VCON
VISUAL COMMUNICATIONS

Group Videoconferencing Systems

Falcon IP™

Version 3.0

User's Guide

CAUTION:
To comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules, only Falcon IP User's original equipment should be used. All cables used to connect the Falcon IP User's and peripherals must be shielded and grounded. Operation with non-certified accessories or non-shielded cables may result in interference to radio or television reception

Limited Warranty

COPYRIGHT All trademark(s), logo(s), name(s), software, documentation and other supporting materials relating to the Product are trademarked, copyrighted or owned by VCON Ltd. as proprietary information protected by United States copyright laws and international and applicable national treaty provisions and laws. Software protection extends beyond its literal code to structure, sequence and organization; any unauthorized use or modification would constitute a misappropriation of VCON's proprietary rights and a violation of the License agreement.

LIABILITIES VCON's entire liability and the Purchaser's exclusive remedy shall be at VCON's option, either return of the price paid or repair/replacement of the Product not meeting VCON's declared Limited warranty. VCON or its suppliers shall not be liable in any event to anyone for any indirect, incidental, consequential, special or exemplary damages including without limitation damages for loss of business profits, business interruptions, business information or other pecuniary loss arising out of the use of or inability to use the said Product even if advised of the possibility of such damages. In any case, VCON's entire liability under any provision of this agreement shall be limited to the amount actually paid by the Purchase for the Product.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this system that are not expressly approved by VCON Ltd. may void the user's authority to operate the equipment.

Safety Notice

When you use the Falcon IP User's system, observe the following safety guidelines:

Make sure that the voltage of the power supply matches the AC power available at your location:

❏   115V/60Hz in most of North and South America and some Far Eastern countries such as Japan, South Korea and Taiwan.

❏   230V/50Hz in most of Europe, the Middle East and the Far East.

Make sure the monitor and attached accessories are electrically rated to operate with the AC power available in your location.

Plug the accessories' power cables into properly grounded power sources. These cables are equipped with three-prong plugs to help ensure proper grounding.

Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a three-wire cable with properly grounded plugs.

Make sure that nothing rests on the cables and that the cables are not located where they can be stepped on or tripped over.

Do not spill food or liquids on the system or accessories.

Keep the system away from radiators and heat sources, and do not block cooling vents.

For Users in Canada

NOTICE:
The Industry Canada Label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION
Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE:
The REN for this device is X.X. The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed 5.

Pour les utilisateurs au Canada

AVIS*:*

Le label d'Industrie Canada identifie le matériel homologué. Ce label certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'opérateur locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'opérateur de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de dysfonctionnnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils, de mise à la terre, de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement

L'utilisateur ne doit pas tenter de faire ces reccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS:

Le IES assigné à cette équipment est X.X. L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le mombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

R&TTE Declaration of Conformity

Issued according to ISO/IEC Guide 22 and EN45014 under the sole responsibility of the Manufacturer

We:

Manufacturer's Name:	VCON Limited
Manufacturer's Address:	PO Box 12747
	22 Maskit Street
	Herzliya 46733
	Israel

hereby declare entirely on our own responsibility that the product::

Product Name:	Falcon, Model 1/3BRI NTSC/PAL

to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC).The product is compliant with the following standards and other normative documents:

EMC:	EN 55022: 1998
	EN 55024: 1998
Safety / Low Voltage:	EN 60950: 1992
	IEC 90950: 1999
	CS 22.2 950: 2000
	UL 60950: 2000

Supplementary Information:
The product has been tested in a typical configuration. Technical file held by:
VCON Limited
PO Box 12747
22 Maskit Street
Herzliya 46733
Israel

USA

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

CANADA

This Class B Digital apparatus, Complies with Canadian Standard ICES-003.

Regulatory Notice To European Customers

The "CE" mark is affixed to this product to demonstrate conformance to the R&TTE Directive 99/05/EC (Radio Equipment and Telecommunications Terminal Equipment Directive).

Declaration of Conformity

We,

VCON Limited

Of,

PO Box 12747
22 Maskit Street
Herzliya 46733
Israel

Declare under our sole responsibility that the product:

FALCON and all associated peripherals manufactured by VCON Limited

To which this declaration relates is in conformity with the essential requirements specified in Article 3.1 (a) and 3.1 (b) of: Directive 99/05/EC (Radio Equipment and Telecommunications Terminal Equipment Directive)

For a copy of the Original Signed Declaration (in full conformance with EN45014),
please contact VCON Tech Support at techsup@vcon.co.il .

About This User's Guide

This User's Guide explains how to videoconference with the VCON Falcon IP. The chapters emphasize a how-to approach, and include detailed instructions for participating in conferences and getting the most out of the system's capabilities.

The following chapter summary briefly describes this guide's contents:

Chapter 1   **Welcome to Falcon IP**
Introduction to the Falcon IP and its components.

Chapter 2   **Getting Started**
Instructions for starting Falcon IP, navigating within dialog boxes, and making calls with the Manual Dialer.

Chapter 3   **Videoconferencing Basics**
Instructions for answering calls; creating, editing and deleting Phone Book entries; using Phone Book entries to start calls; and calling through a gateway.

Chapter 4   **Network Configuration**
Setting up Falcon IP's network configuration and various communication properties.

Chapter 5   **Video and Audio Adjustments**
Adjusting the video (monitors, cameras, display settings) and audio quality of videoconferences.

Chapter 6   **Multi-Party Conferencing with Interactive Multicast**
Instructions for participating in Interactive Multicast conferences.

Chapter 7   **Multi-Party Videoconferencing Through an MCU**
Instructions for participating in a multi-party videoconference through an H.320-based Multipoint Control Unit.

Chapter 8   **Telephony Exchange Functions**
Description of exchange functions (such as call forwarding, call pickup, call transfer, and inviting additional parties) that are available if the Falcon IP is managed by a VCON Media Xchange Manager™ (MXM) system.

VCON Technical Support

This User Guide and the Falcon IP Online Help were designed to help you use your VCON Group Videoconferencing system easily and to enjoy its many features.

If a situation occurs that is not covered by the supplied documentation, please request help from our Technical Support channels.

➤ **To request technical support**

❑ Contact your local VCON distributor, and request assistance from its technical support department.

-or-

Send an e-mail message fully describing the condition plus your system's configuration to **techsup@vcon.co.il**.

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1   WELCOME TO FALCON IP

Falcon IP is a set-top appliance that operates over both IP and ISDN networks. Designed for small to medium-sized conference rooms, it sits conveniently on top of a TV monitor. The Falcon IP is simple to use and delivers high-quality group system performance.

1.1   Falcon IP Models

The Falcon IP User's is available in the following models, supporting various communication interfaces and bandwidths:

Model 1	Provides a single ISDN Basic Rate Interface (BRI) connection at 128 Kbps and a LAN connection for up to 768 Kbps.
Model 3	Provides three ISDN BRI connection up to 384 Kbps and LAN connection up to 768 Kbps.

The Falcon IP models meet technical recommendations prescribed in the H.323 and H.320 ITU-T standards for networking.

❑ H.323 is the worldwide accepted standard for transmitting video, audio and data across local-area and wide-area networks (LANs and WANs) using the Internet Protocol (IP).

❑ H.320 is the worldwide accepted standard for transmitting video, audio and data over WANs, including narrow-band Integrated Subscriber Digital Networks (ISDN).

1.2   Falcon IP Features

Falcon IP provides several distinctive attributes and features which makes it an ideal solution for many group videoconferencing environments:

❏ **Superior video and audio streaming quality**
Falcon IP includes VCON's award-winning technology and solutions for maintaining high quality during video, audio and control transmissions. It supports H.261 and H.263 video transmission as well as G.711, G.722 and G.728 audio transmission. Features such as Automatic Buffering, Automatic Lip Synch Enabling, Acoustic Echo Cancellation (AEC), Automatic Gain Control (AGC) and Automtic Noise Suppression (ANS) provide superior performance.

❏ **Media Xchange Management™ Support**
VCON's Media Xchange Manager™ (MXM) provides centralized management of an organization's videoconferencing network. If the Falcon IP logs into an MXM server, it receives gatekeeper services, bandwidth management, remote call initiation, and telephony functions, such as call forwarding, call pickup, call transfer, ad-hoc videoconferencing, and IP-to-ISDN connection through a gateway.

❏ **Quality of Service (QoS)**
VCON's PacketAssist™ Architecture preserves optimum quality of your videoconference according to available bandwidth and network traffic. The Falcon IP applies mechanisms such as IP Precedence to prioritize the video, audio and control bits, and DiffServ to transfer packets according to the Falcon IP's specific needs.

❏ **Participation in Interactive Multicast**
Using VCON's Interactive Multicast, all parties in the videoconference see and hear the same video, audio, and data sharing. Falcon IP users may temporarily receive the floor, in which their video and audio are seen by the other parties until the floor returns to the session's controller (*Chair*).

❏ **H.323 and H.320 Multipoint Videoconferencing**
In multipoint videoconferencing through a Multipoint Control Unit (MCU), the parties may see and switch among the video of several participants, through functions such as *Continuous Presence* and *Voice-Activated Switching*.

❑ **Dual Monitor Configuration**
A second TV monitor may be connected to the Falcon IP. One monitor displays the local video and the system interface, and the other monitor displays the remote video.

❑ **Far End Camera Control (FECC)**
If you permit, the remote party may control the positioning of your camera.

❑ **Audio Input Gain Control**
The gain level of microphone and Line In audio may be adjusted, in order to provide optimum sound quality regardless of the audio input device.

❑ **Data and Application Sharing**
If a data connection is opened during an H.320 videoconference (over ISDN), both parties can see and work together on the same program, and transfer files to each other. Data sharing requires the connection of personal computers or laptops to both parties' videoconferencing systems.

❑ **Remote Management Through a Web Browser**
From any computer on the same network as your Falcon IP, various configuration changes may be made. Network configuration, still image viewing, and connection status may be accessed through Microsoft® Internet Explorer 5 or higher.

❑ **Remote Software Upgrade**
The Falcon IP's software version may be upgraded, using the Falcon IP Upgrade Utility, from an MXM (if the Falcon IP is logged into it) or another computer at a remote location.

❑ **Multi-language Interface**
The standard Falcon IP version provides menus, commands and options in several languages.

❑ **System Security**
Administrators may restrict access to the system's configuration, prevent unauthorized outgoing calls, or lock the system completely.

1.3 Falcon IP System Components

Falcon IP is a complete set-top videoconferencing appliance. All the components required for connecting and installing the Falcon IP are supplied, according to the purchased model. In addition, optional accessories are available for enhancing the abilities of the standard system (see "Optional Accessories Supplied by VCON" on page 1-6). The software is preinstalled.

Package Checklist

Before setting up the Falcon IP for the first time (see "Before Setting Up" on page A-1), carefully unpack its package. Check that the listed items are included, in accordance with the supplied product.

If anything is missing or damaged, contact your local VCON distributor as soon as possible.

Falcon IP Components

Component	Model 1 & Model 3
Falcon IP Main Unit	✔
Remote Control	✔
Tabletop Microphone	✔
Communication cable (LAN/ISDN) CAB42001	✔ (4)
Serial DTE (Lap Link) cable CAB42003	✔
TV S-Video cable CAB72008	✔
TV Composite cable CAB72009	✔
Camera S-Video cable CAB90051	✔
Camera Composite cable CAB72010	✔
LAN Cross cable CAB42005	Optional
Falcon IP User's Guide	✔
Quick Reference Dialing Card	✔
Registration/Warranty	✔

Falcon IP Main Unit

The Main Unit contains the videoconferencing card, software for operating the system, a built-in Pan/Tilt/Zoom (PTZ) camera, and various connectors located on the rear panel for connecting the other components and accessories.

The PTZ camera is either NTSC or PAL (depending on the video format prevalent in your region) and includes a receiver for detecting infrared signals from the hand-held remote control. The camera is controlled through the system software by the remote control. You can pan, tilt and zoom the camera in a wide range of directions.

Remote Control

The hand-held remote control provides quick and easy access to all functions. The most frequently-used functions are accessed by pressing the buttons located on the top of the remote control. Less-frequently used buttons, such as the Menu button and the SoftKeys, are shielded by a sliding cover.

Infrared signals are sent out from the bulb at the top of the remote control and are picked up by the receiver on the camera unit.

For more details about the remote control buttons, see "The Remote Control" on page 2-2.

Tabletop Microphone

The supplied tabletop microphone is a high-performance audio input device. Its working range covers more than 6 meters (20 feet) at 360°. The microphone transfers the full range of speaker audio.

Optional Accessories Supplied by VCON

The following optional accessories can be connected to the Falcon IP:

TV Monitor	Consult with your VCON distributor for recommendations regarding monitors.
Rollabout Cart	VCON supplies an elegant mobile cabinet specially designed for videoconferencing systems.
Document Camera	A document camera displays documents that are placed on the camera's slide. High-quality resolution is guaranteed by the S-Video connection between the document camera and the Falcon IP User's.
Additional Cameras	A second camera can be connected to the additional Composite connector on the Falcon IP User's, and/or you can add an S-Video camera instead of the document camera.

2   GETTING STARTED

This chapter explains how to operate Falcon IP and to make a call. It includes the following sections:

2.1   Starting Falcon IP

Make sure the system is set up, the TV monitor is on, and the cables are connected properly. See "Setting Up the Basic Components" on page A-1.

➤   **To start up Falcon IP**

1. On the back of the Main Unit, press the **PWR** button on, marked (I).

2. Wait until the Guide Screen appears, containing the local video image.

   The local video appears in the full-screen for several seconds.

   Next, a new screen advises you to wait.

   Then the Guide Screen appears, and Falcon IP is ready to make and receive calls.

Guide Screen

If the Guide Screen does not appear after 3 minutes from the time you started the system, see Chapter 11, "Troubleshooting".

2.2   The Remote Control

Use the remote control to manage Falcon IP . Operate the remote control within six meters of the Falcon IP unit.

Open Phone Book/ Start call

Disconnect call

View status

Close dialog box

Display control

Picture in picture (PIP)

Arrow buttons

Select button

Zoom out

Zoom in

Lower volume

Raise volume

Access Multicast / Multipoint control

Mute audio
SPKR (left), MIC (right)

Not used by Falcon IP

Display Main menu

Select camera

Soft keys

Number pad

On-screen Help

Speed dial

Select preset position

Send still image

Set a preset position

Request still image

Mute video

2.3   Falcon IP Screens

The Falcon IP screens provide an efficient videoconferencing environment. The types of elements displayed by the system are:

Guide Screen

❑   Indicates that Falcon IP is operational and provides a home screen.

❑   <Dial>, <Menu>, <Status> and <Help> are active.

❑   Two sets of diagnostic icons on the Guide Screen indicate whether the communication lines are connected (green) or unconnected (gray):

ISDN BRI lines (1 for Model 1; up to 3 for Model 3).

LAN (IP) connection.

Dialog Boxes   Falcon IP's dialogs provide on-screen information. They can contain checkbox options, menu options, and data-entry boxes. Press the arrow buttons to move among the options and boxes.

Tabs   Some dialogs contain various tabs, which are related sets of categorized options.

❑   Press the up and down arrows to move among tabs.

❑   Press the right arrow to open a dialog.

❑   Press the left arrow to leave a dialog and move among the tabs again.

SoftKey Guide   The four colored keys located on the covered part of the remote control are the SoftKeys.
SoftKey functions change according to the status of the system and the displayed dialog. The SoftKey Guide at the top of the screen indicates the current functions.

Active Keys Guide   The Active Keys Guide on the left of the screen indicates which buttons on the remote control are currently active.

➤ **To display the Active Keys Guide**

1. From the Main Menu, choose **Options**.

2. Select **View Active Keys**.

3. Press **OK** to apply the change and close the dialog box.

2.4   Navigating in Falcon IP

Whether making videoconference calls or setting configurations, you use the supplied remote control to navigate and enter information.

Moving Around the Menus and Dialog Boxes

To perform various functions, you must access the system's menus and dialog boxes. Many dialog boxes are divided into tabs (groups of related options and configuration properties). This section explains how to navigate among the menus, dialog boxes and tabs, and how to select entries or items.

➤ **To navigate using the remote control**

Press the arrow buttons.

❑ To move along tabs or entries in dialog boxes, press the up and down arrows.

❑ To enter a tab or an entry inside a dialog box, press the right arrow.

❑ To exit a tab, press the left arrow.
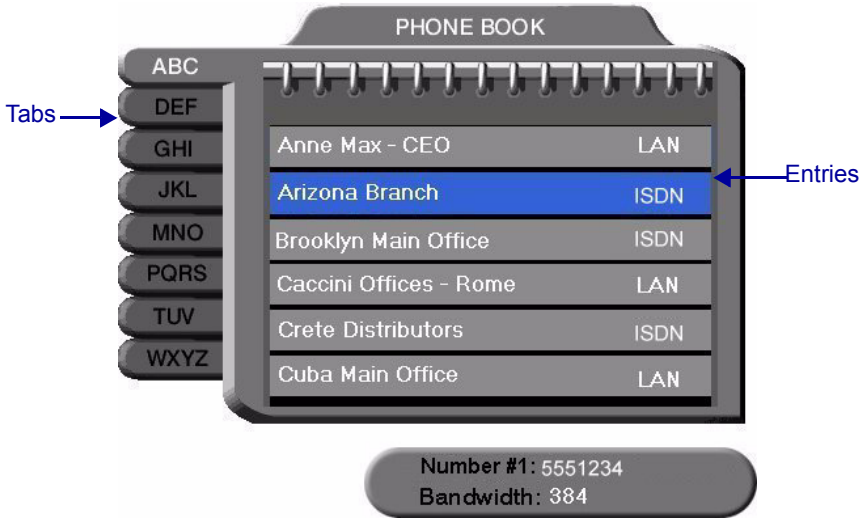
➤ **To select an option**

1. Navigate to the menu or checkbox option.

2. Press the Select button, located in the middle of the arrow buttons. To deselect an option, press the Select button again.

➤ **To close a dialog box**

To apply changes and close the dialog box, press <OK>.

-or-

To close a dialog box without applying changes, press <Cancel>.

Entering Data

Some dialog boxes contain text boxes for entering data.

➤ **To enter numbers in a text box**

1. Enter numbers by pressing the number pad's keys on the remote control. Press the appropriate remote control key repeatedly until the character you want appears.

   If you make a mistake, press <Clear>.

➤ **To enter alphabetical characters**

1. Navigate to the box in the dialog where the data is to be entered.

2. Press the yellow **KEYBOARD** SoftKey on the remote control. The on-screen keyboard appears.

On-screen Keyboard for Alphanumeric Data Entry

To enter lower case letters, press the red **LWR CASE** SoftKey on the remote control. To enter upper case letters, press the red SoftKey again.

3. Press the arrow keys to navigate to the character you want to enter.

4. Press the Select button to select the character.

   If you make a mistake, select the DEL button on the on-screen keyboard.

5. Press <OK> to close the keyboard. The characters you selected are entered in the dialog box.

## *2.5 Starting a Videoconference from the Manual Dialer*

Numbers dialed in the Manual Dialer are not stored in the Phone Book. It is more efficient to store frequently repeated destinations in the Phone Book. See "Adding New Phone Book Entries" on page 3-3.

Before Calling

Before you start videoconferences, you can mute the microphone to ensure that the other side does not overhear a local discussion before you notice that the connection is made. See "Adjusting the Volume" on page 5-13 and "Automatically Muting the Microphone During Incoming Calls" on page 5-14.

Calling Through the Manual Dialer

➤ **To dial through the Manual Dialer**
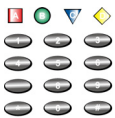
❑ To dial a number, press the buttons on the Number Pad. The Manual Dialer dialog box appears, with the previously-used tab (LAN or ISDN) open. The numbers that you press appear in the box of this tab.

-or-

1. Press <Dial>. The Phone Book screen appears.

2. Press the blue **MANUAL DIAL** SoftKey. The Manual Dialer dialog box appears.

Press the left arrow to enter the tabs and then press the up or down arrow

3. If you want to dial through a connection (ISDN or LAN) other than the one automatically opened, press the left arrow to enter the tabs and then press the up or down arrow.

4. To make a LAN call, see "Starting a Videoconference Call over IP (Network Connection)" on page 2-8. To make an ISDN call, see "Starting a Videoconference Call over ISDN Lines" on page 2-9.

Starting a Videoconference Call over IP (Network Connection)

To dial the remote party through a LAN connection, open the **LAN** tab.
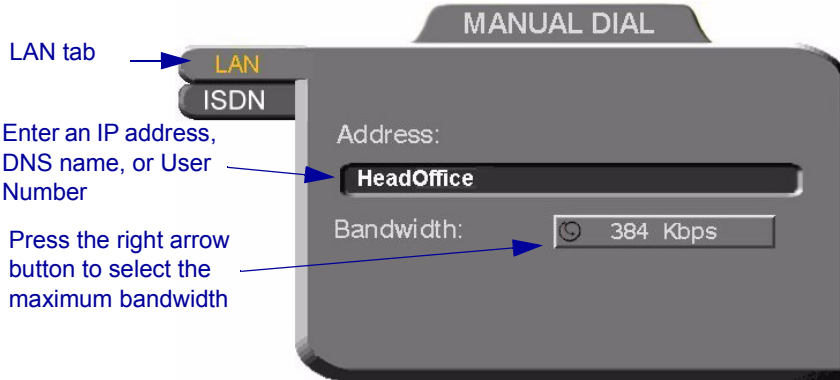
Manual Dialing Over a LAN

➤ **To dial through the LAN connection**

1. Enter the IP Address, DNS name or User Number of the party.

IP Address	Example: 123.123.123.123
DNS Name	Example: john.bestcorp.com
Station Name	Example: HeadOffice
User Number	Example: 102

2. Navigate to the **Bandwidth** value and press the right arrow button until the maximum bandwidth that you want for this call appears.

