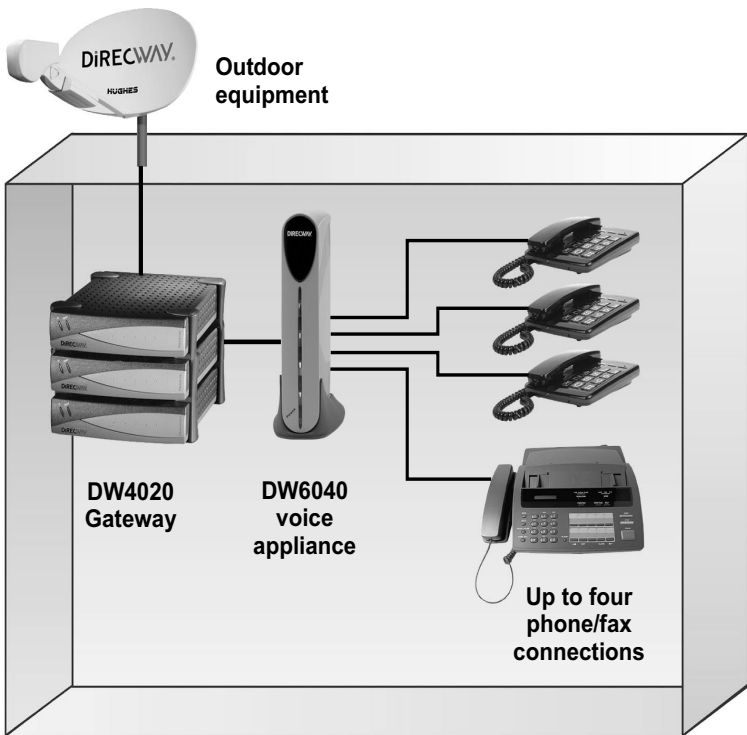
This is a preliminary release of this document and may not reflect the final configuration of this product and the procedures supporting it.

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This guide explains how to use your DIRECWAY Model DW6040/DW6140 Voice Appliance (VAP). The VAP provides service for up-to four analog telephony devices for connection to telephone networks using Internet Protocol (IP) transmission through a satellite connection. The VAP works in combination with the DIRECWAY Model DW4020 Gateway.

Note: Your Gateway and VAP system must be professionally installed.

Figure 1 shows a top level view of VAP and Gateway components at your location.



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Figure 1: The VAP and Gateway components

In this guide, the DW6040 and DW6140 models will be referred to as simply the DW6040. The 6140 model differs only in the power cord to the power module (240VAC).

The components of this DIRECWAY system work together in the following manner:

- The **Outdoor equipment (ODU)** and **antenna** use radio frequency to provide two-way connection to the satellite.
- **DIRECWAY Gateway system Model DW4020** provides the modem and router functions for transmit and receive capability to the satellite as well as an Ethernet Local Area Network (LAN). It connects to the VAP using a LAN port.
- **VAP Model DW6040** connects to the Gateway through the LAN to provide four analog telephony connections.

Under normal conditions, you should never have to adjust the antenna or ODU. If they become inoperable, you must contact a qualified professional technician to adjust or repair these components.

More information in this guide

Chapter 2 - Connections, provides detailed illustrations of all VAP connections.

Chapter 3 - Operation, provides instructions on how to operate the VAP.

Chapter 4 - Lights, indicators, and troubleshooting, provides an explanation of what the unit's indicator lights mean and how to troubleshoot problems.

Chapter 5- FAQs and specifications, provides answers to frequently asked questions and product specifications.

The unit's **Warranty** is at the end of this guide.

How to get help

Domestic support for Hughes products

If you have purchased this product in the USA:

- Check our Web sites, www.direcway.com and www.direcpc.com for even more information.
- E-mail technical support by selecting **Contact Us** on our www.direcway.com Web site.
- Call 1-866-DIRECWAY (1-866-347-3292).

International support for Hughes products

HUGHES provides international customer support, for those customers who have purchased a maintenance contract from HUGHES, through the **Hughes Network Systems International Technical Services Organization (TSO) Customer Support**. TSO provides 24-hour support seven days a week.

