VCON
Group Videoconferencing Systems
Falcon IP™

User's Guide

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 system, observe the following safety guidelines:
Make sure that the voltage of the power supply matches the AC power available at your location:

_ 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.

1 WELCOME TO GROUP VIDEOCONFERENCING

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. To avoid accidently pressing an inappropriate button, less-frequently used buttons, such as the Menu button and the Soft Keys, are shielded by a sliding cover.

Status View
Display Control
Arrow Buttons
Volume Control
Multipoint Control
Menu
Soft Keys
Preset Position Control
On-screen Help
Call Control
Dialog Control
Checkbox Button
Zoom Control
Mute Audio
Camera Select
Speed Dial
Still Image Control
Mute Video

2 GETTING STARTED

This chapter explains how to operate Falcon IP using its remote control.

2.1 Turning on the System

_ To start up Falcon IP

1. 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 11-1.

2. On the back of the Main Unit, press the **PWR** switch on, marked (I). Wait until the Guide Screen appears, containing the local video image.

_ The local video appears in the full-screen for 40 seconds.
_ Next, a new screen appears, advising you to wait.
_ Then the Guide Screen appears, and the system is ready to make calls.
Guide Screen

2.2 Falcon IP Screens

The easy-to-use Falcon IP screens provide an efficient videoconferencing environment. These are the elements displayed on Falcon IP screens:

Guide Screen

— Indicates that Falcon IP is operational and provides a home screen for navigation.

— <Dial>, <Menu>, <Status> and <Help> are active.
— There are two sets of diagnostic icons on the Guide

Screen which indicate whether the lines are connected (green) or unconnected (gray):

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

Dialogs

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.

Soft Key Guide

The four colored keys located on the covered part of the remote control are the Soft Keys.

Soft Key functions change according to the status of the system and the displayed dialog. The Soft Key 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.

2.3 Basic Functions

This section explains how to navigate in a screen, select options, and enter data.

_ To navigate among the options and boxes of dialogs and tabs
_ To select an option
_ To close a dialog
_ To enter numeric data

Press the arrow buttons.

1. Navigate to the menu or checkbox option.
2. Press the Checkbox button, located in the middle of the arrow buttons.

To deselect an option, press the Checkbox button again.
To apply changes and then close the dialog, press <OK>.
-or-
To close a dialog without applying changes, press <Cancel>.
In any procedure in this User's Guide when <OK> is mentioned, <Cancel> is also possible.

1. Navigate to the data box in the dialog.
2. Press the number keys in the Number Pad.

If you make a mistake, press <Clear>.

_ To enter alphabetical data

1. Navigate to the box in the dialog where the data is to be entered.
2. Press the yellow **KEYBOARD** Soft Key. The graphical keyboard appears.

Graphical Keyboard for Alphanumeric Data Entry

To enter lower case letters, press the red **LWR CASE** Soft Key. To enter upper case letters, press the red Soft Key again.

3. Press the arrow keys to navigate to the character you want to enter.
4. Press the Checkbox button to select a character.

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

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

3 CALL MANAGEMENT

This chapter explains how to answer, start, and end calls.

3.1 Answering Calls

You can set Falcon IP to answer all incoming calls automatically, or you can set it to let you accept or reject each call.

Automatic Answer

If Automatic Answer is selected, a message appears when Falcon IP begins to connect an incoming call.
Incoming Call is Automatically Answered

_ To set Auto Answer
Menu
Wait for the In Call icon to appear, indicating that the call has been successfully connected.
1. Press <Menu>. The Menu opens.
Options Dialog - Models 1 and 3
3. If you want Falcon IP to answer all calls, select **Auto Answer**.
If you want to accept/reject calls as they come in, deselect **Auto Answer**.
4. Press <OK> to apply changes and close the dialog.

Accepting or Rejecting Incoming Calls

When Falcon IP is not set to Auto Answer, it rings to notify you of an incoming call. A message, including the caller's station name or address, asks if you want to accept the call.
Accept Call Message
2. Select **Options**. The Options dialog opens.
To accept the call, press <OK>.
To reject the call, press <Cancel>.

3.2 Checking Call Details

When Falcon IP is engaged in a call, you can open the Status dialog and view the details of the call, such as the identification of the remote caller (especially useful when the call was automatically answered), the bandwidth used for the call, etc.

_ To open the Status dialog
This dialog varies, according to the type of call:
— ISDN (see below and page 3-4 to page 3-5),
— LAN (see page 3-6).