3. Press <Dial> to dial the number.

4. To dial the previous number, press the red **REDIAL** SoftKey on the remote control.

Starting a Videoconference Call over ISDN Lines

To dial the remote party through ISDN, open the ISDN tab.

➤   **To dial ISDN numbers**

   1.   Enter the ISDN numbers.

      —   If you have a Falcon IP Model 1, you can dial up to two channels.

      —   If you have a Falcon IP Model 3, you can dial up to six channels.

   2.   Select appropriate dialing options (if required).

   Bonding   Select if the remote system supports Bonding.

   Restricted   Select if the new entry has access over a Restricted
                          Network (56 Kbps, applicable in some areas of the USA
                          and Japan).
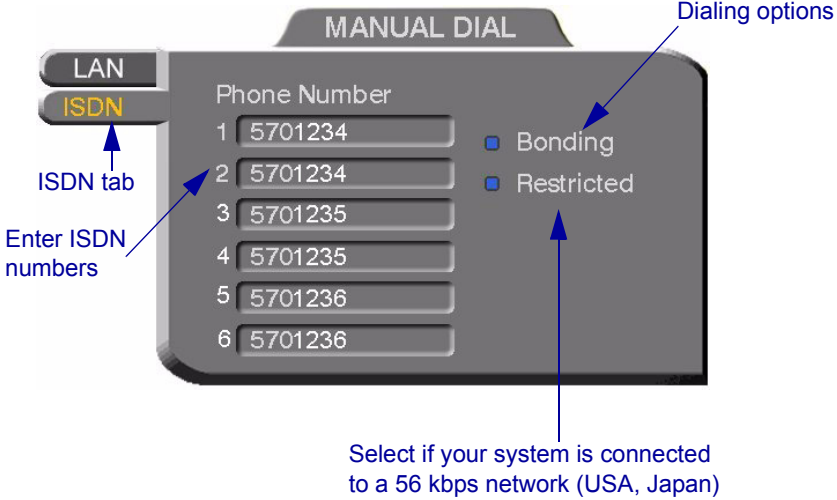
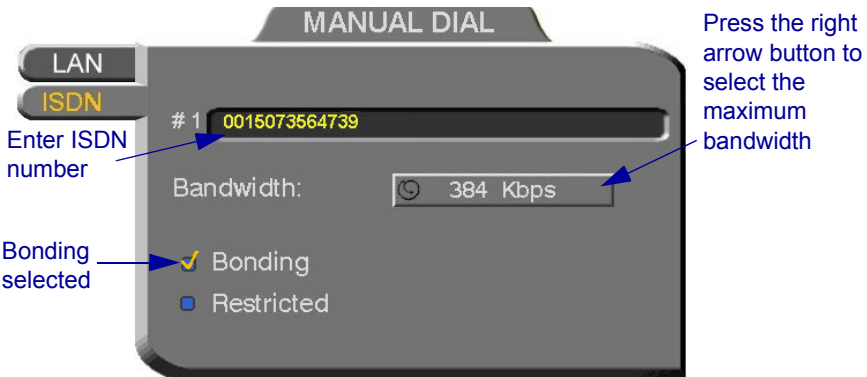   3.   Press <Dial> to dial the number.

   4.   To dial the previous number, press the red **REDIAL** SoftKey on the
        remote control.

To copy an entered number to the next line, press the down arrow to navigate to the next line. Then press the green **COPY** SoftKey.

REDIAL   COPY   PHONE BOOK   KEYBOARD

Dialing options

MANUAL DIAL

LAN

ISDN

Phone Number

1 5701234
2 5701234
3 5701235
4 5701235
5 5701236
6 5701236

■ Bonding
■ Restricted

ISDN tab

Enter ISDN numbers

Select if your system is connected to a 56 kbps network (USA, Japan)

Manual Dialing Through ISDN Lines (3 BRI Installed)

MANUAL DIAL

LAN

ISDN

1 0015073564739

Bandwidth: ◯ 384 Kbps

✓ Bonding
■ Restricted

Press the right arrow button to select the maximum bandwidth

Enter ISDN number

Bonding selected

Manual Dialing Through ISDN Lines with Bonding

Bandwidth   Press the right arrow key until the maximum bandwidth that you want for calls with Bonding appears.

2.6   Shutting Down Falcon IP

➤ **To shut down the Falcon IP**

❑ Press the Power button on the rear of the Falcon IP.

Power button

3 VIDEOCONFERENCING BASICS

This chapter provides instructions on videoconferencing with Falcon IP. It includes the following operations:

❑ Answering a videoconferencing call

❑ Adding and editing Phone Book entries

❑ Starting videoconferences from the Phone Book, the Speed Dial, and Redial buttons

❑ Ending videoconferences.

3.1 Answering Videoconferencing Calls

You can accept and reject incoming calls manually, or answer them automatically.

Manually Answering Calls

When there is an incoming call, Falcon IP rings. A message, including the caller's station name or address, asks if you want to accept the call.
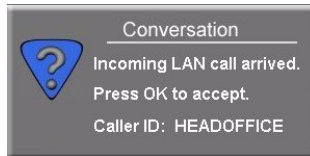
Accept Call Message

➤ **To accept the call**

❑ Press <OK>. Falcon IP completes the connection.

The In Call icon appears, indicating that the call has been successfully connected. After a few seconds, the other party's (*remote*) video appears on your monitor. A small video inset (Picture-in-picture, or *PIP*) containing your side's (*local*) video appears within the remote video.

To switch the PIP view on and off, press <PIP> on the remote control.

➤ **To reject the call**

❑ Press <Cancel>.
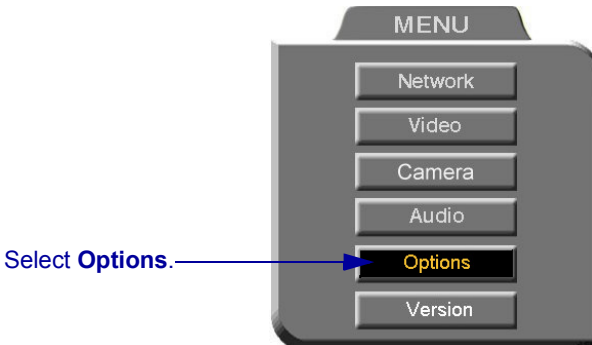
Automatic Answer

If Automatic Answer is selected, a message appears when Falcon IP User's begins to connect an incoming call. Falcon IP continues to connect the call as described in the Accepting Call Manually procedure in the previous section.
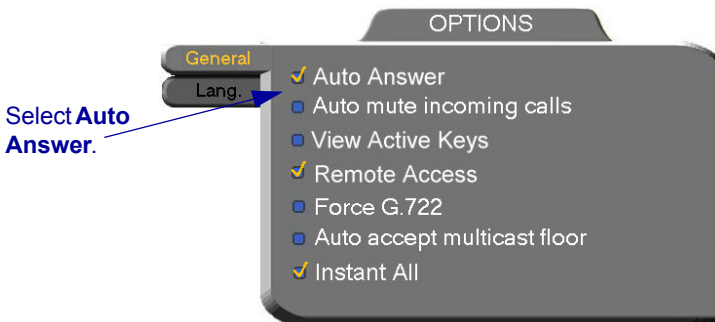

Incoming Call is Automatically Answered

➤ **To set Auto Answer**

1. Press <Menu>. The main Menu opens. Select **Options**.

2. If you want Falcon IP User's to answer all calls, select **Auto Answer**.
   If you want to accept/reject calls as they come in, deselect **Auto Answer**.

3. Press <OK> to apply changes and close the dialog.

3.2   Adding New Phone Book Entries

It is more efficient to store frequently repeated destinations in the Phone Book.

➤ **To create a new Phone Book entry**

1.   Press <Dial>. The Phone Book opens.

2.   Press the red **NEW** SoftKey. The New Entry dialog box opens.

3.   Open the tab of the connection type to use when dialing this entry (LAN or ISDN). Every Phone Book entry is for one type of connection. If you have a contact with multiple connections, create different Phone Book entries for each type (an entry for the contact's ISDN numbers, another entry for the contact's LAN IP address, and so on).

4.   To create a LAN entry, see "LAN Entries" on page 3-4.
     To create an ISDN entry, see "ISDN Entries" on page 3-5.

A utility for editing the Falcon's Phone Book is available on the VCON website (**www.vcon.com>Products>Falcon**).

LAN Entries

1. Open the LAN tab of the New Entry dialog box.

2. Enter a **name** for this entry (to open the on-screen keyboard, press the yellow **KEYBOARD** SoftKey - see "Entering Data" on page 2-6). The name must begin with a letter; it cannot begin with a number or symbol.

3. Enter the entry's IP Address, DNS Name, Station Name or User Number (see "Dialing Options - LAN Address Types" on page 3-8).

The DNS name is case-sensitive. For example, if the host name of the station you want to call is HEAD_OFFICE, enter it in all caps, including the underscore: HEAD_OFFICE.vcon.com

4. Set appropriate dialing properties and options:

Bandwidth	Press the right arrow key until the value you want for the maximum bandwidth appears.
Speed Dial	Select if you want this entry to appear in the Speed Dial list, with the shown entry number. See "Starting Videoconferences from the Speed Dial list" on page 3-11.

5. Press <OK> to add the entry and close the dialog box.
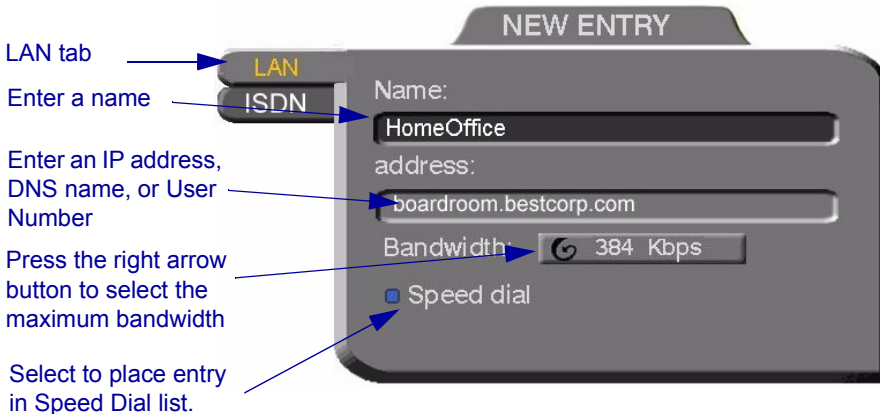
New LAN Entry

ISDN Entries

1. Open the ISDN tab of the New Entry dialog box.

2. Enter a **name** for this entry (to open the on-screen keyboard, press the yellow **KEYBOARD** SoftKey - see "Entering Data" on page 2-6). The name must begin with a letter; it cannot begin with a number or symbol.

3. Enter the ISDN numbers of the new entry.

   To copy an entered number to the next line, press the down arrow to navigate to the next line. Then press the green **COPY** SoftKey.

   To delete a mistake one number at a time, press <Clear> on the remote control or <Del> on the keyboard.

   To delete a whole entry, press and hold down <Clear>.

4. Select appropriate dialing options:

   Bonding   Select if the new entry has support for Bonding.

       a. Make sure that the ISDN number represents the first channel.

       b. Select a maximum **Bandwidth** for a Bonding call. Press the right arrow until the value that you want appears.

   Restricted   Select if the new entry has access over a Restricted Network (56 Kbps, applicable in some areas of the USA and Japan).
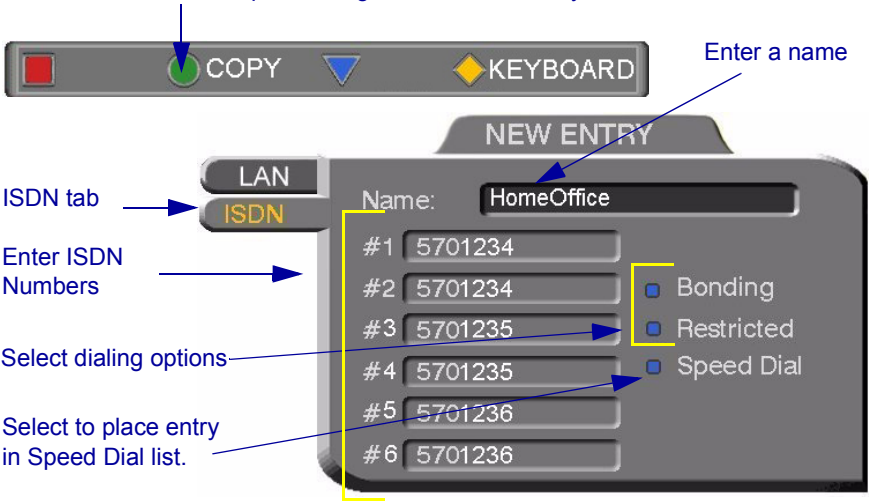
   Speed Dial   Select if you want this entry to appear in the Speed Dial list, with the shown entry number. See "Starting Videoconferences from the Speed Dial list" on page 3-11.
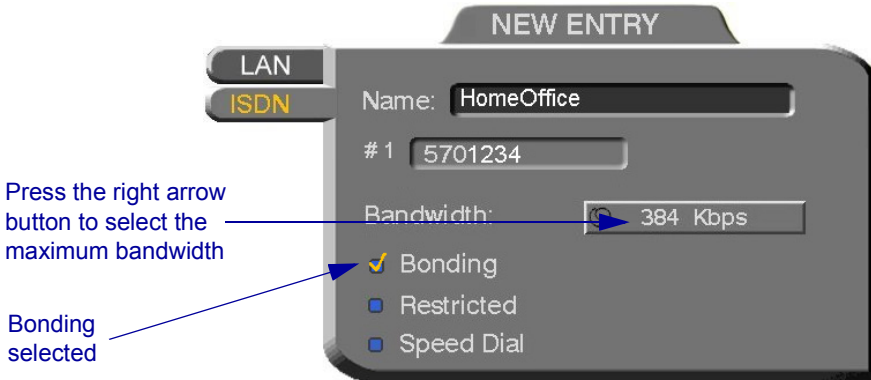
5. Press <OK> to add the entry and close the dialog box.

To copy an entered number to the next line, navigate to the line below the number and press the green **COPY** SoftKey.

New Entry - ISDN, Model 3

New Entry - ISDN with Bonding

Editing and Deleting Phone Book Entries

➤ **To edit an entry**

1. Navigate to a Phone Book entry. Press the green **EDIT** SoftKey. The Edit LAN or ISDN Entry dialog box opens. It looks like the New Entry dialog box and contains the information entered earlier.

2. Change data appropriately. Press <Clear> to erase the character to the left.

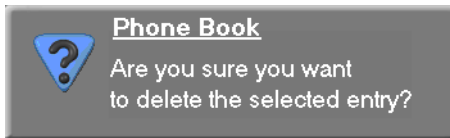3. Press <OK> to apply the changes and close the dialog box.

A utility for editing the Falcon's Phone Book is available on the VCON website (**www.vcon.com>Products>Falcon**).

➤ **To delete an entry**

1. Navigate to the Phone Book entry. Press the yellow **DELETE** SoftKey. A message appears to confirm the deletion.

Delete Entry Confirmation

2. Press <OK> to delete the entry and close the dialog box.

3.3   *Starting Videoconferences*

You can start a videoconference either from the Manual Dialer dialog box as described in "Calling Through the Manual Dialer" on page 2-7, or by using one of the following methods:

- Starting Videoconferences from the Phone Book
- Starting Videoconferences from the Speed Dial list

Dialing Options - LAN Address Types

The following table defines the network address types supported by Falcon IP. Enter one of these address types in the LAN Manual Dial dialog box or in a LAN - New Entry dialog box of the Phone Book.

Address Type	Example	Applicable When
IP Address	212.219.130.100	Always applicable. Usually dynamic, changing without notification, so the other address types are often preferred.
DNS Name	Room1.corp.com	The IP addresses of a DNS server and of a WINS server are configured. The Falcon IP User's Station Name is the first part of the DNS address.
Station Name (H.323 Alias)	Room1	Both Falcon IP and the remote system are registered with the Gatekeeper. Any string of characters beginning with an alphabetical letter.
User Number (E.164)	259	Both Falcon IP and the remote system are registered with the Gatekeeper. Any number.

Dialing Options - ISDN Dialing Types

Falcon IP supports various methods of connecting ISDN calls. These dialing methods are available to any Falcon IP unit with ISDN BRI lines.

Dialing Type	Explanation	Advantages
By Channel (each ISDN number indicates a channel)	Enter the destination ISDN numbers and then dial. Each ISDN number connects and synchronizes individually to the destination.	Call starts when first line is connected. VCON products support this dialing option for all ISDN calls, up to 384Kbps (6 channels).
Bonding	Enter only the first ISDN number and then dial. All other channels then connect and synchronize together.	Only one ISDN number needs to be dialed when **Bonding** is selected. Supported by all vendors.
Instant All (Menu/ Options)	Works with both **By Channel** and **Bonding**. ISDN numbers connect as a unit and then synchronize.	Faster initial connection. Better connection for international calls.
Restricted	The bandwidth of the call is based upon 56 Kbps, rather than the default 64.	Must be used to reach a destination that is connected over a Restricted network.

Starting Videoconferences from the Phone Book

Phone Book entries makes dialing easier and more efficient. From the Phone Book, you can dial without entering the address or phone numbers again.

➤ **To dial from the Phone Book**

1. Press <Dial>. The Phone Book opens.

2. Navigate to the alphabetical tab that contains the entry you want to dial. Press the right arrow button to enter the tab.

3. Navigate to the entry that you want to dial. The entry shows the following information:

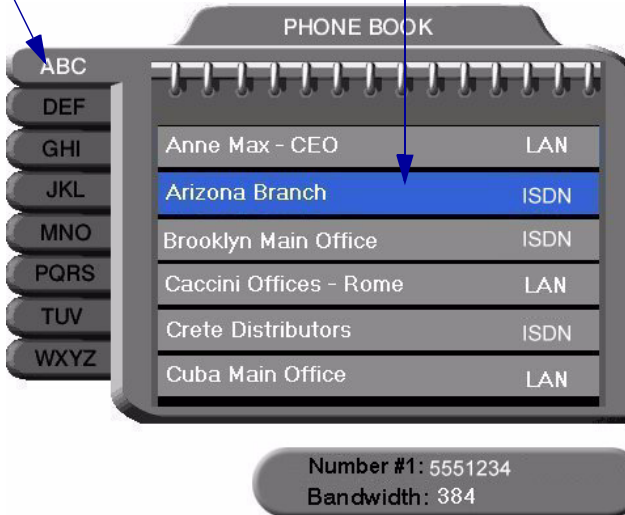|	
Name	The name of the videoconferencing contact.
ISDN, LAN	The type of line that is used when you dial this entry. Each Phone Book entry has dialing information for only one type.
Bandwidth	The bandwidth listed below the dialog box shows the maximum bandwidth setting for the selected entry.

4. Press <Dial>. Falcon IP dials the number.

If you press <OK> instead of <Dial>, the Phone Book closes without dialing the number.

Navigate to a letter tab

Select a name and press <Dial> to start a videoconference

PHONE BOOK

ABC		
DEF	Anne Max - CEO	LAN
GHI	Arizona Branch	ISDN
JKL	Brooklyn Main Office	ISDN
MNO	Caccini Offices - Rome	LAN
PQRS	Crete Distributors	ISDN
TUV	Cuba Main Office	LAN
WXYZ		

Number #1: 5551234
Bandwidth: 384

Starting Videoconferences from the Speed Dial list

Dialing out from the Speed Dial is faster than from the Phone Book. You don't have to search through tabs and various entries, because there are only nine entries in the Speed Dial, and they are all in one dialog box. Also, you can dial a Speed Dial entry simply by pressing its number instead of navigating within the dialog box.

➤ **To add an entry to the Speed Dial**

❑ In the New Entry or Edit Entry dialog boxes, select **Speed Dial**.

✓ Speed Dial

Speed Dial Selected

➤ **To dial a number from the Speed Dial**

SPEED 1. When the screen is clear of dialog boxes, press <Speed> (the # key on the remote control). The Speed Dial list appears.

SPEED DIAL

# 0	Redial: Head Office	ISDN
# 1	Head Office	ISDN
# 2	Tokyo Offices	ISDN
# 3	Shanghai Distributor	LAN
# 4	Texas Resellers	LAN
# 5	Hamburg Branch	ISDN

Speed Dial List

2. Press the number of the Speed Dial entry that you want to dial. The selected entry is dialed. You don't have to press <Dial>.

➤ **To redial a Speed Dial entry**

❑ From the Speed Dial screen, press <0> (zero) or #.

