



Cisco D9865 Satellite Receiver

Installation and Operation Guide



Please Read This Entire Guide

Veillez lire entièrement ce guide

Bitte das gesamte Handbuch durchlesen

Sírvase leer completamente la presente guía

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

Important:

Veillez 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

Trademark Acknowledgements

Cisco and the Cisco logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at www.cisco.com/go/trademarks.

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Other third party trademarks mentioned are the property of their respective owners.

The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1007R)

Publication Disclaimer

Cisco Systems, Inc. assumes no responsibility for errors or omissions that may appear in this publication. We reserve the right to change this publication at any time without notice. This document is not to be construed as conferring by implication, estoppel, or otherwise any license or right under any copyright or patent, whether or not the use of any information in this document employs an invention claimed in any existing or later issued patent.

Copyright

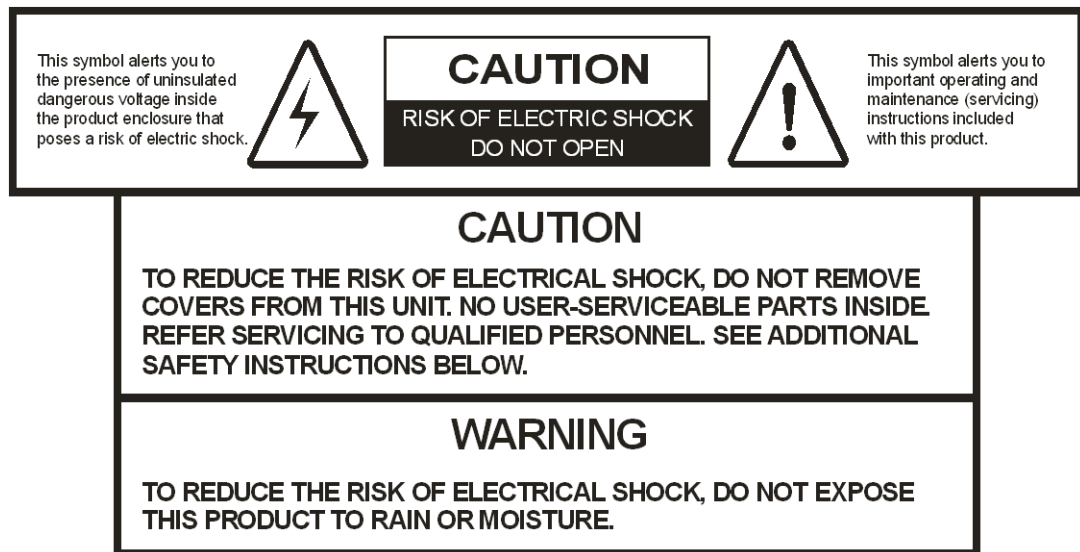
© 2010 Cisco Systems, Inc. and/or its affiliates. All rights reserved. Printed in United States of America.

Information in this publication is subject to change without notice. No part of this publication may be reproduced or transmitted in any form, by photocopy, microfilm, xerography, or any other means, or incorporated into any information retrieval system, electronic or mechanical, for any purpose, without the express permission of Cisco Systems, Inc.

Licenses

This Cisco product (D9865 Satellite Receiver) contains, in part, certain free software ("Free Software") which has one or more types of licenses. The licenses may include the GNU General Public License (GPL), which allows you to freely copy, modify and redistribute the Free Software. Please go to: [ftp://ftpeng.cisco.com/pub/opensource/scientificatlanta/satellitereceiver](http://ftpeng.cisco.com/pub/opensource/scientificatlanta/satellitereceiver) to find additional information regarding the Free Software, including a copy of the licenses and related information. If you have any questions or problems accessing the link, please contact: spvtg-external-opensource-requests@cisco.com.

Safety Precautions



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.

Safety Precautions, Continued

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.

Safety Precautions, Continued

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 shield¹⁾ conductor attached to the RF coaxial cable “F” connector (rear panel RF IN input) to an external grounding rod via a receiver/antenna grounding block. A separate grounding 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.

Safety Precautions, Continued


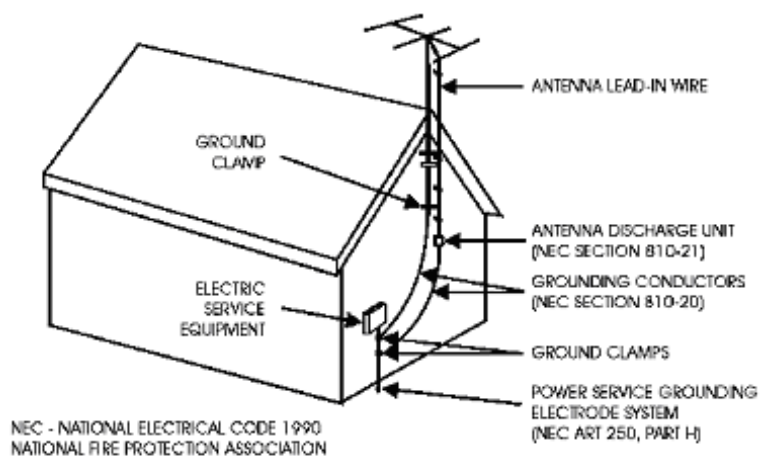

	Important: Each ground connection must be made using a single (continuous) piece of wire. Never splice two wires together when making a ground connection. Corrosion and weathering can cause a poor electrical connection at the splice which can lead to an ineffective and dangerous ground condition.
---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

Figure 1. Outdoor antenna grounding



TO CATV SYSTEM INSTALLER
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code (NEC) that provides guidelines for proper grounding, and in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of entry as practical.

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

Safety Precautions (EU Market)

Mesures de Sécurité

Sicherheitmassnahmen

Precauciones de Seguridad

Warning

To prevent fire or electric shock:

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

Attention

Afin d'éviter tout incendie ou choc électrique:

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

Warnung

Um Feuer oder elektrischen Schock zu vermeiden:

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

Advertencia

Para prevenir incendio o una descarga eléctrica:

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

Safety Precautions (EU Market), Continued

Caution

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

Précautions à prendre

- Afin de protéger votre appareil des orages et des surtensions de courant ou si vous ne l'utilisez pas pendant une période prolongée, débranchez de la prise électrique du secteur.
- Pour débrancher, tirez sur la prise. Ne tirez jamais sur le cordon secteur. En outre, ne marchez jamais sur le cordon, ne placez pas d'objet dessus et ne le coincez pas.
- Le couvercle supérieur de cet appareil comprend des ouvertures pour la ventilation afin d'éviter qu'il ne chauffe trop. Pour assurer un bon fonctionnement, ne bloquez pas ou ne couvrez pas ces ouvertures en plaçant cet appareil sur un lit, un sofa, un tapis ou toute autre surface semblable. Ne posez pas de lampes, livres ou tout autre objet sur le couvercle supérieur.
- De plus, il ne faut jamais mettre cet appareil près d'un radiateur ou tout autre élément dégageant de la chaleur. Ne l'incorporez pas dans une installation comme une bibliothèque, une étagère, à moins que l'installation offre une ventilation appropriée.
- Installez cet appareil sur une surface dégagée, stable et sans vibration capable de supporter son poids et sa taille.

Safety Precautions (EU Market), Continued

Vorsicht

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

Precaucion

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

NOTICE FOR CUSTOMERS IN THE UNITED KINGDOM

CLASS II APPARATUS USING A TWO-WIRE POWER CORD

AC Mains Lead Connection (Important)

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

- Blue: Neutral
- Brown: Live

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

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

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'ÉLECTROCUTION
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

Safety Precautions	v
Safety Precautions (EU Market)	ix
Chapter 1 Quick Setup - Read Me First!	
About the Video Standard	1-1
Quick Setup Instructions.....	1-2
Rear Panels Connections.....	1-4
Chapter 2 Introduction	
D9865 Satellite Receiver	2-2
Chapter 3 Front Panel Operation	
About the Front Panel	3-2
Common Interface Modules.....	3-5
Remote Control Functions	3-6
Chapter 4 Setup and Monitoring via On-Screen Display	
Main Menu.....	4-3
Channel List without EPG	4-6
Introduction to the EPG	4-7
Setting Timers.....	4-10
Setting Up Your Favorite Channels.....	4-13
Setting Up One Button Channel Change.....	4-16
Setup Menu	4-17
Setting up Tuning / Preset	4-18
Setting up the Preset / LNB	4-21
Setting up LNB	4-23
Setting Up the Satellite Dish.....	4-26
Setting up the Video	4-33
Setting up Subtitles	4-40
Setting up Audio	4-42
Advanced Setup	4-44
Setting up Advanced User Settings.....	4-45
Changing the Lock Level Password.....	4-48
Setting up POV Mode.....	4-50
Network Setup.....	4-52
Configuring Noise Cutoffs	4-63
Setting up Alarms and Warnings	4-67
Viewing Downloads	4-69

Setting Bootable Application Selection.....	4-70
System Information	4-71
Viewing the Version Information.....	4-72
Viewing Hardware Information.....	4-73
Viewing Installed Options.....	4-74
Viewing Service Information.....	4-75
Viewing Channel Information	4-76
Viewing DVB-CI Information	4-77
Viewing Device Status Information	4-79
Viewing the Active Alarm and Warning Messages.....	4-80
Viewing the RF Status	4-82
Viewing Advanced RF Diagnostics.....	4-84
Viewing ADP Status	4-85
 Chapter 5 Setup and Monitoring via Web GUI	
Logging on to the Web GUI.....	5-3
Web GUI - Summary Screen.....	5-4
Links.....	5-6
D9865 Web GUI Environment	5-7
Tuning Setup	5-9
Setting Up Dish Pointing	5-12
Setting up SI Receive Parameters	5-16
Setting up Muting Threshold Controls.....	5-18
Setting up the Tuning Presets/LNB.....	5-21
Setting up LNB Presets.....	5-23
Viewing Input Status.....	5-25
Setting the Channel Information	5-26
Configuring the Common Interface (CI) Information	5-28
Viewing the PSI Tables.....	5-32
Viewing PSI Frequency Information.....	5-33
Viewing the PSI Channels.....	5-34
Setting up the Video	5-35
Configuring Captions.....	5-37
Setting up Subtitles	5-38
Setting up Audio	5-41
Viewing System Information	5-43
Viewing Features/Licenses	5-44
Setting Up IP Information.....	5-45
Setting Up IP Routing.....	5-46

Contents, Continued

	Setting Up SNMP and Trap Destinations.....	5-48
	Configuring Time/Clock Information.....	5-50
	Configuring Favorites and Reminders	5-51
	Viewing the Alarm/Warning Status.....	5-53
	Setting Up Alarms and Warnings	5-54
	Viewing the Alarm/Warning History	5-56
	Viewing Version Information	5-57
	Setting Up Import/Export Information.....	5-59
	Viewing the Backup/Restore History.....	5-61
	Managing D9865 Web GUI Accounts	5-62
	Configuring Lock Level Settings	5-65
	Viewing Contact Information	5-67
	Viewing Diagnostic Logs	5-68
	Viewing the Usage Counters.....	5-69
	Performing Service Actions	5-71
Chapter 6	Customer Information	
	Product Support	6-2
	Returning Products.....	6-4
Chapter 7	Service and Maintenance	
	Messages.....	7-2
	Troubleshooting	7-19
Appendix A	Technical Specifications	
	Receiver Specifications	A-2
	LNB Requirements.....	A-3
	DVB-S Eb/No (C/N) Ratio.....	A-4
	DVB-S2 Error Rate Performance ES/No (C/N) Ratio.....	A-5
	Video Output	A-6
	Audio Outputs.....	A-7
	Power	A-8
	General.....	A-8
Appendix B	Default Settings	
	Factory Default Settings	B-2
Appendix C	Lock Levels	
	D9865 Satellite Receiver Lock Levels	C-2

Contents, Continued

Appendix D Compliance

Applicable Notices and Disclaimer	D-1
---	-----

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.

Quick Setup Instructions

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.

Quick Setup Instructions, Continued

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.

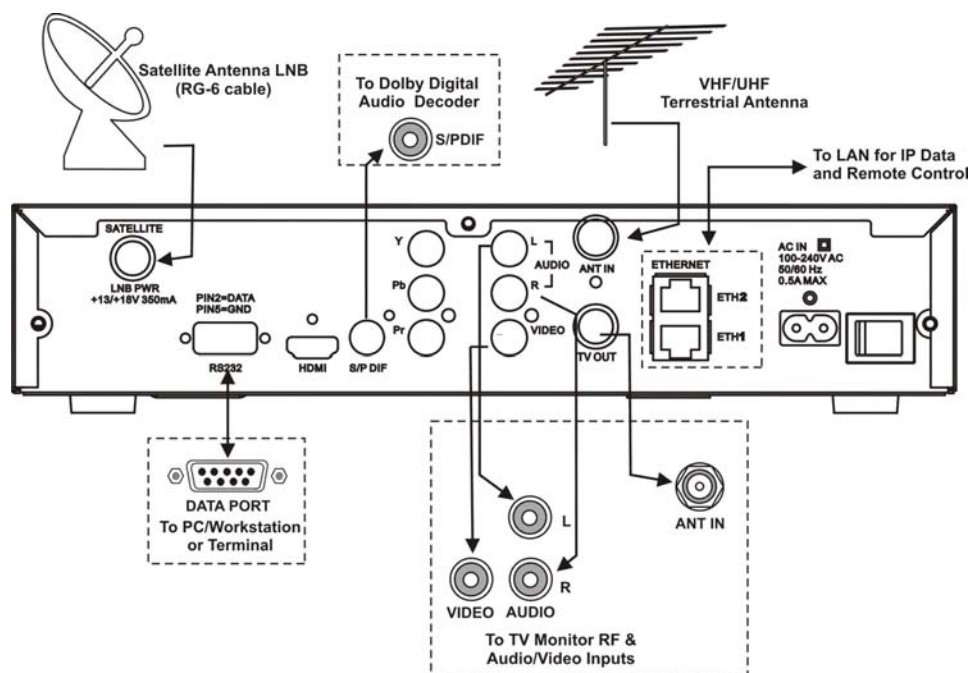
D9865B Satellite Receiver



Rear Panels Connections, Continued

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.

Topic	See Page
D9865 Satellite Receiver	2-2

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.

D9865 Satellite Receiver, Continued

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.

Topic	See Page
About the Front Panel	3-2
Common Interface Modules	3-5
Remote Control Functions	3-6

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	<ul style="list-style-type: none">Enables the video display output.When the video display is enabled, the channel number is displayed on the front panel. When switched off, a "." flashes.
MENU	<ul style="list-style-type: none">Enters Menu mode or returns to video.Returns to previous menu.
SELECT	<ul style="list-style-type: none">Selects menus.Enters or exits edit mode.
◀▼▲▶	<ul style="list-style-type: none">In Menu mode, used to navigate menus.
◀▶	<ul style="list-style-type: none">In Video mode, used for volume up/down.
▲▼	<ul style="list-style-type: none">In Video mode, used for channel up/down.

About the Front Panel, Continued

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	<ul style="list-style-type: none">• On when sound is muted.
SIGNAL	<ul style="list-style-type: none">• On when receiver is synchronized with the incoming digital signal and authorized for the current channel.• Flashing when a signal has been found, but receiver is not authorized for the current channel.• Off when no signal has been found. For more information about troubleshooting your satellite receiver, see Troubleshooting, on page 7-19.
MENU	<ul style="list-style-type: none">• 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.

About the Front Panel, Continued

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	<ul style="list-style-type: none">• Enables the video/audio outputs.
	0 to 9	<ul style="list-style-type: none">• Enters channel numbers or information on on-screen menus.• Alphanumeric character entry for “Name” field on 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.00 (pressing 0 twice) – deletes a character at the cursor location.11 (pressing 1 twice) – adds a space at the cursor location.
	FAV	<ul style="list-style-type: none">• Displays Favorite screen where you can view and set favorite channels.
	LAST	<ul style="list-style-type: none">• Displays last channel.
	MENU	<ul style="list-style-type: none">• Displays Main Menu.• Exits edit mode in menus.• Returns to video in video mode.• Returns to previous menu.

EPG	<ul style="list-style-type: none"> • 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.
 	<ul style="list-style-type: none"> • In Video mode, used to select channels. • In Menu mode, used to move through on-screen menus.
 	<ul style="list-style-type: none"> • In Video mode, increases or decreases volume. • In Menu mode, used to move through on-screen menus.
	<ul style="list-style-type: none"> • Selects menus (functions same as SELECT button on front panel). • Enters or exits edit mode.
CH+, CH-	<ul style="list-style-type: none"> • Channel up/down.
VOL+, VOL-	<ul style="list-style-type: none"> • Volume up/down.
EXIT	<ul style="list-style-type: none"> • Exits from edit mode. • Exits menus (returns to video).
	<ul style="list-style-type: none"> • Mutes sound.
	<ul style="list-style-type: none"> • Changes to uppercase letter mode. • Page up when scrolling the on-screen menus.
	<ul style="list-style-type: none"> • Changes to lowercase letter mode. • Page down when scrolling the on-screen menus.
	<ul style="list-style-type: none"> • Red – different on each menu. Also displays the soft keyboard.
	<ul style="list-style-type: none"> • Green – different on each menu
	<ul style="list-style-type: none"> • Yellow – different on each menu
	<ul style="list-style-type: none"> • Blue – different on each menu
Setup	<ul style="list-style-type: none"> • Displays the Setup Menu.

Chapter 4

Setup and Monitoring via On-Screen Display

Overview

In This Chapter

This chapter contains the following topics.

Topic	See Page
Main Menu	4-3
Channel List without EPG	4-6
Introduction to the EPG	4-7
Setting Timers	4-10
Setting Up Your Favorite Channels	4-13
Setting Up One Button Channel Change	4-16
Setup Menu	4-17
Setting up Tuning / Preset	4-18
Setting up the Preset / LNB	4-21
Setting up LNB	4-23
Setting Up the Satellite Dish	4-26
Setting up the Video	4-33
Setting up Subtitles	4-40
Setting up Audio	4-42
Advanced Setup	4-44
Setting up Advanced User Settings	4-45
Changing the Lock Level Password	4-48
Setting up POV Mode	4-50
Network Setup	4-52
Configuring Noise Cutoffs	4-63
Setting up Alarms and Warnings	4-67
Viewing Downloads	4-69
Setting Bootable Application Selection	4-70

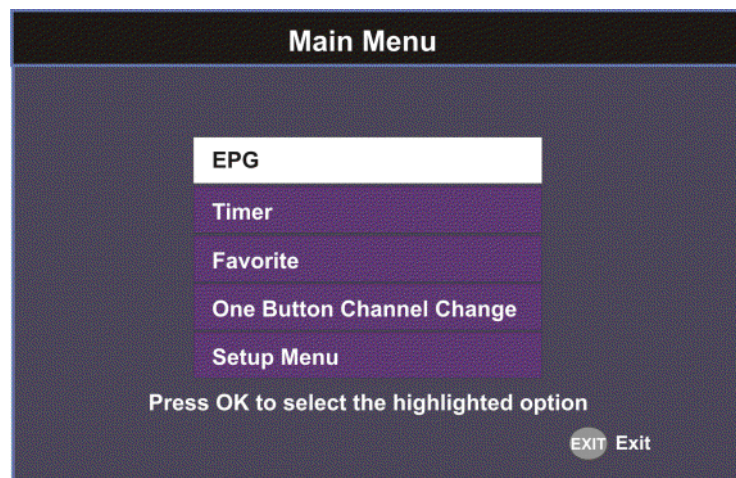
Topic	See Page
System Information	4-71
Viewing the Version Information	4-72
Viewing Hardware Information	4-73
Viewing Installed Options	4-74
Viewing Service Information	4-75
Viewing Channel Information	4-76
Viewing DVB-CI Information	4-77
Viewing Device Status Information	4-79
Viewing the RF Status	4-82
Viewing Advanced RF Diagnostics	4-84
Viewing ADP Status	4-85

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.

