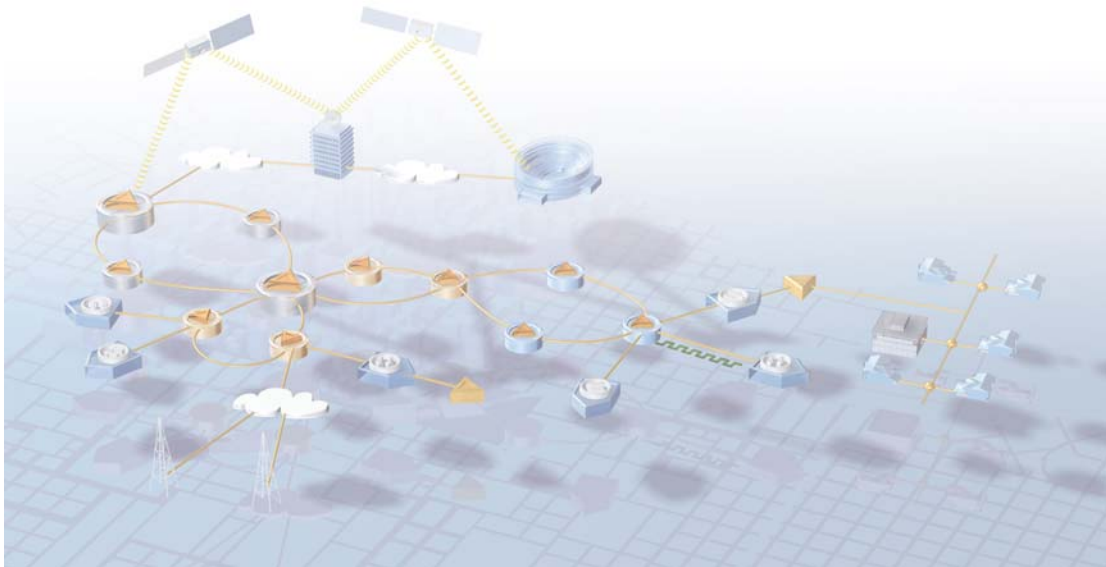


PowerVu[®] Model D9834 and D9835 Satellite Receivers User's Guide



Important

Please read this entire guide before you install or operate this product. Give particular attention to all safety statements.

Important

Veuillez lire entièrement ce guide avant d'installer ou d'utiliser ce produit. Prêtez une attention particulière à toutes les règles de sécurité.

Zu beachten

Bitte lesen Sie vor Aufstellen oder Inbetriebnahme des Gerätes dieses Handbuch in seiner Gesamtheit durch. Achten Sie dabei besonders auf die Sicherheitshinweise.

Importante

Sírvase leer la presente guía antes de instalar o emplear este producto. Preste especial atención a todos los avisos de seguridad.

Importante

Prima di installare o usare questo prodotto si prega di leggere completamente questa guida, facendo particolare attenzione a tutte le dichiarazioni di sicurezza.

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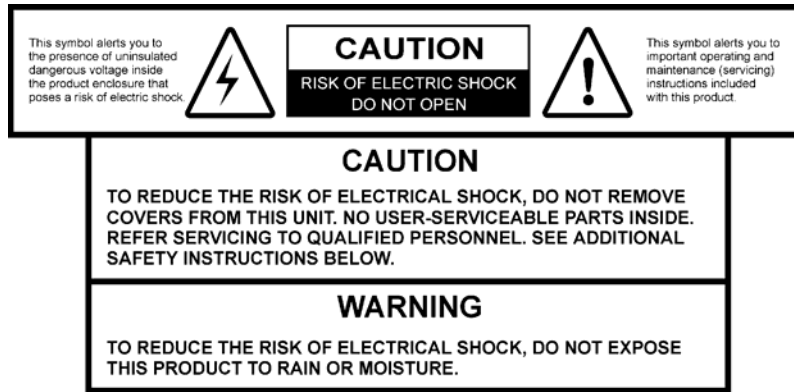
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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

PORTABLE CART WARNING



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. **Damage Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - (a) When the power-supply cord or plug is damaged.
 - (b) If liquid has been spilled, or objects have fallen into the product.
 - (c) If the product has been exposed to rain or water.
 - (d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - (e) If the product has been dropped or damaged in any way.
 - (f) The product exhibits a distinct change in performance.
19. **Replacement Parts:** When replacement parts are required, be sure the service technician uses replacement parts specified by Scientific-Atlanta, or parts having the same operating characteristics as the original parts. Unauthorized part substitutions made may result in fire, electric shock or other hazards.
20. **Safety Check:** Upon completion of any service or repairs made to this product, ask the service technician to perform safety checks to determine that the product is in safe operating condition.
21. **Outdoor Antenna Grounding:** If an outside antenna or cable system is connected to this product, ensure that the antenna or cable system is properly grounded to provide protection against voltage surges and built-up static charges. Appropriate sections of the National Electrical Code (NFPA 1990) provide information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode (see Receiver and satellite antenna grounding).

Receiver & Satellite Antenna Grounding

Before you can operate your Satellite receiver system, both the receiver chassis and the satellite antenna LNB connection(s) must be properly grounded. Information about grounding your receiver and satellite antenna follow.

Grounding the receiver: The receiver ground connection is made from the shield¹ conductor attached to the RF coaxial cable "F" connector (rear panel RF IN input) to an external grounding rod via a receiver/antenna grounding block. A separate grounding

¹ Multi-strand (braided) shield surrounding the center conductor of the coaxial cable

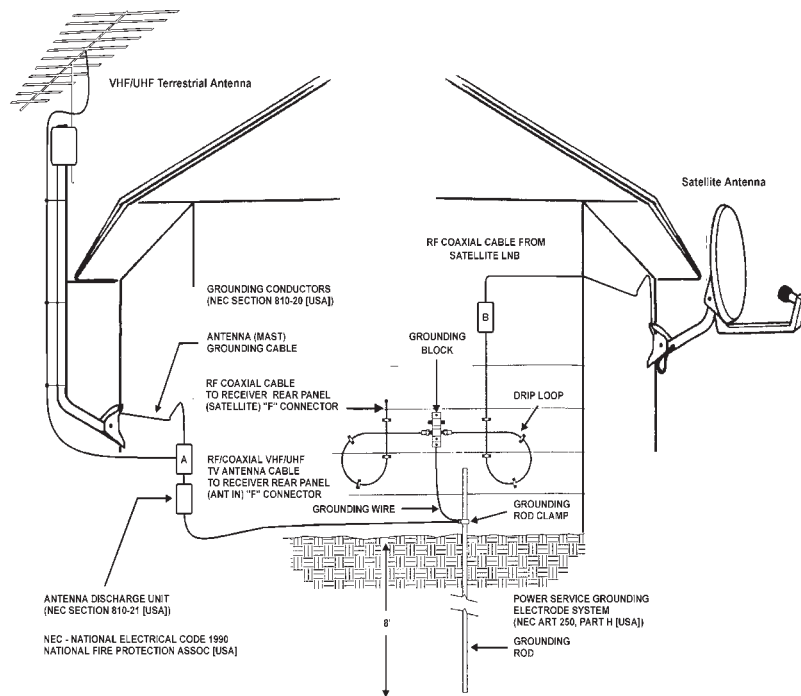
wire connects the grounding block (and the satellite antenna LNB grounding block) to the grounding rod.

Grounding the LNB and/or VHF/UHF antenna: The antenna ground connection is made from the satellite LNB/antenna ground and/or the VHF/UHF terrestrial antenna discharge unit to an external grounding rod via a receiver/antenna grounding block.

General grounding information: The actual ground/cable connections made depend on your site installation requirements, and on the type of satellite antenna and/or VHF/UHF terrestrial antenna you have. If your satellite antenna installation includes a dual-port LNB, both RF coaxial cables must be routed to the grounding block. When connecting RF coaxial antenna cables to the grounding block, looping the antenna cables as shown in the accompanying figure helps to direct moisture away from the grounding block. Always choose the shortest route possible when connecting RF coaxial cables to the receiver/antenna grounding block, and when connecting the grounding wire(s) to the grounding rod.



Important: Each ground connection must be made using a single (continuous) piece of wire. Never splice two wires together when making a ground connection. Corrosion and weathering can cause a poor electrical connection at the splice which can lead to an ineffective and dangerous ground condition.





IMPORTANT

Install this product on a flat surface only, ensuring that all four rubber feet are making full contact with the mounting surface. During normal operation, it is recommended that physical contact be limited to using the front panel buttons only. Do not place any other equipment directly on top of the receiver, and prevent foreign objects from coming into direct contact with the chassis. Subjecting this product to abnormal impact may result in momentary interruption of video service.

Safety Precautions (EU Market)

Mesures de Sécurité Sicherheitmassnahmen Precauciones de Seguridad

Warning

To prevent fire or electric shock:

- Do not expose this apparatus to rain or moisture.
- Avoid spilling liquids on or near this apparatus.
- Do not open the top cover of this apparatus.
- Do not push objects through openings in this apparatus.
- Refer servicing to qualified personnel only.

Attention

Afin d'éviter tout incendie ou choc électrique:

- Ne laissez pas cet appareil sous la pluie ou dans un endroit humide.
- Ne renversez pas de liquide sur ou à proximité de l'appareil.
- N'ouvrez pas le couvercle supérieur de l'appareil.
- N'insérez pas d'objet dans les ouvertures de l'appareil.
- Faites réparer votre appareil par une personne qualifiée.

Warnung

Um Feuer oder elektrischen Schock zu vermeiden:

- Keiner Nässe oder Feuchtigkeit aussetzen.

- Keine Flüssigkeiten auf oder in der Nähe des Gerätes verschütten.
- Den oberen Deckel nicht öffnen.
- Keine Gegenstände in die Geräteöffnungen stecken.
- Arbeiten am Gerät nur von qualifiziertem.

Advertencia

Para prevenir incendio o una descarga electrica:

- No exponga este aparato a la lluvia o a la humedad.
- Evite derramar liquidos en o cerca del aparato.
- No abra la cubierta superior de este aparato.
- No introduzca objetos a traves de las aberturas de este aparato.
- Mandelo a servicio unicamente donde existe personal calificado.

Caution

- To protect this apparatus against damage from lightning storms and power-line surges, or when you are not using this apparatus for a long period of time, disconnect the power cord from the AC outlet.
- To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself. Additionally, never walk on, place objects on, or pinch the power cord.
- The top cover on this apparatus has openings for ventilation to protect it from overheating. To ensure reliable operation, do not block or cover these openings by placing this apparatus on a bed, sofa, rug, or any similar surface, or by placing entertainment apparatus, lamps, books, or other objects on the top cover.
- Additionally, never place this apparatus near or over a radiator or heat register, or a built-in installation, such as a bookcase or rack, unless the installation provides proper ventilation.
- Locate this apparatus on a stable, vibration-free surface capable of supporting its weight and size.