➤ **To delete a Speed Dial entry**

1. Navigate to the entry you want to delete and then press the red **DELETE** SoftKey. A message asks for confirmation.

2. Press <OK>. The entry is deleted from the Speed Dial list (the Phone Book entry is not affected).

-or-

1. Navigate to a Phone Book entry. Press the green **EDIT** SoftKey. The Edit LAN or ISDN Entry dialog box opens.

2. Deselect **Speed Dial**.

Calling Through Gateways

On certain occasions, you may need to videoconference with parties who are connected to different networks or telephone exchanges. As noted earlier in this User's Guide, you can directly call any ISDN number, if you dial the correct telephony prefixes (long distance code, country code, area code, etc.).
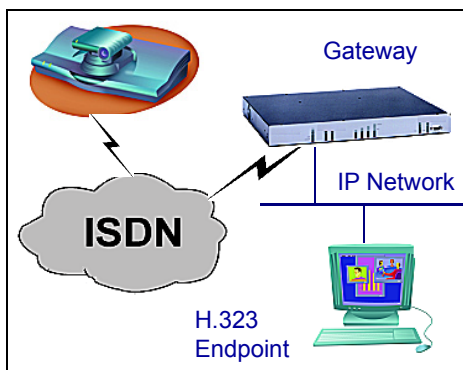
You can also call a system that is outside of your LAN. When you dial a remote IP address, the router that you designate as your default gateway (see "LAN Connection and Registration" on page 4-4) takes the call and routes it to the destination.

However, at some point, you may be unable to take advantage of one of the communication modes (IP or ISDN). If this happens, you can still meet with your contacts by calling through an H.323/H.320 (IP/ISDN) Gateway.

❑   If your LAN connection is down, you can call the Gateway through your ISDN lines and reach H.323 systems (IP addresses and other LAN-based addresses).

❑   If your ISDN lines are down, you can call the Gateway through your LAN connection and reach H.320 systems (ISDN numbers).
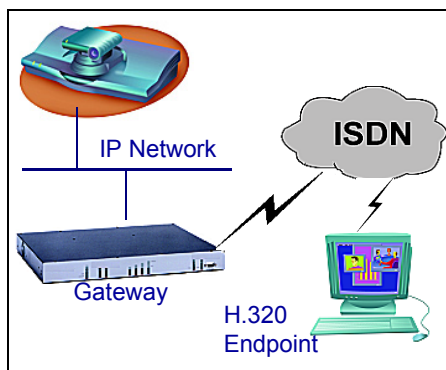
Falcon IP to Gateway to ISDN   *Falcon IP to Gateway to IP*

Before attempting a Gateway call, ask the system administrator to give you the calling syntax. The syntax includes a service access number and, in some cases, a variation of punctuation signs.

➤ **To call through a Gateway**

1. Open the Manual Dial dialog (see "Starting a Videoconference from the Manual Dialer" on page 2-7) and dial [*service access number*][*ISDN number(s)*] in accordance with the system administrator's instructions.

2. Set the required **Bandwidth** or use the default bandwidth.

3. Press <Dial>.

   The gateway's gatekeeper receives the call. It recognizes the syntax that the system administrator instructed you to enter, and it passes the call onto the Gateway. You must be registered with a Gatekeeper to reach a Gateway (see "H.323 Network Registration and Properties" on page 4-5 for details).

   The Gateway calls the destination, and when it receives an answer, it begins the videoconference, continuously translating between H.320 (ISDN) and H.323 (IP).

LAN tab

Enter the service access number (**9**) and then the 1st ISDN number

Press the right arrow button to select the maximum bandwidth

MANUAL DIAL

LAN
ISDN

Address:
95557890

Bandwidth: 384 Kbps
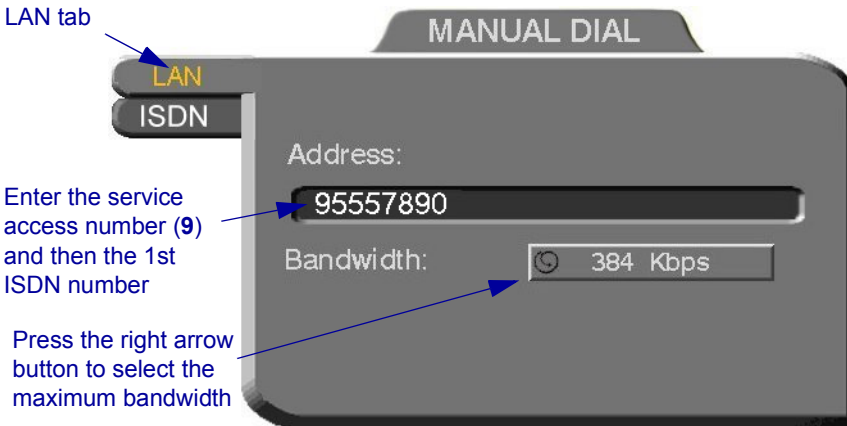
Verifying the Status of a Call

During an active videoconference you can check the status of the call to see the identification of the remote party, the bandwidth of the call, the ISDN lines connected in the call, the current compression modes, etc.

➤ **To check the status of the current call**

❑ Press <Status>. The Status dialog box appears. See "Testing Network Configuration" on page 4-14 for more information.

3.4 Ending Videoconferences

➤ **To end a call**

1. Close any open dialog boxes.

2. Press <Hang up>. A message appears, asking for confirmation.
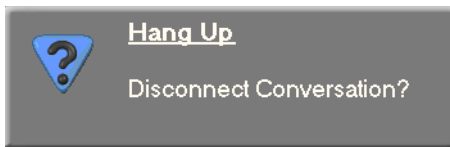
Hang Up Confirmation Message

3. Press <Hang up> again or <OK>. The videoconference is terminated.

To cancel the Hang up command and continue the videoconference, press <Cancel> in response to the confirmation message.

4 NETWORK CONFIGURATION

This chapter explains how to set up Falcon IP User's to operate with your network connections. Network options may be edited at any time, from the Falcon IP, from a remote station through a web browser (see "Network Configuration" on page 10-5), or from the Media Xchange Manager™ (MXM).

4.1 Communication and Network Configuration

After you connect the LAN and/or ISDN lines (see "Basic Falcon IP User's Connections" on page A-2 for connection details), set up the connections to work within Falcon IP.

At any time, you can edit the information in the Set Network dialog box. Falcon IP's communication and network configurations include:

- Falcon IP station name
- LAN Connection and Registration
- H.323 Network registration and properties
- ISDN switch type (for ISDN-supporting units)
- System's ISDN numbers (for ISDN-supporting units)
- System's SPID numbers (for ISDN-supporting units on 56-kbps Restricted-type networks).

➤ **To set up network connections**

    1. Press <Menu>. The main Menu appears. Select **Network**.

Select **Network**.

MENU

Network

Video

Camera

Audio

Options

Version
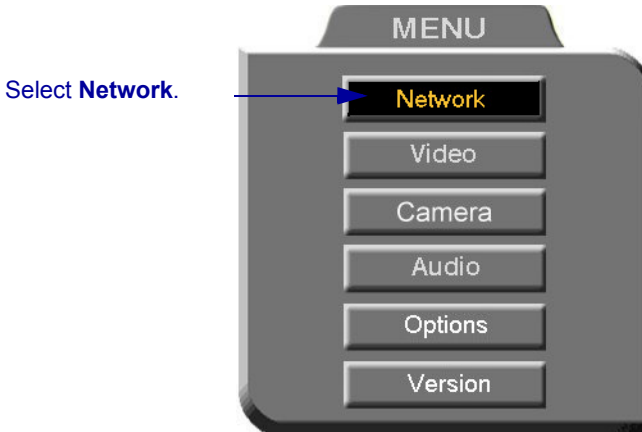
2. In the Set Network dialog box, set up the communication and networking configuration, navigating among the tabs, properties and entering information appropriately.

For descriptions of each tab

SET NETWORK

See page 4-3.

Location

Station Name: HeadOffice

See page 4-4.

LAN

See page 4-5.

H.323

See page 4-12.

Switch

See page 4-13.

Numbers

See page 4-14.

SPID

3. Press <OK> to apply the changes and close the dialog box.

A message states that Falcon IP will restart in a few seconds. After restarting, the changed properties are in effect.

-or-

Press the left arrow key to navigate to another tab.

Location of Falcon IP

In the **Location** tab, enter the Station Name of the Falcon IP.

Station Name   The Station Name is the identification of the Falcon IP on the connected network. Consult with the system administrator before modifying this box.

If the system is registered with the WINS server or a Gatekeeper, Falcon IP can use station names instead of IP addresses for starting and receiving calls. When you register with a Gatekeeper, the station name is entered as your User Name.

If the system has access to a Domain Name System (DNS) server, the Station Name is also the DNS Host Name of the system. Enter the Host Name, then a dot, then the Domain Name: **StationName.Domain.com** (see "Entering Data" on page 2-6 for instructions on entering alphanumerical data from the keyboard).

If you are in a Multipoint videoconference with an MCU, the Station Name identifies the Falcon IP User's in the Participants List of the MCU dialog.

Enter the name of the Falcon IP for the connected network.

LAN Connection and Registration

In the **LAN** tab, enter the Falcon IP's address and information about its connection to the LAN (Local Area Network).

Obtain IP Auto	Select to enable Falcon IP to receive its network configuration from the LAN's DHCP server and enter it automatically in the **LAN** tab.
	If this option is not selected, you have to enter the LAN properties manually. Consult with your system administrator.
IP Address	IP address of your Falcon IP.
	If Falcon IP User's receives an address automatically, it is a temporary address which is liable to be changed when the network's users' IP addresses are updated periodically.
	If you manually enter an IP address here, the address remains permanently.
Subnet Mask	Your company's subnet mask.
DNS Server & WINS Server	IP Addresses of the DNS server and the WINS server. Registering with these servers enables Falcon IP User's to translate names to IP addresses.
Domain	DNS domain name of your company (for example, **yourcompany.com**).
Default Gateway	IP address of the network's Gateway router. The gateway helps Falcon IP send and receive calls between subnets.

Select to obtain the whole LAN configuration automatically.

If the configuration is not obtained automatically, enter all the addresses manually.
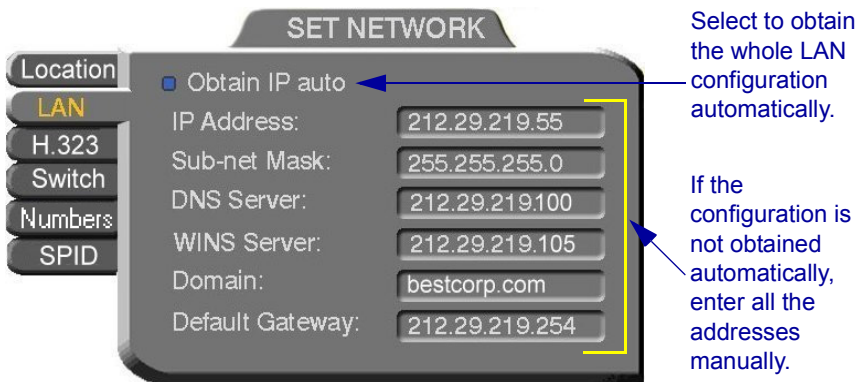
H.323 Network Registration and Properties

H.323 is the standard for video, audio, and data streaming over IP networks. In the H.323 tab, define how the Falcon IP handles these functions within its LAN environment. These properties include:

❑ **H.323 Management** - registration of the Falcon IP with a remote H.323 management and service provider

❑ **Automatic Video Transmission Adjustment** - automatic preservation of optimum transmission, in response to changing network conditions

❑ **Setting Quality of Service (QoS) Levels** - control of the Quality of Service that will be used for transmitting packets from the Falcon IP.

H.323 Management

Many H.323 networks include devices such as the VCON Media Xchange Manager™ (MXM) or a gatekeeper, which provide important management functions and provision of communication services to large numbers of users within defined zones on a LAN or WAN. Falcon IP supports registration with the MXM and with third-party H.323 Gatekeepers.

The following table lists the services that Falcon IP receives if it registers with an MXM or with a third-party H.323 Gatekeeper:

Services	MXM	H.323 Gatekeeper
❑ Address translation and short-number dialing to registered users within the same zone and to other zones.	✔	✔
❑ Allocation of network resources, such as bandwidth.	✔	✔
❑ Remote configuration management by a system administrator.	✔	—
❑ Telephony exchange features, such as Call Transfer, Ad-hoc Conference, Call Forward and Call Pickup.	✔	—

In the **H.323** tab, choose to register the Falcon IP in a VCON MXM or in an H.323 Gatekeeper.

None; **Gatekeeper; MXM**	To register with the **MXM** or a **Gatekeeper**, select the appropriate option. Select **None** to operate Falcon IP outside of the control of one of these devices.
MXM Admin. IP	Enter the IP address of the MXM, if applicable.
Gatekeeper IP	Enter the IP address of the Gatekeeper, if applicable.
User Number	Videoconferencing contacts registered with the same MXM or other Gatekeepers will be able to reach you through your User Number as well as your IP address. See "Calling Other Registered Users" on page 8-3 for more details.
	Enter a number to register Falcon IP with the MXM or Gatekeeper. Some of these devices may register your device under this number, while others assign these numbers, regardless of your request.
NAT IP	If your organization uses NAT (Network Address Translation) when communicating with parties in another LAN or WAN, type the external address for your Falcon device.
	NAT helps protect a LAN from exposure to unwanted traffic by providing one single external address to remote users. NAT uses a system of local and external addresses to hide a LAN's users from other networks. A NAT server translates local parties' addresses to an external address, which is then used to identify the local party to remote parties. Therefore, remote parties use this external address to call the local party, without knowing its actual local address.

Select if Falcon IP registers with an MXM, third-party Gatekeeper, or operates independent of a management system.

Enter the addresses of the external network server(s) (MXM, Gatekeeper, or NAT server) that provide management and H.323 services to the Falcon IP.
Enter a preferred User Number for identification and dialing purposes. If possible, the MXM or Gatekeeper may assign Falcon IP this preferred number.

SET NETWORK

Location
LAN
H323
Switch
Numbers
SPID

☐ None   ☐ Gatekeeper   ● MXM

MXM Server IP: 212.0.3.252
Gatekeeper IP: 212.29.219.108
User Number: 12345
NAT IP:

✓ Enable Lip Synchronization Mechanism
✓ Automatic Buffering Control

Automatic Video Transmission Adjustment

The H.323 tab also includes options that enable Falcon IP to preserve optimum transmission quality automatically, according to current network conditions (for example, available bandwidth).

Enable Lip Synchronization Mechanism Select this option to synchronize the audio and video of a LAN conversation. You can adjust the lip synch during a call. See "Adjusting Quality of LAN Calls" on page 5-11.

Automatic Buffering Control Buffer Control adjusts the video streams for the available dynamic bandwidth of IP networks.

Select this option to make the buffer control automatic. Deselect it to make it adjustable during LAN conversations. See "Adjusting Quality of LAN Calls" on page 5-11.
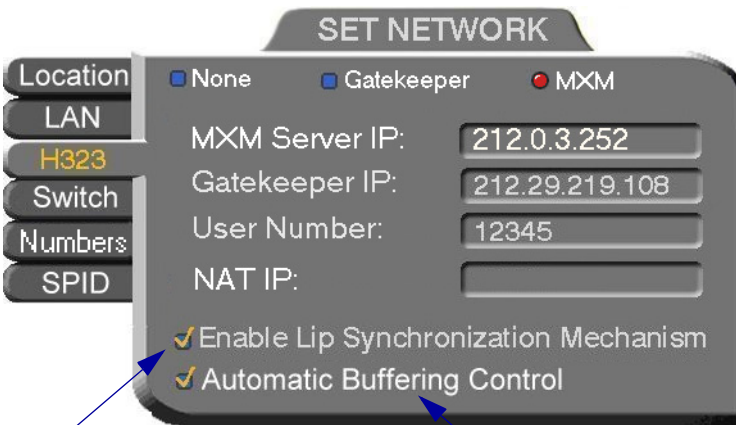
Select to activate automatic Lip Synchronization, which synchronizes the audio and video by delaying either the audio or the video stream, so that both arrive at the same time.

Select to automatically adjust the Lip Synchronization if the delay created for it is too long

Setting Quality of Service (QoS) Levels

VCON's PacketAssist™ Architecture simplifies Video over IP bandwidth management and delivers true Quality of Service (QoS) for IP networks. PacketAssist automatically adapts video meeting transmissions to current network conditions, while ensuring optimal video and audio performance.

The **QoS** Properties dialog box contains properties for controlling the type of Quality of Service that will be used for transmitting packets from the Falcon IP. A password is required to open this dialog box, and we recommend that only system administrators with knowledge of QoS make any changes, if required.

CAUTION   VCON sets the Quality of Service defaults, which should be changed only by a system administrator.

➤ **To set Quality of Service options**

1. When the **H.323** tab of the Network dialog box is open, press the green **QoS** SoftKey.

Press the green **QoS** SoftKey to view and change Quality of Service properties.

2. Set QoS properties as follows (see tables on page 4-11):

Priority Type   Select the type of QoS priority used for transmitting packets during heavy network congestion conditions.

❑ **No Priority** - network transfers packets in a normal Best-Effort method (*First In, First Out*, or *FIFO*).

❑ **IP Precedence** - network gives priority to video, audio, control bits according to the eight levels of IP precedence.

❑ **Diffserv** - network transfers packets according to specific differentiated services priority levels.

Priority Values   For **Video**, **Audio**, and **RTCP** (Real Time Control Protocol) **Priority**, enter an appropriate priority level. According to their priority levels, bits are queued for forwarding by QoS-supporting routers.

The priority levels vary, depending on whether the selected Priority Type is **IP Precedence** or **Diffserv**.

QUALITY OF SERVICE

Priority Type:
- No Priority
- IP Precedence
- DiffServ

Priority Values (Value Between 0 ... 7)

Video: [4]   Flash Override

Audio: [5]   Critic ECP

RTCP: [6]   Internetwork Control
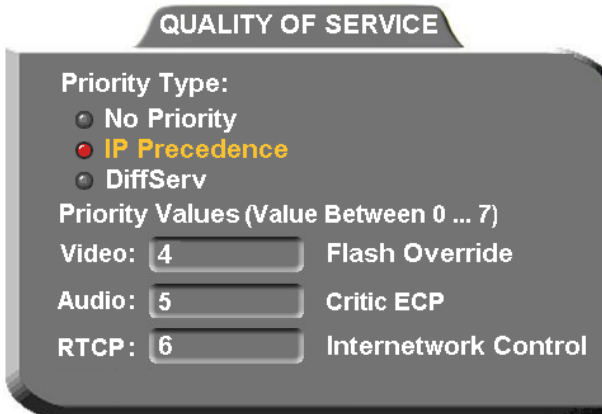
3. To return to the default QoS values, press the red **DFLT QoS** SoftKey.

4. Press <OK> to save the QoS settings and close the dialog box.

For best results, it is recommended that RTCP packets receive the highest priority, to ensure that QoS features continue to operate during the entire call.

Audio packets should receive a higher priority than video packets, as a meeting can continue without video, but not without audio.

IP Precedence Values

Value	Description
0	Routine
1	Priority
2	Immediate
3	Flash
4	Flash Override
5	Critic/ECP
6	Internetwork Control
7	Network Control

DiffServ Values

Value	Description
000000	Probability Timely Forwarding 0
001000	Probability Timely Forwarding 1
010000	Probability Timely Forwarding 2
011000	Probability Timely Forwarding 3
100000	Probability Timely Forwarding 4
101000	Probability Timely Forwarding 5
110000	Probability Timely Forwarding 6
111000	Probability Timely Forwarding 7
101110	Expedited Forwarding
001010	Forward Class 1 Low Drop
001100	Forward Class 1 Mid Drop
001110	Forward Class 1 High Drop
010010	Forward Class 2 Low Drop
010100	Forward Class 2 Mid Drop
010110	Forward Class 2 High Drop
011010	Forward Class 3 Low Drop
011100	Forward Class 3 Mid Drop
011110	Forward Class 3 High Drop
100010	Forward Class 4 Low Drop
100100	Forward Class 4 Mid Drop
100110	Forward Class 4 High Drop

ISDN Switch Type

The **Switch** tab is available only in Falcon IP systems that support videoconferencing over ISDN lines. In the **Switch** tab, select the ISDN switch type that is used in your region.

> If you selected switch type **AT&T 5ESS** or **National ISDN 1**, your system may also have a SPID (Service Profile Identifier) number. See "SPID Numbers" on page 4-14 for instructions on entering SPID numbers.

❑ Select the Switch type used by the local provider.

SET NETWORK

Location
LAN
H.323
SWITCH
Numbers
SPID

ISDN switch type

○ German 1TR6　　　　○ National ISDN1
○ AT&T 5ESS　　　　　○ Japanese NTT
○ Japanese KDD　　　　○ Australia TSO13
● Euro-ISDN NET3　　　○ French VN3/4
○ Swiss NET
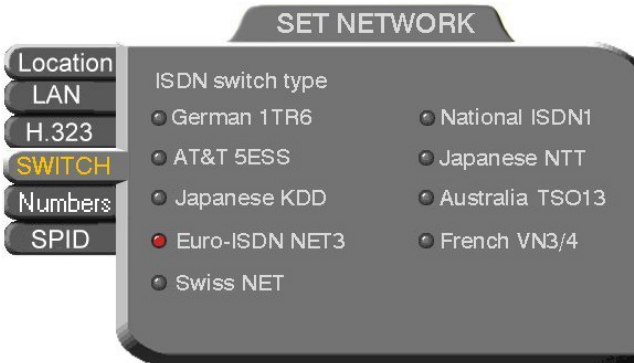
ISDN Phone Numbers

❏ In the **Numbers** tab, enter the Falcon IP's ISDN Numbers.