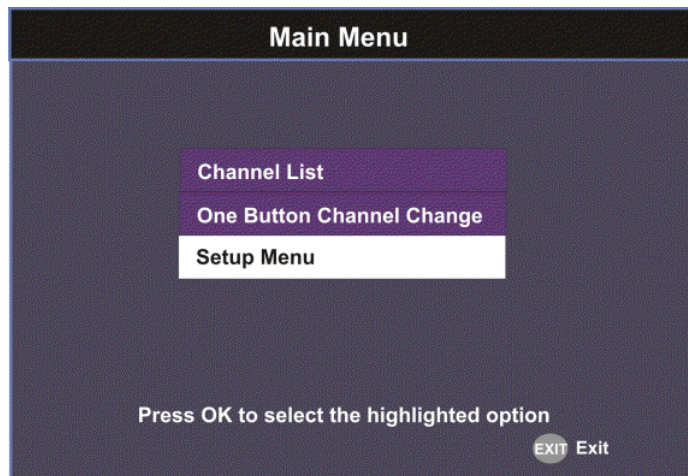


As shown above, you can select the EPG, Timer, Favorite, One Button Channel Change, or the Setup Menu.

- 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.

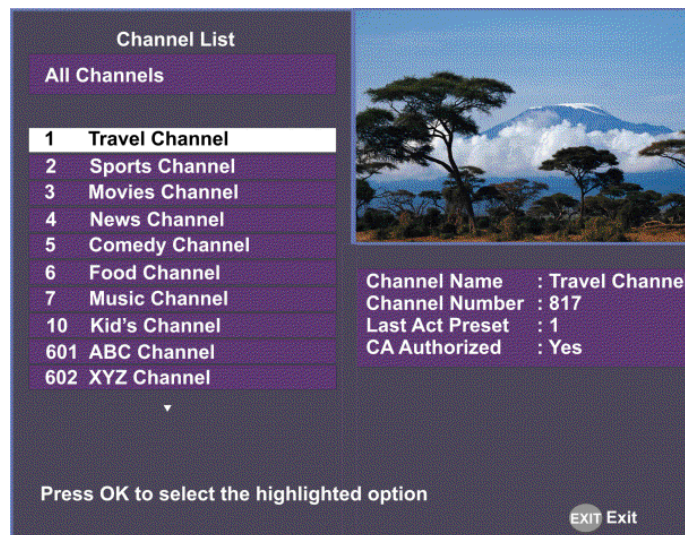
Main Menu, Continued

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.

Main Menu, Continued

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

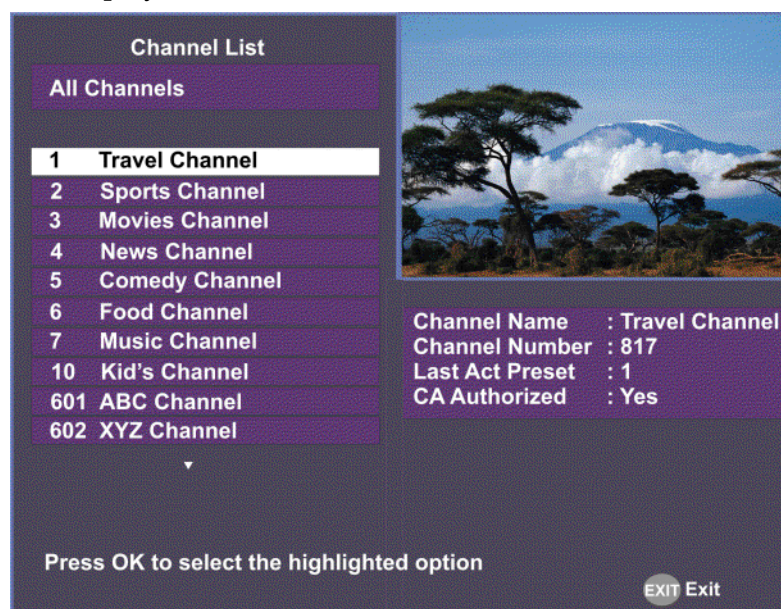
When you navigate to menus from a video channel, the information displayed is associated with the current (video) channel. If no changes have been made to the current setup, you are automatically returned to the same video channel when you exit to video.

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.



Introduction to the EPG, Continued

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

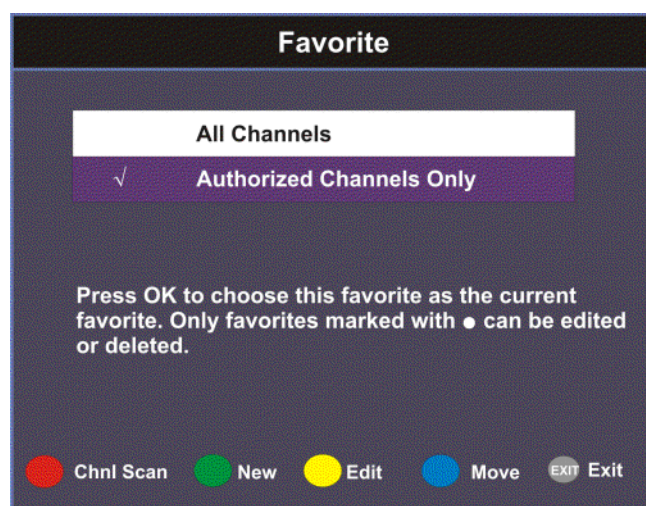
You can view upcoming program information for up to 7 days in advance by changing the day of the week you are browsing.

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.

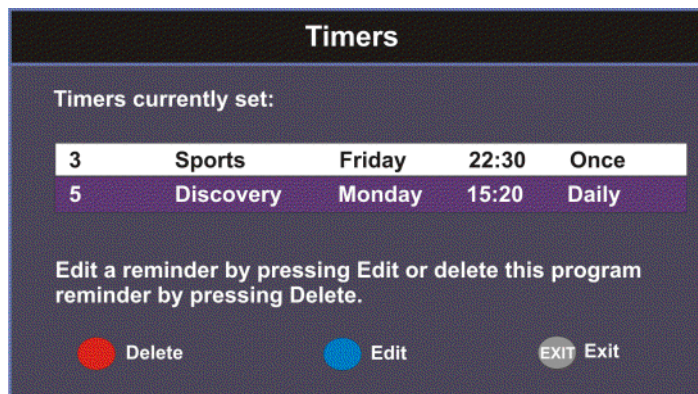


For more information on setting up the favorite profiles, see **Setting Up Your Favorite Channels**, on page 4-13.

Introduction to the EPG, Continued

Viewing Timers

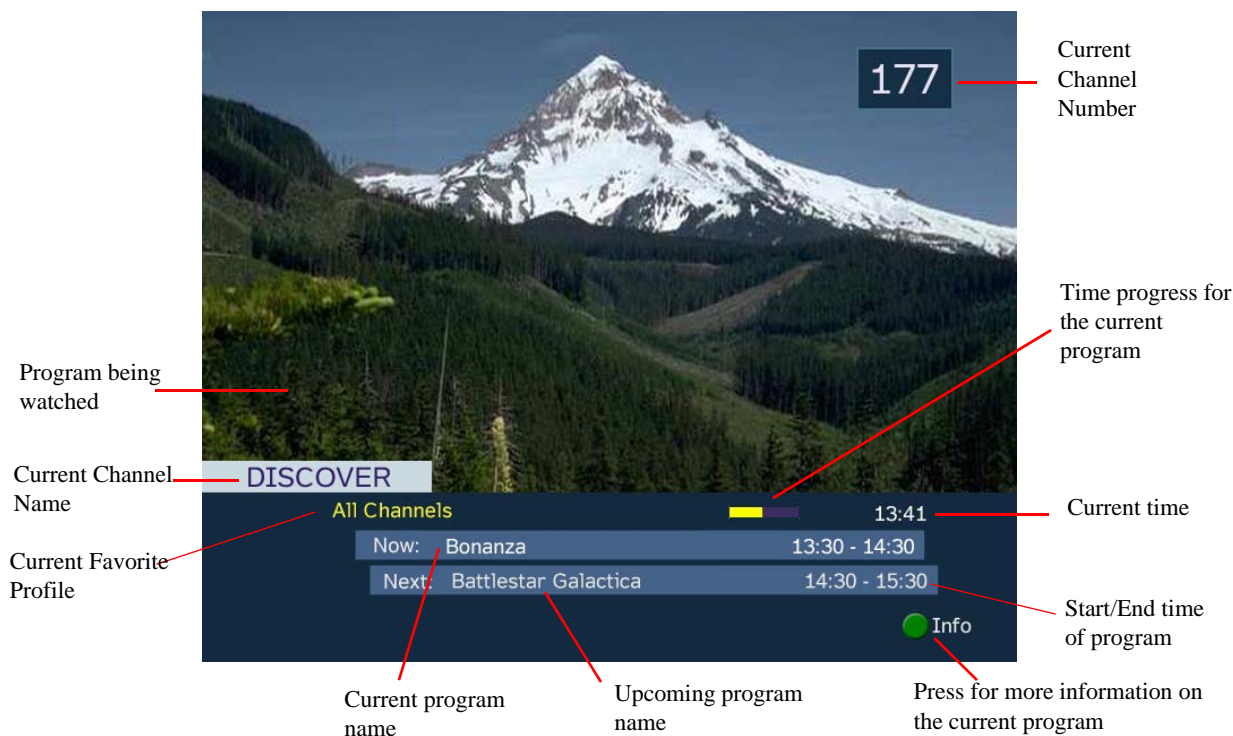
Press the blue button (**Timers**) to view all the configured timer profiles.



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.

- 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:



Press **OK** to close the reminder window and tune to the specified channel.

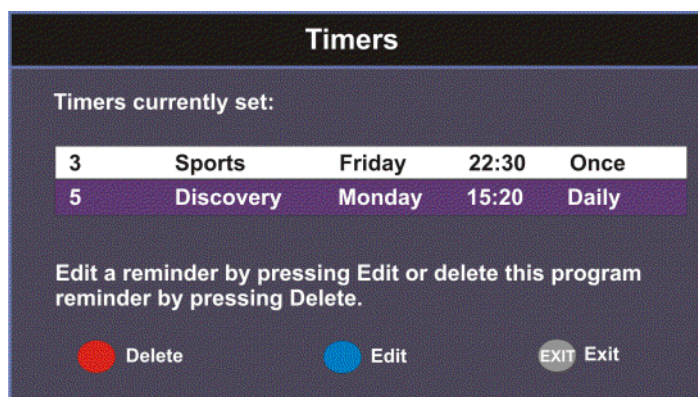
Otherwise, press **Exit** to close the reminder window.

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

Setting Timers, Continued

Editing a Timer Profile

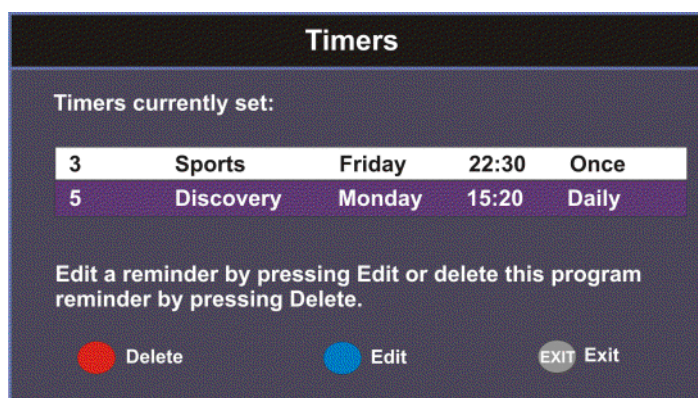
1. From the Main Menu, select **Timers** and press **OK**. The Timers screen is displayed.



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.

Setting Up Your Favorite Channels

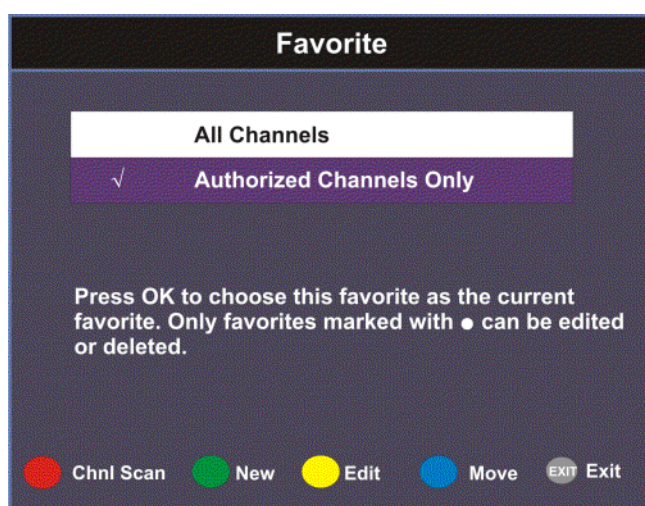
The Favorite screen displays a list of all the favorites configured in the D9865. Favorites allow you to surf through the channels you have set up as your favorite channels, skipping over other channels.

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.

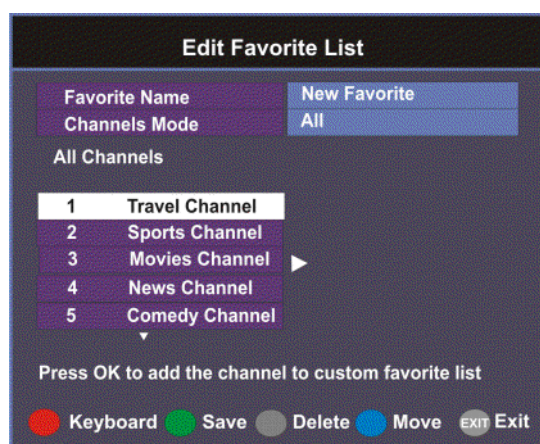
Adding a Favorite Profile

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.



Setting Up Your Favorite Channels, Continued

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.

Setting Up Your Favorite Channels, Continued

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:

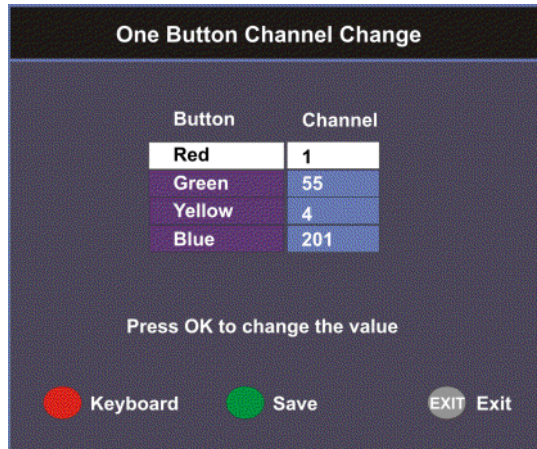
1. From the Favorite screen, press the red button (**Chnl Scan**). A warning message appears confirming the channel scan. It can take several minutes, depending on the size of the network.
2. Press **OK**. The Authorized Channels Only list is updated.

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).

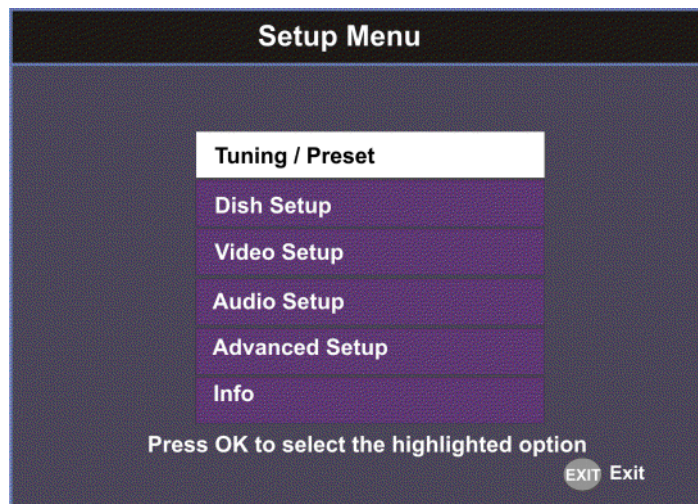


Each color can be assigned to a channel as a shortcut for a quick channel change. For example, if you assign the red button to channel 1, pressing the red button while watching a different channel at anytime will automatically tune the TV channel to 1.

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.

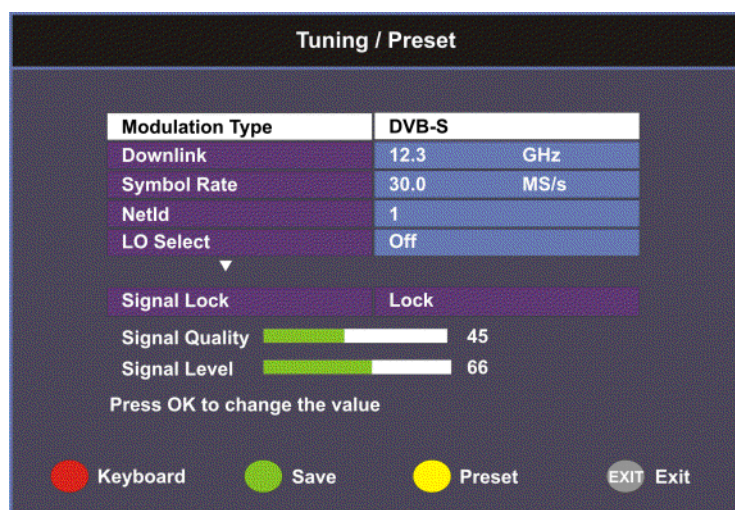
Setting up Tuning / Preset

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: Downlink Freq = LO Freq - L-Band Freq. For Ku-Band: Downlink Freq = LO Freq + L-Band Freq.	12.3
Symbol Rate	1.0 to 45.0 1.0 to 31.0	Range for DVB-S in MS/s. 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. If Downlink Freq < Crossover, use LO Freq 1. The 22 kHz tone is Off. 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). If Ku-band single LNB, enter LO Freq. and set LO Freq 2 and Crossover to 0.0. 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. LO Freq 2 > LO Freq 1.	0.0
Crossover	Enter number	Enter if Ku-Band dual LNB application. 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. 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.

