# Cisco D9865 Satellite Receiver

Installation and Operation Guide

## Please Read This Entire Guide

## Veuillez lire entièrement ce guide

## Bitte das gesamte Handbuch durchlesen

## Sírvase leer completamente la presente guía

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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.

# Notices

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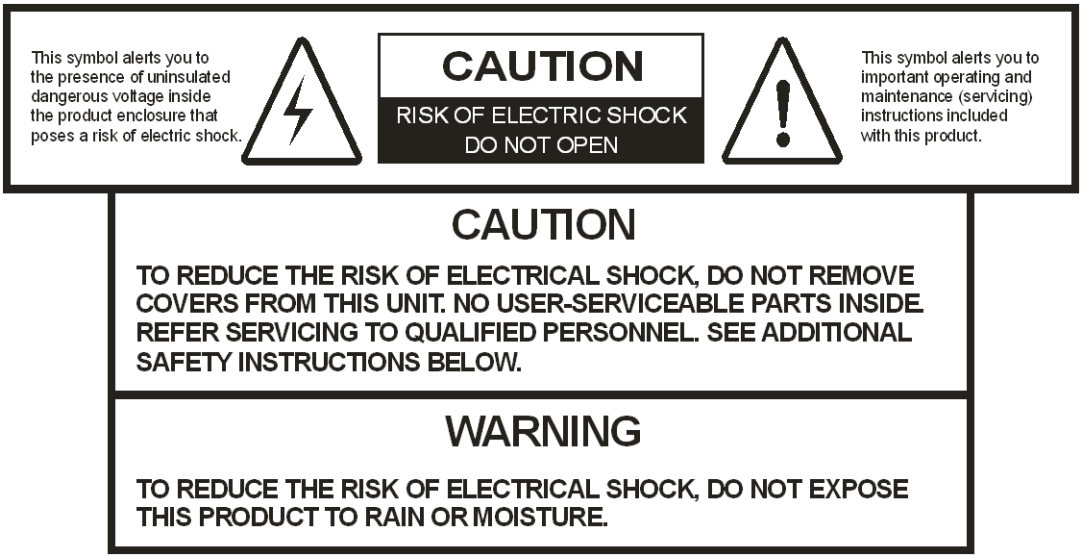



1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near 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 is 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 Cisco, 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 Satellite Receiver and Satellite Antenna Satellite Antenna Grounding).

### Satellite Receiver & Satellite Antenna Grounding

Before you can operate your satellite receiver system, both the satellite receiver chassis and the satellite antenna LNB connection(s) must be properly grounded. For information about grounding your satellite receiver, also referred to as "receiver", and satellite antenna follow:

**Grounding the receiver:** The receiver ground connection is made from the shield[1)] 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 wire connects the grounding block (and the satellite antenna LNB grounding block) to the grounding rod.

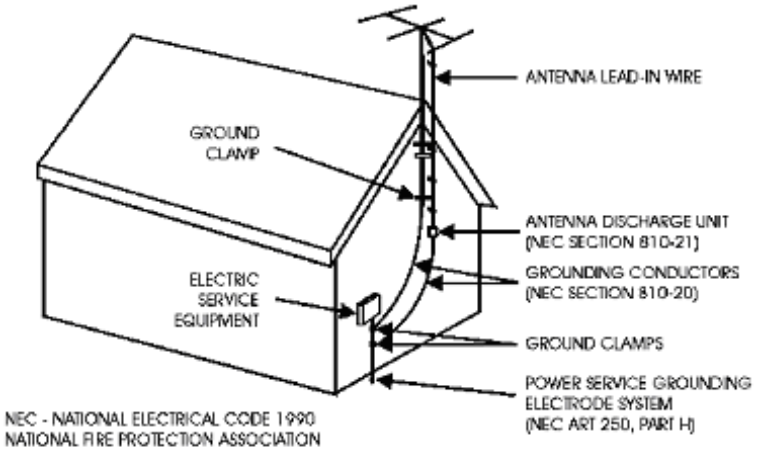
**Grounding the LNB and/or VHF/UHF antenna:** The antenna ground connection is made from the satellite LNB/antenna ground and/or the VHF/UHF terrestrial antenna discharge unit to an external grounding rod via a receiver/antenna grounding block.

**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.

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

| | |
|---|---|
| ⚠ | **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. |

Figure 1. Outdoor antenna grounding




| | |
|---|---|
| ⚠ | **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 Gegenstande 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 sembiable. 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 étagére, 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 Biltzschlag 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 port tormentas eléctricas y pulsaciones de energia 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 superficle 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 superficle 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.

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 ( ⏚ ).**

**NOTICE FOR CUSTOMERS IN QUEBEC**

**ATTENTION**
**RISQUE D'ELECTROCUTION**
**NE PAS OUVRIR**

**CAUTION**

**POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, NE PAS RETIRER LA PROTECTION DU PRODUIT (OU LES CACHES ARRIÈRES ). AUCUNE PIÈCE SITUÉE À L'INTÉRIEUR DU PRODUIT NE NÉCESSITE D'INTERVENTION DE L'UTILISATEUR, CONFIER LA RÉPARATION À DU PERSONNEL QUALIFIÉ.**

**ATTENTION**

**POUR ÉVITER TOUT RISQUE D'INCENDIE OU D'ÉLECTROCUTION, NE PAS EXPOSER CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.**

# Contents

# Chapter 1
# Quick Setup - Read Me First!

## 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.

### Satellite Receiver Startup

1. **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.

   **Important!** This product plugs into a socket outlet. A socket outlet must be near this product, and must be easily accessible. This product may not have a main power switch; the power cord serves this purpose.
   The product has a power switch (located on the rear panel). It may be used to turn off the receiver to conserve energy.
2. The application code version and APP appears on the receiver front panel while it is powering up. It takes about 60 seconds for the receiver to completely power up. Once the receiver has completely powered up, a flashing "." appears on the front panel.
3. **Turning on the receiver:** Press the DISPLAY button on the Remote Control or press the DISPLAY button on the receiver front panel.
4. A "No signal" message is displayed on the TV monitor. To set up your receiver for your network to receive your authorized programs, refer to **Quick Setup Instructions**, on page 1-2.

The following instructions are for use with the Remote Control.

1. Display the **MAIN MENU** by pressing **MENU**.
2. Press the ▼ button to move to the **Setup Menu** and press **OK**.
3. Move to the **Tuning / Preset** menu and press **OK**.
4. Enter or select the following parameters on this menu from your service provider. Refer to **About the Front Panel**, on page 3-2 for instructions on the use of the arrow buttons.
   - Enter the **Modulation Type** (DVB-S, DVB-S2).
   - Enter the **Downlink** Frequency (in GHz).
   - Enter the **Symbol Rate** (in MS/s).
   - Enter the **NetId**.
   - Select **LO Select** (On, Off, Auto) when using a Ku-band dual LNB. This controls the 22 kHz tone.
   - Enter **LO Freq 1** (in GHz) based on C or Ku-Band LNB operation (e.g., 9.75 for Ku-Band, 5.150 for C-Band).
   - Enter **LO Freq 2** (in GHz). Use this when using a Ku-band dual LNB. LO Freq 2 > LO Freq 1.
   - Enter the **Crossover** frequency when using a Ku-band dual LNB.
   - Enter the **LNB Power**. Turn on if using the receiver to power the LNB.
   - Select **DiSEqC** (if required). This allows control of the satellite dish motor.

     **Note:** LNB Power must be on to use DiSEqC functions.
   - Select the LNB port for the **DiSEqC Switch** (if used).

   **Note:** The LNB power alarm will be on if LNB power is on for use with a DisEqC switch, but external power is also used.

**Receivers with Factory Pre-configured Presets**

If the receiver has been factory pre-configured with presets, press the yellow button to go to the **Preset/LNB Setup** menu to view the presets and select the one for your network.

**Note:** You need to press **OK** to view the parameters and **Name** of the preset.

Once you have selected your network preset by scrolling through the presets in the **Preset** field, press the blue button to **Activate** the displayed preset as the current preset.

Go to Step 5.

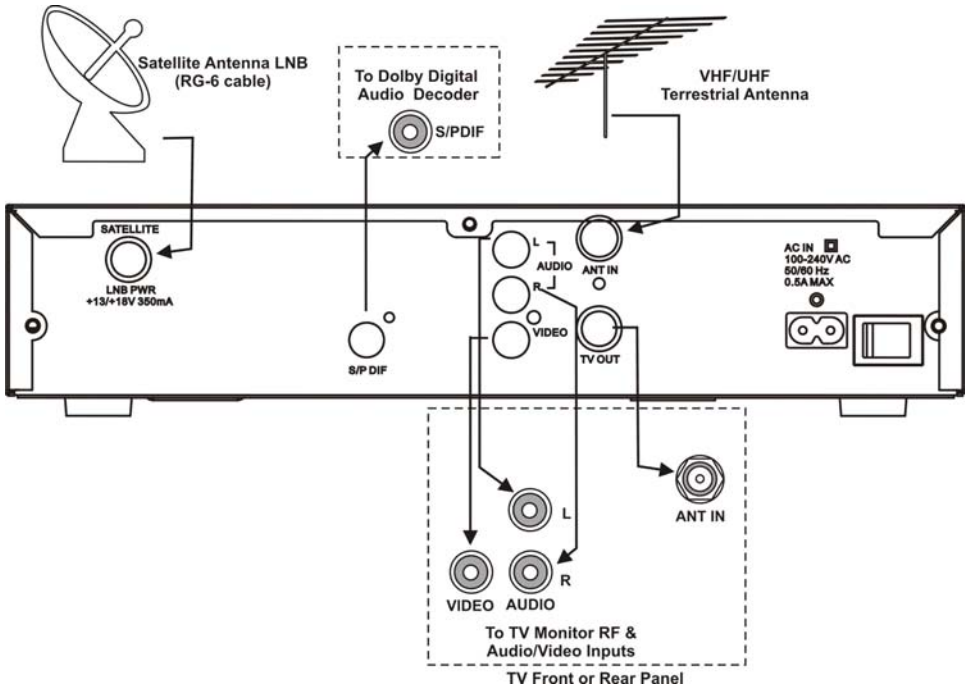
5. The "Acquiring Network" message is displayed until the "Acquisition Status" message appears. Press **OK** to continue or press **EXIT** to cancel and return to the menu. If the dish is aligned, Signal Lock will display "Lock" to the right.

   Press **EXIT** to go to video.

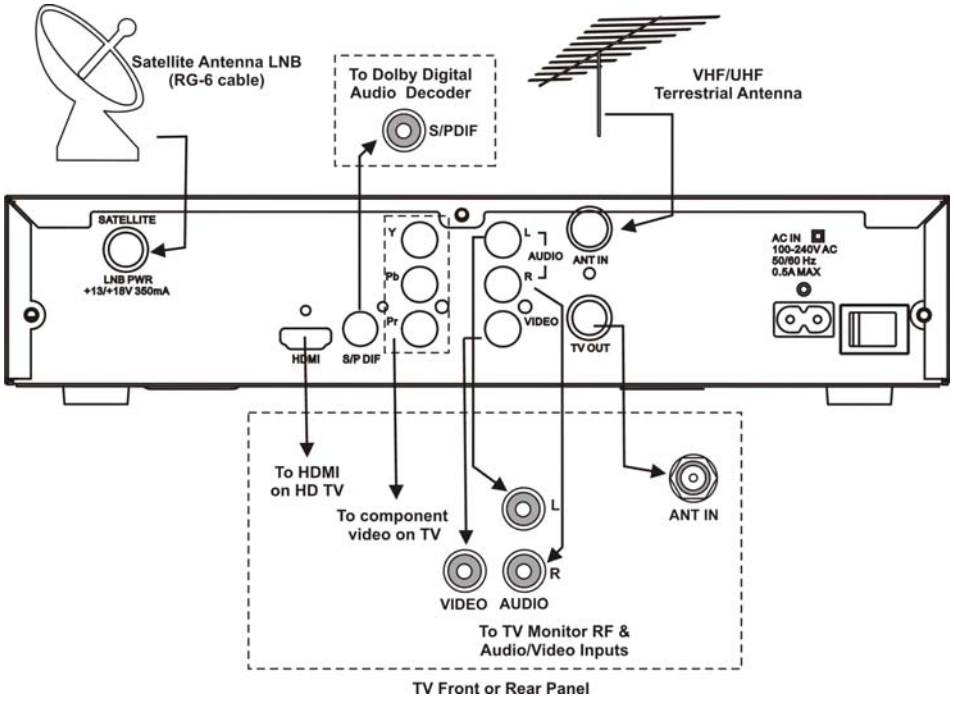
   If the dish is not aligned, the "Acquisition Failed" message is displayed. Select **OK** to save the settings. Go to the **Dish Setup** menu to align the dish.

# Rear Panels Connections

## D9865B Satellite Receiver

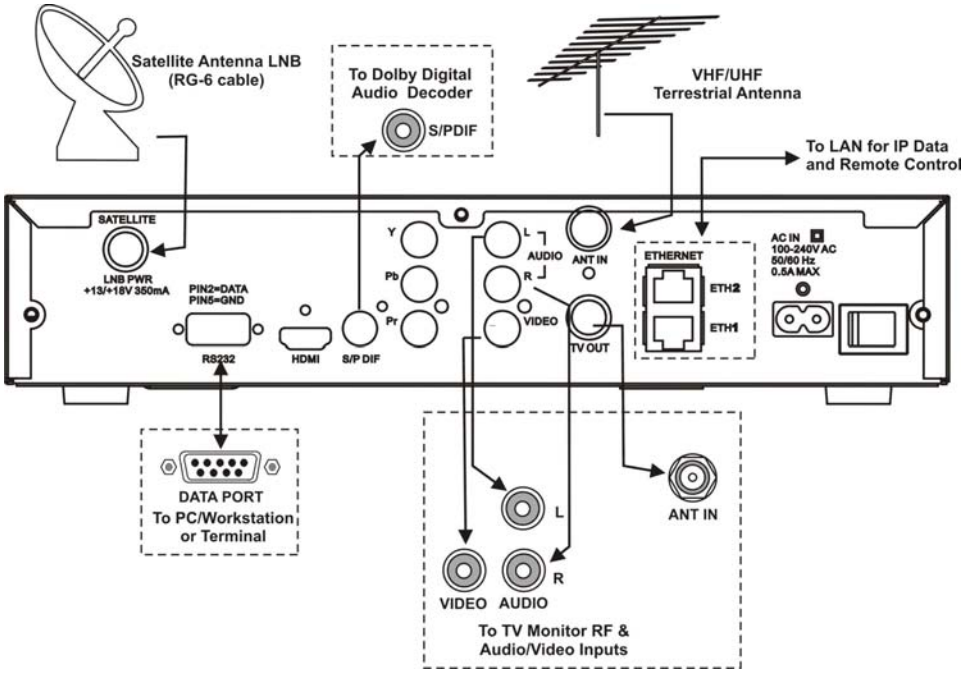



## D9865H Satellite Receiver



## D9865D Satellite Receiver

**Note:** Only ETH1 Ethernet port is currently available.



# Chapter 2
# Introduction

## Overview

### Introduction

This chapter is a general introduction to the Cisco® D9865 Satellite Receiver. It describes the most common applications and interfaces of the receiver.

### In This Chapter

This chapter contains the following topics.

# D9865 Satellite Receiver

## General Description

The Cisco D9865 Satellite Receiver is designed for satellite content distribution and it targets the broadcast, business TV, private networks, and SMATV environment. The receiver offers the ability to receive digitally encrypted video, audio, VBI, and data. It provides a cost-effective, variable-rate solution to transition existing DVB-S/MPEG-2 services to DVB-S2/MPEG-4. Additional features include IP data and RS-232 utility data (D9865D only).

The unit is set up via the on-screen display menu, using a handheld infrared remote control, or navigation keys on the front panel of the receiver. The unit can also be set up and monitored using the embedded Web interface. User-editable presets are provided for quick re-tuning to other broadcasts. The receiver also supports SNMP control via the Ethernet port as an option.

## Free-to-air Reception

This receiver is capable of receiving a DVB/MPEG compliant free-to-air broadcast.

## Secured Broadcast Reception

Supporting the PowerVu conditional access with DES or DVB descrambling, or with DVB Conditional Access Module (CAM) based DVB CA systems, this receiver can be used to receive secured corporate communication of video, audio, and data broadcast. It can also be used for secured delivery of TV programming to hotels, MDUs, homes, and commercial establishments such as restaurants and stores.

## Data Outputs (D9865D only)

Data outputs can be used for distribution of electronic documents, such as price lists and video files. Utility data (RS-232) can be used for smaller file transfer at a slower speed. DVB MPE IP data via an Ethernet interface allows for connection to a local area network for larger file transfer or communication with multiple network clients.

## MIB Browser

A MIB Browser is a type of SNMP manager, which can be used to communicate with SNMP agents. It is a tool for reading and writing to controls and status objects defined by the MIB.

**Note:** A MIB file is included in the delivery from Cisco for the D9865 Satellite Receiver to support 3rd party SNMP managers.

## Key Features

The D9865 receiver provides the following key features:

- DVB-S QPSK, DVB-S2 QPSK/8PSK demodulation
- Variable QPSK symbol rates from 1 to 45 MS/s for DVB-S and 1 to 31 MS/s for DVB-S2
- PowerVu® conditional access with DES and DVB descrambling
- CAM interface hardware for DVB CAM-based descrambling
- 4:2:0 High Definition (HD) MPEG-2 and MPEG-4 AVC decoding
- 4:2:0 Standard Definition (SD) MPEG-2 and MPEG-4 AVC decoding
- 4:2:0 NTSC and PAL (B/G/I/D/M/N) video decoding
- MPEG, Dolby® Digital Plus and HE-AAC audio decoding
- DVB Subtitling and DVB VBI (WST, WSS, VPS)
- One unbalanced stereo pair of audio outputs
- Line 21 closed caption and V-chip support
- Fingerprint trigger
- Service replacement
- Field upgradeable software and security
- Front panel 4-digit LED for channel display
- On-screen display menu for setup and status
- User-editable preset configurations
- Low Speed Data
- SNMP traps support for alarms and warnings
- MIB Browser support, used to manage SNMP requests
- Web browser interface for easy setup, control and monitoring
- Browse channels using the Electronic Program Guide (EPG)

## Optional Features

The following features are available options:

- HDMI and component video outputs for HDTV (D9865H and D9865D only)
- Support HDCP on HDMI port (D9865H and D9865D only)
- Dual Ethernet 10/100BaseT for IP data and SNMP control (D9865D only)
- Multiprotocol Encapsulation (MPE) data support with static Unicast routes and Multicast forwarding (D9865D only)

# Chapter 3
# Front Panel Operation

## Overview

### Introduction

This chapter describes how to set up the D9865 Satellite Receiver using the front panel keys and display. This information is primarily applicable for standalone operation.

### In This Chapter

This chapter contains the following topics.

# About the Front Panel

## Introduction

The front panel of your satellite receiver provides controls for enabling the receiver's video output, and for interfacing with the remote control. 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 |
|---|---|
| DISPLAY | • Enables the video display output.<br>• When the video display is enabled, the channel number is displayed on the front panel. When switched off, a "." flashes. |
| MENU | • Enters Menu mode or returns to video.<br>• Returns to previous menu. |
| SELECT | • Selects menus.<br>• Enters or exits edit mode. |
| ◀▼▲▶ | • In Menu mode, used to navigate menus. |
| ◀▶ | • In Video mode, used for volume up/down. |
| ▲▼ | • In Video mode, used for channel up/down. |

To change a setting on a menu using the front panel:

1. Use the ◀▼▲▶ buttons to move to the setting you want to change. Press the **Select** button to select the setting.
2. For numeric options, you can:
   - use the ◀▼▲▶ buttons to change the value one digit at a time, or
   - navigate to **Keyboard** using the ◀▼▲▶ buttons to use an on-screen keyboard.
3. To access the menus at the bottom of the screen (for example, Save), navigate to the appropriate selection using the ◀▼▲▶ buttons and press **Select**. A help message is displayed at the bottom of the screen.
4. Press **Menu** to move to the previous menu.

### Front Panel LEDs

The functions of the LEDs are described in the table below.

| LED | Function |
|---|---|
| MUTE | • On when sound is muted. |
| SIGNAL | • On when receiver is synchronized with the incoming digital signal and authorized for the current channel.<br>• Flashing when a signal has been found, but receiver is not authorized for the current channel.<br>• Off when no signal has been found. For more information about troubleshooting your satellite receiver, see **Troubleshooting**, on page 7-19. |
| MENU | • On when on-screen menus are displayed. |

### CI Slot

The CI Slot allows the use of CAM (Conditional Access Module) Smart Card to decrypt purchased programming. For setup information, see **Viewing DVB-CI Information**, on page 4-77 and **Configuring the Common Interface (CI) Information**, on page 5-28. For a list of supported CAMs, refer to **Common Interface Modules**, on page 3-5.

### Keyboard Display

Press the MENU and SELECT buttons simultaneously on the Front Panel to display a keyboard on the TV monitor. The keyboard allows alphabetical and numerical character entry in menu fields using the front panel. Alternatively, press the red button on the remote control.

**Note:** You must have a menu field selected (i.e., must be in edit mode) to display the keyboard.

1. Use the arrow buttons to move along the keyboard.
2. Press **OK** to select a number or letter for each entry.

### Setting the TV Video Format

The video format is set to the standard format for your country. 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 for your TV set:

1. Press the **SELECT** and ▲ buttons on the receiver front panel at the same time.
2. Press **SELECT** and ▲ again. The video format is displayed on the receiver front panel (e.g., NTSC, PAL, etc).
3. Press ▲ until you display your video format. Each change is viewable on-screen.
4. 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.

   **Note:** This function is not available through the remote control.

## Common Interface Modules

Only CAMs purchased from Cisco are currently supported. The following lists the supported CAMs:

| Common Interface Modules | Part Number |
|---|---|
| Aston Professional CAM, for descrambling CONAX | 4016669 |
| Aston Consumer CAM for descrambling CONAX | 4016670 |
| CAM for descrambling CryptoWorks | V9523361 |
| Aston Professional CAM for descrambling Irdeto | 4016671 |
| Aston Consumer CAM for descrambling Irdeto | 4016672 |
| Aston Professional CAM for descrambling MediaGuard | V9528197 |
| Aston Consumer CAM for descrambling MediaGuard | V9528198 |
| Aston Professional CAM for descrambling Viaccess | V9528199 |
| Aston Consumer CAM for descrambling Viaccess | V9528240 |

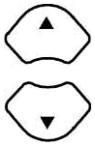
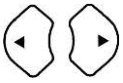
# Remote Control Functions

The remote control is provided as a standard feature with the D9865 Satellite Receiver. After unpacking your satellite receiver, check that you have the following accessories (if ordered):

- One IR (Infra-Red) Remote Control transmitter (RCU)
- Two AAA size batteries for Remote control (not included for Argentina)

The Remote Control is used to control receiver functions. You can switch the video/audio outputs on and off plus activate and navigate the on-screen menus. Some remote control functions are duplicated on the front panel (see **Front Panel LEDs**, on page 3-3).

| Remote Control | Button | Function |
|---|---|---|
|  | DISPLAY | • Enables the video/audio outputs. |
| | 0 to 9 | • Enters channel numbers or information on on-screen menus.<br>• **Alphanumeric character entry** for "Name" field on the 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.<br>00 (pressing 0 twice) – deletes a character at the cursor location.<br>11 (pressing 1 twice) – adds a space at the cursor location. |
| | FAV | • Displays Favorite screen where you can view and set favorite channels. |
| | LAST | • Displays last channel. |
| | MENU | • Displays Main Menu.<br>• Exits edit mode in menus.<br>• Returns to video in video mode.<br>• Returns to previous menu. |

| | | |
|---|---|---|
| | EPG | • If the receiver is enabled to receive EPG (Electronic Program Guide) data, an interactive EPG guide will be displayed when pressed. If not, a channel list menu and video will be displayed. |
| |  | • In Video mode, used to select channels.<br>• In Menu mode, used to move through on-screen menus. |
| |  | • In Video mode, increases or decreases volume.<br>• In Menu mode, used to move through on-screen menus. |
| |  | • Selects menus (functions same as SELECT button on front panel).<br>• Enters or exits edit mode. |
| | CH+, CH- | • Channel up/down. |
| | VOL+, VOL- | • Volume up/down. |
| | EXIT | • Exits from edit mode.<br>• Exits menus (returns to video). |
| |  | • Mutes sound. |
| |  | • Changes to uppercase letter mode.<br>• Page up when scrolling the on-screen menus. |
| |  | • Changes to lowercase letter mode.<br>• Page down when scrolling the on-screen menus. |
| |  | • Red – different on each menu. Aso displays the soft keyboard. |
| |  | • Green – different on each menu |
| |  | • Yellow – different on each menu |
| |  | • Blue – different on each menu |
| | Setup | • Displays the Setup Menu. |

# Chapter 4
# Setup and Monitoring via On-Screen Display

## Overview

### In This Chapter

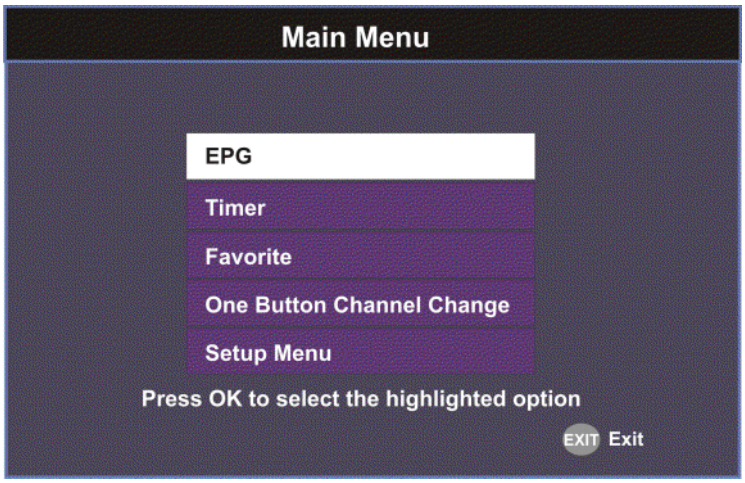
This chapter contains the following topics.

# Main Menu

This section contains the information you need to set up your Satellite Receiver using the on-screen display menus. Before you begin using the receiver, you may need to change the current settings to suit your operating requirements.

To display the **Main Menu**, press the **MENU** button on the remote control or receiver front panel.

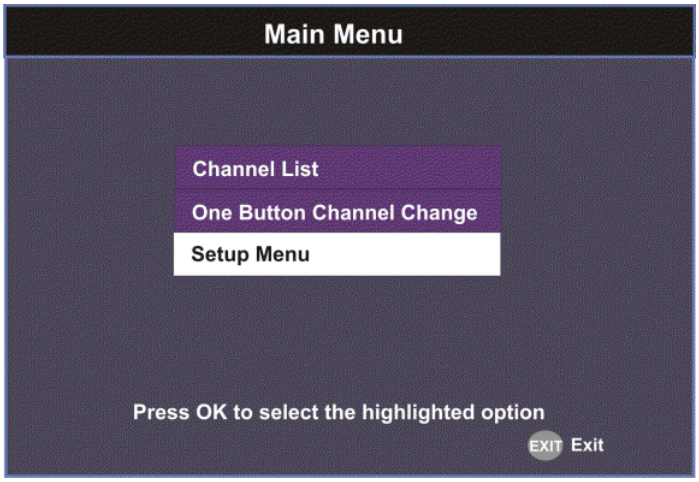
If the D9865 Satellite Receiver is enabled to receive Electronic Program Guide (EPG) data, the following Main Menu screen appears.




As shown above, you can select the EPG, Timer, Favorite, One Button Channel Change, or the Setup Menu.

- EPG - displays an interactive EPG guide with all the available subscriber channels.
- Timer - Displays reminder timers set for upcoming programs.
- Favorite - Displays a list of favorite channels set by the user.
- One Button Channel Change - Ability to assign a channel to each of the colored buttons at the bottom of the remote control.
- Setup Menu - provides access to menus to set up tuning, select and set up presets, set up video, audio, and other advanced parameters, in addition to viewing the receiver operating status.

If the receiver does not support EPG, the following Main Menu screen appears:




As shown above, you can select the Channel List, One Button Channel Change, or the Setup Menu.

- Channel List – displays all the available subscriber channels. See an example of a Channel List below.


- One Button Channel Change - provides ability to assign a channel to each of the colored buttons at the bottom of the remote control.
- Setup Menu - provides access to menus to set up tuning, select and set up presets, set up video, audio, and other advanced parameters, in addition to viewing the receiver operating status.

### 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 status information, which is available for viewing only and cannot be changed.

To change a setting on a menu using the remote control:

1. Use the ◀▼▲▶ buttons to move to the setting you want to change.
2. Press the **OK** button to select the setting.
3. For numeric options, you can use one of the following methods:
   - enter the number directly using the numeric keypad on the remote control,
   - use the ◀▼▲▶ buttons to change the value one digit at a time, or
   - press the red button (keyboard) to use an on-screen keyboard.
4. Press **OK** to save the setting and exit the menu. A help message is displayed at the bottom of the screen.
5. Press **MENU** to move to the previous menu.

**Note:** The steps in this chapter are based on using the remote control. For more information on changing a setting on a menu using the front panel controls, see **About the Front Panel**, on page 3-2.

### The On-Screen Buttons

The on-screen menus have the following common buttons:

| Button | Description |
|---|---|
| Save | Saves and applies the settings to the receiver. |
| Exit | Exits edit mode and menu. A message prompts you to save or discard changes before you exit the 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.

## Channel List without EPG

If the receiver does not support EPG, you can access the Channel List from the Main Menu.

To select a channel from the channel list:

1. From the **Main Menu** screen, select **Channel List** and press **OK**. The Channel List displays all the available subscriber channels.


2. Select a channel from the channel list and press **OK**. This will tune to the selected channel (top right) and the channel information is displayed in the bottom right of the channel list:

| Options | Description |
|---|---|
| Channel Name | Name of the current channel. |
| Channel Number | Current channel number. |
| Last Act Preset | Indicates the number of the last activated preset. |
| CA Authorized | Indicates whether the receiver is authorized to receive the signal. |

The channel lost screen will close when pressing **OK**.

# Introduction to the EPG

## What is EPG?

The Electronic Program Guide (EPG) is a convenient way to find out what is on your TV and to view a list of upcoming programs. Lists of programs are available for any date in the next 7 days depending on the network provider.

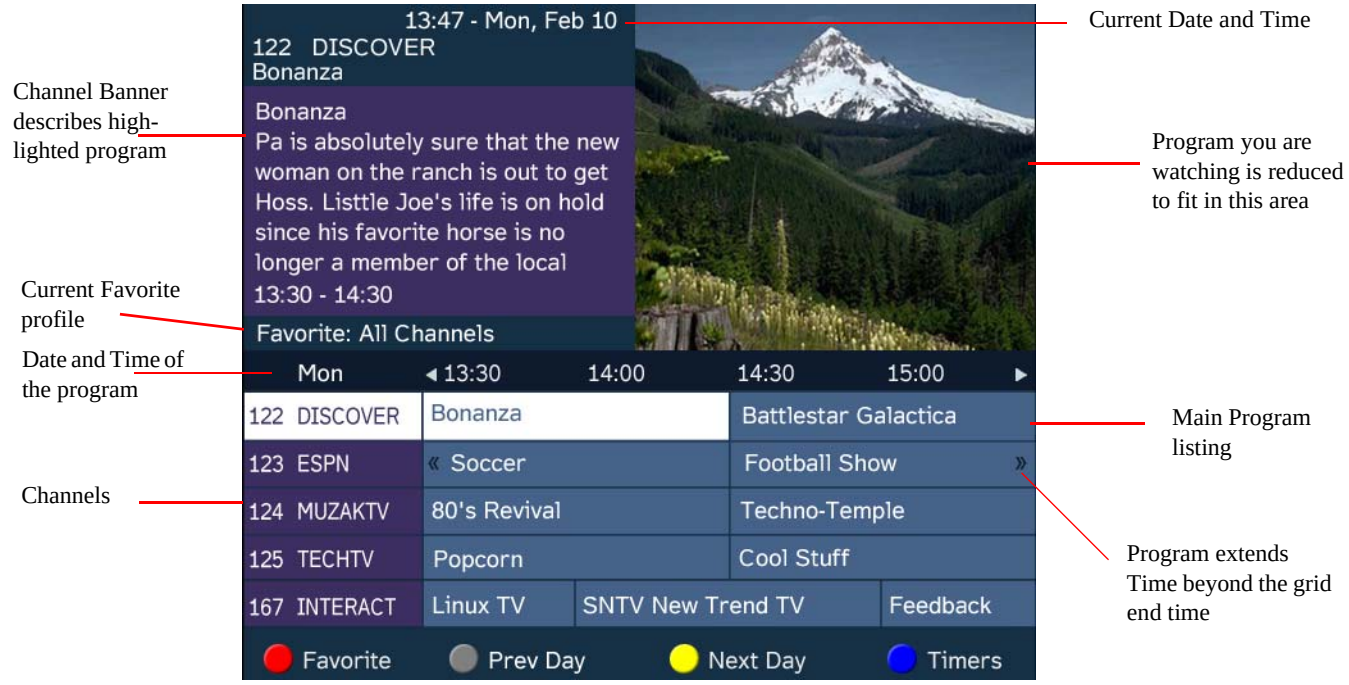
## Features of the EPG

The following list provides an overview of the features of an EPG:

- With the browsing features, you can see what is on TV for a particular channel, program channel, or program title.
- Instant program descriptions appear while using the browsing feature to view detailed channel information.
- Timers help you keep track of upcoming programs by providing reminders on the screen before the program starts.
- You can set up Favorite profiles for a quick browse of your favorite channels.

## Browsing By Channel

From the Main Menu, select **EPG** and press **OK**. The EPG main screen is shown below. The EPG screen enables you to browse by channel, which lists all the available programs in order by time of day and date.



## Parts of the Guide

The following list describes the parts of the guide.

- The program you are watching is reduced to fit in the upper right are of your screen. The program remains there while you are using the main functions of the guide.
- The current Information banner under the picture provides the current date, time and channel.
- The Channel Banner provides a description for each program you highlight in the main program list.
- The Main Program listing displays the programs that will be broadcast.
- Press the blue button (Timers) to view the list of timers set for upcoming programs.
- Press the red button (Favorite) to view the list of Favorite profiles.

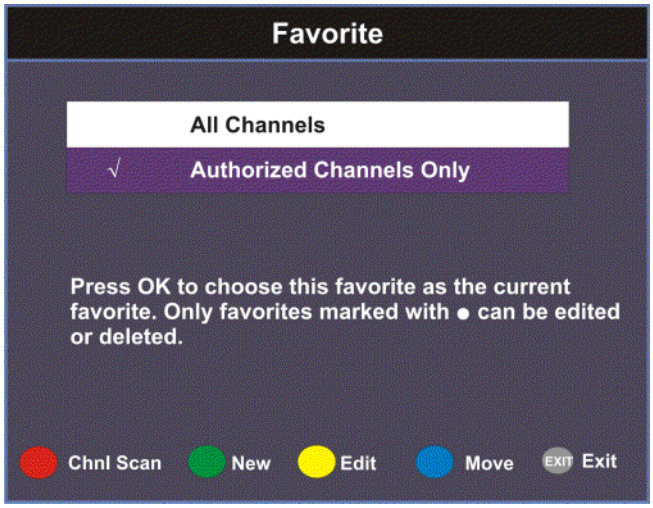
## Browsing by a Different Date

You can view upcoming program information for up to 7 days in advance by changing the day of the week you are browsing.

Press the yellow button (**Next Day**) or the green button (**Prev Day**) to change the day of the week to view upcoming program information on the following day. Press the green button (**Prev Day**) to view the program information.

## Viewing Favorites

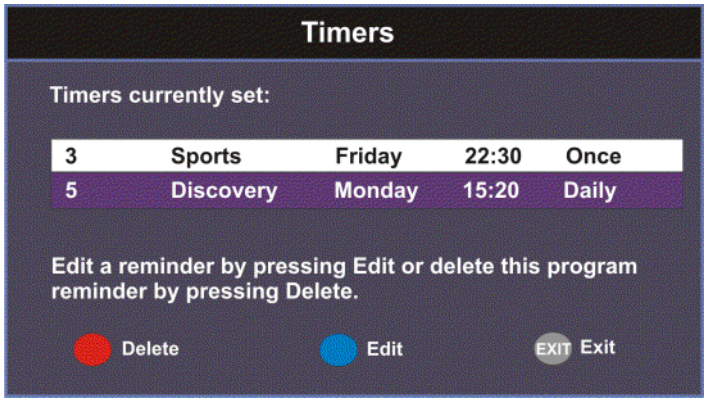
Press the red button (**Favorite**) to view a list of all the configured Favorite profiles.




For more information on setting up the favorite profiles, see **Setting Up Your Favorite Channels**, on page 4-13.

## Viewing Timers

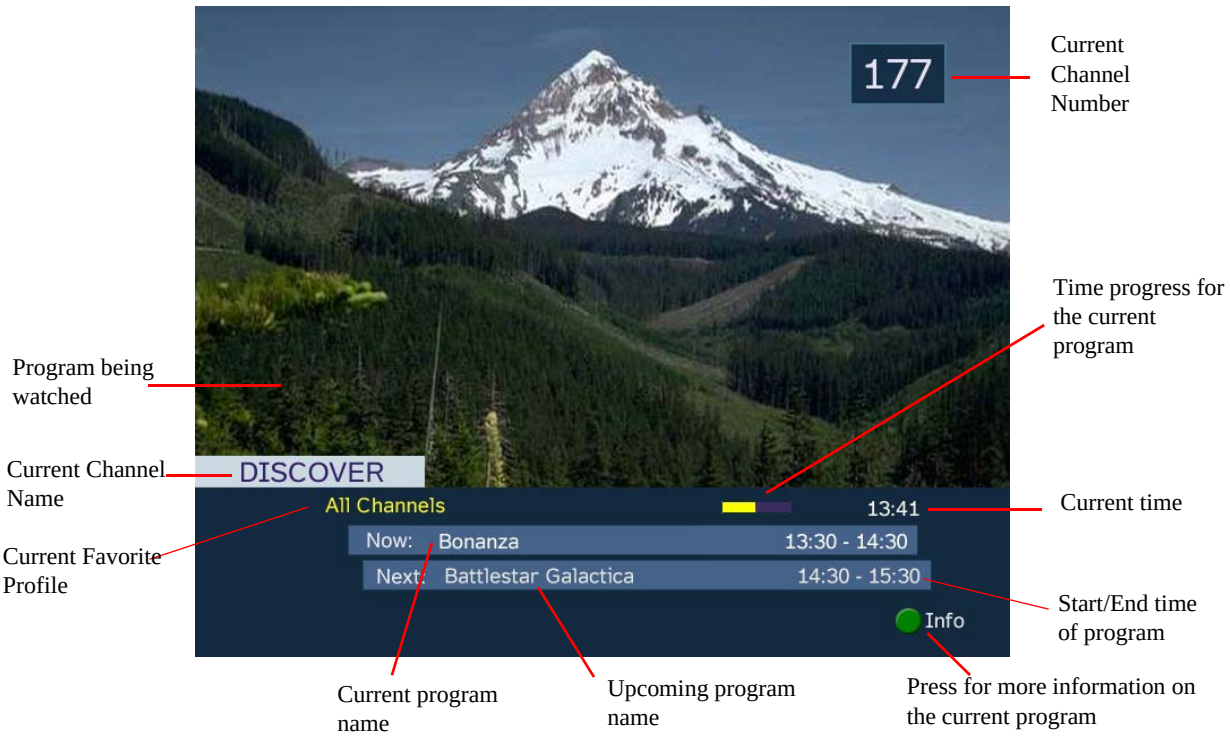
Press the blue button (**Timers**) to view all the configured timer profiles.




For more information on setting up and maintaining timer profiles, see **Setting Timers**, on page 4-10.