ISDN Status Dialog

The ISDN Status dialog has two tabs:
_ Lines - details of the local and remote parties' lines engaged in the call.
_ Conversation - describes the status of the call's audio and video.

NOTE
The Status dialog appears differently if you are not in a call. See "Testing Network Configuration" on page 8-9, for Status details when not in a call.
Press <Status>. The Status dialog opens.

Lines Tab
Status Dialog - Lines, During a Call, Model 3

Conversation Tab
Status Dialog - Conversation, During a Call, Model 3

(Number) The ISDN numbers of the remote party.

Synchronized The line is engaged in the current call.

Not Synchronized
The line is not engaged in the current call. It may be disconnected or experiencing problems.

Dialing The system is attempting to connect over this line.

Remote ID The Station Name or first ISDN number of the remote party.

Conv Protocol H.320. Indicates that the remote party also supports the ITU-T Recommendation for standard ISDN calls.

Bandwidth Model 1 - bandwidth is **128**, if both ISDN lines successfully connected.
Model 3 - bandwidth is **384**, if all six ISDN lines successfully connected.
Any other value indicates that one or more of the ISDN lines failed to connect. The bandwidth is **64** multiplied by the number of connected lines.

Audio Mode G.728 is used for low bandwidth calls (128 - 320 Kbps).

G.722 is used for high bandwidth calls (384 Kbps).
G.711 is used if the systems engaged in the call do not have any other common audio support.

Audio Rate The bandwidth (Kbps) needed to transmit audio; either 16 Kbps (for G.728) or 56 Kbps (for G.722 or G.711).

Video Mode The mode used for compressing video:
H.263 - preferred mode.
H.261 - used if the remote system can't support H.263.

LAN Status Dialog

The LAN Status dialog is available when Falcon IP is in a LAN call. The **Audio Mode, Audio Rate,** and **Video Mode** parameters are described on page 3-5.
Status Dialog During a LAN Call

Video Rate The dynamic bandwidth currently being used for video. Because LAN calls do not have a static bandwidth (unlike ISDN calls), this constantly changing property is a valuable indicator of the network resources available for the call.

Gatekeeper Indicates if the system is **registered** or **not registered** (see page 8-4 for Gatekeeper details).

Remote IP Address
The IP Address of the remote party.

Remote Name The Station Name of the remote party, if available.

3.3 Starting Calls

To start a videoconference, dial an appropriate address (see the table below) in one of the following dialogs:
_ Manual Dial - see "Manual Dialing" on page 3-8.
_ Phone Book - see "Phone Book Dialing" on page 3-12.
_ Speed Dial - see "Speed Dialing" on page 3-13.

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.
NOTE
Before calling, you may choose to mute the microphone (see "Adjusting the Volume" on page 7-6) to ensure that the remote party does not overhear a local conversation when the connection is first made.

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.

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 or in a LAN - New Entry dialog of the Phone Book.

Manual Dialing

Dial from the Manual Dial to quickly call a contact. Use the Manual Dial as you do a telephone: enter the number or address and press <Dial>. Falcon IP dials the destination, but does not store the number.
For frequently repeated calls to the same destination, it is more efficient to store entries in the Phone Book (see "Phone Book Dialing" on page 3-12).

_ To dial in the Manual Dial dialog

Address
Type
Example Applicable When

IP
Address
172.16.1.33 Always applicable. Usually dynamic, changing without notification, so the other address types are often preferred.

DNS
Name
WERHEE.gov.local The IP addresses of a DNS server and of a WINS server are configured. The Falcon IP Station Name is the first part of the DNS address.

Station Name
WERHEE 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)
2001 Both Falcon IP and the remote system are registered with the Gatekeeper. Any number.

Manual Dialing ISDN Numbers

Press any number to open the ISDN tab of the Manual Dial. This dialog varies between the models:
_ If you have a Model 3, you can dial up to six channels.
Manual Dial - ISDN, Model 3

_ To dial ISDN numbers

1. Press the right arrow button and enter the first ISDN number.
2. Press the down arrow button and enter the next number. (see the next page for instructions on copying numbers).
If both channels have the same number, copy the first number into the box of the second number.
3. Continue with steps 1 and 2 for all the numbers. If the remote party is connected to a Restricted network (56 Kbps per channel, instead of 64 Kbps), select **Restricted.**
4. Press <Dial>. Falcon IP dials the destination.