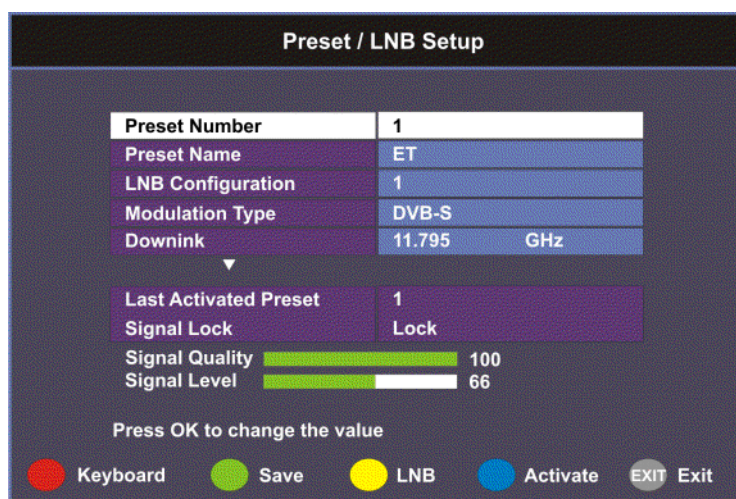
Setting up the Preset / LNB

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 DVB-S2	Select the modulation scheme.
Downlink (Freq)	Enter number	For C-Band, Downlink Freq = LO Freq - L-band Freq. For Ku-Band, Downlink Freq = LO Freq + L-band Freq.
Symbol Rate	1.0 to 45.0 1.0 to 31.0	Range for DVB-S in MS/s. 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.

Setting up LNB

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. 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). If Ku-band single LNB, enter LO Freq. and set LO Freq 2 and Crossover to 0.0. 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 (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. If Downlink Freq < Crossover use LO1. The 22 kHz tone is Off. 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.

Setting up LNB, Continued

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

Setting Up the Satellite Dish

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.

The screenshot shows the 'Dish Setup' menu with the following details:

Dish Setup			
Modulation	QPSK DVB-S	NW Name	SPIDERMAN
PV BER	0.00e-7	LDPC BER	N/A
PER	N/A	Mode	User
DiSEqC Status		Disable	
Satellite Number	1		
User Action	None		
Signal Quality	<div><div></div></div>		0
Signal Level	<div><div></div></div>		63
Signal Lock	Lock		
Press OK to change the value			
Keyboard	Installer	Do Action	EXIT Exit

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.

Setting Up the Satellite Dish, Continued

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

The screenshot shows the 'Dish Setup' menu with the following settings:

Modulation	QPSK DVB-S	NW Name	SPIDERMAN
PV BER	0.00e-7	LDPC BER	N/A
PER	N/A	Mode	User
DiSEqC Status	Disable		
Satellite Number	1		
Absolute Position	2.5		
Installer Action	None		
DiSEqC	Enabled		

Signal Quality: 0
Signal Level: 63
Signal Lock: Lock

Press OK to change the value

Buttons: Keyboard (red), Adj Dish (green), User (yellow), Do Action (blue), EXIT (grey), Exit (white)

- 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	<p>Enables or disables Digital Satellite Equipment Satellite Control.</p> <p>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.</p> <p>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.</p>
	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:

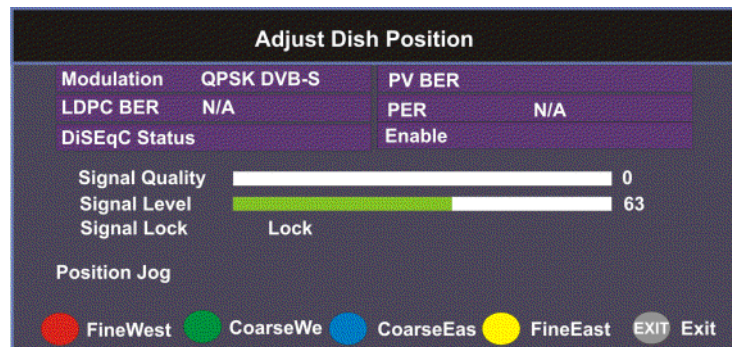
Parameter	Description
Modulation	Indicates the modulation type for the received signal.
LDPC BER	Indicates the bit rate of the input stream of the LDPC error correcting stage (DVB-S2 only).
Mode	Indicates whether the current dish setup mode is Installer or User. The mode can be changed by pressing the 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.

Setting Up the Satellite Dish, Continued

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.

Setting Up the Satellite Dish, Continued

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

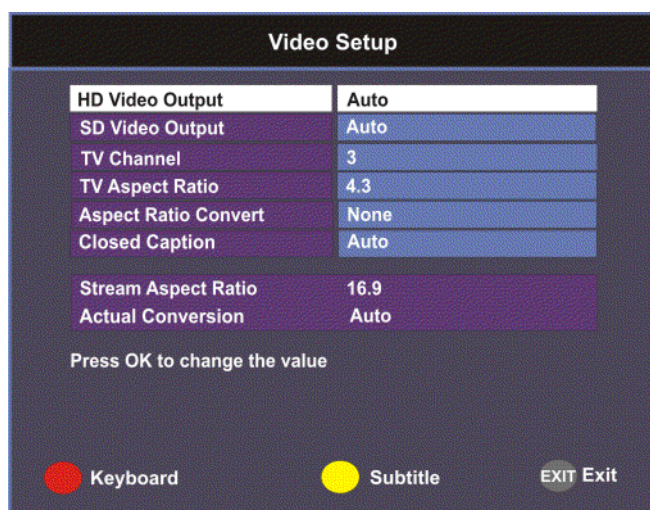
Setting up the Video

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.

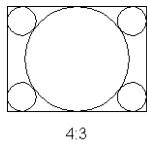
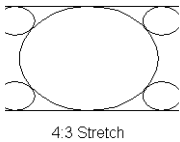
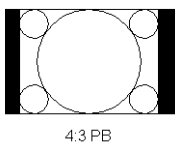
Selection	Options	Description	Default
HD Video Output	Auto	Receiver automatically detects correct HD video format.	Auto
	HD 1080i	Sets the HD output video format.	
	HD 720p		

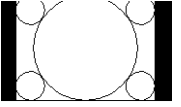
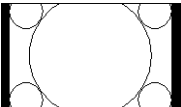

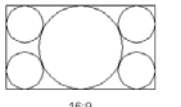
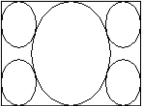
Selection	Options	Description	Default
SD Video Output	Auto	Receiver automatically detects correct SD video format.	Depends on TV modulator installed
	PAL-B/G, PAL-D, PAL-I	For 625-line systems.	
	PAL-M	525-line format for Brazil.	
	PAL-N (AR)	625-line format for Argentina.	
	NTSC, NTSC-J	For 525-line systems.	
TV Channel	3 or 4 for NTSC 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. 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. 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.	

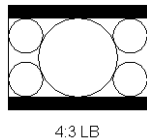
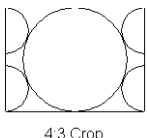
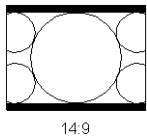
Selection	Options	Description	Default
Actual Conversion		This is the type of (aspect ratio) conversion the receiver will perform based on what you have selected. This is read-only.	

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	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	16:9	Auto	4:3 P/B	Uses 4:3 P/B.	

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.	
16:9	4:3	4:3 CCO	4:3 CCO	Horizontally up-samples the centre portion of the picture to fill the 720.	
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.	
16:9	4:3	16:9 SCALE	None	Conversion is not possible. Picture appears tall and thin.	

Setting up the Video, Continued

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	1080i 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	1080i 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.

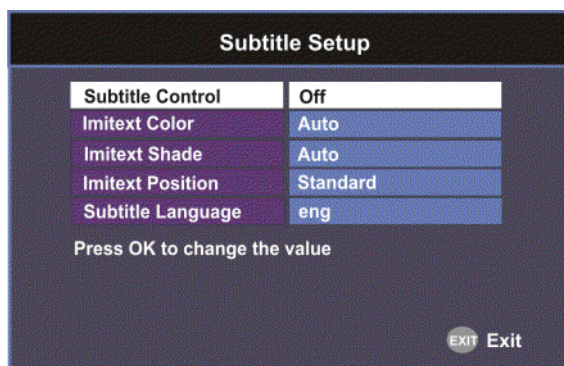
Setting up Subtitles

Setting up Subtitles

The Subtitle Setup screen allows you to configure the type of subtitling (i.e., DVB or Imtext 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, Imtext subtitles are displayed when only Imtext subtitles are transmitted on the channel. When both DVB and Imtext 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 Imtext 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 Imtext subtitles are being transmitted on the same channel, only DVB subtitles will be displayed.	

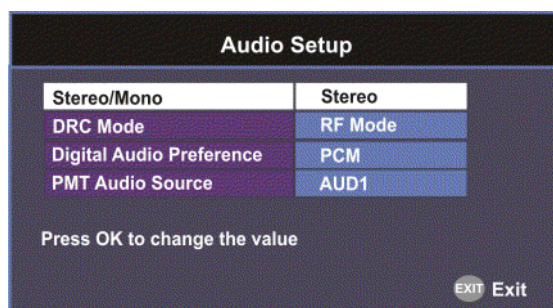
Selection	Options	Description	Default
Imitext Color (text color)	Auto	Displays text in the color transmitted by the subtitling equipment.	Auto
	Yellow	Displays text in yellow.	
	White	Displays text in white.	
Imitext Shade (background color)	Auto	Displays background in same shade transmitted by the subtitling 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 Audio

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.	PCM
	Dolby Digital	For more information on the settings, see the table in Digital Audio Preference Settings , on page 4-43.	
	Compressed (Dolby Digital Plus)		
PMT Audio Source	None	Select the PMT Audio Source for the audio channel.	AUD1
	AUD1 to AUD64		

Setting up Audio, Continued

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:

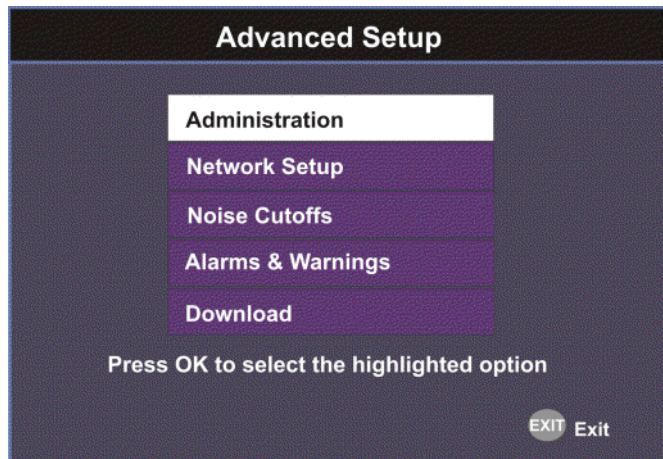
Input/ Output	Digital Audio Preference			
	PCM	Dolby Digital	Compressed	
			S/PDIF	HDMI
MPEG LA (MPEG1 and MPEG2)	PCM	PCM	PCM	PCM
Dolby Digital	PCM	Dolby Digital (follows IEC 61937)	Dolby Digital (follows IEC 61937)	Dolby Digital (follows IEC 61937)
Dolby Digital Plus (< 1.5 Mbps)	PCM	Dolby Digital (follows 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)

Advanced Setup

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:

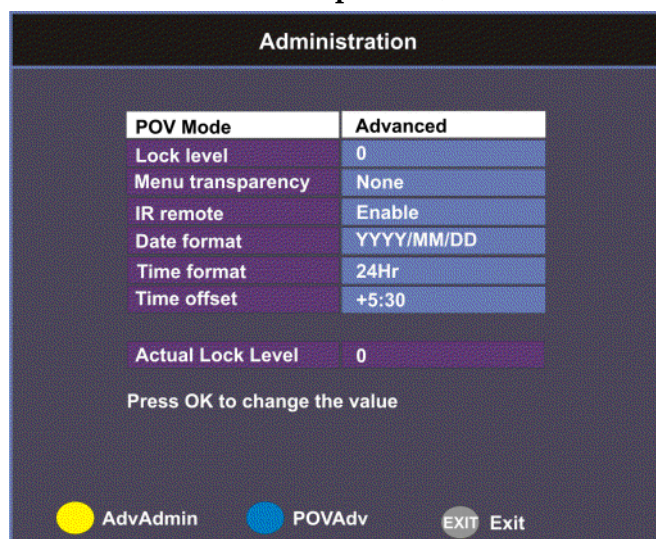
- **Administration**
From this menu, you can display and control the Lock level, date and time, and other settings.
- **Network Setup (D9865D only)**
From this menu, you can configure the receiver for Ethernet operation.
- **Noise Cutoffs**
From this menu, you can set the noise thresholds.
- **Alarms & 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: CA Mode - Std Acquisition Mode - Basic	Standard
	Open	Configures the network controls to the following pre-defined settings: CA Mode - Open 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. 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. 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. 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. 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.	

Setting up Advanced User Settings, Continued

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.

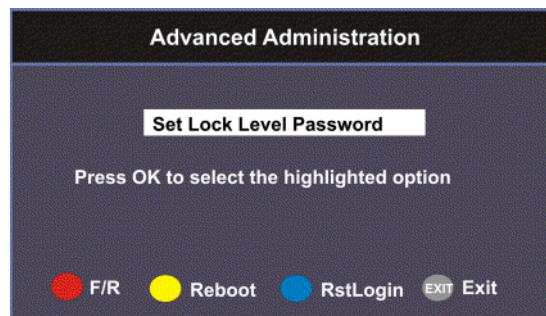
Changing the Lock Level Password

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.

Changing the Lock Level Password, Continued

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**.

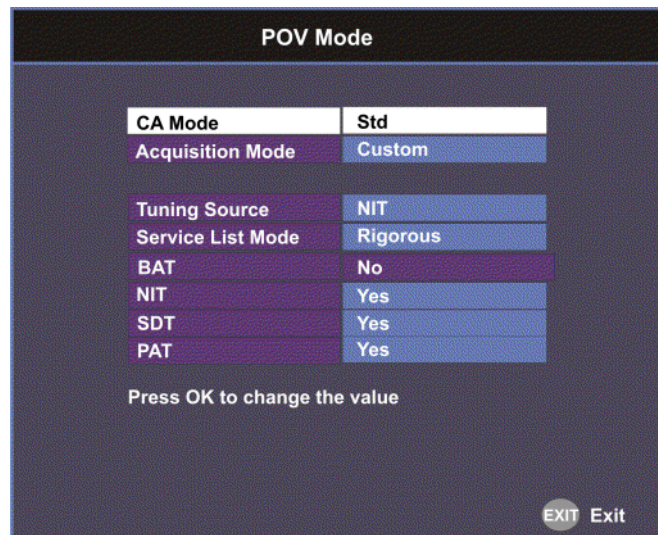
Setting up POV Mode

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.

Setting up POV Mode, Continued

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.

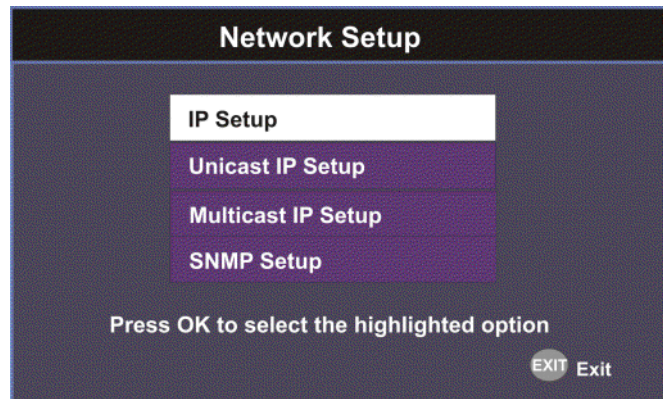
Allowed Service Lists	Auto	Basic	Custom
BAT	No	No	No
NIT	Yes	Yes	No
SDT	Yes	No	No
PAT	Yes	No	Yes
Tuning Source	NIT	NIT	Preset

Network Setup

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.

Configuring IP Setup

Setting up the IP Information

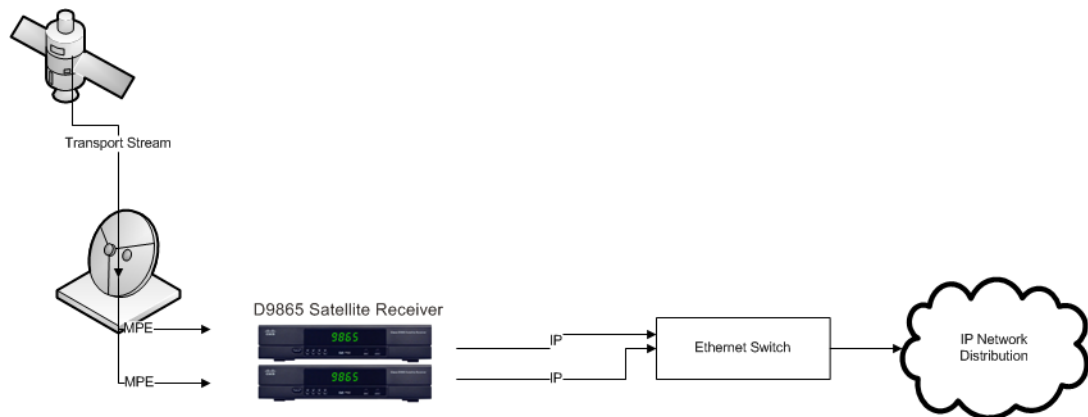
The IP Setup screen allows you to set the parameters for communicating with other equipment via the Ethernet Data and Management ports for MPE applications. The D9865 supports unicast and multicast IP streaming. There are two Ethernet ports (Port 1 and Port 2). Click the blue button (**Next Port**) in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



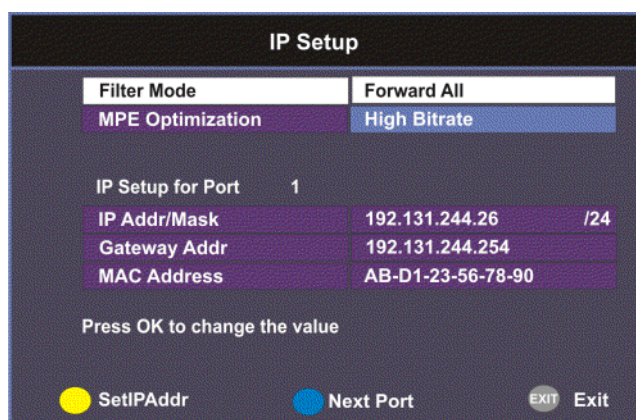
Configuring IP Setup, Continued

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.

Configuring IP Setup, Continued

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**.

Unicast IP Setup

No	Network Address
1	192.131.244.6/24

Gateway Address
192.131.244.254

Press OK to change the value

Add **EXIT Exit**

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.