Before contacting TSO, be prepared to identify the severity of your problem from one of the following categories:

- Severity 1: Network Outage/ Safety Related Issue
- Severity 2: Problem that may result in a Severity 1 if not corrected
- Severity 3: Recurring Operational Problem
- Severity 4: Technical Questions / Future Release Request / Single Event Problem
- Severity 7: Problems will be resolved in a future Software Release

Contact TSO as follows:

- For **severity 1 and 2 issues**: +1-301-601-7390 (Critical Line)
- For **any other severity** contact the Call Center at:
 - +1-301-428-2815
 - E-mail: vcc@hns.com
 - Internet: <http://www.support.hns.com>

VAR products If you purchased this product from one of our Value Added Resellers (VARs), contact your VAR according to the procedure supplied by them for technical support. They are trained to help you with any technical problem.

This chapter describes:

- How to connect analog telephony devices to the VAP on this page.
- How to verify all connections for the VAP and Gateway system on page 7.

Connecting telephony devices

After your VAP has been professionally installed, you can connect telephony devices to one or more of the phone jacks on the rear of the unit. Which, and how many ports are active is determined by your contract with Hughes or with your VAR.

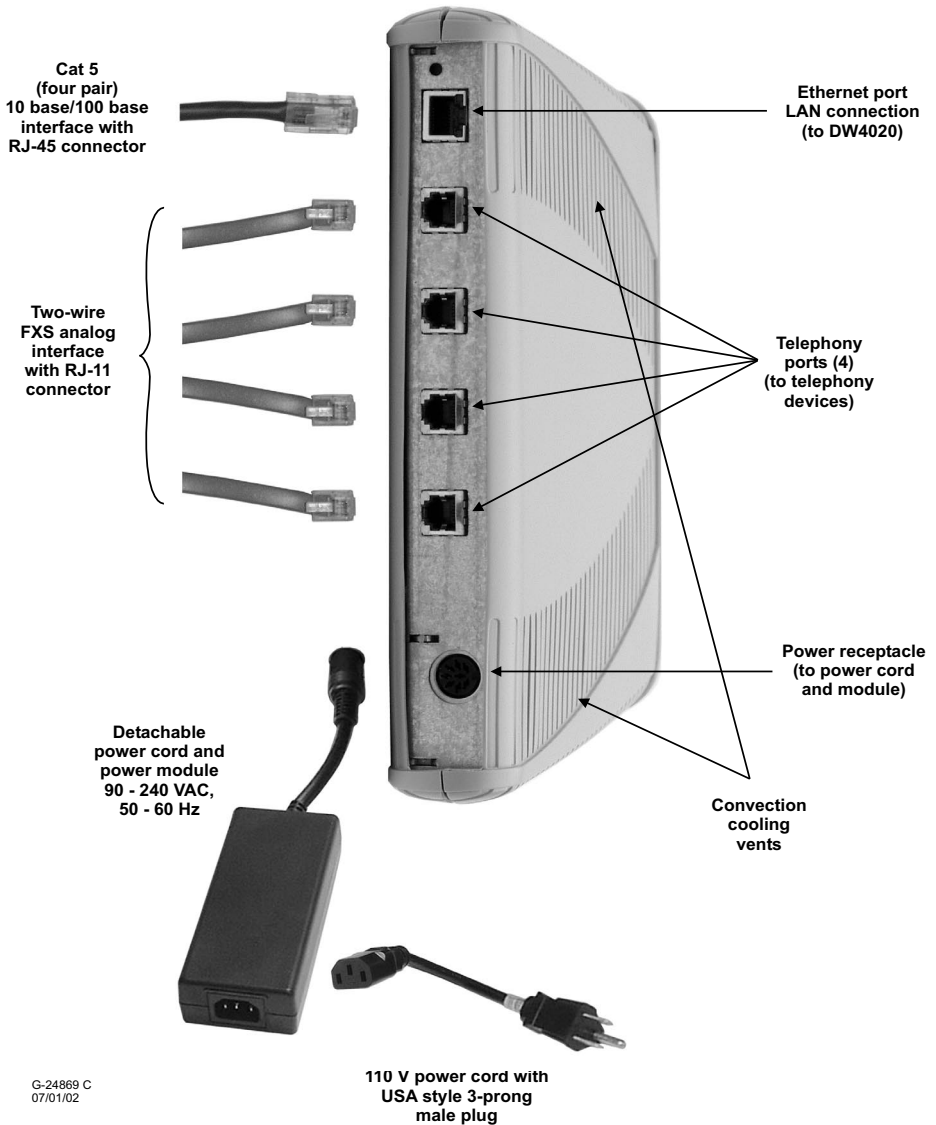
Connecting devices is simple - just plug the device's phone cord with RJ-11 connector into one of the jacks and the device becomes operational.