Précautions à prendre

- Afin de protéger votre appareil des orages et des surtensions de courant ou si vous ne l'utilisez pas pendant une période prolongée, débranchez de la prise électrique du secteur.
- Pour débrancher, tirez sur la prise. Ne tirez jamais sur le cordon secteur. En outre, ne marchez jamais sur le cordon, ne placez pas d'objet dessus et ne le coincez pas.
- Le couvercle supérieur de cet appareil comprend des ouvertures pour la ventilation afin d'éviter qu'il ne chauffe trop. Pour assurer un bon fonctionnement, ne bloquez pas ou ne couvrez pas ces ouvertures en plaçant cet appareil sur un lit, un sofa, un tapis ou toute autre surface semblable. Ne posez pas de lampes, livres ou tout autre objet sur le couvercle supérieur.

- De plus, il ne faut jamais mettre cet appareil près d'un radiateur ou tout autre élément dégageant de la chaleur. Ne l'incorporez pas dans une installation comme une bibliothèque, une étagère, à moins que l'installation offre une ventilation appropriée.
- Installez cet appareil sur une surface dégagée, stable et sans vibration capable de supporter son poids et sa taille.

Vorsicht

- Um dieses Gerät vor Blitzschlag bzw. Stromüberladung zu schützen, oder wenn das Gerät längere Zeit nicht benutzt wird, soll der Stecker aus der Steckdose gezogen werden.
- Zum Abschalten immer am Stecker selbst und nie am Kabel ziehen. Außerdem nie darauf treten, einen Gegenstand darauf legen oder das Kabel drücken.
- Die Oberseite des Gerätes hat Ventilationsöffnungen, die das Gerät vor Überhitzung schützen. Um einwandfreies Funktionieren zu gewährleisten, dürfen diese Öffnungen nicht blockiert oder verdeckt werden (z.B. nicht auf ein Bett, Sofa, Teppich oder ähnliche Unterlagen stellen, oder Lampen, Bücher oder ähnliches auf das Gerät stellen).
- Außerdem soll dieses Gerät nie in der Nähe einer Heizquelle stehen. Vermeiden Sie, das Gerät in einem geschlossenen Platz aufzustellen, z. B. Schrank, wo ausreichende Ventilation nicht möglich ist.
- Stellen Sie das Gerät auf eine stabile und schwingungsfreie Unterlage, die für das Gerät groß genug ist.

Precaucion

- Para proteger este aparato contra daños producidos por tormentas eléctricas y pulsaciones de energía eléctrica, o cuando no use este aparato por largo tiempo, desconéctelo del tomacorriente de CA.
- Para desconectar el cable, tómelo del enchufe y desconéctelo. Nunca tire del cable directamente. Asimismo, nunca apriete, pise, o coloque objetos sobre el cable.
- La cubierta superior de este aparato tiene aberturas de ventilación para evitar que se recaliente. Para asegurar una operación confiable, no bloquee o cubra estas aberturas colocando este aparato sobre una cama, sofá, alfombra o cualquier superficie similar, o colocando sobre la cubierta superior artefactos de entretenimiento, lámparas, libros u otros objetos.
- Adicionalmente, nunca coloque este aparato cerca o sobre una salida de calefacción o lo instale en un lugar tal como un mueble integrado o estante para libros, a menos que la instalación proporcione una ventilación adecuada.
- Coloque este aparato sobre una superficie estable, sin vibraciones y que tenga la capacidad de aguantar su peso y tamaño.

NOTICE FOR CUSTOMERS IN THE UNITED KINGDOM

CLASS II APPARATUS USING A TWO-WIRE POWER CORD

AC Mains Lead Connection (Important)

The wires in this mains lead are coloured in accordance with the following code:

- Blue: Neutral
- Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with coloured markings identifying the terminal in your apparatus, proceed as follows:

1. The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
2. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.



WARNING: Do not connect the blue or brown wires to the earth terminal of a three-pin plug. **Note:** The earth terminal is distinguished by its color (green, or green-yellow), or by being marked with the letter E, or marked with the safety earth symbol (⊕).

Quick Setup Guide

If Satellite receiver setup details are unavailable, you can perform a Quick Setup of your Satellite receiver by following the step-by-step instructions in this Quick Setup Guide. After performing the Quick Setup, you can change the current settings to better suit your receiver operating requirements. If you are unsure about which receiver settings to use, contact your local service provider for assistance. For complete receiver setup instructions, see the Preset and LNB Setup menu in this guide.




IMPORTANT: Only preauthorized subscriber services can be received by your Satellite receiver. If an unauthorized signal is present, a warning message is displayed on the TV monitor. If this happens, contact your local service provider for more information.

About the Video Standard

The Video Standard used to operate the receiver is preset at the factory to either NTSC (525-line), or PAL (625-line). Changing the Video Standard is normally required only when operating the receiver in a network or jurisdiction that uses the alternate Video Standard, and/or when new (or different) subscriber services are made available. Changing the Video Standard or resetting the receiver to the default factory settings may cause TV video to display improperly.

Receiver Startup

- ❶ **Check your installation:**
Check that your receiver is correctly installed and connected to the satellite LNB antenna, to other A/V equipment (as required) and to AC power.
- ❷ The message Application code version appears on the receiver front panel while it is powering up. It takes about 30 seconds for the receiver to completely power up. Once the receiver has completely powered up, a flashing “.” appears on the front panel.
- ❸ **Power-on the receiver:** Press the **POWER** button on the Remote Control or press the On/Standby () button on the receiver front panel.
- ❹ A “No signal” message is displayed on the TV monitor. Follow the Quick Setup Instructions to set up your receiver for your network to receive your authorized programs.

Quick Setup Instructions

- ❶ Display the **MAIN MENU** by pressing **MENU**.
- ❷ Move to the **Preset & LNB Setup** menu by pressing **2** and then **OK**.

Receivers without Remote Control

On the D9835 receiver, use the ◀ ▶ and **OK** buttons on the front panel to navigate through the menus and numbers in each field, and the ▲ ▼ buttons to select the values in each step.

- ❸ Turn on the LNB power (**LNB Pwr**) if you are using the receiver to power the LNB; otherwise proceed to step 4.
- ❹ Enter the Local Oscillator Frequency #1 (in GHz) based on C or Ku-Band LNB/F operation and press **OK** (e.g., 9.75 for Ku-Band, and 5.150 for C-Band).

Receivers with Factory Pre-configured Presets

If the receiver has been factory pre-configured with presets, view the preset and select the one for your network. Note that you need to press **OK** to view the parameters and **Name** of the preset.

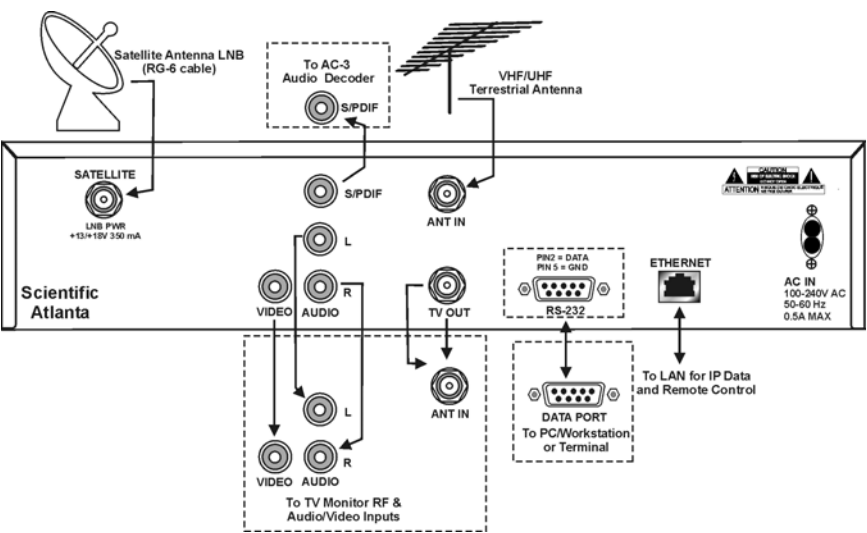
Once you have identified your network preset, enter the preset number in the **Active** field and then activate the preset (using **OK**).

Go to Step ❶.

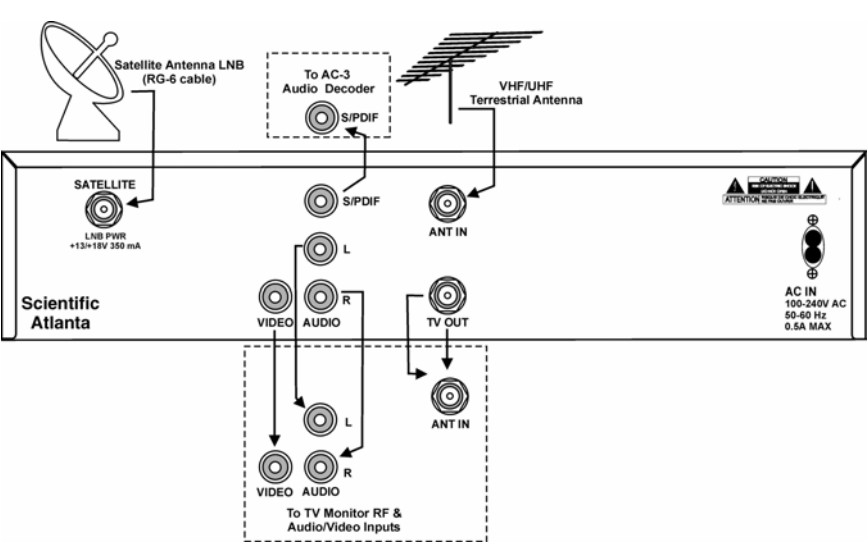
- ❺ Enter the Downlink Frequency and press **OK**.
- ❻ Enter the Symbol Rate (in MS/s) and press **OK**.
- ❼ Enter the correct FEC Rate and press **OK**.
- ❽ Enter the Network ID and press **OK**. If the satellite dish has been aligned, Sig Lock displays **Yes** indicating the receiver has locked onto the signal.
- ❾
 - a) Exit the menu.
If the dish has been aligned, “Acquired” message is displayed asking you to save the setting.
Select **Yes** and then press **OK** to save the setting, and return to the **Main Menu**.
Press **MENU** to exit to video.
 - b) If the dish has not been aligned, the “Acquisition Failed. Save?” message is displayed.
Select **Yes** and then press **OK** to save the setting, and return to the **Main Menu**.
Go to the **Dish Setup** menu to align the dish.