## Changing Channels

As you change the channel while watching TV, a brief channel banner appears along the bottom of the TV screen with the current time and channel information. For program details, press the green button (**Info**). The Extended Info screen is displayed, with additional program information. The following displays an example of a channel banner:



# Setting Timers

## Setting a Reminder Timer From EPG

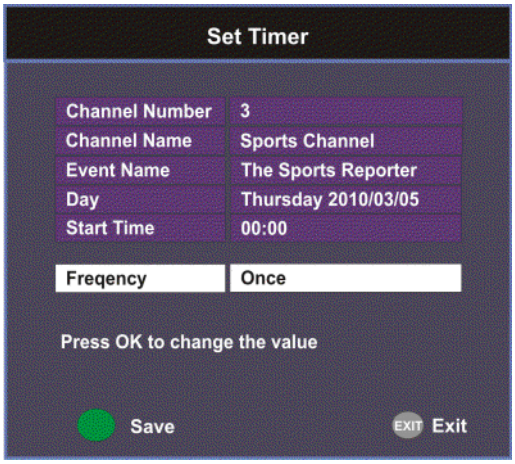
You can set up timers that will display a reminder on-screen when the configured program is on.

**Note:** You cannot set a timer for a program that has already started.

Proceed as follows to set a reminder timer from EPG:

1. From the **Main Menu** screen, select **EPG** and press **OK**.
2. Select an upcoming program you want to set a reminder by scrolling through the guide using the ◀▼▲▶ buttons and then press **OK**. The Extended Info screen is displayed with the channel name, information and program time.


3. If the program selected has already started, press Next ▶ to set a timer for the next time slot.
4. Press the green button (**Set Timer)**. The Set Timer screen is displayed.




5. The following table describes the channel information and the timer options:

| Channel/Timer Information | Description |
|---|---|
| Channel Number | Number of the selected channel. |

| Channel/Timer Information | Description |
|---|---|
| Channel Name | Name of the selected channel. |
| Event Name | Name of the selected program. |
| Day | Day of the week the program will be on the selected channel. |
| Start Time | Start time of the selected program. |
| Frequency | Set the frequency of the reminder: Once, Daily, Weekly, or Weekdays. |

6. Click the green button (**Save**) to save your timer settings.

   **Note:** You can set a maximum of 50 timer profiles.

   The following is an example of a reminder that appears on-screen:

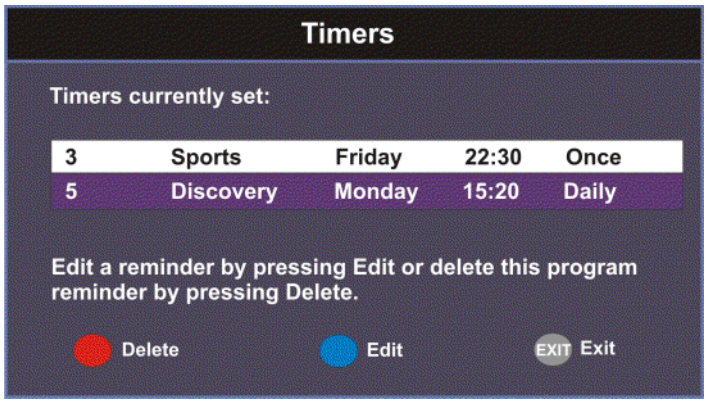

Seconds left before the program starts

   Press **OK** to close the reminder window and tune to the specified channel. Otherwise, press **Exit** to close the reminder window.

   The clock symbol on the left hand side displays a countdown of seconds left before the program starts and the reminder window closes.

## Editing a Timer Profile

1. From the Main Menu, select **Timers** and press **OK**. The Timers screen is displayed.




2. From the Timers screen, scroll to the Timer profile you want to edit using the ▼▲ buttons.
3. Select Edit or press the blue button (**Edit**). The Set Timer screen is displayed.
4. Make the necessary changes.
5. Press the green button (**Save**) to save the Timers list.

## Deleting a Timer Profile

1. From the Main Menu, select **Timers** and press **OK**. The Timers screen is displayed.


2. From the Timers screen, scroll to the Timer profile you want to delete using the ▼▲ buttons.
3. Select **Delete** or press the red button (**Delete**). A warning message appears confirming your deletion.
4. Press **OK** to confirm.

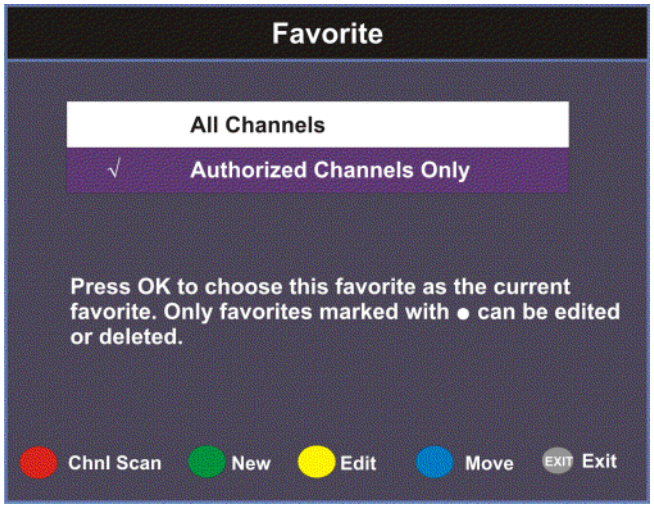
The Favorite screen displays a list of all the favorites configured in the D9865. Favorites allow you to surf through the channels you have set up as your favorite channels, skipping over other channels.

By default, **All Channels** (authorized and unauthorized channels) are displayed. The **Authorized Channels Only** lists channels that are authorized by your uplink provider. Setup is authorized only by doing a channel scan.

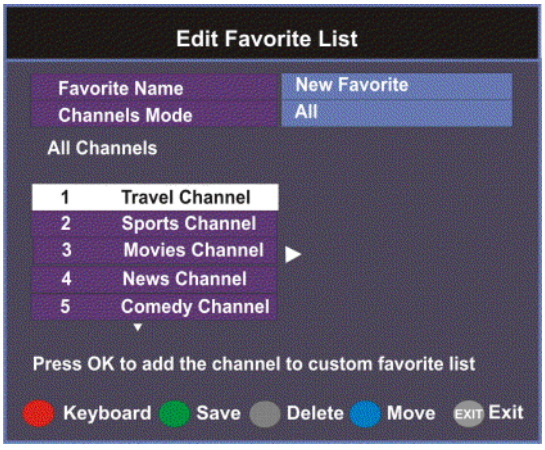
## Adding a Favorite Profile

Proceed as follows to configure your favorites list:

1. From the **Main Menu** screen, select **Favorite** and press **OK**, or press **FAV**.




2. Press the green button (**New**) to create a new Favorites list.



3. Select **Favorite Name** and press **OK** to edit the new favorite name. Enter the name directly using the numeric keypad on the remote control or use the ◀▼▲▶ buttons to change the letters/numbers one alphabet/digit at a time. Alternatively, press the red button (**Keyboard**) to enter the name using an on-screen keyboard.
4. Select the **Channel Mode** and press **OK** to select the type of channels listed below. Select **All** to list all the channels in the network. Select **Authorized Only** to list all the channels that are authorized by your uplink provider only.
5. Scroll through the channel list using the ▼▲ buttons and press **OK** to add the channels you want to your new favorites list on the right. A checkmark appears to the left of the channel, indicating that the channel is in the favorites list.
6. Press the ▶ button to edit the selected channels on the right. Press the blue button (**Move**) to move the selected channel up/down the list using ▼▲ buttons. When you are done moving the channel, press the blue button (**End Move**).
7. Press the green button (**Save**) to create and save the new Favorites list.

### Editing a Favorite Profile

**Note:** You cannot edit All Channels or the authorized channels only.

1. From the Favorite screen, scroll to the Favorite profile you want to edit using the ▼▲ buttons.
2. Press the yellow button (**Edit**). The Edit/Delete Custom Favorite screen is displayed.
3. Select **Edit** or press the blue button (**Edit**). The Edit Favorite List screen is displayed.
4. Make the necessary changes.
5. Press the green button (**Save**) to save the Favorites list.

### Deleting a Favorite Profile

**Note:** Only Favorites that are marked with a circle can be deleted.

1. From the Favorite screen, scroll to the Favorite profile you want to delete using the ▼▲ buttons.
2. Press the yellow button (**Edit**). The Edit/Delete Custom Favorite screen is displayed.
3. Select **Delete** or press the red button (**Delete**). A warning message appears confirming your deletion.

4. Press **OK** to confirm.

### Performing a Channel Scan

The Channel Scan function scans through all the available channels and updates the Authorized Channels Only list. For more information on your authorized channels, contact your uplink service provider.

Proceed as follows to perform a channel scan:

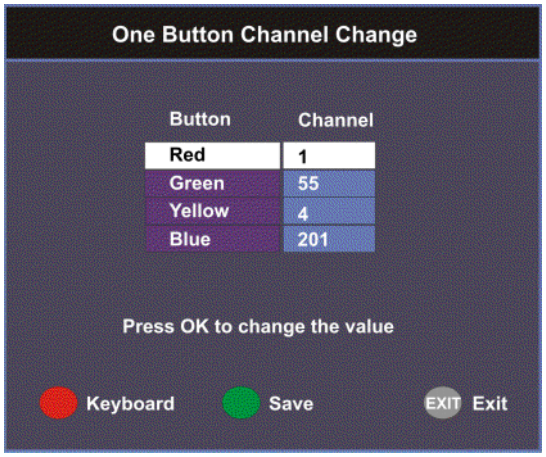
1. From the Favorite screen, press the red button (**Chnl Scan**). A warning message appears confirming the channel scan. It can take several minutes, depending on the size of the network.
2. Press **OK**. The Authorized Channels Only list is updated.

# Setting Up One Button Channel Change

## To Set Up One Button Channel Change

Proceed as follows to set up one button channel change:

From the Main Menu, select **One Button Channel Change** and press **OK**.




The Button colors (Red, Green, Yellow, and Blue) corresponds to the colored buttons at the bottom of the remote control (see below).


Each color can be assigned to a channel as a shortcut for a quick channel change. For example, if you assign the red button to channel 1, pressing the red button while watching a different channel at anytime will automatically tune the TV channel to 1.

**Note:** You can only use the one button channel change if the screen is displaying video only. The one button channel change does not work if EPG, Channel Banner or on-screen menus are displayed.

# Setup Menu

The Setup Menu is used to set up the receiver.


The available sub-menus are as follows:

- Tuning / Preset
  From this menu, you can display and change Presets, and set up the LNB.
- Dish Setup
  This menu provides a graphical aid for dish pointing/alignment.
- Video Setup
  From this menu, you can set the TV channel to display video on your TV, the video format (e.g., NTSC or PAL), TV aspect ratio, and subtitling control.
- Audio Setup
  From this menu, you can set the Stereo/Mono selection and select digital audio preferences.
- Advanced
  From this menu, you can access other sub-menus for control and display of features such as Lock Level, Conditional Access, the Ethernet port and Diagnostics, and available services to control code downloads.
- Info
  From this menu, you can access other sub-menus to display information about the receiver software, and hardware versions, view device status and other signal-related parameters.

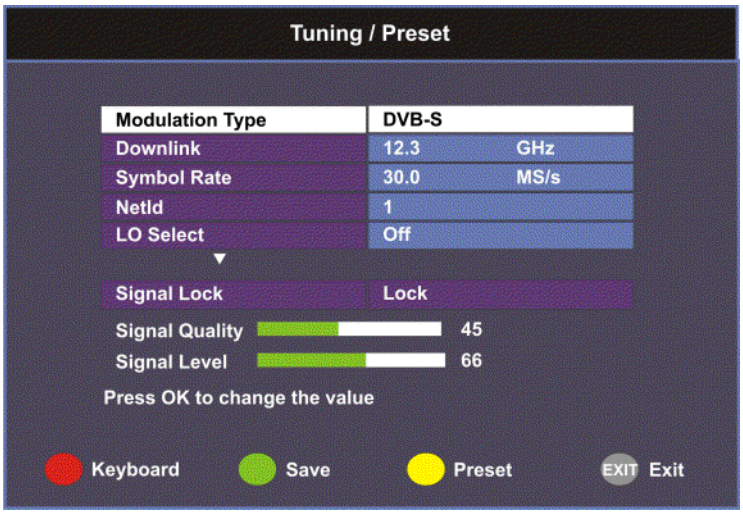
# Setting up Tuning / Preset

## To Set Up Tuning/Preset Parameters

The Tuning/Preset menu is used to display and configure the current settings.

Proceed as follows to set up the tuning/preset:

1. From the **Setup Menu** screen, select **Tuning / Preset** and press **OK**.




2. The following table describes each of the available options:

| Selection | Options | Description | Default |
|---|---|---|---|
| Modulation Type | DVB-S | Enter the modulation scheme. | DVB-S2 |
| | DVB-S2 | | |
| Downlink (Freq) | Enter number | For C-Band:<br>Downlink Freq = LO Freq - L-Band Freq.<br>For Ku-Band:<br>Downlink Freq = LO Freq + L-Band Freq. | 12.3 |
| Symbol Rate | 1.0 to 45.0<br>1.0 to 31.0 | Range for DVB-S in MS/s.<br>Range for DVB-S2 in MS/s. | 30.0 |
| NetId | Enter number | Obtain the number from your service provider. | 1 |

| Selection | Options | Description | Default |
|---|---|---|---|
| LO Select (Sets a 22 kHz tone for Ku-band dual LNB) | On | Switches 22 kHz tone on. | Off |
| | Off | Switches 22 kHz tone off. | |
| | Auto | Sets 22 kHz tone to automatic.<br>If Downlink Freq < Crossover, use LO Freq 1. The 22 kHz tone is Off.<br>If Downlink Freq > Crossover, use LO Freq 2. The 22 kHz tone is On. | |
| LO Freq 1 | Enter number | If C-band application, set to 5.15 GHz (default).<br>If Ku-band single LNB, enter LO Freq. and set LO Freq 2 and Crossover to 0.0.<br>If Ku-band dual LNB, enter LO Freq 1, LO Freq 2 and Crossover. | 10.75 GHz |
| LO Freq 2 | Enter number | Enter if Ku-band dual LNB application.<br>LO Freq 2 > LO Freq 1. | 0.0 |
| Crossover | Enter number | Enter if Ku-Band dual LNB application.<br>Determines if LO Freq 1 or LO Freq 2 is used for tuning. | 0.0 |
| LNB Power (For more information, see **LNB Power Settings**, on page 4-25.) | 18-H | For H polarization (18V). | 18-H |
| | 13-V | For V polarization (13V). | |
| | Off | Use for external LNB power.<br>**Note:** LNB power must be on if DiSEqC is required. | |
| | H-NIT | Initially applies the horizontal polarization voltage, and then follows the polarization based on the NIT. | |
| | V-NIT | Initially applies the vertical polarization voltage, and then follows the polarization based on the NIT. | |
| DiSEqC | Enable | Enables or disables Digital Satellite Equipment Control. This must be enabled to control the DiSEqC switch. LNB Power must be on to use this setting. Refer to http://www.eutelsat.com/satellites/4_5_5.html for more information. | Disable |
| | Disable | | |
| DiSEqC Switch | Off | Selects a port on the LNB switch (if used). | Off |
| | A to P | | |

| Selection | Options | Description | Default |
|---|---|---|---|
| Signal Lock | | Indicates signal synchronization status. | |
| Signal Quality | | Indicates the quality of the received signal, associated with the Bit Error Rate, in the range from 0 to 100. | |
| Signal Level | | Indicates the strength of the received signal in the range from 0 to 100. | |

**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.

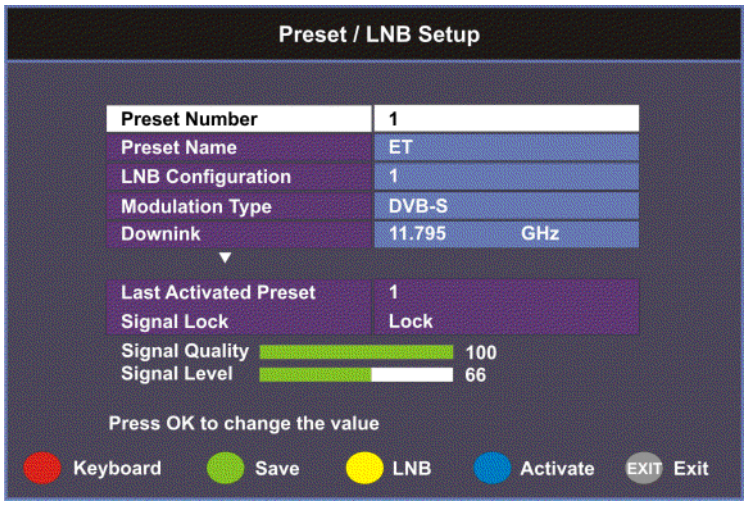
3. Press the green button (**Save**) to save and apply the settings to the receiver.

## To Set Up Preset/LNB Parameters

The Preset/LNB Setup sub-menu allows you to select or configure up to 64 network presets. Your receiver may be shipped pre-configured with a number of network presets. You can configure the network preset to use one of 10 LNB configurations.

Proceed as follows to set up the preset/LNB settings:

1. From the **Tuning / Preset** screen, press the yellow button (**Preset**) to set up the Preset/LNB.




2. The following table describes each of the available options:

| Selection | Options | Description |
|---|---|---|
| Preset Number | 1 to 64 | Enter or select the preset number. |
| Preset Name | Enter name | Set the preset network name. |
| LNB Configuration | 1 to 10 | Enter or select the LNB configuration. |
| Modulation Type | DVB-S | Select the modulation scheme. |
| | DVB-S2 | |
| Downlink (Freq) | Enter number | For C-Band,<br>Downlink Freq = LO Freq - L-band Freq.<br>For Ku-Band,<br>Downlink Freq = LO Freq + L-band Freq. |
| Symbol Rate | 1.0 to 45.0<br>1.0 to 31.0 | Range for DVB-S in MS/s.<br>Range for DVB-S2 in MS/s. |

| Selection | Options | Description |
|---|---|---|
| NetId | Enter number | Obtain the number from your service provider. |
| Last Activated Preset | | Indicates the number of the last activated preset. |
| Signal Lock | | Indicates signal synchronization status. |
| Signal Level | | Indicates the relative strength of the received signal, in the range from 0 to 100. |

3. Press the green button (**Save**) to save and apply the settings to the receiver.

### Selecting the Active Preset

To change the displayed preset to the Active preset or to select a different preset as the active preset:

1. From the **Tuning/Preset** screen, press the yellow button (**Preset**).
2. Enter the preset in the Preset field that you want to activate. Enter the number directly using the numeric keypad on the remote control or use the ◀▼▲▶ buttons to change the number one digit at a time. Alternatively, press the red button (keyboard) to enter the preset using an on-screen keyboard.
3. Select **Activate** (blue button) to choose the preset. This will activate the currently displayed preset as the active preset.

   You will be prompted to accept the new preset and warned that service interruption will occur.
4. Select **OK** to proceed or **EXIT** to cancel the operation.
5. Press **MENU** to go to the previous menu.

**Note:** It will take up to 30 seconds for signal acquisition to occur. It can take longer if the symbol rates are low.

### Editing Network Presets

You can edit or pre-configure any one of 64 presets without affecting the operation of the receiver.

To save or change a network preset:

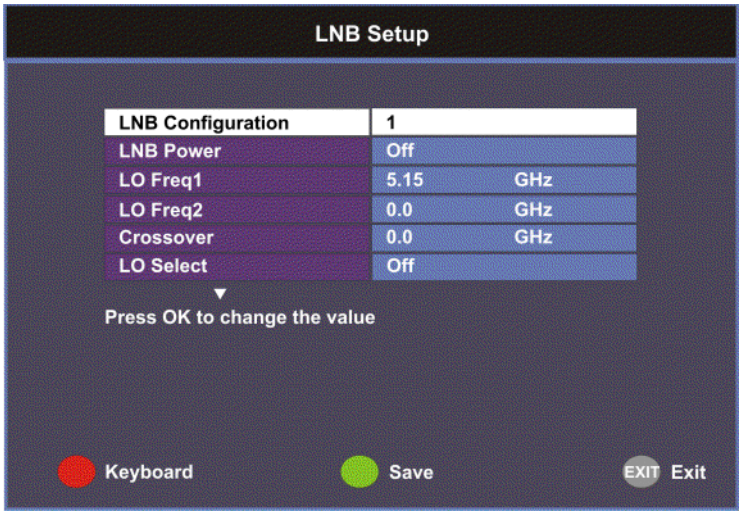
1. Enter a Preset Number and a name directly to below the Preset Number. Follow the editing rules for the keys when entering characters in the **Name** field.
2. Enter the appropriate settings as described in the preceding table. Ensure that the LNB selection corresponds to the correct downlink frequency.
3. Press **OK** to save the preset.

## To Set Up LNB Parameters

Proceed as follows to set up the LNB:

1. From the **Preset/LNB Setup** menu, press the yellow button (**LNB**) to set up the LNB.

   **Note:** You can configure up to 10 LNB presets.




2. The following table describes each of the options:

| Selection | Options | Description |
|---|---|---|
| LNB Configuration | 1 to 10 | Number identifying the current preset LNB configuration. |
| LNB Power (For more information, see **LNB Power Settings**, on page 4-25.) | 18-H | For H polarization. |
| | 13-V | For V polarization. |
| | Off | Use for external LNB power.<br>**Note:** LNB power must be on if DiSEqC is required. |
| | H-NIT | Initially applies the horizontal polarization voltage, and then follows the polarization based on the NIT. |
| | V-NIT | Initially applies the vertical polarization voltage, and then follows the polarization based on the NIT. |

| Selection | Options | Description |
|---|---|---|
| LO Freq1 | Enter number | If C-band application, set to 5.15 GHz (default).<br>If Ku-band single LNB, enter LO Freq. and set LO Freq 2 and Crossover to 0.0.<br>If Ku-band dual LNB, enter LO Freq 1, LO Freq 2 and Crossover. |
| LO Freq2 | Enter number | Enter if Ku-band dual LNB application. LO Freq 2 > LO Freq 1. |
| 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. |
| LO Select<br>(Sets a 22 kHz tone for Ku-band dual LNB) | Off | Switches 22 kHz tone off. |
| | On | Switches 22 kHz tone on. |
| | Auto | Sets 22 kHz tone to automatic.<br>If Downlink Freq < Crossover use LO1. The 22 kHz tone is Off.<br>If Downlink Freq > Crossover use LO2. The 22 kHz tone is On. |
| DiSEqC | Enable | Enables or disables Digital Satellite Equipment Control. This must be enabled to control the DiSEqC switch. LNB Power must be on to use this setting. Refer to http://www.eutelsat.com/satellites/4_5_5.html for more information. |
| | Disable | |
| DiSEqC Switch | Off | Selects a port on the LNB switch (if used). |
| | A to P | |

**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.

3. Press the green button (**Save**) to save your settings.

### LNB Power Settings

The following table displays the LNB Power settings:

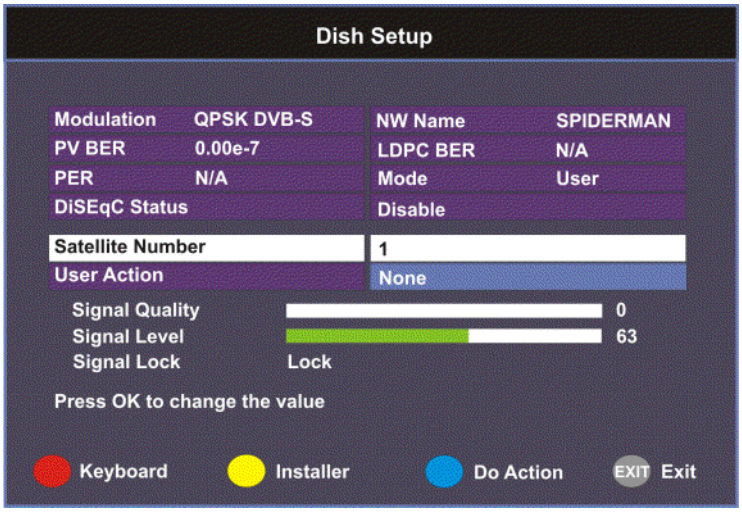
| LNB Power Setting | NIT Contains | Output LNB Voltage |
|---|---|---|
| Off | Not received | Off |
| | H | Off |
| | V | Off |
| 18-H | Not received | 18 volts |
| | H | 18 volts |
| | V | 18 volts |
| 13-V | Not received | 13 volts |
| | H | 13 volts |
| | V | 13 volts |
| H-NIT | Not received | 18 volts |
| | H | 18 volts |
| | V | 13 volts |
| V-NIT | Not received | 13 volts |
| | H | 18 volts |
| | V | 13 volts |

## To Set Up the Dish

The Dish Setup menu provides graphical assistance for dish positioning. This menu can be set to two modes: User Mode (default) or Installer Mode. The User mode allows you to select from stored Satellite Numbers, which are stored satellite locations, as stored in the dish motor, but does not provide any dish control.

Proceed as follows to set up the dish:

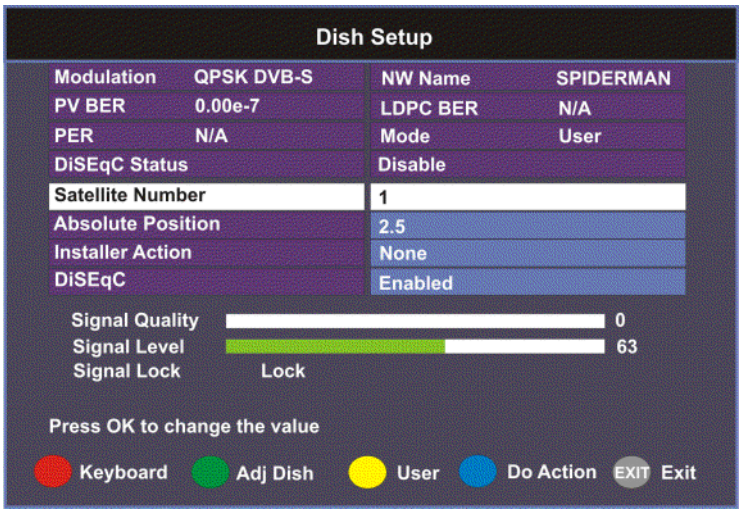
1. From the **Setup Menu**, select **Dish Setup** and press **OK**. By default, the Dish Setup screen is displayed in User mode.




2. The table at the top displays the current configurations.
3. The following table describes each of the options in User mode:

| Selection | Options | Description |
|---|---|---|
| Satellite Number | 1 to 255 | Number identifying the saved satellite location as defined by the dish motor manufacturer. |
| User Action | None | No action is performed. |
| | Goto Satellite | Moves the dish to the selected pre-stored satellite position. Satellite positions are stored in the dish motor, if supported, not in the receiver. |

4. Press the yellow button to switch between User and Installer modes. The Installer mode is for Installers only.




5. The following table describes each of the available options for the Installer mode:

| Selection | Options | Description |
|---|---|---|
| Satellite Number | 1 to 255 | Number identifying the saved satellite location as defined by the dish motor manufacturer. |
| Absolute Position | 0.0 to 75.0 | Position of the satellite in degrees. |

| Selection | Options | Description |
|---|---|---|
| Installer Action | Continuous West Movement | Moves the dish west until it reaches its limit. Ensure that the dish can move to its limit without any obstructions. |
| | Continuous East Movement | Moves the dish east until it reaches its limit. Ensure that the dish can move to its limit without any obstructions. |
| | Stop Move | Stops movement of the dish. |
| | Goto Absolute Position West | Moves the dish to the Absolute west position set above. |
| | Goto Absolute Position East | Moves the dish to the Absolute east position set above. |
| | Goto Reference | Moves the dish to a reference defined by the dish motor manufacturer. |
| | Goto Satellite | Moves the dish to the selected pre-stored satellite position. Satellite positions are stored in the dish motor, if supported, not in the receiver. |
| | Store Satellite | Stores the current dish position as a Satellite Number, if supported by the dish motor. |
| | Clear Limits | Clears the dish east and west limits stored in the dish motor. |
| | Store East Limits | Stores the current position as the east limit in the dish motor. |
| | Store West Limits | Stores the current position as the west limit in the dish motor. |
| | Calculate Position | Updates the position of the dish according to the current position. For more information, refer to the dish manual provided by the dish manufacturer. |
| | None | No action is performed. |

| Selection | Options | Description |
|---|---|---|
| DiSEqC | Enable | Enables or disables Digital Satellite Equipment Satellite Control.<br>**Note:** This must be enabled to control the DiSEqC switch. LNB Power must be on to use this setting. Refer to http://www.eutelsat.com/satellites/4_5_5.html for more information.<br>Before you can adjust the satellite position using the Adjust Dish Position screen or a signal tone, ensure that the **LNB Power** and **DiSEqC** (in the Tuning/Preset screen) are enabled. |
| | Disable | |

6. Press the blue button (**Do Action**) to save and apply the settings to the receiver until the next reboot.
7. The following table describes the view-only information on the Dish Setup screen:

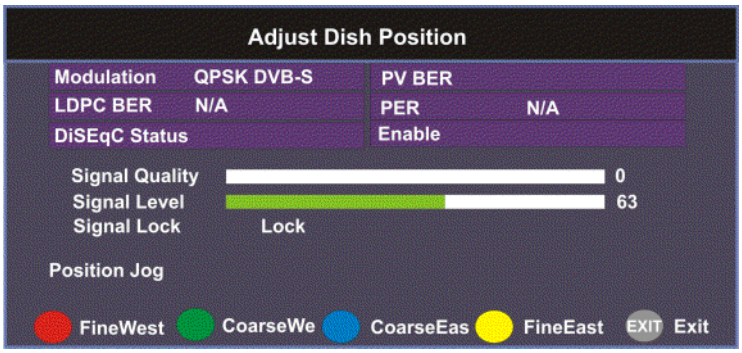
| Parameter | Description |
|---|---|
| Modulation | Indicates the modulation type for the received signal. |
| LDPC BER | Indicates the bit rate of the input stream of the LDPC error correcting stage (DVB-S2 only). |
| Mode | Indicates whether the current dish setup mode is Installer or User. The mode can be changed by pressing the yellow button. |
| NW Name | Displays the network name. |
| PV BER | Indicates the PV (Post-Viterbi) BER for the received signal (DVB-S). |
| PER | Indicates the current PER (Packet Error Rate). |
| DiSEqC Status | Indicates whether the DiSEqC is enabled or disabled. |
| Signal Quality | Indicates the quality of the received signal, associated with the Bit Error Rate, in the range from 0 to 100. |
| Signal Level | Displays the relative strength of the received RF input signal. It is displayed in the range from 0 to 100. |

| Parameter | Description |
|---|---|
| Signal Lock | Indicates whether the receiver is synchronized with the received RF signal. |

### Adjusting the Satellite Position in Installer Mode

**Note:** To adjust the satellite position, the **DiSEqC** must be set to Enable.

1. On the Dish Setup screen, press the yellow button (**Installer**) to select Installer mode.
2. Ensure the DiSEqC is set to Enable and then press the green button (**Adj Dish**).




3. Press the red or yellow button for fine west and east dish adjustment. Press the green or blue button for coarse east and west dish adjustment.

### Changing the Satellite Position in User Mode

To select a new satellite position on the Dish Setup menu:

1. Use the ▲▼ buttons to move to Satellite Number and press **OK**.
2. Enter the pre-stored satellite number you want to use in the range from 1 to 255, and press **OK**.
3. Press ▼ to move down to **User Action** and press **OK**.
4. Press ▶ to choose **Goto Satellite** and press **OK**. The receiver is now tuned to the selected satellite position.
5. Press **MENU** to move to the previous menu, or **EXIT** to go to video.

### Adjusting the Satellite position using Signal Tones

Dish alignment can be done 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.

**Note:** The signal adjustment tone automatically outputs as PCM audio type only, regardless of the Digital Audio Preference set in Audio Setup.

| 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

The **Signal Level** and **Signal Quality** of the incoming signal are displayed both numerically and graphically using bar graphs.

The **Signal Level** is associated with the RF input signal level. The **Signal Level** display is continuously updated to indicate the relative strength of the received RF input signal. It is displayed in the range from 0 to 100. **Signal Level** is displayed on the **Tuning / Preset** and **Dish Setup** menus both numerically and graphically.

The **Signal Quality** (displayed in the range from 0 to 100) is associated with the Bit Error Rate, and is a measure of the signal quality. **Signal Quality** is displayed both numerically and graphically on the **Dish Setup** menu. To obtain the best signal quality, adjust the dish position to obtain the highest **Signal level** and **Signal Quality** possible.

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.

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 satellite RF 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 **Lock** and the **Signal** LED on the receiver front panel is on. If no carrier is detected, **Signal Lock** displays **No Lock** and the Signal LED is off.

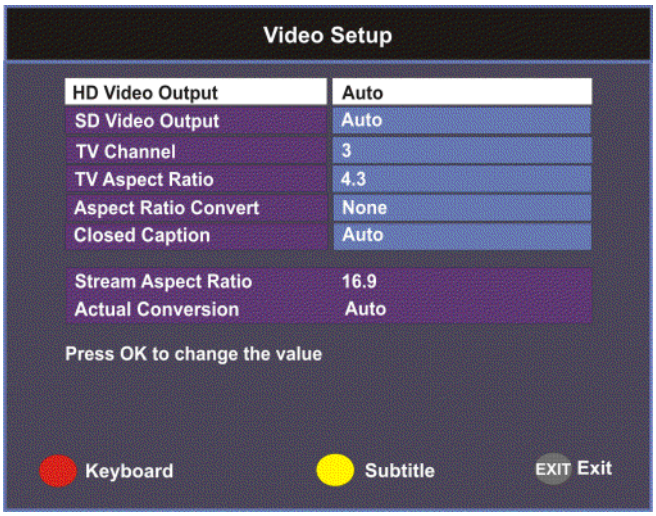
## Setting up the Video

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 warning message appears, to inform you that if the fields are incorrectly configured, the display may not be viewable. Check with your satellite or local service provider before changing the video settings to ensure it is set correctly. Press **OK** to continue with the edit. Otherwise, select **Cancel**.

**Note:** If an error was made when changing the video settings, you can set the TV video format using the front panel. For more information, see **Setting the TV Video Format**, on page 3-4.

Proceed as follows to set up the video information.

1. From the **Setup Menu** screen, select **Video Setup** and click **OK**.




2. The following table describes each of the options in the Video Setup screen.

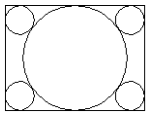
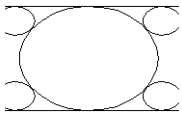
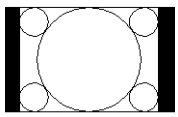
| Selection | Options | Description | Default |
|---|---|---|---|
| HD Video Output | Auto | Receiver automatically detects correct HD video format. | Auto |
| | HD 1080i | Sets the HD output video format. | |
| | HD 720p | | |

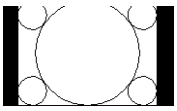
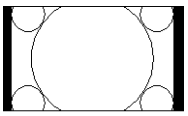
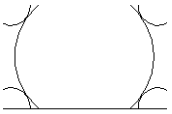
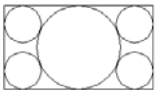
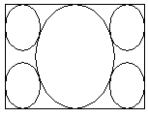
| Selection | Options | Description | Default |
|---|---|---|---|
| SD Video Output | Auto | Receiver automatically detects correct SD video format. | Depends on TV modulator installed |
| | PAL-B/G, PAL-D, PAL-I | For 625-line systems. | |
| | PAL-M | 525-line format for Brazil. | |
| | PAL-N (AR) | 625-line format for Argentina. | |
| | NTSC, NTSC-J | For 525-line systems. | |
| TV Channel | 3 or 4 for NTSC<br>21-69 for PAL | Sets TV channel for video display. | 3 or 21, depending on TV modulator installed. |
| TV Aspect Ratio | 4:3, 16:9 | The aspect ratio of the intended TV system. | 4:3 |
| Aspect Ratio Convert | None | This is the conversion that the receiver will perform on the incoming signal for the picture to be displayed correctly (i.e., to correspond to the aspect ratio of your TV) on your TV, based on your selection.<br>For the actual conversion performed, refer to **Actual Conversion Table**, on page 4-35. | None |
| | Auto | | |
| | Auto AFD | | |
| | 16:9 L/B | | |
| | 4:3 P/B | | |
| | 14:9 | | |
| | 4:3 CCO | | |
| | 16:9 SCALE | | |
| Closed Caption | Auto | This is the mode of closed-captioning to use. if there are multiple in the stream.<br>**Note:** SA Custom is not supported when telecine video coding is enabled. | Auto |
| | SA Custom | | |
| | EIA 708 | | |
| | Type 3 | | |
| | Type 4 SA | | |
| | Type 4 ATSC | | |
| | Reserved | | |
| | DVB 157 | | |
| Stream Aspect Ratio | 4:3, 16:9 | This indicates the aspect ratio of the incoming signal. This is read-only. | |

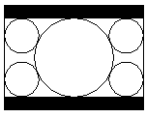
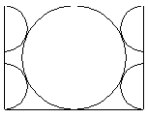
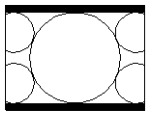
| Selection | Options | Description | Default |
|---|---|---|---|
| Actual Conversion | | This is the type of (aspect ratio) conversion the receiver will perform based on what you have selected. This is read-only. | |

### Actual Conversion Table

The following table displays 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 | TV Aspect Ratio | Aspect Ratio Conversion | Actual Conversion | Description | Image |
|---|---|---|---|---|---|
| 4:3 | 4:3 | None | None | Normal Picture |  4:3 |
| 4:3 | 4:3 | Auto | None | No conversion | |
| 4:3 | 4:3 | 16:9 L/B | None | Conversion is not possible. Normal picture. | |
| 4:3 | 4:3 | 4:3 CCO | None | Conversion is not possible. Normal picture. | |
| 4:3 | 4:3 | 4:3 P/B | None | Conversion is not possible. Normal picture. | |
| 4:3 | 4:3 | 14:9 | None | Conversion is not possible. Normal picture. | |
| 4:3 | 4:3 | 16:9 SCALE | None | Conversion is not possible. Normal picture. | |
| 4:3 | 16:9 | None | None | Picture is short & fat. |  4:3 Stretch |
| 4:3 | 16:9 | Auto | 4:3 P/B | Uses 4:3 P/B. |  4:3 PB |

| Stream | TV Aspect Ratio | Aspect Ratio Conversion | Actual Conversion | Description | Image |
|---|---|---|---|---|---|
| 4:3 | 16:9 | 4:3 P/B | 4:3 P/B | 4:3 picture is centered in a pillar-style box. |  4:3 PB |
| 4:3 | 16:9 | 14:9 | 14:9 | Compromises some up-sampling. Some black bars and cropping are visible. |  14:9 |
| 4:3 | 16:9 | 16:9 SCALE | 16:9 SCALE | Vertically up-samples the centre of the 4:3 picture and crops the top and bottom of the screen. |  16:9 FH |
| 16:9 | 16:9 | None | None | Normal |  16:9 |
| 16:9 | 16:9 | Auto | None | No conversion. Normal picture. | |
| 16:9 | 16:9 | 16:9 L/B | None | Conversion is not possible. Normal picture. | |
| 16:9 | 16:9 | 4:3 CCO | None | Conversion is not possible. Normal picture. | |
| 16:9 | 16:9 | 4:3 P/B | None | Conversion is not possible. Normal picture. | |
| 16:9 | 16:9 | 14:9 | None | Conversion is not possible. Normal picture. | |
| 16:9 | 16:9 | 16:9 SCALE | None | Conversion is not possible. Normal picture. | |
| 16:9 | 4:3 | None | None | Picture appears tall and thin. |  16:9 Compressed |

| Stream | TV Aspect Ratio | Aspect Ratio Conversion | Actual Conversion | Description | Image |
|---|---|---|---|---|---|
| 4:3 | 16:9 | 16:9 L/B | None | Conversion is not possible. Picture appears short and fat. | |
| 4:3 | 16:9 | 4:3 CCO | None | Conversion is not possible. Picture appears short and fat. | |
| 16:9 | 4:3 | 16:9 L/B | 16:9 L/B | Vertically down-samples the picture and applies black bars at the top & bottom of the screen. |  4:3 LB |
| 16:9 | 4:3 | 4:3 CCO | 4:3 CCO | Horizontally up-samples the centre portion of the picture to fill the 720. |  4:3 Crop |
| 16:9 | 4:3 | 4:3 P/B | None | Conversion is not possible. Picture appears tall and thin. | |
| 16:9 | 4:3 | 14:9 | 14:9 | Compromises some up-sampling. Some black bars and some cropping are visible. |  14:9 |
| 16:9 | 4:3 | 16:9 SCALE | None | Conversion is not possible. Picture appears tall and thin. | |

## Video Output Restrictions

The following table describes the nature of the Video Outputs given the source video stream and selections that can be made by the user. The D9865 does not provide video format conversion.

| Source Video Format | User Selected SD Format | User Selected HD Format | Component & HDMI | CVBS & TV-Out |
|---|---|---|---|---|
| SD-NTSC (60Hz) | Auto or NTSC | Auto | 1080i 60Hz | NTSC |
| | | 1080i | 1080i 60Hz | NTSC |
| | | 720p | 720p 30Hz | NTSC |
| | PAL (50 Hz) | Any | Mismatch | Mismatch |
| SD-PAL (50Hz) | Auto or PAL | Auto | 1080i 50Hz | PAL |
| | | 1080i | 10801 50Hz | PAL |
| | | 720p | 720p 25Hz | PAL |
| | NTSC | Any | Mismatch | Mismatch |
| 1080i 60Hz | Auto or NTSC | Auto | 1080i 60Hz | NTSC |
| | | 1080i | 1080i 60Hz | NTSC |
| | | 720p | 720p 30Hz | NTSC |
| | PAL | Any | Mismatch | Mismatch |
| 1080i 50Hz | Auto or PAL | Auto | 1080i 50Hz | PAL |
| | | 1080i | 1080i 50Hz | PAL |
| | | 720p | 720p 25Hz | PAL |
| | NTSC | Any | Mismatch | Mismatch |

| Source Video Format | User Selected SD Format | User Selected HD Format | Component & HDMI | CVBS & TV-Out |
|---|---|---|---|---|
| 720p 30Hz | Auto or NTSC | Auto | 720p 30Hz | NTSC |
| | | 1080i | 1080i 60Hz | NTSC |
| | | 720p | 720p 30Hz | NTSC |
| | PAL | Any | Mismatch | Mismatch |
| 720p 25Hz | Auto or PAL | Auto | 720p 25Hz | PAL |
| | | 1080i | 10801 50Hz | PAL |
| | | 720p | 720p 25Hz | PAL |
| | NTSC | Any | Mismatch | Mismatch |

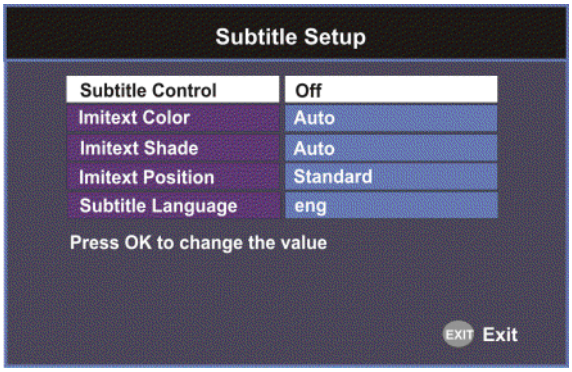
Video formats that require a frame rate change from the original source stream are blocked by a "Video Format Mismatch" banner and the video output is muted.