— If you have Model 1 (1 BRI), enter 1-2 ISDN Numbers.

— If you have Model 3 (3 BRI), enter 1-6 ISDN Numbers, depending on whether you have 1, 2, or 3 BRI lines installed.

Sometimes, one ISDN number is used by one BRI, or two lines (in the following example, lines 1 and 2 share a common number, as do lines 3 and 4, and lines 5 and 6). To copy an entered number to the next line, press the down arrow to navigate to the next line. Then press the green **COPY** SoftKey.

SPID Numbers

If the Falcon IP is connected to a Restricted-type ISDN network (such as
AT&T 5ESS or **National ISDN 1**), your ISDN lines may also have SPID (Service
Profile Identifier) numbers. Consult with your system administrator and ISDN
service provider.

❑ Enter the SPID number for each corresponding ISDN line.

Entering SPID Numbers for 3-BRI

4.2 Testing Network Configuration

After you configure the Set Network dialogs and restart Falcon IP User's, you can
check that the changes that you made were applied.

➤ **To check network configuration**

1. Press <Status>. The Status dialog box appears. It has ISDN and
   LAN tabs.

2. To check the network connection, see "LAN Status" on page 4-15.
   To check the status of the ISDN lines, see "ISDN Status" on
   page 4-16.

LAN Status

The LAN Status dialog box informs you if your Falcon IP is connected with the local LAN and if the Falcon IP is registered with a Gatekeeper and/or an MXM.

❏ Check that the IP Address displayed is the one that you set or received for the system.

❏ Check if the system is logged into an MXM or registered with a Gatekeeper, depending on the H.323 options that you chose.

If you selected **Gatekeeper** and entered the correct IP address in the Network dialog box's **H.323** tab, you should be registered in the Gatekeeper. If you are not, change the **User Number** that you entered. You might have entered a number that is already taken.

For more troubleshooting details, press the green **DIAG** button (see"System Diagnostics" on page 11-1). If a connection problem exists, see "IP Network" on page 11-5.

LAN Status When Falcon IP is not in Call

ISDN Status

The ISDN Status dialog box informs you if your Falcon IP is connected to the ISDN lines defined in the system's configuration.

Checking	Falcon IP User's is checking the line. Wait until the status changes.
Connected	The line is connected properly.
Disconnected	The line is not connected properly.

For more troubleshooting details, press the green **DIAG** button (see "System Diagnostics" on page 11-1). If a connection problem exists, see "ISDN Network" on page 11-6.
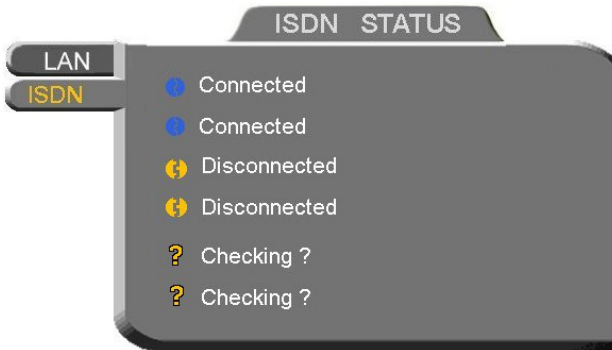
ISDN Status When Falcon IP is not in Call

5 VIDEO AND AUDIO ADJUSTMENTS

This chapter explains how to adjust the video and audio variables for optimizing quality. Some of these adjustments should be made before entering into a videoconference; others are available only during a call.

5.1 Adjusting the Video

To customize the Falcon IP's video transmission and display, you can control and adjust the following:

❑ Camera Color Settings – adjust the brightness, color, contrast and hue.

❑ Monitor Configuration – enable Falcon IP to work in Dual Monitor mode (two TV Monitors).

❑ Camera Configuration – adjust, select and position the main camera and optional cameras.

❑ Display Configuration – customize the display, move the PIP and mute video.

❑ More Video Options – send and receive still images, adjust video quality of LAN videoconferences.

Adjusting the Camera Color Settings

To save time during a videoconference, adjust the brightness, color, contrast and hue while you are not in a call. If necessary, you can adjust them again at any time.

➤ **To adjust camera color settings**

1. Press <Menu>. The main Menu appears. Select **Camera**.

Select **Camera**.
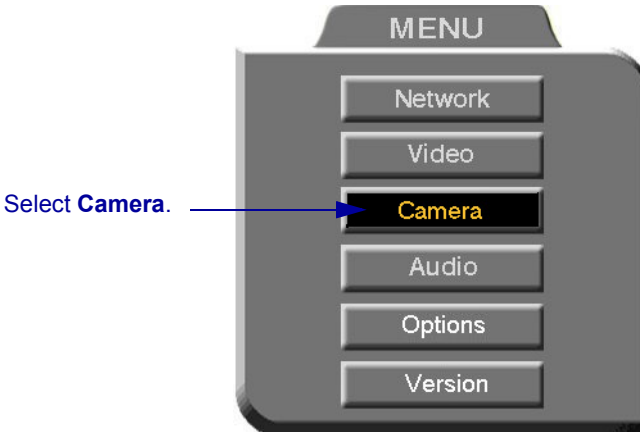
2. Press the up and down arrow keys to switch between Brightness, Color, Contrast, and Hue.

3. To increase the setting, press the right arrow key.
   To decrease the setting, press the left arrow key.

4. To return to the default camera settings, press the red **RESET** SoftKey.

5. Press <OK> to save the settings and close the dialog box.

To increase the setting, press the right arrow key.
To decrease the setting, press the left arrow key.

To navigate among the settings, press the up and down arrows.
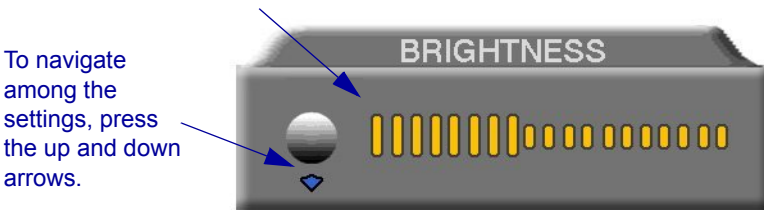
Monitor Configurations

Falcon IP supports the use of two monitors to display both parties on full screens during videoconferences. An S-Video TV monitor displays remote video and a Composite TV monitor displays local video. This configuration is called *Dual Monitor*.

For instructions on connecting two monitors to the Falcon IP, see "Single and Dual TV Monitor Configurations" on page A-1.

➤ **To activate Dual Monitor mode**

1. Press <Menu>. The main Menu appears. Select **Video**.
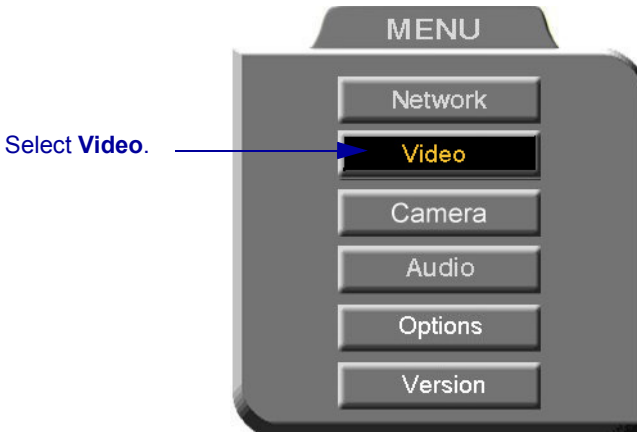
Select **Video**. ────────►

2. In the Set Video dialog box, select **Dual Monitor**.

Select this option only if you have two TV monitors connected. If you enable **Dual Monitor** for a single Composite monitor, the Falcon IP dialogs will not appear (see "No Menus" on page 11-4).

3. Press <OK> to apply the changes and close the Set Video dialog box. Press <OK> again to confirm the Dual Monitor selection.

Select to enable the use of two monitors.
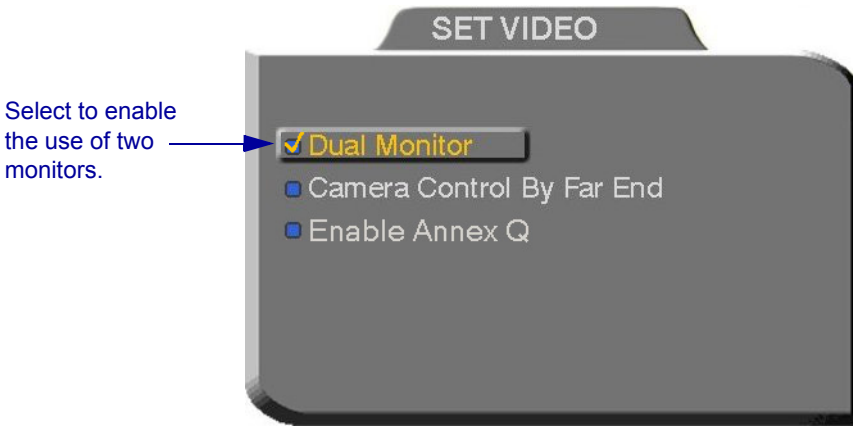
Selecting the Current Camera

Current camera selection is always available. At any time, you can select different local video sources.

During a videoconference, you can also select the current remote video source if the remote party enabled *Far End Camera Control* (*FECC*). Using FECC, one party may select, position and control the other party's camera. To enable the remote party to control your camera, see "Far End Camera Control" on page 5-7.

➤ **To select the current camera**

1. Press <Cam>. The Local Camera Selection dialog box opens. The currently selected camera is highlighted.

Press the down arrow to switch to remote camera selection (if Far End Camera control is enabled).

Press the up arrow to switch back to local camera selection.
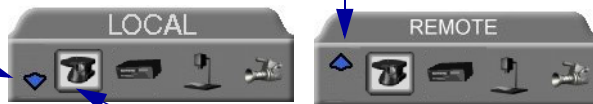
Main camera is selected.

2. Press the left or right arrow buttons to switch between the local video sources (up to four):

Falcon IP main camera

A video source connected to the **VCR** connector.

A Composite camera connected to the **CAM1** connector.

An S-Video camera connected to the **CAM2** connector.

3. If you are in a videoconference with a party who enabled FECC, press the down arrow key to view the remote camera selection options.

4. Press the left or right arrow buttons to switch between the remote video sources.

5. Press <OK> to select the highlighted camera (and the selected Local camera) and close the dialog box.

Controlling the Camera

You can position the Falcon IP User's's main camera at any time, either prior to or during a call. You can pan, tilt, and zoom the camera every time you want to change the local display, or you can save preset positions.

Positioning the Camera

When the screen is clear of dialog boxes, either in or out of a videoconference, you can control the camera in various ways:

❑ Manual positioning - temporarily positioning the camera as required.

❑ Preset positioning - focusing the camera on a specific person or location, then saving the position and recalling it when needed.

❑ Far-end camera control.

➤ **To manually position the camera**

❑ To pan the camera left and right, press the left and right arrow keys. To tilt it up and down, press the up and down arrow keys.

To zoom in and out, press the <+> and <-> of the Zoom button.

➤ **To preset a camera position**

1. Manually position the camera.

2. Press <Set> in the remote control's Presets area.

3. Press a number on the number pad. Each of the numbers between 0 and 9 may represent a preset position.

➤ **To restore the camera to a preset position**

1. Press <Recall> in the remote control's Presets area.

2. Press the number (0-9) in the number pad corresponding with the position you want. The camera positions itself accordingly.

Far End Camera Control

The *Far End Camera Control* (*FECC*) option permits the remote party to control your camera, so that they see views that are convenient for them. FECC provides control over the pan/tilt/zoom positioning and the adjustment of brightness, color, contrast and hue.

➤ **To enable the remote party to control your Falcon IP's camera**

1. Press <Menu>. The Main Menu opens. Select **Video**.
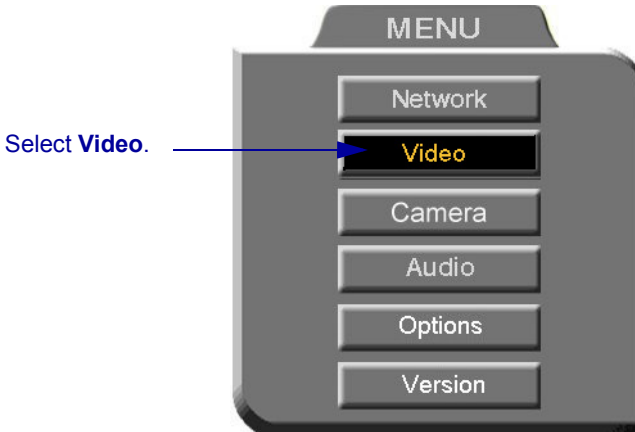
Select **Video**.

2. In the Set Video dialog box, select **Camera Control by Far End**.

3. Press <OK> to apply the change and close the dialog box.

Select to enable the remote party to control your camera.

Select to operate FECC based on ITU H.323 Annex Q Recommendations.
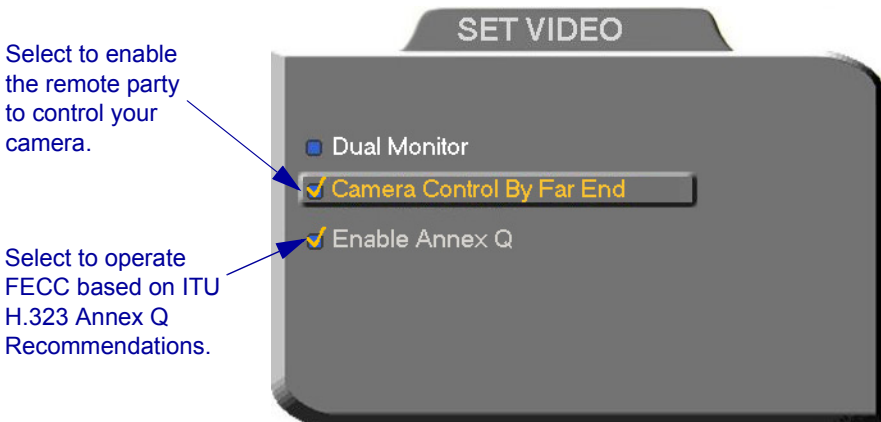
Display Modes

Different display modes are available during a videoconference.

❑ **Local** - your party

❑ **Remote** - the other party

❑ **PIP** - Picture-in-picture. A small inset of the local party appears over the full-screen video of the remote party. At the start of a call, PIP mode is activated by default.
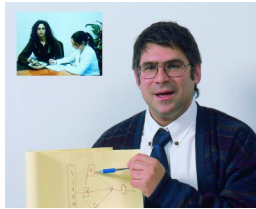
Video Display in PIP Mode

➤ **To switch between Local and Remote view**

Press <Display> on the remote control.

➤ **To turn the PIP view off**

Press <PIP> on the remote control.
Press it again to view in PIP mode again.

➤ **To move the PIP to a different location**

1. Press <Menu>. The Main Menu and SoftKey Guide opens.

2. Press the red **MOVE PIP** SoftKey.

Press the red SoftKey to move the PIP to a different location

3. The Move PIP direction guide appears. Press the arrow buttons until you are satisfied with the PIP position.

Move PIP Direction Guide

4. Press <OK>. The Direction Guide closes.

5. Press <OK> again to close the Main Menu screen. The PIP will remain in this position for all sessions, until you change it again.

Muting the Outgoing Video

You can mute the local outgoing video if you want to stop sending video temporarily. The display that the remote party sees is frozen to the last viewed video frame.

Muting the video does not affect the video or audio from the remote party. If you want to mute the audio also, see "Adjusting the Volume" on page 5-13.

➤ **To mute the video**

<small>MUTE VIDEO</small> ⬤ Press <Mute Video>. An animated icon at the bottom of the screen indicates that the outgoing video is frozen.

Video Muted Icon

➤ **To unmute the video**

❑ Press <Mute Video> again.

Sending and Requesting Still Images

You can send a still image, which is a captured frame from the local video, to the remote party. For example, a cleanroom engineer zooms his camera in on a PC-board. He sends a still image of the board to his manager in her office. The manager can then study the enhanced image of the board in detail.

You can also take still images of the remote party's video. For example, a doctor asks a remote patient to hold an injured hand up to the camera for a second, long enough for the doctor to take a still image of the wound. Now, the doctor can study the wound while the videoconference continues.

Sending and receiving still images is only available in videoconferences between parties that use at least one TV monitor. If any of these parties has only a VGA monitor (such as the MediaConnect 8000 Single Monitor configuration), this feature is disabled.

➤ **To send a still image**

❑ Press <Send>. A message informs the remote party that a still image was sent. If the remote party accepts it, the still image appears on the remote party's monitor.

➤ **To receive a still image**

❑ If a message asks if you want to view a still image sent by the remote party, press <OK> to view it or <Cancel> to reject it unseen.

➤ **To request a still image**

1. Press <Request>. The remote side sends the still image. A message appears on the local display, asking if you want to accept the still image.

2. Press <OK> to view the image.

See "Display Image" on page 10-6 for instructions on saving received still images through the web server.

Adjusting Quality of LAN Calls

Falcon IP can automatically adjust its video and audio for dynamic IP bandwidth. However, you may want to adjust the quality-control mechanisms yourself if you experience the following problems:

❑ Parts of the video are covered with blocks (low quantization control).

❑ The audio and video fall out of synchronization (low quality lip synch).

❑ The video freezes and then doubles up frames (inefficient buffering).

➤ **To adjust videoconference quality for LAN calls**

1. In the Set Network dialog box's **H.323** tab, select **Enable Lip Synchronization Mechanism** and deselect **Automatic Buffering Control** (this enables adjustable Buffering Control. See "H.323 Network Registration and Properties" on page 4-5).

2. Press <Status>. The LAN Status dialog box opens.
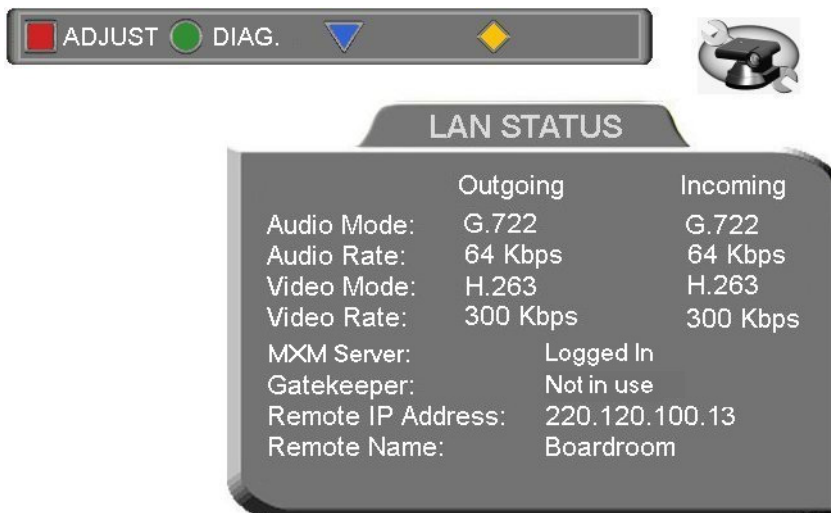
Status Dialog - LAN

A During a call, the red **ADJUST** SoftKey is available. You can access the Adjustment sliders only during a call.

3. Press the red **ADJUST** SoftKey. The first slider appears.

Press the red RESET SoftKey to return to the default settings.

Press right arrow to increase; left arrow to decrease levels

Press the up or down arrow to navigate among the sliders
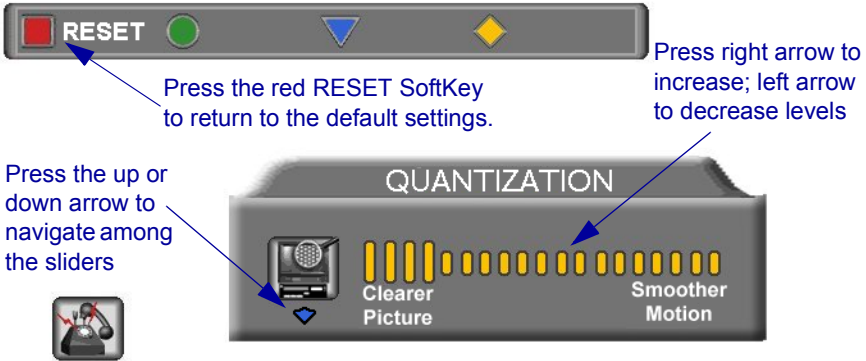
4. Press the up and down arrow keys to view and adjust the different sliders:

Quantization Press the left arrow key to clear up blocks in the video.

Press the right arrow key for better motion.

Lip Synch Press the left arrow key if sound comes before motion.

Press the right arrow key if motion comes before sound.