Rear Panel Connections

D9834 Receiver



D9835 Receiver



Warranty and Disclaimer

Limited Warranty

Scientific-Atlanta Canada, Inc., hereafter called S-A, warrants that at time of shipment, goods sold shall be free from defects in material and workmanship, and shall be of the quality characterized and described by S-A. Notice of any defect shall be given in writing to S-A or an authorized representative immediately upon discovery of such defect within one [1] year of the date of shipment of the goods to the original purchaser only. S-A obligations under this warranty are limited to repair or replacement of the product [or accessories] that upon examination by S-A or an authorized representative are found to be defective. Under no circumstances shall the obligations of S-A under this warranty exceed the cost of goods sold. Approval for any goods returned for warranty must be obtained in advance from S-A or an authorized representative. S-A is not obligated to accept any goods returned for warranty without prior authorization. Any agreement made between an authorized S-A distributor and the original purchaser that extends product warranty beyond the one [1] year period warranted by S-A must not obligate S-A in any way. To obtain authorized warranty service, the purchaser must forward the goods by prepaid freight to S-A or an authorized service facility. S-A is not obligated to accept any costs related to the return of goods including freight, customs duties or brokerage fees incurred by the customer. This warranty is voided if a product is modified, altered or repaired by anyone other than S-A or an authorized service facility.

Repair charges deemed reasonable by S-A will apply to any goods returned for warranty and found to be in proper working condition. This warranty shall not apply to any damage caused by war or insurrection, act of God, improper maintenance or change of serial number, or by operation contrary to the information contained in the instruction manual. No liability is assumed by S-A for any collateral or consequential damages or losses associated with this product. S-A reserves the right to revise product specifications without prior notice.

Warranty Terms and Conditions

All products manufactured by Scientific-Atlanta Canada Inc., hereinafter called S-A, are warranted to be free from defects in material and workmanship, and conform to currently published specifications. Scientific-Atlanta Canada extends warranty coverage to the original purchaser only. Products must be purchased from a recognized Scientific-Atlanta dealer or distributor.

Limits of Liability

Scientific-Atlanta's liability is limited to servicing, adjusting or correcting any product returned to the factory under warranty, including the replacement of defective components. Equipment repairs are billed at normal rates for any fault caused by improper installation, maintenance or use, or if the product is subject to abnormal operating conditions.

Disclaimer

Scientific-Atlanta makes no representations that its PowerVu product line is fully compatible with similarly represented equipment from other vendors due to the wide range of implementation possibilities of the applicable standards.

Scientific-Atlanta disclaims all statutory and implied warranties such as warranties of merchantability and fitness for purpose. In no event shall Scientific-Atlanta be liable for incidental, indirect or consequential damages, regardless of being informed about the possibility of such damages, and in no event shall Scientific-Atlanta's liability exceed the purchase price of the product.

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Introduction

About this guide

This User's Guide includes all the information you'll need to install and begin using your new Scientific-Atlanta PowerVu® Model D9834 or D9835 Satellite Receiver. Use it to familiarize yourself with product features and operation, and for quick reference when needed. The guide provides complete operating instructions and other important information about your satellite receiver. It is recommended that you read this guide before you begin using the receiver.

Your Satellite Receiver

The PowerVu Model D9834 and D9835 Satellite Receivers are designed for satellite content distribution, targeting the business TV, private networks and SMATV environment. The receiver offers the capability to receive digitally encrypted video, audio, and VBI. It provides a cost-effective, variable-rate solution to transition existing analog services to digital. Additional features available on the Model D9834 receiver include IP data and RS-232 utility data. Your satellite receiver may be equipped differently for some countries.

- Variable QPSK symbol rates from 1 to 45 Msymbols/s
- PowerVu conditional access with DVB or DES de-scrambling
- 4:2:0 NTSC or PAL video decoding
- MPEG or Dolby® Digital audio (AC-3) decoding
- One unbalanced stereo pair of audio outputs
- DVB subtitling
- Imitext™ subtitling
- Line 21 closed caption and V-chip support
- PowerVu VBI
- DVB VBI (WST, WSS, VPS)
- Fingerprint Trigger
- Service Replacement
- RS-232 asynchronous data (D9834 receiver only)
- IP data at rates up to 10 Mbps (D9834 receiver only)
- Field upgradeable software and security
- Front panel 4-digit LED for channel and message display (D9834 receiver only)
- On-screen display menu for setup and status
- 64 user-editable preset configurations
- Lock levels for restricted access to configuration

Front Panel Controls & Display

Before you get started

The front panel of your satellite receiver provides controls for switching the receiver on and off, and for interfacing with the remote control (D9834 receiver only). MUTE, SIGNAL and MENU LEDs are also provided. Some remote control buttons are duplicated on the front panel for activating and navigating menus.



Button	Function
	<ul style="list-style-type: none">• Turns receiver on or off• When receiver is switched on, the channel number is displayed on the front panel. When switched off (standby mode), a " " flashes regularly.
MENU	<ul style="list-style-type: none">• Enter Menu mode or return to video• Go back to previous menu
SELECT	<ul style="list-style-type: none">• Selects menus• Enters or exits edit mode
	<ul style="list-style-type: none">• In Menu mode, used to navigate menus• In Video mode, used for volume up/down (VOL-, VOL+)• In Video mode, used for channel up/down (CH-, CH+)
MUTE	<ul style="list-style-type: none">• On when sound is muted
SIGNAL	<ul style="list-style-type: none">• On when receiver is synchronized with the incoming digital signal and authorized for the current channel.• Flashing when a signal has been found, but receiver is not authorized for the current channel.• Off when no signal has been found. For more information about troubleshooting your satellite receiver, see Appendix B, Troubleshooting.
MENU	<ul style="list-style-type: none">• ON when on-screen menus are displayed

Setting the TV Video Format

To set the correct video signal format for your TV set:

- ❶ Press the **SELECT** and **CH+** buttons on the receiver front panel at the same time.
- ❷ Press **SELECT** and **CH+** again. The video format is displayed on the receiver front panel (e.g., NTSC, PAL, etc).
- ❸ Press **CH+** until you display your video format. Each change is viewable on-screen.
- ❹ Press **SELECT** to save the setting and re-display the selected channel.

Note: you must be in video mode (i.e., on-screen menus not displayed) to perform this function on the receiver front panel.

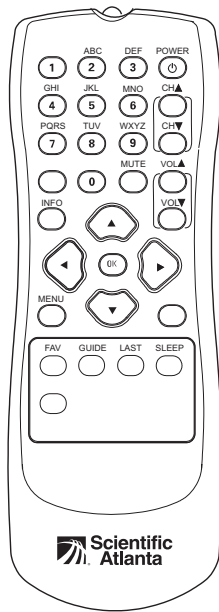
Remote Control Functions

The remote control is provided as a standard feature with the Model D9834 Satellite Receiver, but is an option with the Model D9835 receiver. After unpacking your satellite receiver, check that you have the following accessories (if ordered):

- One IR (Infra-Red) Remote Control transmitter (RCU)
- Two AA size batteries for RCU
- AC power cord

The Remote Control is used to control receiver functions. You can switch power on and off plus activate and navigate the on-screen menus. Some remote control functions are duplicated on the front panel (see Front Panel Controls & Display).

The following remote control buttons are not used: Sleep, Favorite, Last, Guide, Prev Day, Next Day, PPV, Back, Pause, and Fwd.



Button	Function
POWER	<ul style="list-style-type: none"> • Turns receiver on or to standby mode
MENU	<ul style="list-style-type: none"> • Displays Main Menu • Exits menus (return to video) • Go back to previous menu
▲ ▼	<ul style="list-style-type: none"> • In Video mode, used to select channels • In Menu mode, used to move through on-screen menus
◀ ▶	<ul style="list-style-type: none"> • In Video mode, increases or decreases volume • In Menu mode, used to move through on-screen menus
OK	<ul style="list-style-type: none"> • Selects menus (functions same as SELECT button on receiver front panel) • Enters or exits edit mode
CH▲ CH▼	<ul style="list-style-type: none"> • In Video mode, used for channel up/down • In selected menus, used to change channels
VOL▲ VOL▼	<ul style="list-style-type: none"> • Volume up/down
MUTE	<ul style="list-style-type: none"> • Mutes sound

Button	Function
0 to 9	<ul style="list-style-type: none"> • Enters channel numbers or information on on-screen menus. • Alphanumeric character entry for "Name" field on on-screen menus (similar to keys on telephone keypad). If an entered value is out of range or conflicts with another setting, a pop-up message displays information about the error.
INFO	<ul style="list-style-type: none"> • Displays a channel information banner at the top of the screen • Selects (toggles) between lower and upper case characters for Name entry

Using Menus

This section contains all the information you need for setting up your PowerVu Satellite Receiver and antenna installation. Before you begin using the receiver, or if you are modifying your equipment installation, you may need to change the current settings to suit your operating requirements.



IMPORTANT! Access to your PowerVu Satellite Receiver and to on-screen menus are password-protected. Depending on the current lock level setting, you may be prompted for the password before you can display menus, or when making changes to the current receiver setup. Note that if Lock Level 3 is currently set, pressing the **MENU** button displays a password prompt.

About using the on-screen menus

All screens or menus are accessed from the **Main Menu**. While viewing any channel, you can display on-screen menus for viewing or changing the current receiver setup. While in menus, you can change the current receiver settings, and/or display other menus. Some menus contain setup information which is available for viewing only, and cannot be changed. Numbered menu options are used to display other menus. Access to menus and changeable menu options are controlled by system lock levels and a security password. For more information about lock levels and the password, see the Administration menu.





To change a setting on a menu...

- ❶ Use the **↑**, **↓**, **←** and **→** buttons to move to the setting you want to change.
- ❷ Press the **OK** button to select the setting.
- ❸ For numeric options, enter the number directly using the numbered buttons on the remote control or use the **↑** and **↓** buttons to change the value one digit at a time.
- ❹ Press **OK** to save the setting and exit the menu. A help message is displayed at the bottom of the screen.
- ❺ Press **MENU** to move to the previous menu.

To display the Main Menu (if Lock Level 3 set)...

- ❶ Press the **MENU** button.
An on-screen prompt is displayed when entering the current Password.
- ❷ Enter the current password and press **OK** to display the **Main Menu** (for security, a default character is substituted for each number pressed).



IMPORTANT The installer channel is a reserved channel associated with the current setup, and is usually channel zero (0). Return to video programming by pressing the **CH**   or the up/down   multi-function buttons, or you can change channels directly using numbered remote control buttons.

About saving changes

Any changes made to the current receiver setup are saved using the **OK** button. After saving changes, press **MENU** to either return to the previous menu, or continually press **MENU** to exit to video.