Add/Edit Unicast IP

Network Address: 0.0.0.0 / Mask: 24

Gateway Address: 0.0.0.0

Press OK to change the value

Keyboard **Save** **EXIT Exit**

Setting the Unicast IP Address, Continued

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

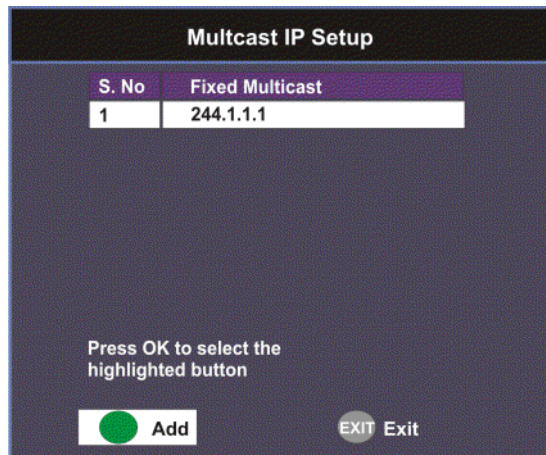
1. In the Unicast IP Setup screen, scroll to the unicast IP you want to delete using the ▼▲ buttons.
2. Press **OK**. The Edit/Delete Unicast IP screen is displayed.
3. Select **Delete** or press the red button (**Delete**). A message appears to confirm the deletion.
4. Press **OK**.

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**.

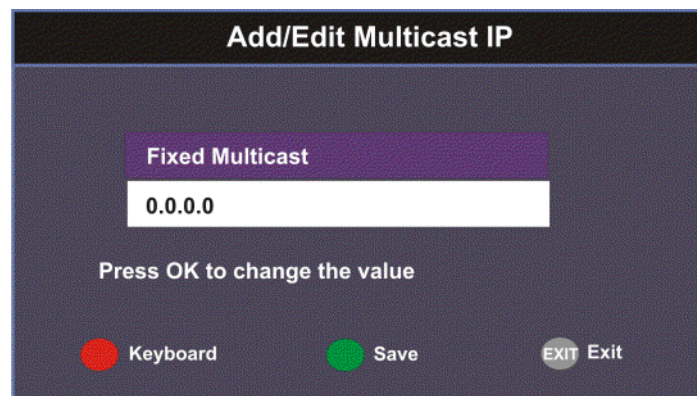


The Multicast IP Setup screen lists all the fixed multicast destination IP addresses.

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.

Setting the Multicast IP Address, Continued

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

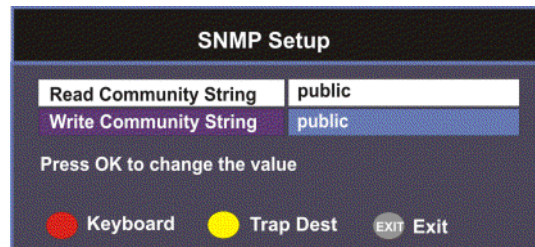
1. In the Multicast IP Setup screen, scroll to the multicast IP you want to delete using the ▼▲ buttons.
2. Press **OK**. The Edit/Delete Multicast IP screen is displayed.
3. Select **Delete** or press the red button (**Delete**). A message appears to confirm the deletion.
4. Press **OK**.

Setting up SNMP

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.

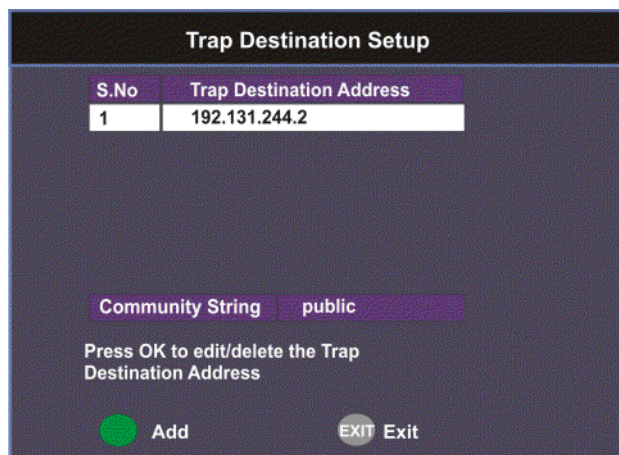
Setting up Trap Destinations

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.

Setting up Trap Destinations, Continued

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**.

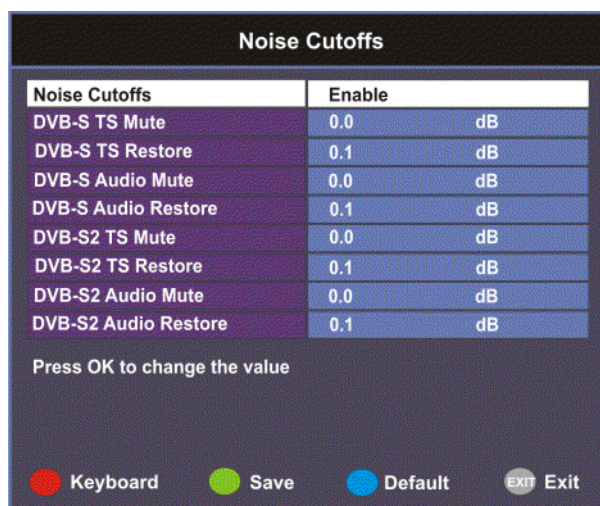
Configuring Noise Cutoffs

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:

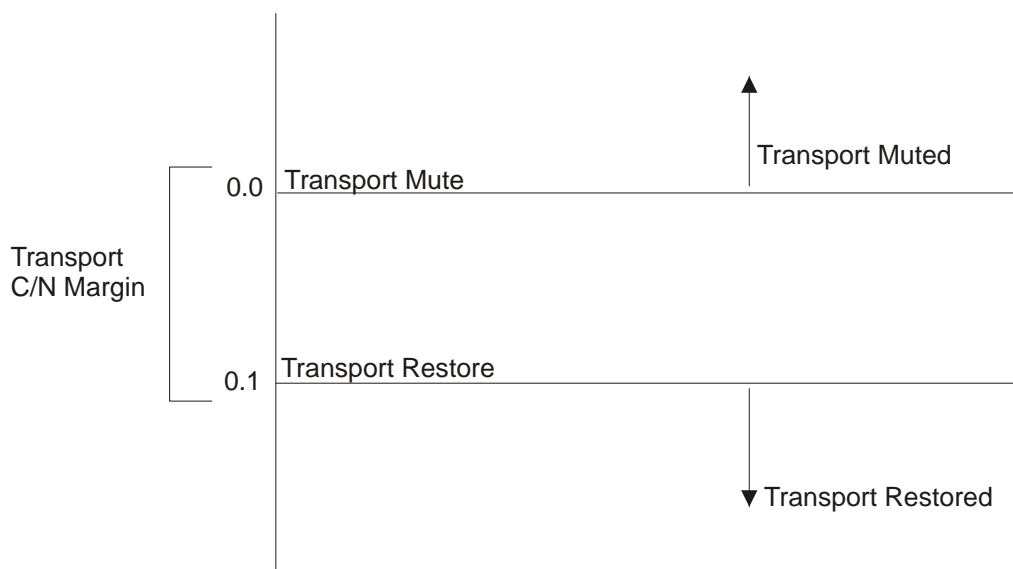
Selection	Options	Description	Default
Noise Cutoffs	Enable or Disable	Sets whether to enable or disable the noise cutoffs functionality.	Enable

Selection	Options	Description	Default
DVB-S/DVB-S2 TS Mute	-5.0 to 20.0 dB	<p>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.</p> <p>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.</p>	0.0
DVB-S/DVB-S2 TS Restore	-5.0 to 20.0 dB	<p>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.</p> <p>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.</p>	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. 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. 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

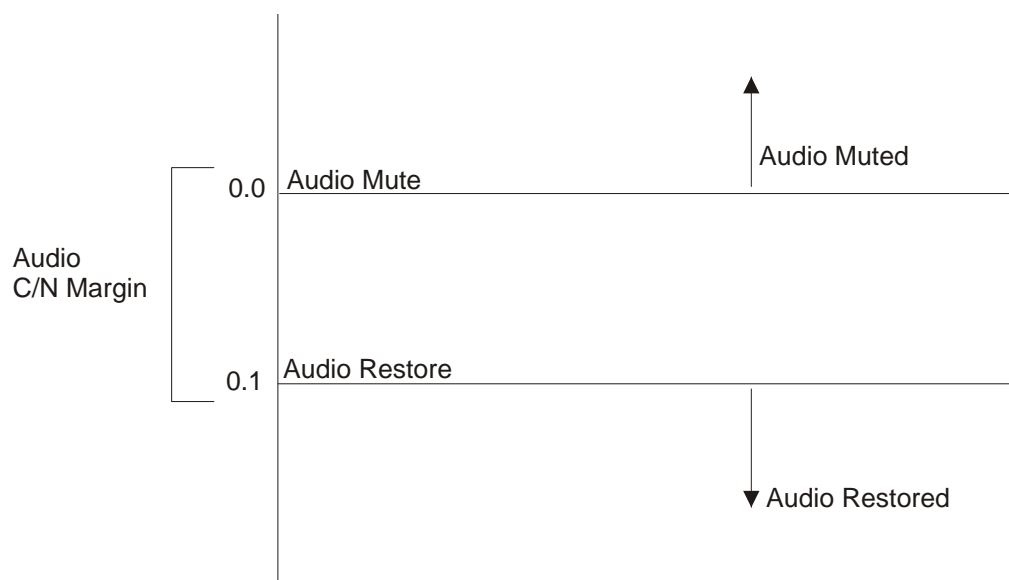
The following displays the transport and audio default C/N Margin relationships:

Transport Default C/N Margin Relationship



Configuring Noise Cutoffs, Continued

Audio Default C/N Margin Relationship



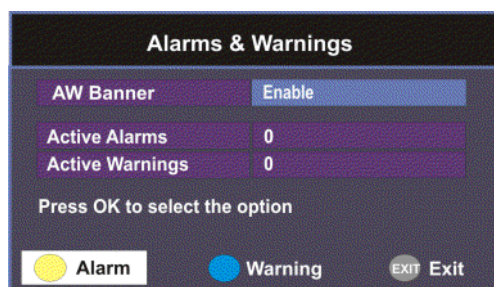
4. If you want to restore the transport stream and audio C/N margin options to their factory set (default) values, press the blue button (**Default**). A message appears confirming to restore to default values. Press **OK** to confirm.
5. Press the green button (**Save**) to save and apply the settings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



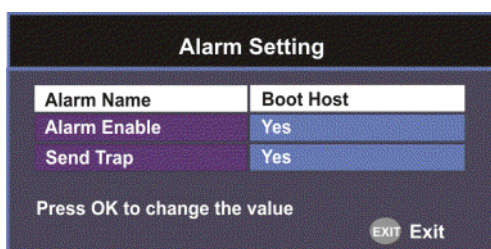
2. Set whether alarms and warnings are to be displayed on-screen in **AW Banner** (Enable or Disable).

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.



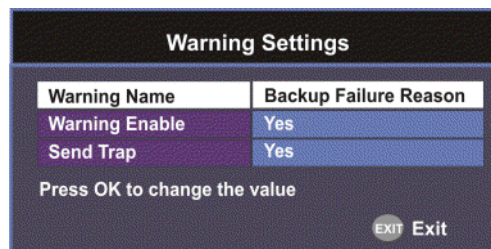
2. Set the following alarm options:

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.

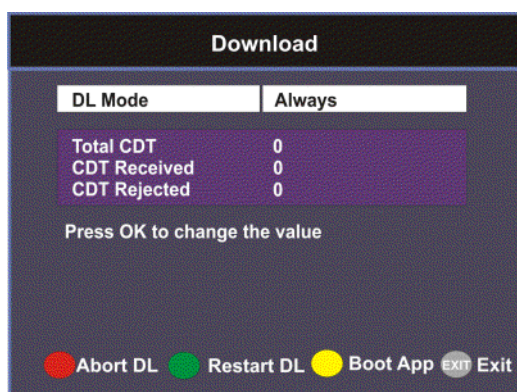
Viewing Downloads

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.

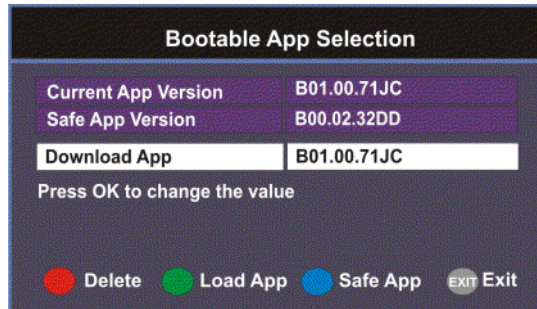
3. Press the green button (**Restart DL**) to start an over-the-air download. You can press the red button (**Abort DL**) at any time to abort the download operation.
4. Once the download is complete, the receiver reboots. Following reboot, the receiver returns to the last viewed channels.

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.

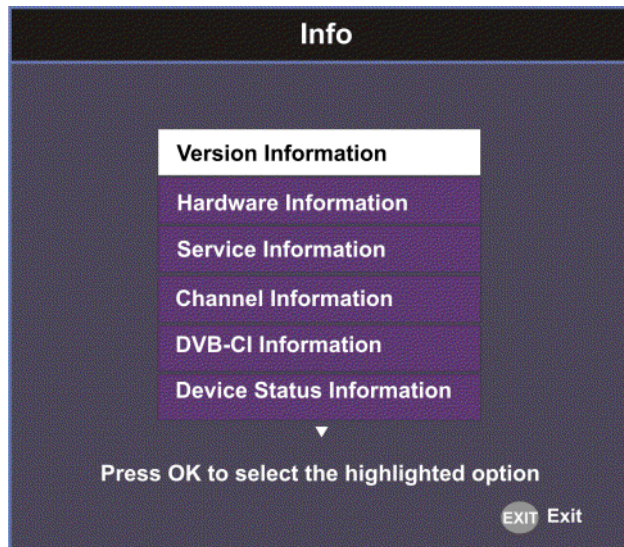
Press the red button (**Delete**) to remove the selected application version. You will be prompted to continue or not. Press **OK** to continue the deletion.

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:

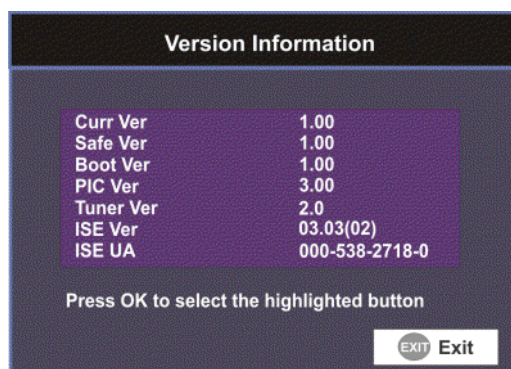
- **Version**
This menu displays the current and factory loaded application version numbers.
- **Hardware**
From this menu, it provides the D9865 receiver's hardware information.
- **Service**
This menu displays the channel service information.
- **Channel**
This menu displays the current channel information.
- **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:

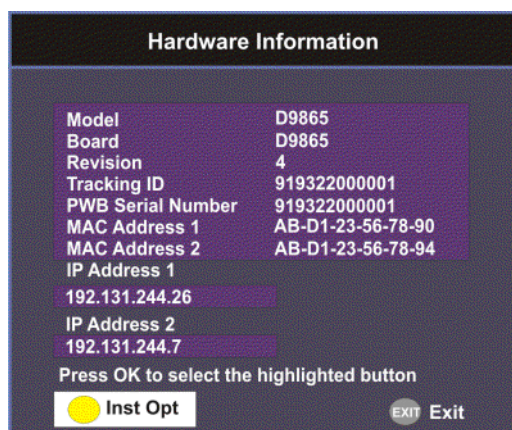
Version Information	Description
Curr Ver	Indicates the currently running loaded application version number.
Safe Ver	Indicates the factory loaded application version number.
Boot Ver	Indicates the receiver Boot application version number.
PIC Ver	Indicates the Programmable Interrupt Controller (PIC) 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:

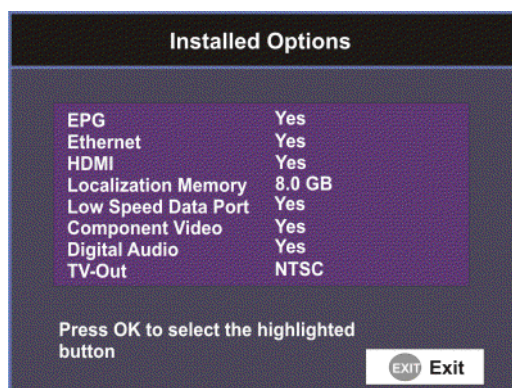
Hardware Information	Description
Model	Indicates the model number of the receiver.
Board	Indicates the board type.
Revision	Indicates the board revision number.
Tracking ID	This is the unique Tracking ID number that identifies the product version.
PWB Serial Number	Displays the serial number for the 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. 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**).



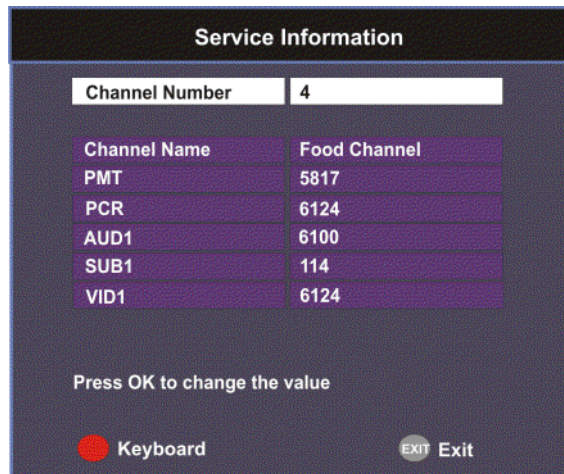
The Installed Options screen displays the hardware options installed in the current D9865 satellite receiver.

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 following data:

Service Information	
Channel Number	4
Channel Name	Food Channel
PMT	5817
PCR	6124
AUD1	6100
SUB1	114
VID1	6124

Press OK to change the value

Keyboard EXIT Exit

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. 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.

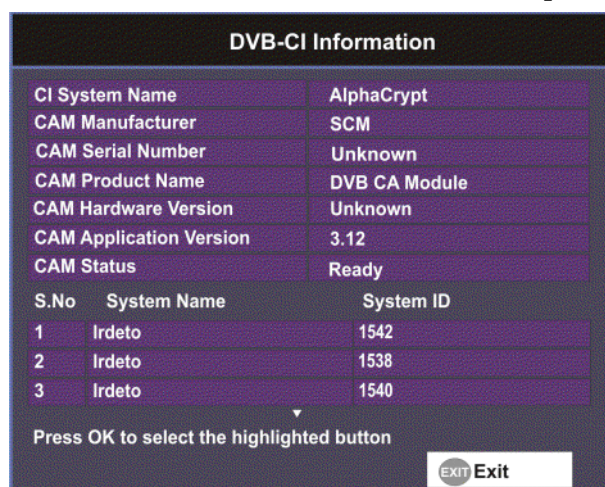
Note: CAMs must be purchased from Cisco. For a list of the supported CAMs, see **Common Interface Modules**, on page 3-5.