Buffering Press the left arrow key for a more realistic video.

Press the right arrow key to clear up video freezing and jumping.

— For best results, start the sliders at one end and gradually adjust them.

— To reset the default values, press the red **RESET** SoftKey.

5. Press <OK> to apply the changes and close the sliders.

5.2   Adjusting the Audio

Falcon IP supports various and powerful audio features:

❑   Increasing, decreasing or muting the volume of incoming and outgoing audio

❑   Switching between different local microphones and other audio sources

❑   Setting VCR mixing options

❑   Setting audio options to support special environments

Adjusting the Volume

You can adjust the volume at any time, in or out of a videoconference, when a dialog box is open or when the screen is clear. The following volume controls are available:

●   Increase or decrease the volume of the incoming audio

●   Mute the incoming audio

●   Mute the outgoing audio

➤   **To adjust the volume of incoming audio**

1.   Press the right volume button to increase the volume, or press the left volume button to decrease the volume.

Volume Level

➤   **To mute the speaker**

Press Mute <Speaker>. An animated picture on the bottom of the screen indicates that the speakes are muted.

To restore the speaker, press Mute <Speaker> again.

➤   **To mute the microphone**

Press Mute <Microphone>. An animated picture on the bottom of the screen indicates that the microphone is muted.

To restore the microphone, press Mute <Microphone> again.

Automatically Muting the Microphone During Incoming Calls

When Auto Answer is turned on, there is a possibility that the remote side will hear your audio before you're ready to interact with them. This carries the risk of broadcasting something you don't want the remote side to hear. To protect against this scenario, you can automatically mute your microphone (Audio Out) at the start of automatically answered incoming calls.

➤ **To automatically mute the microphone at the start of incoming calls**

1. Press <Menu>. The Main Menu opens. Select **Options**.
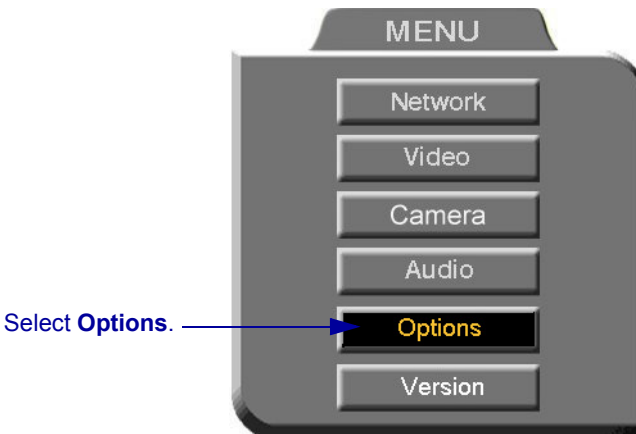
Select **Options**.

2. In the Options dialog box, select **Auto Answer** and **Auto Mute Incoming Calls**.

Select to mute the microphone automatically whenever the Falcon accepts an incoming call.
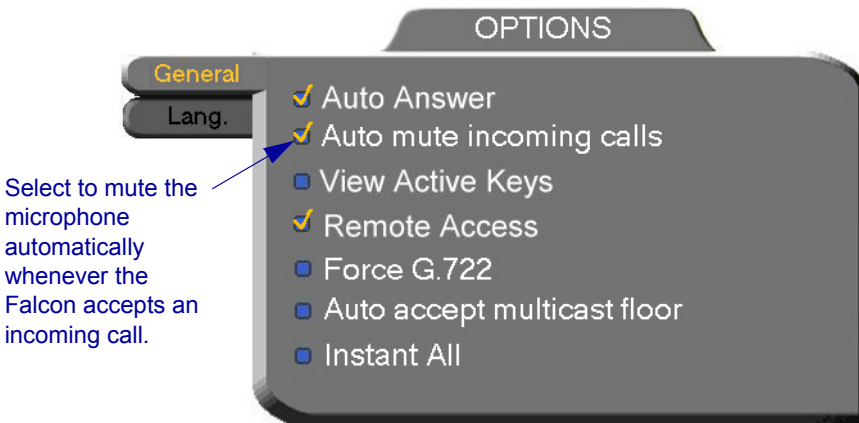
Choosing a Microphone

If you connected a mixer or a second microphone to the VCR AUD IN connector on the Falcon IP (see "Optional Falcon IP User's Connections" on page A-4 for details), choose which audio source to use.

➤ **To choose an audio source**

1. Press <Menu>. The Main Menu opens. Select **Audio**.
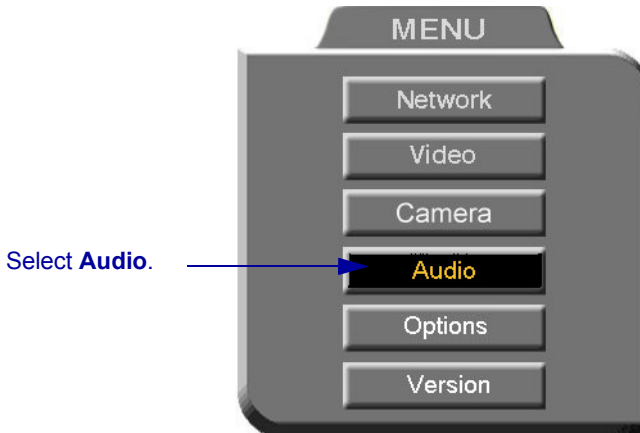
Select **Audio**.

2. In the Set Audio dialog box, select the appropriate **Audio Input** option.

TableTop To use the supplied tabletop microphone or other audio device connected to the Falcon IP's **MIC** connector.

Line Level To use the microphone or audio device (such as VCR, mixer, etc.) connected to the Falcon IP's VCR AUD IN connector (see "Optional Falcon IP User's Connections" on page A-4.

3. Press <OK> to apply the changes and close the dialog box, or go on to the next procedure to select VCR mixing options.

Select the current
audio source.
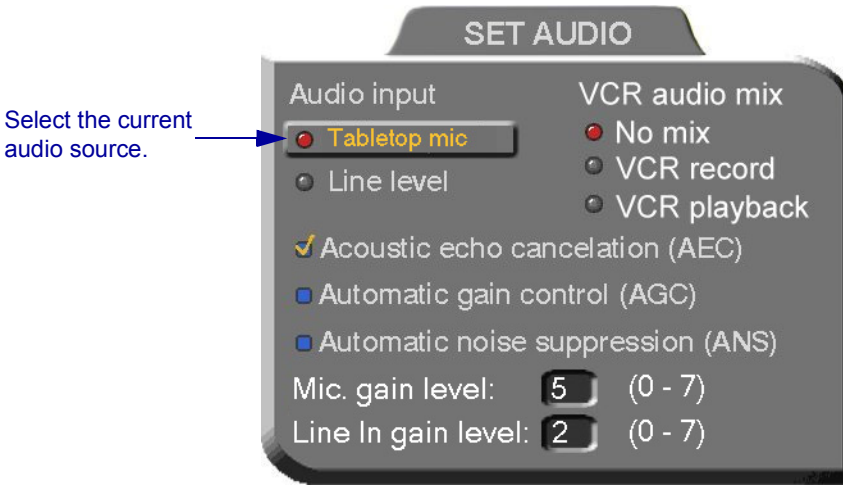
Setting Mixing Options

Mixing options determine how the audio from a VCR connected to the Falcon IP is
mixed and sent to the remote party or recorded to a VCR cassette.

➤ **To set up mixing**

1. In the Set Audio dialog box, select the appropriate **VCR Audio Mix**
    option.

Mixing Mode ╲ Audio Origin	Local Party	Remote Party	VCR (connected to Video Audio Out)
No Mix	Hears the remote party's audio.	Hears the local party's audio.	Records audio from the remote party.
VCR Record	Hears the remote party's audio.	Hears the local party's audio.	Records audio from the local and remote parties.
VCR Playback, Tabletop mic (connected to Video Audio In)	Hears the remote party's audio and the VCR playback audio.	Hears the local party's audio and the VCR playback audio.	Records audio from the remote party.

2. Press <OK> to apply the changes and close the dialog box,
   or go on to the next procedure to select audio options for special room
   environments.

SET AUDIO

Audio input   VCR audio mix

○ Table top mic   ● No Mix   ◄─────   Select an audio
○ Line level   ○ VCR record   mixing option.
                            ○ VCR playback
✓ Acoustic echo cancelation (AEC)
■ Automatic gain control (AGC)
■ Automatic noise suppression (ANS)
Mic. gain level: 5   (0 - 7)
Line In gain level: 2   (0 - 7)
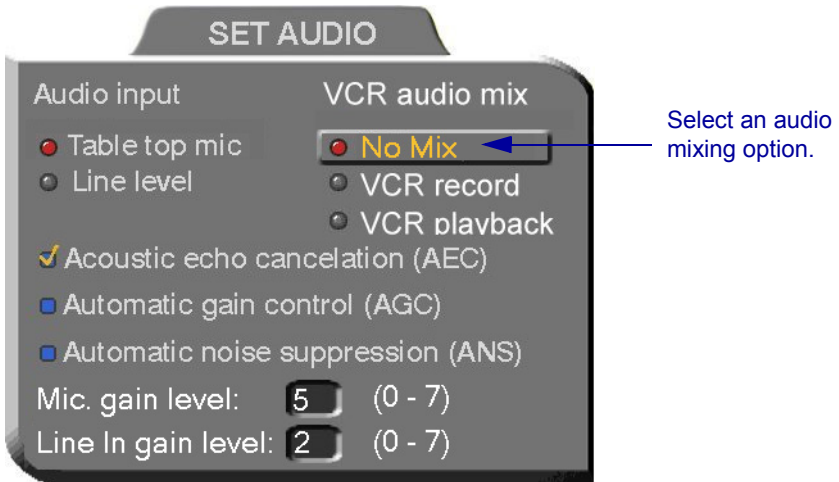
Setting Audio Options for Special Environments

Falcon IP supports advanced features that improve audio quality for different types of videoconferencing environments.

➤ **To set audio options for special environments**

1. In the Set Audio dialog box, select the audio control features you want.

Acoustic Echo Cancellation (AEC)	Cancels the echo created when the microphone picks up audio from the speakers (selected by default). You should deselect AEC only if an external AEC device is in use.
Automatic Gain Control (AGC)	Amplifies audio. AGC improves audio for big rooms.
Automatic Noise Suppression (ANS)	ANS blocks noise.

2. Press <OK> to apply the changes and close the dialog box.

Select the use of audio options.

Setting Audio Gain Levels

The gain level is the boost in signalling power when the audio signal is increased. Depending on your microphone or other audio input, you may adjust the gain to a suitable level.

➤ **To adjust the gain level**

1. In the Set Audio dialog box, enter the gain level for the microphone (Mic.) or the Line In input. Use the table after the procedure as a guide for choosing an appropriate level.

2. Press <OK> to apply the changes and close the dialog box.

Set Audio input gain levels.
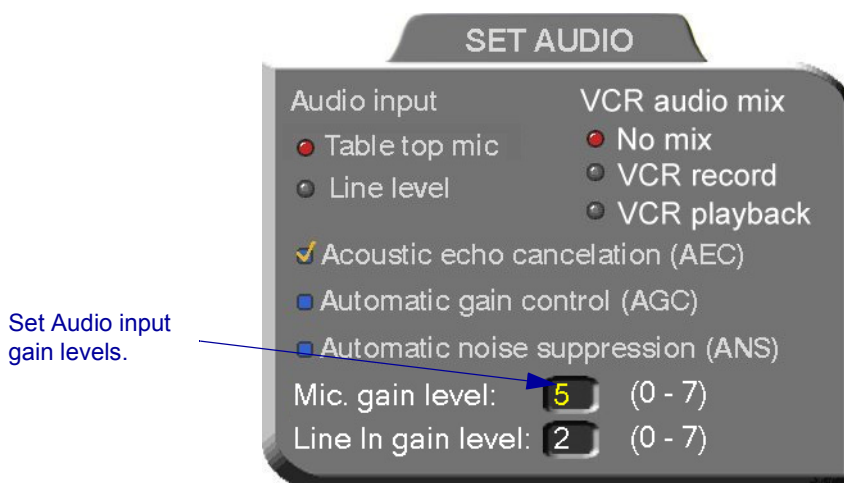
Gain Levels

Level	Gain in decibels
0	12 dB
1	10 dB
2	8 dB
3	6 dB
4	4 dB
5	2 dB
6	0 dB
7	-2 dB

6 MULTI-PARTY CONFERENCING WITH INTERACTIVE MULTICAST

Interactive Multicast for multi-party videoconferencing is a software alternative to the expensive MCU (see Chapter 7, "Multi-Party Videoconferencing Through an MCU", for more information on MCUs). Interactive Multicast uses bandwidth more efficiently than an MCU does, and it does not limit the number of users in a session or the number of sessions per license; most MCUs do.

During an Interactive Multicast, identical video streams, audio streams, and data application sharing packets are sent from one party to multiple parties. The initiating party (*Chair*) calls one or more parties (*Participants*) at the start of the conference and controls its progression. All parties receive identical transmissions.

Many VCON products provide the capability to carry out Interactive Multicast video meetings over a Local Area Network (LAN), in which the Chair *and* all Participants may be seen and heard during the duration of the meeting. The Falcon IP can join an Interactive Multicast as a Participant - Participant functions are available.

As a Participant, you may receive the floor, in which its video and audio is seen and heard, respectively, by the other Participants and the Chair for a period of time. In addition, you may send a text message, such as a question or comment, to the Chair at any time.

Interactive Multicasts can proceed in the form of a lecture or demonstration, in which Participants' participation is restricted and controlled by the Chair, or as a free discussion, in which everyone has the right to be seen and heard without the need to receive permission from the Chair.

6.1 Entering an Interactive Multicast

➤ **To enter an Interactive Multicast**

1. Answer an incoming call from the Chair of an Interactive Multicast.

   -or-

   Call the IP address of the session after the Interactive Multicast starts.

   You will see and hear the same video and audio as everyone else in the conference.

   If the session is password-protected, the Enter Password message appears.
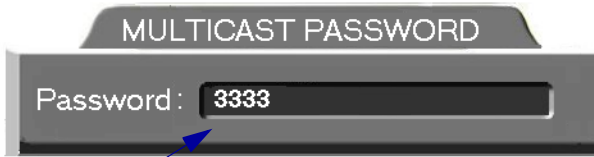
Enter the session's password. The password must consist of digits (1-9) only

2. Enter the password in the box. The password must be digits (1-9) only.

3. Press <OK> to send the password and join the session.

6.2   *Participating in an Interactive Multicast*

After you join an Interactive Multicast, you will see and hear the same remote video and audio as everyone else in the meeting.

During the session, you may request the floor and send messages to the Chair. These actions are available through the Multicast SoftKey menu at the top of the screen.

Softkey functions available to the Participant

Indicates whose video and audio is sent to all parties in the meeting

Video: Meeting Room
Audio: Meeting Room

Multicast Viewer Screen

Requesting the Floor

To speak and be seen, request the Floor from the Chair.

➤ **To request the Floor**

1. Press <Multipoint>. The Multicast SoftKey menu appears on the monitor.

2. Press the red **REQ. FLOOR** SoftKey. Wait for the Chair to grant you floor permission.

Press the red
Softkey to
request the floor

Requesting the Floor

3. When a confirmation message asks you to accept the Floor, press <OK>.

When you take the Floor, everyone in the meeting sees and hears you.

To skip the confirmation message and automatically receive the Floor every time the Chair grants it to you, select **Auto Accept Multicast Floor** in the **Options** dialog box.

Select to accept
the multicast floor
automatically
without having to
confirm
acceptance.
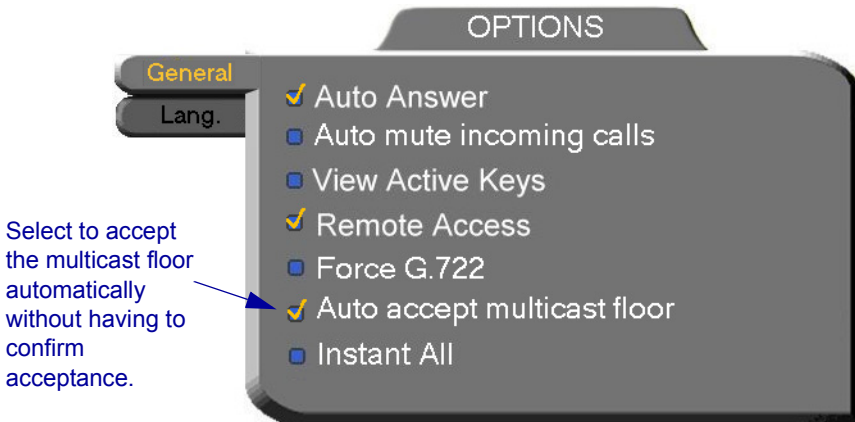
Returning the Floor

When you finish speaking to the floor, return the Floor to the Chair.

➤ **To return the Floor**

  1. If necessary, press <Multipoint> to display the Multicast SoftKey menu

  2. Press the red **RET. FLOOR** SoftKey. Your video and audio are replaced on the screens of the other Participants by the Chair.

Press the red Softkey
to return the floor

Participant Has Floor

Sending a Message to the Chair

Participants may gain the Chair's attention without disrupting the flow of the current speaker. You may send a short message to the Chair, such as the reason for requesting the floor. You may select one of the prepared messages ("I have a question" or "I have a comment") or enter a message using the on-screen keyboard.

➤ **To send a message to the Chair**

  1. If necessary, press <Multipoint> to display the Multicast SoftKey menu

  2. Press the yellow **SEND MESSAGE** SoftKey. The Multicast Viewer message box appears on the screen.

Press the blue Softkey to remove the entire message from the message box

Press the yellow SoftKey to enter your message through the on-screen keyboard.

REQ. FLOOR

CLEAR TEXT

KEYBOARD

Press the left or right arrow to switch among prepared messages.

MULTICAST VIEWER

I have a question

After entering your message through the keyboard, press <OK> to display the message in the message box. To send the message to the Chair, press <OK> again.

3. Use one of the prepared messages. To switch among them, press the left or right arrow button.

-or-

Press the yellow **KEYBOARD** SoftKey. The on-screen keyboard appears.

A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z
, ^ : . # * DEL SPACE
- 0 1 2 3 4 5 6 7 8 9

Enter the message text (see "Entering Data" on page 2-6). Press <OK> to place the message in the Multicast Viewer message box.

4. Check that the message is written correctly. If you want to write again, press the blue **CLEAR TEXT** SoftKey to remove it. Then, repeat steps 2 and 3.

5. Press OK again to send the message. The Chair sees your message.

7 MULTI-PARTY VIDEOCONFERENCING THROUGH AN MCU

7.1 Multipoint Control Units (MCUs)

An MCU (Multipoint Control Unit) is a device which provides videoconferencing between more than two parties. The MCU joins the parties and switches the video either automatically depending on who is speaking, or manually under the direction of a moderator.

Falcon IP supports both H.320 and H.323 MCUs.

❑ If you engage in a multipoint call over the LAN (contact an MCU's IP address), the MCU managing the videoconference is an H.323 MCU.

❑ If you engage in a multipoint call over ISDN lines (contact an MCU's ISDN numbers), the MCU managing the videoconference is an H.320 MCU.

Parties either call the MCU or they accept a call from the MCU. Then the MCU engages in a separate call with each party simultaneously. When one party transmits, the MCU receives the multimedia stream, multiplexes the audio and video, and then sends the resulting streams to all the endpoints in the session.
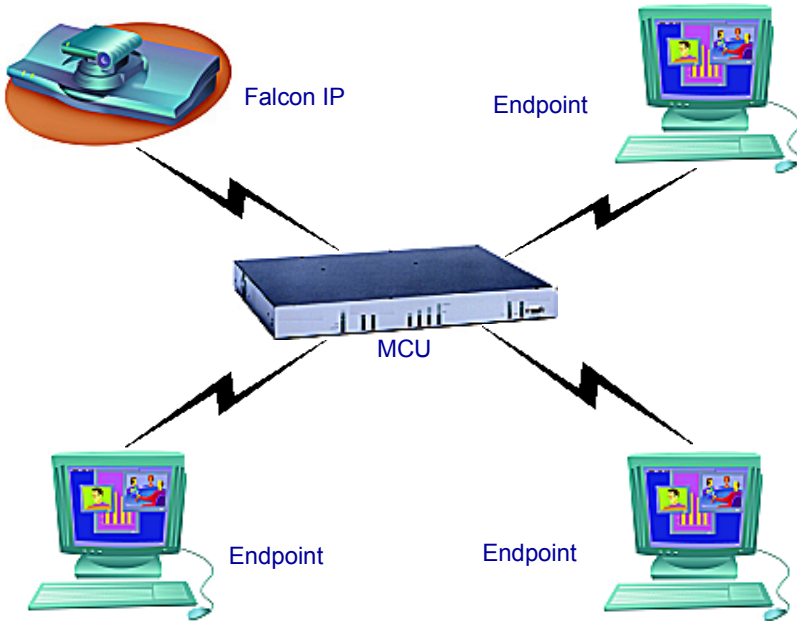
Multi-party Videoconferencing Through an MCU

7.2 Joining an MCU Videoconference

You can join a multi-party videoconference through an MCU either by answering an incoming call from the MCU, or by calling the MCU session.