Before exiting a menu, you may be prompted to save or discard changes made to the receiver setup (e.g., Preset & LNB Setup menu), depending on the changes made. Saved changes are used to update the current receiver settings. Discarding changes restores the previously saved settings.

If you are prompted to save settings, select **YES** to save the new setting(s) or **NO** to discard the changes.



WARNING! Saved settings are automatically restored when the receiver is restarted after AC power is switched off or interrupted. Upon restarting, the receiver defaults to the last virtual channel displayed for more than 20 seconds after exiting from menus (see also Changing the Lock Level).

Note that immediately after saving changes, you are automatically returned to the previous menu.

About the current channel

When you navigate to menus from a video channel, the information displayed is associated with the current (video) channel. If no changes have been made to the current setup, you are automatically returned to the same video channel when you exit to video.

Main Menu

To display the **Main Menu**, press the **MENU** button on the remote control or receiver front panel. It should appear similar to that shown below.

Main Menu		2003/12/16 01:39
Channel	10	
Name	Program 10	
Auth	AUTH	
Active Preset	63	6.Advanced
Signal Level	60	5.Services
Signal Quality	7	4.Audio / Video
Downlink Freq	11.851	3.Dish Setup
UA	000-410-5581-6	2.Preset / LNB
		1.Exit
Exit Menu		

As shown on the Main Menu, you can select other sub-menus from this menu. These menus are...

- Preset & LNB Setup – to display and change Presets, and set up the LNB
- Dish Setup – provides an audio and graphical aid for dish pointing/alignment
- Audio/Video Setup – to set the TV channel to display video on your TV, the video format (e.g., NTSC or PAL), TV aspect ratio, subtitling controls, Stereo/Mono selection and AC-3 decoder settings
- Services – to display the service PIDs for the received channel
- Advanced – to access other sub-menus for control and display of features such as Lock Level, Conditional Access, the Ethernet port (D9834 receiver feature only), and Diagnostics

Preset & LNB Setup

This sub-menu is used to set up your LNB and lets you configure and store up to 64 sets of network parameters. Each configuration is called a “preset” and is uniquely identified by a preset number (1 to 64). The left side of this menu is for preset setup. These presets allow you to quickly choose the network signal you want to receive.

Preset & LNB Setup						2003/12/16 01:39				
Active	63		LNB Pwr	18		▼				
Preset	63		LO Freq 1	10.75	GHz					
Downlink	11.851	GHz	LO Freq 2	0.0	GHz					
Sym Rate	30.5	MSps	Crossover	0.0	GHz					
FEC	AUTO	▼	LO Select	LO1	▼					
Polar	H	▼	Sig Lock	Yes						
Net ID	3		Sig Level	60						
<table border="1"> <tr> <td>Name</td> <td>Galaxy 1</td> <td>1.Exit</td> </tr> </table>								Name	Galaxy 1	1.Exit
Name	Galaxy 1	1.Exit								
Exit to Previous Menu										

❶ LNB Setup

Setting up your Satellite receiver for normal operation requires setup of LNB signal parameters used by the receiver to lock onto the signal.

Selection	Options	Description	Default
LNB Pwr	18	For H polarization	Off
	13	For V polarization	
	Off	Use this setting if external LNB power source is used.	
	Polariser	Provides automatic selection (18 or 13) depending on the preset polarization setting (H or V).	
LO Freq 1	Enter number	<p>If C-band application, set to 5.15 GHz (default).</p> <p>If Ku-band single LNB, enter LO Freq. and set LO Freq 2 and Crossover to 0.0.</p> <p>If Ku-band dual LNB, enter LO Freq 1, LO Freq 2 and Crossover.</p>	5.15 GHz

Selection	Options	Description	Default
LO Freq 2	Enter number	Enter if Ku-band dual LNB application. LO Freq 2 > LO Freq 1	0.0
Crossover	Enter number	Enter if Ku-Band dual LNB application. Used to determine if LO Freq 1 or LO Freq 2 is used for tuning.	0.0
LO Select (Sets a 22 kHz tone for Ku-band dual LNB)	LO1	Switches 22 kHz tone off.	LO1
	LO2	Switches 22 kHz tone on.	
	Xover	Sets 22 kHz tone to automatic. If Downlink Freq < Xover use LO1, 22 kHz tone is Off. If Downlink Freq > Xover use LO2, 22 kHz tone is On.	

Note: If you enter an invalid frequency setting or a setting that does not correspond to the selection, a pop-up message such as "Input value out of range" is displayed.

2 Preset Setup

Selection	Options	Description	Default
Downlink (Freq)	Enter number	For C-Band, Downlink Freq = LO Freq - L-band Freq. For Ku-Band, Downlink Freq = LO Freq + L-band Freq.	3.449
Sym Rate	Enter number	Enter correct value up to 45.0.MSps.	28.3465 MSps
FEC	AUTO, 1/2, 2/3, 5/6, 3/4, 7/8	Forward Error Correction Rate	AUTO
Polar	H, V	Signal polarity	H
Net ID	Enter number	Obtain the number from your local service provider.	1
Name	Enter name	Generally the name of the satellite and transponder used to receive the signal (for easy reference).	

Changing an Active Preset

To change a displayed preset to an Active preset...



- 1 Change and save the parameters for a preset.
- 2 Enter the same preset number (saved in step 1) in the **Active** field and save it.

Note: It takes several seconds for the new Preset to display on screen.

Dish Setup

This menu provides graphical and audible assistance for dish pointing, such as:

- Network Name – confirms your network signal has been acquired
- Signal Lock – indicates the signal synchronization status
- Signal Quality – indicates the quality of the received signal
- Signal Level - indicates the strength of the received signal

Dish Setup		2003/12/16 01:48
Network Name GE-1		
Signal Lock	Yes	
Signal Quality	8	
Signal Level	45	
		1.Exit
Exit to Previous Menu		

Dish alignment using signal tones

Dish alignment is best achieved using the audible signal adjustment tone. The characteristics of the signal tone are shown in the table below. Align the dish to achieve signal lock and then best signal quality.

Signal Lock/Quality	Tone
No Signal Lock	Slow repeating tone
Signal Lock	Steady tone
Signal lock + increasing Signal Quality	Steady tone Increasing in pitch

Provided the RF cable is connected between the satellite receiver and the LNB, Signal Level displays a low number (typically less than 40). As the receiver achieves Signal Lock, the Signal Level increases, and the tone changes from a slow repeating beep to a steady tone. Once Signal Lock is obtained, align the dish to increase the Signal Quality to the best possible value (up to a maximum of 10).

Signal Level and Signal Quality

Your Satellite receiver actively monitors and updates the signal level and signal quality characteristics of the incoming signal, and displays this information both numerically and using bar graphs.

The **Signal Level** is associated with the Symbol Rate and signal input level. The Signal Level display is continuously updated to indicate the relative strength of the received QPSK input signal. It is displayed in the range from 0 to 99. Signal Level is displayed on the Main Menu and both numerically and graphically on the Dish Setup menu.

The **Signal Quality** (displayed in the range from 0 to 10) is associated with the Bit Error Rate, and is a measure of how much of the original signal information is being received. Signal Quality is displayed on the Main Menu and both numerically and graphically on the Dish Setup Menu.

Certain receiver settings can cause signal loss or degradation which can compromise video or audio information, or data. The effect of any changes you make to your satellite LNB antenna installation is displayed in real time. Signal Level and Signal Quality can also be affected by changes at the signal source, and/or by adverse environmental or terrestrial conditions. Taken in combination, certain receiver settings and signal conditions can cause the Signal Level and Signal Quality to increase or decrease accordingly.

Temporary, solar-related electromagnetic disturbances occur every year during the spring and autumn months. These disturbances usually persist for several minutes a day for approximately one week at this time. Your service provider can advise you about channels that may be adversely affected. See Appendix B for troubleshooting information.

To verify your satellite LNB antenna installation or improve signal reception, refer to your antenna equipment installation manual, or contact your local service provider.

Signal Lock

The **Signal Lock** status is continuously updated to indicate whether the receiver is synchronized with the received LNB signal. Signal Lock status is displayed on the Preset & LNB Setup and Dish Setup menus.

If the receiver is able to synchronize to a carrier frequency and an MPEG stream is present, **Signal Lock** displays **Yes** and the **Signal** LED on the receiver front panel is on. A tone can be heard as your receiver achieves signal lock. The tone starts as a slow re-

peating beep and rapidly increases to a steady tone once signal lock is achieved. If no carrier is detected, **Signal Lock** displays **No**, the Signal LED is off, and the audible tone does not change.

Audio/Video Setup

Information related to setting the video format, TV tuner/converter channel setting, audio outputs, AC-3 decoder settings, aspect ratio and subtitle language controls can be set using this sub-menu.



Menu Settings

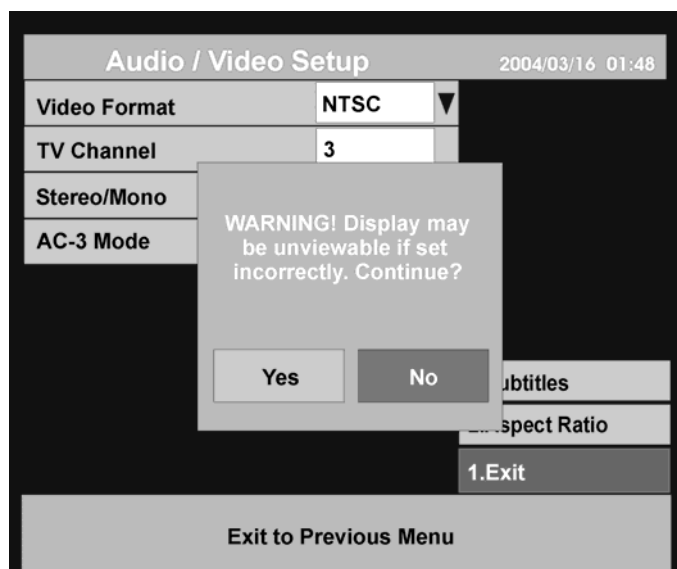
Selection	Options	Description	Default
Video Format	NTSC	For 525-line systems.	NTSC or PAL-B/G depending on modulator installed
	PAL-B/G	For 625-line systems with different audio frequency subcarriers.	
	PAL-I		
	PAL-D		
	PAL-M	525-line format for Brazil.	
	PAL-N (AR)	625-line format for Argentina.	
	Auto	Receiver automatically detects correct video format	
TV Channel	3, 4 (NTSC) 21-69 (PAL)	Sets TV channel for video display	3 or 38
Stereo/Mono	L-MONO	Left channel is output on L and R.	STEREO

Selection	Options	Description	Default
	R-MONO	Right channel is output on L and R.	
	STEREO	Left and right channels are output on L and R respectively.	
	MIXED	Left and right channels are combined and output on both L and R.	
AC-3 Mode (AC-3 decoding setting)	LINE MODE	Setting used when full dynamic range is allowed.	RF MODE
	RF MODE	This setting is normally used for analog cable modulators when limited dynamic range is desired.	