You do not need to power off the VAP to make or change connections.

The VAP will connect up to four telephony devices with the following considerations:

- The telephony devices must be analog. The VAP will not support digital devices.
- The connection must be two wire FXS with a RJ-11 connector (this is a standard phone connector).
- A single port can use a line splitter in cases where multiple devices can alternately use one line. For example, a phone and a FAX machine can share a line, but only one can be in use at a time. A VAP port can support 5 devices on any one line.
- Each port is a separate phone line with a separate phone number.
- You can change devices connecting to any port at any time.

Figure 2 shows the rear of the VAP and the four analog connections.



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Figure 2: Connections on the rear of the VAP

VAP connections

Your VAP/Gateway system is professionally installed. The following connection information is presented as a reference for the user in troubleshooting.

The VAP does not need to be located with the Gateway. You can relocate it by disconnecting the LAN cable, moving the VAP, and reconnecting the LAN cable (or a longer replacement).

Figure 3 shows all of the connections to the VAP.

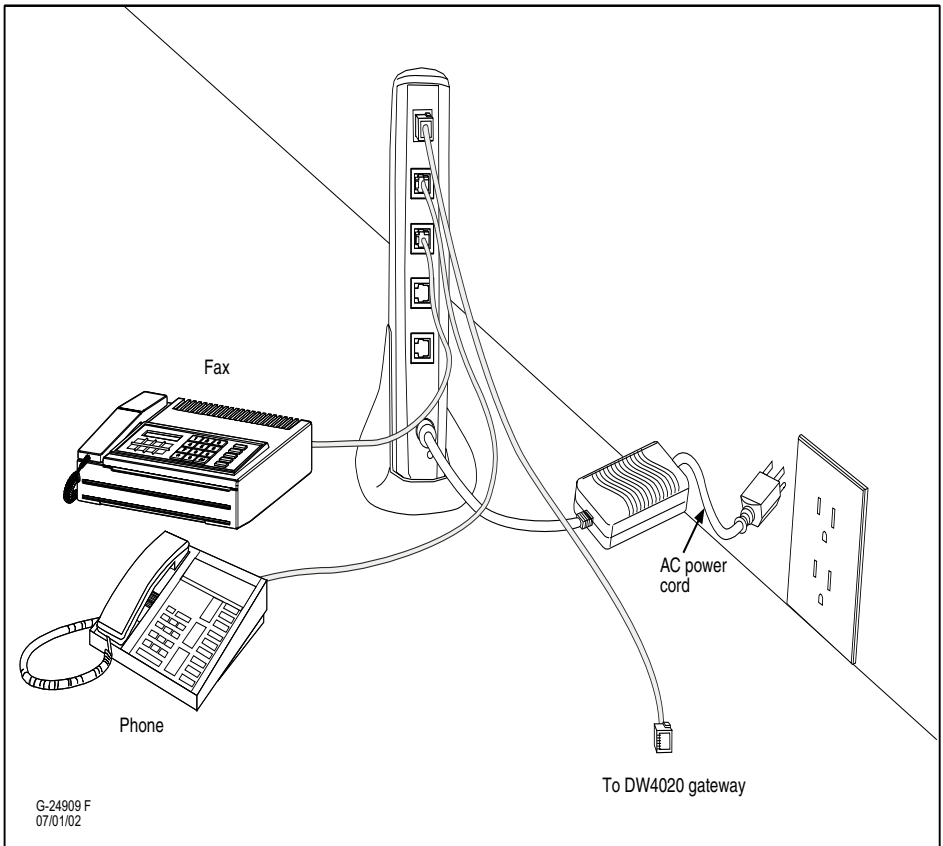


Figure 3: VAP and Gateway connections

Once your DW6040 Voice Appliance has been installed, you do not normally need to do anything to ensure error free operation.

If you experience problems with the VAP or the telephony devices, see Chapter 4 – *Indicators and troubleshooting*, on page 11.