## Setting up Subtitles

The Subtitle Setup screen allows you to configure the type of subtitling (i.e., DVB or Imitext displayed by the receiver, and how the receiver displays subtitling on TV.

Proceed as follows to set up subtitling:

1. From the **Video Setup** screen, press the yellow button (**Subtitle**).




2. The following table describes each of the options on the Subtitle Setup screen:

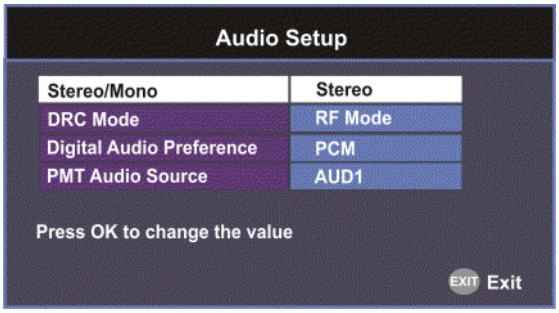
| Selection | Options | Description | Default |
|---|---|---|---|
| Subtitle Control | Off | No subtitles are displayed. | Off |
| | On | Functions as an "Auto" setting. DVB subtitles are displayed when only DVB subtitles are transmitted on the channel, and likewise, Imitext subtitles are displayed when only Imitext subtitles are transmitted on the channel. When both DVB and Imitext subtitles are available on the same channel, only DVB subtitles will be displayed. | |
| | Imitext | Displays only Imitext subtitles. For example, if Imitext is selected, but both DVB and Imitext subtitles are being transmitted on the same channel, only Imitext subtitles will be displayed. | |
| | DVB | Displays only DVB subtitles. For example, if DVB is selected, but both DVB and Imitext subtitles are being transmitted on the same channel, only DVB subtitles will be displayed. | |

| 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 to subtitles, i.e., text is visible directly on top of video. | |
| | Opaque | Applies a black box to each text character. | |
| | Semi | Applies a semi-transparent box to subtitle text. | |
| | None | No shadow or outline is applied to subtitle text. | |
| Imitext Position | Standard | Subtitles appear on screen in same position as output from other PowerVu receivers. | Standard |
| | Extended | Subtitles are positioned on screen according to the Imitext (extended) specification. | |
| Subtitle Language | Available languages | Select from any one of the available languages. | eng (English) |

## Setting up the Audio

Proceed as follows to select the audio source.

1. From the **Setup Menu** screen, select **Audio Setup** and click **OK**.




2. The following table describes each of the options:

| Selection | Options | Description | Default |
|---|---|---|---|
| Stereo/Mono | Stereo | Left and right channels are output on L and R respectively. | Stereo |
| | Mixed | Left and right channels are combined and output on both L and R. | |
| | L-MONO | Left channel is output on L and R. | |
| | R-MONO | Right channel is output on L and R. | |
| DRC Mode | RF Mode | This setting is normally used for analog cable modulators, when limited dynamic range is desired. | RF Mode |
| | Line Mode | Setting used when full dynamic range is allowed. | |
| Digital Audio Preference | PCM | Set the compressed audio type.<br>For more information on the settings, see the table in **Digital Audio Preference Settings**, on page 4-43. | PCM |
| | Dolby Digital | | |
| | Compressed (Dolby Digital Plus) | | |
| PMT Audio Source | None | Select the PMT Audio Source for the audio channel. | AUD1 |
| | AUD1 to AUD64 | | |

## Digital Audio Preference Settings

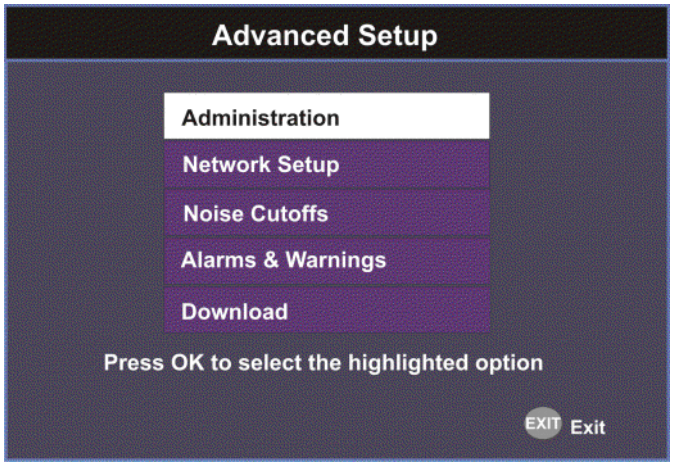
The following table displays the effects of Dolby Audio Preference setting on audio outputs, based on the type of audio being decoded:

| Input/ Output | Digital Audio Preference | | | |
|---|---|---|---|---|
| | PCM | Dolby Digital | Compressed | |
| | | | S/PDIF | HDMI |
| MPEG LA (MPEG1 and MPEG2) | PCM | PCM | PCM | PCM |
| Dolby Digital | PCM | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) |
| Dolby Digital Plus (< 1.5 Mbps) | PCM | Dolby Digital (follows IEC 61937) | Dolby Digital Plus (No over-clocking, follows SMPTE-338) | Dolby Digital Plus (over-clocking x4, follows IEC 61937) |
| Dolby Digital Plus (>= 1.5 Mbps) | PCM | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) |
| MPEG2 AAC, MPEG4 (AAC and HEAAC v1 and v2) | PCM | MPEG2 AAC, MPEG4 (AAC and HEAAC) (follows IEC 61937) | MPEG2 AAC, MPEG4 (AAC and HEAAC) (follows IEC 61937) | MPEG2 AAC, MPEG4 (AAC and HEAAC) (follows IEC 61937) |

## To View the Advanced Setup Menu

Proceed as follows to view the Advanced Setup screen.

From the **Setup Menu** screen, select **Advanced Setup** and press **OK**.




The function for the available sub-menus is as follows:

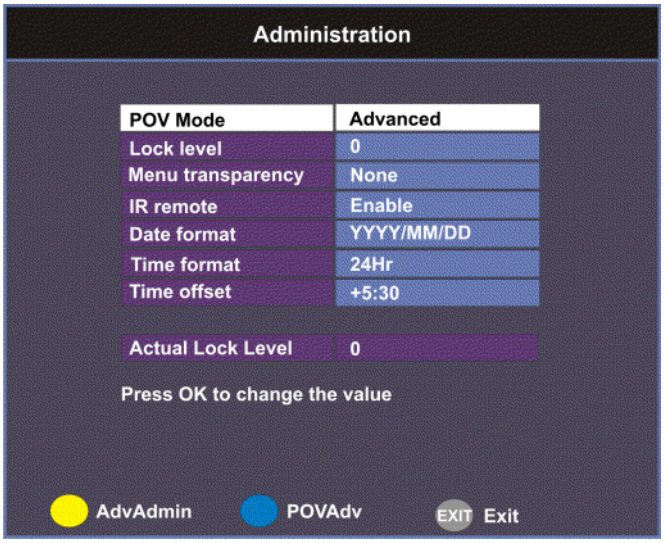
- Administration
  From this menu, you can display and control the Lock level, date and time, and other settings.
- Network Setup (D9865D only)
  From this menu, you can configure the receiver for Ethernet operation.
- Noise Cutoffs
  From this menu, you can set the noise thresholds.
- Alarms & Warnings
  From this menu, you can configure alarm and warning settings.
- Download
  From this menu, you can control and view the status of a code download.

# Setting up Advanced User Settings

## To Set Up the Advanced User Settings

Proceed as follows to set up the advanced user settings:

1. From the **Advanced Setup** screen, select **Administration** and press **OK**.




2. The following table describes each of the options:

| Selection | Options | Description | Default |
|---|---|---|---|
| POV Mode | Standard | Configures the network controls to the following pre-defined settings:<br>CA Mode - Std<br>Acquisition Mode - Basic | Standard |
| | Open | Configures the network controls to the following pre-defined settings:<br>CA Mode - Open<br>Acquisition mode - Auto | |
| | Advanced | Enables the POVAdv menu option, allowing you to customize the CA Mode and Acquisition settings. For more information, see **Setting up POV Mode**, on page 4-50. | |
| Lock level | 0 to 3 | Restricts access and prevents unauthorized changes to receiver settings.<br>For details on changing the lock level, see **Changing the Lock Level**, on page 4-47. | 0 |

| Selection | Options | Description | Default |
|---|---|---|---|
| Menu transparency | None, 25%, 50%, 75%, 90% | Set the transparency level of the menus displayed on-screen.<br>For example, if set to None, menus are solid and the video appears behind the menus. If set to 25%, menus are clear and the video is visible through the menus. | None |
| IR remote | Enable | Set to **Enable** to control the receiver using the remote control. By default, the receiver is shipped with the remote control enabled.<br>Note: The EPG functions are only available using the IR remote control. | Enable |
| | Disable | Set to **Disable** if you want to disable the remote control and use the front panel controls only. | |
| Date Format | YYYY/MM/DD, DD/MM/YYYY, MM/DD/YYYY | Current date information is displayed in the Active Alarm and Active Warning screens. | YYYY/MM/DD |
| Time format | 24 Hr, 24 Hr SuspendZero, 12 Hr, 12 Hr SuspendZero | Time information is displayed in the Active Alarm and Active Warning screens.<br>Time information is normally broadcast as part of the transmitted digital signal, and is usually the broadcaster local time relative to Greenwich Mean Time (GMT). | 24 Hr |
| Time offset | Adjusted in one hour increments, from -12:00 to +13:00, and GMT. | Displays the 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. | +05:30 |
| Actual Lock Level | | Displays the current lock level. | |
| Adv Admin | | Displays the Advanced Administration screen. For more information, see **Changing the Lock Level Password**, on page 4-48. | |

### 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 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 locked options are denied.

**Note:** The default password is 1234.

For details on the four lock levels, see **D9865 Satellite Receiver Lock Levels**, on page C-2.

Proceed as follows to change the lock level:

1. In the **Administration** menu, scroll to select **Lock Level** and press **OK**. The PIN Entry screen appears.
2. Press **OK** to enter the current password using the numeric keypad on the remote control and press **OK**. For security reasons, a default character is substituted for each button pressed.
3. Use ◀▶ to select a valid lock level (lock levels are displayed from 0 to 3) and then press **OK**. The default setting is 0. The Actual Lock Level parameter below is updated to the new lock level.

   Menu options change color (view-only) if disabled by the current lock level setting.

   **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.

# Changing the Lock Level Password

The Advanced Administration sub-menu allows you to change the following:

- Set Lock Level Password - to change the current lock level password (1234).
- Factory Reset - to restore the receiver to factory default settings.

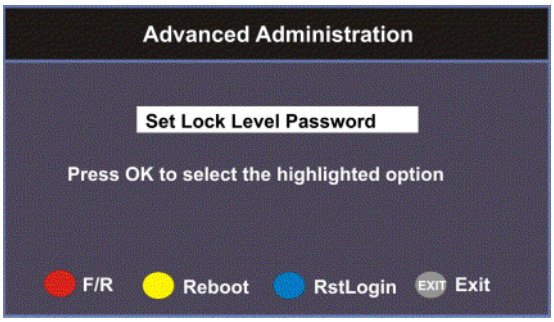
## Changing the Lock Level Password

A unique lock level password (4-digit password) protects the current receiver settings against unauthorized changes. When changing the password, record and keep this number in a secure location. The default password is 1234.

**Important:** Proceed with caution when changing the password as this operation cannot be undone. If the password is lost or is unavailable, contact Cisco customer support.

To change the lock level password:

1. From the **Administration** screen, press the yellow button (**Adv Admin**).




2. Select **Set Lock Level Password** and press **OK**.
3. Press **OK** to enter the current password and press **OK**. For security, a default character is substituted for each button pressed.
4. Press **OK** to enter the new password, any number from 0 to 9, and press **OK**.
5. Press **OK** to enter the new password again for password confirmation and press **OK**. A message appears informing you that the password was changed successfully.

**Note:** If the password is lost or is unavailable, contact Cisco customer support.

### Performing a Factory Reset

The Factory Reset (**F/R**) is used for restoring the receiver's 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:

1. From the **Advanced Administration** screen, press the blue button (**F/R**).
2. Select **Yes** to reset the receiver and restore to factory defaults. Select **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 **Display** button on the remote control or front panel, followed by the **Menu** button to return to the Main Menu.

### Rebooting the Receiver

If you need to reboot the receiver for any reason, you can perform this function without changing any settings.

To reboot the receiver:

1. From the **Advanced Administration** screen, press the yellow button (**Reboot**). A message appears confirming that you want to reboot the receiver.
2. Select **Yes** to reboot. Otherwise, select **No**.

### Resetting the Web GUI Login Information

The Reset Login (**RstLogin**) is used for resetting the username and password used for Web GUI login to its default values. The default username is admin and the default password is localadmin.

To reset the login:

1. From the **Advanced Administration** screen, press the blue button (**RstLogin**). A message appears confirming that you want to reset the password to its default values.
2. Select **Yes**. Otherwise, select **No**.

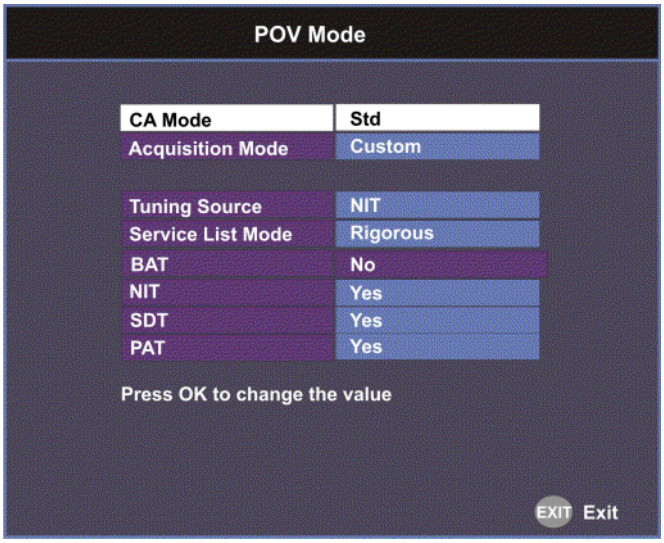
# Setting up POV Mode

## To Set Up the POV Mode

Proceed as follows to configure the POV Mode:

**Note:** Ensure the POV Mode setting is set to Advanced.

1. From the Administration screen, press the blue button (**POVAdv**).




2. Select the Conditional Access type (**CA Mode**) that determines which programs can be viewed via the satellite receiver. Select **Std** (preferred) or **Open**. The default is Std.

   **Important:** In Open mode, the receiver ignores inconsistent scrambling descriptions within the signal. Operating in this mode may cause the decoder not to respond to certain advanced uplink controlled features, such as service replacement.

3. Set the **Acquisition Mode** used to build channel lists from allowed service lists (Basic, Auto, or Custom). Select Custom to customize the tables used to obtain tuning and channel lists.

4. If the Acquisition Mode was set to Custom, you can set the **Tuning Source** to indicate whether the receiver is tuned to the received signal using the NIT or a Preset. The default is NIT.

5. The **Service List Mode** indicates which tables are used to obtain tuning and channel lists. This only applies when Acquisition Mode is set to Custom. Select Rigorous if all default settings must be present in the received signal. Select Degraded and only the table parameters present in the received signal will be used to install the receiver.

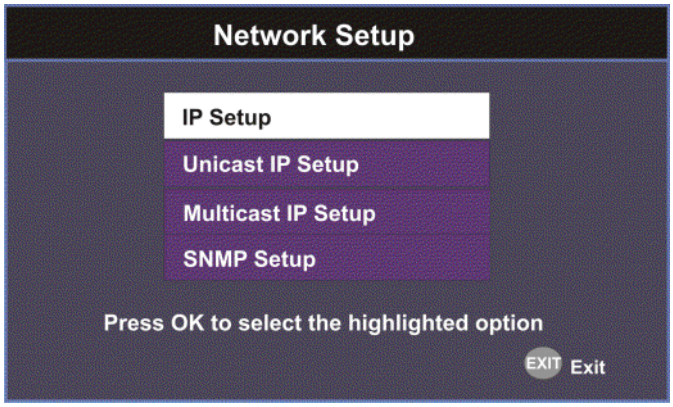
   The following table displays the default settings for the allowed service lists and frequency tuning settings.

| Allowed Service Lists | Auto | Basic | Custom |
|---|---|---|---|
| BAT | No | No | No |
| NIT | Yes | Yes | No |
| SDT | Yes | No | No |
| PAT | Yes | No | Yes |
| Tuning Source | NIT | NIT | Preset |

### To View the Network Setup Menu

Proceed as follows to view the Network Setup screen (D9865D only).

From the **Advanced Setup** menu, select **Network Setup** and press **OK**.




The function for the available sub-menus is as follows:

- IP Setup
  From this menu, you can configure the receiver for Ethernet operation.
- Unicast IP Setup
  From this menu, you can configure network destinations for unicast transmission.
- Multicast IP Setup
  From this menu, you can configure network destinations for multicast transmission.
- SNMP Setup
  From this menu, you can configure the password to read and write data to a device. You can also configure trap destinations.

## Setting up the IP Information

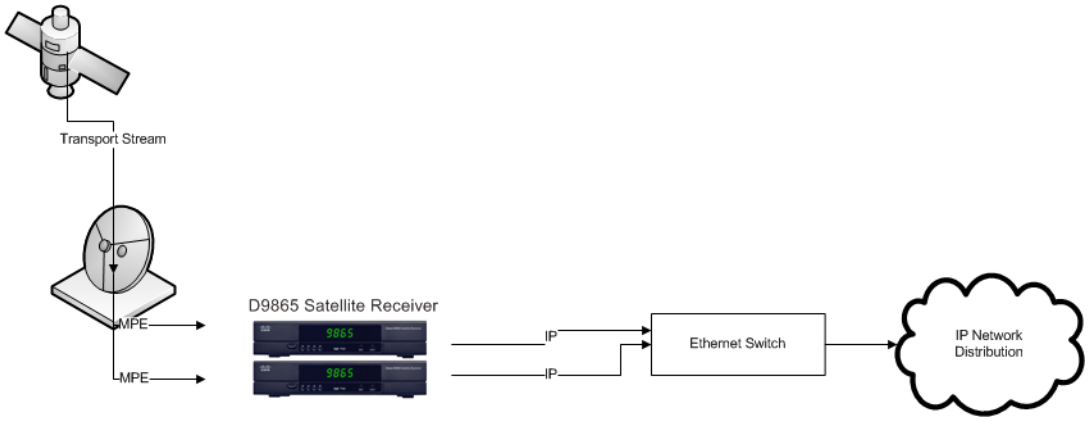
The IP Setup screen allows you to set the parameters for communicating with other equipment via the Ethernet Data and Management ports for MPE applications. The D9865 supports unicast and multicast IP streaming. There are two Ethernet ports (Port 1 and Port 2). Click the blue button (**Next Port**) in the IP Setup menu to toggle between the two ports.

**Note:** Only Port 1 is available for this release.

## MPE Output

The Multiprotocol Encapsulation (MPE) output provides a means to carry packet oriented IP protocols on top of a transport stream. The MPE output receives IP packets from the transport stream and the IP data can be sent through an Ethernet switch to an IP router or directly to a receiving device.

The diagram below shows an example of the D9865 receiver used in an MPE application.

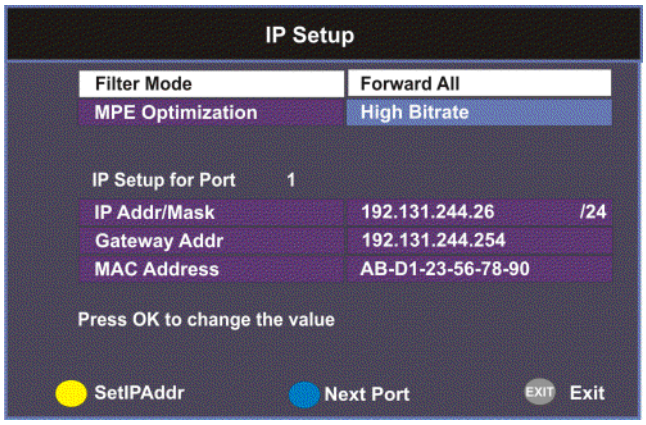


## Setting the Filter Mode

The filter mode sets the multicast forwarding for MPE data output.

Proceed as follows to set up the filter mode:

1. From the **Advanced Setup** screen, select **IP Setup** and press **OK**.




2. The **Filter Mode** sets whether all the MPE data is forwarded **(Forward All**). It can forward up to 5 PIDs at the maximum bit rates shown in the following table. Otherwise, select **Forward None**.

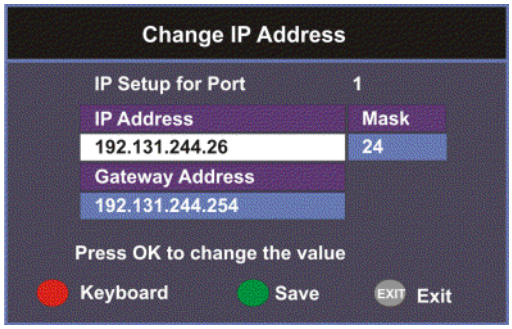
| MPE Bit Rate | No Decoding | 5 Mbps SD Video Decoded | 20 Mbps HD Video Decoded |
|---|---|---|---|
| Multicast | 30 Mbps | 20 Mbps | 15 Mbps |
| Unicast | 20 Mbps | 15 Mbps | 10 Mbps |

3. Set the **MPE Optimization** setting. Select **High Bitrate** (default) to accumulate the IP packets before they are processed in short bursts, increasing the allowable bit rate of MPE data. Select **Low Jitter** to emit the IP packets in a constant stream, resulting in low latency.

## Editing an IP Address

Proceed as follows to edit the Network IP Address:

1. From the **IP Setup** screen, press the yellow button (**SetIPAddr**).




2. The following table describes each of the options:

| Selection | Options | Description |
|---|---|---|
| IP Address | 12 digits in length (###.###.###.###)/ | Sets the IP Address for its participation in a Network environment. |
| Mask | 8 to 32 | Sets the Subnet Mask for its participation in a Network environment. |
| Gateway Address | 12 digits in length (###.###.###.###) | Sets the Network Gateway Address on the Network, used to expose the receiver to a WAN. |

The Network Address, Prefix Mask, and Gateway Address should be changed together, as a group. The following table shows the most commonly used Subnet mask values to enter for a chosen IP address mask, which will depend on the size of your network.

| Mask | Subnet Mask |
|---|---|
| 8 | 255.0.0.0 |
| 16 | 255.255.0.0 |
| 24 | 255.255.255.0 |

**Note:** Only Port 1 is available for this release.

# Setting the Unicast IP Address

## Viewing the Unicast IP

Unicast transmission is used to send messages to a specific address. You can specify up to six single network destinations. The Gateway address is necessary if the network address is not on a local network.

Proceed as follows to view the Unicast IP addresses:

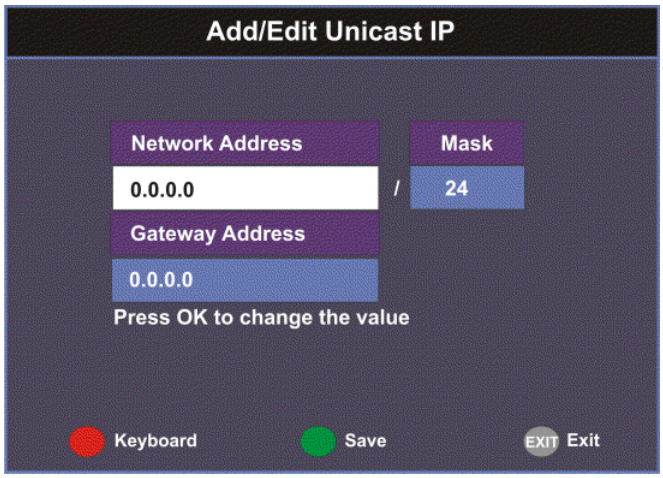
1. From the **Network Setup** screen, select **Unicast IP Setup** and click **OK**.


The Unicast IP Setup screen lists all the IP addresses and its Gateway addresses that are participating in a Network environment.

## Adding a Unicast IP Address

Proceed as follows to add a Unicast IP Address:

1. From the **Unicast IP Setup** screen, press the green button (**Add**) to add a new address.



2. The following table describes each of the options:

| Selection | Options | Description |
|---|---|---|
| Network Address | 12 digits in length (###.###.###.###) | Sets the IP Address for its participation in a Network environment |
| Mask | 8 to 32 | Sets Subnet Mask for its participation in a Network environment. |
| Gateway Address | 12 digits in length (###.###.###.###) | Sets the Network Gateway Address on the Network, used to expose the receiver to a WAN. |

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

| Mask | Subnet Mask |
|---|---|
| 8 | 255.0.0.0 |
| 16 | 255.255.0.0 |
| 24 | 255.255.255.0 |

3. Select the green button (**Save**).

### Editing a Unicast IP Address

1. In the Unicast IP Setup screen, scroll to the unicast IP you want to edit using the ▼▲ buttons.
2. Press **OK**. The Edit/Delete Unicast IP screen is displayed.
3. Select **Edit** or press the blue button (**Edit**). The Add/Edit Unicast IP screen is displayed.
4. Make the necessary changes.
5. Select the green button (**Save**).

### Deleting a Unicast IP Address

1. In the Unicast IP Setup screen, scroll to the unicast IP you want to delete using the ▼▲ buttons.
2. Press **OK**. The Edit/Delete Unicast IP screen is displayed.
3. Select **Delete** or press the red button (**Delete**). A message appears to confirm the deletion.
4. Press **OK**.

# Setting the Multicast IP Address

## Viewing the Multicast IP Addresses

Proceed as follows to view the Multicast IP addresses:

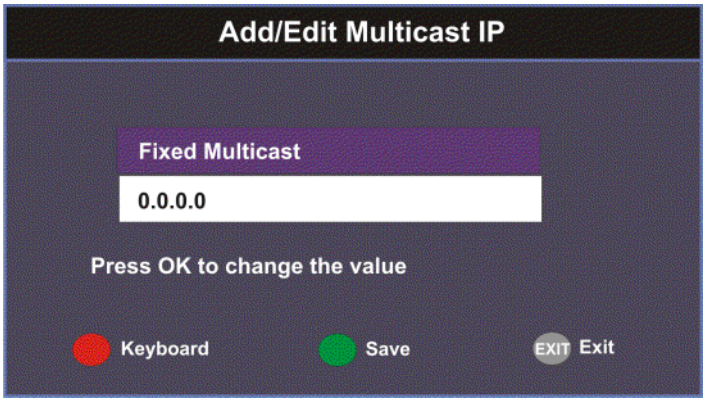
1. From the **Network Setup** screen, select **Multicast IP Setup** and click **OK**.


The Multicast IP Setup screen lists all the fixed multicast destination IP addresses.

## Adding a Multicast IP Address

Proceed as follows to add a Multicast IP Address:

1. From the **Multicast IP Setup** screen, press the green button (**Add**) to add a new address.




2. Set the multicast destination IP address, in the range from 0 to 255 for each of the four fields in the following format: ###.###.###.###. For example, 225.1.1.1.
3. Press the green button (**Save**) to save your changes.

### Editing a Multicast IP Address

1. In the Multicast IP Setup screen, scroll to the multicast IP you want to edit using the ▼▲ buttons.
2. Press **OK**. The Edit/Delete Multicast IP screen is displayed.
3. Select **Edit** or press the blue button (**Edit**). The Add/Edit Multicast IP screen is displayed.
4. Make the necessary changes.
5. Select the green button (**Save**).

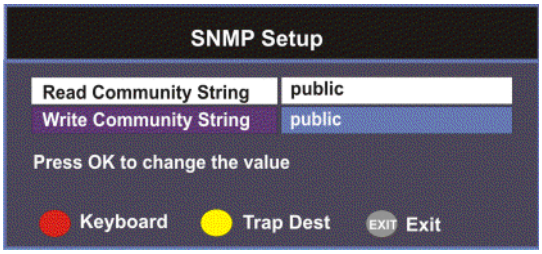
### Deleting a Multicast IP Address

1. In the Multicast IP Setup screen, scroll to the multicast IP you want to delete using the ▼▲ buttons.
2. Press **OK**. The Edit/Delete Multicast IP screen is displayed.
3. Select **Delete** or press the red button (**Delete**). A message appears to confirm the deletion.
4. Press **OK**.

## Configuring SNMP Setup

Proceed as follows to configure SNMP:

1. From the **Network Setup** screen, select **SNMP Setup** and press **OK**.




2. Set the **Read/Write Community String** to public or a custom string. The SNMP Community Read/Write is used when communicating with a device within an SNMP environment. These commands allow you to set the password to read and write data to a device to display diagnostics traps/alarms. The default community string is public. To set a custom community string, enter an alphanumeric character string up to 31-characters in length identifying the password for the device.

   **Note:** The community string is case-sensitive.

# Setting up Trap Destinations

## Viewing Trap Destinations

**Note:** You can assign up to 10 entries to the Trap Destination and Community String fields.

Proceed as follows to view trap destinations:

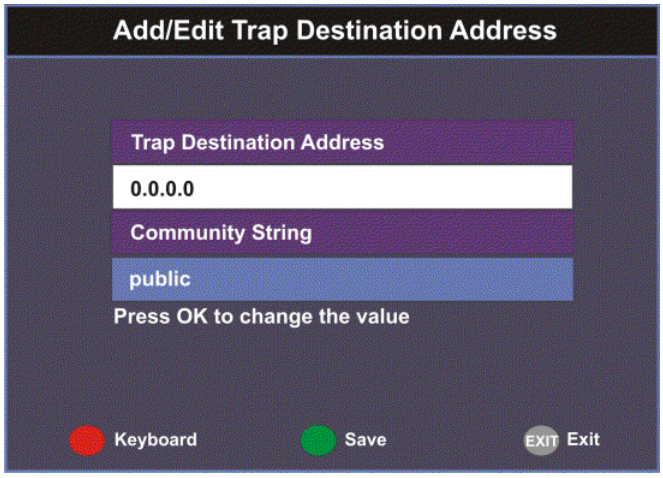
From the **SNMP Setup** screen, press the yellow button (**Trap Dest**) to view trap destinations.


The Trap Destination Setup screen displays a list of trap destination addresses and the associated community string.

## Adding Trap Destinations

Proceed as follows to add trap destinations:

1. From the **Trap Destination Setup** screen, press the green button (**Add**) to add a trap destination address.




2. The following table describes each of the available options:

| Selection | Options | Description |
|---|---|---|
| Trap Destination Address | Up to 12 digits in length (e.g., 155.128.100.200). | Enter the destination for SNMP trap messages for events (i.e., fault messages). |
| Community String | public or custom string. Up to 31 characters | Set the community string for the trap IP address above. The default is public. |

3. Click the green button (**Save**) to save the changes.

## Editing/Deleting Trap Destinations

Proceed as follows to edit/delete trap destinations.

1. In the **Trap Destination Setup** screen, select the trap destination address you want to edit or delete and press **OK**.
2. Press the blue button (**Edit**) to edit the address. Press the red button (**Delete**) to remove the address from the Trap Destination list.
3. If you pressed the blue button, you can edit the Trap Destination Address and Community String and press the green button (**Save**) to save your changes.
4. If you pressed the red button (**Delete**), a warning message appears. Press **OK** to delete the selected trap destination entry. Otherwise, press **Exit**.

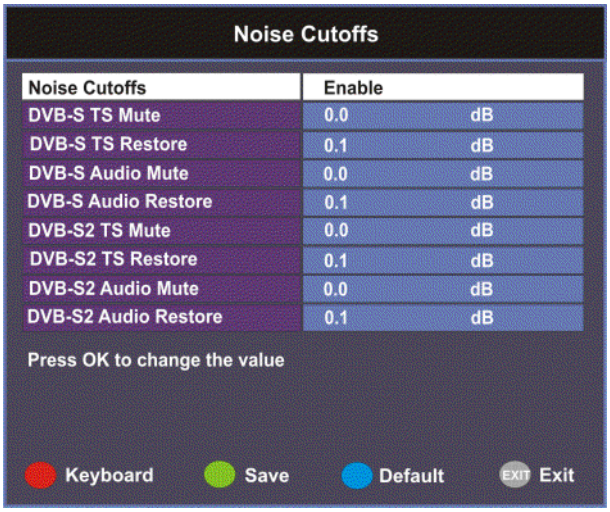
# Configuring Noise Cutoffs

## Setting the Noise Cutoff parameters

The Noise Cutoffs screen allows you to set the muting thresholds for both audio and video in the event of a noisy signal.

Proceed as follows to configure the noise cutoffs:

1. From the **Advanced Setup** screen, select **Noise Cutoffs** and press **OK**. A message appears confirming that you want to edit the noise cutoffs.
2. Select **Yes** to edit. Otherwise, select **No**.




3. The following table describes each of the options:

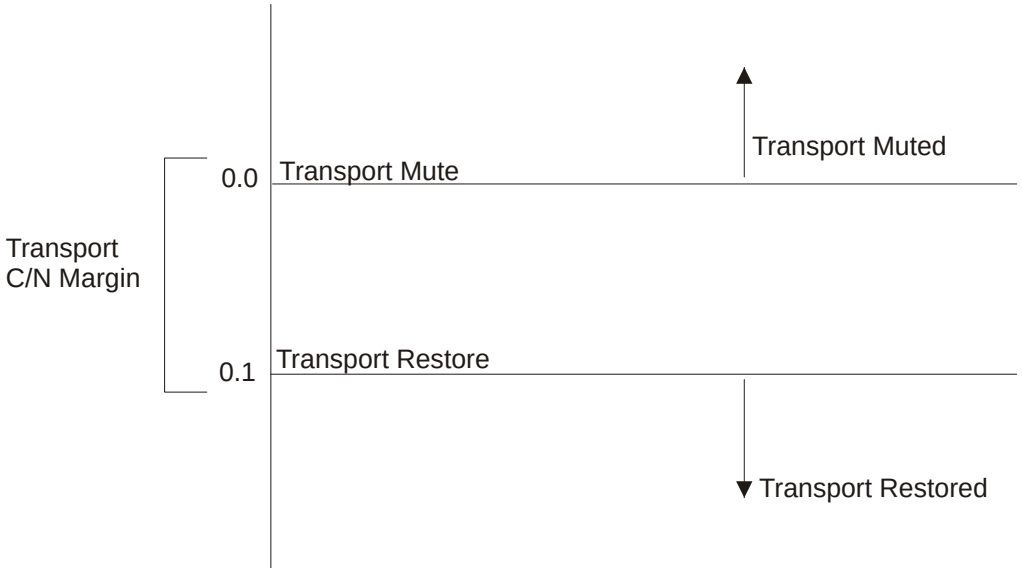
| Selection | Options | Description | Default |
|---|---|---|---|
| Noise Cutoffs | Enable or Disable | Sets whether to enable or disable the noise cutoffs functionality. | Enable |

| Selection | Options | Description | Default |
|---|---|---|---|
| DVB-S/DVB-S2 TS Mute | -5.0 to 20.0 dB | This sets how the receiver reacts when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation. This allows you to set the transport C/N margin values for the receiver. The receiver uses these noise values/settings as limits during normal operation to determine whether to mute the transport in the event of a noisy signal, poor signal or no signal condition.<br>The mute is the lower limit for the transport C/N margin setting. The transport will be muted when the C/N margin is below the cutoff setting for a nominal delay of 1 second. The delay is between the time the condition is first detected and the time the transport is muted. | 0.0 |
| DVB-S/DVB-S2 TS Restore | -5.0 to 20.0 dB | This sets how the receiver reacts when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation. This allows you to set the transport C/N margin values for the receiver. The receiver uses these noise values/settings as limits during normal operation to determine whether to mute the transport in the event of a noisy signal, poor signal or no signal condition.<br>This is the upper limit for the transport C/N margin setting. The transport will be un-muted (e.g., restored) when the C/N margin rises above the Restore setting for a nominal delay of 8 seconds. The delay is between the time the condition is first detected and the time the transport is restored. | 0.1 |

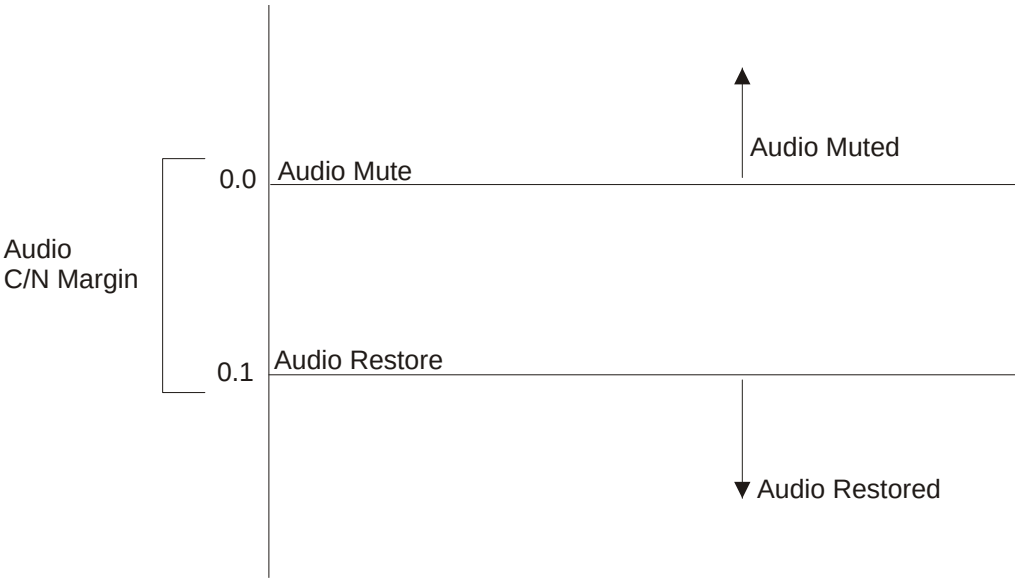
| Selection | Options | Description | Default |
|---|---|---|---|
| DVB-S/DVB-S2 Audio Mute | -5.0 to 20.0 dB | This is used to set the Audio channel Cutoff and Restore C/N margin values (limits) to mute audio when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation.<br>The Cut Off is the lower limit for the audio C/N margin setting. Audio will be muted when the C/N margin is below the Cutoff setting for a nominal delay of 4 seconds. The delay is between the time the condition is first detected and the time the transport is muted. | 0.0 |
| DVB-S/DVB-S2 Audio Restore | -5.0 to 20.0 dB | This is used to set the Audio channel Cutoff and Restore C/N margin values (limits) to mute audio when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation.<br>The Restore is the upper limit for the audio C/N margin setting. Audio will be un-muted (e.g., restored) when the C/N margin rises above the Restore setting for a nominal delay of 8 seconds. The delay is between the time the condition is first detected and the time the transport is restored. | 0.1 |

The following displays the transport and audio default C/N Margin relationships:

Transport Default C/N Margin Relationship



Audio Default C/N Margin Relationship




4. If you want to restore the transport stream and audio C/N margin options to their factory set (default) values, press the blue button (**Default**). A message appears confirming to restore to default values. Press **OK** to confirm.
5. Press the green button (**Save**) to save and apply the settings to the receiver.