Video Format

The video format is set to the standard format for your country. If you attempt to change the format of the source video signal, a pop-up window is displayed warning you of what will happen if you set this field incorrectly as shown below. Check with your satellite or local service provider before changing this setting to ensure it is set correctly.

If you are instructed to change this setting, see “Setting the TV Video Format” on page 3 to set the correct video signal format for your TV set.



Aspect Ratio

This screen allows you to control how the incoming signal/program is displayed on the TV screen. The receiver matches the transmitted MPEG video format to the TV system, either 4:3 (standard) or 16:9 (wide screen). 16:9 encoded streams require conversion to correctly display video on 4:3 systems and vice versa.

The screenshot shows a menu titled "Aspect Ratio" with a timestamp "2004/03/16 01:48". The menu contains four rows of settings:

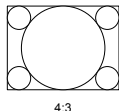
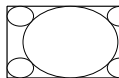
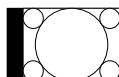
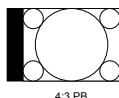


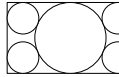
Setting	Value
TV Aspect Ratio	4:3
Conversion	None
Stream Aspect Ratio	4:3
Actual Conversion	None

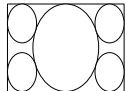
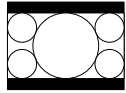
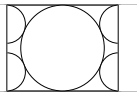
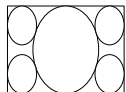
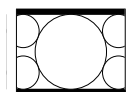
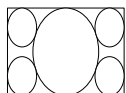
At the bottom right, there is a button labeled "1.Exit". At the bottom center, there is a button labeled "Exit to Previous Menu".

Menu Settings

Selection	Options	Description	Default
TV Aspect Ratio	4:3, 16:9	The aspect ratio of the intended TV system.	4:3
Conversion	None	No conversion	Auto
	16:9 F/W	Stretches picture vertically and crops top and bottom	
	4:3 F/H	Stretches picture horizontally and crops sides	
	14:9	May crop sides or top and bottom depending on output	
	4:3 P/B	Adds black bars to sides of picture	
	4:3 L/B	Adds black bars to top and bottom of picture	
	Auto	Conversion is selected by the receiver	

Refer to the following table for the Actual Conversion performed by the receiver according to your TV Aspect Ratio selection and the affect on the picture displayed on the TV screen.

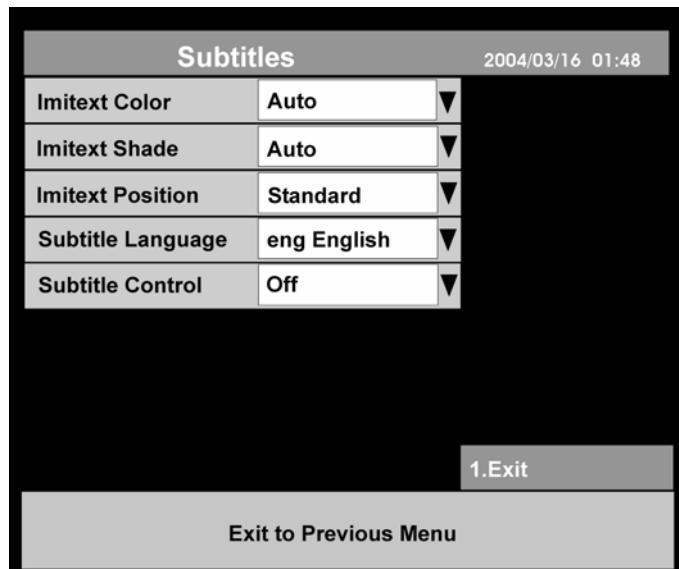
Stream Aspect Ratio	TV Aspect Ratio Setting	Conversion Setting	Actual Conversion	TV Picture Format
4:3	4:3	None	None	
4:3	4:3	Auto	None	Same as above
4:3	4:3	4:3 L/B	None	Same as above
4:3	4:3	4:3 F/H	None	Same as above
4:3	4:3	4:3 P/B	None	Same as above
4:3	4:3	14:9	None	Same as above
4:3	4:3	16:9 F/W	None	Same as above
4:3	16:9	None	None	
4:3	16:9	Auto	4:3 P/B	
4:3	16:9	4:3 L/B	None	Similar to two above
4:3	16:9	4:3 F/H	None	Similar to above
4:3	16:9	4:3 P/B	4:3 P/B	
4:3	16:9	14:9	14:9	
4:3	16:9	16:9 F/W	16:9 F/W	
16:9	16:9	None	None	
16:9	16:9	Auto	None	Same as above
16:9	16:9	4:3 L/B	None	Same as above

Stream Aspect Ratio	TV Aspect Ratio Setting	Conversion Setting	Actual Conversion	TV Picture Format
16:9	16:9	4:3 F/H	None	Same as above
16:9	16:9	4:3 P/B	None	Same as above
16:9	16:9	14:9	None	Same as above
16:9	16:9	16:9 F/W	None	Same as above
16:9	4:3	None	None	 16:9 Compressed
16:9	4:3	4:3 L/B	4:3 L/B	 4:3 LB
16:9	4:3	4:3 F/H	4:3 Crop	
16:9	4:3	4:3 P/B	None	 16:9 Compressed
16:9	4:3	14:9	14:9	
16:9	4:3	16:9 F/W	None	 16:9 Compressed

Subtitles

This sub-menu allows you to control the D9834 receiver subtitling feature and the displayed format of Imitext subtitles. Using this sub-menu you can...

- select Imitext subtitle text color
- select Imitext subtitle background color
- select Imitext subtitle position
- select one of 43 different subtitle languages
- select the program mode - either Imitext or DVB subtitling formats, or switch control Off or On (Auto)



Menu Settings

Selection	Options	Description	Default
Imitext Color (text color)	Auto	Displays text in the color transmitted by the subtitling equipment.	Auto
	Yellow	Displays text in yellow.	
	White	Displays text in white.	
Imitext Shade (background color)	Auto	Displays background in same shade transmitted by the subtitling equipment.	Auto
	Shadow	Applies an outline to the right side of each text character. No background box is applied, i.e., text is visible directly on top of video.	

Selection	Options	Description	Default
	Opaque	Applies a black box to each text character.	
	Semi	Applies a semi-transparent box to the subtitle text.	
	None	No shadow or outline is applied to the subtitle text.	
Imitext Position	Standard	Subtitles appear on screen in same position as output from other PowerVu receivers (e.g., Model D9234, D9223)	Standard
	Extended	Subtitles are positioned on screen according to the Imitext (extended) specification	
Subtitle Language	43 languages	Select from any one of up to 43 different languages.	English
Subtitle Control	On	Functions as an "Auto" setting. DVB subtitles are displayed when only DVB subtitles are transmitted on the channel, and likewise, Imitext subtitles are displayed when only Imitext subtitles are transmitted on the channel. When both DVB and Imitext subtitles are available on the same channel, only DVB subtitles are displayed.	Off
	Off	No subtitles are displayed.	
	Imitext	Displays only Imitext subtitles. For example, if Imitext is selected, but both DVB and Imitext titles are being transmitted on the same channel, only Imitext subtitles are displayed.	
	DVB	Displays only DVB titles. For example, if DVB is selected, but both DVB and Imitext titles are being transmitted on the same channel, only DVB subtitles are displayed.	

Services

This screen displays the PIDs associated with a selected channel.

Services		2003/12/16 01:39	
Channel	307		
PMT	5017	IP Data1	----
PCR	4160	IP Data2	----
VID	4160	IP Data3	----
AUD1	4120	IP Data4	----
AUD2	4122	IP Data5	----
VBI	----	STT	----
DATA	----	CDT	----
Name		1.Exit	
Exit to Previous Menu			

About subscriber services

Subscriber uplink services made available to your satellite receiver are associated with virtual channels. These channels can include video, audio and/or data services. All authorized virtual channel services are provided via PowerVu Network Centre (PNC) system software and broadcast facility equipment, and are decoded by the receiver. You can view available subscriber services for any received virtual received channel on this menu by entering the particular **Channel** number.

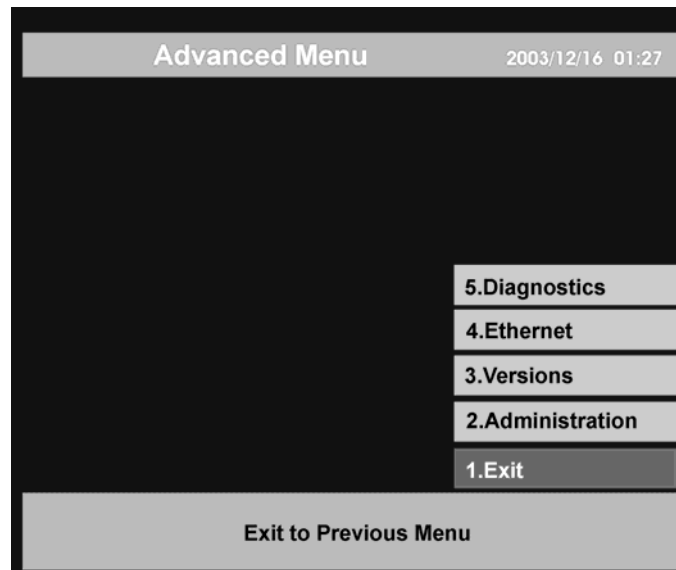
About the current channel

When you navigate to menus from video, the information displayed is associated with the current (video) channel. If no changes have been made to the current setup, you are automatically returned to the same channel when you exit to video.

Advanced Menu

From this menu you can display other screens applicable for advanced users. These screens are...

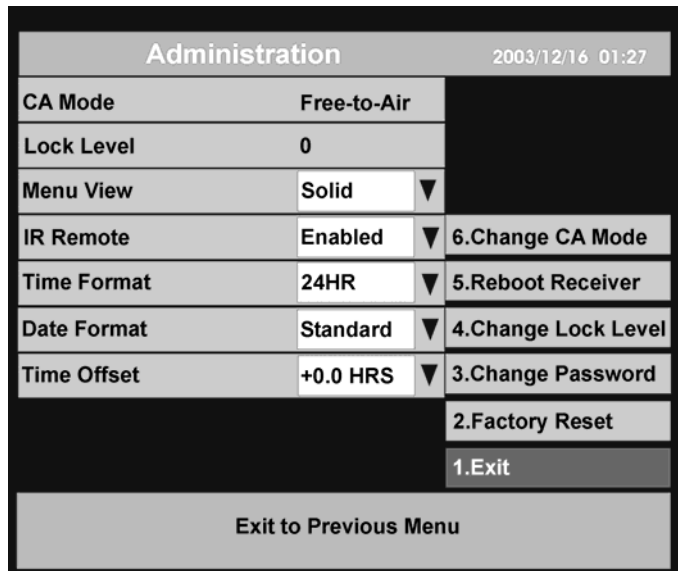
- Administration – to display and control the Lock level, date and time, and other settings
- Versions – to view detailed information about the installed receiver software
- Ethernet – to configure the receiver for Ethernet operation (available in D9834 receiver only)
- Diagnostics – to view Alarms, control a code Download and view the status of other signal-related parameters.