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).

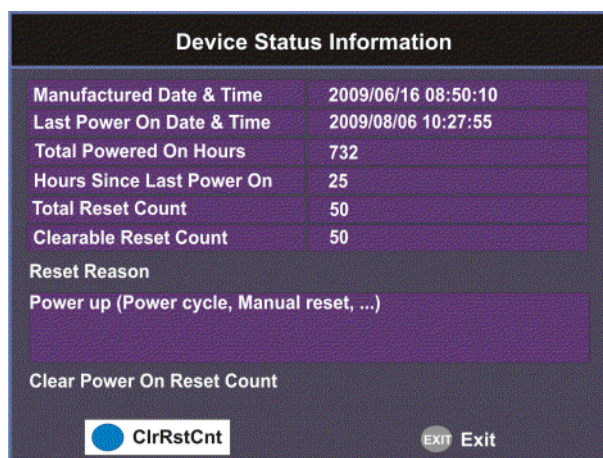
DVB-CI Information	Description
S.No/System Name/ System ID	Displays the CA system identification number and name of the CAM. Some CAMs may support multiple CA system IDs.

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:

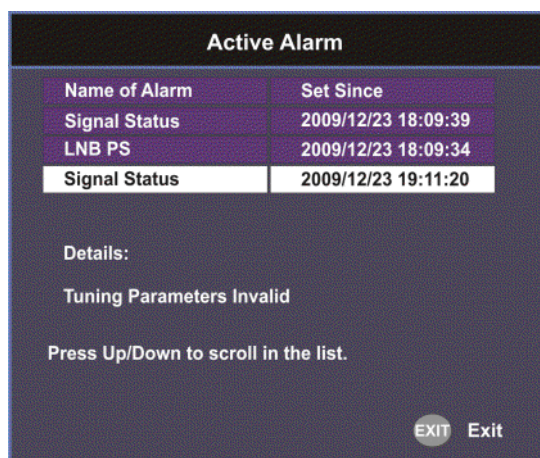
Device Status Information	Description
Manufactured Date & Time	Displays the date and time when the receiver was manufactured.
Last Power On Date & Time	Displays the date and time when the receiver was powered up.
Total Powered On Hours	Displays the total number of hours that the receiver has been operating.
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. 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:

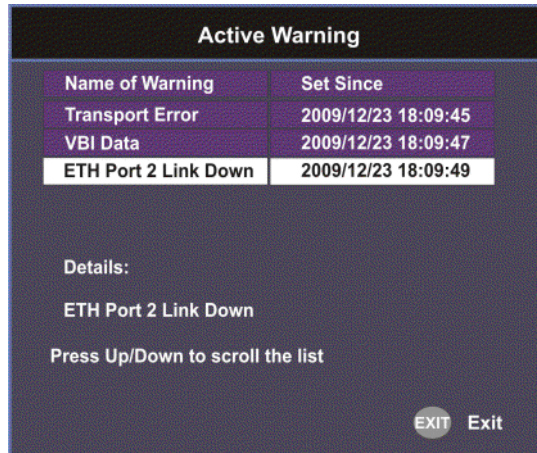
Active Alarm Information	Description
Name of Alarm	Name of the alarm. For more information on alarm messages, refer to Messages , on page 7-2.
Set Since	Date and time of the alarm.
Details	Displays the content of the message.

Viewing the Active Alarm and Warning Messages, Continued

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.

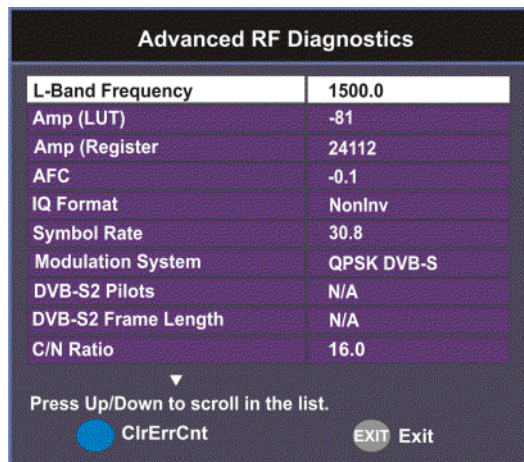
The Signal Quality is associated with the Bit Error Rate (displayed in the range from 0 to 100). The Signal Quality is continuously updated to indicate the relative quality of the received RF input signal.

Viewing Advanced RF Diagnostics

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**).



The screenshot shows the 'Advanced RF Diagnostics' screen with a list of parameters and their values. At the bottom, there are two buttons: a blue 'ClrErrCnt' button and a grey 'EXIT Exit' button. A small downward arrow points to the text 'Press Up/Down to scroll in the list.'.

Advanced RF Diagnostics	
L-Band Frequency	1500.0
Amp (LUT)	-81
Amp (Register)	24112
AFC	-0.1
IQ Format	NonInv
Symbol Rate	30.8
Modulation System	QPSK DVB-S
DVB-S2 Pilots	N/A
DVB-S2 Frame Length	N/A
C/N Ratio	16.0

▼
Press Up/Down to scroll in the list.

 ClrErrCnt  EXIT Exit

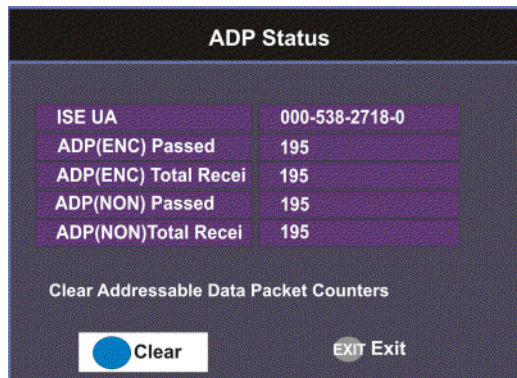
Press the blue button (**ClrErrCnt**) to clear the error counters.

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.

Topic	See Page
Logging on to the Web GUI	5-3
Web GUI - Summary Screen	5-4
Links	5-6
D9865 Web GUI Environment	5-7
Tuning Setup	5-9
Setting Up Dish Pointing	5-12
Setting up SI Receive Parameters	5-16
Setting up Muting Threshold Controls	5-18
Setting up the Tuning Presets/LNB	5-21
Setting up LNB Presets	5-23
Viewing Input Status	5-25
Setting the Channel Information	5-26
Configuring the Common Interface (CI) Information	5-28
Viewing the PSI Tables	5-32
Viewing PSI Frequency Information	5-33
Viewing the PSI Channels	5-34
Setting up the Video	5-35
Configuring Captions	5-37
Setting up Subtitles	5-38
Setting up Audio	5-41
Viewing System Information	5-43
Viewing Features/Licenses	5-44
Setting Up IP Information	5-45

Topic	See Page
Setting Up IP Routing	5-46
Setting Up SNMP and Trap Destinations	5-48
Configuring Time/Clock Information	5-50
Configuring Favorites and Reminders	5-51
Viewing the Alarm/Warning Status	5-53
Setting Up Alarms and Warnings	5-54
Viewing the Alarm/Warning History	5-56
Viewing Version Information	5-57
Setting Up Import/Export Information	5-59
Viewing the Backup/Restore History	5-61
Managing D9865 Web GUI Accounts	5-62
Configuring Lock Level Settings	5-65
Viewing Contact Information	5-67
Viewing Diagnostic Logs	5-68
Viewing the Usage Counters	5-69
Performing Service Actions	5-71

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**.

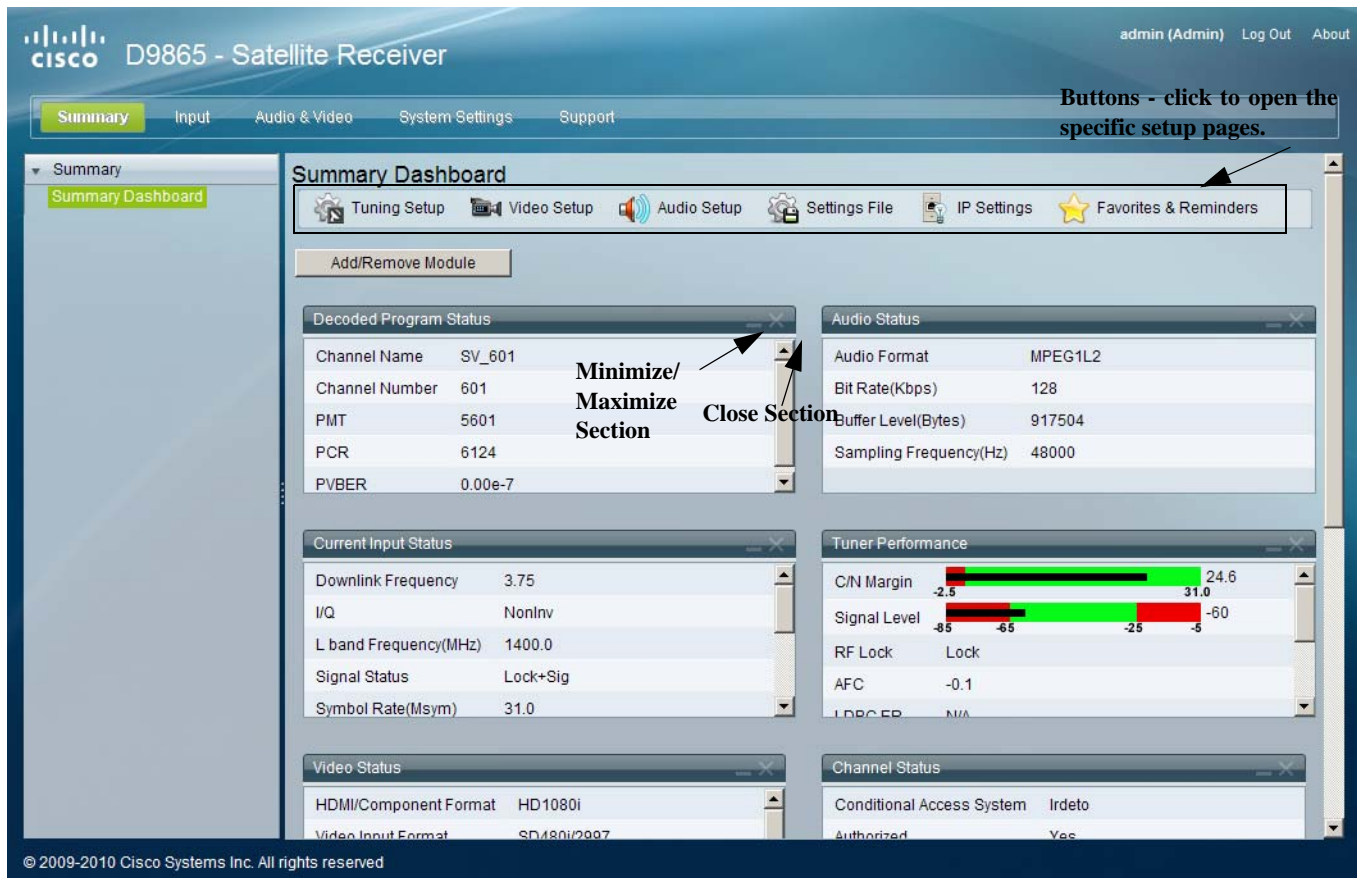
Note: If you select **Remember username**, the user name will be remembered the next time you log into the web GUI.

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.



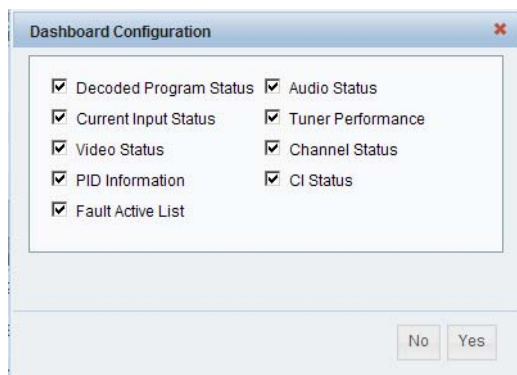
The summary screen displays the main settings of the D9865 Satellite Receiver.

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.

Web GUI - Summary Screen, Continued

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.



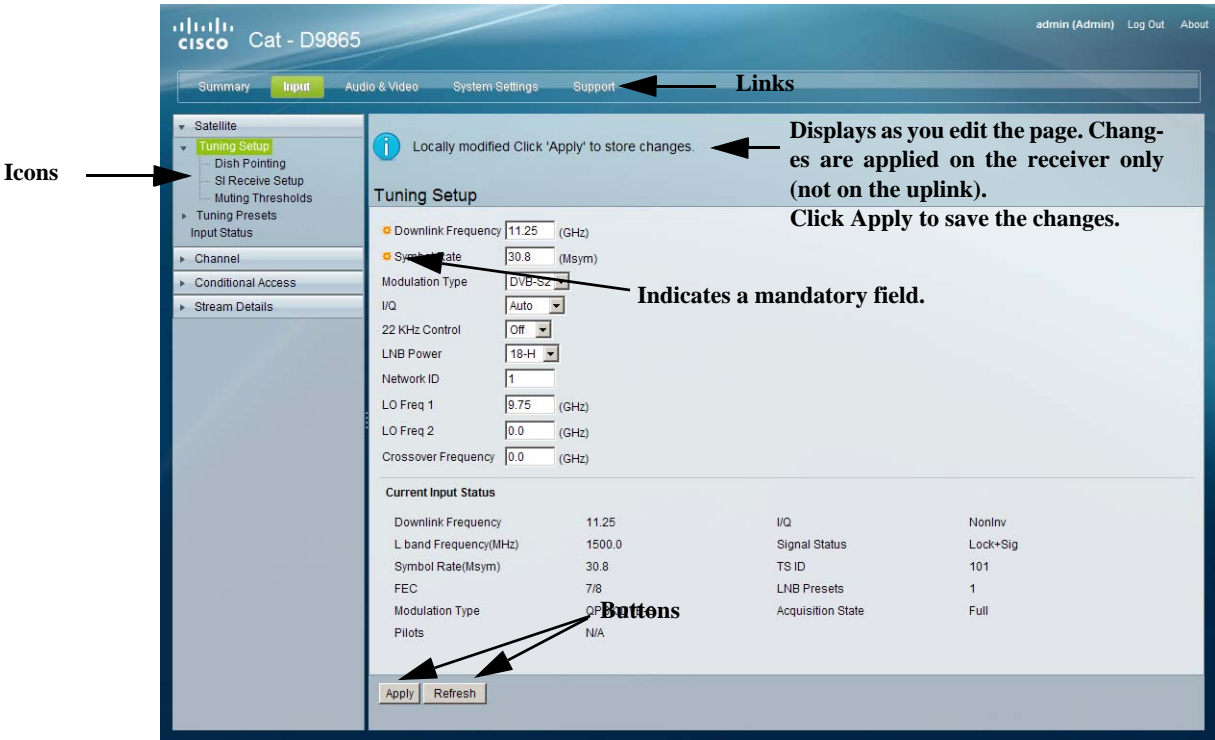
The function for the linked pages is as follows:

- **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.

D9865 Web GUI Environment

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	<p>Saves and applies the settings to the receiver.</p> <p>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.</p> <p>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.</p>
Refresh	<p>Reads existing data from the D9865. If edits were made in a setup page, then unsaved changes are discarded.</p>

D9865 Web GUI Environment, Continued

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.

Tuning Setup

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.

The screenshot displays the 'Tuning Setup' page for a Cisco D9865 Satellite Receiver. The left sidebar shows a navigation tree with 'Satellite' expanded, containing 'Tuning Setup', 'Dish Pointing', 'SI Receive Setup', 'Muting Thresholds', 'Tuning Presets', 'Input Status', 'Channel', 'Conditional Access', and 'Stream Details'. The main content area is titled 'Tuning Setup' and contains the following configuration fields:

- Downlink Frequency: 11.25 (GHz)
- Symbol Rate: 30.8 (Msym)
- Modulation Type: DVB-S
- I/Q: Auto
- 22 KHz Control: Off
- LNB Power: 18-H
- Network ID: 1
- LO Freq 1: 9.75 (GHz)
- LO Freq 2: 0.0 (GHz)
- Crossover Frequency: 0.0 (GHz)

Below the configuration fields is a 'Current Input Status' table:

Downlink Frequency	11.25	I/Q	NonInv
L band Frequency(MHz)	1500.0	Signal Status	Lock+Sig
Symbol Rate(Msym)	30.8	TS ID	101
FEC	7/8	LNB Presets	1
Modulation Type	QPSK DVB-S	Acquisition State	Full
Pilots	N/A		

At the bottom of the page, there are 'Apply' and 'Refresh' buttons, and a copyright notice: '© (C) 2009-2010 Cisco Systems Inc. All rights reserved'.

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: $\text{Downlink Freq} = \text{LO Freq} - \text{L-Band Freq}$. The formula for Ku-Band is $\text{Downlink Freq} = \text{LO Freq} + \text{L-Band Freq}$.
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).

Configuring Tuning Setup, Continued

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.

Configuring Tuning Setup, Continued

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. Locked - Receiver is locked to a carrier with no valid content. Lock+Sig - Receiver is locked to a carrier with valid content. 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.

The screenshot shows the Cisco D9865 Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings', and 'Support'. The 'Input' tab is selected, and the left sidebar shows 'Satellite' > 'Tuning Setup' > 'Dish Pointing' selected. The main content area is titled 'Dish Pointing' and contains the following fields and sections:

- Satellite Number:** A text input field with the value '1'. Below it is a note: 'Please enter a valid satellite number between 1 and 255.'
- User Action:** A dropdown menu currently set to 'None'.
- Tuner Performance:** A section displaying various signal metrics with horizontal bar graphs and numerical values:
 - C/N Margin: -2.5 (green bar) to 24.6 (red bar)
 - Signal Level: -48 (green bar) to -60 (red bar)
 - RF Lock: Lock (green bar) to PVB ER: 0.00e-7
 - AFC: -0.1 (green bar) to RF(1) Power: H
 - LDPC ER: N/A (green bar) to LNB Status: Normal
 - Packet ER: 0.00e-8 (green bar)
- Buttons:** 'Apply' and 'Refresh' buttons are located below the Tuner Performance section.
- Links:** 'Installer Action' and 'User Action' links are located at the bottom right of the Tuner Performance section.

The footer of the page reads: '© 2009-2010 Cisco Systems Inc. All rights reserved.'

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.

Setting Up Dish Pointing, Continued

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**.

Setting Up Dish Pointing, Continued

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.