The following are operational considerations you should keep in mind:

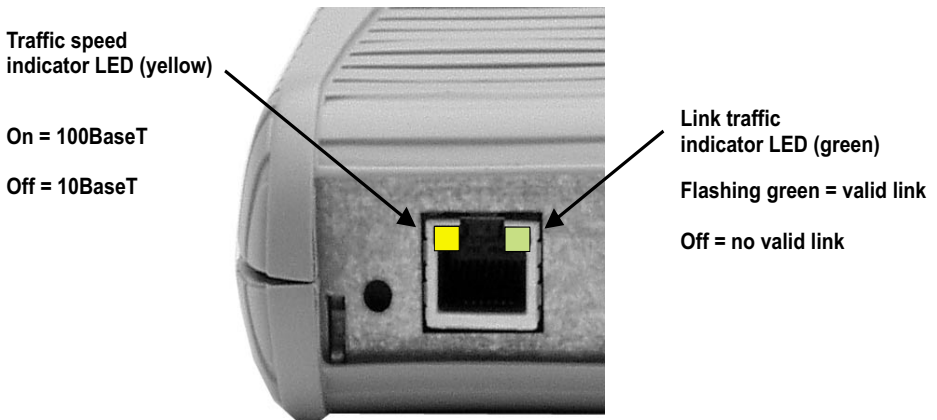
- The VAP is designed for **continuous operation**. Leave it powered on.
- Not all phone ports may be activated on your VAP.
- Each phone port is associated with a separate phone number.
- Moving a telephony device from one port to another may work for outgoing calls, but incoming calls will not be able to reach the moved device.
- Your VAP has a built-in surge protector and no external protection is required.

Indicators

The VAP has three status indicator light emitting diodes (LEDs) shown in Figures 4 and 5.

The Ethernet LAN link has two indicators on the rear of the unit on the side of the LAN port. The green indicator shows data traffic status. The yellow indicator shows traffic speed.

Figure 4 shows the location and the meaning of the Ethernet link LEDs.



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Figure 4: Ethernet link traffic and speed indicator LEDs (green and yellow)

The VAP power indicator light, located on the front of the unit next to the **Power** label, is a dual color LED using green and red colors. It indicates power as well as status of the unit.

Figure 5 shows the location and the meaning of the power indicator LED.

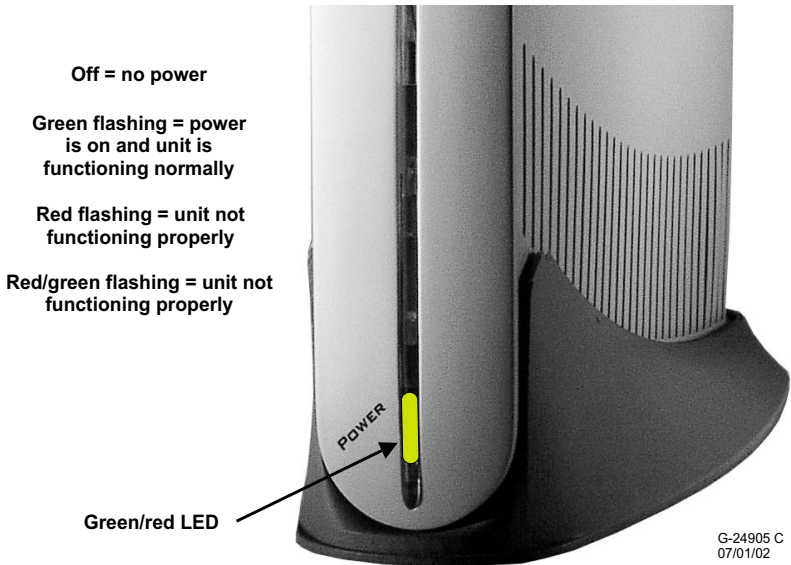


Figure 5: VAP status indicator LED (dual color, green and red)

Troubleshooting

If you experience problems with the operation of the VAP, use Table 1 to attempt to solve the problem. Contact your service provider if the following steps cannot fix the problem.