Administration

This sub-menu allows you to change user-related settings such as Local Time and Date. Other functions available on this menu are...

- Factory Reset - to restore the receiver to factory default settings
- Change Password – to change the password used to protect against unauthorized changes to receiver settings
- Change Lock Level – to restrict access and prevent unauthorized changes to receiver settings
- Reboot Receiver – to restore the receiver to its normally operating state without changing receiver settings, or to select another application code
- Change CA Mode – to view Free-to-air or PowerVu scrambled services




Performing a Factory Reset

The Factory Reset option is used for resetting the receiver to the factory presets (defaults). When activated, the current receiver settings are replaced by the default settings. After the factory defaults are restored, you can change the receiver settings as required.

To restore the factory default settings using the remote control...

- ➊ Go to **Factory Reset** and press **OK**.
- ➋ Select **YES** to reset the receiver and restore the factory defaults (or No to cancel the operation).

Following a factory reset, the receiver returns to Standby mode. Wait for the flashing front panel LED, and then press the **POWER** button on the remote control or the  (On/Standby) button on the receiver front panel, followed by the **MENU** button to return to the **Main Menu**.

Changing the Password

A unique lock level Password (4-digit number) protects the current receiver settings against unauthorized changes.



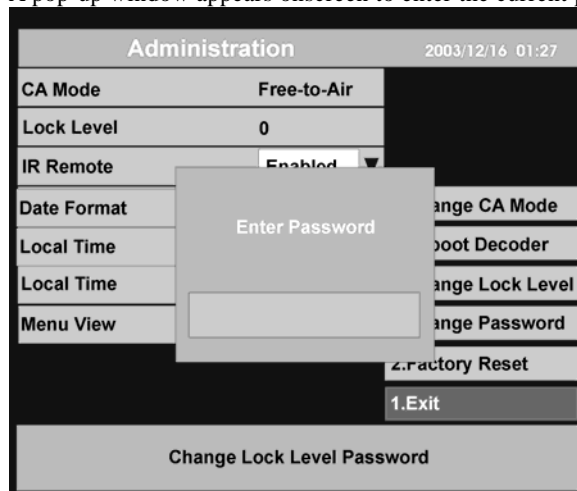
IMPORTANT

Record and keep the password in a secure location. The default password is **1234**.

Proceed with extreme caution when changing the password as this operation cannot be undone. If the password is lost or is unavailable, contact your local service provider for assistance.

To change the Password...

- ① Go to **Password** and press **OK** to display the password prompt. A pop-up window appears onscreen to enter the current password.



- ② Enter the current password and press **OK** (for security, a default character is substituted for each button pressed). A pop-up window appears for entering the new password. If you make an error or press the wrong button when entering the password, press the **← →** arrow buttons to cancel, and start again.
- ③ Enter the new password and press **OK** (any number from 0000 through 9999 is valid).
- ④ A pop-up window appears asking you to confirm the new password. Enter the new Password again and press **OK**.

Changing the Lock Level

Receiver lock levels are password-protected. When an attempt is made to change the lock level setting, a password prompt is displayed. After the correct password is entered, you can change the lock level setting. If lock level 3 is currently set and **MENU** button is pressed, a pop-up window is displayed with a password prompt. After the correct password is entered, the Main Menu appears, and the receiver Lock Level is automatically set to Level 0.

If the incorrect password is entered (any lock level setting), a message box appears on-screen to confirm an invalid password entry, and access to the Main Menu (in the case of lock level 3), or to the lock levels option is denied. A Password prompt also appears when changing the password.

Lock Levels

Level	Description
0	All settings unlocked (receiver lockout disabled)
1	All settings unlocked except Factory Reset and Password options
2	All settings unlocked except Preset & LNB Setup and Audio/Video options
3	All settings locked (access via password only)
4	All settings locked (access via remote terminal or PNC uplink signal only)

To change the Lock Level...

- 1 Move to **Change Lock Level** and press **OK**.
- 2 Enter a valid lock level (number) and then press **OK**. You can also press the **↑/↓** arrow buttons to display the available settings (lock levels are displayed from 0 through 3). The default setting is 0.
A pop-up window appears for entering the current password.
- 3 Enter the current password and press **OK** to save the setting (for security, a default character is substituted for each button pressed).
- 4 Exit the menus and return to video.



IMPORTANT

A virtual channel displayed for 20 seconds or more automatically becomes the current (Last) channel. As Lock Level 3 disables most Lock Level 0 functions (including channel changes), perform this action before changing the current Lock Level setting to 3).

Menu options appear grayed-out if disabled by the current lock level setting.

To display the Main Menu (if Lock Level 3 is set)...

- ❶ Press **MENU**.
An on-screen prompt is displayed when entering the current password.
- ❷ Enter the current password and press **OK** to display the **Main Menu** (for security, a default character is substituted for each number pressed).

Menu View

The menus can be set to appear **Solid** such that video appears behind menus, or they can be set to **Clear**, such that video is visible through the menus.

Setting	Description
Solid	Menus are solid. Video appears behind menus.
Clear	Menus are clear. Video is visible through menus.

IR Remote

The Model D9834 receiver is shipped with a remote control as a standard feature. It is optional for the Model D9835 receiver. It is shipped enabled to control the receiver. If you want to disable the remote control and use front panel control only, set this field to **Disabled**.

A pop-up window is displayed when you attempt to change this setting, warning the operator that "Receiver control is through the front panel if IRD is disabled". Select **Yes** if you want to change the setting.

The default setting is **Enabled**.

Date Format

The default setting is **Standard**. Options are **US** and **Standard** with the following displayed format.

US	month/day/year
Standard	year/month/day

Time Format and Time Offset

Current day, date and time information is displayed in the top right corner of each menu and in the information banner at the top of the screen when making a channel change.

Time information is normally broadcast as part of the transmitted digital signal, and is usually the broadcaster local time relative to GMT¹.

Time Offset is displayed using a time zone offset instead of the true local time. If the current broadcast time is not your local time, you must change this time setting. It can be adjusted in half-hour steps from **-11.5 HRS** to **+11.5 HRS** to display your local time.

Time Format has two settings: **12HR** or **24HR**. The default setting is **24HR**. Change this to the desired format.

Rebooting the Receiver

The receiver stores two versions of application code. If you want to operate your receiver using the alternate application code, or need to reboot the receiver for any other reason, you can perform this function without changing any settings.

To reboot the receiver...

- ❶ Go to **Reboot Receiver** and press **OK**.
- ❷ A pop-up window appears for you to choose the application code you want the receiver to use. Use the **↑/↓** arrow buttons to choose the version, then press **OK**.
- ❸ The “App” code version is displayed on the LCD front panel while the receiver is rebooting. Following reboot, the receiver returns to the last viewed channel.

Changing the CA Mode

The CA Mode can be set to either **Free-To-Air** to receive in-the-clear MPEG programs or **PowerVu** to receive programs using a PowerVu scrambled service. The default setting is **PowerVu**.

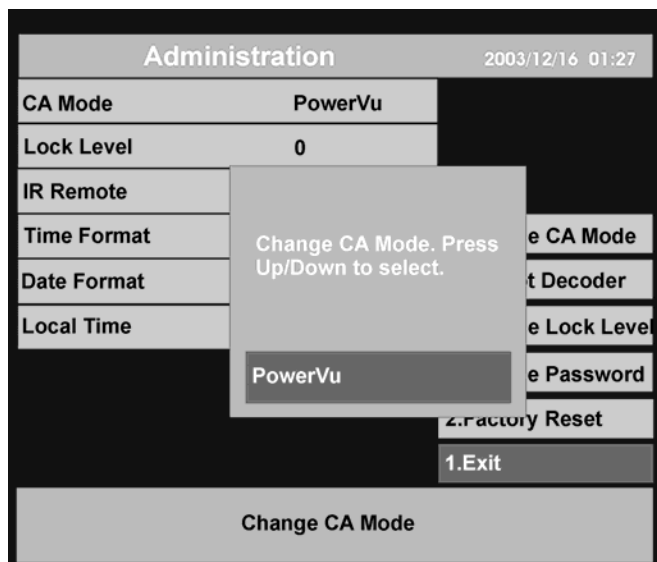
IMPORTANT

In **Free-to-Air** mode, the receiver ignores certain DVB system information tables. It does not recognize network frequency changes transmitted by the broadcaster.

¹ Greenwich Mean Time

To change the Conditional Access (CA) mode...

- ❶ Go to **Change CA Mode** and press **OK**.
- ❷ A pop-up message appears showing the current setting as shown below.



- ❸ Choose the setting you want. Press the **↑/↓** arrow buttons to display the available settings.
- ❹ Press **OK** to save the new setting.

Versions

This screen displays detailed information about the receiver software.

Versions		2003/12/16 01:03
Current Ver: R01.00.00	MAC	00:02:DE:24:8D:9B
Safe Ver: B01.06.05DD	IP	192.131.244.6
Boot Ver: 1.01	FPGA Ver:	1.00
PIC Ver: 2.00	CPLD Ver:	1.00
ISE Ver: 2.50(2)	ISE UA	000-410-5581-6
OSE Ver: 0.00(0)	OSE UA	000-000-0000-0
		2.Hardware
		1.Exit
Exit to Previous Menu		

Move the **Hardware** and press **OK** to display the Hardware versions screen. This screen provides information about the receiver hardware.

Hardware		2003/12/16 01:39
Model: D9834	FPGA Model	Spartan2
Board: BSR	FPGA Type	XSC2S15
Revision: RevA		
		1.Exit
Exit to Previous Menu		

Ethernet Setup (D9834 Feature only)

This sub-menu allows you enter the IP address and associated parameters to control and monitor the receiver remotely via the Ethernet port. It is also used to configure the receiver for IP data operation.