You and the other parties dial the IP address or ISDN number of the MCU (or a set of ISDN numbers, if you are calling to more than one BRI). The MCU collects the calls and mixes them to create the multi-party videoconference.

Before you attempt to call, consult with the network administrator or the remote parties to make sure that you are calling the MCU with your scheduled videoconference.

➤ **To join a multi-party videoconference**

❑ Dial the MCU's IP address or ISDN numbers either from the Phone Book or manually.

7.3   Managing the MCU Videoconference

An important feature of managing an MCU videoconference is controlling which of the multiple participants is seen and heard.

❑   The session can be managed by the MCU itself, either by Continuous Presence or by Voice-Activated Switching. This configuration must be defined in the MCU's session properties.

Voice-Activated Switching	The participants see the video of the participant whose audio signal is strongest. For example, the non-speaking participants see the person speaking.	
Continuous Presence	Several participants in an MCU session are viewed and heard simultaneously. In some configurations, the selected participant may be the largest view.	

❑   In Participant View, participants can view the full-screen of a selected party. Participant View overrides Continuous Presence and Voice-Activated Switching.

❑   The Chair can force one party's video to be broadcast to all the participants. A Chair Force overrides Continuous Presence, Voice-Activated Switching, and Participant View.

 Various MCU brands have different session management designs. The display you receive from your MCU may differ from those shown here.

Multi-party Videoconference Management in H.320 MCUs

Chair and participant controls are available for some H.320 MCUs. If the MCU supports Chair control, you can request the role of Chair to manage the videoconference. Additionally, participants have some control over what they see. Multi-party videoconference management options are located on the MCU screen during the session.

The availability of Chair Controls and Participant Options depends on the configuration of the MCU. These features may not be available for every MCU.

➤ **To open the MCU screen**

1. Dial the H.320 MCU to connect to the conference.

2. Press <Multipoint> to display the MCU screen. It contains the Participants List, and your station is the first displayed name.

Available SoftKey functions   List of multipoint conference parties
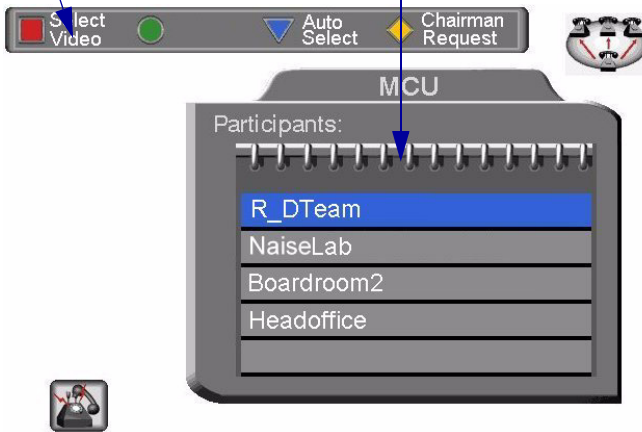
MCU Dialog

Participant Options

From the MCU Participant screen, various options are available when Participant View is activated.

➤ **To see the participant of your choice**

1. Press the up or down arrow buttons until the participant is highlighted.

2. Press the red **SELECT VIDEO** SoftKey. The participant that you selected appears in full-screen view. The audio that you hear does not change.

    If the Chair forces the video of another participant, it overrides your **Select Video**.

    If there is no Chair (if the MCU is managing the session), this view remains until you press the **AUTO SELECT** SoftKey.

➤ **To end a Select Video command**

❑ Press the blue **AUTO SELECT** SoftKey. The full-screen view of the selected participant disappears, replaced by the display selected by the Chair or by the MCU.

➤ **To manage the session**

❑ Press the yellow **CHAIRMAN REQUEST** SoftKey. If no one else is currently the Chair, the MCU gives you the role. The SoftKey Guide changes from Participant options to Chair controls (see "Chair Controls" on page 7-6).

Chair Controls

The Chair has additional control over the display of a multi-point videoconference.
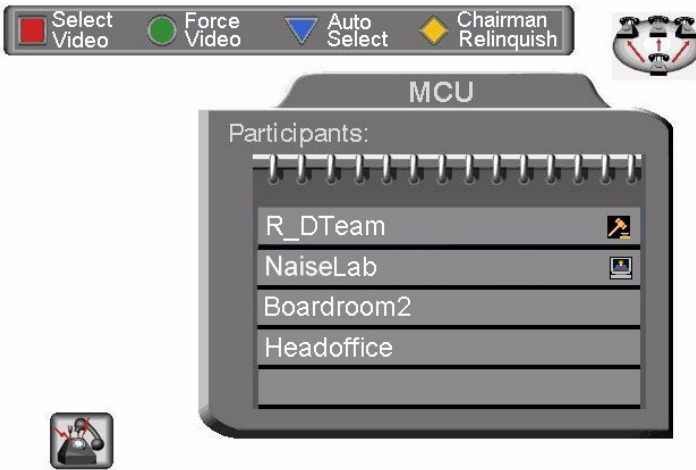
MCU Screen with Chair Controls

From the MCU Chair screen, the various options are available when Participant View is activated.

➤ **To broadcast a selected participant's video to all others**

1. Press the up or down arrow buttons until the participant is highlighted.

2. Press the red **FORCE VIDEO** SoftKey. Everyone sees the full-screen video of the selected participant.

   A participant can **Select Video** of another party after you force a video, but if you force a video again, you override the participant's Select Video command.

➤ **To end a Chair Force**

❑ Force another participant's broadcast, or your own.

-or-

Relinquish the role of Chair.

-or-

Press the **AUTO SELECT** SoftKey. The video is restored to either Continuous Presence or Voice-Activated Switching, according to the default capabilities of the MCU.

➤ **To return control of the session to the MCU**

❑ Press the yellow **CHAIRMAN RELINQUISH** SoftKey. The SoftKey Guide changes from Chair controls to Participant options.

8 TELEPHONY EXCHANGE FUNCTIONS

If your Falcon IP is registered and managed by a VCON Media Xchange Manager™ (MXM), call exchange functions are available:

- Login to the MXM
- Calling Other Registered Users
- Call Forward
- Call Pickup
- Call Transfer
- Inviting Additional Parties
- Simplified Gateway Dialing
- Connecting to an MCU Videoconference

8.1   Registering to the MXM

To register the Falcon IP with an MXM, you must enter its address in the Network Configuration. Consult with your system administrator.

➤ **To log in to the MXM**

1. Press <Menu>. The Main Menu opens. Select **Network**.
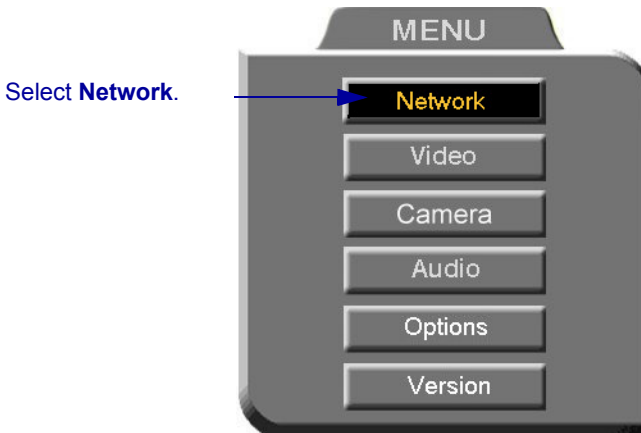
Select **Network**.

2. In the Set Network dialog box, navigate to the **H.323** tab and press the right arrow button to access H.323 properties.

3. Select the MXM option.

4. In the MXM Server IP box, enter the IP address of the MXM.

5. Press <OK> twice. A message states that Falcon IP will restart in a few seconds.

   If the MXM is in Open mode, it automatically permits the Falcon IP to register or log in, provided that its alias is unique.

   If the login attempt is unsuccessful, consult with the system administrator. The administrator must then grant login permission before the Falcon IP can log in.

Select to enable the system
to register with the MXM

Enter the IP address
of the MXM

SET NETWORK

Location
LAN
H.323 tab   H323
Switch
Numbers
SPID

□ None   □ Gatekeeper   ● MXM

MXM Server IP: 212.0.3.252

Gatekeeper IP: 212.29.219.108

User Number: 12345

NAT IP:

✓ Enable Lip Synchronization Mechanism
✓ Automatic Buffering Control
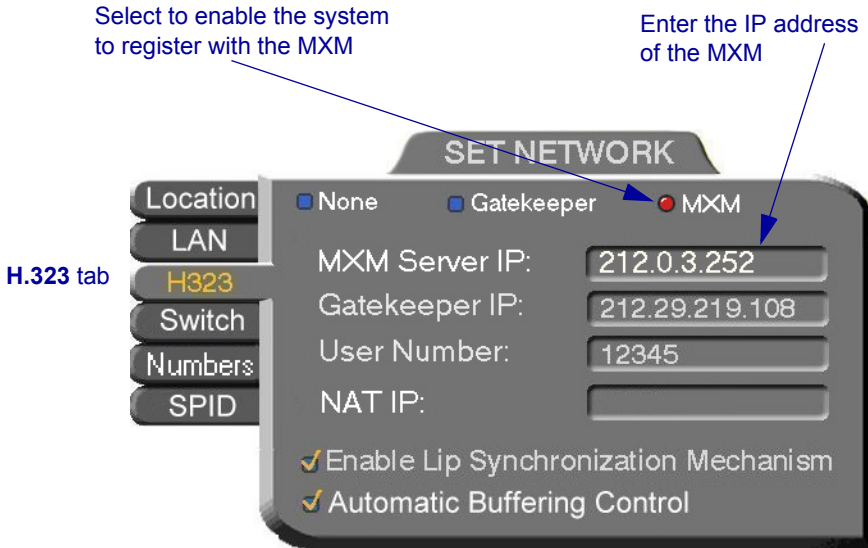
8.2   *Calling Other Registered Users*

Users that are registered with the MXM receive all the regular Gatekeeper services, plus more call exchange services from the MXM features. One MXM service is zone control: registered users can call each other, but calls to and from an unregistered user may be rejected.

Another service that users receive is address translation. MXM-registered users can use the regular Gatekeeper H.323 Alias, which you choose for yourself when you configure your Falcon IP. The MXM assigns every registered user a new User Number, to ensure that every user has a unique number.

➤ **To call another registered user**

❑ Press the buttons on the Number Pad to enter the destination's address and start the call. For supported address types, see "Dialing Options - LAN Address Types" on page 3-8.

8.3 Call Exchange Services

If Falcon IP is registered with the MXM, telephony services are available for videoconferencing. The available services are:

● Call Forward

● Call Pickup

● Call Transfer

● Inviting Additional Parties to a Videoconference

● Gateway Dialing for IP-to-ISDN

Call Forward

If Call Forward is activated for the Falcon IP, the MXM forwards calls to another specific user if you are unable to answer. The Call Forward settings for the Falcon IP may be done by both the administrator or you. The last changes, regardless of who made them, are valid.

In Falcon IP, you can enable Call Forwarding by dialing a system function code. The code may be either the factory default value or a value set by the administrator.

➤ **To set Call Forwarding**

❑ In the LAN Manual Dialer, dial one of the following (bold values are factory defaults):

For this feature	Dial this number
Forward on no answer	***70** (or other code number) followed by [*other destination directory number*]
	Activate if you want to forward calls intended for you to another specific user. The interval before transferring the call is set by the administrator.
	For example, *70751will forward calls to user 751.
Forward on busy	***71** (or other code number) followed by [*other destination directory number*]
	Activate if you want to forward calls to another specific user if you are engaged in another videoconference.
	For example, *71751will forward calls to user 751.

Unconditional forward	***72** (or other code number) followed by [*other destination directory number*]
	Activate if you want to forward ALL calls intended for you to another specific user.
	For example, *72751will forward calls to user 751.

After dialing, a "Call Rejected" message appears. However, the request is accepted by the MXM if the directory number is valid.

➤ **To disable Call Forwarding**

❑ In the LAN Manual Dialer, dial one of the following (bold values are factory defaults):

To disable this feature	**Dial this number**
Forward if No Answer	***70*** (or other code number)
Forward if Busy	***71*** (or other code number)
Unconditional forwarding	***72*** (or other code number)

After dialing, a "Call Rejected" message appears. However, the request is accepted by the MXM if the directory number is valid.

Call Pickup

If Call Pickup is activated for the Falcon IP, you may answer videoconferencing calls intended for other users. To do this, the Falcon IP must be given Pickup Permission specifically for the other users by the administrator in the MXM Administrator application.

In Falcon IP, you must enter a function code in order to pick up calls for other users. This code may either be the default or defined by the administrator.

➤ **To pick up a call**

❑ In the LAN Manual Dialer, dial one of the following (bold values are factory defaults)

For this feature	Dial this number
For a specific user	***19** (or other code number) followed by [*specific destination directory number*] Use to pick up a call that's intended for another specific user. In a hypothetical scenario, suppose the conference room was changed but the caller mistakenly calls the original one. The party in the correct room can pick up that call by entering the specific-pickup code and the original destination number. For example, ***19751** will forward calls to user 751.
For any ringing station	***17** (or other code number). Use to pick up a call that's intended for the longest-ringing user for which you have pickup permission. In a hypothetical scenario, suppose the conference room was changed but the caller mistakenly calls the original one. The party in the correct room can pick up that call by entering the any-ringing-call pickup code.

After dialing, a "Call Rejected" message may appear. Click **Cancel**.

The Incoming Call notification then appears on the screen and you can accept the call.

Call Transfer

Using the Call Transfer feature, you can transfer an open videoconference from the Falcon IP to another party. As a result, the videoconference will continue between your original remote party and the party to which you transferred the call. Falcon IP will be disconnected from the call.

The Call Transfer function is only available if your Falcon IP is registered with MXM v1.5 or higher. Consult with your system administrator.

➤ **To transfer an open videoconference to another party**

1. Press any of the number keys on the remote control. The Call Control dialog box and SoftKey menu open.

2. Enter the directory number of the party to whom you want to transfer the call. To browse entries from the Phone Book, press the right and left arrow keys on the remote control.

3. Press the red **TRANS**. SoftKey.

4. The call gets transferred to the party that you requested. When that party accepts the call, the Falcon IP is disconnected from the videoconference. The call continues between the original remote party and the newly-joined party.

Press the red Softkey to transfer the videoconference to the entered address

TRANS. INVITE KEYBOARD

CALL CONTROL

1006
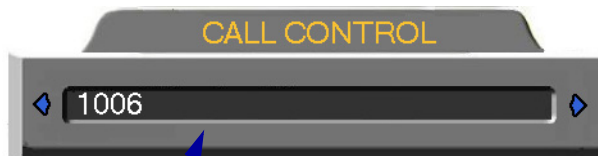
Enter the address of the additional party for transferring the conference

Inviting Additional Parties to a Videoconference

The Invite command lets you "invite and join" additional parties into an "ad-hoc multipoint videoconference." During an open videoconference between two parties, Falcon IP provides an Invite button for calling the additional parties.

You can invite another party by selecting its entry from the Phone Book or by entering its address directly.

> The Invite function is only available if your Falcon IP is registered with MXM v1.5 or higher. Consult with your system administrator.

➤ **To invite other parties into an ad-hoc videoconference through the Phone Book**

1. Press <Dial>. The Phone Book opens.

2. Navigate to the alphabetical tab that contains the entry you want to invite. Press the right arrow button to enter the tab.

3. Navigate to that entry.

4. Press the blue **INVITE** SoftKey. Falcon IP dials the number.

   After several seconds, the additional party is added to the session, which is now a multipoint conference with MCU management. The parties' video is displayed in Continuous Presence or Voice-Activated Switching (see "Managing the MCU Videoconference" on page 7-3), in accordance with the MCU configuration.

First, browse and choose the
entry from the Phone Book.

Then, press the blue SoftKey
to add another party to the
open videoconference

➤ **To invite other parties into an ad-hoc videoconference by entering an address directly**

1. Press any of the number keys on the remote control. The Call Control dialog box and SoftKey menu open.

2. Enter the directory number of the party that you want to invite. To browse entries from the Phone Book, press the right and left arrow keys on the remote control.

3. Press the green **INVITE** SoftKey.

    After several seconds, the additional party is added to the session, which is now a multipoint conference with MCU management. The parties' video is displayed in Continuous Presence or Voice-Activated Switching (see "Managing the MCU Videoconference" on page 7-3), in accordance with the MCU configuration.

Press the green SoftKey to
add another party to the open
videoconference
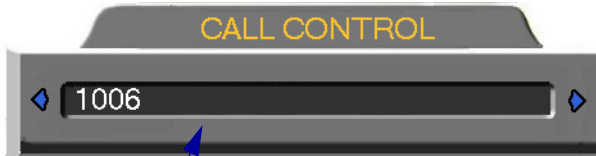
Enter the address of the additional party
for adding to the open conference

Simplified Gateway Dialing

If Falcon IP is logged into an MXM, simplified gateway dialing is available for starting a videoconference through a LAN connection to an ISDN destination.

The default function code for starting a call through a gateway is **9**. The system administrator may change this code, if necessary (see the *Media Xchange Manager Administrator's Guide*).

➤ **To start a LAN-to-ISDN call through a gateway**

1. In the LAN Manual Dialer, dial [*service access number*][*1st ISDN number*].

2. Set the required **Bandwidth** or use the default bandwidth.
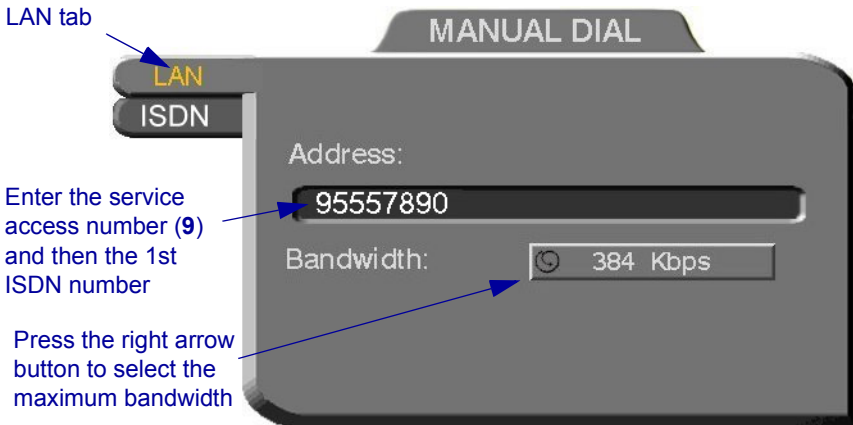
Dialing a LAN-to-ISDN Call Through a Gateway

Connecting to an MCU Videoconference

If Falcon IP is logged into an MXM, you may join multipoint videoconferences that are managed by an MCU that has registered and is logged in to the MXM. You only have to dial the directory number (assigned by the administrator) of the required conference in order to connect.

➤ **To dial a multipoint videoconference through an MCU**

❑ In the LAN Manual Dialer, dial the directory number of the appropriate MCU conference.

9   DATA AND APPLICATION SHARING

The ability to share and collaborate on data and applications is an important feature of videoconferencing. For example, you and the other parties can exchange files, view a business presentation together, or analyze the execution of another application.

Falcon IP applies the requirements of the ITU-T T.120 (User Data Transmission Using a Multi-Layer Protocol) standard for data conferencing. T.120 defines the use of protocols and services for performing a number of data sharing applications, covering a large number of possible complexities.

To share data and applications, the following conditions must be met:

❑   An open ISDN point-to-point videoconference

❑   A personal computer and VGA monitor or laptop computer is connected to the Data port of each user in the videoconference. Windows NetMeeting 3.01 runs on the computer. The data sharing functions appear on the computer monitors.

Available data sharing functions include:

❑   Transfer and receive files

❑   Demonstrate (share) and collaborate on shared applications

❑   Draw together with the other participants on a Whiteboard

❑   Chat with the other party.

This chapter explains how to set up your system for data sharing during videoconferences, and to open a data connection with the remote party. For instructions about performing the above data sharing functions, see NetMeeting's Help utility.

9.1   Setting Up Data Sharing

Data sharing involves four systems:

- The local and remote Falcon IP units (running version 2.0)

- Personal computers (with VGA monitor) or laptops running NetMeeting 3.01 and the data or applications to be shared.

➤ **To connect Falcon IP for data sharing**

❑ Connect a serial DTE cable (CAB42003) between the Data port of the Falcon IP and the COM1 (or other) port of the computer.

Connect RG-45 connector to
Falcon IP unit's DATA port

Connect DB-9 connector to
computer's COM port
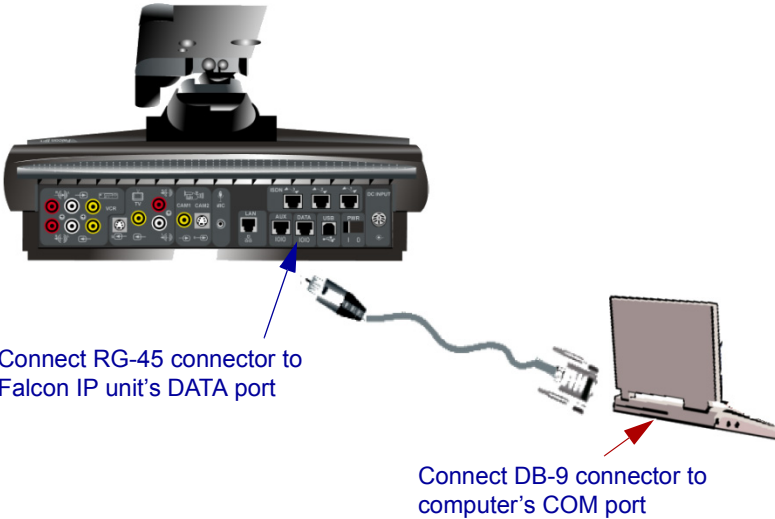
➤ **To check the port configuration for data sharing**

1. Run the Falcon Data Utility on the computer.

2. In the **Configuration** menu, point to **Ports**. This opens a submenu listing COM ports. The default selection is **COM1**.