Table 1: VAP troubleshooting table

Problem	Possible Cause	Corrective Action
VAP Power indicator LED is not lighted	Unit may not be plugged in or receiving power	Plug the unit's power cord into wall outlet. Check power to the outlet. The power cord and module is a two piece unit. Check that the connection to the VAP, the connection between the two pieces, and the connection to the wall outlet are all secure.
Telephony devices connected to the VAP receive dial tone but cannot place calls.	The VAP and/or the Gateway are not fully operational.	Check the status of both the VAP and the Gateway. Power each unit off by removing the power cord from the wall outlet. Then, power up the Gateway by plugging its power cord into the wall outlet. When the Gateway is operational, plug the VAP's power cord into the wall outlet.
The VAP's Power indicator LED is green, but the Ethernet LEDs are off.	There is no link between the VAP and the Gateway.	Check that the LAN cable is connected to both the VAP and the Gateway. Verify that the Gateway is turned on and operational.
VAP Power indicator LED flashes Red briefly when the unit is powered up.	Normal condition.	None.
Telephony devices work on one port but not another.	Not all ports may be activated.	Contact your service provider for professional maintenance.

Table 1: VAP troubleshooting table

Problem	Possible Cause	Corrective Action
A telephony port has ceased to function.	There is a VAP problem or the port has been deactivated.	Contact your service provider for professional maintenance.
VAP power indicator LED flashes Red constantly.	The VAP is not fully operational.	Contact your service provider for professional maintenance.
VAP power indicator LED flashes Red and Green constantly.	The VAP is not fully operational.	Contact your service provider for professional maintenance.

Preventative maintenance

Keep the convection cooling vents free from blockage. Dust the unit as often as needed with a soft, damp cloth. Do not use solvent or abrasive powder when cleaning.

No internal cleaning or service is recommended except by a qualified technician. None of the equipment contains user serviceable parts. Opening or tampering with the unit will void the warranty.

Observe the following precautions:



DANGER

Do not insert objects through the vents or damage to the unit and electrical shock to yourself may result.



CAUTION

Do not position the DW6040 near equipment which produces dust. Certain copiers or computer printers produce carbon dust which can cause malfunctions.

Position the unit on a stable surface where it will not be bumped or dropped.

Allow sufficient space around the unit for air to circulate.

Prevent moisture from getting inside the unit.

This chapter provides a frequently asked questions (FAQ) section that answers most questions you might have about your new system and also provides contact information for product assistance.

How to get help

Domestic support for Hughes products

If you have purchased this product in the USA:

- Check our Web sites, www.direcway.com and www.direcpc.com for even more information.
- E-mail technical support by selecting **Contact Us** on our www.direcway.com Web site.
- Call 1-866-DIRECWAY (1-866-347-3292).

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- For **severity 1 and 2 issues**: **+1-301-601-7390**
(Critical Line)
- For **any other severity** contact the Call Center at:
 - **+1-301-428-2815**
 - E-mail: **vcc@hns.com**
 - Internet: **<http://www.support.hns.com>**

VAR products

If you purchased this product from one of our Value Added Resellers (VARs), contact your VAR according to the procedure supplied by them for technical support. They are trained to help you with any technical problem.

FAQs

1. Should I leave the VAP on when I am not using the telephony devices?

The DW6040 VAP is designed to run continuously. HUGHES suggests that you leave the unit on unless you will not be using the telephony devices for an extended period of time.

2. Can I lay my VAP on it's side without the pedestal?

Yes you can. However, HUGHES recommends that you mount it vertically in the pedestal base as

shown in all the illustrations in this manual. Vertical mounting provides better cooling.

3. How many telephones can I connect to one port of the VAP?

You can connect 5 telephones to each port.

Specifications

Table 2: DW Model DW6040 Specifications

Product Element	Specification
Weight	3.5 lb (1.575 kg)
Width	1.7 in (4.32 cm) 4.5 in (11.43 cm) with pedestal base
Height	9.5 in (24.13 cm) 9.75 in (24.77 cm) with pedestal base
Depth	10.5 in (26.67 cm)
Power supply	Universal power module, 90 to 240 VAC, 50-60 Hz
Power cords	Detachable power cords for 110 VAC and 240 VAC outlet types
Power consumption	15 watts
Safe operating temperature range	0 to 40 degrees C (above 5000 feet altitude, reduce maximum temperature by 1 degree C per 1000 feet)
Safe operating humidity	5% to 9% non-condensing
Safe altitude	Up to 5000 ft
Heat generated	TBD BTU
Cooling method	Convection
Physical LAN interface	One Ethernet LAN RJ45 port (10BaseT/100BaseT)
Physical telephony interface	Four two-wire, FXS, RJ11 port, loop start

Additional help or questions?
Call us toll free at 1-866-DIRECWAY
Hours of operation: 24 hours per day

Modem

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment power off and on, the user is encouraged to try to correct the interference by one or the following measures:

- Reorient or relocate the radio or television antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Antenna

Professional installation of the antenna is required for the Satellite Return System.