Ethernet Setup		2003/12/16 01:03
MAC Address	00:02:DE:24:8D:9B	
IP Address	192.131.244.6	
Subnet Mask	24	
Gateway Address	192.131.244.254	
Filter Mode	Filter List ▼	4.Multicast IP Setup
IGMP	Off ▼	3.Unicast IP Setup
RIPv2 Mode	Off ▼	2.Change IP
		1.Exit
Exit to Previous Menu		

Menu Settings

Selection	Options	Description	Default
MAC Address		MAC address assigned to the Ethernet interface at the time of manufacture	
IP Address		IP Address assigned to the receiver in a network	
Subnet Mask		Subnet Mask defines the size of the subnet.	
Gateway Address		Network Gateway Address used to connect the receiver to a WAN	
Filter Mode	None	No multicast IP data is forwarded to any devices	None
	Filter List	Forwards multicast IP data (i.e., packets) matching only the specified multicast address.	
	Forward All	Forwards all multicast IP data received without filtering.	

Selection	Options	Description	Default
IGMP (Internet Group Management Protocol)	On, Off	This specifies whether IGMP is used or not. When enabled (On) the receiver dynamically accepts multicast requests from other network devices to join multicast groups with the specified multicast IP addresses.	Off
RIPv2 Mode (Routing Information Protocol)	On, Off	This specifies whether RIPv2 is used or not. When enabled (On), other network devices can request specific unicast IP addresses to be filtered. The receiver dynamically accepts up to 10 unicast IP address requests from other devices.	Off

Changing the IP Address

The IP address, Subnet Mask and Gateway Address should be changed together, i.e., as a group. The following table shows the most commonly used **Subnet Mask** values to enter for a chosen IP address, which depends on the size of your network.

Mask	Subnet Mask
8	255.0.0.0
16	255.255.0.0
24	255.255.255.0

To change the IP address...

- ❶ Go to **Change IP** and press **OK**.
- ❷ Enter a valid IP Address, followed by Subnet Mask and Gateway Address.
- ❸ Press **OK** to save each change.

Adding or Deleting Unicast IP Addresses

Up to six (6) static IP routes (groups) can be received by the D9834 receiver to allow communication with other network devices. These groups are specified along with their associated Subnet Masks and Gateway Addresses. Presetting the receiver to communicate with other equipment allows the receiver to output IP data for various applications, such as file transfer or streaming video.

To add unicast IP addresses...

- 1 Go to **IP Unicast Setup** and press **OK** to display the Unicast IP Setup sub-menu.

	Network Addr	Mask	Gateway Addr	
1				3.Delete 2.Add 1.Exit
2				
3				
4				
5				
6				
Exit to Previous Menu				

- 2 Press **Add**. A pop-up window is displayed.
- 3 Enter a Unicast IP address using the numerical keys, followed by the Subnet Mask, and Gateway Address.
- 4 Press **OK** to save each address.
If an invalid number is entered, the message "Input value out of range" is displayed. Once you enter a valid number, you can continue adding unicast IP addresses for other devices.

To delete Unicast IP addresses...

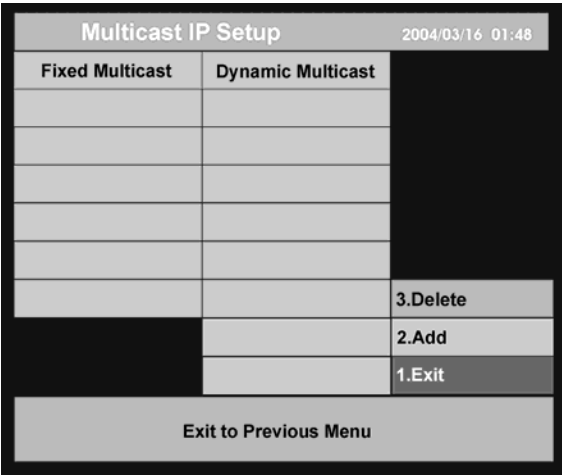
- 1 On the **Unicast IP Setup** sub-menu, select **Delete**.
- 2 A pop-up window is displayed showing the first IP address in the list. Scroll through the IP addresses using the **↑/↓** arrow buttons until you find the IP address you want to delete.
- 3 Delete the unwanted IP address(es).

Adding or Deleting Multicast IP Addresses

Multicast IP addresses can be added to the receiver setup to allow communication with other downstream devices. Presetting the receiver to communicate with other equipment allows the receiver to output IP data for various applications, such as file transfer or streaming video.

To add multicast IP addresses...

- ➊ Go to **IP Multicast Address** and press **OK** to display the Multicast IP Setup sub-menu.



- ➋ Select **Add**. A pop-up window is displayed.
- ➌ Enter a Fixed Multicast IP address using the numerical keys, and then press **OK**.
If an invalid number is entered, the message “Input value out of range” is displayed. Once you enter a valid number, you can continue adding multicast IP addresses for other devices.
Note: Dynamic Multicast IP addresses are communicated to the receiver from the network device(s), and are read-only.

To delete multicast IP addresses...

- ➊ On the **Multicast IP Setup** sub-menu, select **Delete**.
- ➋ A pop-up window is displayed showing the first IP address in the list. Scroll through the IP addresses using the **↑/↓** arrow buttons until you find the IP address(es) you want to delete.
- ➌ Delete the unwanted IP address(es).

Diagnostics

This sub-menu allows you to view Alarms, control code Downloads, and view the status of other signal related parameters.

Diagnostics		2003/12/16 01:27	
ISE UA		000-410-5581-6	
ADP (Enc)	0	/	0
ADP (Non)	0	/	0
CEC		0	
UEC		0	
BER			
		4.Clear Counters	
		3.Download	
		2.Alarms	
		1.Exit	
Exit to Previous Menu			

Performing Over-the-Air Downloads

Over-the-air downloads are controlled by the uplink. This feature is **Always** enabled so that the uplink performs downloads to the receiver when necessary. Use this feature if you want to control over-the-air downloads at the receiver, restart a download due to signal interruption, or abort the operation at any time.

To restart an over-the-air download...

- 1 Go to **Download** and press **OK** to display the Download screen. A screen appears similar to the one below.

Download		2003/12/16 01:27	
DL Mode	Always		
Total SDT	0		
Received	0		
Rejected	0		
		3.Abort DL	
		2.Restart DL	
		1.Exit	
Exit to Previous Menu			

- ➊ Go to **DL Mode**. The options are **Always**, **Once** or **Never**. This feature is set to **Always** for normal operation.

DL Mode Setting	Description
Always	Normal (default) setting for everyday operation. Downloads are performed as necessary by the uplink.
Once	Use this setting if you want to perform an instantaneous download. The state changes to Never once the download is complete.
Never	Use only when downloads are not required.

- ➋ Go to **Restart DL** and press **OK** to start an over-the-air download. You can go to **Abort DL** and press **OK** at any time to abort the download operation.
- ➌ Once the download is complete the receiver reboots. Following reboot the receiver returns to the last viewed channel.

To abort an over-the-air download...

- ➏ Go to **Download** and press **OK** to display the Download screen.
- ➐ Go to **Abort DL** and press **OK** to abort the download.
- ➑ Exit menus to return to video.

Appendix A Specifications

This Appendix provides specifications applicable to your PowerVu Satellite Receiver.

Parameter	Specification
System	MPEG-2/DVB Compatible EN 300 421, EN 300 468 De-modulation: QPSK FEC: Variable (1/2, 2/3, 3/4, 5/6, or 7/8)
Tuner	Symbol Rate Range: 1.0 to 45 Msymbols/s Input Level: -35 dBm to -65 dBm per carrier (< 5Msym) -25 dBm to -65 dBm per carrier (> 5Msym) Frequency Range: 950 MHz to 2150 MHz Tuning Step Size: 125 kHz Carrier Capture Range: ± 3.0 MHz (5-45 Msym) Satellites: C-band and Ku-band Impedance: 75 Ω
Analog Outputs	Analog Video Output Number of Channels: One Connector Type: RCA Video Decompression Type: MPEG-2 4:2:0 Level: 1.0Vpp $\pm 10\%$ Video Standard: NTSC & PAL B/G/I/D/M/N(AR) Analog Audio Output Number of Channels: One stereo pair/two mono channels Connector Type: RCA Audio decompression: MPEG or Dolby Digital Output Level: Unbalanced, 2Vrms $\pm 10\%$ at 0 dBFS Digital Audio S/PDIF Output Connector Type: RCA For Dolby Digital audio only
VBI	NTSC lines 10 to 22, fields 1 and 2 NABTS, AMOL I and II (Nielsen) PAL lines 7 to 22, fields 1 and 2 WST, WSS, VPS
Data Outputs (D9834 only)	RS-232 asynchronous data at rates up to 38.4 kb/s Rates: 300/1200/2400/4800/9600/19,200/38,400 b/s Ethernet Output for IP data: RJ-45, 10/100BaseT, up to 10 Mbps

Parameter	Specification
Environmental/ Physical	Operating Temperature: 0°C to 50°C (32°F to 122°F) Storage Temperature: -20°C to 70°C (-4°F to 158°F) Physical Dimensions: 2.5 in. H x 12.0 in. W x 8.5 in. D (6.4 cm H x 30.5 cm W x 21.6 cm D) Weight: 5 lbs (2.2 kg) approx.
Power	Voltage Range: 100V to 240V AC Line Frequency: 50/60 Hz Power Consumption: 35W max. LNB Power on satellite input: +13V/+18V @ 350 mA max.

Ordering Information

Model D9834 Receiver


Part Number	Description
4005875	NTSC CH3/4 Modulator with NA cord
4005876	PAL UHF CH21-69 modulator with Europlug
4006527	PAL UHF CH21-69 modulator with country- specific cord ¹

¹ When ordering, indicate country of use to ensure correct power cord is provided with product.


Appendix B Troubleshooting

This Appendix provides a product troubleshooting checklist and commonly-asked questions and answers. If you experience any problems operating your satellite receiver, the following troubleshooting guide may help you resolve your problem.

Note that temporary, solar-related electromagnetic disturbances occur every year during the spring and autumn months. These disturbances usually persist for several minutes a day for approximately one week during this period. When they occur, your service provider should advise you about certain channels that may be adversely affected. If you are unable to resolve your problem after consulting this Troubleshooting checklist, contact your local service provider for assistance, or contact your Scientific-Atlanta Customer Support Center.