# Setting up Alarms and Warnings

## To Set Up Alarms and Warnings

Proceed as follows to set up the alarms and warnings:

1. From the **Advanced Setup** screen, select **Alarms & Warnings** and press **OK**.


2. Set whether alarms and warnings are to be displayed on-screen in **AW Banner** (Enable or Disable).

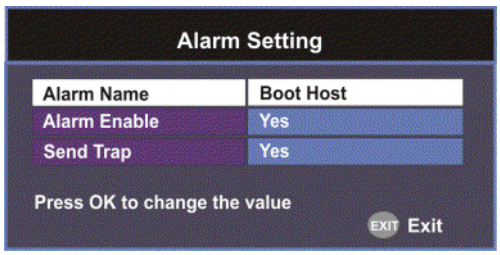
   **Note:** The alarms and warnings will only appear on-screen if the screen is displaying video only. The AW Banner will not appear if EPG, Channel Banner or on-screen menus are displayed.

3. The **Active Alarms** displays the number of currently active Alarms, and the **Active Warnings** indicates the number of currently active Warnings.

4. Press the yellow button (**Alarm**) to configure the alarm settings. Press the blue button (**Warning**) to configure the warning settings.

## To configure the Alarm settings

1. From the **Alarms & Warnings** screen, press the yellow button (**Alarm**) on the remote control.



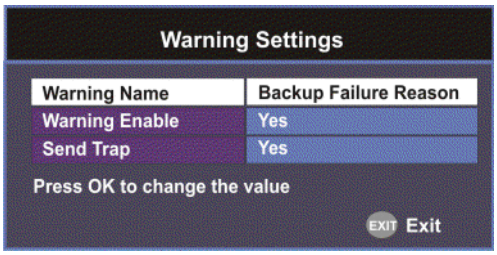

2. Set the following alarm options:

| Alarm Setting | Description |
|---|---|
| Alarm Name | Displays a list of the alarm/fault messages. You can scroll through the list using the ◀▶ buttons. |
| Alarm Enable | When set to **Yes**, the alarm message will be reported. When set to **No**, the fault will not be reported. |

| | |
|---|---|
| Send Trap (D9865D only) | When set to **Yes**, the SNMP trap message will be sent to the trap destination; otherwise the fault message will be ignored. |

### To configure the Warning settings

1. From the **Alarms & Warnings** screen, press the blue button (**Warning**) on the remote control.




2. Set the following warning options:

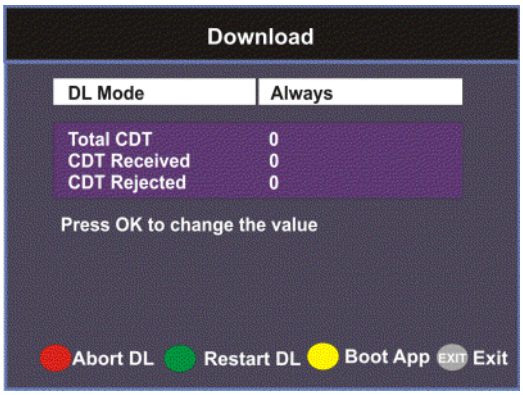
| Warning Setting | Description |
|---|---|
| Warning Name | Displays a list of the warning messages. You can scroll through the list using the ◀▶ buttons. |
| Warning Enable | When set to **Yes**, the warning message will be reported. When set to **No**, the fault won't be reported. |
| Send Trap (D9865D only) | When set to **Yes**, the SNMP trap message will be sent to the trap destination; otherwise the warning message will be ignored. |

## Performing Over-the-Air Downloads

Over-the-air downloads are controlled by the uplink. This feature is set to Always 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. From the **Advanced Setup** screen, select **Download** and press **OK**.




2. Select the **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. |

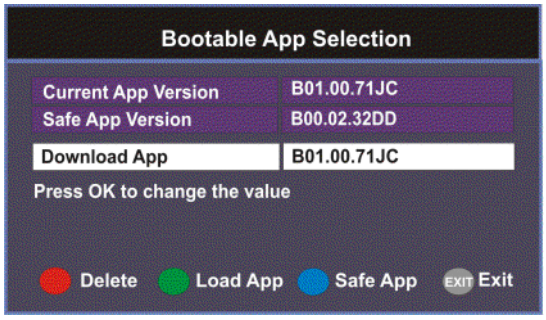
3. Press the green button (**Restart DL**) to start an over-the-air download. You can press the red button (**Abort DL**) at any time to abort the download operation.
4. Once the download is complete, the receiver reboots. Following reboot, the receiver returns to the last viewed channels.

# Setting Bootable Application Selection

## To View Application Version numbers

Proceed as follows to view the application version numbers:

From the Download screen, press the yellow button (**Boot App**).




The **Current App Version** displays the currently running loaded application version number. The **Safe App Version** displays the factory loaded application version number.

## To Change the Download Application

The Download App field allows you to select a different application version application to load to your receiver. Press the green button (**Load App**) to load the selected application version and reboot the receiver.

Press the blue button (**Safe App**) to reboot the receiver and load the factory installed application version.

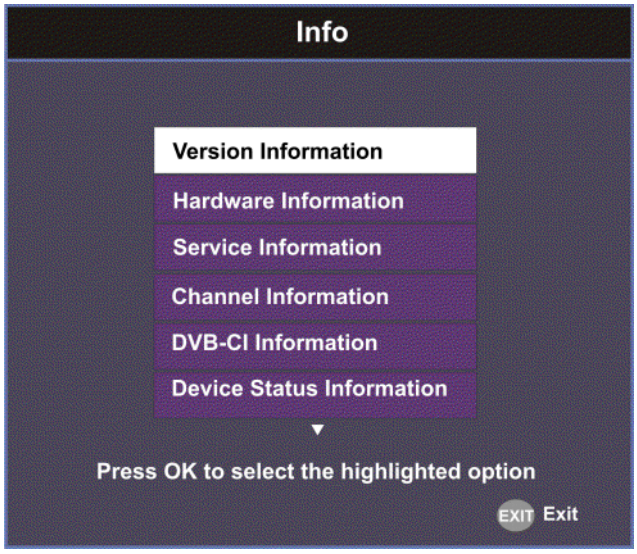
Press the red button (**Delete**) to remove the selected application version. You will be prompted to continue or not. Press **OK** to continue the deletion.

# System Information

## To View the System Information

Proceed as follows to view the System Information screen.

From the **Setup Menu** screen, select **Info** and press **OK**.




The function for the available sub-menus is as follows:

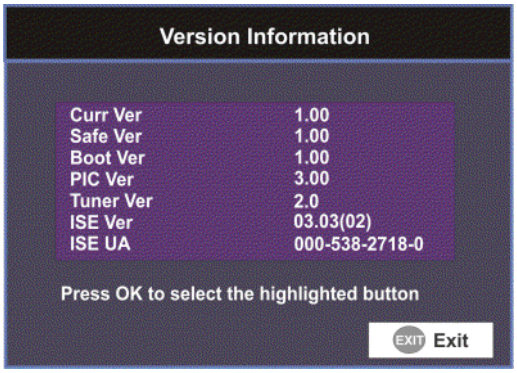
- Version
  This menu displays the current and factory loaded application version numbers.
- Hardware
  From this menu, it provides the D9865 receiver's hardware information.
- Service
  This menu displays the channel service information.
- Channel
  This menu displays the current channel information.
- DVB-CI
  This menu displays the CAM (Conditional Access Module) Smart Card information for the CI (Common Interface) slot.
- Device Status
  This menu displays the status of the D9865 receiver.
- Active Alarm
  This menu lists all the active alarm messages.
- Active Warning
  This menu lists all the active warning messages.
- RF Status
  From this menu, it displays the RF input status.
- ADP Status
  This menu displays the Encrypted and Non-encrypted Addressed Data Packet Count information.

# Viewing the Version Information

## To View the Version Information

Proceed as follows to view the version information.

From the **Info** screen, select **Version Information** and press **OK**.




The following table displays the version information:

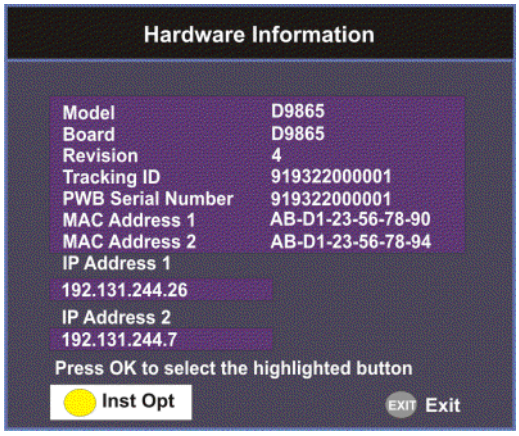
| Version Information | Description |
|---|---|
| Curr Ver | Indicates the currently running loaded application version number. |
| Safe Ver | Indicates the factory loaded application version number. |
| Boot Ver | Indicates the receiver Boot application version number. |
| PIC Ver | Indicates the Programmable Interrupt Controller (PIC) version number. |
| Tuner Ver | Indicates the version number of the tuner. |
| ISE Ver, ISE UA | Displays the ISE Version Number and ISE User Address. |

# Viewing Hardware Information

## To View the Hardware Information

Proceed as follows to view the hardware information.

From the **Info** screen, select **Hardware Information** and press **OK**.




The following table displays the hardware information:

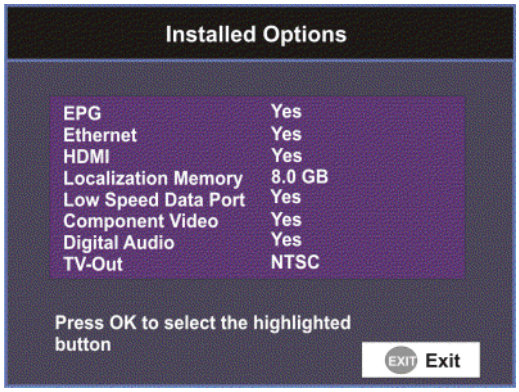
| Hardware Information | Description |
|---|---|
| Model | Indicates the model number of the receiver. |
| Board | Indicates the board type. |
| Revision | Indicates the board revision number. |
| Tracking ID | This is the unique Tracking ID number that identifies the product version. |
| PWB Serial Number | Displays the serial number for the PWB (printed wiring board). |
| MAC Address 1, MAC Address 2 (D9865D only) | Indicates the MAC addresses assigned to the Ethernet interface at the time of manufacture. |
| IP Address 1 and IP Address 2 (D9865D only) | Indicates the IP address assigned to the receiver in a network for Port 1 and Port 2.<br>**Note:** Only Port 1 is available for this release. |

# Viewing Installed Options

## To view the Installed Options

Proceed as follows to view the installed hardware options:

From the **Hardware Information** screen, press the yellow button (**Inst Opt**).



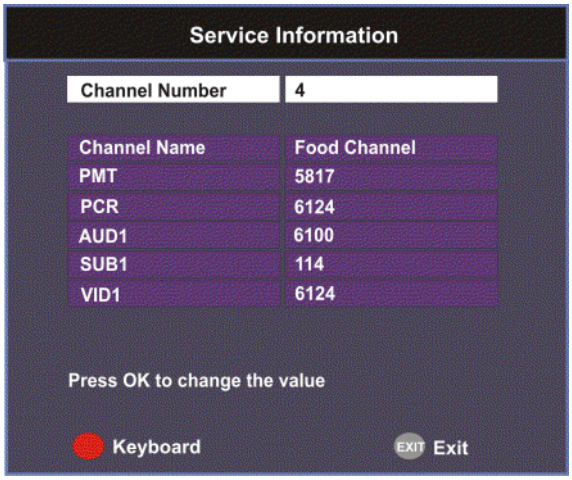

The Installed Options screen displays the hardware options installed in the current D9865 satellite receiver.

# Viewing Service Information

## To View the Service Information

Proceed as follows to view the service information.

From the **Info** screen, select **Service Information** and press **OK**.




The Service Information screen displays the PIDs associated with a selected channel.

## 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 and tune to the selected channel by entering the particular **Channel Number**.

## About the Current Channel

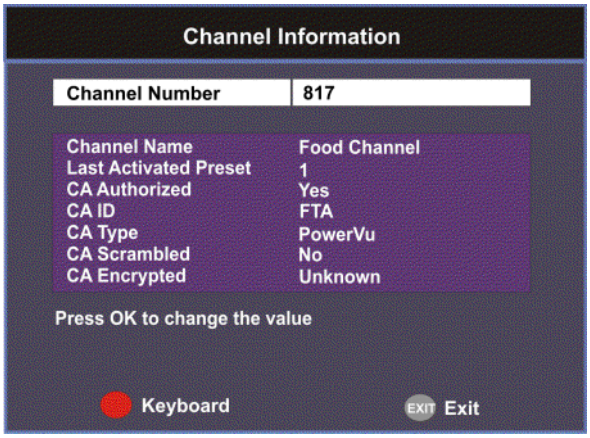
When you navigate to menus from video, the information displayed is associated with the current (video) channel. If no changes have been made to the current setup, you can automatically return to the same channel when you exit to video.

# Viewing Channel Information

## To View the Channel Information

Proceed as follows to view the Channel Information screen:

From the Info screen, select **Channel Information** and press **OK**.




The Channel Information screen displays the following information:

| Channel Information | Description |
|---|---|
| Channel Number | Current channel number.<br>To change the current channel number, press **OK**. Enter the number using the keypad on the remote control and click **OK**. It tunes to the selected channel. |
| Channel Name | Current channel name associated with the channel number. |
| Last Activated Preset | Indicates the number of the last activated preset. |
| CA Authorized | Indicates whether the receiver is authorized to receive the signal. |
| CA Id | Indicates the identification number of the CA used for the received signal. |
| CA Type | Indicates the type of CA used for the received signal. |
| CA Scrambled | Indicates whether the received signal is scrambled. |
| CA Encrypted | Indicates whether the received signal is encrypted. |

# Viewing DVB-CI Information

The Common Interface (CI) slot is located behind the door on the front panel. They allow use of a CAM (Conditional Access Module) Smartcard to decrypt purchased programming.

**Note:** You must be authorized to view the programming available via the Smart Card from your service provider.

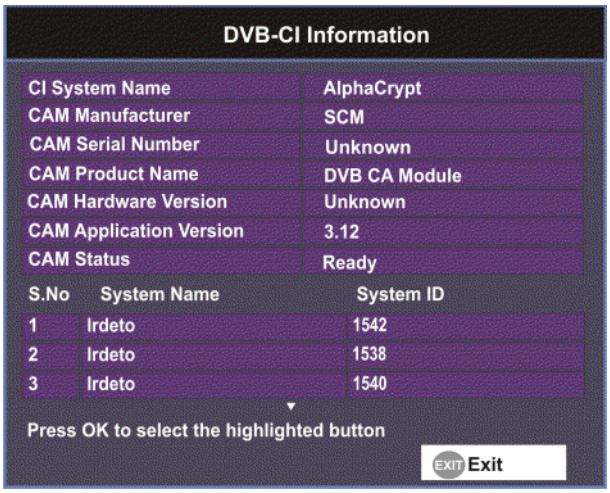
**Note:** CAMs must be purchased from Cisco. For a list of the supported CAMs, see **Common Interface Modules**, on page 3-5.

For more information on configuring the CI information, see **Configuring the Common Interface (CI) Information**, on page 5-28.

## To View the Current DVB-CI Information

Proceed as follows to view the DVB-CI information:

From the **Info** screen, select **DVB-CI** and press **OK**.




The DVB-CI Information screen displays the following information:

| DVB-CI Information | Description |
|---|---|
| CI System Name | Indicates the system name of the CAM. |
| CAM Manufacturer | Displays the manufacturer name of the CAM. |
| CAM Serial Number | Indicates the unique serial number of the CAM. |
| CAM Product Name | Displays the product name of the CAM. |
| CAM Hardware Version | Displays the hardware version number of the CAM. |
| CAM Application Version | Displays the software version number of the CAM. |
| CAM Status | Displays the status of the CAM (Ready or Not Ready). |

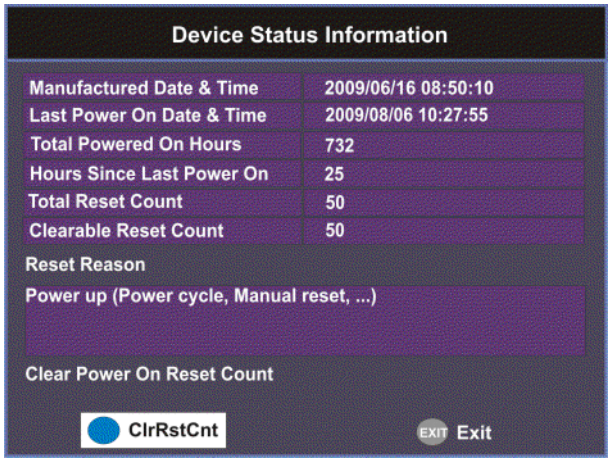
| DVB-CI Information | Description |
|---|---|
| S.No/System Name/ System ID | Displays the CA system identification number and name of the CAM. Some CAMs may support multiple CA system IDs. |

# Viewing Device Status Information

## To View the Device Status Information

Proceed as follows to view the device status information:

From the **Info** screen, select **Device Status** and press **OK**.




The Device Status Information screen displays the following information:

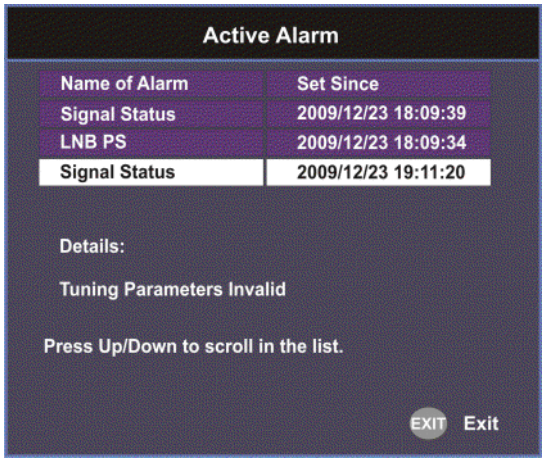
| Device Status Information | Description |
|---|---|
| Manufactured Date & Time | Displays the date and time when the receiver was manufactured. |
| Last Power On Date & Time | Displays the date and time when the receiver was powered up. |
| Total Powered On Hours | Displays the total number of hours that the receiver has been operating. |
| Hours Since Last Power On | Displays the number of hours since the last power-on. |
| Total Reset Count | Displays the total number of times the receiver has been restarted. |
| Clearable Reset Count | Displays the number of restarts since the last time the restart count was cleared.<br>To clear or reset the Clearable Reset Count, press the blue button (**ClrRstCnt**). |
| Reset Reason | Displays the reason for the last restart, i.e., power cycle or manual reset. |

# Viewing the Active Alarm and Warning Messages

## To View the Active Alarm Messages

Proceed as follows to view the active alarms:

From the **Info** screen, select **Active Alarm** and press **OK**.




The Active Alarm screen displays all the active alarm messages for the D9865 system.

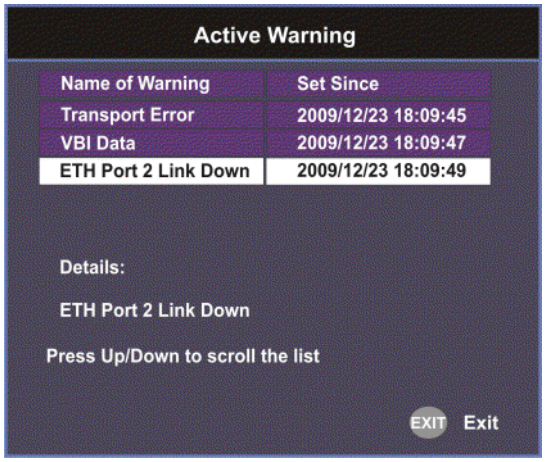
The following table shows the alarm status table information:

| Active Alarm Information | Description |
|---|---|
| Name of Alarm | Name of the alarm. For more information on alarm messages, refer to **Messages**, on page 7-2. |
| Set Since | Date and time of the alarm. |
| Details | Displays the content of the message. |

### To View the Active Warning Messages

Proceed as follows to view the active warnings:

From the **Info** screen, select **Active Warning** and press **OK**.




The Active Warning screen displays all the active warning messages for the D9865 system.

The following table shows the warning status table information:

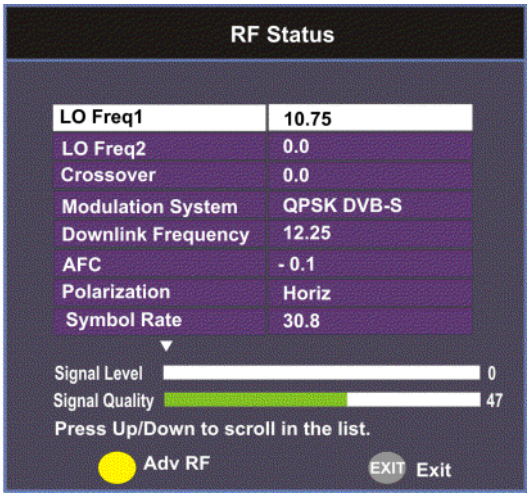
| Active Warning Information | Description |
|---|---|
| Name of Warning | Name of the warning. For more information on warning messages, refer to **Messages**, on page 7-2. |
| Set Since | Date and time of the warning. |
| Details | Displays the content of the message. |

# Viewing the RF Status

## To View the RF Status Information

Proceed as follows to view the RF status:

From the **Info** screen, select **RF Status** and press **OK**.




The following table describes the RF Status information displayed:

| RF Status | Description |
|---|---|
| Downlink Frequency | Indicates the current downlink frequency, in GHz. |
| Symbol Rate | Indicates the Symbol Rate of the received signal, in MS/s. |
| Polarization | Indicates the signal polarization setting. This setting is only applicable when LNB Power is set to H-NIT or V-NIT. The selected setting must match the polarization of the transmitted signal. |
| FEC | Indicates the FEC (Forward Error Correction) rate of the received signal. |
| LO Freq 1/2 | Displays the Local Oscillator frequency #1 and #2. |
| Crossover | Indicates the crossover frequency, which is an internal threshold frequency used for selecting the LO1 or LO2 frequency, depending on the current Downlink frequency setting. This is only used in Ku-Band dual LNB application. |
| AFC | Indicates the current Automatic Frequency Control adjustment, in MHz. |
| Modulation System | Indicates the modulation type of the received signal. |

| RF Status | Description |
|---|---|
| PV BER | Indicates the PV (Post-Viterbi) BER of the received signal (DVB-S only). |
| LDPC BER | Indicates the LDPC (Low-Density Parity-Check) error rate of the selected input (DVB-S2 only). |
| PER | Indicates the current PER (Packet Error Rate). |
| C/N Margin | Indicates the current Carrier-to-Noise Margin of the received signal, in dB. The Carrier-to-Noise margin is the actual distance that C/N is from the noise threshold. |
| Signal Lock | Indicates the current signal lock status for the input. |
| Rolloff Mode | Indicates the rolloff mode of the incoming signal. The default is set to Auto. |
| Rolloff Factor | Indicates the rolloff factor of the incoming signal. |
| LNB PS Status | Indicates the current LNB connection status (No Load, Overloaded, OverTemp, Short Circuit, Disabled, Normal, or N/A). |

### Signal Level and Signal Quality

The **Signal Level** and **Signal Quality** of the incoming signal are displayed both numerically and graphically using bar graphs.

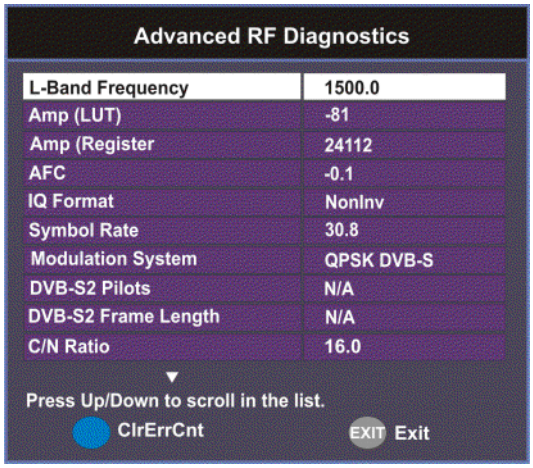
The Signal Level is associated with the RF input signal level. The Signal Level display is continuously updated to indicate the relative strength of the received RF input signal. It is displayed in the range from 0 to 100.

The Signal Quality is associated with the Bit Error Rate (displayed in the range from 0 to 100). The Signal Quality is continuously updated to indicate the relative quality of the received RF input signal.

The Advanced RF diagnostics screen is primarily used by Cisco customer support for information purposes only, if needed.

Proceed as follows to view the Advanced RF Diagnostics screen:

From the **RF Status** screen, press the blue button (**Adv RF**).



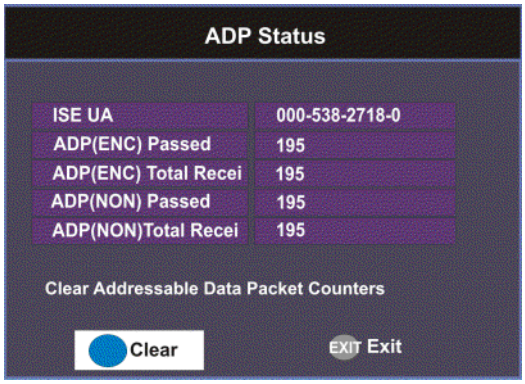

Press the blue button (**ClrErrCnt**) to clear the error counters.

# Viewing ADP Status

## To View the ADP Status

Proceed as follows to view the ADP Status screen.

From the **Info** screen, select **ADP Status** and press **OK**.




The following table describes the ADP status information displayed:

| ADP Status | Description |
|---|---|
| ISE UA | Indicates the ISE User Address (14 hexadecimal characters). |
| ADP(ENC) Passed | Indicates the current Encrypted Addressed Data Packet Count. This count indicates the amount of transmitted ADP information being accurately received and processed. Ideally, the ADP(ENC) Passed and ADP(ENC) Total Received numbers should be identical. |
| ADP(ENC) Total Received | Indicates the total Encrypted Addressed Data Packet Count. This count indicates the amount of transmitted ADP information being accurately received and processed. Ideally, the ADP(ENC) Passed and ADP(ENC) Total Received numbers should be identical. |
| ADP(NON) Passed | Indicates the current Non-Encrypted Addressed Data Packet count. This count indicates the amount of transmitted ADP information being accurately received and processed. Ideally, the ADP(NON) Passed and ADP(NON) Total Received numbers should be identical. |

| ADP Status | Description |
|---|---|
| ADP(NON) Total Received | Indicates the total Non-Encrypted Addressed Data Packet count. This count indicates the amount of transmitted ADP information being accurately received and processed. Ideally, the ADP(NON) Passed and ADP(NON) Total Received numbers should be identical. |

Press the blue button (**Clear**) to clear the total numbers above. To help the operator make accurate analysis of the receiver's functionality, the ADP(ENC) and ADP(NON) numbers should be cleared. These same values are also reset whenever the receiver is turned on, reset, or power-cycled.

# Chapter 5
# Setup and Monitoring via Web GUI

## Overview

### In This Chapter

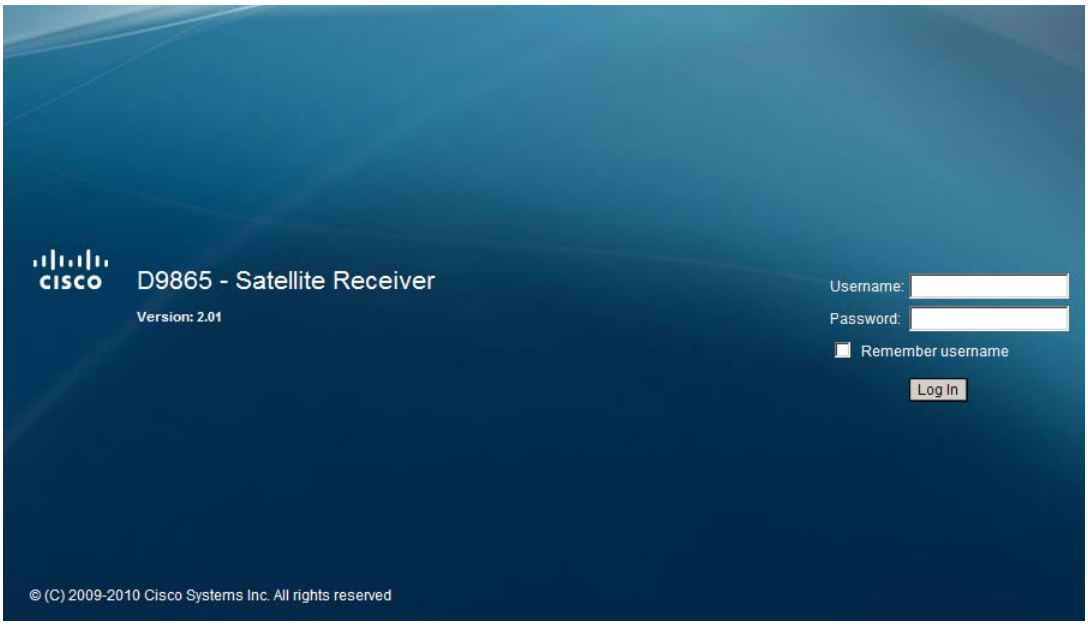
This chapter contains the following topics.

# Logging on to the Web GUI

## To Log on to the Web GUI

Proceed as follows to log on to the Web GUI:

1. Open MS Internet Explorer.
2. Type the IP address of the D9865 Satellite Receiver in the address bar and press Enter.




3. Type the **Username** and **Password**.

   **Note:** The username and password are case-sensitive. The default username is **`admin`** and the default password is **`localadmin`**. If you have forgotten your username and password, you can reset them to its factory defaults from the on-screen menu of the D9865 Satellite Receiver. For more information, refer to **System Information**, on page 4-71.

   **Important:** The password and user name will be remembered for the whole web session. Close the web browser if you want to prevent others from accessing the settings of the D9865 Satellite Receiver.

   If your session expires, you must refresh the browser and log back in.

4. Click **Log In**.

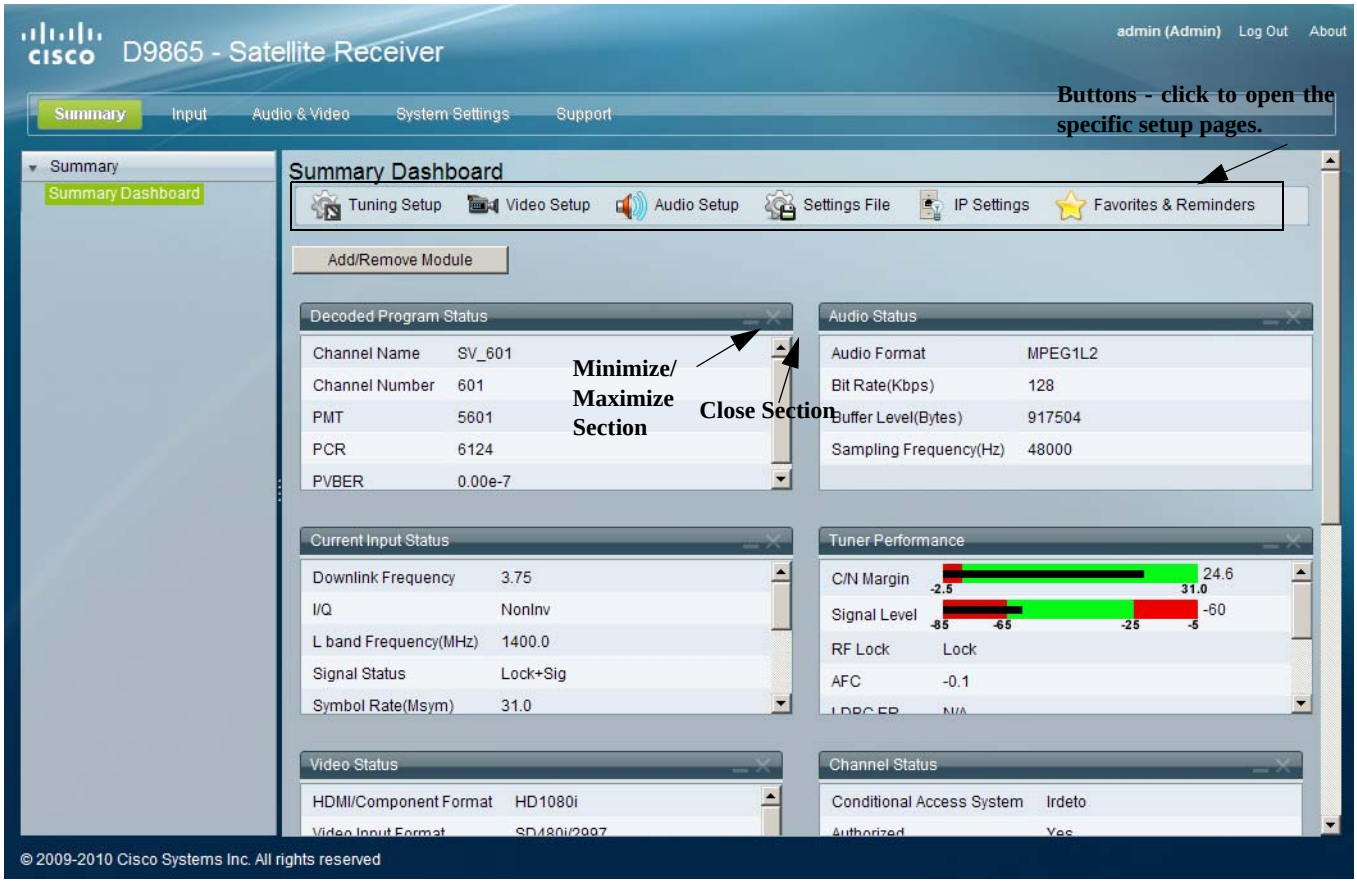
   **Note:** If you select **Remember username**, the user name will be remembered the next time you log into the web GUI.

# Web GUI - Summary Screen

## To get an Overview of the Main D9865 Settings

Proceed as follows to get an overview of the main D9865 Satellite Receiver settings:

1. Log on to the Web GUI.
2. Click **Summary > Summary Dashboard**. The Summary Dashboard page is displayed.

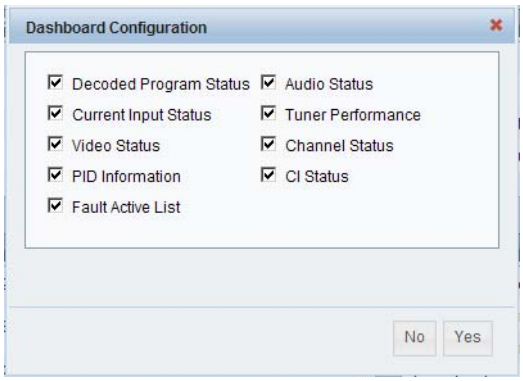



The summary screen displays the main settings of the D9865 Satellite Receiver.

The buttons above the sections in the Summary Dashboard are shortcuts to the various setup pages. For example, click **Tuning Setup** to open the Tuning Setup page.

You can customize the Summary Dashboard by temporarily minimizing or removing the modules displayed. Each module has a maximize and minimize button, allowing you to view or hide various modules. The default view is displayed when you refresh the Summary Dashboard page.

You can also customize the Dashboard by clicking on **Add/Remove Module**. The Dashboard Configuration window is displayed.