_ To dial with Bonding

1. Press the down arrow button and enter the ISDN number.
2. Press the right arrow button to highlight **Bonding**.
3. Press the checkbox button to select **Bonding**. The Manual Dialing
Bonding options appear in the dialog.

_ To choose a bandwidth

1. Press the down arrow button. **Bandwidth** is highlighted. The available maximum is selected by default.
2. Press the right arrow button. The Bandwidth value changes.
3. When you see the bandwidth that you want, press <Dial>.
4. Press <Dial>. Falcon IP dials the destination.

NOTES
If you select Restricted, the possible bandwidth values are different,
based on 56 Kbps per channel, rather than the default 64.
If you want to return to the default ISDN Manual Dial dialog, deselect
Bonding in the Manual Bonding dialog.

Manual Dialing LAN Addresses

Open the LAN tab of the Manual Dial.
Manual Dial - LAN

_ To dial LAN addresses

1. Enter the LAN-based address.
To set a maximum bandwidth for this call, highlight **Bandwidth** and press the right arrow button until the value you want appears.
2. Press <Dial>. Falcon IP dials the destination.

Phone Book Dialing

Phone Book Entries in Alphabetical Tabs
_ Maintain Phone Book entries for frequently-dialed addresses to make dialing more efficient. You can dial from the Phone Book after you create an entry (see "Adding New Phone Book Entries" on page 4-2).

_ To dial using the Phone Book
1. Press <Dial>. The Phone Book opens.
2. Open the tab that contains the entry you want to dial (see "Falcon IP Screens" on page 2-2 for tab-navigation instructions).
3. Highlight the entry. The calling details of the entry appear under the Phone Book: ISDN number or LAN address, and bandwidth.
4. Press <Dial>. Falcon IP dials the destination.

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

Speed Dialing

Speed Dial
In the Speed Dial, enter the numbers or addresses of your most frequently dialed destinations (up to nine). You can dial from the Speed Dial by pressing a single button, and you don't have to search tabs for an entry.

_ To dial a number from the Speed Dial
_ To add an entry to the Speed Dial list
_ To add a new Phone Book entry to the Speed Dial list, select **Speed Dial** in the New Entry dialog .
_ To add an entry after creating it, open the Edit Entry dialog and select **Speed Dial** in the Edit Entry dialog .
The Speed Dial list can hold up to nine entries, plus the zero entry for redialing the last dialed number.
1. When the screen is clear of dialogs, press <#>. The Speed Dial appears.
2. Press a Speed Dial entry number (1 to 9). Falcon IP dials the destination.
If you need to scroll down the list, press the down arrow button until the entry you want is highlighted. Press <OK> to dial.

_ To delete a Speed Dial entry

1. Highlight the entry you want to delete and then press the red **DELETE** Soft Key. A message asks for confirmation.
2. Press <OK>. The entry is deleted from the Speed Dial list (the Phone Book entry is not affected).

Redialing
Press one of the following buttons to redial the last number dialed:

3.4 Ending Calls
_ To end a call
From the Speed Dial, press <0> (zero).
From the Phone Book, press the yellow **REDIAL** Soft Key.
From the Manual Dial, press the red **REDIAL** Soft Key.
1. Press <Hang up>. A message asks for confirmation.
2. Press <Hang up> again or <OK>. The call is terminated.

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

4 MANAGING THE PHONE BOOK

Store frequently-called numbers as entries in the Phone Book. This easy procedure makes videoconferencing with your favorite contacts easy and convenient.

_ To open the Phone Book
The Phone Book
Press <Dial>. The Phone Book opens.

4.1 Adding New Phone Book Entries

Before you can dial from the Phone Book, you must create Phone Book Entries.
_ To create a new Phone Book entry
_ To add an entry with ISDN numbers, see below.
_ To add an entry with an IP address, see "Adding LAN Entries" on page 4-4.

Adding ISDN Entries

New Entry - ISDN, Model 3
Press the red **NEW** Soft Key. The Phone Book New Entry dialog opens to the previously-used tab (either ISDN or LAN).
1. Open the ISDN tab.
2. Enter a **name** for this entry . The name must begin with a letter; it cannot begin with a number or symbol.

3. Press the down arrow button and enter the first ISDN number. Press the down arrow button and enter the next number(s).
— If a BRI has the same ISDN number for both channels, press the green **COPY** Soft Key to copy the previously entered number into the current box.
— If the remote party is connected to a Restricted network, select **Restricted**.
— To add this entry to Speed Dial list, select **Speed Dial**.
— To add the Bonding option to this entry, select **Bonding**.
The New Entry Bonding dialog opens.
New Entry - ISDN with Bonding

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

?If you want to select a **Bandwidth** other than the available maximum, press the down arrow button and then press the right arrow button until you see the bandwidth that you want.
4. Press <OK> to add the entry and close the dialog.