Problem	Possible Causes	What to do
1. Blank screen (TV switched on)	<ul style="list-style-type: none">• Normal operation if receiver is not switched on.	<ul style="list-style-type: none">• Press the  button on the receiver front panel, or press the POWER button on your remote control.
2. Scrambled channel (not decoded)	<ul style="list-style-type: none">• Your subscriber services may not be authorized for the channel.	<ul style="list-style-type: none">• Check that your subscriber services are currently authorized (contact your local services provider).
3. Cannot access a password protected on-screen option	<ul style="list-style-type: none">• You have not entered the correct password, or the password may be changed.	<ul style="list-style-type: none">• Check that you are using the correct password (if you've lost the password, or the password is unavailable, contact your local service provider).
4. Remote Control not operating properly	<ul style="list-style-type: none">• The remote control may be defective, or the batteries are incorrectly installed, or require replacement.	<ul style="list-style-type: none">• Replace or correctly install the remote control batteries.
5. No signal present (unit switched on) and/or No Signal message is displayed	<ul style="list-style-type: none">• Installation problem.• Signal problem.• Local heavy precipitation falling (normal operation should resume after the precipitation has stopped).• Subscriber services are not authorized.	<ul style="list-style-type: none">• Check that all satellite/antenna/video and other cables are properly connected.• Check that your satellite antenna (dish) is properly aligned.• Check that the correct installation settings are being used, that an adequate signal level is present and that receiver

Problem	Possible Causes	What to do
		<p>operating status being reported.</p> <ul style="list-style-type: none"> • Check that the TV is set to the correct channel for receiving satellite signals via your TV tuner/ converter as set on the Audio/Video Setup menu. • Check that your subscriber services are currently authorized.
6. Program Not Authorized message is displayed	<ul style="list-style-type: none"> • Subscriber services are not authorized for the selected channel. 	<ul style="list-style-type: none"> • Check that your subscriber services are currently authorized by displaying signal status information on the Dish Setup menu (or contact your service provider).
7. Authorization Key Not Received message is displayed	<ul style="list-style-type: none"> • Subscriber services are not authorized due to authorization key not being received. 	<ul style="list-style-type: none"> • As above.
8. Blackout message is displayed	<ul style="list-style-type: none"> • Subscriber services are not authorized due to local blackout 	<ul style="list-style-type: none"> • As above.
9. Blank (black) screen is displayed after exiting to video from menus	<ul style="list-style-type: none"> • Channel 0 displayed after exiting to video following changes made to the current receiver setup. 	<ul style="list-style-type: none"> • Press the CH ↑ or CH ↓ button on your remote control to display virtual channels.
10. Poor reception	<ul style="list-style-type: none"> • Your antenna, video and/or audio cables may be faulty or not properly connected. • Your receiver is not properly set up to receive the satellite signal. • Possible station trouble. The signal source for one or more (or all) channels is temporarily affected by technical transmis- 	<ul style="list-style-type: none"> • Check the connections to and from the satellite antenna LNB, television antenna, and all video and audio cables (see Quick Setup for details). • A transmission problem or a temporary solar disturbance may be causing the poor reception (contact your service provider). • Check another channel or channels to compare

Problem	Possible Causes	What to do
	<p>sion problems or a temporary solar disturbance.</p> <ul style="list-style-type: none"> Your satellite antenna (dish) may not be properly installed or is not accurately aimed at the satellite signal. 	<p>signal reception.</p> <ul style="list-style-type: none"> Check that a minimum Signal Level of 40 is achieved or displayed when aligning the dish.
11. No picture, no sound	<ul style="list-style-type: none"> You have not turned your receiver on or the receiver is not properly connected to AC power. Your antenna, video and/or audio cables may be faulty or not properly connected. Possible station trouble (the signal source for one or more (or all) channels is temporarily affected by transmission problems or due to a temporary solar disturbance. 	<ul style="list-style-type: none"> Press the  button on the receiver front panel, or press the POWER button on your remote control. Check that your satellite receiver is properly connected to AC/power. Check the connections to the satellite antenna LNB, television antenna, and all video and audio cables. Check another channel to compare signal reception.
12. Picture OK, no sound	<ul style="list-style-type: none"> You have muted the sound. 	<ul style="list-style-type: none"> Check that volume is not muted by pressing the VOL ↑ or VOL ↓ button on your remote control. Check another channel to compare signal reception. See the previous item in this table for details.
13. Sound OK, poor picture		<ul style="list-style-type: none"> Check another channel to compare signal reception. See the previous item in this table for details.

Questions and Answers

The following list of commonly-asked questions with answers may answer some questions or concerns you have about the operation of your satellite receiver.

Questions	Answers
What happens if the receiver is unplugged, or disconnected from AC power?	Your receiver may be deauthorized if not in use for an extended period of time. Contact your dealer/reseller or local service provider to reauthorize your satellite services.
If the system does not appear to be working properly, what can be done?	Follow the troubleshooting tips and suggestions provided in this guide. If the problem persists, contact your local service provider.
Why must the TV monitor be tuned to a specific channel (RF modulator)?	Your satellite receiver provides a television signal to your TV tuner over a frequency that corresponds to specific channels (channels 3 or 4 for NTSC [M/US] standard or channels 28 through 47 for PAL standard). Your local service provider can identify the correct TV tuner and TV channel setting to use (set on the Audio/Video Setup menu).
Can other programming be received using the same satellite antenna (dish)?	An antenna signal distribution system that includes a signal splitting or bypass feature lets you distribute or receive other satellite signals. To find out if your system includes this capability, contact your antenna installer, or your local service provider.
If more than one TV monitor is available, can the Satellite receiver be used to watch different channels on each TV monitor?	No. To do this you require a separate receiver for each TV monitor.
How do you know which broadcast subscriber services you are authorized to receive?	If you are not authorized to receive broadcast services for particular channels or programs, or if authorized services are temporarily interrupted or changed, an on-screen message is displayed. For more information, contact your local service provider.

Appendix C Customer Information

Hotlines

Scientific-Atlanta provides customers with 24-hour hotline support from anywhere in the world. If you require technical assistance or product training support, or if you have any questions concerning your Scientific-Atlanta product, contact the appropriate Customer Support Center from those listed below.

Location	Phone Number
USA and Canada (Toll free)	888.949.4786
USA and Canada	+1.770.236.4786
United Kingdom and Europe	+44.8708.325.420
Asia	+852.2522.5059

Note: As our customer's needs change, our support options change, as well. For the most up-to-date support contacts and numbers, please check our support website:

http://www.sciatl.com/customers/services_contentdist_numbers.htm

Media Networks customers who call a Customer Support Center are asked specific questions in order to identify their needs. In this way, each call can be directed to the customer support representative most experienced with your Scientific-Atlanta product. Customer Support Centers also provide the following pre- and post-sales support services for Scientific-Atlanta products.

Training Support

On and off-site training plus technical support services are available for both equipment operators and system administrators.

Warranty and Post-Warranty Support

Warranty and post-warranty support services are available to help you return Scientific-Atlanta products for service or repair. For complete product warranty information, see the Warranty and Disclaimer at the beginning of this User's Guide.

Customer Responsibility

When returning equipment, the customer is solely responsible for equipment packaging and transportation costs both to and from the factory.

In Case of a Fault

If an equipment fault develops, perform following steps.

Notify Scientific-Atlanta of the problem immediately, providing the model number and serial number of the equipment plus details of the problem. On receipt of this information, service information and shipping instructions will be provided.

On receipt of instructions, return the product by prepaid freight. If the product or fault is not covered under warranty, Scientific-Atlanta will provide an estimate of repair charges in advance of any work performed.

Returning the Product

To return any Scientific-Atlanta product for repair or replacement, follow the steps below. To be eligible for credit, a Return Material Authorization (RMA) number must accompany each product returned to Scientific-Atlanta. This number can only be obtained from your local Scientific-Atlanta Customer Support Center in advance of product return. Be sure to include this number in all correspondence.

- ❶ Telephone your regional Customer Support Center or fax Scientific-Atlanta and request a Return Material Authorization for product return.
- ❷ Tag or label the product with the following information
 - Your name and full return address
 - Telephone contact number
 - RMA number
 - Sales order (if available)
 - Purchase order (if available)
 - Date the product was received
 - Brief description of problems
- ❸ Repackage the product using the original carton and packing materials, if possible. If the original packaging is not available, repackage the product using a suitable corrugated carton (or similar shipping container). Be sure to wrap the product in sufficient protective packaging to prevent damage to the equipment during shipment.
- ❹ Print or attach the following information on the outside of the carton or shipping container.
 - The full shipping address
 - Your name, your business name and full return address
 - Contact telephone number
 - RMA number
- ❺ Ship the product prepaid and insured to the Scientific-Atlanta Customer Support Center (or other repair location) as directed. If you are unsure about where to ship the product, contact your local Scientific-Atlanta Customer Support Center, Scientific-Atlanta dealer or distributor. Note: Scientific-Atlanta does not accept freight collect. Be sure to prepay all return shipments.

FCC Notices

This equipment has been tested and found to comply with the limits for a TV Interface device and Class B digital device according to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated 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 supplied in this manual 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 off and on), the user is encouraged to try to correct the interference by one or more of the following measures.

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

The user may find the booklet "Interference handbook" prepared by the Federal Communications Commission helpful. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, stock no. 004-000-00450-7.

Shielded cables should be used to interconnect this device with any other/peripheral equipment (e.g., TV monitors, terminals, data sources, etc.) to ensure compliance with Class B limits. Failure to do so may result in radio or TV interference. Cables should be of braided shield construction with metal end shells.

The manufacturer is not responsible for any radio or TV interference resulting from unauthorized modification of this equipment. It is the responsibility of the user to correct such interference at the user's expense.

Industry Canada Notice

This digital apparatus does not exceed the limits for Class B radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Class B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.



**Scientific
Atlanta**

Scientific-Atlanta Europe NV
Luipaardstraat 12
8500 Kortrijk
Belgium

Declaration of Conformity

CE MARKING 04

The Product PowerVu® Satellite Receiver
Reference or Model Number D9834, D9835
Rating 100-240 VAC 0.5 A 50-60 Hz
Has been designed and manufactured in accordance with the following Harmonised Standards:

Number and Date of Issue	Title of Standard
EN 60065: 1998	- Safety requirements for mains operated electronic and related apparatus for household and similar general use
EN 55013 / CISPR 13:2001/A1:2003	- Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics – Limits and methods of measurement
EN 55022 / 1998 Class B	- Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Devices
EN 50024 / 1998	- Information technology equipment - Immunity characteristics - Limits and methods of measurement
EN 61000-3-2: 1995 /A14	- Electromagnetic Compatibility - Part 3: Limits Section 2: Limits for Harmonic Current Emissions (Equipment Input Current less than 16A per phase)

According to the provisions of the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility Directive 89/336/EEC amended per Directive 93/68/EEC

Toronto, Canada, May 11, 2004

(Issue place and Date)

Scientific Atlanta Canada, Inc. (Media Networks Division)

(Company name)

100 Middlefield Road, Scarborough Ontario Canada M1S 4M6

(Company Address)

For the manufacturer: Steven Lawrence, Compliance Engineering

Signature, Name and Title)



Scientific-Atlanta, Inc.
770.236.5000

www.scientificatlanta.com

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