The following table describes the all the available modules:

| Module | Description |
|---|---|
| Decoded Program Status | Displays channel and service information. |
| Audio Status | Displays the current audio status information, such as the audio format and sampling frequency. |
| Current Input Status | Displays the current RF Tuning Status information, including the downlink frequency and signal status. |
| Tuner Performance | Displays the satellite dish status, such as the C/N Margin and Signal Level. |
| Video Status | Displays the current video information. |
| Channel Status | Displays the channel status information, such as the type of CA used and whether the receiver is authorized to receive the signal. |
| PID Information | Displays the PIDs associated with the channels. |
| CI Status | Displays the CAM card information. |
| Fault Active List | Displays the currently active alarms and warnings. |

# Links

## Linked Pages

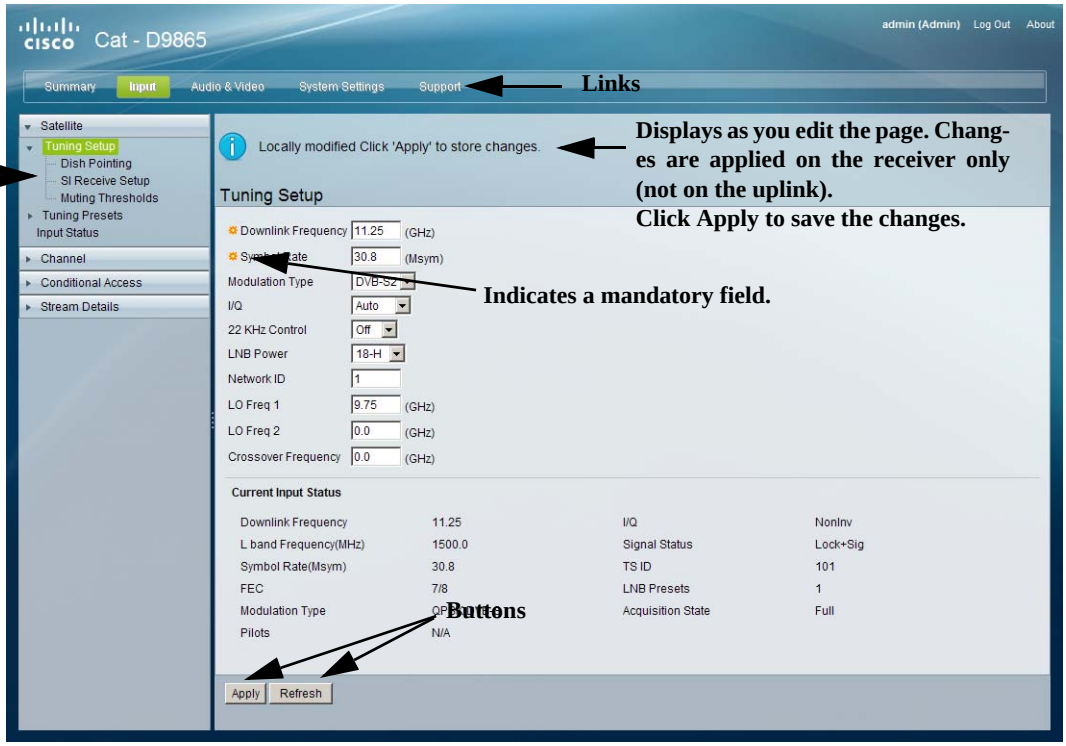
The GUI of the D9865 has a number of linked pages.


The function for the linked pages is as follows:

- Summary
  From this page you can obtain an overview of the D9865 operation.
- Input
  From this page you can:
  - set presets and LNB,
  - configure dish pointing/alignment,
  - view input status,
  - configure channels,
  - configure CI (Common Interface) settings,
  - view PSI, Frequency, and Channel tables.
- Audio & Video
  From this page you can:
  - configure video settings,
  - set up closed caption and subtitles,
  - configure audio settings,
  - view current audio status.
- System Settings
  From this page you can:
  - view alarm and warning status information
  - configure ethernet ports,
  - configure lock levels.
- Support
  From this page you can:
  - view logs,
  - view contact information
  - View and upgrade software version.

## Web GUI Environment

The following is an example of a D9865 Web GUI page.




## The Window Buttons

The GUI of the D9865 has the following general buttons:

| Button | Description |
|---|---|
| Apply | Saves and applies the settings to the receiver.<br>**Note:** If you make changes on a web page, ensure that you apply the changes before moving to another page. If you move to another page without saving your (edits) changes, the web GUI will revert to the previously saved settings, and the changes will be lost.<br>Also, ensure that you save all changes on a web page before leaving your PC; otherwise, the GUI will eventually time out and revert back to the previously saved settings. |
| Refresh | Reads existing data from the D9865. If edits were made in a setup page, then unsaved changes are discarded. |

## The About Window

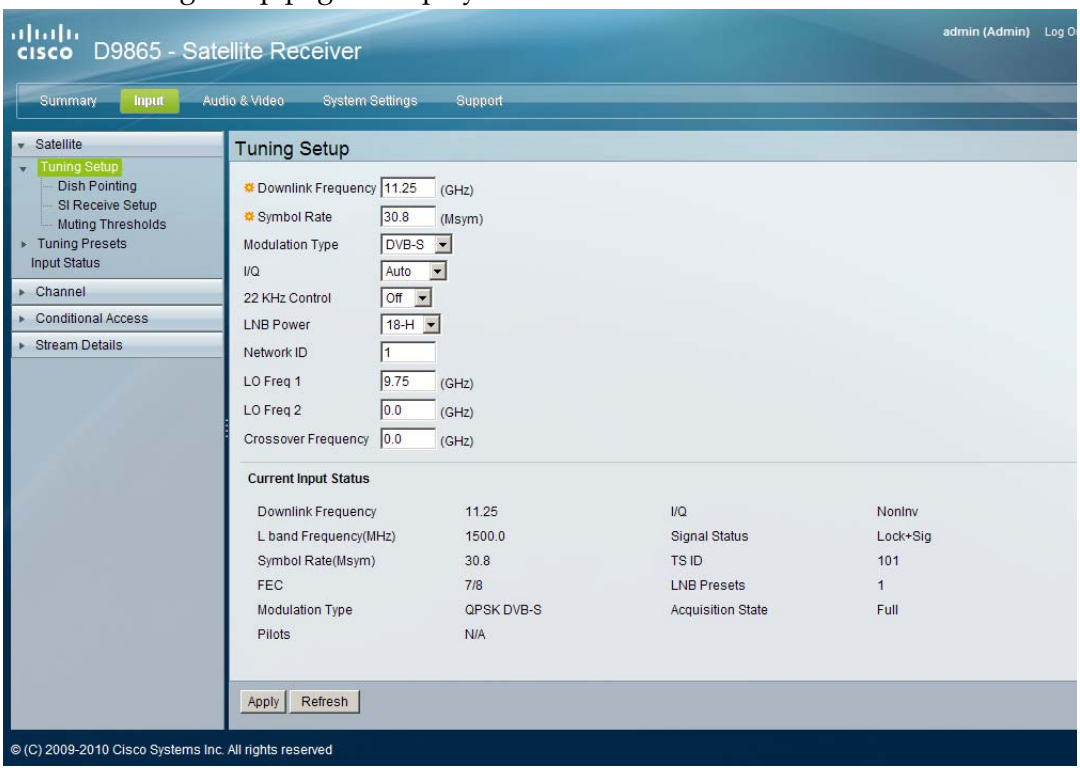
The top right hand corner of the D9865 web GUI has an About link. Click to open the About window.


The About window displays the current D9865 system version information and the copyright information.

## To Set up Tuning Information

Proceed as follows to configure the Tuning Setup page:

1. From the user interface of the D9865, click **Input > Satellite > Tuning Setup**. The Tuning Setup page is displayed.




2. Set the **Downlink Frequency** used by the receiver for tuning the received digital signal. You can enter a value in the range from 0.0 to 15.0 GHz. The formula for C-Band is: Downlink Freq = LO Freq - L-Band Freq. The formula for Ku-Band is Downlink Freq = LO Freq + L-Band Freq.
3. Type the **Symbol Rate**. The symbol rate must match that of transmitted signal. You can enter a value in the range from 1.0 to 45.0 MS/s for DVB-S or 1.0 to 31.0 MS/s for DVB-S2.
4. Select the **Modulation Type** for the received signal (DVB-S or DVB-S2).

5. Set the input signal spectrum inversion setting (**I/Q**), which allows the operator to track and selected inverted or non-inverted digital signals.
   When set to Auto, received digital signals are tracked and inverted for correct selection, as required. When set to Inv (inverted), the received digital signal is always inverted. Conversely, when set to NonInv (non-inverted), the received digital signal is never inverted.
6. The **22 KHz Control** is only applicable for dual-band LNB applications. It sets whether or not the 22 KHz tone is available. The selections are On, Off, or Auto (if downlink frequency is greater/less than the crossover frequency, the 22KHz tone is automatically set to on/off). The default is Off.
7. The **LNB Power** setting determines if power is provided via the input to an external LNB connection.
   You can set the LNB Power to Off, 18-H, 13-V, H-NIT, or V-NIT. The default is 18-H. If LNB Power is set to V-NIT or H-NIT, the signal polarization is automatically read from the NIT. Power will not be applied to the LNB if LNB Power is set to Off.

   **Note:** LNB power must be on if DiSEqC is required.
   For more information, see **LNB Power Settings**, on page 4-25.
8. Enter the **Network ID** of the uplink signal the receiver is to receive when using this preset. You can obtain the network ID from your service provider. The default is 1.
9. Set the Local Oscillator Frequency #1 (**LO Freq 1**), which sets the satellite antenna LNB local oscillator #1 frequency. For C-Band application, set to 5.15 GHz. For Ku-band single LNB, enter LO Freq and set LO Freq 2 and Crossover Frequency to 0.0. For Ku-band dual LNB, enter LO Freq 1, LO Freq 2 and Crossover Frequency. The default is 10.75 GHz.
10. Set the Local Oscillator Frequency #2 (**LO Freq 2**), which sets the satellite antenna LNB local oscillator #2 frequency. This option is only used in dual-band LNB applications. LO Freq 2 must be greater than LO Freq 1. The default is 0.0 GHz.
11. Enter the **Crossover Frequency**. This is an internal threshold frequency used for selecting the LO1 or LO2 frequency, depending on the current downlink frequency settings. This option is only used in dual-band LNB applications. The default is 0.0 GHz.

12. The **Current Input Status** section displays the current RF status. The following table describes the Current Input Status information displayed:

| RF Status | Description |
|---|---|
| Downlink Frequency | Indicates the current downlink frequency, in GHz. |
| L Band Frequency (MHz) | Indicates the current L-Band frequency, in MHz. |
| Symbol Rate (Msym) | Indicates the Symbol Rate of the received signal, in MS/s. |
| FEC | Indicates the FEC (Forward Error Correction) rate of the received signal. |
| Modulation Type | Indicates the modulation type for the received signal. |
| Pilots | Indicates whether the pilots for the DVB-S2 modulation is on or off. |
| I/Q | Indicates the input signal spectrum inversion setting. |
| Signal Status | Indicates the current signal lock status for the input.<br>Locked - Receiver is locked to a carrier with no valid content.<br>Lock+Sig - Receiver is locked to a carrier with valid content.<br>No Lock - Receiver is not locked to a carrier. |
| TS ID | Displays the Transport Stream ID. |
| LNB Presets | Indicates the number of LNB presets configured. |
| Acquisition State | Displays **Full** if the ASI and PSI tables have all been found. Otherwise, it will display **Degraded** if there are missing tables or **None** if no ASI or PSI tables have been found. |

13. Click **Apply**.

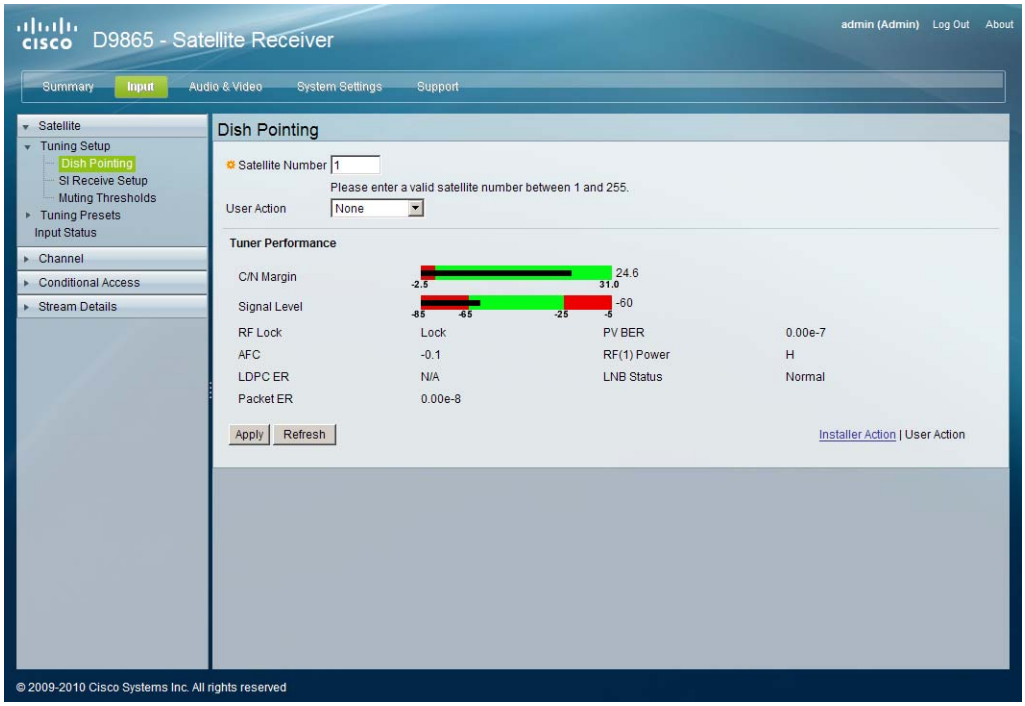
# Setting Up Dish Pointing

## To Set Up Dish Pointing

The Dish Pointing page allows you to configure the satellite dish position. There are two modes: User Action (default) or Installer Action. The User Action mode allows you to select from stored Satellite Numbers, which are stored satellite locations, as stored in the dish motor, but does not provide any dish control.

Proceed as follows to set up the dish in User Action mode:

1. From the user interface of the D9865 Satellite Receiver, click **Input > Satellite**, expand Tuning Setup and then click **Dish Pointing**. The Dish Pointing page is displayed.




2. Enter the **Satellite Number** identifying the saved satellite location, as defined by the dish motor manufacturer. You can enter a value in the range from 1 to 255.
3. Select Goto Satellite as the **User Action** to move the dish to the selected pre-stored satellite position. Satellite positions are stored in the dish motor, if supported, not in the receiver. Select None if no action is performed.

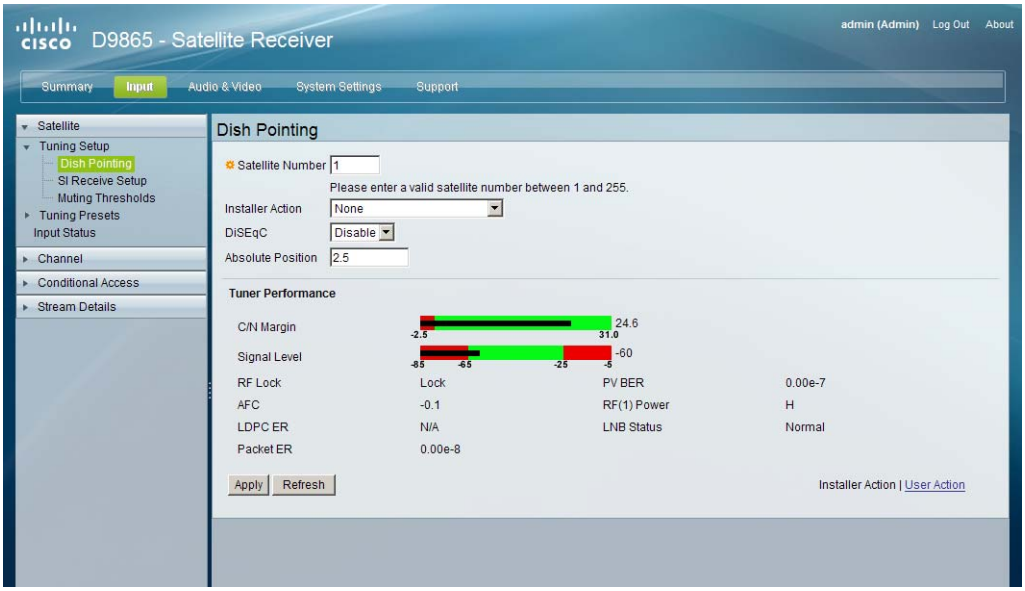
4. The Dish Status section displays the current satellite dish information. The following table describes the satellite dish information displayed:

| Parameter | Description |
|---|---|
| C/N Margin | Indicates the current Carrier-to-Noise Margin for the received signal. The Carrier-to-Noise margin is the actual distance that C/N is from the noise threshold. |
| Signal Level | Displays the relative strength of the received RF input signal. It is displayed in the range from 0 to 100. |
| RF Lock | Indicates whether the receiver is synchronized with the received RF signal. |
| AFC | Indicates the current Automatic Frequency Control adjustment, in MHz. |
| LDPC ER | Indicates the bit rate of the input stream of the LDPC error correction stage (DVB-S2 only). |
| Packet ER | Indicates the current Packet Error Rate. |
| PV BER | Indicates the PV (Post-Viterbi) BER for the received signal (DVB-S). |
| RF(1) Power | Displays the LNB Power setting. The LNB Power setting determines if power is provided via the RF1 Input to an external LNB connection. |
| LNB Status | Indicates the current LNB connection status (No Load, Overloaded, OverTemp, Short Circuit, Disabled, Normal, or N/A). |

5. Click **Apply**.

Proceed as follows to set up the dish in Installer Action mode:

1. From the Dish Pointing page, click on the **Installer Action** link at the bottom right hand corner of the page.




2. Enter the **Satellite Number** identifying the saved satellite location, as defined by the dish motor manufacturer. You can enter a value in the range from 1 to 255.
3. Select the **Installer Action**. The following table describes the actions available:

| Options | Description |
|---|---|
| Continuous West Movement | Moves the dish west until it reaches its limit. Ensure that the dish can move to its limit without any obstructions. |
| Continuous East Movement | Moves the dish east until it reaches its limit. Ensure that the dish can move to its limit without any obstructions. |
| Stop Move | Stops movement of the dish. |
| Goto Absolute Position West | Moves the dish to the Absolute west position set above. |
| Goto Absolute Position East | Moves the dish to the Absolute east position set above. |
| Goto Reference | Moves the dish to a reference defined by the dish motor manufacturer. |

| | |
|---|---|
| Goto Satellite | Moves the dish to the selected pre-stored satellite position. Satellite positions are stored in the dish motor, if supported, not in the receiver. |
| Store Satellite | Stores the current dish position as a Satellite Number, if supported by the dish motor. |
| Clear Limits | Clears the dish east and west limits stored in the dish motor. |
| Store East Limits | Stores the current position as the east limit in the dish motor. |
| Store West Limits | Stores the current position as the west limit in the dish motor. |
| Calculate Position | Updates the position of the dish according to the current position. For more information, refer to the dish manual provided by the dish manufacturer. |
| None | No action is performed. |

4. Enable or disable the Digital Satellite Equipment Satellite Control (**DiSEqC**).

   **Note:** This must be enabled to control the DiSEqC switch. LNB Power must be on to use this setting. Refer to http://www.eutelsat.com/satellites/4_5_5.html for more information.

5. Set the **Absolute Position** of the satellite, in degrees. You can enter a value in the range from 0.0 to 75.0 degrees.

6. The Tuner Performance section is the same as the Tuner Performance section in the User Action mode. For more information, see above.

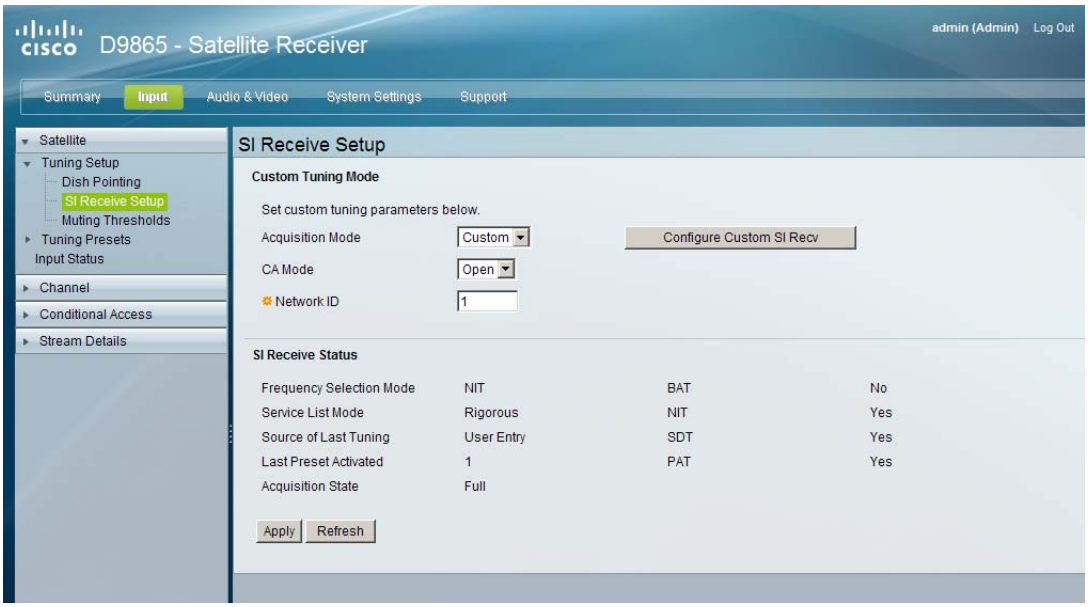
7. Click **Apply**.

# Setting up SI Receive Parameters

## To Set up the SI Receive Parameters

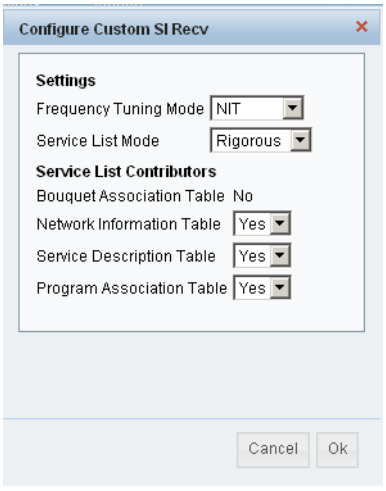
Proceed as follows to setup the SI Receive parameters:

1. From the user interface of the D9865, click **Input > Satellite**, expand **Tuning Setup** and then click **SI Receive Setup**. The SI Receive Setup page is displayed.




2. From the Acquisition Mode drop-down list, select the mode used to build channel lists from allowed service lists. The selections are Auto, Basic, or Custom. The default is Basic.

   If you select Custom, click **Configure Custom SI Recv** and the Configure Custom SI Recv window opens:




3. Set the **Frequency Tuning Mode**, which determines whether the receiver is to be tuned to the received signal using the NIT or User Cfg (user configurations).

4. The Service List Mode determines which tables to use to obtain tuning and channel lists.

   Select Rigorous if all the default settings must be present in the received signal.

   Select Degraded if only the table parameters present in the received signal will be used to install the receiver. The default is Rigorous.

5. The Service List Contributors section allows you to set up custom properties. The following table shows some possible configurations for the allowed service lists and the different frequency tuning settings.

| Allowed Service Lists | Custom |
|---|---|
| Bouquet Association Table (BAT) (not supported) | N |
| Network Information Table (NIT) | N |
| Service Description Table (SDT) | N |
| Program Association Table (PAT) | Y |
| Frequency Tuning mode | User Cfg |

   **Note:** You cannot change the Bouquet Association Table value. It is not supported in the current release.

6. Click **OK**.

7. Select the Conditional Access (**CA**) **Mode** that determines which programs can be viewed via the receiver. You can select Std (preferred) or Open.

   **Important:** In Open mode, the receiver ignores inconsistent scrambling descriptions within the signal. Operating in this mode may cause the decoder not to respond to certain advanced uplink controlled features, such as service replacement.

8. Enter the **Network ID**, obtained from your service provider.

9. The **SI Receive Status** section displays all the current SI Receive settings. It also displays the source of last tuning, the last Preset Number activated, and the current settings of the allowed services (BAT, NIT, SDT, PAT).

10. Click **Apply**.

# Setting up Muting Threshold Controls

## To Set Up the Muting Threshold Controls

Proceed as follows to set up the muting threshold controls:

1. From the user interface of the D9865, click **Input > Satellite**, expand **Tuning Setup** and then click **Muting Thresholds**. The Muting Thresholds page is displayed.

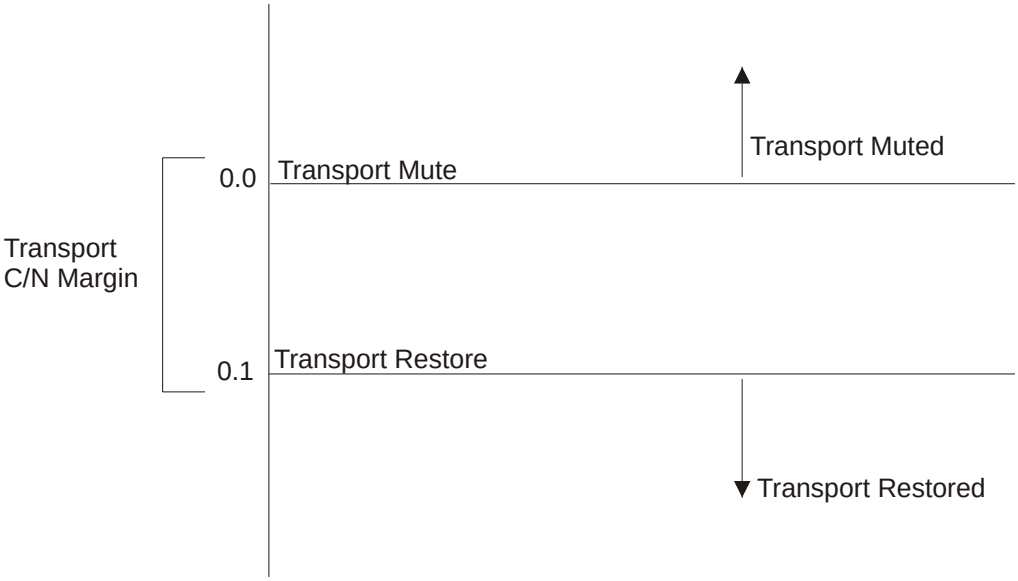

2. Select **Enable Threshold Muting** to mute the transport stream and audio in the event of an unstable signal, poor signal, or no signal condition. The default is selected.

3. The **Transport Mute** and **Restore** for both **DVB-S C/N Margin** and **DVB-S2 C/N Margin** sets how the receiver reacts when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation. This allows you to set the transport C/N margin values for the receiver. The receiver uses these noise values/settings as limits during normal operation to determine whether to mute the transport in the event of a noisy signal, poor signal or no signal condition.

   The **Transport Mute** is the lower limit for the transport C/N margin setting. The transport will be muted when the C/N margin is below the mute setting for a nominal delay of 1 second. The delay is between the time the condition is first detected and the time the transport is muted. The adjustable operating range is from -5.0 to 20.0 dB. The default setting for Transport Mute is 0.0.

The **Transport Restore** is the upper limit for the transport C/N margin setting. The transport will be un-muted (e.g., restored) when the C/N margin rises above the **Transport Restore** setting for a nominal delay of 8 seconds. The delay is between the time the condition is first detected and the time the transport is muted. The adjustable operating range is from -5.0 to 20.0 dB. The default setting for Transport Restore is 0.1.

Transport Default C/N Margin Relationship

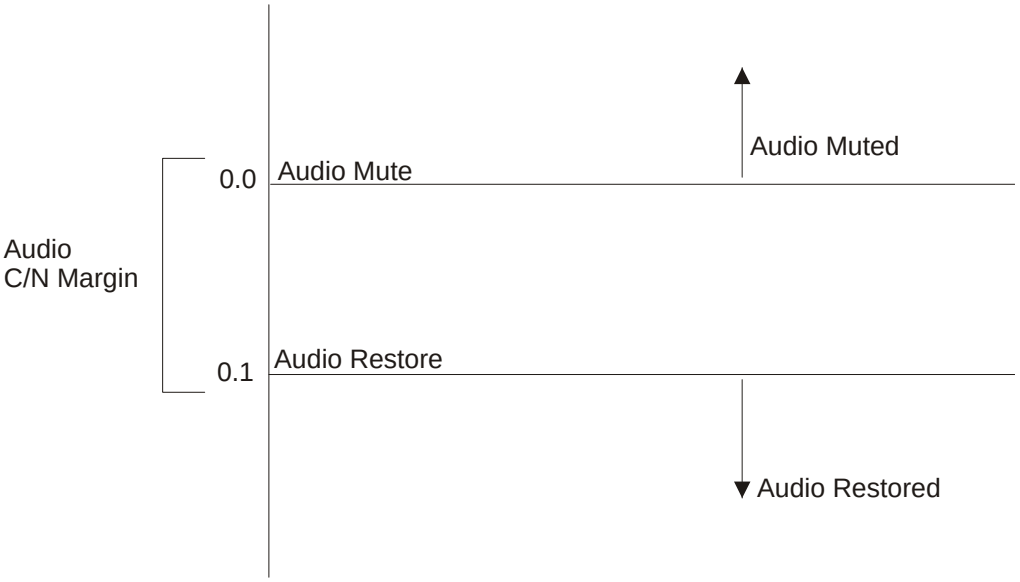



4. The **Audio Mute** and **Restore** for both DVB-S C/N Margin and DVB-S2 C/N Margin sets the Audio channel Mute and Restore C/N margin values (limits) to mute audio when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation.

   The **Audio Mute** is the lower limit for the audio C/N margin setting. Audio will be muted when the C/N margin is below the Cutoff setting for a nominal delay of 4 seconds. The delay is between the time the condition is first detected and the time the transport is muted. The adjustable operating range is from -5.0 to 20.0 dB. The default setting for Audio Mute is 0.0.

   The **Audio Restore** is the upper limit for the audio C/N margin setting. Audio will be un-muted (e.g., restored) when the C/N margin rises above the Restore setting for a nominal delay of 8 seconds. The delay is between the time the condition is first detected and the time the transport is restored. The adjustable operating range is from -5.0 to 20.0 dB. The default setting for Audio Restore is 0.1.

Audio Default C/N Margin Relationship




5. Click **Apply**. If you want to restore the transport stream and audio C/N margin options to their factory set (default) values, click **Reset Defaults**.

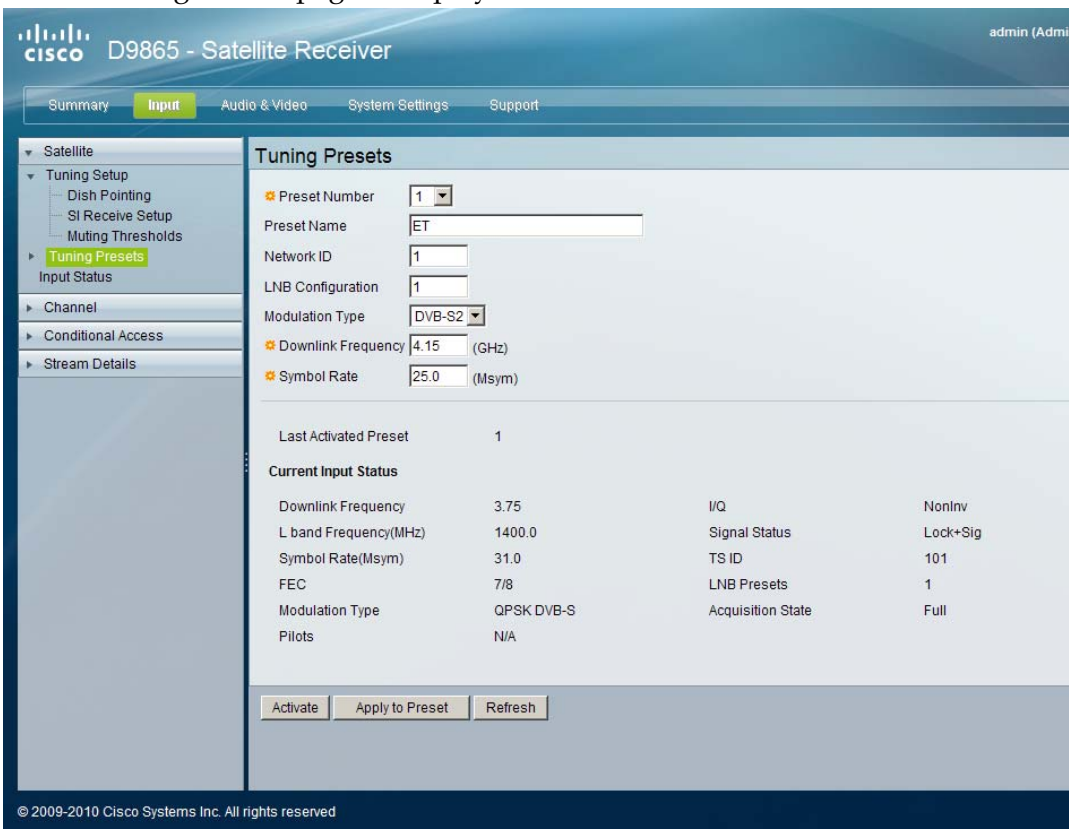
# Setting up the Tuning Presets/LNB

## To Set Up the Tuning Presets

The Tuning Presets page allows you to select or configure up to 64 network presets. Your receiver may be shipped pre-configured with a number of network presets. You can configure the network preset to use one of 10 LNB configurations.

Proceed as follows to set up the Tuning Preset/LNB:

1. From the user interface of the D9865, click **Input > Satellite > Tuning Presets**. The Tuning Presets page is displayed.




2. Select the **Preset Number**, a value in the range from 1 to 64.
3. Enter the **Preset** network **Name**.
4. Enter the **Network ID**, obtained from your service provider.
5. Enter the **LNB Configuration**, a value in the range from 1 to 10.
6. Select the **Modulation Type** for the received signal (DVB-S or DVB-S2).
7. Set the **Downlink Frequency** used by the receiver for tuning the received digital signal. You can enter a value in the range from 0.0 to 15.0 GHz. The formula for C-Band is: Downlink Freq = LO Freq - L-Band Freq. The formula for Ku-Band is Downlink Freq = LO Freq + L-Band Freq.

8. Type the **Symbol Rate**. The symbol rate must match that of transmitted signal. You can enter a value in the range from 1.0 to 45.0 MS/s for DVB-S or 1.0 to 31.0 MS/s for DVB-S2.
9. The **Last Activated Preset** displays the number of the last activated preset.
10. The **Current Input Status** section displays the current RF Tuning Status information, including the downlink frequency and signal status.
11. Click **Apply to Preset** to apply the settings to the receiver.

    Click **Activate** to choose the preset. This will activate the currently displayed preset as the active preset. You will be prompted to accept the new preset and warned that service interruption will occur.

# Setting up LNB Presets

## To Set Up the LNB Presets

Proceed as follows to set up the Dish Presets:

1. From the user interface of the D9865, click **Input > Satellite**, expand **Tuning Presets** and then click **LNB Presets**. The LNB Presets page is displayed.


2. Select the **LNB Configuration** number, identifying the current present LNB configuration. You can select a number in the range from 1 to 10.
3. The **LNB Power** setting determines if power is provided via the input to an external LNB connection.

   You can set the LNB Power to Off, 18-H, 13-V, H-NIT, or V-NIT. The default is 18-H. If LNB Power is set to V-NIT or H-NIT, the signal polarization is automatically read from the NIT. Power will not be applied to the LNB if LNB Power is set to Off.

   **Note:** LNB power must be on if DiSEqC is required.

   For more information, see **LNB Power Settings**, on page 4-25.
4. The **LO Select** is only applicable for dual-band LNB applications. It sets whether or not the 22 KHz tone is available. The selections are On, Off, or Auto (if downlink frequency is greater/less than the crossover frequency, the 22 KHz tone is automatically set to on/off). The default is Off.

5. Set the Local Oscillator Frequency #1 (**LO Freq 1**), which sets the satellite antenna LNB local oscillator #1 frequency. For C-Band application, set to 5.15 GHz. For Ku-band single LNB, enter LO Freq and set LO Freq 2 and Crossover Frequency to 0.0. For Ku-band dual LNB, enter LO Freq 1, LO Freq 2 and Crossover Frequency. The default is 10.75 GHz.
6. Set the Local Oscillator Frequency #2 (**LO Freq 2**), which sets the satellite antenna LNB local oscillator #2 frequency. This option is only used in dual-band LNB applications. LO Freq 2 must be greater than LO Freq 1. The default is 0.0 GHz.
7. Enter the **Crossover**. This is an internal threshold frequency used for selecting the LO1 or LO2 frequency, depending on the current downlink frequency settings. This option is only used in dual-band LNB applications. The default is 0.0 GHz.
8. Enable or disable the Digital Satellite Equipment Satellite Control (**DiSEqC**).

   **Note:** This must be enabled to control the DiSEqC switch. LNB Power must be on to use this setting. Refer to http://www.eutelsat.com/satellites/4_5_5.html for more information.
9. In the **DiSEqC Switch** drop-down list, select a port on the LNB switch, if used (Off, A to P).
10. Click **Apply to Preset**.

# Viewing Input Status

## To View the Input Status

Proceed as follows to view the Input Status page:

From the user interface of the D9865, click **Input > Satellite > Input Status**. The Input Status page is displayed.


The Input Status page displays the active input port receiving the signal.

The **Current Input Status** section displays current RF Tuning Status information, including the downlink frequency and signal status.

The **Tuner Performance section** displays the satellite dish status, such as the C/N Margin and Signal Level.

# Setting the Channel Information

## To set the Channel Selection

Proceed as follows to select a channel and view the channel information:

1. From the user interface of the D9865, click **Input > Channel**. The Channel Selection page is displayed.


2. Select the **Channel** number from the list of available channels.

   **Note:** 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 and tune to the selected channel by entering the particular channel number.

3. Click **Apply**. The channel is selected and the selected channel is displayed on-screen.

4. The **Channel Status** section displays the following information:

| Channel Information | Description |
|---|---|
| Conditional Access System | Indicates the type of CA used for the received signal. |

| Channel Information | Description |
|---|---|
| Authorized | Indicates whether the receiver is authorized to receive the signal. |
| Scrambled | Indicates whether the received signal is scrambled. |
| Encrypted | Indicates whether the received signal is encrypted. |

5. The **PID Information** section displays the PIDs associated with a selected channel.

# Configuring the Common Interface (CI) Information

## To Configure the Common Interface (CI)

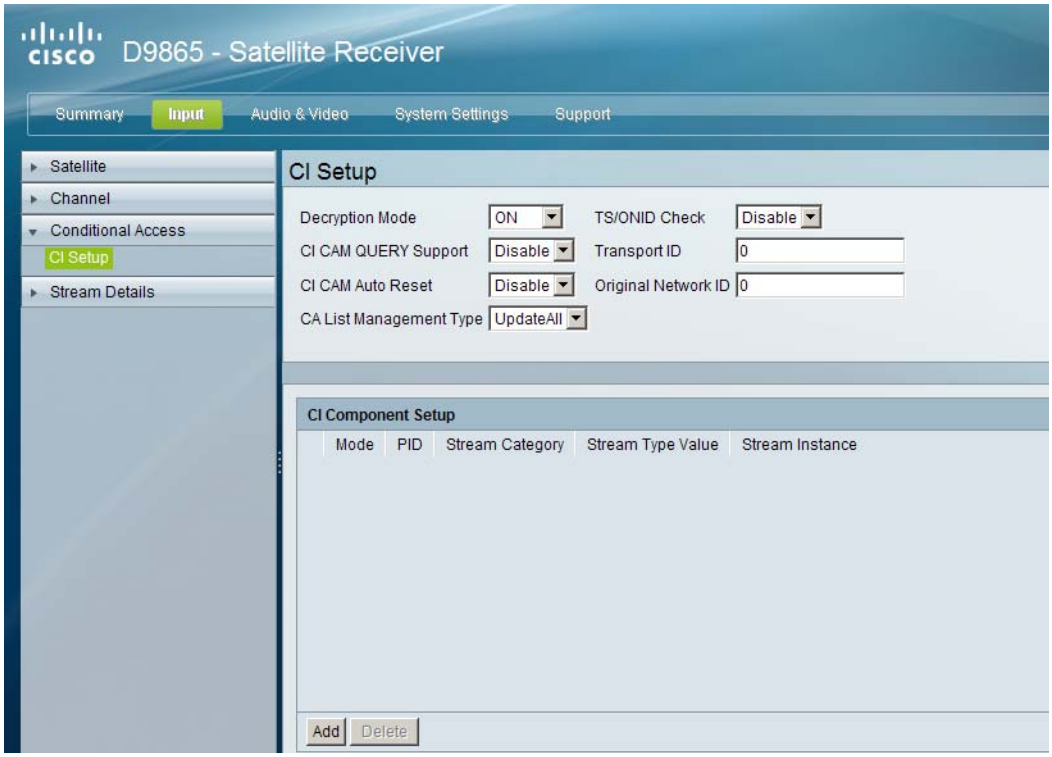
The Common Interface (CI) slot is located behind the door on the front panel. They allow use of a CAM (Conditional Access Module) Smartcard to decrypt purchased programming.