   If you connected the serial cable to a port other than COM1, select the correct port in the menu.

Check if the correct COM port is
selected. If not, select the correct one.
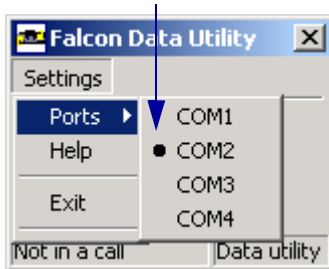
9.2   *Opening a Data Connection*

To open a data connection, two Falcon IP units (version 2.0 only) must be in an
open videoconference over ISDN lines AND NetMeeting 3.01 must be running on
both parties' computers.

➤ **To open a data connection**

1. In the Falcon Data Utility, click **Call.** The data connection is opened
   between the two parties. The station names of both computers appear
   in the NetMeeting window.

   NetMeeting's data sharing features are now available:

   — File transfer
   — Application sharing
   — Whiteboard
   — Chat

   For instructions about using these data sharing features, see NetMeeting's
   online help.

➤ **To close the data connection**

In the Falcon Data Utility, click **Hang Up** (when offline, this is the **Call** button).

Click to open a data connection. When online, this button switches to **Hang Up**. Click **Hang Up** to close the connection.
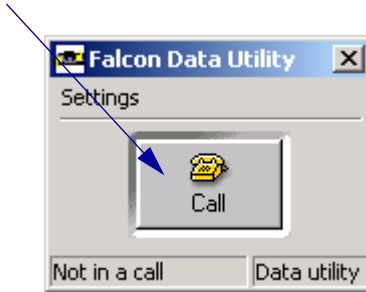
10 WEB-BASED REMOTE MANAGEMENT

Falcon IP contains an embedded web server. You can access the Falcon IP server through a web browser on a remote PC. This powerful feature offers management capabilities that are otherwise not available to a non-PC set-top system.

For any remote access management operation to succeed, Falcon IP must be set to accept the remote modifications, and the remote PC must be able to run the web server screens.
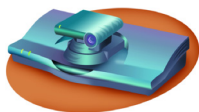
Falcon IP User Instructions	*Remote PC User Instructions*
1. Press <Menu>. The Menu opens. 2. Select **Options**. The Options dialog opens. 3. Select **Remote Access**. Select **Remote Access** to make remote management available. *Options Dialog* 4. Press <OK> to apply the change and close the dialog.	1. Open Microsoft Internet Explorer 5.0 (or higher). 2. In the Tools menu, click **Internet Options**. The Internet Options dialog box opens (see next page). 3. Click the **Advanced** tab and scroll down to **HTTP 1.1 Settings**. 4. Verify that all HTTP 1.1 options are deselected. 5. Click **OK** to apply any changes.
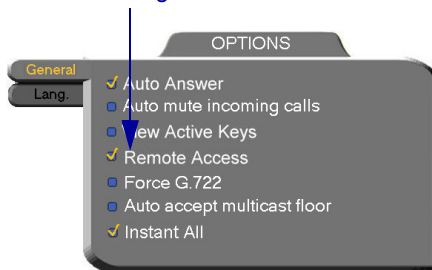
Verify that all HTTP 1.1 options are deselected.
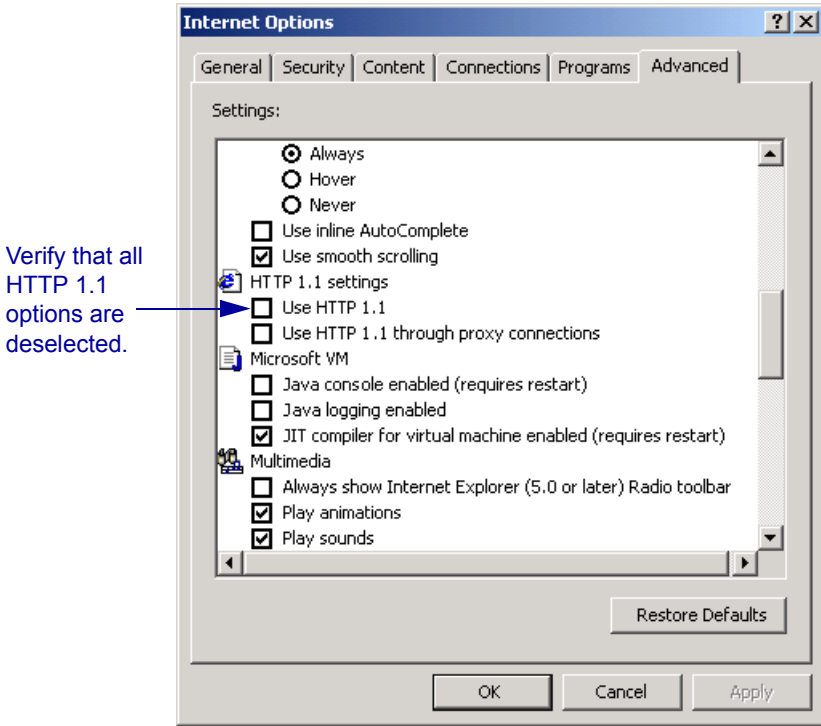
Microsoft Internet Explorer (version 5.0) Internet Options dialog box
Advanced tab, HTTP 1.1 settings deselected

➤ **To use the web-based management applets**

1. Do one of the following:

   — If you are managing Falcon IP from a VCON Media Xchange Manager™ (MXM) application, right-click the **Falcon** system item in the application and select the appropriate option.

   — If the remote PC is not running an MXM, open Internet Explorer 5.0. In the **Address** box of the browser, enter the IP address of the Falcon IP (to check the Falcon IP's address, open the Network LAN dialog box of the Falcon. See "LAN Connection and Registration" on page 4-4).

2. If this is the first time web-based management features were opened from this PC, a few messages ask if you want to install applications to assist the web management.
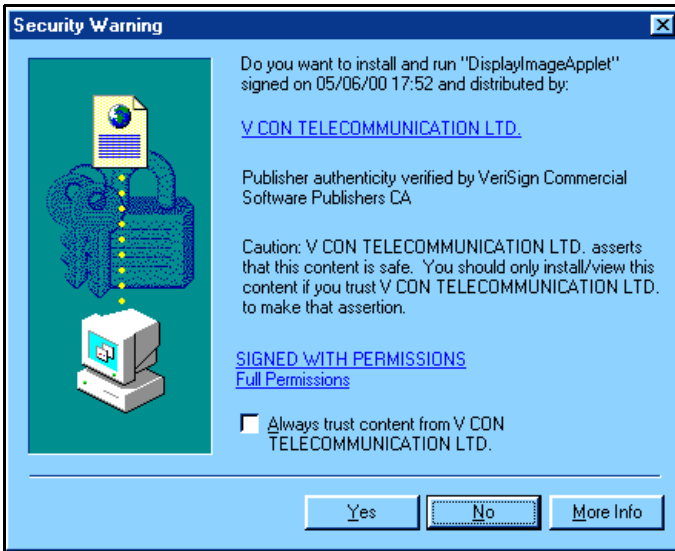
Microsoft Internet Explorer Security Warning

You may choose to select **Always trust content from VCON**. If you select this checkbox, these warnings will not appear again.

The web-based management entry page appears.

3. Click **Yes** to close each request message.

4. If a security password was defined for this Falcon IP device, enter it in the introduction screen of the management program.

The main page of the management program opens, directly connecting you to the Falcon IP system. Within a short time, the first screen loads onto the page and then the main menu appears on the left. (If the system is currently in a call, it may take longer for the screens to load.)

See page 10-5.

See page 10-6.

See page 10-7.

Main Page of Web-Based Management

Any changes that you make to the configuration of the Falcon system take effect after the system is restarted. The user does not receive notification from the system that a change has been made.

10.1   Web-Based Management Features

Network Configuration

From a remote terminal, you may access the following network configurations:

- LAN - networking details.

- H.323 - Video over IP features.

- ISDN - Switch type, ISDN numbers, and SPID numbers (if active for this switch).

Changes take effect on the Falcon IP after it is restarted.

➤ **To view or modify network configuration of the Falcon IP**

❑ On the left side of the screen, click **Configuration** and then click an option (**LAN**, **H.323**, or **ISDN**):

LAN Configuration: see page 4-4.

H.323 Configuration: see page 4-5.

Switch Selection: see page 4-12.
Depending on the local Switch type,
SPID configuration may be accessed.

ISDN Numbers: see page 4-13.

Display Image

A still image is a single captured frame from a videoconference. When the Falcon IP receives a still image from a remote party, it is stored in the embedded web server until the next still image replaces it.

> Sending and receiving still images is only available in videoconferences between parties that use at least one TV monitor. If any of these parties has only a VGA monitor (such as the MediaConnect 8000 Single Monitor configuration), this feature is disabled.

You can view the stored still image in the web page and save it on the remote PC as a bitmap (BMP) file. For example, the user may receive various still images during a videoconference that he or she would like to review later. You can save each still image as it comes in.

When you open the Display Image page, the still image most recently received by the Falcon IP is downloaded to your browser.

Click	To
Save As	Save the image as a BMP file on a local drive or diskette.
Refresh	Display a new still image, if the Falcon IP received one.
View Full Screen	View the enlargened still image on the monitor.

If Falcon IP did not receive a still image at any time before you opened the Display Image page, the web server continuously searches for one. If an image is not displayed after 1 minute, choose another management feature or exit from the browser.

Display Image Page

Status Monitoring

From the remote management, you may view connection status for several situations. Status information may be monitored if the Falcon IP is currently in a call or idle. The status of the Falcon's connection(s) over the LAN (IP) or ISDN may be viewed. Each Status dialog box displays the same properties as the corresponding dialog boxes of the Falcon IP unit.

ISDN Status dialog box shows line connection status when the system is not in a call.

ISDN Line and Conversation Status are available when the system is in an ISDN call.
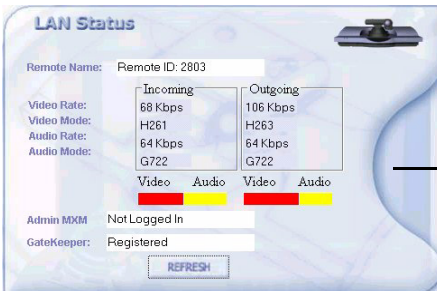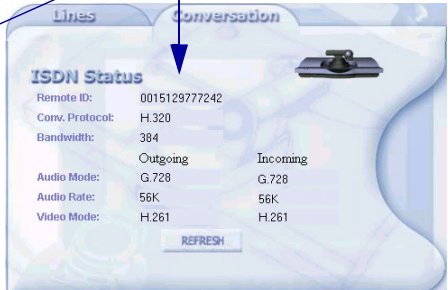
When the system is in a LAN (IP) call, the LAN Status dialog box shows the status of the dynamic network connection.

11 TROUBLESHOOTING

This chapter provides simple solutions for common oversights and issues.

If you are unable to find a solution to your problem, please request help from our Technical Support channels.

➤ **To request technical support**

❑ Contact your local VCON distributor, and request assistance from its technical support department.

-or-

Send an e-mail message fully describing the condition plus your system's configuration to **techsup@vcon.co.il**.

The solutions in this chapter are grouped by the type of equipment affected by the oversight or failure.

System or Equipment	Issues concerning the Falcon IP unit or connected accessories
Network or Communications	Issues concerning networks, interface lines, and network equipment. This section is further categorized into IP, ISDN and Data Transfer issues.

11.1 System Diagnostics

To begin searching for the source of a problem, check the Diagnostics dialog. It describes any network and server problems that may exist.

➤ **To open the Diagnostics Dialog**

1. Press <Status>. The Status dialog box opens.

2. Press the green **DIAG** SoftKey. The Diagnostics dialog opens.

If there is a problem described in the Diagnostics dialog, consult with the system administrator to find a solution.

Select **DIAG** to view a diagnostic report.
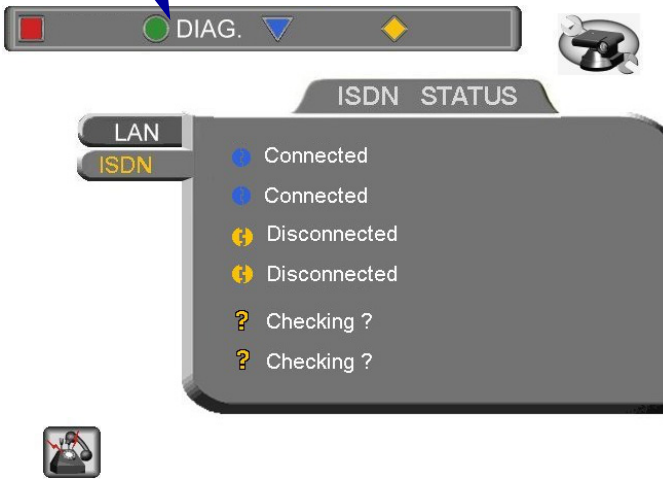
Select **ERASE PBK** to delete the Phone Book. Use this if the Phone Book is not usable and then recreate it or load a previously backed-up Phone Book.

Select **SET DFLT** to restore the factory-set defaults for the system

Select **LINES TEST** to run a loopback call over the ISDN lines.

Select **REBOOT** to restart the Falcon IP.
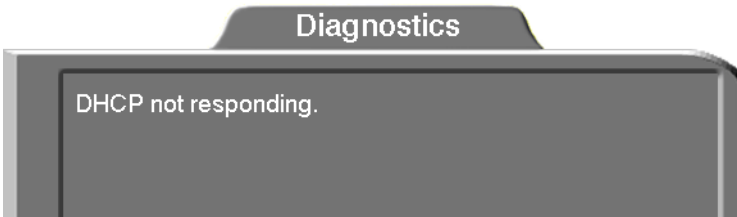
You can run a loopback test over the Falcon IP's ISDN connections, in which the system calls itself, by pressing the red **LINES TEST** SoftKey.

For each BRI that you connected, there are two ISDN B-channels. One channel makes the loopback call and the second channel repeats it. If your system is connected through three BRIs, a loopback call is made through all of them.

If the Falcon IP successfully calls itself, the ISDN numbers are correct, the lines are working, and the connections are installed properly.

You can restore the factory-set defaults for the system, by pressing the blue **SET DFLT** SoftKey.

A confirmation message appears. Click **OK** if you are sure you want to cancel all changes made to the Falcon IP options and settings and restore the original defaults.
Falcon IP User's restarts.

If you have a problem with the Phone Book, you can erase it completely, by pressing the green **ERASE PBK** SoftKey.

A confirmation message appears. Click **OK** if you are sure you want to erase all Phone Book entries.

To restart the system, press the yellow **REBOOT** SoftKey.

If the problem you are trying to solve is not described in the Diagnostics dialog, try to find the solution in the following sections.

11.2 Main Unit and Standard Accessories

Blank Screen	Solution
No video appears on the TV screen after more than one minute.	1. Verify that the TV monitor is on. 2. Verify that all cable connections are correct and secure. 3. If the selected video source is an optional camera, verify that it is turned on and operating properly.

No Menus	Solution
Guide Screen or Menu and Phone Book do not appear.	1. Unplug the Composite VIDEO-IN connector and plug it into the VCR VIDEO-OUT connector. If the Menus now appear, open the Set Video dialog and deselect **Dual Monitor**. 2. Verify that the batteries are inserted properly in the remote control.

No Audio	Solution
While in a call, you can't hear the remote party, and/ or they can't hear you.	1. Verify that the volume on the local TV set is set to an audible level. 2. Press <Volume> and make sure that the volume level of Falcon IP User's is audible. 3. Verify that the microphones and TV monitors on both the local and remote sides are connected properly and securely. 4. Press <Menu> and select **Audio**. Make sure that the correct audio input device and mixing mode are selected.

No Video	Solution
You cannot see video from an optional camera or a VCR.	1. Verify that the cables from the video source are connected correctly between the main unit and the video source. 2. Press <CAM> and make sure that the appropriate video source is selected.

No Still Image	**Solution**
The remote party is unable to request a still image.	❏ Open the Set Video dialog (select **Video** from the Menu) and select **Camera Control By Far End**.

11.3   IP Network

Before attempting to troubleshoot, and after checking the Status and the Diagnostics dialogs, verify that:

❏   The LAN cable is securely connected between the Main Unit and the network outlet.

❏   The LAN connection is operational, as shown by the green **L** icon at the top of the Guide Screen.   .

Cannot Connect	**Solution**
You dial over IP and it does not connect.	1. Verify with the system administrator that the Falcon IP User's has an IP Address and is registered with the LAN segment.
	2. Verify that the remote party is registered with the same or a neighboring Gatekeeper.
A call whose destination is outside the connected LAN fails to pass through your organization's firewall.	1. Verify that the firewall's H.323 configuration is enabled.
	2. In the firewall, open ports 1400 - 2000.

Cannot Take Gatekeeper Calls	**Solution**
You can receive IP calls, but you cannot receive calls that go through the Gatekeeper with your User Name or User Number (E.164 number).	1. Press <Status>. If the LAN tab of the Status dialog says **Gatekeeper: Not Registered**, you cannot communicate with registered systems.
	2. Verify that you entered a User Number (E.164 number) in the **H.323** tab, and check that the Station Name in the **Location** tab of the Set Network dialog box is legal.
	3. Verify that you gave the correct User Number and Station Name to the remote party.

11.4   ISDN Network

Before attempting to troubleshoot, and after checking the Status and the Diagnostics dialogs, verify that:

❑   The ISDN lines are securely connected between the Main Unit and the outlets.

❑   The ISDN lines are operational, as indicated by the green **1**, **2**, and **3** icons at the top of the Guide Screen.

❑   The lines were configured correctly in the Set Network dialog (page 4-12 to page 4-14).

Cannot Call Some Sites	Solution
You can call most sites, but not others.	1. Have the remote side call you. If the call is successfully made, go to the next step. If this is unsuccesful, go to Step 5. 2. Select **Restricted** in the New Entry dialog or the Manual Dial dialog. Call this site again. If unsuccessful, go to the next step. 3. If the remote system is a VCON system, then call without **Bonding**. If this is unsuccessful, call using **Instant All**. 4. If the remote system is not a VCON system, verify that they can receive a call using the H.320 standard. 5. Run a loopback test: dial your 2nd, 4th, and 6th ISDN numbers. If Falcon IP User's successfully calls itself, go to the next step. 6. Ask the remote party to run a loopback test, to check the operation status of their lines.
Attempts to call using Bonding are unsuccessful.	❑ In the Options dialog box, select **Instant All**. Try dialing again.
128K calls using Instant All are unsuccessful.	❑ In the Options dialog box, deselect **Instant All**. Try dialing again.

Cannot Call Some Sites (cont.)	**Solution**
Calls through a National ISDN 1 carrier are unsuccessful.	Press <Status> and then the green **DIAG** SoftKey. Check if SPID registration failed. If yes,

1. Verify that you entered the correct SPID numbers in the **SPID** tab of the Set Network dialog box.

2. Contact VCON's Technical Support service (see page 11-1).

Disconnected Status	**Solution**
You know that the lines are connected, but the Status dialog displays "Disconnected".	

1. If you are using network termination equipment, verify that it is turned on.

2. Verify that you chose the correct Switch type in the Set Network dialog.

11.5   Data Sharing

Cannot Open Data Connection	**Solution**
Attempts to open the data connection with the other party are unsuccessful.	

1. Verify that the serial DTE cable is connected to the Falcon IP unit's DATA port.

2. In the Falcon Data Utility, open the **Settings** menu, click **Ports**, and change the **COM** port.

3. Close NetMeeting and Falcon Data Utility, and then reopen them.

12 SYSTEM SECURITY

You can protect against unauthorized use of the Falcon IP by defining restrictions on configuration changes and the initiation of videoconferences.

The Security dialog box in the Options contains the options and properties for setting up a security configuration:

❑ Setting a Security Password

❑ Setting Security Properties

❑ Locking the System

➤ **To access the Security properties**

1. Press <Menu>. The main Menu appears. Select **Options**.

2. Press the yellow **SECURITY** SoftKey. If you previously set a security password (see "Setting a Security Password" on page 12-2), enter it in the Password dialog box.

3. After setting Security properties, press <OK> to save the settings and close the dialog box.

Falcon IP Security Properties

12.1   Setting a Security Password

A password prevents unauthorized users from changing the system configuration, initiating videoconferences, and/or accepting videoconference calls. The password is mandatory for locking the system completely from all of the actions stated above.