The screenshot shows the Cisco D9865 Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input' (highlighted), 'Audio & Video', 'System Settings', and 'Support'. The left sidebar shows a tree view with 'Satellite' expanded, containing 'Tuning Setup' (with 'Dish Pointing' highlighted), 'SI Receive Setup', 'Muting Thresholds', 'Tuning Presets', 'Input Status', 'Channel', 'Conditional Access', and 'Stream Details'. The main content area is titled 'Dish Pointing' and contains the following fields and sections:

- Satellite Number:** A text input field with the value '1'. Below it, a message reads: 'Please enter a valid satellite number between 1 and 255.'
- Installer Action:** A dropdown menu currently set to 'None'.
- DiSEqC:** A dropdown menu currently set to 'Disable'.
- Absolute Position:** A text input field with the value '2.5'.
- Tuner Performance:** A section displaying various metrics with horizontal bar graphs:
 - C/N Margin: A bar from -2.5 to 24.6, with a peak at 31.0.
 - Signal Level: A bar from -85 to -60, with a peak at -45.
 - RF Lock: A bar from Lock to -0.1.
 - AFC: A bar from -0.1 to N/A.
 - LDPC ER: A bar from N/A to 0.00e-8.
 - Packet ER: A bar from 0.00e-8 to 0.00e-7.
 - PV BER: A bar from -4 to H.
 - RF(1) Power: A bar from H to Normal.
 - LNB Status: A bar from Normal to 0.00e-7.
- At the bottom of the Tuner Performance section are 'Apply' and 'Refresh' buttons.
- At the bottom right of the page is a link for 'Installer Action | User Action'.

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.

SI Receive Setup

Custom Tuning Mode

Set custom tuning parameters below.

Acquisition Mode: [Configure Custom SI Recv](#)

CA Mode:

Network ID:

SI Receive Status

Frequency Selection Mode	NIT	BAT	No
Service List Mode	Rigorous	NIT	Yes
Source of Last Tuning	User Entry	SDT	Yes
Last Preset Activated	1	PAT	Yes
Acquisition State	Full		

[Apply](#) [Refresh](#)

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:

Configure Custom SI Recv

Settings

Frequency Tuning Mode:

Service List Mode:

Service List Contributors

Bouquet Association Table:

Network Information Table:

Service Description Table:

Program Association Table:

[Cancel](#) [Ok](#)

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).

Setting up SI Receive Parameters, Continued

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input' (highlighted), 'Audio & Video', 'System Settings', and 'Support'. The left sidebar shows a tree view with 'Satellite' expanded, containing 'Tuning Setup' (with sub-items 'Dish Pointing', 'SI Receive Setup', and 'Muting Thresholds' highlighted), 'Tuning Presets', 'Input Status', 'Channel', 'Conditional Access', and 'Stream Details'. The main content area is titled 'Muting Thresholds' and contains a section 'Muting Thresholds' with a checkbox 'Enable Threshold Muting' which is checked. Below this is a table with columns 'Parameters', 'RF Modulation DVB-S C/N Margin (dB)', and 'DVB-S2 C/N Margin (dB)'. The table has four rows: 'Transport Mute' (0.0), 'Transport Restore' (0.1), 'Audio Mute' (0.0), and 'Audio Restore' (0.1). At the bottom of the table are buttons for 'Apply', 'Refresh', and 'Reset Defaults'.

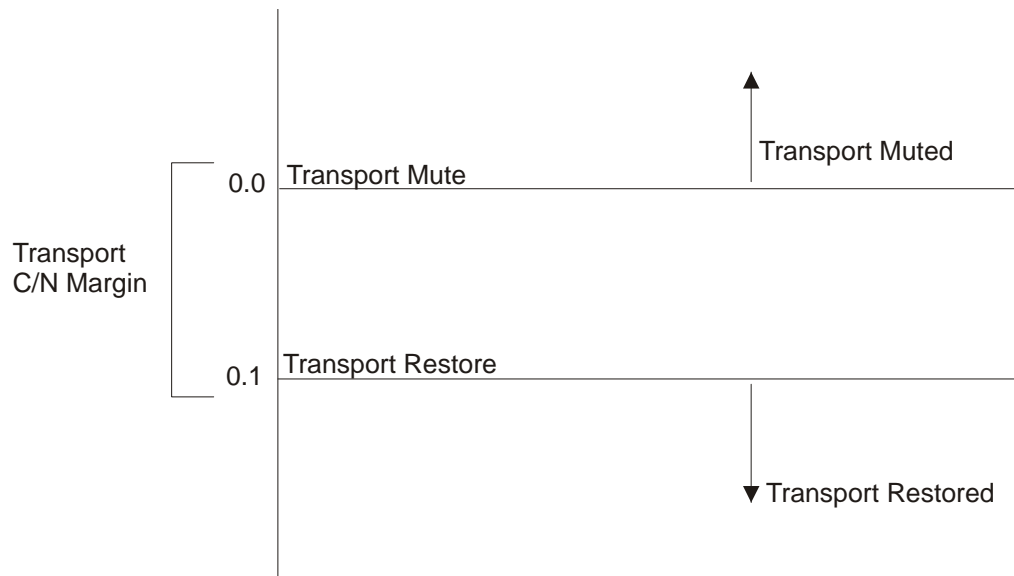
Parameters	RF Modulation DVB-S C/N Margin (dB)	DVB-S2 C/N Margin (dB)
Transport Mute	0.0	0.0
Transport Restore	0.1	0.1
Audio Mute	0.0	0.0
Audio Restore	0.1	0.1

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.

Setting up Muting Threshold Controls, Continued

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

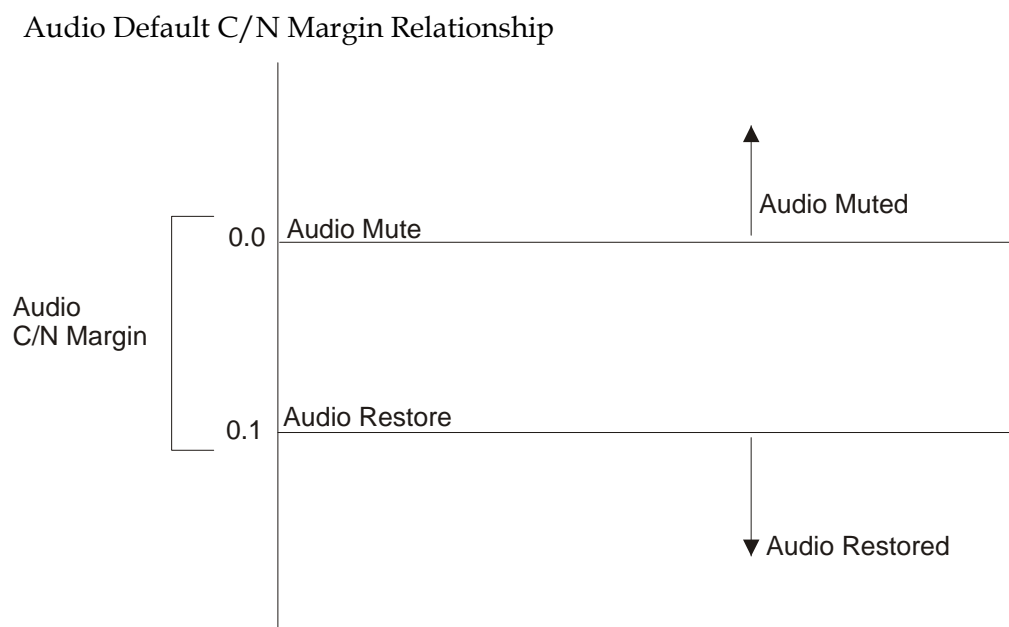


4. The **Audio Mute** and **Restore** for both DVB-S C/N Margin and DVB-S2 C/N Margin sets the Audio channel Mute and Restore C/N margin values (limits) to mute audio when the signal quality is severely degraded when using DVB-S or DVB-S2 modulation.

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.

Setting up Muting Threshold Controls, Continued



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.

Tuning Presets

Presets are configured using the following parameters:

Presets	1
Presets Name	ET
Network ID	1
LNB Configuration	1
Modulation Type	DVB-S2
Downlink Frequency	4.15 (GHz)
Symbol Rate	25.0 (Msym)

Last Activated Preset: 1

Current Input Status

Parameter	Value	Parameter	Value
Downlink Frequency	3.75	I/Q	NonInv
L band Frequency(MHz)	1400.0	Signal Status	Lock+Sig
Symbol Rate(Msym)	31.0	TS ID	101
FEC	7/8	LNB Presets	1
Modulation Type	QPSK DVB-S	Acquisition State	Full
Pilots	N/A		

Buttons: Activate, Apply to Preset, Refresh

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.

Setting up the Tuning Presets/LNB, Continued

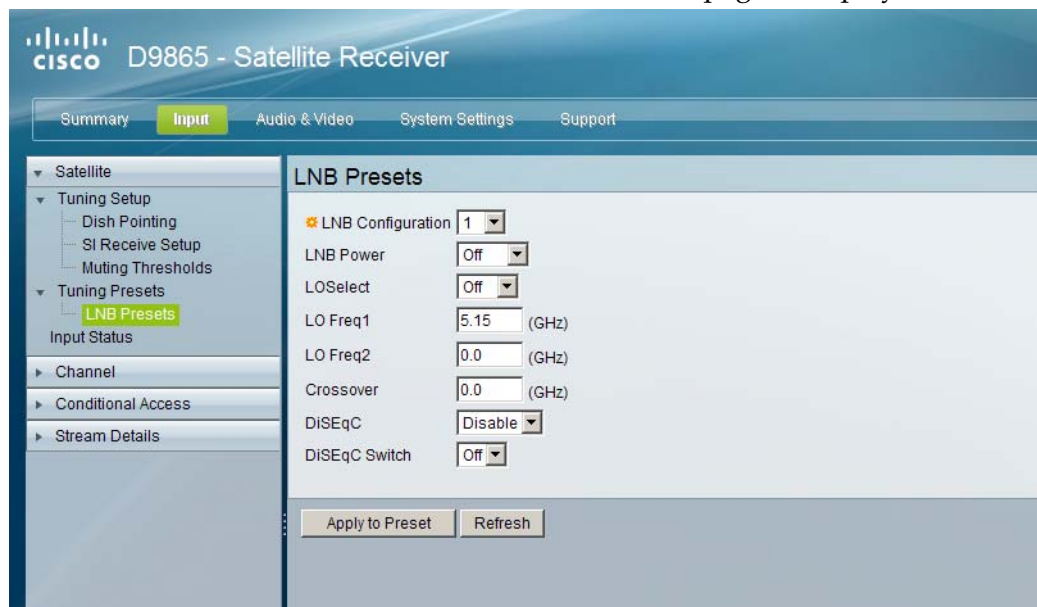
8. Type the **Symbol Rate**. The symbol rate must match that of transmitted signal. You can enter a value in the range from 1.0 to 45.0 MS/s for DVB-S or 1.0 to 31.0 MS/s for DVB-S2.
9. The **Last Activated Preset** displays the number of the last activated preset.
10. The **Current Input Status** section 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.

Setting up Dish Presets, Continued

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.



The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The 'Input' tab is selected, and the 'Channel Selection' sub-tab is active. A dropdown menu for 'Channel' is set to '601:SV_601'. Below the dropdown are 'Apply' and 'Refresh' buttons. The 'Channel Status' section displays the following information:

Channel Status	
Conditional Access System	Irdeto
Authorized	Yes
Scrambled	Yes
Encrypted	Unkn

The 'PID Information' table is also visible:

Type	PID
PMT	5601
PCR	6124
VID	6124
DPI	8007
AUD	6100
AUD	6102

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.

The screenshot displays the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input' (highlighted), 'Audio & Video', 'System Settings', and 'Support'. The left sidebar shows a tree view with 'Satellite', 'Channel', 'Conditional Access' (expanded), 'CI Setup' (highlighted), and 'Stream Details'. The main content area is titled 'CI Setup' and contains several configuration options: 'Decryption Mode' (set to ON), 'TS/ONID Check' (set to Disable), 'CI CAM QUERY Support' (set to Disable), 'Transport ID' (set to 0), 'CI CAM Auto Reset' (set to Disable), 'Original Network ID' (set to 0), and 'CA List Management Type' (set to UpdateAll). Below these settings is a section titled 'CI Component Setup' which contains a table with columns: Mode, PID, Stream Category, Stream Type Value, and Stream Instance. At the bottom of this section are 'Add' and 'Delete' buttons.

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.

Configuring the Common Interface (CI) Information, Continued

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).

The screenshot shows the 'CI Component Setup' section of a software interface. At the top, there are tabs for 'Audio & Video', 'System Settings', and 'Support'. Below these, there's a dropdown for 'CA List Management Type' set to 'Update All'. The main area is titled 'CI Component Setup' and contains a table with the following columns: 'Mode', 'PID', 'Stream Category', 'Stream Type Value', and 'Stream Instance'. A new record is being added at the top of the table, indicated by an arrow and the text 'New Record'. The 'Mode' dropdown is set to 'PID'. Below the table, there are 'Add' and 'Delete' buttons.

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. 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:

CI Status	
Sys Name	AlphaCrypt
Comp Name	SCM
Manufacture Code	18976
Manufacture ID	18976
Serial Number	Unknown
Hardware Version	Unknown
Application Version	3.12
CAM Status	Ready

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 screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input' (highlighted), 'Audio & Video', 'System Settings', and 'Support'. The left sidebar shows a tree view with 'Satellite' expanded, containing 'Channel', 'Conditional Access', 'Stream Details', 'PSI Tables', 'PSI Frequency' (highlighted), and 'PSI Channel'. The main content area is titled 'PSI Frequency' and 'PSI Frequency Information'. It displays a table with the following data:

Transport Stream ID	Frequency (GHz)	Symbol Rate (MSym)	Orbital Position	Polarization	Flag	FEC	RF Modulation	Network ID
101	12.25	30.8	126.0	Horiz	East	7/8	QPSK DVB-S	1
201	12.31	30.0	120.0	Horiz	East	3/4	8PSK DVB-S2	1

Below the table is a 'Refresh' button.

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 screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input' (highlighted), 'Audio & Video', 'System Settings', and 'Support'. The left sidebar shows a tree view with 'Satellite' expanded, containing 'Channel', 'Conditional Access', 'Stream Details' (expanded), 'PSI Tables', 'PSI Frequency', and 'PSI Channel' (highlighted). The main content area displays the 'PSI Channel' table with the following data:

Service ID	TS ID	Program Name	PMT PID	ECM PID
1	101	SV_1	5001	---
2	101	SV_2	5002	---
3	101	SV_3	5003	---
4	101	SV_4	5004	---
5	101	SV_5	5005	---
6	101	SV_6	5006	---
7	101	SV_7	5007	---
501	101	SV_501	5501	---
502	101	SV_502	5502	---
601	101	SV_601	5601	---
602	101	SV_602	5602	---
603	101	SV_603	5603	---
604	101	SV_604	5604	---

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

Setting up the Video

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video' (selected), 'System Settings', and 'Support'. The left sidebar shows 'Audio & Video' expanded with 'Video Setup' selected. The main content area is titled 'Video Setup' and contains the following configuration options:

- HDMI/Component Format: Auto
- Composite Format: NTSC
- Composite Aspect Ratio: 4:3
- Aspect Ratio Mode: None
- Wide Screen Signalling: Auto/Create
- ☒ Enable Banner Display

Below these options is a 'Video Status' table:

Video Status			
HDMI/Component Format	HD1080i	Video Input Format	SD480i/2997
Composite Format	NTSC	Encoding Format	MPEG2 SD480i/2997
Composite Aspect Ratio	4:3	Bit Rate(Kbps)	3.028512
Aspect Ratio Mode	4:3	Frame Rate(fps)	29.97
Wide Screen Signalling	UNDEFINED	3:2 Pulldown	No

At the bottom of the page are 'Apply' and 'Refresh' buttons.

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.

Setting up the Video, Continued

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**.

Configuring Captions

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**.

Setting up Audio

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)

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

- Click **Apply**.

Viewing System Information

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.

Setting Up IP Information

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes Summary, Input, Audio & Video, System Settings (highlighted), and Support. The left sidebar shows a tree view with System, Identification, Features/Licenses, IP Settings (highlighted), Time/Clock, Favorites & Reminders, Alarms, Versions, Settings File, and Security/Accounts. The main content area is titled IP Settings and contains two sections: Management Port Settings and Data Port Settings. Each section has a heading 'Enter the port information below' and three input fields: IP Address, IP Mask, and Gateway Address. The Management Port Settings are configured with IP Address 192.131.244.6, IP Mask 24, and Gateway Address 192.131.244.254. The Data Port Settings are configured with IP Address 192.131.244.7, IP Mask 24, and Gateway Address 192.131.244.254. At the bottom of the page, there are Apply and Refresh buttons.

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings' (highlighted), and 'Support'. The left sidebar shows a tree view under 'System' with 'IP Settings' expanded, and 'IP Routing' selected. The main content area is titled 'IP Routing' and contains the following settings:

- MPE Data Filter Model:** A dropdown menu set to 'Forward All'.
- MPE Optimization:** A dropdown menu set to 'High Bitrate'.
- Static Unicast Routing:** A table with columns 'Destination IP Address', 'Mask', and 'Gateway Address'. Below the table are 'Add' and 'Delete' buttons.
- Static Multicast Filtering:** A section for 'Multicast Filter Addresses' with 'Add' and 'Delete' buttons.
- At the bottom are 'Apply' and 'Refresh' buttons.

© 2009-2010 Cisco Systems Inc. All rights reserved

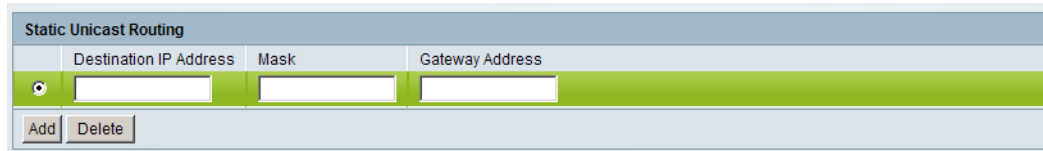
2. The **MPE Data Filter Mode** sets whether all the MPE data is forwarded (Forward All) via the Gateway. It can forward up to 5 PIDs at the maximum bit rates shown in the following table. Otherwise, select Forward None.

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.

Setting Up IP Routing, Continued

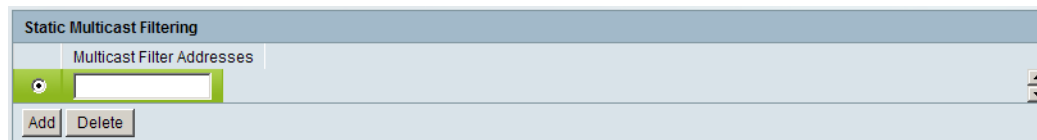
4. The **Static Unicast Routing** displays the static unicast routing addresses for the MPE data. To add a new address, click **Add**. The following is displayed:



The screenshot shows a window titled "Static Unicast Routing". It contains a table with three columns: "Destination IP Address", "Mask", and "Gateway Address". Below the table are two buttons: "Add" and "Delete".