Adding LAN Entries

New Entry -LAN
If the contact has an IP Address or LAN-based name or number, add a LAN entry.
3. Enter an address for this contact.
— To set a specific bandwidth, press the down arrow key to highlight **Bandwidth** and then press the right arrow key until the maximum bandwidth you want to use for calls to this contact appears.
— To add this entry to Speed Dial list, press the down arrow key to highlight **Speed Dial** and press the Checkbox button.
4. Press <OK> to add the entry and close the dialog.
1. If the LAN tab is not open, press the down arrow button to highlight

LAN on the tab labels, and then press the right arrow button. The LAN tab opens.
2. Enter a **name** for this entry. The name must begin with a letter; it cannot begin with a number or symbol.

4.2 Editing and Deleting Phone Book Entries

You can edit or delete entries at any time.
_ To edit an entry
_ To delete an entry
1. Press <Dial>. The Phone Book opens.
2. Highlight the entry you want to edit and then press the green **EDIT** Soft Key. The Phone Book Entry dialog opens.
3. Edit the data in the dialog
To erase the character to the left of the cursor, press <Clear>.
4. Press <OK> to apply the changes and close the dialog.
1. From a Phone Book tab, highlight the entry you want to delete and then press the blue **DELETE** Soft Key. A message asks for confirmation.
2. Press <OK> to delete the entry and close the dialog.

5 MULTI-PARTY CALLS WITH MCUS

Falcon IP supports multi-party calls over Multipoint Control Units (MCU).
In a point-to-point call, one videoconferencing endpoint calls another.
In an MCU call, multiple videoconferencing endpoints engage in separate calls with an MCU, which then enables all parties to be seen and heard by all the others.

5.1 Multipoint Control Units (MCUs)

An MCU is a network device used to connect multiple endpoints in call. Endpoints either call the MCU or they accept a call from the MCU. Then the MCU engages in a separate call with each system simultaneously. When one side 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.

MCU Management

The MCU may manage the session in different ways:

H.323 and H.320 MCUs

Falcon IP can communicate with MCUs operating according to the standards set by the H.323 and H.320 Recommendations.
_ 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.

5.2 Participating in a Multipoint Call

Before you call an MCU, consult with the system administrator.

_ To participate in a multi-party videoconference

1. Press any number pad button when the TV monitor is clear of dialogs. The Manual Dial opens.
2. Enter the MCU's address in the box.
3. Press <Dial>. Falcon IP calls the MCU. The MCU receives your video and audio and sends it to all the connected systems.

Voice Activation

The MCU transmits to all endpoints the audio and video of the party currently speaking.

Continuous Presence

The MCU continuously receives and transmits from multiple endpoints.

NOTE

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

If the MCU is an H.320 MCU, it may be able to turn over the management of the session to a participant, who then becomes the Chair. Additionally, participants have some control over what they see.

5.3 Managing an H.320 Multipoint Call

The most important feature of managing an MCU session is controlling which of the multiple participants is seen and heard.

6.1 Calling Through Gateways

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

_ To call through a Gateway

1. Open the Manual Dial dialog and enter the number as directed by the system administrator.
2. Press <Dial>.

The Gatekeeper, a network services application installed on the Gateway, 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.

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).

7 VIDEO AND AUDIO ADJUSTMENTS

Falcon IP offers basic and powerful options that enable you to control and customize the video and audio. Some of these adjustments should be made before entering into a videoconference, others are available only during a call.

7.1 Before a Call

You can control and adjust various camera, display, and audio settings before entering a videoconference.

Adjusting the Video Settings

You can adjust the brightness, color, contrast and hue of the local video, either prior to or during a videoconference. To save time during a videoconference, adjust these properties before you begin a call. You can adjust them again at any time.

_ To adjust video settings

Menu

1. Press <Menu>. The Menu opens.
2. Select **Camera**. The Brightness dialog opens.

Brightness Dialog

3. Press the up and down arrow keys to switch between Brightness, Color, Contrast, and Hue.
4. To increase the setting, press the right arrow key.
To decrease the setting, press the left arrow key.
To return the setting to its default value, press the red **DEFAULT** Soft Key.
5. Press <OK> to apply the changes and close the dialog.