**Note:** You must be authorized to view the programming available via the Smart Card from your service provider.

CAMs must be purchased from Cisco. For a list of the supported CAMs, see **Common Interface Modules**, on page 3-5.

Proceed as follows to configure the CI settings:

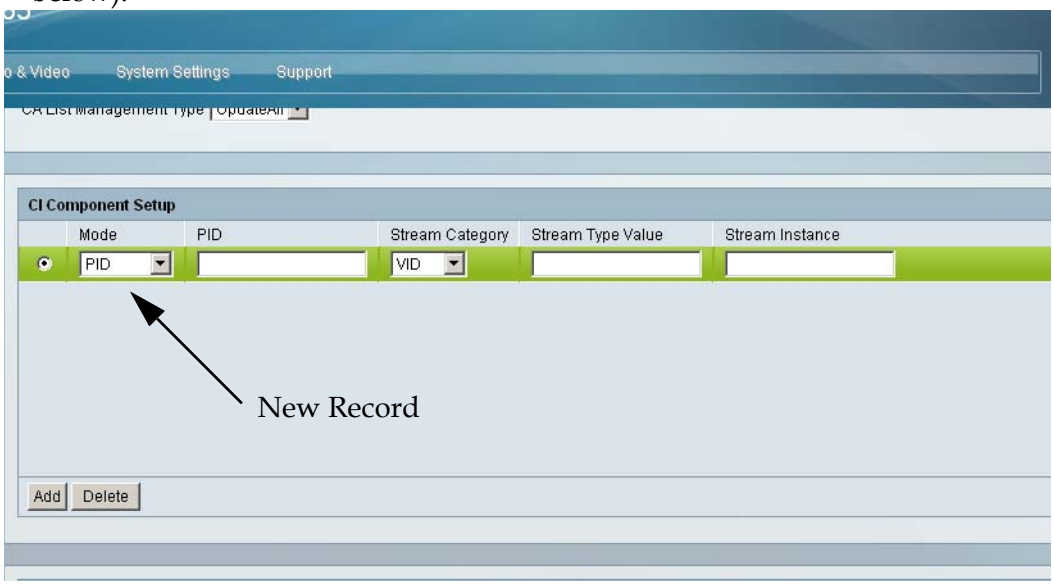
1. From the user interface of the D9865, click **Input > Conditional Access**. The CI Setup page is displayed.




2. The **Decryption Mode** determines whether to decrypt the program on the selected CAM (Yes, No, Comp). Select Comp to customize the PID or stream type to decrypt.
3. Select Enable in the **CI CAM QUERY Support** drop-down list to query the CAM prior to decryption to ensure that the card can be decrypted. The default is Disable.
4. Select Enable in **CI CAM Auto Reset** to automatically reset the card. The default is Disable.

5. In the **CA List Management Type** drop-down list, select AddDel (Default) to add or delete programs individually in the CAM. Set to Update All to automatically update and reset all the programs each time you add or modify the programs available via the CAM.
6. Select Enable in the **TS/ONID Check** drop-down list if you want to restrict the incoming transport stream to the transport ID and transport original network ID listed below. If the incoming stream does not match the specified transport stream, the CAM will not decrypt. The default is Disable.
7. Set the **Transport ID** and **Original Network ID** if you had set the TS/ONID Check to Enable. If the incoming stream does not match the specified IDs here, the CAM will not decrypt. You can enter a value in the range from 0 to 65535.
8. If you selected Comp as the **Decryption Mode**, you can insert and maintain customized records in the **CI Component Setup** section. Each record customizes the PID or stream type to decrypt. The Index number is a read only field that indicates the record number. You can maintain up to 32 records.

   To insert a new record, click **Add**. A new row appears at the top of the table (see below).



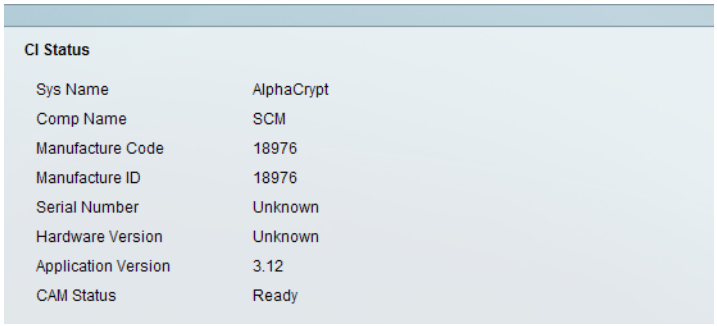

There are various configurations when creating a new record.

The following table summarizes the various methods:

| If you set by | Parameter Settings |
|---|---|
| PID | Set **Mode** to PID and enter **PID** number. |

| If you set by | Parameter Settings |
|---|---|
| Stream Type | Set **Mode** to Stream, select **Stream Category** (audio, video, subtitle, ttx, or user) and enter **Stream Instance** of the stream type.<br>There is an additional configuration if you select user as the Stream Category (see below). |
| Stream Type: User | Set **Mode** to Stream, **Stream Category** to User, manually enter the stream code in **Stream Type Value**, and then the **Stream Instance** of the stream type. |

9. If you know the PID number, ensure that PID is selected under **Mode** and enter the appropriate **PID** number. Click **Apply**.
10. To enter the stream type, select Stream under **Mode**, select the stream type in the **Stream Category** (Vid, Aud, Subt, or TTX) and enter the instance of the stream type in **Stream Instance**. You can enter a range from 1 to 64. Click **Apply**.
11. If you do not know the stream type, you can specify a specific hex value as the stream type. Select Stream under **Mode**, select User under **Stream Category**, enter the hex value of the stream under **Stream Type value (hex)** and the instance of the customized stream type in **Stream Instance**. You can enter a two digit hexadecimal value for the Stream Type and a range from 1 to 64 for the Stream Instance. Click **Apply**.
12. To delete a record, identify the record you want to remove and click **Delete**.
13. Scroll down to view the **CI Status** information:

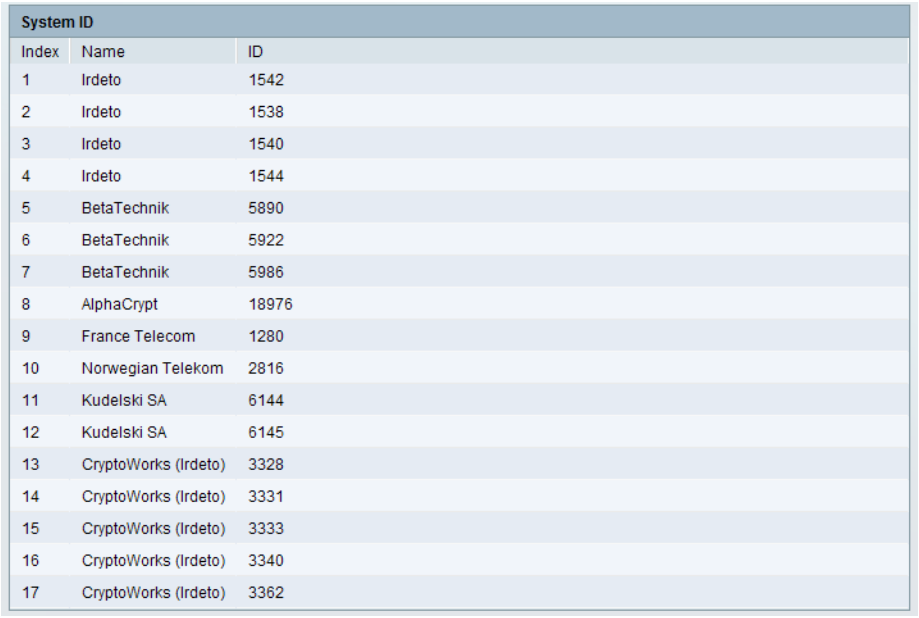



The following table describes the CI Status:

| CI Status | Description |
|---|---|
| Sys Name | System name of the CAM. |
| Comp Name | The company name of the CAM. |
| Manufacture Code | The manufacturer's code. |
| Manufacture ID | The factory loaded application number of the CAM. |
| Serial Number | The unique serial number of the CAM. |

| CI Status | Description |
|---|---|
| Hardware Version | The hardware version number of the CAM. |
| Application Version | The software version number of the CAM. |
| CAM Status | Status of the CAM (Ready or Not Ready). |

14. Scroll down to view the **System ID** information.



System ID

| Index | Name | ID |
|---|---|---|
| 1 | Irdeto | 1542 |
| 2 | Irdeto | 1538 |
| 3 | Irdeto | 1540 |
| 4 | Irdeto | 1544 |
| 5 | BetaTechnik | 5890 |
| 6 | BetaTechnik | 5922 |
| 7 | BetaTechnik | 5986 |
| 8 | AlphaCrypt | 18976 |
| 9 | France Telecom | 1280 |
| 10 | Norwegian Telekom | 2816 |
| 11 | Kudelski SA | 6144 |
| 12 | Kudelski SA | 6145 |
| 13 | CryptoWorks (Irdeto) | 3328 |
| 14 | CryptoWorks (Irdeto) | 3331 |
| 15 | CryptoWorks (Irdeto) | 3333 |
| 16 | CryptoWorks (Irdeto) | 3340 |
| 17 | CryptoWorks (Irdeto) | 3362 |

The following table describes the System ID information:

| System ID | Description |
|---|---|
| Index | Indicates the customized record number (1 to 64, up to 32 records for each CAM). |
| Name | System name of the CAM. |
| ID | Displays the CA system identification ID of the CAM. Some CAMs may support multiple CA system IDs. |

15. Click **Apply**.

# Viewing the PSI Tables

## To View the PSI Tables

Proceed as follows to view the PSI tables:

From the user interface of the D9865, click **Input > Stream Details > PSI Tables**. The PSI Tables page is displayed.


The PSI Table is read-only. The following is a list of the various columns:

| Abbreviation | Description |
|---|---|
| Table Type | Table Type (i.e., NIT, PMT, etc.) |
| Table ID Extension | MPEG/DVB Table ID |
| Status | Reception Status |
| Version | Table Version number |
| PID | Program PID number |
| Number of Sections | PSI tables are received in sections. This indicates the section number received. This information is useful for diagnostics/troubleshooting purposes. |

# Viewing PSI Frequency Information

## To View the PSI Frequency Information

Proceed as follows to view the PSI Frequency table:

From the user interface of the D9865, click **Input > Stream Details > PSI Frequency**. The PSI Frequency page is displayed.


The PSI Frequency table is read-only. The following is a list of the various columns:

| Abbreviation | Description |
|---|---|
| Transport Stream ID | Transport ID |
| Frequency (GHz) | Downlink Frequency (GHz) |
| Symbol Rate (MSym) | Symbol Rate (Msym/s) |
| Orbital Position | Orbital Position (in degrees) |
| Polarization | Polarity of the received signal (H,V, or Off) |
| Flag | Satellite position (in degrees), in combination with the direction (East or West) |
| FEC | Forward Error Correction inner code rate |
| RF Modulation | Modulator constellation setting |
| Network ID | Original Network ID |

# Viewing the PSI Channels

## To View the PSI Channels

Proceed as follows to view the PSI Channels table:

From the user interface of the D9865, click **Input > Stream Details > PSI Channel**. The PSI Channel page is displayed.

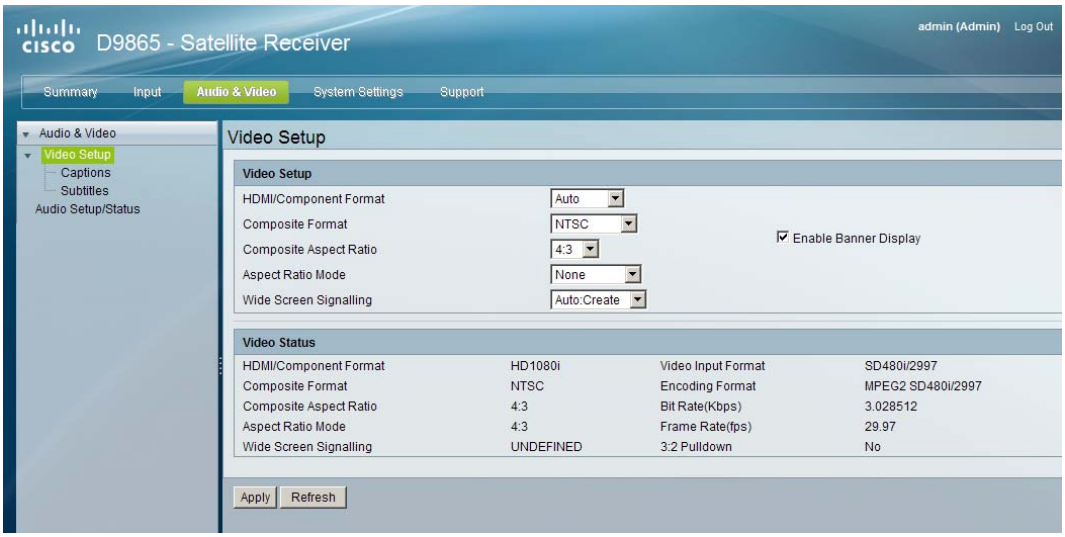

The PSI Channel table is read-only. The following is a list of the various columns:

| Abbreviation | Description |
|---|---|
| Service ID | Virtual Channel |
| TS ID | Transport Stream ID |
| Program Name | Name of the program |
| PMT PID | Program Map Table PID |
| ECM PID | Entitlement Control Message PID |

## To Set Up the Video

Proceed as follows to set up the video information:

1. From the user interface of the D9865, click **Audio & Video > Video Setup**. The Video Setup page is displayed.




2. Select HD output video format from the **HDMI/Component Format** drop-down list (**HD 1080i** or **HD720p**). Select **Auto** for the receiver to automatically detect the correct HD video format.

3. Set the **Composite Format**. Select PAL-B/G, PAL-D, or PAL-I for 625-line systems. Select PAL-M for 525-line format for Brazil. Select PAL-N (AR) for 625-line format for Argentina. Select NTSC or NTSC-J for 525-line systems. Select Auto for the receiver to automatically detect the correct SD video format.

4. Select the **Composite Aspect Ratio** of the intended TV system (4:3 or 16:9).

5. The **Aspect Ratio Mode** is the conversion that the receiver will perform on the incoming signal for the picture to be displayed correctly (i.e., to correspond to the aspect ratio of your TV) on your TV, based on your selection.

   The options are None, Auto, Auto AFD, 16:9 L/B, 4:3 P/B, 14:9, 4:3 CCO, and 16:9 SCALE. The default is None.

   **Note:** For the actual conversion performed, refer to **Actual Conversion Table**, on page 4-35.

6. Select the **Wide Screen Signalling** output mode. It is used to select how the receiver affects PAL WSS when it is present in the VBI. The table below describes each of the options. The default is Auto.

| WSS Mode | Description |
|---|---|
| Passthrough | Passes WSS (unmodified, as received by the D9865 receiver) on VBI LIne 23 when present |
| Auto:Create | Creates WSS to output the correct aspect ratio, when performing aspect ratio conversion, otherwise it is passed through. |
| Auto:Modify | Modifies WSS to output the correct aspect ratio, when performing aspect ratio conversion, otherwise it is passed through |
| Suppress | Disables Line 23 VBI processing. WSS is not output on line 23. |

7. Select **Enable Banner Display** to display the signal status and other information at the top of the screen.
8. The **Video Status** section displays the current video information, such as the aspect ratio mode, encoding format, and bit rate.
9. Click **Apply**.

### To Set Up the Caption Parameters

Proceed as follows to set up the caption parameters:

1. From the user interface of the D9865, click **Audio & Video**, expand Video Setup and then click **Captions**. The Captions page is displayed.


2. Select the **Preferred Closed Caption Mode**. There are multiple in the stream. The default is Auto.

   **Note:** SA Custom is not supported when telecine video coding is enabled.

3. The Status section displays the actual caption mode used. This is read-only.
4. Click **Apply**.

# Setting up Subtitles

## To Set Up Subtitles

Proceed as follows to set up the subtitles:

1. From the user interface of the D9865, click **Audio & Video**, expand Video Setup and then click **Subtitles**. The Subtitles page is displayed.


2. Select the **Subtitle Control** to use to display the program subtitles. The following table describes each of the available options.

| Op Mode Selection | Description |
|---|---|
| Off | No subtitles are displayed. |
| 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 will be displayed. |
| DVB | Displays only DVB subtitles. For example, if DVB is selected, but both DVB and Imitext subtitles are being transmitted on the same channel, only DVB subtitles will be displayed. |

| Op Mode Selection | Description |
|---|---|
| Imitext | Displays only Imitext subtitles. For example, if Imitext is selected, but both DVB and Imitext subtitles are being transmitted on the same channel, only Imitext subtitles will be displayed. |

3. Select the **Imitext Position** of the on-screen subtitle text. Select Standard for subtitles to appear on screen in the same position as output from other PowerVu receivers. Select Extended to position subtitles on screen according to the Imitext (extended) specification.
4. The **Imitext Foreground Color** sets the color of Imitext subtitles only. Auto displays text in the color transmitted by the subtitling equipment. Yellow and White overrides the color set by the uplink and display text in the selected color.
5. The **Imitext Background Color** sets the background on which Imitext subtitles are displayed. The following table identifies the affect each setting has on the displayed subtitle text:

| BackGnd Option | Description |
|---|---|
| Auto | Displays background in same shade transmitted by the subtitling equipment. |
| Shadow | Applies an outline to the right side of each text character. No background box is applied to subtitles, i.e., text is visible directly on top of video. |
| Opaque | Applies a black box to each text character. |
| Semi | Applies a semi-transparent box to subtitle text. |
| None | No shadow or outline is applied to subtitle text. |

6. In the **Subtitle Language Settings** section, select the language type to display the subtitles. The default is Language List. Language Entry and PMT Order are more applicable for advanced applications. The following table describes each of the available options and how to set them:

| Select Language By Option | Description |
|---|---|
| Language List | Each subtitling PID can contain multiple languages. Use this setting to select the language from the Language List by scrolling through the available selections. If Language List is selected, PMT Order and Entry fields are not used. |

| | |
|---|---|
| Language Entry | Use this setting with Entry to directly enter the language code when the language you want is not in the list. In this case enter the three-character code provided by your uplink service provider (e.g., eng for English). |
| PMT Order | Use this setting to select one of up to eight languages as assigned in the PMT for the tuned channel on the receiver. Scroll through the PMT Order to select the correct language within the order (i.e., First to Eighth), available from your uplink service provider. |

7. Click **Apply**.

## To Set Up the Audio

Proceed as follows to set up the audio:

1. From the user interface of the D9865, click **Audio & Video > Audio Setup/ Status**. The Audio Setup/Status page is displayed.


Set the compressed audio type from the **Digital Audio Setting** drop-down list (PCM, Dolby Digital, Compressed). The following table displays the effects of Dolby Audio Preference setting on audio outputs, based on the type of audio being decoded:

| Input/ Output | Digital Audio Preference | | | |
|---|---|---|---|---|
| | PCM | Dolby Digital | Compressed | |
| | | | S/PDIF | HDMI |
| MPEG LA (MPEG1 and MPEG2) | PCM | PCM | PCM | PCM |
| Dolby Digital | PCM | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) |
| Dolby Digital Plus (< 1.5 Mbps) | PCM | Dolby Digital (follows IEC 61937) | Dolby Digital Plus (No over-clocking, follows SMPTE-338) | Dolby Digital Plus (over-clocking x4, follows IEC 61937) |

| Input/ Output | Digital Audio Preference | | | |
|---|---|---|---|---|
| | PCM | Dolby Digital | Compressed | |
| | | | S/PDIF | HDMI |
| Dolby Digital Plus (>= 1.5 Mbps) | PCM | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) | Dolby Digital (follows IEC 61937) |
| MPEG2 AAC, MPEG4 (AAC and HEAAC v1 and v2) | PCM | MPEG2 AAC, MPEG4 (AAC and HEAAC) (follows IEC 61937) | MPEG2 AAC, MPEG4 (AAC and HEAAC) (follows IEC 61937) | MPEG2 AAC, MPEG4 (AAC and HEAAC) (follows IEC 61937) |

2. Set the audio mode (**Stereo/Mono**), which configures how audio received on the audio input is handled.

   Select 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), L-Mono (Left channel is output on L and R), or R-Mono (Right channel is output on L and R).

3. Select the **DRC Mode** (RF Mode or Line Mode). RF Mode is normally used for analog cable modulators, when limited dynamic range is desired. Line Mode is used when full dynamic range is allowed.

4. Select the **PMT Audio Source** for the audio channel (None or AUD1 to AUD64).

5. The **Volume** adjustment for the audio channel ranges from 0 to 60. You can enter a value or use the provided slider to adjust the volume.

6. The **Audio Status** section displays the following information:

| Audio Status | Description |
|---|---|
| Audio Format | The received audio channel format (MPEG, Dolby Digital, AAC, HEAAC or Dolby Digital Plus). |
| Bit Rate (Mbps) | Audio bit rate of the received audio channel, in Mbps. |
| Sampling Frequency (Hz) | The audio sampling frequency (32, 44.1, or 48 Hz). |
| Buffer Level (Bytes) | The audio input buffer level, in bytes. |

7. Click **Apply**.

## To View the System Identification Information

Proceed as follows to view the Identification page:

1. From the user interface of the D9865, click **System Settings > System> Identification**. The Identification page is displayed.


2. The Identification page displays the parameters associated with the D9865 system, such as model number, customer code, and user address. The following table displays the system information:

| Identity Information | Description |
|---|---|
| Model Number | Indicates the model number of the receiver. |
| Model Name | Indicates the model name of the receiver. |
| Catalogue Number | Indicates the catalogue number of the receiver. |
| Customer Code | Indicates the unique customer code assigned to an organization by Cisco. |
| Serial Number | Indicates the unique serial number of the receiver. |
| Tracking ID | This is the unique Tracking ID number that identifies the product version. |
| User Address | Indicates the user addresses assigned to the receiver. |
| Ethernet 1 (Control) MAC Address (D9865D only) | Indicates the MAC addresses assigned to the Ethernet interface at the time of manufacture. |

# Viewing Features/Licenses

## To View the Features or License Information

Proceed as follows to view the features or license information:

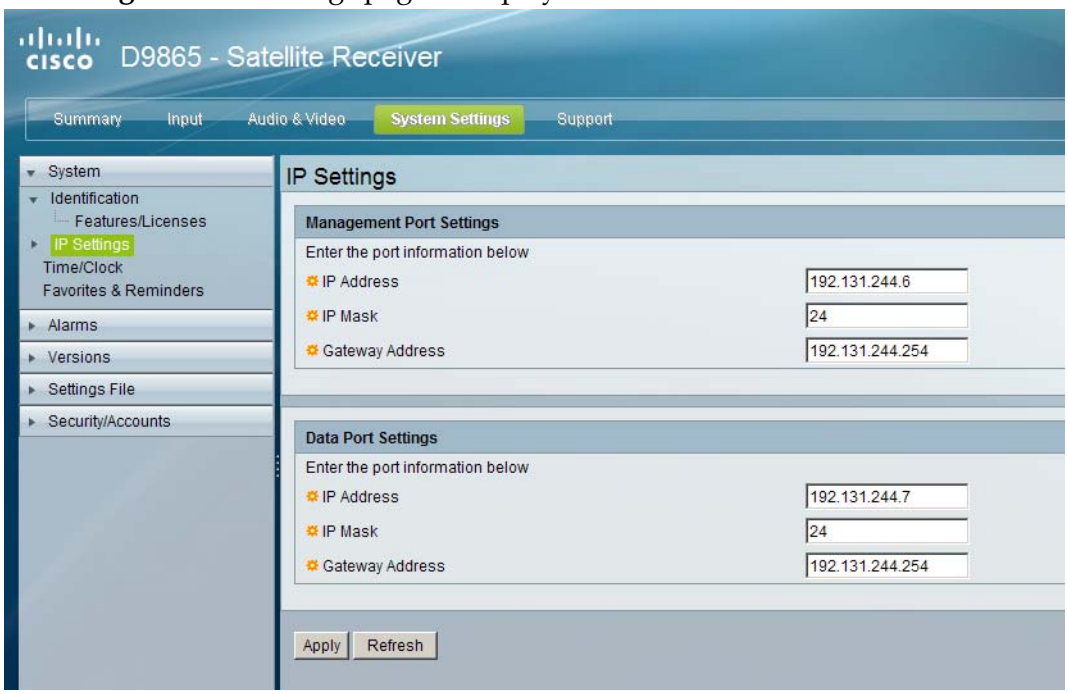
From the user interface of the D9865, click **System Settings > System**, expand Identification and then click **Features/Licenses**. The Features/Licenses page is displayed.


The Hardware Features section displays the hardware options installed in the current D9865 satellite receiver.

### To Configure Management and Data Port Settings

Proceed as follows to configure management and data port settings:

1. From the user interface of the D9865, click **System Settings > System > IP Settings**. The IP Settings page is displayed.




2. For the Management and Data Port Settings, set the following parameters:

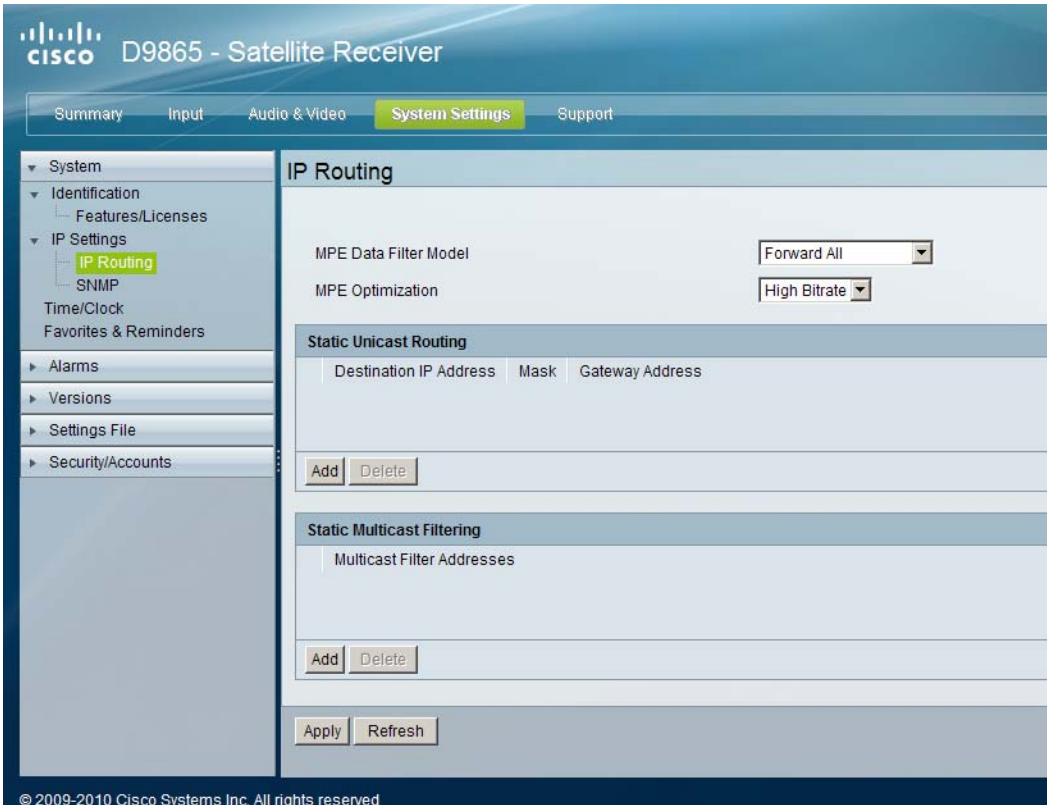
| Selection | Description |
|---|---|
| IP Address | Sets the IP Address for its participation in a Network environment. The IP Address is 12 digits in length (###.###.###.###). |
| IP Mask | Sets Subnet Mask for its participation in a Network environment. You can enter a value in the range from 8 to 32. |
| Gateway Address | Sets the Network Gateway Address on the Network, used to expose the receiver to a WAN. |

# Setting Up IP Routing

## To Set Up IP Routing

Proceed as follows to configure the IP Routing settings:

1. From the user interface of the D9865, click **System Settings > System**, expand **IP Settings** and then click **IP Routing**. The IP Routing page is displayed.

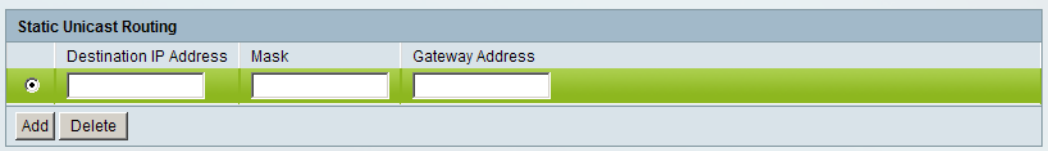



2. The **MPE Data Filter Mode** sets whether all the MPE data is forwarded (Forward All) via the Gateway. It can forward up to 5 PIDs at the maximum bit rates shown in the following table. Otherwise, select Forward None.

| MPE Bit Rate | No Decoding | 5 Mbps SD Video Decoded | 20 Mbps HD Video Decoded |
|---|---|---|---|
| Multicast | 30 Mbps | 20 Mbps | 15 Mbps |
| Unicast | 20 Mbps | 15 Mbps | 10 Mbps |

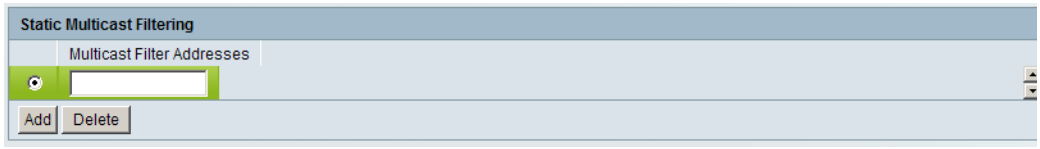
3. Set the **MPE Optimization** setting. Select **High Bitrate** (default) to accumulate the IP packets before they are processed in short bursts, increasing the allowable bit rate of MPE data. Select **Low Jitter** to emit the IP packets in a constant stream, resulting in low latency.

4. The **Static Unicast Routing** displays the static unicast routing addresses for the MPE data. To add a new address, click **Add**. The following is displayed:




   - Set the **Destination IP Address** for its participation in a Network environment. The address must be 12 digits in length, in the following format: ###.###.###.###.
   - Set the subnet **Mask** for its participation in a Network environment, from 8 to 32.
   - Set the network **Gateway Address** used to expose the receiver to a WAN. The address must be 12 digits in length, in the following format: ###.###.###.###.
   - Click **Add**.
   - To remove an address entry, select the entry and click **Delete**.

5. The **Multicast Filtering Addresses** section lists the multicast destination IP addresses. To add a new address, click **Add**. The following is displayed:



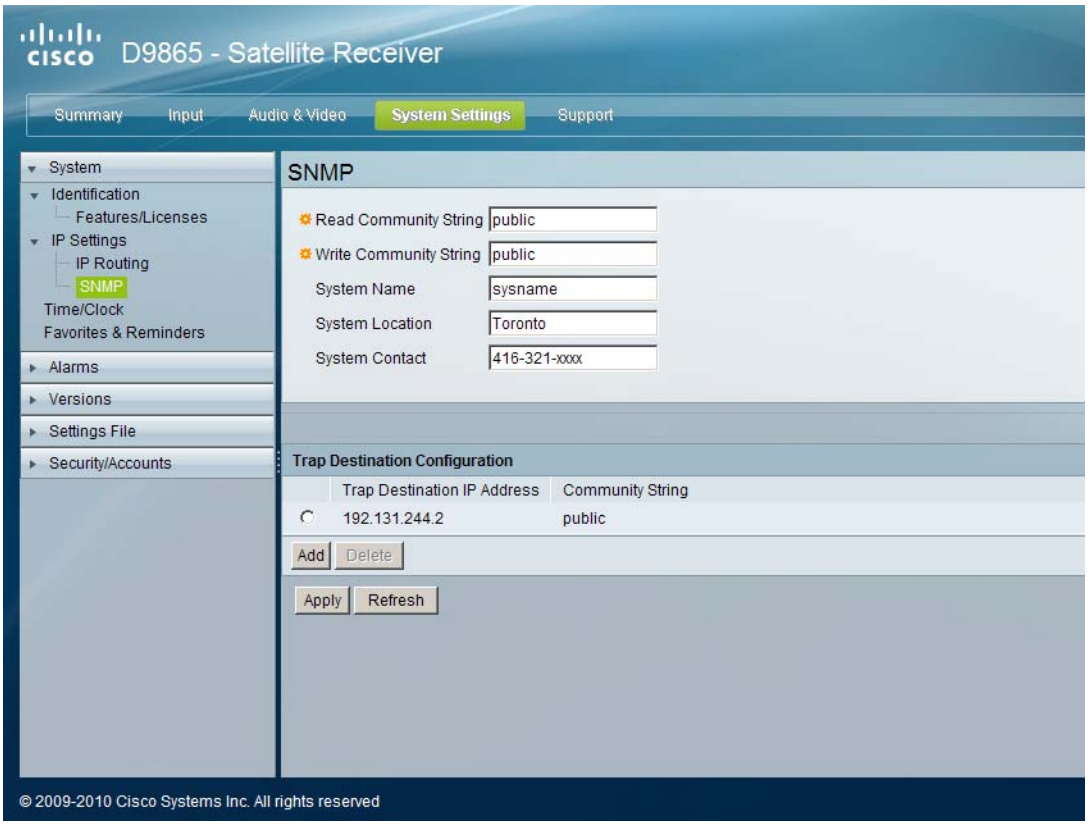

   - Enter a **Multicast Filter Address** and click **Add**.
   - To remove an address entry, select the entry and click **Delete**.

# Setting Up SNMP and Trap Destinations

## To Set Up SNMP

Proceed as follows to configure the SNMP settings:

1. From the user interface of the D9865, click **System Settings > System**, expand **IP Settings** and then click **SNMP**. The SNMP page is displayed.




2. Set the **Read Community String** and the **Write Community String** to public or a custom string. The SNMP Community Read/Write is used when communicating with a device within an SNMP environment. These commands allow you to set the password to read and write data to a device to display diagnostics traps/alarms. The default community string is public. To set a custom community string, enter an alphanumeric character string up to 31-characters in length identifying the password for the device.

   **Note:** The community string is case-sensitive.

3. Enter the S**ystem Name**, **System Location**, and **System Contact** information of the D9865. The system information is sent to the MIB browser, if applicable. The MIB Browser is a third party software used to manage SNMP requests. For more information, contact Cisco customer support.

4. The **Trap Destination Configuration** section displays a list of trap destination address and the associated community string.

To Add a Trap Destination:

- Click **Add** in the Trap Destination Configuration section.
- In the **Trap Destination IP Address** field, enter the destination for SNMP trap messages for events (i.e., fault messages). The IP address is up to 12 digits in length (e.g., 155. 128.100.200).
- In the **Community String** field, set the community string for the associated trap IP address. You can enter public or a custom string, up to 31 characters. The default is public.
- To edit/delete an existing trap destination, select the trap destination entry by clicking on the radio button. Make the necessary changes, or click **Delete** to remove the address from the Trap Destination Configuration list.

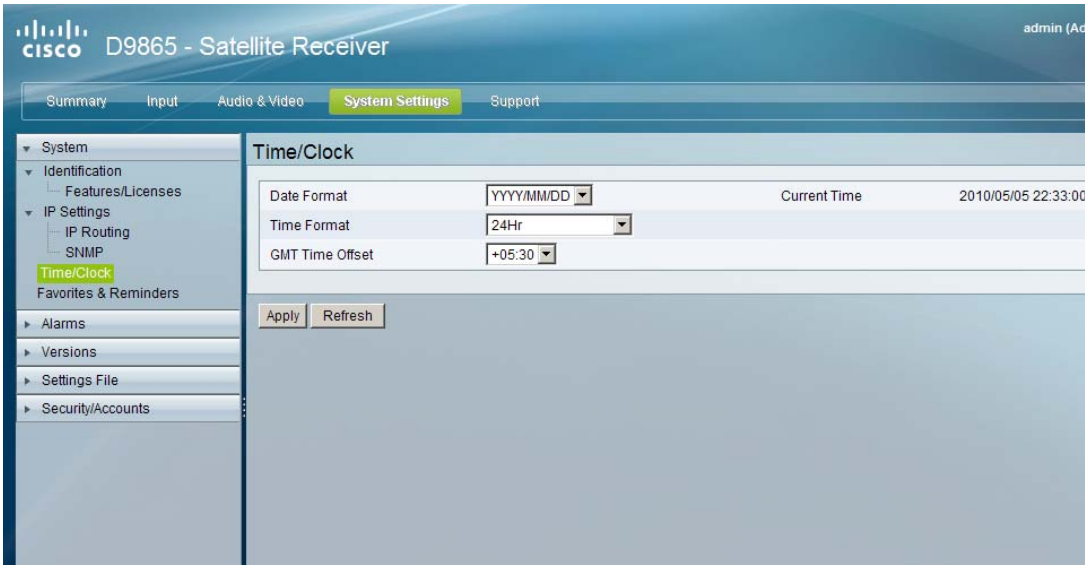
5. Click **Apply**.

# Configuring Time/Clock Information

## To Configure the Time/Clock Settings

Proceed as follows to configure the time/clock settings of the D9865 satellite receiver:

1. From the user interface of the D9865, click **System Settings > System > Time/Clock**. The Time/Clock page is displayed.

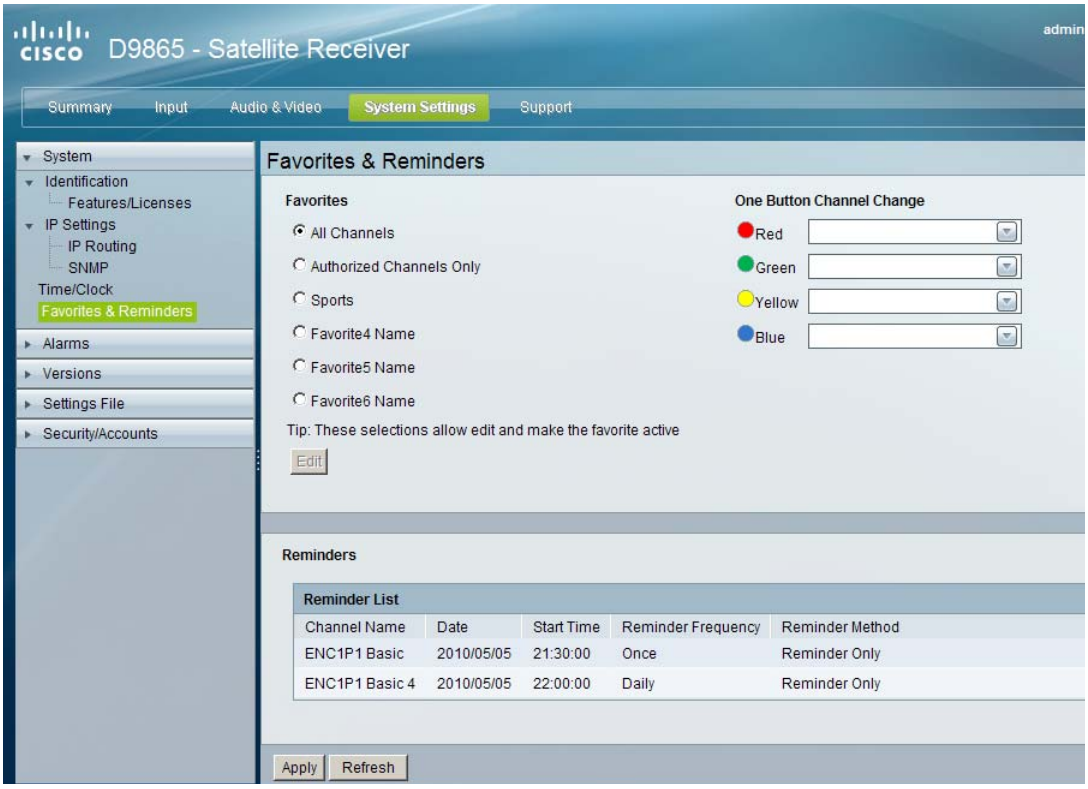



2. Set the **Date Format** of the receiver. The following formats are supported: YYYY/MM/DD, DD/MM/YYYY, MM/DD/YYYY.
3. Set the **Time Format** of the receiver. Time information is normally broadcast as part of the transmitted digital signal. It is usually the broadcaster local time relative to Greenwich Mean Time (GMT). The following formats are supported: 24 Hr, 24 Hr SuspendZero, 12 Hr, 12 Hr SuspendZero.
4. Set the **GMT Time Offset**. The time is displayed using a time zone instead of the true local time. If the current broadcast time is not your local time, you must change this time setting in the range from -12:00 to +13.00 in one hour increments.
5. The **Current Time** displays the current date and time, according to the date and time formats set.
6. Click **Apply**.