Destination IP Address	Mask	Gateway Address
<input type="text"/>	<input type="text"/>	<input type="text"/>

- 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:



The screenshot shows a window titled "Static Multicast Filtering". It contains a section labeled "Multicast Filter Addresses" with a text input field. Below the input field are two buttons: "Add" and "Delete".

Multicast Filter Addresses

- 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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The left sidebar contains a navigation menu with the following items: System, Identification, Features/Licenses, IP Settings (expanded), IP Routing, **SNMP** (highlighted), Time/Clock, Favorites & Reminders, Alarms, Versions, Settings File, and Security/Accounts. The main content area is titled 'SNMP' and contains the following fields: Read Community String (public), Write Community String (public), System Name (sysname), System Location (Toronto), and System Contact (416-321-xxxx). Below these fields is the 'Trap Destination Configuration' section, which displays a table with columns for 'Trap Destination IP Address' and 'Community String'. The table contains one entry: IP Address 192.131.244.2 and Community String public. At the bottom of the table are buttons for 'Add', 'Delete', 'Apply', and 'Refresh'.

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 **System 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.

Setting up SNMP and Trap Destinations, Continued

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**.

Configuring Favorites and Reminders

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings' (highlighted), and 'Support'. The left sidebar shows a tree view with 'System' expanded, containing 'Identification', 'Features/Licenses', 'IP Settings', 'IP Routing', 'SNMP', 'Time/Clock', 'Favorites & Reminders' (highlighted), 'Alarms', 'Versions', 'Settings File', and 'Security/Accounts'. The main content area is titled 'Favorites & Reminders' and is divided into two sections: 'Favorites' and 'Reminders'.

Favorites Section:

- Favorites:** A list of radio buttons for selecting favorite profiles: 'All Channels' (selected), 'Authorized Channels Only', 'Sports', 'Favorite4 Name', 'Favorite5 Name', and 'Favorite6 Name'.
- One Button Channel Change:** A section with four colored buttons (Red, Green, Yellow, Blue) and corresponding dropdown menus for assigning channels.
- Tip:** These selections allow edit and make the favorite active.
- Edit:** A button to edit the current selection.

Reminders Section:

Reminder List

Channel Name	Date	Start Time	Reminder Frequency	Reminder Method
ENC1P1 Basic	2010/05/05	21:30:00	Once	Reminder Only
ENC1P1 Basic 4	2010/05/05	22:00:00	Daily	Reminder Only

At the bottom of the Reminders section are 'Apply' and 'Refresh' buttons.

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).



Configuring Favorites and Reminders, Continued

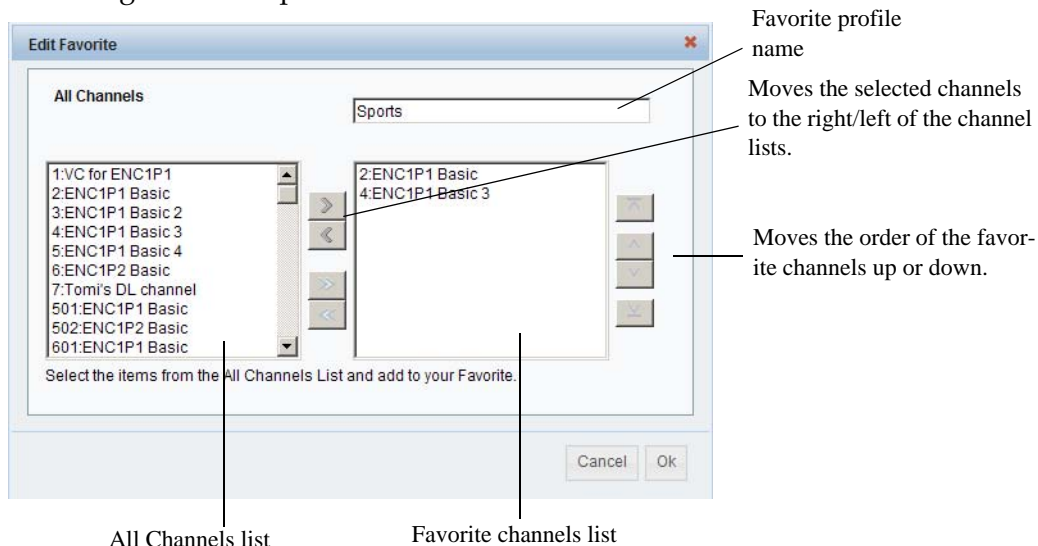
Select a channel to each color as a shortcut for a quick channel change. For example, if you assign the red button to channel 1, pressing the red button while watching a different channel at anytime will automatically tune the TV channel to 1.

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.

The screenshot displays the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings' (highlighted), and 'Support'. The left sidebar shows a tree view with 'System', 'Alarms' (expanded), 'Status' (highlighted), 'Setup', 'History', 'Versions', 'Settings File', and 'Security/Accounts'. The main content area is titled 'Status' and contains two sections: 'Fault Summary' and 'Alarm / Warning Status'. The 'Fault Summary' section shows 'Alarms: 0' and 'Warnings: 2'. The 'Alarm / Warning Status' section is a table with columns 'Type', 'Name', 'Text', and 'Set Since'. It lists two warnings: 'Warning Ethernet Port 2 ETH Port 2 Link Down 2010/05/03 10:00:05' and 'Warning TV-Out Settings Problem Video type not supported 2010/05/03 10:00:05'. At the bottom of the table are 'Refresh' and 'Clear' buttons.

Type	Number Active
Alarms	0
Warnings	2

Type	Name	Text	Set Since
Warning	Ethernet Port 2	ETH Port 2 Link Down	2010/05/03 10:00:05
Warning	TV-Out Settings Problem	Video type not supported	2010/05/03 10:00:05

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.

Setting Up Alarms and Warnings

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings' (highlighted), and 'Support'. The left sidebar shows a tree view with 'System' expanded, containing 'Alarms' (with 'Setup' highlighted), 'Versions', 'Settings File', and 'Security/Accounts'. The main content area is titled 'Setup - Alarm Setup' and contains a table of alarm settings. The table has three columns: 'Alarm Name', 'Enable/Disable', and 'Trap'. The 'Enable/Disable' column contains 'Yes' dropdown menus, and the 'Trap' column contains 'Yes' dropdown menus. A 'Trap Configuration' link is located on the right side of the page.

Alarm Name	Enable/Disable	Trap
BOOT PRI	Yes	Yes
CI1 status	Yes	Yes
DB NVS	Yes	Yes
DL Write/Erase Fault	Yes	Yes
DISEqC HW Fault	Yes	Yes
LEC Timeout	Yes	Yes
LMI setup	Yes	Yes
LNB PS	Yes	Yes
MPE capacity reached	Yes	Yes
NVS Record	Yes	Yes
PE 1 CI Status	Yes	Yes
PE 1: Not Auth	Yes	Yes
Shutdown Event	Yes	Yes
Signal Quality	Yes	Yes
Signal Status	Yes	Yes
SysStartup	Yes	Yes

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**.

Setting Up Alarms and Warnings, Continued

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.

The screenshot shows the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings' (highlighted), and 'Support'. The left sidebar shows a tree view with 'System', 'Alarms', 'Status', 'Setup' (highlighted), 'History', 'Versions', 'Settings File', and 'Security/Accounts'. The main content area is titled 'Setup - Warning Setup' and contains a table with the following data:

Warning Name	Enable/Disable	Trap
BackupFail	Yes	Yes
BackupState	Yes	Yes
CAT timeout 0	Yes	Yes
CI Status	Yes	Yes
ECT timeout 0	Yes	Yes
ETH Port 1 Link Down	Yes	Yes
ETH Port 2 Link Down	Yes	Yes
Ethernet MAC	Yes	Yes
Ethernet PHY	Yes	Yes
FW: Resource Use PRI	Yes	Yes
HDCPAuthErr	Yes	Yes
MOD Config	Yes	Yes
MPE near capacity	Yes	Yes
Memory Usage PRI	Yes	Yes

On the right side of the table, there is a link: [Trap Configuration](#)
Click to view Trap Configuration Page

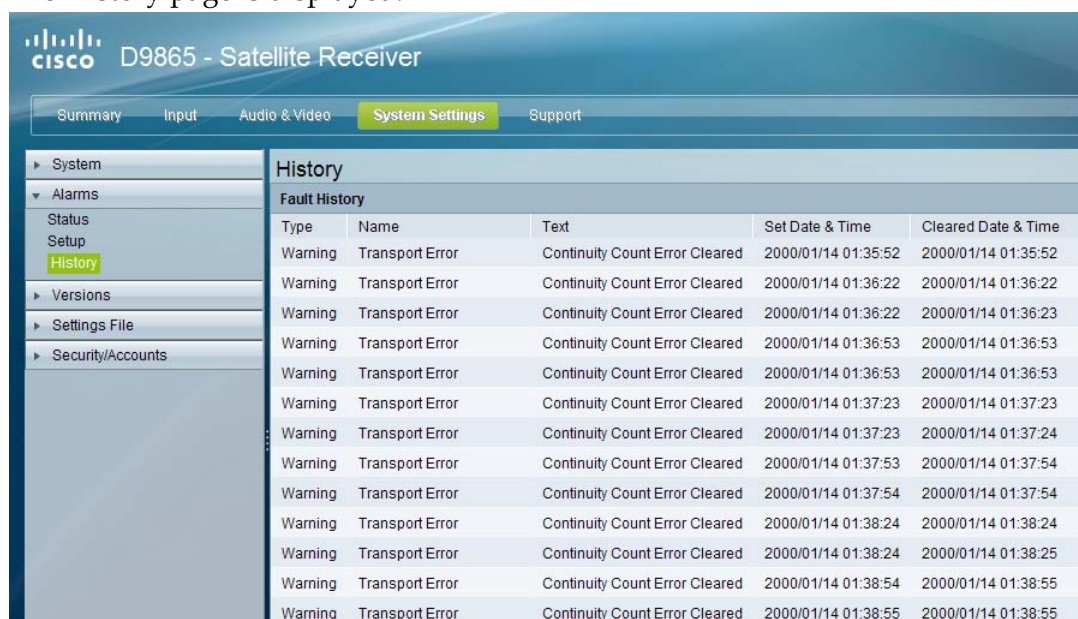
2. The Warning Setup section displays a list of alarm/fault messages. For more information on alarm messages, refer to **Messages**, on page 7-2.
3. Set **Enable/Disable** to Yes and the warning message will be reported. Set to No and the fault won't be reported.
4. Set **Trap** to Yes and the SNMP trap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



D9865 - Satellite Receiver					
Summary Input Audio & Video System Settings Support					
History					
Fault History					
Type	Name	Text	Set Date & Time	Cleared Date & Time	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:35:52	2000/01/14 01:35:52	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:36:22	2000/01/14 01:36:22	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:36:22	2000/01/14 01:36:23	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:36:53	2000/01/14 01:36:53	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:36:53	2000/01/14 01:36:53	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:37:23	2000/01/14 01:37:23	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:37:23	2000/01/14 01:37:24	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:37:53	2000/01/14 01:37:54	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:37:54	2000/01/14 01:37:54	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:38:24	2000/01/14 01:38:24	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:38:24	2000/01/14 01:38:25	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:38:54	2000/01/14 01:38:55	
Warning	Transport Error	Continuity Count Error Cleared	2000/01/14 01:38:55	2000/01/14 01:38:55	

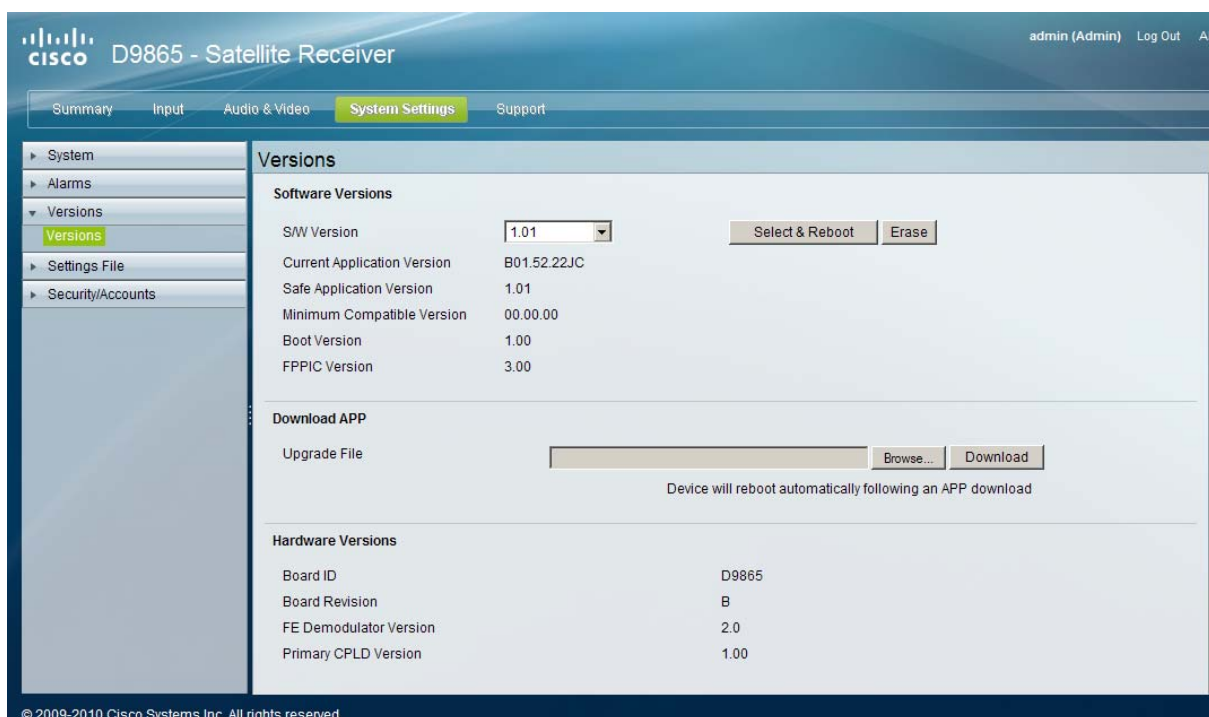
The alarm and warning History page displays all the past system event messages and their set and cleared dates and times. For more information on the alarm messages, refer to **Messages**, on page 7-2.

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.

Viewing Version Information, Continued

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.

The screenshot displays the Cisco D9865 - Satellite Receiver web interface. The top navigation bar includes 'Summary', 'Input', 'Audio & Video', 'System Settings' (highlighted), and 'Support'. The left sidebar shows a tree view with 'System', 'Alarms', 'Versions', 'Settings File' (expanded), 'Import/Export' (highlighted), 'Status', and 'Security/Accounts'. The main content area is titled 'Import / Export' and contains two sections. The first section, 'Device Settings File Transfer', has two radio buttons: 'Export Device Settings & Transport Network Information' (selected) and 'Export User Device Settings Only'. An 'Export' button is to the right. Below this is a 'Settings File' text input field with 'Browse...' and 'Import' buttons. The second section, 'Configure Offline FTP Settings File Transfer', includes fields for 'Settings Filename' (containing 'file name'), 'FTP Server IP Address' (192.168.0.100), 'FTP User Name' (user), 'FTP Password' (masked with dots), and 'FTP Port Number' (21). It also has the same two radio buttons as the first section. At the bottom are 'Apply', 'Refresh', 'Export', and 'Import' buttons.

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**.

Setting Up Import/Export Information, Continued

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.

Managing D9865 Web GUI Accounts

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

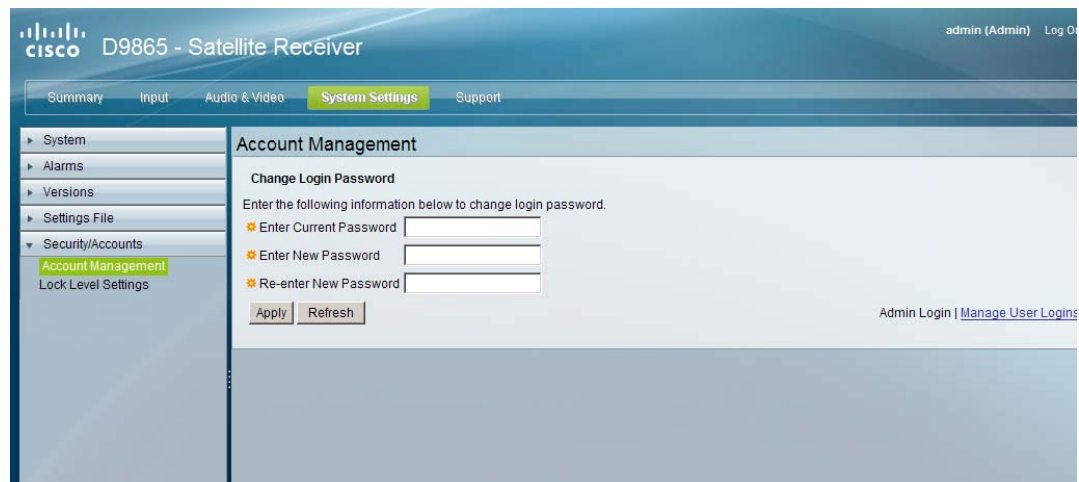
When a user tries to login, the user is required to provide a username and a password. The user is granted access only if this username/password pair exists in the authentication table.

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.

Managing D9865 Web GUI Accounts, Continued

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.

The screenshot shows the 'Add Login Account' dialog box. It contains five input fields: 'Username', 'New Password', 'Confirm New Password', 'Administrator Password', and 'Account Type'. The 'Account Type' field is a dropdown menu currently set to 'User'. At the bottom right of the dialog are 'Cancel' and 'Ok' buttons.

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.

Managing D9865 Web GUI Accounts, Continued

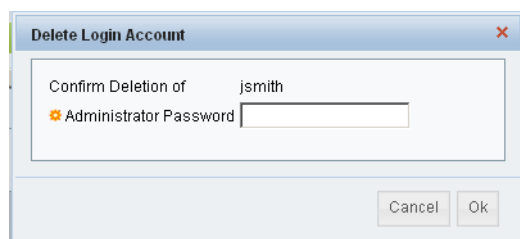
7. In the **Administrator Password** field, enter your Administrator password used to log on to the D9865 web GUI.
8. In the **Account Type** drop-down list, select User, Admin, or Guest. The following table illustrates the different login types:

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.