A password for accessing security should be unique and known only to the administrators. After a password is defined, any user must enter the password to gain access to the restricted functions. This password is also required for accessing remote configuration through the Falcon's Web-based Manager (see Chapter 10, "Web-Based Remote Management"). If you forget your password, contact your local VCON distributor's technical support.

➤   **To set a security password**

1.   Press <Menu>. The main Menu appears. Select **Options**.

2.   Press the yellow **SECURITY** SoftKey.

3.   In the Security dialog box's **Password** box, enter numbers and/or letters. To type letters, press the yellow **KEYBOARD** SoftKey.

Enter the system's password using numbers and/or letters. To type letters, press the yellow softKey.
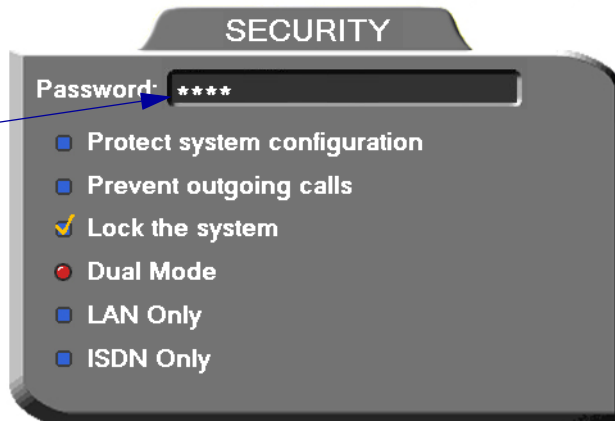
12.2 Security Properties

The Security dialog box contains the available security options for the Falcon.

Protect System Configuration	Select to prevent unauthorized changes to the system configuration. The system's configuration is then disabled to videoconferencing users.
Prevent Outgoing Calls	Select to prevent users from initiating calls.
Lock the System	See "Locking the System" on page 12-4

Operation Mode

Select the types of calls that the Falcon are permitted to participate in.

Dual Mode	IP and ISDN calls and configuration are permitted.
LAN Only	Only IP calls and configuration are permitted.
	ISDN calls are unavailable and ISDN configuration is disabled.
ISDN Only	Only ISDN calls and configuration are permitted.
	IP calls are unavailable and LAN configuration is disabled.

Prevent unauthorized changes to the system configuration.

Prevent users from initiating calls.

Select whether calls and configuration are allowed for both IP and ISDN, or only IP, or only ISDN.
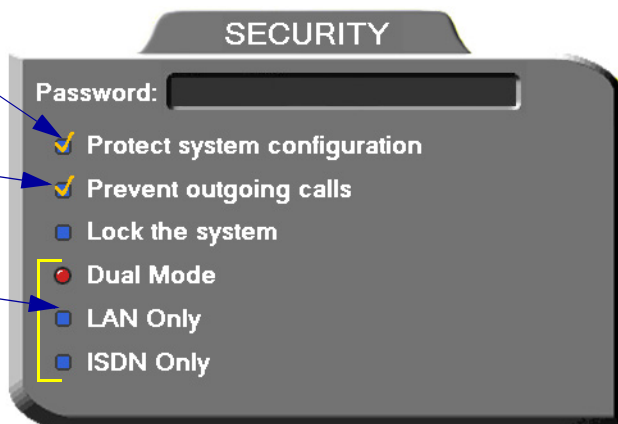
12.3 Locking the System

Locking the system completely prevents unauthorized use, such as configuration changes and initiation and acceptance of videoconferences.

When the Falcon is locked, a password is mandatory for accessing all of these functions. After a password is defined, any user must enter the password to unlock the system and gain access to the restricted functions. If you forget your password, contact your local VCON distributor's technical support.

➤ **To lock the system**

1. Press <Menu>. The main Menu appears. Select **Options**.

2. Press the yellow **SECURITY** SoftKey.

3. In the **Password** box, enter a password using numbers and/or letters. To type letters, press the yellow **KEYBOARD** SoftKey to open the onscreen keyboard.

4. Select **Lock the System**.

5. Press <OK> to save the settings and close the dialog box.

Enter the system's password using numbers and/or letters. To type letters, press the yellow softKey.

Select to prevent unauthorized use.
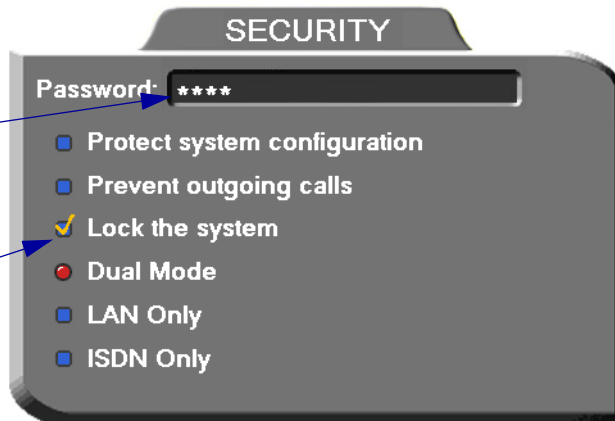
A   SETTING UP FALCON IP

This chapter explains how to set up the Falcon IP and connect accessories.

A.1   Before Setting Up

Before setting up Falcon IP, make sure you have the necessary components (see "Package Checklist" on page 1-4). If anything is damaged or missing, contact your local VCON distributor.

> **CAUTION**   Before connecting accessories, turn off the power and disconnect the system and the accessory (if applicable) from their power supplies.

A.2   Setting Up the Basic Components

Carefully unpack the Main Unit, and position it on a stable horizontal area.

Single and Dual TV Monitor Configurations

VCON supplies two types of cables to connect between the Main Unit and the VIDEO-IN connectors on the TV monitor. See the illustration on the next page.

➤ **To connect a single TV monitor**

1. Connect the S-Video (CAB72008) or the Composite cable (CAB72009), depending on your TV monitor. If your monitor offers both types of connections, use the S-Video type for higher quality.

2. Connect the red and white audio cables that are joined in the same harness as the video cable.

➤ **To connect dual TV monitors**

1. Connect the Composite cable (CAB72008) between the Main Unit and the TV monitor that will show the local video.

2. Connect the S-Video cable (CAB72009) between the Main Unit and the TV monitor that will show the remote video and the GUI.

3. Connect the audio cables between the Main Unit and the TV monitor that will show the remote video.

4. When the Falcon IP runs, access the Video properties. Select Dual Monitor (see "Monitor Configurations" on page 5-3).

Basic Falcon IP User's Connections

These two pages show the
connections between the Falcon
IP and basic accessories:

Monitor
Microphone
LAN
ISDN
Power outlet

CAB72009
or
CAB72008

CAB42001

to outlet

ISDN CABLES -
CAB42001
1, 2, or 3
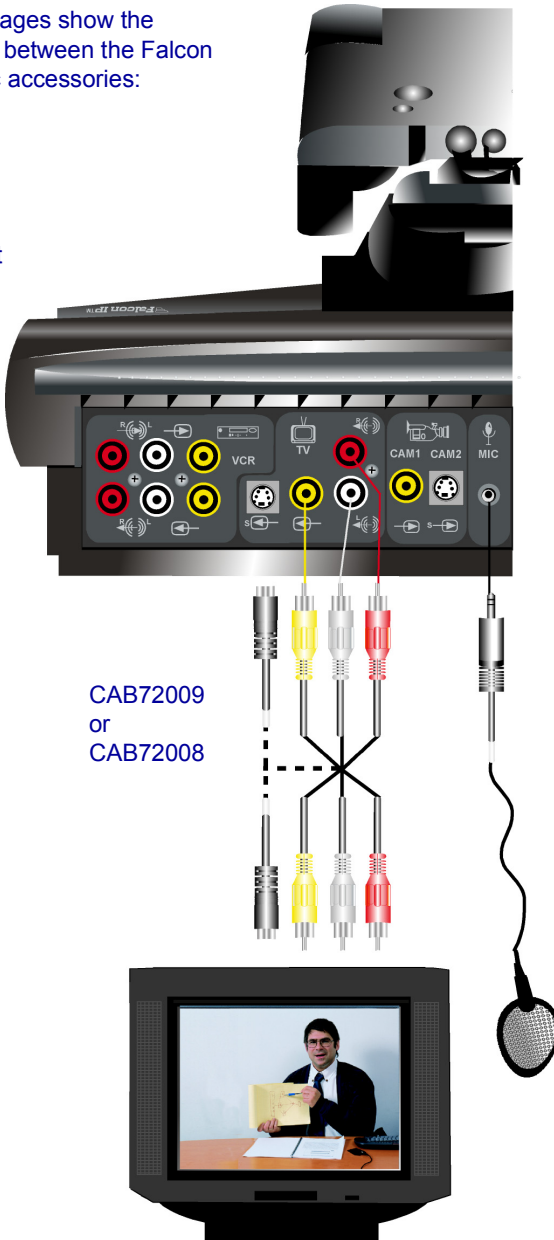
Optional Falcon IP User's Connections

The illustration below shows the optional connections supported by Falcon IP.

CAB72010

CAB90051

VCR Cables

2nd Camera
Cables

14.32
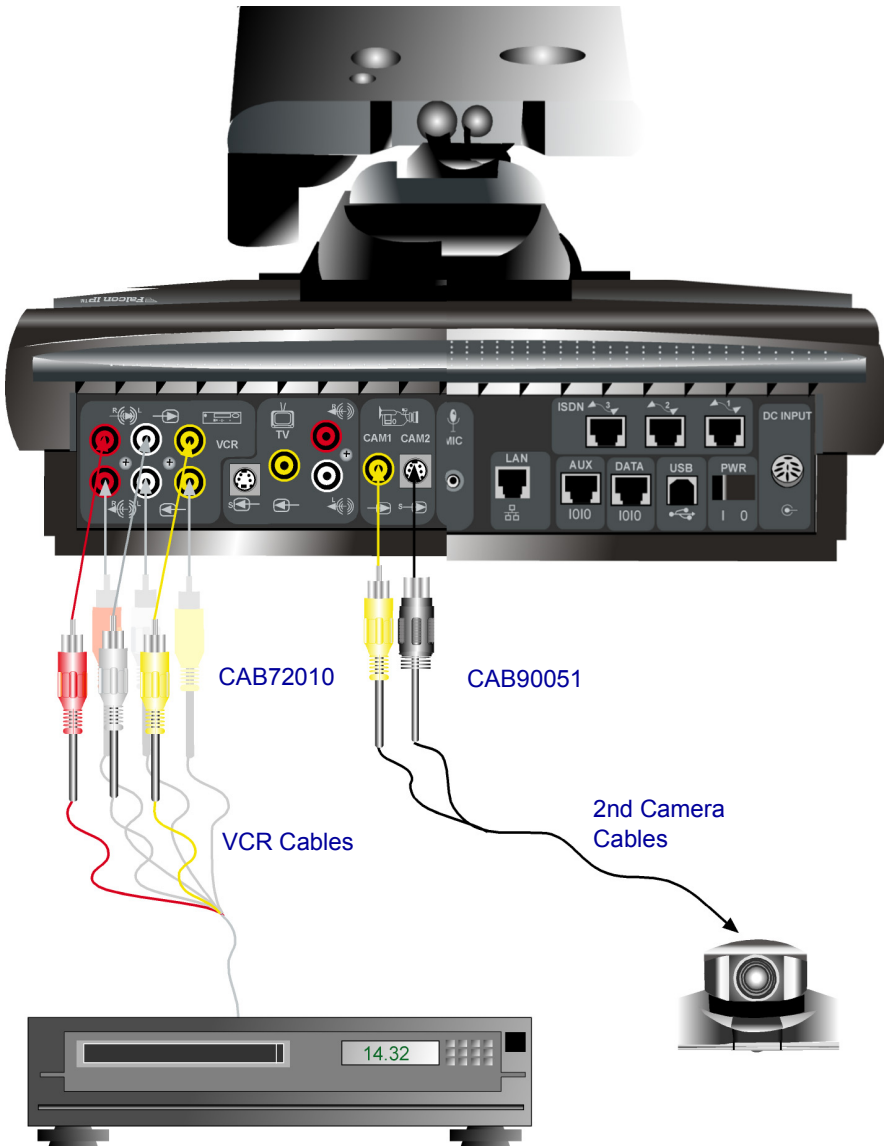
➤ **To connect a VCR to the Main Unit**

    1.   Obtain the cables supplied with the VCR.

    2.   Connect the top three cables for Playback.

    3.   Connect the bottom three cables for Record.

➤ **To connect an optional camera**

    ❏   Connect the appropriate cable, either CAB72010 or CAB90051, according to the capabilities of the camera.

B MULTI-LANGUAGE INTERFACE

The Falcon IP application's interface (menus, dialog boxes, commands) may be viewed in several different languages. The default language after initial installation or upgrade is English. However, you may easily switch the interface language to:

- Français
- Deutsch
- Italiano
- Español (Spain or Mexico)
- Português (Portugal or Brazil)
- Japanese

➤ **To change the interface's language**

1. Press <Menu>. The main Menu opens. Select **Options**.

Select **Options**.
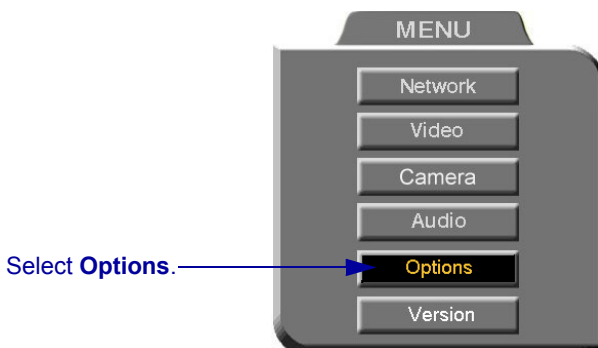
2. Navigate to the **Lang.** tab.

3. Select the language you want and then click **OK**. The Falcon IP application's interface then appears in the language you chose.

Navigate to the **Lang**. tab.

Select the interface's language

C SOFTWARE UPGRADE

This chapter explains how to upgrade your Falcon IP to the latest software version. The utility is called the Falcon IP Upgrade program, and is run from a remote PC. The new utility enables up to 5 simultaneous upgrades.

The latest software version is available from VCON's website (**www.vcon.com>Products>Falcon**).

❑ Before you begin an upgrade, make sure that you initiate it during a quiet period of the network. Heavy network traffic may interfere with the procedure and cause upgrade failures.

❑ Make sure that the possibility of electrical failure is at a minimum.

❑ Make sure that the computer from which the upgrade will run (referred to throughout this document as **the remote PC**) fills the following requirements:

— Windows 95, 98, 2000, ME, or NT. If it uses Windows NT, Service Packet 5.0 is necessary as well.

— Microsoft Internet Explorer 5.0 or later must be installed.

— It should not run other programs at the same time as the Falcon IP upgrade program.

C.1   *Downloading the Upgrade Utility*

First, you must download the Falcon IP Upgrade utility to your remote PC.

➤   **To download the Upgrade utility**

1.   On the **www.vcon.com>Products>Falcon** page, click the link for downloading the utility. The file's name is *Upgrade* [version number].*exe*.

2.   Download the file to your PC.

3.   Double-click the file to install the utility on the remote PC. Perform the steps in the Upgrade utility's installation wizard. Click Finish when the process is complete.

C.2   *Downloading the New Software Version*

After downloading the Upgrade utility, return to the VCON website to download the new software version.

➤   **To download the new Falcon IP software version**

❑   On the **www.vcon.com>Products>Falcon** page, click the link for downloading the new software version. The file's name is [version number][date].*zip*.

For example, *0200.M11.D08.H20.zip*.

Do not extract the contents of the zip file. The Upgrade utility will perform that task.

C.3   Running the Upgrade Program
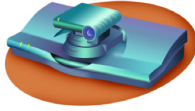
Falcon IP User Instructions	*Remote PC User Instructions*
1. Set up Falcon IP for remote access (**Menu**/**Options**; see page 10-1).	1. Click **Start/Programs/FalconIP Tools/FalconIP Upgrade** The upgrade program starts.
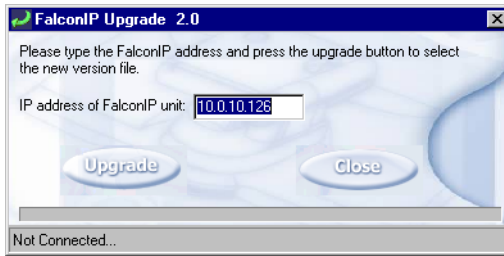
Falcon IP Upgrade Program Window on the Remote PC

2. To see the IP address of the Falcon IP unit, press <Status> and open the **LAN** tab.	2. In the **IP Address** box in the Falcon IP Upgrade program window, enter the IP address of the Falcon IP.
	3. Click **Upgrade**.
	4. Browse and double-click the zip file containing the new version. When asked to confirm, click **Yes**. The upgrade process begins. The bar at the bottom of the window shows the actual progress of the upgrade.
The Falcon IP monitor displays a progress bar after the upgrade begins.	

 To perform simultaneous upgrades (up to 5), perform the above Remote PC User Instructions as many times as needed.

Version Update Progress Bar on the Falcon IP TV Monitor

CAUTION The entire procedure takes about 30 minutes. During the upgrade, the remote PC will not respond to other programs. Do **not** restart Falcon IP until the upgrade process is complete!

C.4   Applying the New Upgrade
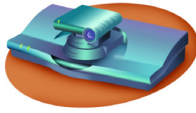
Falcon IP User Instructions and Screens

Remote PC User Instructions

1. When the progress bar shows that Step 4 of 4 is complete, wait for the remote PC user to inform you that the upgrade is complete, and then restart Falcon IP.

2. When the system restarts, a message appears.
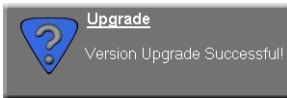
Press <OK> to accept the upgrade.

Falcon IP now transfers your old configuration parameters and Phone Book to the new version and starts the Post-Upgrade procedures.

1. When the process is complete, a message appears, saying that the upgrade is complete.
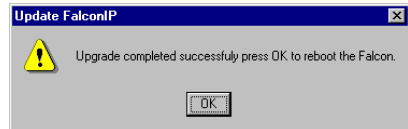
Click **OK**. Restart the Falcon IP unit, or tell the Falcon IP user to restart it.

2. Wait for confirmation from the Falcon IP user that upgrade was successful; that Falcon IP passed through the Post-Upgrade procedures without problems and that the Guide Screen opened.

CAUTION   If you do not press <OK> now on the Falcon IP unit, the system will restart in Installer Mode (see "Installer Mode" on page C-6).

C.5   Post-Upgrade Procedures

The upgrade process from the remote PC has been successfully completed. Now Falcon IP begins the Post-Upgrade procedures.

After you press the OK button on the remote control, a message appears on the TV monitor.
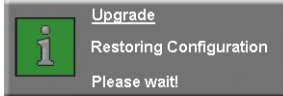
Do not turn off, restart, or use Falcon IP at this point. Wait a few minutes until the next message appears.

Falcon IP then restarts itself and runs through the usual opening process. Wait until the Guide Screen (see "Falcon IP Screens" on page 2-3) appears.

After the Guide Screen appears, Falcon IP is ready for use!

C.6   Installer Mode

If for some reason the upgrade was not successfully completed, Falcon IP enters Installer Mode after it restarts. This mode allows you to rerun the upgrade process until it is successfully completed. You will know that you are in Installer Mode because the TV monitor displays a different background.

Installer Mode Background

A possible reason for unsuccessful installation is a mistaken IP address for the Falcon IP.

1. Press <Menu>. The Set Network - LAN dialog opens.

2. Keep the same IP address or assign another static IP address. Press <OK>.

3. Rerun the upgrade process from the Falcon IP Upgrade Program. Be sure to enter the correct IP address for the Falcon IP.

C.7 Software Key Upgrade

To upgrade from Falcon IP Model 1 to Model 3, contact your local reseller for details on purchasing a software key.

➤ **To change Models with the software key**

1. Contact your local VCON reseller with a request to purchase the software key for a Model upgrade.

   After VCON processes your order, you will receive the new software key.

2. Turn on Falcon IP and press <Menu>. The Menu opens.
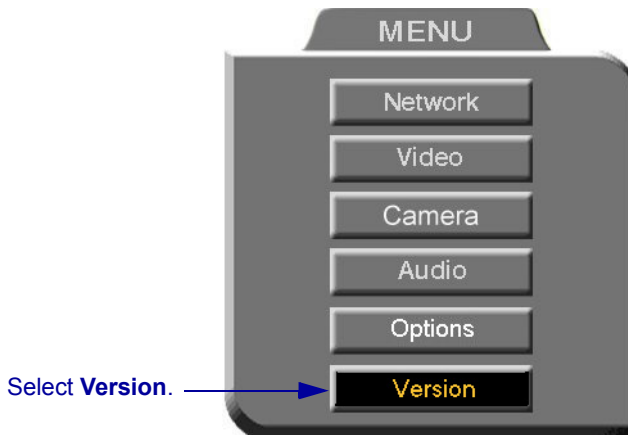
Select **Version**.

Falcon IP Menu

3. Select **Version**. The Version dialog box appears.

4. Press the down arrow key until **Software Key** is highlighted.

5. Enter the software key that you received.

6. Press <OK> to apply the changes and then restart Falcon IP.

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