## To Configure Favorites and Reminders

Proceed as follows to configure the favorites and reminder settings of the D9865 receiver:

1. From the user interface of the D9865, click **System Settings > System > Favorites & Reminders**. The Favorites & Reminders page is displayed.




2. The **Favorites** section lists all the favorite profiles configured in the D9865. Favorites allow you to surf through the channels you have set up as your favorite channels, skipping over other channels. By default, **All Channels** (authorized or unauthorized channels) are displayed. Select **Authorized Channels Only** to browse channels that are authorized by your uplink provider only.

3. The **One Button Channel Change** allows you to assign a channel to each of the colored buttons at the bottom of the remote control (see below).

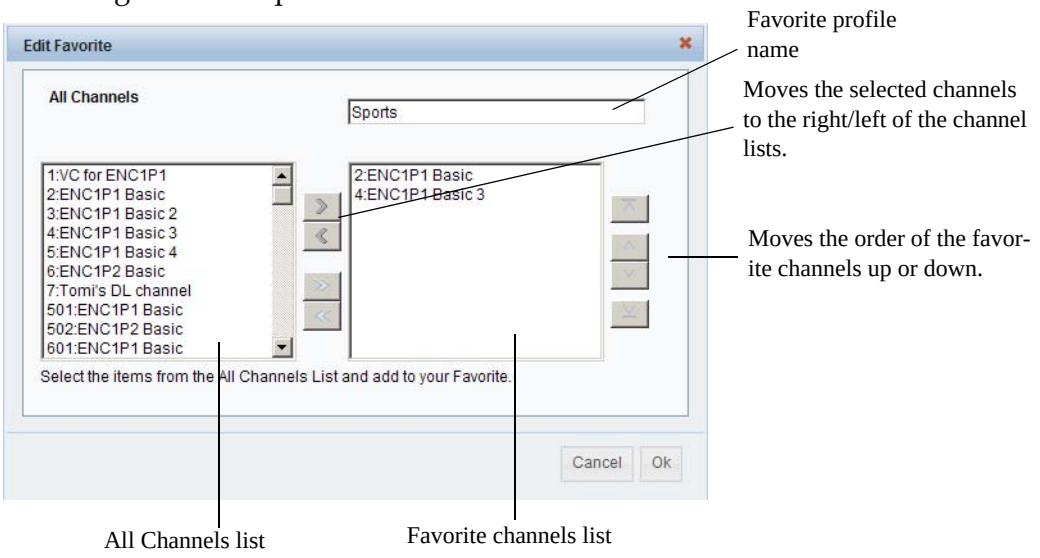
Select a channel to each color as a shortcut for a quick channel change. For example, if you assign the red button to channel 1, pressing the red button while watching a different channel at anytime will automatically tune the TV channel to 1.

**Note:** You can only use the one button channel change if the screen is displaying video only. The one button channel change does not work if EPG, Channel Banner, or on-screen menus are displayed.

4. The **Reminders List** displays a list of reminders set using the on-screen display.
5. Click **Apply**.

### To Edit a Favorites Profile

1. Select a favorite profile and click **Edit**. The Edit Favorite screen is displayed. The following is an example:




2. Edit the channel profile name, if required.
3. Select the channels from the All Channels list and click right to include the channels in the Favorite profile.
4. Click **OK**.

**Note:** To set a favorite profile as an active profile, select the favorite profile and click **Apply**.

# Viewing the Alarm/Warning Status

## To View the Active Alarm/Warning Status Information

Proceed as follows to view the active alarm and warning messages:

1. From the user interface of the D9865, click **System Settings** > **Alarms** > **Status**. The Status page is displayed.


2. The **Fault Summary** section displays the number of currently active Alarms and Warnings.
3. The **Alarm/Warning Status** section displays the name of the active alarm/warning, the alarm/warning message, and the date and time of the alarm. For more information on alarm messages, refer to **Messages**, on page 7-2.

## To Set Up Alarms

Proceed as follows to set up the alarms:

1. From the user interface of the D9865, click **System Settings** > **Alarms** > **Setup**. The Setup - Alarm Setup page is displayed.


2. The Alarm Setup section displays a list of alarm/fault messages. For more information on alarm messages, refer to **Messages**, on page 7-2.
3. Set **Enable/Disable** to Yes and the alarm message will be reported. Set to No and the fault won't be reported.
4. Set **Trap** to Yes and the SNMP trap message will be sent to the trap destination; otherwise the fault message will be ignored.

   **Note:** This is for D9865D only.
5. Click on the Trap Configuration link to view and/or modify trap destinations. The link will open the SNMP page. For more information, refer to **Setting Up SNMP and Trap Destinations**, on page 5-48.
6. Click **Apply**.

## To Set up Warnings

Proceed as follows to set up the warnings:

1. From the Setup - Alarm Setup page, click on the **Warning Setup** link at the bottom left hand corner of the page. The Setup - Warning Setup page is displayed.


2. The Warning Setup section displays a list of alarm/fault messages. For more information on alarm messages, refer to **Messages**, on page 7-2.
3. Set **Enable/Disable** to Yes and the warning message will be reported. Set to No and the fault won't be reported.
4. Set **Trap** to Yes and the SNMP trap message will be sent to the trap destination; otherwise the fault message will be ignored.

   **Note:** This is for D9865D only.
5. Click on the Trap Configuration link to view and/or modify trap destinations. The link will open the SNMP page. For more information, refer to **Setting Up SNMP and Trap Destinations**, on page 5-48.
6. Click **Apply**.

# Viewing the Alarm/Warning History

## To View the Alarm/Warning History Information

Proceed as follows to view the Alarm/Warning History information:

From the user interface of the D9865, click **System Settings > Alarms > History**. The History page is displayed.

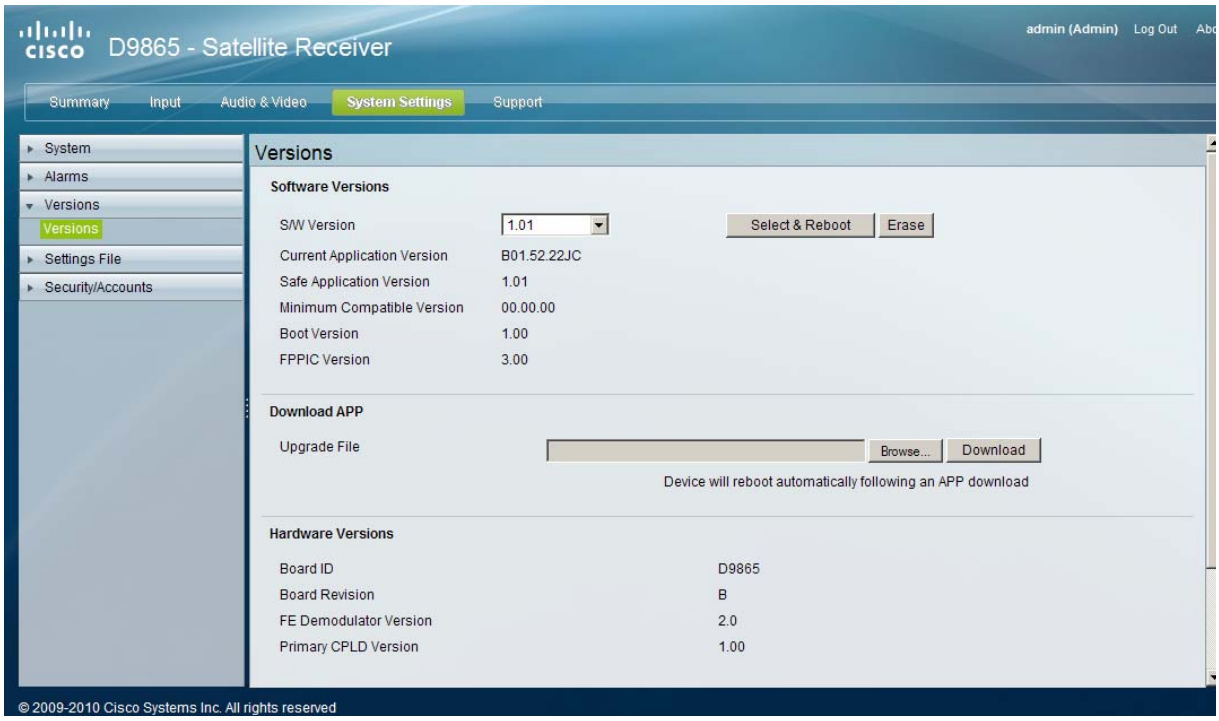

The alarm and warning History page displays all the past system event messages and their set and cleared dates and times. For more information on the alarm messages, refer to **Messages**, on page 7-2.

# Viewing Version Information

## To View the Version Information

Proceed as follows to view the Version information:

From the user interface of the D9865, click **System Settings > Versions**. The Versions page is displayed.




The Versions page displays the following information:

| Version Information | Description |
|---|---|
| Current Application Version | Indicates the currently running loaded application version number. |
| Safe Application Version | Indicates the factory loaded application version number. |
| Minimum Compatible Version | Indicates the minimum application version you can download. |
| Boot Version | Indicates the receiver Boot application version number. |
| FPPIC Version | Indicates the Programmable Interrupt Controller (PIC) version number. |

The **S/W Version** drop-down list allows you to select a different application version application to load to your receiver. Click **Select and Reboot** to reboot the receiver and load the selected application version.

Click **Erase** to remove the selected application version. You will be prompted to continue or not. Press **OK** to continue the deletion.

### To Change the Download Application

In the **Download APP** section, click **Browse** to select the new version of the D9865 Satellite Receiver's software application. The Choose File dialog opens. Select the upgrade file and click Open. Click **Download** to download the selected upgrade file.

### Viewing Hardware Information

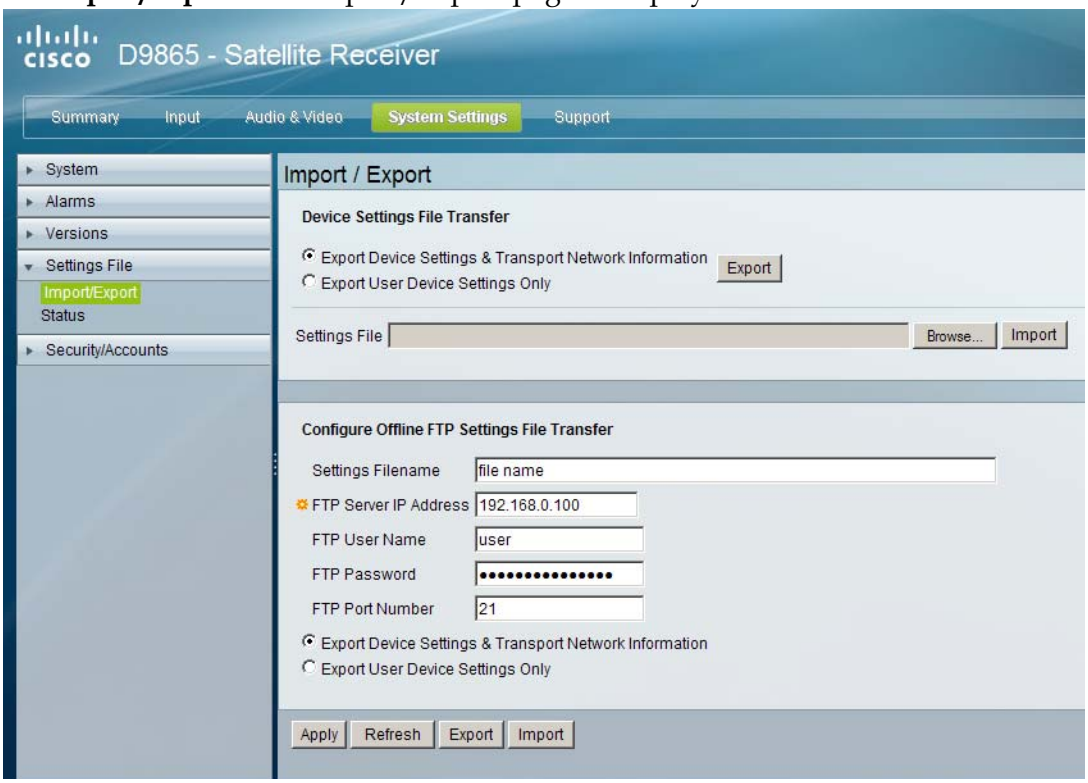
The **Hardware Versions** section displays the hardware information of the D9865 Satellite Receiver.

# Setting Up Import/Export Information

## To Configure the Import/Export Information

Proceed as follows to configure the import/export information:

1. From the user interface of the D9865, click **System Settings > Settings File > Import/Export**. The Import/Export page is displayed.




In the Device Settings File Transfer section, you can export and/or import device settings and transport network information.

2. Select **Export Device Settings & Transport Network Information** and click **Export** to download device settings and transport network information as a file to the designated file folder.
3. Select **Export User Device Settings only** and click **Export** to download user settings as a file to the designated file folder.
4. In the Settings File, click **Browse**. The Choose File dialog opens.
5. Navigate to the appropriate folder and select the file with a *.bkp* file extension and click **Open**.

The Configure Offline FTP Settings File Transfer section has backup and restore controls.

6. Type the **Settings Filename** of the backup/restore file. You can enter up to 31 characters.
7. Set the **FTP Server IP Address** of the FTP server used to restore the backup/restore file. The address is up to 12 characters in length (e.g. 171.300.100.200) and in the range from 0 to 255.
8. Set the **FTP User Name** and **FTP Password** to access the FTP server.

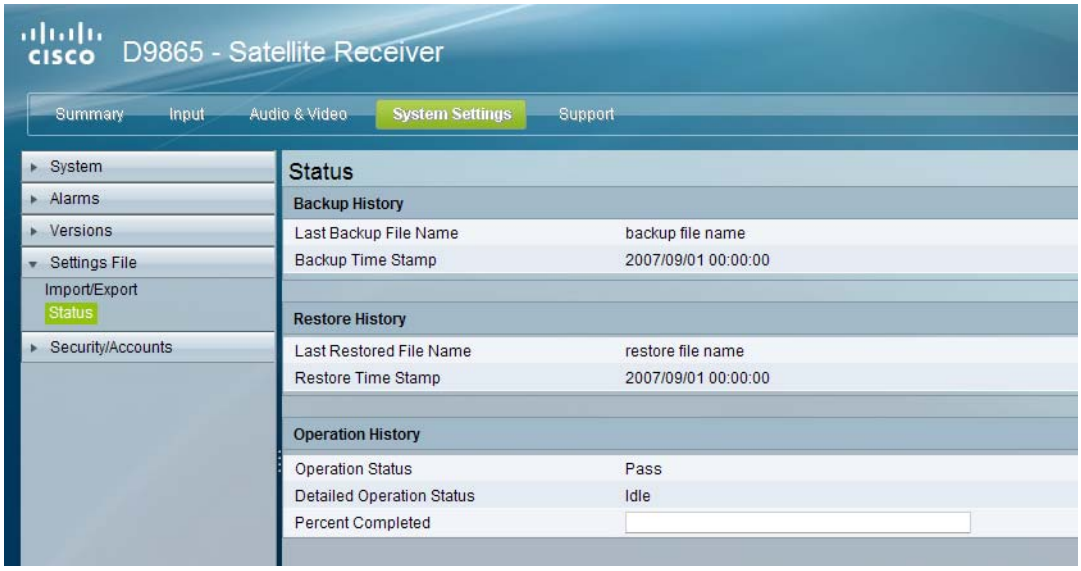
   **Note:** The FTP Password is not retained in the receiver. You must re-enter the password before initiating the backup or restore operation.
9. Set the **FTP Port Number** of the FTP server used to store the backup/restore file. You can enter a port number in the range from 1 to 65535.
10. Select **Export Device Settings & Transport Network Information** or **Export User Device Settings Only**.
11. Click **Export** to save the settings to a backup file. Click **Import** to retrieve the last backed up file.

# Viewing the Backup/Restore History

## To View the backup and restore Status Information

Proceed as follows to view the backup and restore Status page:

From the user interface of the D9865, click **System Settings > Settings File > Status**. The Status page is displayed.




The following table shows the Backup History, Restore History, and Operation History table information:

| Status | Description |
|---|---|
| Last Backup File Name | Name of the file that was successfully exported. |
| Backup Timestamp | Date and time of the last successful backup file saved. |
| Last Restored File Name | Name of the last file that was successfully restored. |
| Restore Time Stamp | Date and time of the last successful restore. |
| Operation Status | Status of the current backup operation (Inprogress, Pass, or Fail). |
| Detailed Operation Status | Detailed processing step for tracking backup progress. |
| Percentage Completed | Percentage of backup function completed. |

You can define up to 10 usernames/passwords for login use via Web GUI session on the D9865 Satellite Receiver.

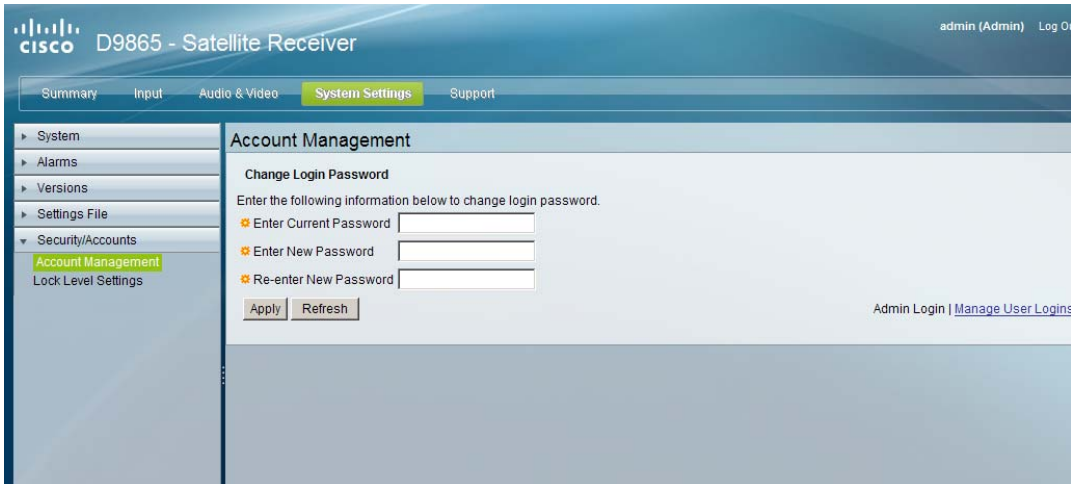
When a user tries to login, the user is required to provide a username and a password. The user is granted access only if this username/password pair exists in the authentication table.

The default user is the "Admin User" and is granted special privileges. The Admin user is allowed to add new users, delete users, change usernames and modify its own password. All other users are only allowed to modify their own passwords.

### To Configure the User Login Passwords

Proceed as follows to change the login password:

1. From the user interface of the D9865, click **System Settings > Security/Accounts > Account Management**. The Account Management page is displayed.




2. In the **Enter Current Password**, type the current login password.
3. In the **Enter New Password**, type the new login password.
4. In the **Re-enter New Password**, type the new login password again to confirm.

   **Note:** The Enter New Password and Re-enter New Password should be identical. Each user, including the admin user, can modify only his own password.

## To Add a User Account

**Note:** This feature is available to a user with Admin privileges only.

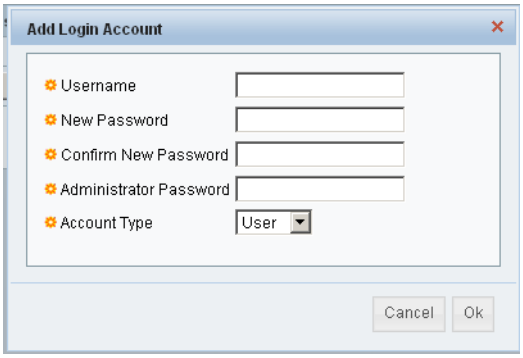
Proceed as follows to manage user accounts:

1. From the user interface of the D9865, click **System Settings > Security/Accounts > Account Management**. The Account Management page is displayed.
2. Click **Manage User Logins**. The Login Accounts page is displayed.


3. Click **Add** to create a new login account.

   **Note:** You can create a maximum of 10 user accounts.

   The Add Login Account window is displayed.




4. In the **Username** field, enter a user ID. The new username should not match any of the usernames already defined in the Logins Accounts table.
5. In the **New Password** field, enter a password to assign the user ID. The following are rules for creating a new password:
   - It cannot contain any of the Username.
   - It cannot contain any of the following strings: Cisco, sciatl, ocsic, italics, or any string achieved by full or partial capitalization of letters.
   - No letter is repeated more than three times in a row.
   - Must contain a minimum of four characters.
6. Enter the new password again to confirm in the **Confirm New Password** field.

   **Note:** The New Password and Confirm New Password should be identical.

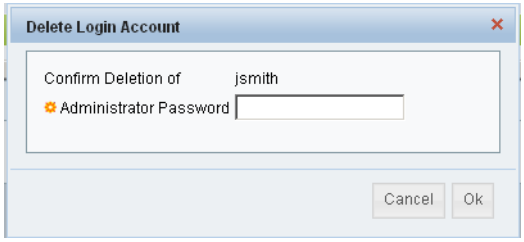
7. In the **Administrator Password** field, enter your Administrator password used to log on to the D9865 web GUI.
8. In the **Account Type** drop-down list, select User, Admin, or Guest. The following table illustrates the different login types:

| Account Type | Access |
|---|---|
| Guest | View settings only. |
| User | View and edit settings. |
| Admin | View, edit settings, and add/delete user accounts. |

### To delete a user account

**Note:** This feature is available to a user with Admin privileges only.

1. In the Account Management table, select the user you want to remove.
2. Click **Delete**. The Delete Login Account window is displayed.




3. Enter your **Administrator Password** to confirm the deletion.
4. Click **OK**. The selected user account is deleted.

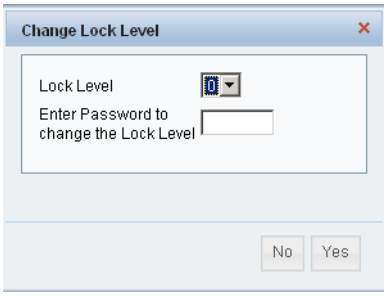
# Configuring Lock Level Settings

## To Configure the Lock Level settings

Proceed as follows to configure the lock level settings:

1. From the user interface of the D9865, click **System Settings > Security/Accounts > Lock Level Settings**. The Lock Level Settings page is displayed.


2. Click **Change Lock Level** and the Change Lock Level window is displayed.




3. Select the Lock Level which restricts access and prevents unauthorized changes to the receiver settings (0, 1, 2, or 3). The default setting is 0.

   **Note:** For details on the four lock levels, see **D9865 Satellite Receiver Lock Levels**, on page C-2.

4. Enter the Password to change the lock level. The default password is 1234.

5. Click **Yes**.

   If the incorrect lock level or password is entered, an error message appears at the top of the page.

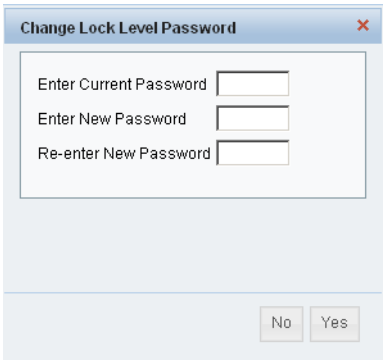
## Changing the Lock Level Password

A unique lock level password (4-digit password) protects the current receiver settings against unauthorized changes. When changing the password, record and keep this number in a secure location. The default password is 1234.

**Important:** Proceed with caution when changing the password as this operation cannot be undone. If the password is lost or is unavailable, contact Cisco customer support.

To change the lock level password:

1. In the Lock Level Settings page, click **Change Lock Level Password**. The Change Lock Level Password window is displayed.




2. **Enter** the **Current** lock level **Password**.
3. In the **Enter New Password** field, enter the new password, any number from 0 to 9.
4. **Re-enter** the **New Password** and click **Yes**. A message appears informing you that the password was changed successfully.

   **Note:** If the password is lost or is unavailable, contact Cisco customer support.

# Viewing Contact Information

## To View Cisco Contact Information

Proceed as follows to view contact information:

From the user interface of the D9865, click **Support > Contact**. The Contact Information page is displayed.

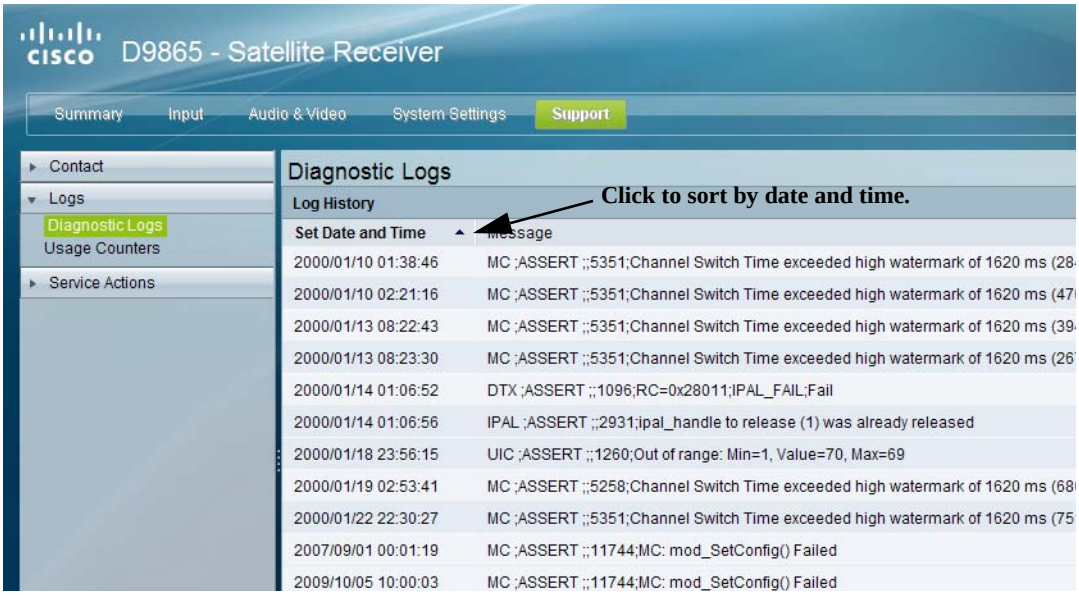

The Contact Information page displays all the Cisco customer support information.

# Viewing Diagnostic Logs

## To View the Diagnostic Log Messages

Proceed as follows to view the Diagnostic Log messages page:

From the user interface of the D9865, click **Support > Logs > Diagnostic Logs**. The Diagnostic Logs page is displayed.




The Diagnostic Logs page displays all the system log messages with their dates and times.

Click on the arrow next to Set Date and Time column to sort by date and time.

# Viewing the Usage Counters

## To View the Device Usage Counters

Proceed as follows to view the usage counters:

From the user interface of the D9865, click **Support > Logs > Usage Counters**. The Usage Counters page is displayed.


The following table describes the Usage Counter Information:

| Device Status Information | Description |
|---|---|
| Production Date & Time | Displays the date and time when the receiver was manufactured. |
| Last Power On Date and Time | Displays the date and time when the receiver was powered up. |
| Lifetime Hours Powered | Displays the number of hours since the last power-on. |
| Lifetime Reset Counter | Displays the total number of times the receiver has been restarted. |
| Clearable Reset Counter | Displays the number of restarts since the last time the restart counter was cleared.<br>To clear or reset the Clearable Reset Count, click **Clear**. |
| Hours Since Last Powered-On/Reset | Displays the total number of hours that the receiver has been operating since the last power-on or restart. |

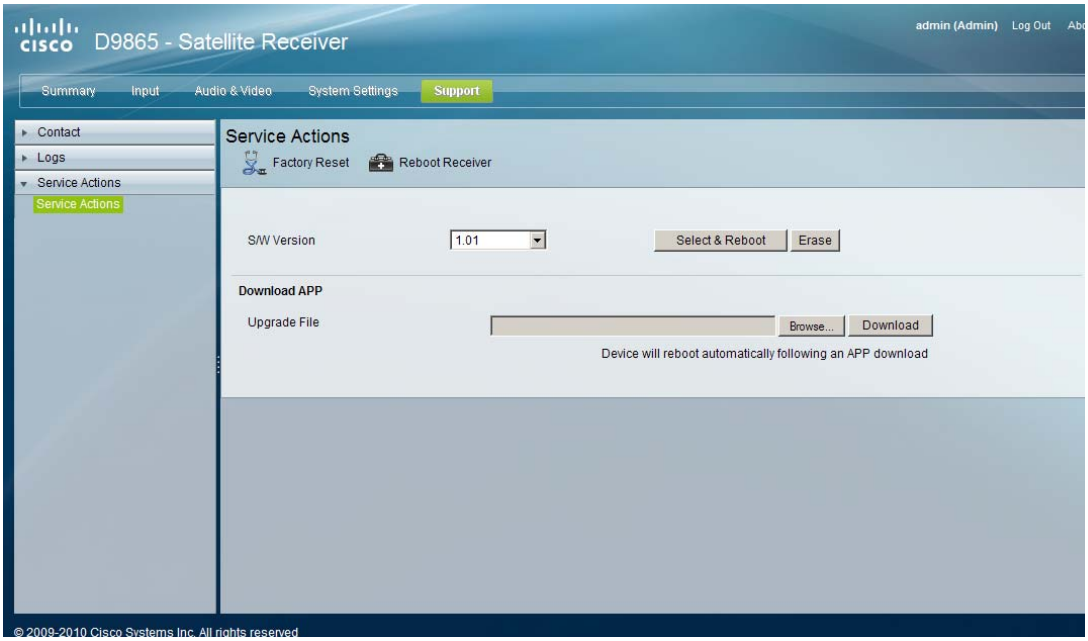
| Device Status Information | Description |
|---|---|
| Last Reset Reason | Displays the reason for the last restart, i.e., power cycle or manual reset. |

Click **Clear Reset Counter** to clear the Clearable Reset Counter field and it resets the counter back to 0.

### To Load a Software Version

Proceed as follows to load a software version:

1. From the user interface of the D9865, click **Support > Service Actions**. The Service Actions page is displayed.




The **S/W Version** drop-down list allows you to select a different application version application to load to your receiver. Click **Select and Reboot** to load the selected application version and reboot the receiver.

Click **Erase** to remove the selected application version. You will be prompted to continue or not. Press **OK** to continue the deletion.

Click **Factory Reset** to perform a reset of receiver settings back to the factory set (default) values. A warning message prompts you to confirm the operation. Click **OK** to continue or **No** to cancel the operation.

Click **Reboot Receiver** to reboot the receiver. You will be prompted to verify the operation. Click **Yes** to reboot the receiver or **No** to cancel the operation.

### To Change the Download Application

In the **Download APP** section, click **Browse** to select the new version of the D9865 Satellite Receiver's software application. The Choose File dialog opens. Select the upgrade file and click **Open**. Click **Download** to download the selected upgrade file.

# Chapter 6
# Customer Information

## Overview

### In This Chapter

This chapter contains the following topics.

# Product Support

Cisco provides its customers who have purchased support agreements with telephone support from anywhere in the world. If you require technical telephone assistance or product training support, or if you have any questions concerning your Cisco product, you may contact the appropriate Customer Support Center from those listed below. Charges may apply for customers without a current and applicable product support agreement.

| Customers | Location | Phone Number |
|---|---|---|
| Programmers and Broadcasters | USA and Canada | Toll-free: 1.888.949.4786<br>+1.770.236.4786<br>dmn_support@cisco.com |
| Telcos and Cable Service Providers | Cisco Services | Toll-free: 1.800.722.2009<br>Local: 678.277.1120 (press 2 at the prompt)<br>customer-service@cisco.com |
| All Customers | Europe | +32.56.445.155 or<br>+32.56.445.197<br>saemea-support@cisco.com |
| All Customers | Asia | +852.2588.4746<br>saapac-support@cisco.com |

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 their Cisco product. Customer Support Centers also provide the following pre- and post-sales support services for Cisco products.

## Training Support

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

## Warranty and Post-Warranty Support

Warranty and post-warranty support services are available to help customers return Cisco products for service or repair.

### Customer Responsibility

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

At the customer's request, Cisco will make reasonable efforts to provide warranty service at the customer's premises, provided that the customer pays current field service rates plus direct travel and accommodation expenses.

### In Case of Repair

If your product requires repair, perform the following steps:

1. Notify Cisco of the problem immediately, providing the model number and serial number of the equipment plus details of the problem. Upon receipt of this information, service information and shipping instructions will be provided.
2. Upon receipt of instructions, return the product by prepaid freight. Refer to the section Returning Products for details.

### In Case of a Fault

If your product requires repair, perform the following steps:

1. Notify Cisco of the problem immediately, providing the model number and serial number of the equipment plus details of the problem. Upon receipt of this information, service information and shipping instructions will be provided.
2. Upon receipt of instructions, return the product by prepaid freight. Refer to the section Returning Products for details.

# Returning Products

## Introduction

You must have a return material authorization (RMA) number to return a product. Contact the nearest customer service center and follow their instructions.

Returning a product to Cisco for repair includes the following steps:

- Obtaining a RMA number
- Obtaining a customer service center shipping address
- Packing and shipping the product

## Obtaining an RMA Number and Shipping Address

You must have an RMA number to return products.

RMA numbers are valid for 60 days. If you already have a number, but it is older than 60 days, you must contact a customer service representative to revalidate the number. You can return the product after the RMA number is revalidated.

Follow these steps to obtain an RMA number and shipping address.

1. Contact a customer service representative to request a new RMA number or revalidate an existing one.
2. Provide the following information to the customer service representative:
   - Product name, model number, part number, serial number (if applicable)
   - Quantity of products to return
   - A reason for returning the product
   - Your company name, contact, telephone number, email address, and fax number
   - Any service contract details
   - Purchase order number of repair disposition authority, if available

   **Note:** If you cannot provide a purchase order number:
   - A proforma invoice listing all costs incurred will be sent to you at the completion of product repair.
   - Customer service must receive a purchase order number within 15 days after you receive the proforma invoice.
   - Products can accrue costs through damage or misuse, or if no problem is found. Products incurring costs will not be returned to you without a valid purchase order number.
3. The customer service representative issues the RMA number and provides the shipping address.

   **Note:** Absence of the RMA number may delay processing of product repair and/or result in the equipment being returned unrepaired. Include the RMA number in all correspondence.

## Packing and Shipping the Product

Follow these instructions to pack the product and ship it to Cisco.

1. Are the product's original container and packing material available?
   - If **yes**, pack the product in the container using the packing material.
   - If **no**, pack the product in a sturdy, corrugated box, and cushion it with packing material.

   **Important:**
   - You are responsible for delivering the returned product to Cisco safely and undamaged. Shipments damaged due to improper packaging may be refused and returned to you at your expense.
   - Do not return any power cords or accessories.
2. Write the RMA number on the outside of the container.

   **Note:** Absence of the RMA number may delay processing of product repair and/or result in the equipment being returned unrepaired. Include the RMA number in all correspondence.
3. Ship the product to the address provided by the customer service representative.

   **Note:** Cisco does not accept freight collect. Be sure to prepay and insure all shipments.

# Chapter 7
# Service and Maintenance

## Overview

### Introduction

This chapter provides additional information on the alarms and warnings of the D9865 Satellite Receiver. It also provides troubleshooting tips.

### In This Chapter

This chapter contains the following topics.

# Messages

## General

The status of the D9865 receiver and its immediate surroundings is reported to the receiver in the form of messages and alarms. You can enable or disable messages in the Alarms & Warnings advanced settings.

## D9865 Receiver Message List

The following table shows a list of the available messages and their default alarm status. The Set Messages and Clear Messages are displayed in the Warning History when the messages are set or cleared respectively.