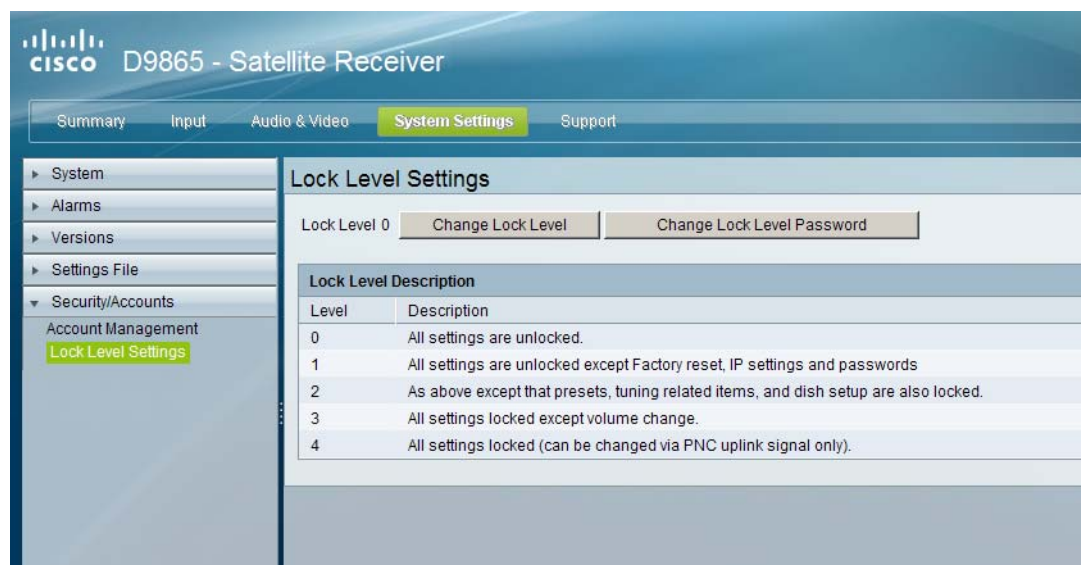
3. Enter your **Administrator Password** to confirm the deletion.
4. Click **OK**. The selected user account is deleted.

Configuring Lock Level Settings

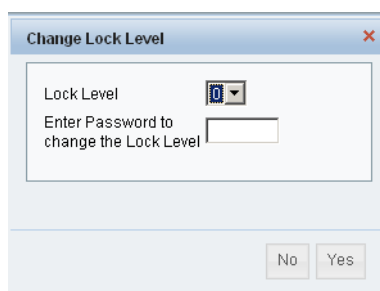
To Configure the Lock Level settings

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.

Configuring Lock Level Settings, Continued

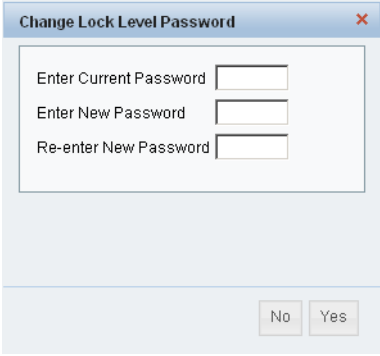
Changing the Lock Level Password

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.

A screenshot of a web-based dialog box titled "Change Lock Level Password". The dialog has a light blue header bar with the title and a red close button. The main content area is white and contains three text input fields with labels: "Enter Current Password", "Enter New Password", and "Re-enter New Password". At the bottom of the dialog, there are two buttons: "No" and "Yes".

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.

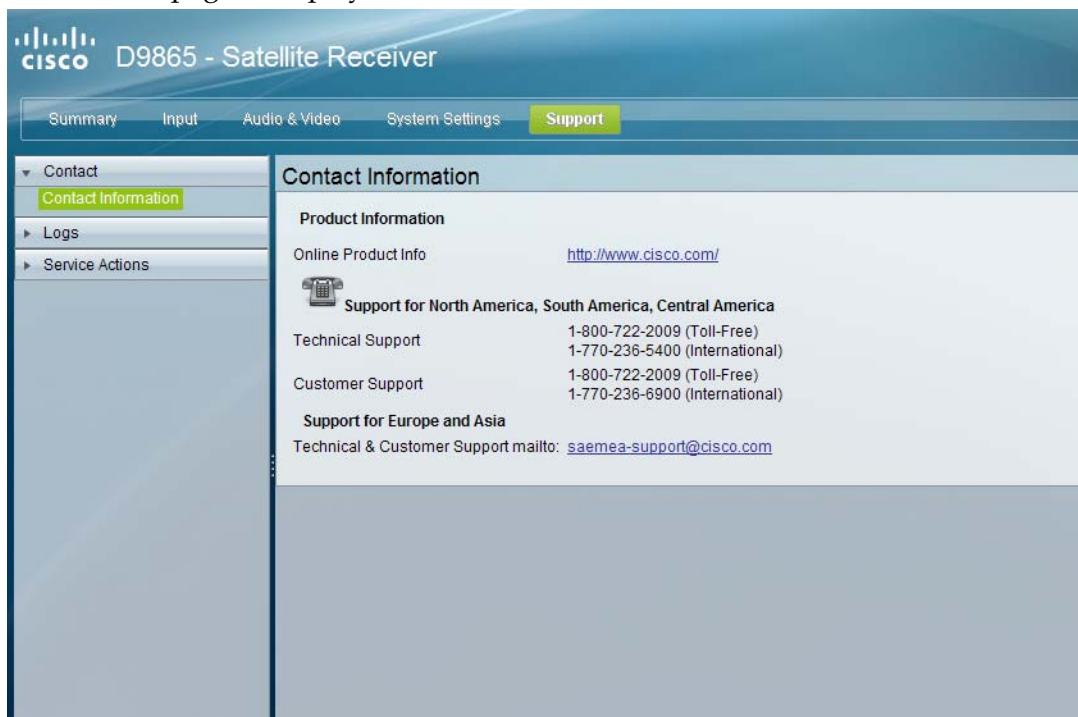
Note: If the password is lost or is unavailable, contact Cisco customer support.

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.



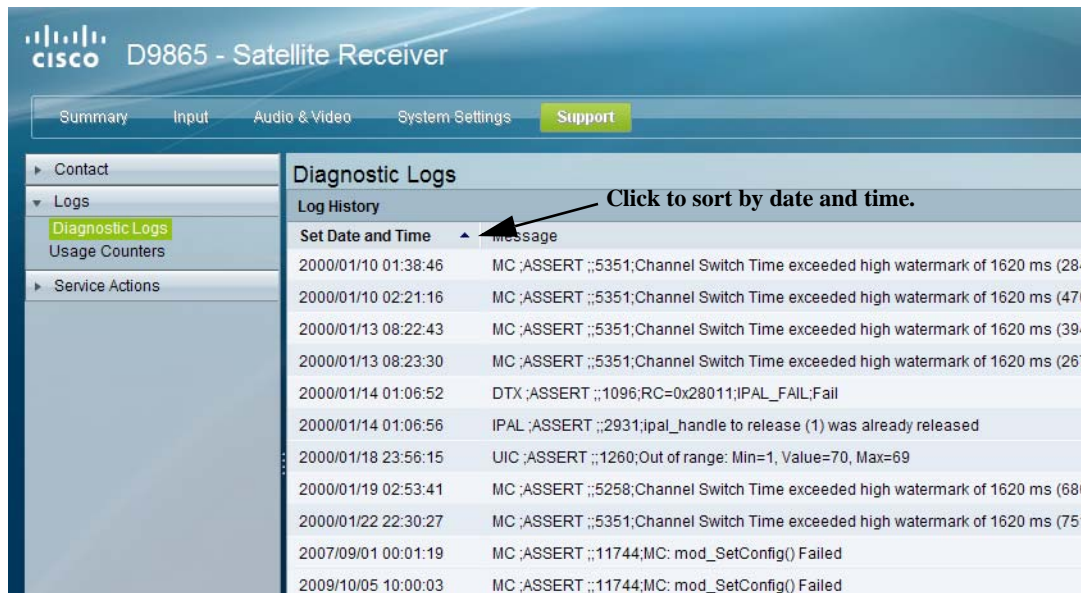
The Contact Information page displays all the Cisco customer support information.

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. 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.

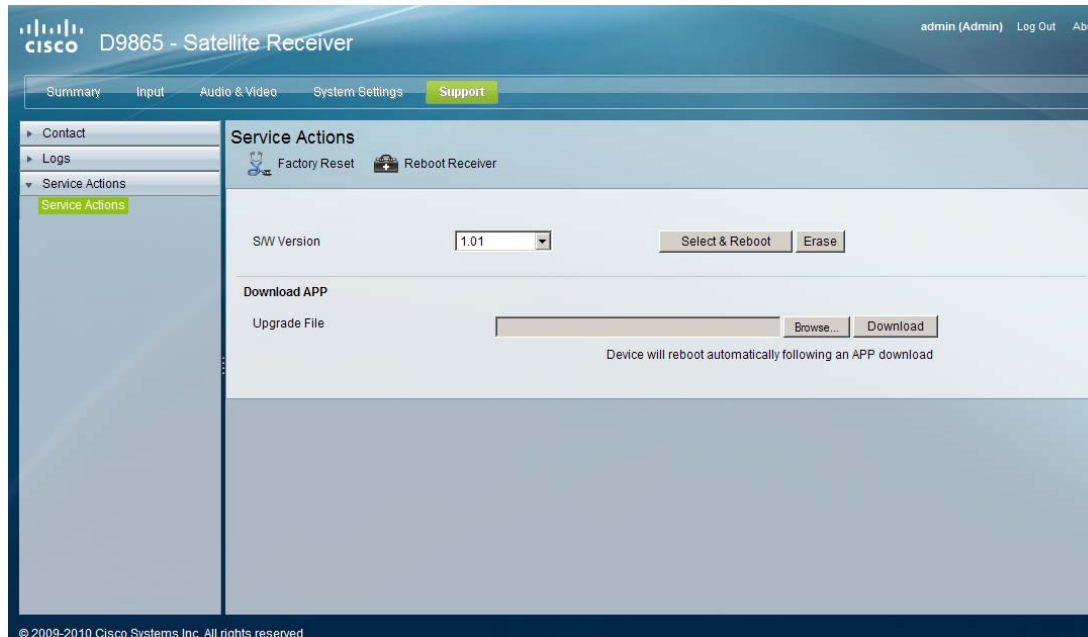
Click **Clear Reset Counter** to clear the Clearable Reset Counter field and it resets the counter back to 0.

Performing Service Actions

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.

Topic	See Page
Product Support	6-2
Returning Products	6-4

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 +1.770.236.4786 dmn_support@cisco.com
Telcos and Cable Service Providers	Cisco Services	Toll-free: 1.800.722.2009 Local: 678.277.1120 (press 2 at the prompt) customer-service@cisco.com
All Customers	Europe	+32.56.445.155 or +32.56.445.197 saemea-support@cisco.com
All Customers	Asia	+852.2588.4746 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.

Product Support, Continued

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.

Returning Products, Continued

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 unrepared. 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.

Topic	See Page
Messages	7-2
Troubleshooting	7-19

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 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. 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. 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			
		STAPL_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		Software detected an error in operation.	
		WDOG task: watchdog aud st wdog has expired			
		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. 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. Remedy: None. It will automatically reset after 1 second.		
LMI setup	Set	LMI SDRAM exhaust test failed	Cause: Hardware issue. 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. 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. 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. 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. Remedy: Clear alarms, check LNB and wiring, and notify customer service if the problem persists. 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. 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. 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. 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 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. 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. 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. 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. 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. 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. 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. 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. Remedy: Verify uplink is sending LEC tables.	LEC table missing or not received	Major
	Reset	LEC received			

Messages, Continued

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. 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. 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. 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. 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. 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. 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.	Network Information Table was never received.
		nit is lost	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.	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.	Conditional Access Table was never received.
		cat is lost	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.	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.	Event Control Table was never received.
		ect is lost	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.	No longer receiving Event Control Table.
	Reset	ect fault cleared		
Memory Usage Host	Set	Excessive (stack/partition) memory usage	Cause: Possible software issue. 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. 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.	Errors like Fatal Bus Error.
	Clear	Failure cleared	Remedy: Clear warnings, reset the unit, and notify customer service if problem persists.	
Ethernet PHY Failure	Set	Marvel switch configuration failed	Cause: Possible hardware issue.	Related to MII register read/write failures.
	Clear	PHY failure monitoring reset	Remedy: Clear warnings, reset the unit, and notify customer service if the problem persists.	
Ethernet Port 1 or Ethernet Port 2	Set	ETH Port 1 or 2 Link Down	Cause: Ethernet port 1 or 2 is not connected.	Ethernet port 1 or 2 is not connected.
	Reset	ETH Port 1 or 2 Link Up	Remedy: Connect Ethernet port 1 or 2.	
FW: Resource Use PRI	Set	Memory or List Near Full	Cause: Possible software issue.	Software exceeding allowable usage of internal constructs.
	Clear		Remedy: Clear warnings, reset the unit, and notify customer service if the problem persists.	
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.	Software error occurred.
		FTP Failed	Remedy: Check FTP configuration, reset unit, and notify customer service if problem persists.	FTP failed.
	Clear	Auto reset after timeout		Warning automatically clears in 30 seconds.
Restore Failure Reason	Set	Not Accepted	Cause: Possible software issue.	Software error occurred.
		Bad Content		
		FTP Failed		
	Clear	Auto reset after timeout	Remedy: Check FTP configuration, reset unit, and notify customer service if problem persists.	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.	HDMI monitor does not contain valid HDCP keys. Video decode is disabled.
		Receiver not HDCP capable	Remedy: Disconnect HDMI monitor to restore video decode or use an HDMI monitor that properly supports HDCP.	HDMI monitor does not support HDCP. Video decode is disabled.
	Clear	HDCP Authentication Process Not Started		HDMI monitor is not connected. 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. 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)	<ul style="list-style-type: none">• Normal operation if receiver is not on (power switch on back panel).	<ul style="list-style-type: none">• Press the Display button on the receiver front panel or remote control.
Scrambled channel (not decoded)	<ul style="list-style-type: none">• Subscriber services may not be authorized for the channel.	<ul style="list-style-type: none">• Check that your subscriber services are currently authorized (contact your service provider).
Cannot access a password protected on-screen option	<ul style="list-style-type: none">• You have entered an incorrect password or the password has been changed.	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• The remote control may be defective, or the batteries are incorrectly installed, or require replacement.	<ul style="list-style-type: none">• Replace or correctly install the remote control batteries.
Program Not Authorized message is displayed	<ul style="list-style-type: none">• Subscriber services are not authorized for selected channel.	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Subscriber services are not authorized due to authorization key not being received.	<ul style="list-style-type: none">• Same as above.
No signal	<ul style="list-style-type: none">• Installation or signal problem.	<ul style="list-style-type: none">• Check connections to receiver, dish alignment and/or tuning setup.
Blank (black) screen is displayed after exiting to video from menus	<ul style="list-style-type: none">• Channel 0 is displayed after exiting to video following changes made to the current receiver setup.	<ul style="list-style-type: none">• Press CH+ or CH- on remote control to display channels.

Problem	Cause	Remedy
Poor reception	<ul style="list-style-type: none"> • Receiver is not properly set up or connected to receive satellite signal. • Possible station trouble. Signal source for one or more (or all) channels is temporarily affected by technical transmission problems or a temporary solar disturbance. • Satellite dish may not be properly installed or is not accurately aimed at satellite signal. 	<ul style="list-style-type: none"> • Check the connections to and from satellite antenna LNB, television antenna, and all video and audio cables (see Quick Setup Instructions, page 1-2). • Check another channel to compare signal reception. • Check that a maximum Signal Level is achieved or displayed when aligning the dish.
No picture or sound	<ul style="list-style-type: none"> • You have not turned your receiver on or the receiver is not properly connected to the AC power. • Your antenna, video and/or audio cables may be faulty or not properly connected. • Possible station trouble. The signal source for one or more channels is temporarily affected by transmission problems or due to a temporary solar disturbance. 	<ul style="list-style-type: none"> • Press the Display button on the receiver front panel or remote control. • Check that the receiver is properly connected to the AC power. • Check the connections to the satellite antenna LNB, television antenna, and all video and audio cables. • Check another channel to compare signal reception.

Problem	Cause	Remedy
No sound	<ul style="list-style-type: none"> • The sound has been muted. • Audio cable may be faulty or not properly connected. • Possible station trouble. The signal source for one or more channels is temporarily affected by transmission problems or due to a temporary solar disturbance. • Digital Audio setting is not configured properly. 	<ul style="list-style-type: none"> • Same as above. • Check that the volume is not muted by pressing the VOL+ or VOL- button on the remote control. • Check another channel to compare signal reception. • 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		<ul style="list-style-type: none"> • Same as above. • 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.

Topic	See Page
Receiver Specifications	A-2
LNB Requirements	A-3
DVB-S Eb/No (C/N) Ratio	A-4
DVB-S2 Error Rate Performance ES/No (C/N) Ratio	A-5
Video Output	A-6
Audio Outputs	A-7
Power	A-8

Receiver Specifications

General

Parameter	Specification
System	MPEG-2/DVB Compatible 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 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	$\leq \pm 0.125$ MHz
3 to 5.99 MS/s	$\leq \pm 1.00$ MHz
6 to 11.99 MS/s	$\leq \pm 3.00$ MHz
12 to 45 MS/s	$\leq \pm 5.00$ MHz

Parameter	Specification
LNB Phase Noise Requirement	-28 dBc/Hz at $\delta F = 100$ Hz -53 dBc/Hz at $\delta F = 1$ kHz -76 dBc/Hz at $\delta F = 10$ kHz -93 dBc/Hz at $\delta F = 100$ kHz -106 dBc/Hz at $\delta F = 1$ MHz -117 dBc/Hz at $\delta F = 10$ MHz

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

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.

$C/N = Eb/No + 10 \log (2 \times FEC \times 188/204)$.

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 MPEG-4 4:2:0
Level	1.0V pp \pm 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 \pm 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	75 Ω +/-20%, from 0.1 MHz to 6.0 MHz
Signal Amplitude	0.5V +/-20% at 75 Ω

VBI

Parameter	Specification
NTSC	Lines 10 to 22 fields 1 and 2
PAL	Lines 7 to 22 fields 1 and 2 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.

Topic	See Page
Factory Default Settings	B-2

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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

Video Setup

Parameter	Default
HD Video Output	Auto
SD Video Output	For NTSC Unit: NTSC For PAL Unit: PAL-B
TV Channel	For NTSC: 3 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

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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.

Factory Default Settings, Continued

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

Factory Default Settings, Continued

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.

Topic	See Page
D9865 Satellite Receiver Lock Levels	C-2

D9865 Satellite Receiver Lock Levels

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

D9865 Satellite Receiver Lock Levels, Continued

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

Applicable Notices and Disclaimer, Continued

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.



Scientific-Atlanta Europe NV
Luipaardstraat 12
8500 Kortrijk
Belgium



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)

File:D9865_EU_DoC1

www.scientificatlanta.com



Cisco Systems, Inc.
5030 Sugarloaf Parkway, Box 465447
Lawrenceville, GA 30044

678.277.1000
www.cisco.com

This document includes various trademarks of Cisco Systems, Inc. Please see the Notices section of this document for a list of the Cisco Systems, Inc. trademarks used in this document.

All other trademarks mentioned in this document are the property of their respective owners.

Product and service availability is subject to change without notice.

© 2010 Cisco and/or its affiliates. All rights reserved.