Limited warranty

Hughes Network Systems, Inc. (Hughes) warrants to the original buyer that under normal use and wear the Hardware will be free from defects in material and workmanship for a period of one (1) year from the date of purchase. Hughes also warrants to the original buyer that when properly installed and used in accordance with its documentation, the Software will perform substantially in accordance with its specifications for a period of one (1) year from the date of purchase. Any Hardware or Software replaced or repaired under this warranty will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Any implied warranties relating to the Hardware or Software are limited to a period of one (1) year from the date of purchase. Some states do not allow limitations on duration of an implied warranty, so the above limitations may not apply to you.

Customer remedies

If under normal use and wear, the Hardware becomes defective in materials or workmanship and or the Software fails to perform substantially in accordance with its specifications and is returned at your expense to one of the Hughes Authorized Service Centers with a copy of your receipt during the warranty period set forth above, Hughes shall at its option, and at its expense, either (a) within thirty (30) days after the date of return of the defective Hardware or Software, repair or replace the defective Software or Hardware to cause it to comply with the terms of Hughes' Limited Warranty, or (b) if repair or replacement is not commercially practicable, return the price paid by you for the defective Hardware or Software.

Reconditioned replacement components, parts, units or materials may be used if the Hardware is repaired or replaced. This Limited Warranty will be void in its entirety if the Hardware or Software is serviced by anyone other than Hughes or a Hughes Authorized Service Center. This Limited Warranty does not cover the following kinds of failures or defects: failures or defects in products or accessory equipment or software not manufactured or provided by Hughes; failures or defects in any Hardware or Software caused by misapplication, misuse, abuse, accident, alteration or neglect; improper or incorrect installation, removal or repair of Hardware or Software; failure to follow instructions; fire, flood, wind, lightning, earth-quake or other acts of God; spills of food or liquids; normal wear and tear; improper Hardware or Software installation, maintenance, operation or repair; failures or defects in any Hardware or Software when used in combination with other products or equipment not manufactured or provided by Hughes; payments for labor or service to representatives or service centers not authorized by Hughes. Hughes neither assumes nor authorizes any Authorized Service Center or any other person or entity to assume any other obligation or liability beyond that which is provided for in this Limited Warranty.

YOUR SOLE AND EXCLUSIVE REMEDY FOR DEFECTS DURING THE WARRANTY PERIOD IN ANY HARDWARE OR SOFTWARE COVERED BY THE LIMITED WARRANTY SET FORTH ABOVE SHALL BE FOR HUGHES, AT ITS OPTION, AND ITS EXPENSE, TO EITHER (A) WITHIN THIRTY (30) DAYS AFTER THE DATE OF RETURN OF THE DEFECTIVE HARDWARE OR SOFTWARE, REPAIR OR REPLACE THE DEFECTIVE HARDWARE OR SOFTWARE TO CAUSE IT TO COMPLY WITH THE TERMS OF HUGHES' LIMITED WARRANTY, OR (B) IF

REPAIR OR REPLACEMENT IS NOT
COMMERCIALY PRACTICABLE, RETURN
THE PRICE PAID BY YOU FOR THE
DEFECTIVE HARDWARE OR SOFTWARE.

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No oral or written information or advice given by Hughes, its dealers, distributors, agents or employees, shall create a warranty or in any way increase the scope of this warranty, and you may not rely on any such information or advice. This warranty gives you specific legal rights. You may have other rights, which vary from state to state.

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hardware and software components of the
DIRECWAY System.

Hughes Network Systems, Inc., 11717 Exploration
Lane, Germantown, MD 20876

Declaration of conformity

Declaration of Conformity

Standards to which Conformity is declared: FCC Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party's name: Hughes Network Systems, Inc

Address: Germantown, Maryland

Telephone: 866-DIRECWAY (347-3292)
www.DIRECWAY.com

Trade Name: Hughes

Type of Equipment: Satellite Transmit and
Receive Modem

Model Numbers: 3006161-XXXX, 3003162-XXXX

Covered by one or more of the following U.S. Patents:
5,652,795, 5,699,384, 5,995,725, 5,995,726, 6,016,388,
6,125,184, 6,131,160, and 6,161,141.
Other U.S. and foreign patents pending.

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