**Alarms**

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| Signal Status | Set | Signal is lost | Cause: Loss of RF signal. Loss of RF lock. Loss of Transport data. Invalid frequency or other tuning parameters. Remedy: Check cables. Check tuning parameters. | Loss of signal | Minor |
| | | RF Signal - No Content | | RF Tuner locked, but no TS content. | |
| | | Tuning Parameters Invalid | | One of the tuning parameters is invalid | |
| | Clear | Signal is locked | | Signal OK | |
| | | Tuning Parameters Valid | | Tuning parameters are valid | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| Program Not Auth | Set | Channel is not authorized | Cause: The channel is unauthorized for the current program. Remedy: Contact your (uplink) service provider to determine whether you are authorized to receive the current program. | Program unauthorized because the tier bits do not match. | Minor |
| | | Channel requires an authorization key | | Program is unauthorized because the unit does not have an authorization key. | |
| | | Channel is blacked out | | Program is unauthorized because at a minimum, it needs to match one blackout code. | |
| | | Channel uses an unknown CA system | Cause: Conditional access not supported. Remedy: Contact your (uplink) service provider to determine whether you are authorized to receive the current program at this time. | Non-SA conditional access system. | |
| | | Channel authorization refused | | ISE UA does not match factory configuration. | |
| | | Channel requires an IRD with CA support | | Conditional access is not supported. | |
| | | Channel requires the PE to have an ISE | Cause: Hardware issue. Remedy: Clear alarms, reset unit, and notify customer service if problem persists. | In-board security element is not present. | |
| | Clear | Fault Reset | | | |
| | | Channel is authorized | | | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| CAM/CI Slot Status | Set | Initialization Fail | Cause: CAM is damaged or not fully inserted<br>Remedy: Re-insert the CAM. | Initialization of CAM failed. | Minor |
| | Clear | CAM Operation OK | | | |
| CI Status | Set | Program Not Descrambled | Cause: Hardware issue, CAM software crash or you don't have subscription rights for the smart card.<br>Remedy: Reinsert the CAM and/or check your rights for the smart card. | All elementary streams for this service selected for descrambling were not descrambled by the CAM. | Minor |
| | Clear | Descrambling OK | | | |
| Shutdown Event | Set | DL APP REBOOT | Cause: User request requires reboot or internal system error.<br>Remedy: If it is an internal system error fault, clear alarms, reset the unit, notify customer service if the problem persists. | New application downloaded, system requires reboot. | Major |
| | | I2C Failure | | Internal system error. | |
| | | User requested APP change | | Runnable application change requires reboot. | |
| | | User requested factory reset | | Factory reset requires reboot. | |
| | | User requested reboot | | User reboot request. | |
| | | PRODUCTION - Protect Flash | | Reboot after production tables removed. | |
| | | WDOG requesting shutdown shell command | | User entered command requesting shutdown | |
| | | WDOG shutdown shell command | | | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| | | osal_SetDataForAllTasks | Cause: Possible software issue. Remedy: Clear alarms, reset unit, notify customer service if problem persists. | Application initialization error. | |
| | | aw_LoadFaultList | | | |
| | | osal_Init | | | |
| | | NVS FLASH mounted | | | |
| | | DB_Table_Cl::populateNvsRecords | | | |
| | | STAPI_Init | | | |
| | | DB_Array32_Cl init failed | | | |
| | | DB_FlagArray32_Cl init failed | | | |
| | | Wrong DB Item detected: item = AAA, table = BBB | | | |
| | | DB_Item_Cl::addItem() failed | | | |
| | | Memory allocation error on DB table construction | | | |
| | | DB_Table_Cl::addTable() failed | | | |
| | | DB_Table_Cl::addItem() failed: too many DB Items | | | |
| | | DBT Init Failed: AAA | | | |
| | | Framework Registration Error | | | |
| | | 7109 exception! Code = X, Address = Y, Task = Z | | | |
| | | Memory Error: AAA, Phase X | | | |
| | | Product Control table creation failed | | | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| | | Product Config table creation failed | | | |
| | | MAC Address table creation failed | | | |
| | | HW Data table creation failed | | | |
| | | PCB table creation failed | | | |
| | | FPGA Settings table creation failed | | | |
| | | Prod Aud Tbl creation failed | | | |
| | | Prod FE Tbl creation failed | | | |
| | | Product Version table creation failed | | | |
| | | Product User Address table creation failed | | | |
| | | Product Reference Number table creation failed | | | |
| | | Time Control object creation failed | | | |
| | | Wrong UIC Item detected: item = AAA, table BBB | | | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| | | Memory allocation error on UIC table construction | | | |
| | | Error adding UIC table(AAA) | | | |
| | | UD - ud_init_phase_4() FAILED to allocate memory from System Partition | | | |
| | | UD - ud_init_phase_4() FAILED to create partition | | | |
| | | FW: Memory or List Full | | Internal system error. | |
| | | Framework Registration Error | | | |
| | | WDOG task: watchdog aud st wdog has expired | | Software detected an error in operation. | |
| | | WDOG task: watchdog MC OCM has expired | | | |
| | | WDOG task: watchdog MC SCRIPT has expired | | | |
| | | WDOG task: watchdog Secondary WD has expired | | | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| System Startup | Set | System Startup | Cause: Restarted the D9865 Satellite Receiver.<br>Remedy: None. It will automatically reset after 1 second. | Indicates the D9865 has restarted. | Minor |
| | Clear | Backup/Restore System Startup | Cause: Backup/ Restore updated settings during a system startup.<br>Remedy: None. It will automatically reset after 1 second. | | |
| LMI setup | Set | LMI SDRAM exhaust test failed | Cause: Hardware issue.<br>Remedy: Clear alarms, reset the unit, and notify customer service if the problem persists. | DDR RAM on LMI bus not working. | Major |
| | Clear | LMI Video SDRAM exhaust test passed | | DDR RAM on LMI bus OK. | |
| Param Storage | Set | DB NVS flushing ignored | Cause: Hardware issue.<br>Remedy: Clear alarms, reset the unit, and notify customer service if the problem persists. | Non-volatile storage system failed to update fully. | Major |
| | | RAM flush to NVS failed | | | |
| | | DB Factory Reset failed | | Non-volatile storage system failed during factory reset. | |
| | Clear | DB flushing completed | | Successful NVS update. | |
| | | DB Factory Reset completed | | Successful action. | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| Flash Storage | Set | RECORD: init failed | Cause: Hardware issue.<br>Remedy: Clear alarms, reset the unit, and notify customer service if the problem persists. | Non-volatile storage system corrupted. Possible loss of configuration | Major |
| | | RECORD MANAGER: Record contents check error, erasing all | | NVS Corruption, loss of configuration data | |
| | | RECORD: sector setup check error, erasing sector | | NVS Corruption, loss of sector data | |
| | Clear | RECORD: init done | | | |
| LNB PS | Set | LNBPS: No Load | Cause: Hardware or wiring issue.<br>Remedy: Clear alarms, check LNB and wiring, and notify customer service if the problem persists. | LNB power overload | Minor |
| | | LNBPS: Over Temperature | | | |
| | | LNBPS: Over Loaded | | | |
| | | LNBPS: Short Circuit | | | |
| | Clear | LNBPS: Normal | | LNB power OK | |
| | | LNBPS: Disabled | | | |
| | | LNBPS: Off | | | |
| DiSEqC HW Fault | Set | DiSEqC Hardware Fault | Cause: Hardware issue.<br>Remedy: Clear alarms, check LNB and wiring, and notify customer service if the problem persists.<br>Ensure LNB power is on (even if using external LNB power) and DiSEqC is enabled. | Unable to send DiSEqC commands to external equipment. | Minor |
| | Clear | | | Automatically cleared after a few seconds. | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| Signal Quality | Set | Audio Muted due to RF noise | Cause: RF Signal quality is poor due to interference or signal level issues.<br>Remedy: Check RF settings, re-aim dish, and add signal amplifier. | Signal is locked but BER is beyond Audio muting threshold. | Minor |
| | | Unstable RF Signal | | Signal lock status is toggling frequently. | |
| | | Poor Quality RF Signal | | Signal is locked but BER is beyond muting threshold. | |
| | Clear | Signal Quality Fault Cleared | | | |
| | | Audio Unmuted | | | |
| Transport Processing | Set | PTI lockup | Cause: Possible software issue.<br>Remedy: Clear alarms, reset unit, and notify customer service if problem persists | Programmable transport input module stopped processing any data packet. | Minor |
| | Clear | PTI running | | | |
| DL Write/Erase Fault | | APP Flash Write Failed | Cause: Downloaded application CRC check failed or failed to write application to flash.<br>Remedy: Fault will reset in 30 seconds. Notify customer service if problem persists. | APP Flash Write Failed. | Major |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| Boot Host | Set | KB not accessible | Cause: Hardware issue<br>Remedy: Clear alarms, reset unit, and notify customer service if the problem persists. | KB is not detected by Boot code. | Major |
| | | FLASH Not Found | | Flash memory not detected. | |
| | | BOOT Invalid | | Boot SW cannot be read from memory correctly. | |
| | | APP Invalid | | Application SW cannot be read from memory correctly. | |
| | Clear | BOOT passed | | | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| MPE alarm | Set | Data lost, transport error | Cause: Transport error indicator is set in the transport stream.<br>Remedy: Verify uplink is in good condition. | Transport error detected, MPE data may be lost. | Major |
| | | Data lost, CRC error | Cause: CRC error detected in MPE stream.<br>Remedy: Verify uplink is in good condition. | CRC error detected in MPE stream, data is lost. | |
| | | Data lost, CC error | Cause: CC error detected in MPE stream.<br>Remedy: Verify uplink is in good condition. | CC error detected in MPE stream, data is lost. | |
| | | Data lost, buffer overflow | Cause: Buffer overflow detected in MPE stream.<br>Remedy: Reduce MPE rate. | Buffer overflow detected in MPE stream, data is lost. | |
| | | Data lost, bad sections | Cause: Bad section data detected in MPE stream, due to original data or overflow issue.<br>Remedy: Verify uplink is in good condition and/or reduce MPE rate. | Bad sections detected while processing MPE data, data is lost. | |
| | | Data lost, MPE capacity exceeded | Cause: Bit rate controller dropping data due to CPU load limitations.<br>Remedy: Reduce MPE rate. | Decoder exceeded safe CPU load for MPE processing, MPE data is lost. | |

| Alarm | Message Type | Message | Cause/Remedy | Description | Severity |
|---|---|---|---|---|---|
| | | MPE capacity is reached. | Cause: Unit is busy processing or handling other services.<br>Remedy: Reduce service load. | Decoder reached the limit of safe CPU load for MPE processing. | |
| LECTimeout | Set | LEC Table Missing/ timeout: channels currently unavailable | Cause: LEC table missing in the signal.<br>Remedy: Verify uplink is sending LEC tables. | LEC table missing or not received | Major |
| | Reset | LEC received | | | |

**Warnings**

The following table shows a list of the available messages and their default warning status.

| Warning | Message Type | Message | Cause/Remedy | Description |
|---|---|---|---|---|
| Transport Error | Set | Continuity Count Error | Cause: Possible uplink or signal issue.<br>Remedy: Clear warnings, reset the unit, and notify customer service if the problem persists. | Transport packet continuity count jumped. Possible packet loss. |
| | | Buffer Overflow | | The transport stream is faster than the maximum buffer or the decode engines are having difficulty handling the data sent to them. |
| | | Transport Error Indicator | | Transport packets are marked as "errored" upstream of the decoder. |
| | Clear | Continuity Count Error Cleared | | Trap expires after 30 seconds. |
| | | Buffer Overflow Cleared | | |
| | | Transport Error Indicator Cleared | | |
| Video Format Mismatch | Set | Video format mismatch | | Video Format Mismatch. |
| | Clear | Video format match | | |
| VBI Data | Set | 2nd VBI PID attempt to write same line | Cause: Uplink configuration issue.<br>Remedy: Contact uplink to verify expected VBI settings. | Conflicting VBI data on second VBI PID. |
| | Clear | Line Collision Cleared | | |

| Warning | Message Type | Message | Cause/Remedy | Description |
|---|---|---|---|---|
| TDT timeout | Set | tdt timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Time Date Table was never received. |
| | | tdt is lost | | No longer receiving Time Date. |
| | Clear | tdt fault cleared | | |
| SDT timeout | Set | sdt # timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Service Description Table was never received. |
| | | sdt # is lost | | No longer receiving Service Description. |
| | Clear | sdt fault cleared | | |
| PMT timeout | Set | pmt # timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Program Mapping Table was never received. |
| | | pmt # is lost | | No longer receiving Program Mapping Table. |
| | Clear | pmt fault cleared | | |
| PAT timeout | Set | pat # timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Program Association Table was never received. |
| | | pat # is lost | | No longer receiving Program Association Table. |
| | Clear | pat fault cleared | | |

| Warning | Message Type | Message | Cause/Remedy | Description |
|---|---|---|---|---|
| NIT timeout | Set | nit timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Network Information Table was never received. |
| | | nit is lost | | No longer receiving Network Information Table. |
| | Clear | nit fault cleared | | |
| CAT timeout | Set | cat timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Conditional Access Table was never received. |
| | | cat is lost | | No longer receiving Conditional Access Table. |
| | Clear | cat fault cleared | | |
| ECT timeout | Set | ect timed out | Cause: Uplink is not sending or is sending intermittently.<br>Remedy: Clear warning. If the problem persists, determine if uplink is sending the current SI information table. Disable the warning if not using the table. | Event Control Table was never received. |
| | | ect is lost | | No longer receiving Event Control Table. |
| | Reset | ect fault cleared | | |
| Memory Usage Host | Set | Excessive (stack/ partition) memory usage | Cause: Possible software issue.<br>Remedy: Clear warnings, reset the unit, and notify customer service if the problem persists. | SW exceeding allowable memory usage. |
| | Clear | Normal (stack/ partition) memory usage | | |
| MPE near capacity | Set | Approaching current capacity | Cause: Unit is busy processing or handling other services.<br>Remedy: Reduce or stop MPE service content. | Decoder approaching limit of safe CPU load for MPE processing. |

| Warning | Message Type | Message | Cause/Remedy | Description |
|---|---|---|---|---|
| Ethernet MAC Failure | Set | MAC configuration failed | Cause: Possible hardware issue.<br>Remedy: Clear warnings, reset the unit, and notify customer service if problem persists. | Errors like Fatal Bus Error. |
| | Clear | Failure cleared | | |
| Ethernet PHY Failure | Set | Marvel switch configuration failed | Cause: Possible hardware issue.<br>Remedy: Clear warnings, reset the unit, and notify customer service if the problem persists. | Related to MII register read/write failures. |
| | Clear | PHY failure monitoring reset | | |
| Ethernet Port 1 or Ethernet Port 2 | Set | ETH Port 1 or 2 Link Down | Cause: Ethernet port 1 or 2 is not connected.<br>Remedy: Connect Ethernet port 1 or 2. | Ethernet port 1 or 2 is not connected. |
| | Reset | ETH Port 1 or 2 Link Up | | |
| FW: Resource Use PRI | Set | Memory or List Near Full | Cause: Possible software issue.<br>Remedy: Clear warnings, reset the unit, and notify customer service if the problem persists. | Software exceeding allowable usage of internal constructs. |
| | Clear | | | |
| Backup Operation State | Set | Backup Active | | Backup operation started. |
| | Clear | Backup Complete | | Backup operation complete. |
| Backup Failure Reason | Set | Internal Error | Cause: Possible software issue.<br>Remedy: Check FTP configuration, reset unit, and notify customer service if problem persists. | Software error occurred. |
| | | FTP Failed | | FTP failed. |
| | Clear | Auto reset after timeout | | Warning automatically clears in 30 seconds. |
| Restore Failure Reason | Set | Not Accepted | Cause: Possible software issue.<br>Remedy: Check FTP configuration, reset unit, and notify customer service if problem persists. | Software error occurred. |
| | | Bad Content | | |
| | | FTP Failed | | FTP failed. |
| | Clear | Auto reset after timeout | | Warning automatically clears in 30 seconds. |

| Warning | Message Type | Message | Cause/Remedy | Description |
|---|---|---|---|---|
| HDMI:Not an Auth Device | Set | HDCP authentication failed | Cause: HDMI monitor is not authorized to receive HDMI content or it does not support HDCP.<br>Remedy: Disconnect HDMI monitor to restore video decode or use an HDMI monitor that properly supports HDCP. | HDMI monitor does not contain valid HDCP keys. Video decode is disabled. |
| | | Receiver not HDCP capable | | HDMI monitor does not support HDCP. Video decode is disabled. |
| | Clear | HDCP Authentication Process Not Started | | HDMI monitor is not connected.<br>Connect an HDMI or DVI capable monitor, if desired. |
| | | HDCP authentication success | | HDMI monitor is connected and authorized to receive HDMI content. |
| TV-Out Settings Problem | Set | Invalid configuration data | Cause: Incorrect video setup settings.<br>Remedy: Check the video setup settings: TV Channel Number and SD Video Output format. For PAL device, use channel 21 through 69 and SD Format PAL-x. For NTSC device, use channel 3 or 4 and SD Format NTSC or NTSC-J. Notify customer service if problem persists. | Invalid TV-Out configuration data provided. |
| | Clear | Valid configuration data | | Valid TV-Out configuration data provided. |

# Troubleshooting

## General

If you experience any problems operating your satellite receiver, the following table may help you resolve your problem.

| Problem | Cause | Remedy |
|---|---|---|
| Blank screen (TV switched on) | • Normal operation if receiver is not on (power switch on back panel). | • Press the Display button on the receiver front panel or remote control. |
| Scrambled channel (not decoded) | • Subscriber services may not be authorized for the channel. | • Check that your subscriber services are currently authorized (contact your service provider). |
| Cannot access a password protected on-screen option | • You have entered an incorrect password or the password has been changed. | • Check that you are using the correct password. If the password is lost or unavailable, contact your local service provider. |
| Remote Control not operating properly | • The remote control may be defective, or the batteries are incorrectly installed, or require replacement. | • Replace or correctly install the remote control batteries. |
| Program Not Authorized message is displayed | • Subscriber services are not authorized for selected channel. | • Check that your subscriber services are authorized by viewing signal status on the Dish Setup menu (or contact your service provider). |
| Authorization Key Not Received message is displayed | • Subscriber services are not authorized due to authorization key not being received. | • Same as above. |
| No signal | • Installation or signal problem. | • Check connections to receiver, dish alignment and/or tuning setup. |
| Blank (black) screen is displayed after exiting to video from menus | • Channel 0 is displayed after exiting to video following changes made to the current receiver setup. | • Press CH+ or CH- on remote control to display channels. |

| Problem | Cause | Remedy |
|---|---|---|
| Poor reception | • Receiver is not properly set up or connected to receive satellite signal.<br>• Possible station trouble. Signal source for one or more (or all) channels is temporarily affected by technical transmission problems or a temporary solar disturbance.<br>• Satellite dish may not be properly installed or is not accurately aimed at satellite signal. | • Check the connections to and from satellite antenna LNB, television antenna, and all video and audio cables (see **Quick Setup Instructions**, page 1-2).<br>• Check another channel to compare signal reception.<br>• Check that a maximum Signal Level is achieved or displayed when aligning the dish. |
| No picture or sound | • You have not turned your receiver on or the receiver is not properly connected to the AC power.<br>• Your antenna, video and/or audio cables may be faulty or not properly connected.<br>• Possible station trouble. The signal source for one or more channels is temporarily affected by transmission problems or due to a temporary solar disturbance. | • Press the Display button on the receiver front panel or remote control.<br>• Check that the receiver is properly connected to the AC power.<br>• Check the connections to the satellite antenna LNB, television antenna, and all video and audio cables.<br>• Check another channel to compare signal reception. |

| Problem | Cause | Remedy |
|---|---|---|
| No sound | • The sound has been muted.<br>• Audio cable may be faulty or not properly connected.<br>• Possible station trouble. The signal source for one or more channels is temporarily affected by transmission problems or due to a temporary solar disturbance.<br>• Digital Audio setting is not configured properly. | • Same as above.<br>• Check that the volume is not muted by pressing the VOL+ or VOL- button on the remote control.<br>• Check another channel to compare signal reception.<br>• Check the Digital Audio setting in the Audio Setup screen. For example, if it is set to Dolby Digital, ensure that your system supports compressed audio. |
| Poor picture | | • Same as above.<br>• Check another channel to compare signal reception. |

# Appendix A
# Technical Specifications

## Overview

### Introduction

This appendix contains the technical specifications for the D9865 Satellite Receiver.

**Note:** The technical specifications are subject to change without prior notice.

### In This Appendix

This appendix contains the following topics.

# Receiver Specifications

## General

| Parameter | Specification |
|---|---|
| System | MPEG-2/DVB Compatible<br>EN300 421, EN 300468, H.264 |
| Demodulation | DVB-S QPSK, DVB-S2 QPSK and 8PSK |
| Number of RF Inputs | 1 |

## Tuner

| Parameter | Specification |
|---|---|
| Number of RF Inputs | 1 |
| Input Level | -25 dBm to -65 dBm per carrier |
| Frequency Range | 950 MHz to 2150 MHz |
| Symbol Rate Range | DVB-S: 1.0 to 45 MS/s<br>DVB-S2: 1.0 to 31 MS/s |
| Satellites | C-band and Ku-band |
| Receiver Spectrum Sense | Normal and Inverted |
| Input Impedance | 75 Ω |

# LNB Requirements

## DVB-S and DVB-S2

| Symbol Rate | Stability |
|---|---|
| 1 to 2.99 MS/s | ≤± 0.125 MHz |
| 3 to 5.99 MS/s | ≤ ± 1.00 MHz |
| 6 to 11.99 MS/s | ≤ ± 3.00 MHz |
| 12 to 45 MS/s | ≤ ± 5.00 MHz |

| Parameter | Specification |
|---|---|
| LNB Phase Noise Requirement | -28 dBc/Hz at δF = 100 Hz<br>-53 dBc/Hz at δF = 1 kHz<br>-76 dBc/Hz at δF = 10 kHz<br>-93 dBc/Hz at δF = 100 kHz<br>-106 dBc/Hz at δF = 1 MHz<br>-117 dBc/Hz at δF = 10 MHz |

## DVB-S Eb/No (C/N) Ratio

| Convolutional FEC Rate | Eb/No Ratio (dB) in Linear Channel and IF Loop configuration | C/N at DVB Threshold (BW = Symbol Rate) |
|---|---|---|
| 1/2 | 4.5 | 4.1 |
| 2/3 | 5.0 | 5.9 |
| 3/4 | 5.5 | 6.9 |
| 5/6 | 6.0 | 7.9 |
| 7/8 | 6.4 | 8.5 |

**Note:** The D9865 receiver displays the C/N Ratio.

C/N = Eb/No + 10 log (2 x FEC X 188/204).

# DVB-S2 Error Rate Performance ES/No (C/N) Ratio

## DVB-S2 Error Rate Performance Es/No (C/N) Ratio

| Mode | Simulated Es/No (dB) for FEC Frame length = 64,800 | Typical Performance (dB) in Linear Channel and IF Loop Configuration |
|---|---|---|
| QPSK 1/2 | 1.00 | 1.2 |
| QPSK 3/5 | 2.23 | 2.4 |
| QPSK 2/3 | 3.10 | 3.2 |
| QPSK 3/4 | 4.03 | 4.2 |
| QPSK 4/5 | 4.68 | 4.8 |
| QPSK 5/6 | 5.18 | 5.3 |
| QPSK 8/9 | 6.20 | 6.4 |
| QPSK 9/10 | 6.42 | 6.6 |
| 8PSK 3/5 | 5.50 | 5.8 |
| 8PSK 2/3 | 6.62 | 6.8 |
| 8PSK 3/4 | 7.91 | 8.1 |
| 8PSK 5/6 | 9.35 | 9.6 |
| 8PSK 8/9 | 10.69 | 10.9 |
| 8PSK 9/10 | 10.98 | 11.3 |

**Note:** "Typical performance" was measured with Pilots On. Pilots On is highly recommended as the performance values typically degrade up to 0.9 dB with Pilots Off. Pilots On must be used for 8PSK 3/5, 8PSK 2/3 and 8PSK 3/4.

# Video Output

## Analog Video Output

| Parameter | Specification |
|---|---|
| Number of channels | 1 |
| Connector Type | RCA |
| Video Compression Type | MPEG-2 4:2:0<br>MPEG-4 4:2:0 |
| Level | 1.0V pp ± 10% |
| Video Standard | NTSC & PAL B/G/I/D/M/N/J, supports HD downconversion |

## Digital Audio/Video Output (D9865H and D9865D only)

| Parameter | Specification |
|---|---|
| Number of Outputs | One HDMI digital audio/video output, supports SD-to-HD upconversion |

## HD Analog Video Output (D9865H and D9865D only)

| Parameter | Specification |
|---|---|
| Number of Outputs | One component (Y, Pb, Pr) HD analog video output |

# Audio Outputs

## Analog Audio Output

| Parameter | Specification |
|---|---|
| Number of Channels | 1 stereo pair/2 mono channels |
| Connector Type | RCA |
| Output Level | Unbalanced, 2 V rms ± 10% at 0 dBFS |
| Audio Decompression | MPEG 1 Layer 2, Dolby Digital Plus, HE-AAC |

## Digital Audio S/PDIF Output

| Parameter | Specification |
|---|---|
| Connector Type | RCA |
| Output Impedance | 75Ω +/-20%, from 0.1 MHz to 6.0 MHz |
| Signal Amplitude | 0.5V +/-20% at 75Ω |

## VBI

| Parameter | Specification |
|---|---|
| NTSC | Lines 10 to 22 fields 1 and 2 |
| PAL | Lines 7 to 22 fields 1 and 2<br>WST, WSS, VPS |

# Power

## AC Power Connector

| Parameter | Specification |
|---|---|
| Voltage Range | 100 V to 240 V AC |
| Line Frequency | 50/60 Hz |
| Power Consumption | 35 W max. |
| LNB Power on satellite input | +13 V/+ 18 V @ 350 mA max. |

# General

## Mechanics

| Parameter | Specification |
|---|---|
| Height | 2.36 in. (6.0 cm) |
| Width | 11.69 in. (29.7 cm) |
| Depth | 7.68 in. (19.5 cm) |
| Weight | 5 lbs (2.3 kg) |

## Environment

| Parameter | Specification |
|---|---|
| Operating Temperature | 0°C to 50°C (32°F to 122°F) |
| Storage | -20°C to 70°C (-4°F to 158°F) |

# Appendix B
# Default Settings

## Overview

### Introduction

The D9865 Satellite Receiver is factory configured with default settings unless you have requested a custom factory configuration. This appendix lists the factory default settings.

# Factory Default Settings

## Tuning/Preset

| Parameter | Default |
|---|---|
| Modulation Type | DVB-S2 |
| Downlink | 12.3 GHz |
| Symbol Rate | 30.0 MS/s |
| Net Id | 1 |
| LO Select | Off |
| LO Freq 1 | 10.75 GHz |
| LO Freq 2 | 0.0 GHz |
| Crossover | 0.0 GHz |
| LNB Power | 18V |
| DiSEqC | Disable |
| DiSEqC Switch | Off |
| Roll Off Factor (Web GUI only) | .35 |
| I/Q (Web GUI only) | Auto |

### Preset - Number 1

| Parameter | Default |
|---|---|
| Preset Number | 1 |
| Preset Name | ET |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 11.795 GHz |
| Symbol Rate | 20.0 MS/s |
| NetId | 7 |

### Preset - Number 2

| Parameter | Default |
|---|---|
| Preset Number | 2 |
| Preset Name | Enterprise |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 11.851 GHz |
| Symbol Rate | 30.5 MS/s |
| NetId | 3 |

### Preset - Number 3

| Parameter | Default |
|---|---|
| Preset Number | 3 |
| Preset Name | Exterminator |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 12.15 GHz |
| Symbol Rate | 28.3465 MS/s |
| NetId | 6 |

### Preset - Number 4

| Parameter | Default |
|---|---|
| Preset Number | 4 |
| Preset Name | Spiderman |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 12.25 GHz |
| Symbol Rate | 30.8 MS/s |
| NetId | 1 |

### Preset - Number 5

| Parameter | Default |
|---|---|
| Preset Number | 5 |
| Preset Name | Effete |
| LNB Configuration | 1 |
| Modulation Type | DVB-S2 |
| Downlink | 12.31 GHz |
| Symbol Rate | 30.0 Ms/s |
| NetId | 1 |

### Preset - Number 6

| Parameter | Default |
|---|---|
| Preset Number | 6 |
| Preset Name | Encounter |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 12.39 GHz |
| Symbol Rate | 45.00 Ms/s |
| NetId | 4 |

### Preset - Number 7

| Parameter | Default |
|---|---|
| Preset Number | 7 |
| Preset Name | Ebenezer |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 12.45 GHz |
| Symbol Rate | 30.5 MS/s |
| NetId | 1 |

### Preset - Number 8

| Parameter | Default |
|---|---|
| Preset Number | 8 |
| Preset Name | Big Originator |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 12.604 GHz |
| Symbol Rate | 28.3465 MS/s |
| NetId | 5 |

### Preset - Number 9 to 63

| Parameter | Default |
|---|---|
| Preset Number | 9 to 63 |
| Preset Name | Network name |
| LNB Configuration | 1 |
| Modulation Type | DVB-S |
| Downlink | 12.25 GHz |
| Symbol Rate | 10.0 MS/s |
| NetId | 1 |

### Preset - Number 64

| Parameter | Default |
|---|---|
| Preset Number | 64 |
| Preset Name | Network name |
| LNB Configuration | 10 |
| Modulation Type | DVB-S2 |
| Downlink | 12.30 GHz |
| Symbol Rate | 30 MS/s |
| NetId | 1 |

## LNB Setup - Configuration 1 to 9

| Parameter | Default |
|---|---|
| LNB Configuration | 1 to 9 |
| LNB Power | Off |
| LO Freq1 | 5.15 GHz |
| LO Freq2 | 0.0 GHz |
| Crossover | 0.0 GHz |
| LO Select | Off |
| DiSEqC | Disable |
| DiSEqC Switch | Off |

## LNB Setup - Configuration 10

| Parameter | Default |
|---|---|
| LNB Configuration | 10 |
| LNB Power | 18-H |
| LO Freq1 | 10.75 |
| LO Freq2 | 0.0 GHz |
| Crossover | 0.0 GHz |
| LO Select | Off |
| DiSEqC | Disable |
| DiSEqC Switch | Off |

## Video Setup

| Parameter | Default |
|---|---|
| HD Video Output | Auto |
| SD Video Output | For NTSC Unit: NTSC<br>For PAL Unit: PAL-B |
| TV Channel | For NTSC: 3<br>For PAL: 21 |
| TV Aspect Ratio | 4:3 |
| Aspect Ratio Convert | None |
| Closed Caption | Auto |
| Wide Screen Signalling (Web GUI only) | Auto Create |
| Enable Banner Display (Web GUI only) | Enabled |

## Subtitle Setup

| Parameter | Default |
|---|---|
| Subtitle Control | Off |
| Imitext Color | Auto |
| Imitext Shade | Auto |
| Imitext Position | Standard |
| Subtitle Language | eng |
| Language Entry (Web GUI only) | eng |
| PMT Order (Web GUI only) | First |

## Audio Setup

| Parameter | Default |
|---|---|
| Stereo/Mono | Stereo |
| DRC Mode | RF mode |
| Digital Audio Preference | PCM |
| Audio PMT Source | AUD1 |

## Administration

| Parameter | Default |
|---|---|
| POV mode | Std |
| Lock level | 0 |
| Menu transparency | None |
| IR remote | Enable |
| Date format | YYYY-MM-DD |
| Time format | 24 Hour |
| Time offset | +05:30 |

### POV Mode

| Parameter | Default |
|---|---|
| CA Mode | Std |
| Acquisition Mode | Basic |
| Tuning Source | NIT |
| Service List Mode | Rigorous |
| BAT | No |
| NIT | Yes |
| SDT | Yes |
| PAT | Yes |

### Advanced Administration

| Parameter | Default |
|---|---|
| Set Lock Level Password | 1234 |

### IP Setup

| Parameter | Default |
|---|---|
| Filter Mode | Forward All |
| MPE Optimization | High Bitrate |

### Unicast IP Setup

By default, the Unicast routes list is empty.

### Multicast IP Setup

By default, the Unicast routes list is empty.

### Trap Destination Setup

| Parameter | Default |
|---|---|
| Trap Destination Address | 19.131.244.002 |
| Community String | "public" |

### SNMP

| Parameter | Default |
|---|---|
| Read Community String | public |
| Write Community String | public |
| System Name (Web GUI only) | sysname |
| System Location (Web GUI only) | Toronto |
| System Contact (Web GUI only) | 416-321-XXXX |

### Noise Cutoffs

| Parameter | Default |
|---|---|
| Noise Cutoffs | Enable |
| DVB-S/DVB-S2 TS Cut Off | 0.0 dB |
| DVB-S/DVB-S2 TS Restore | 0.1 dB |
| DVB-S/DVB-S2 Audio Cut Off | 0.0 dB |
| DVB-S/DVB-S2 Audio Restore | 0.1 dB |

### Download

| Parameter | Default |
|---|---|
| DL Mode | Always |

### CI Setup (Web GUI only)

| Parameter | Default |
|---|---|
| Decryption Mode | On |
| CI CAM QUERY Support | Disable |
| CI CAM Auto Reset | Disable |
| CA List Management Type | Update All |
| TS/ONID Check | Disable |
| Transport ID | 0 |
| Original Network ID | 0 |

### Import/Export (Web GUI only)

| Parameter | Default |
|---|---|
| Settings Filename | file name |
| FTP User Name | User |
| FTP Password | USER |
| FTP Port Number | 21 |

### Alarms and Warnings

| Parameter | Default |
|---|---|
| AW Banner | Disable |

# Appendix C
# Lock Levels

## Overview

### Introduction

This appendix contains the lock levels for the D9865 Satellite Receiver.

### In This Appendix

This appendix contains the following topics.

Four (4) lock levels (**0**, **1**, **2**, **3**, and **4**) are available for protecting your receiver and its settings against unauthorized use or modification (see the table below for full details).

| Level | Description |
|---|---|
| 0 | All settings are unlocked (receiver lockout disabled) |
| 1 | All settings are unlocked except Preset option. |
| 2 | All settings are unlocked except Preset & LNB Setup and Audio/Video options. |
| 3 | All settings locked (access via password only). |
| 4 | All settings locked (can be changed via PNC uplink signal only) |

If a change made to the current Lock Level setting is not saved, the previously saved setting is restored.

**Note:** The user cannot select **NONE** as a Lock Level.

## Video

| Parameter | Lock Level |
|---|---|
| Channel Up | 2 |
| Channel Down | 2 |
| Volume Up | 3 |
| Volume Down | 3 |
| Power On/Standby | 3 |
| Channel Number via Remote Control | 2 |
| IR Mute via Remote Control | 3 |
| IR Volume Up | 3 |
| IR Volume Down | 3 |
| IR Channel Up | 2 |
| IR Channel Down | 2 |

| Parameter | Lock Level |
|---|---|
| IR Last Channel | 2 |
| IR FAV key | 3 |
| IR NAV key | 3 |
| IR EPG key | 3 |
| IR Setup key | 3 |
| Menu | 3 |

### All Screens

| Parameter | Lock Level |
|---|---|
| Power On/Standby | 3 |
| IR Mute via Remote Control | 3 |
| IR Volume Up | 3 |
| IR Volume Down | 3 |
| IR Channel Up | 2 |
| IR Channel Down | 2 |
| IR Last Channel | 2 |

### Channel List

| Parameter | Lock Level |
|---|---|
| Scroll up and down | 3 |
| OK to select channel | 2 |

## EPG Grid

| Parameter | Lock Level |
|---|---|
| Scroll up and down | 3 |
| Scroll left and right | 3 |
| Next Day | 3 |
| Previous Day | 3 |
| Favorites | 3 |
| Timers | 3 |
| OK to select channel | 2 |
| OK to view future Info | 3 |

## EPG Info

| Parameter | Lock Level |
|---|---|
| Set Timer | 2 |

## NAVigator Info

| Parameter | Lock Level |
|---|---|
| Set Timer | 2 |

## Timers

| Parameter | Lock Level |
|---|---|
| Scroll up and down | 3 |
| Delete | 2 |
| Edit (to view) | 3 |
| Edit (Save button) | 2 |

## Favorites

| Parameter | Lock Level |
|---|---|
| Delete | 2 |
| New | 2 |
| Edit (to view) | 3 |
| Edit (Save button) | 2 |
| Move | 2 |
| Select | 2 |

## Edit Favorites

| Parameter | Lock Level |
|---|---|
| Delete | 2 |
| Edit (to view) | 3 |
| Edit (Save button) | 2 |
| Move | 2 |

## Timers

| Parameter | Lock Level |
|---|---|
| Delete | 2 |
| Edit (to view) | 3 |
| Edit (Save button) | 2 |

### One Button Channel Change (button presses)

| Parameter | Lock Level |
|---|---|
| Red | 2 |
| Green | 2 |
| Yellow | 2 |
| Blue | 2 |

### Tuning/Preset

| Parameter | Lock Level |
|---|---|
| Change Tuning Parameters and Save | 1 |

### Tuning/Preset: Preset

| Parameter | Lock Level |
|---|---|
| Change preset number | 3 |
| Edit preset tuning parameters | 1 |
| Edit preset LNB configuration number | 1 |
| Save preset | 1 |
| Activate preset | 1 |

### Tuning/Preset:Preset:LNB

| Parameter | Lock Level |
|---|---|
| Change LNB configuration number | 3 |
| Edit LNB settings | 1 |
| Save LNB settings | 1 |

### Dish Setup (User Mode)

| Parameter | Lock Level |
|---|---|
| Enter satellite number | 1 |
| Select User Action | 1 |
| Do Action | 1 |
| Enter Installer mode | 3 |

### Dish Setup (Installer Mode)

| Parameter | Lock Level |
|---|---|
| Enter satellite number | 1 |
| Enter absolute position | 1 |
| Select installer action | 1 |
| Change DiSEqC enable/ disable state | 1 |
| Adjust dish position | 1 |
| Enter user mode | 3 |

### Video Setup

| Parameter | Lock Level |
|---|---|
| HD Video Output | 2 |
| SD Video Output | 2 |
| TV Channel | 2 |
| TV Aspect Ratio | 2 |
| Aspect Ratio Convert | 2 |
| Closed Caption | 2 |

### Subtitles

| Parameter | Lock Level |
|---|---|
| Subtitle Control | 2 |
| Imitext Color | 2 |
| Imitext Shade | 2 |
| Imitext Position | 2 |
| Subtitle Language | 2 |

### Audio Setup

| Parameter | Lock Level |
|---|---|
| Stereo/Mono | 2 |
| Dolby Digital Mode | 2 |
| Digital Audio Preference | 2 |
| Audio PMT Source | 2 |

### Administration

| Parameter | Lock Level |
|---|---|
| POV Mode | 1 |
| Lock Level | 3 |
| Menu Transparency | 2 |
| IR Remote | 2 |
| Date Format | 2 |
| Time Format | 2 |
| Time Offset | 2 |

## Advanced Administration

| Parameter | Lock Level |
|---|---|
| Set Lock Level Password | 0 |
| Reboot | 2 |
| Factory Reset (F/R) | 0 |
| Rst Login | 0 |

## POV Mode

| Parameter | Lock Level |
|---|---|
| CA Mode | 1 |
| Acquisition Mode | 1 |
| Tuning Source | 1 |
| Service List Mode | 1 |
| BAT | 1 |
| NIT | 1 |
| SDT | 1 |
| PAT | 1 |

## IP Setup

| Parameter | Lock Level |
|---|---|
| Filter Mode | 0 |
| MPE Optimization | 0 |
| Next Port | 2 |
| Set IP Address (button) | 2 |

### Change IP Address

| Parameter | Lock Level |
|---|---|
| IP Address | 2 |
| Gateway | 2 |
| Mask | 2 |
| Save | 2 |

### Unicast IP Setup

| Parameter | Lock Level |
|---|---|
| Add (button) | 0 |
| Edit | 0 |
| Delete | 0 |

### Multicast IP Setup

| Parameter | Lock Level |
|---|---|
| Add (button) | 0 |
| Edit | 0 |
| Delete | 0 |

### SNMP Setup

| Parameter | Lock Level |
|---|---|
| Read community string | 0 |
| Write community string | 0 |
| Trap Dest (button) | 3 |

### Trap Destinations

| Parameter | Lock Level |
|---|---|
| Add (button) | 0 |
| Edit | 0 |
| Delete | 0 |

### Noise Cutoffs

Lock Level: 2

### Alarms & Warnings

| Parameter | Lock Level |
|---|---|
| AW Banner | 2 |
| Alarm (button) | 3 |
| Warning (button) | 3 |

### Alarm Setup

Lock Level: 2

### Warning Setup

Lock Level: 2

### Download

| Parameter | Lock Level |
|---|---|
| DL Mode | 2 |
| Abort DL | 2 |
| Restart DL | 2 |
| Boot App (button) | 3 |

### Bootable App Selection (Screen)

| Parameter | Lock Level |
|---|---|
| Delete | 2 |
| Load App | 2 |
| Safe App | 2 |

### Info

| Parameter | Lock Level |
|---|---|
| Service Information (Channel Number) | 2 |
| Channel Information (Channel Number) | 2 |
| ADP Status (Clear ADP Count) | 2 |
| Device Status Information (Clr Rst Count) | 2 |

# Appendix D
# Compliance

## Applicable Notices and Disclaimer

### 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 present appareil numerique n'mete pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de Class B prescrites dans le reglement sur le brouillage radioelectrique edicte par Industrie Canada.

## Disclaimer

Cisco Systems, Inc. assumes no responsibility for errors or omissions that may appear in this guide. We reserve the right to change this guide at any time without notice.

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CE MARKING 09

# Declaration of Conformity

**The Product:** Satellite Receiver

**Model Number:** D9865

**Ratings:** 100-240V~, 50/60Hz, 0.5Amax

**Has been designed and manufactured in accordance with the following Harmonised Standards:**

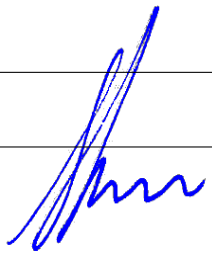
| Number and Date of Issue | Title of Standard |
|---|---|
| EN 60065:2002 | - Audio, video and similar electronic apparatus – Safety requirements |
| EN 55022:2006 / A1:2007 Class B | - Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Devices |
| EN 55013:2001/ A1:2003 / A2:2006 | - Electromagnetic Compatibility Requirements - Sound and Television Broadcast Receivers and Associated Equipment |
| EN 55020:2007 | - Sound and television broadcast receivers and associated equipment – Immunity characteristics – Limits and methods of measurement |
| EN 55024:1998 /A1:2001 / A2:2003 | - Information technology equipment - Immunity characteristics - Limits and methods of measurement |
| EN 61000-3-2:2001 | - 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 2006/95/EC and the EMC Directive 2004/108/EC**

Toronto, Canada, June 11, 2009
(Issue Place and date)

Scientific-Atlanta Canada Company (Digital Media Networks Business Unit)
(Company Name)

100 Middlefield Road, Scarborough, Ontario, Canada, M1S 4M6
(Company Address)



For the manufacturer: Steven Lawrence, Product Regulatory Compliance
(Signature, Name and Title)

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