Setting Video Options

Before a videoconference begins, you may enable advanced video options.

_ To set video options

1. Press <Menu>. The Menu opens.
2. Select **Video**. The Set Video dialog opens.

Set Video Dialog

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

Dual Monitor

In a dual monitor configuration, you connect two TV monitors rather than just one TV.
One TV monitor is used for remote video, and the other is used for local video.
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.

Camera Control By Far End

Select this option if you want to give the remote party the following controls:

?Control local main camera during a call

?Select an optional local video source (CAM1, CAM2, VCR)

?Generate a still image from the local video source.

Controlling the Camera

You can position the Falcon IP's internal 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.

Manual Positioning

When the screen is clear of dialogs, the arrow buttons control the camera.

_ To manually position the camera

Preset Positioning

You can save ten different camera preset positions, and then restore the camera to these positions as needed.

For example, if there are five people in the conference room, you can set a preset position for each person. Then you can recall the preset positions as needed to quickly focus on the person currently speaking.

_ To preset a position

_ To restore a camera to a preset position

To pan the camera left and right, press the left and right arrows.

To tilt the camera up and down, press the up and down arrow.

To zoom the camera in and out, press the Zoom <+> and <-> buttons.

1. Manually position the camera.
2. Press Presets <Set>.
3. Press a number in the number pad. Each of the numbers between zero and nine can represent a preset position.

1. Press Presets <Recall>.
2. Press the number in the number pad corresponding to the preset position. The camera pans, tilts and zooms to the preset position.

Setting Audio Options

Prior to and during a videoconference, you may enable advanced audio options.

_ To set audio options

1. Press <Menu>. The Menu opens.
2. Select **Audio.** The Set Audio screen opens.

Set Audio

3. Choose an audio input device.
4. If there is a VCR connected to the Falcon IP, choose a mixing option.

Tabletop mic To use the supplied table top microphone or other audio device connected to the Falcon IP's **MIC** connector.

Line level To use an optional audio input device (such as a mixer) connected to the Falcon IP's **VCR** connectors.

No mixing Both parties hear each other's audio only.

VCR Record

Both parties hear each other's audio while a VCR records both of them.

VCR Playback

Both parties hear each other's audio and the playback of the VCR cassette

5. Set audio options for special room environments.
6. Press <OK> to apply the changes and close the dialog.

7.2 During a Call

Some video and audio options are available only during a call. These features are easy to use; you will probably use most of them during any typical call.

Adjusting the Volume

You can adjust the volume of the incoming audio, and you can mute both the speakers and the microphone.

_ To adjust the volume of the local speakers

Set Volume Dialog

AEC Automatic Echo Cancellation cancels the echo created when the microphone picks up audio from the speakers. Deselect AEC if an external AEC device is in use.

AGC Automatic Gain Control amplifies audio pickup to improve audio in big rooms.

ANS Automatic Noise Suppression blocks noise.

1. Press <Volume>. The Set Volume dialog appears.
2. To increase the volume, press Volume <+>.
To decrease the volume, press Volume <->.
3. Press <OK> to apply the change and close the dialog.

_ To mute the speakers

_ To mute the microphone

Selecting a Display Mode

Different display modes are available during a call.

_ Local - your party

_ Remote - the other party

_ PIP - Picture In Picture. A small inset of one party appears over the full-screen display of the other party.

When a call starts, PIP mode is activated: the remote party is displayed on the full screen and the local party is in the PIP.

You can switch the displays in PIP mode: you can view the remote party in the PIP and your party on the full-screen.

Additionally, you can turn PIP mode off to see a full-screen display of either party.

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

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

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.

To switch between local and remote displays, both in PIP mode and in full-screen mode, press <Display>.

To turn PIP mode on or off, press <PIP>.

Moving the PIP

You can move the PIP to any location on the screen. For example, you would move the PIP if someone in the remote party stood up and the PIP covered his/her face.

_ To move the PIP

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. Press <Menu>. The Menu opens.
2. Press the red **MOVE PIP** Soft Key. A direction guide appears.
3. Press the arrow buttons to move the PIP around the screen.
4. When it is positioned where you want it, press <OK>.

1. In the H.323 tab of the Set Network dialog, select **Enable Lip Synchronization Mechanism** and deselect **Automatic Buffering Control** (this enables adjustable Buffering Control.
2. Press <Status>. The Status dialog opens.

Status Dialog - LAN

Lip Synch Slider of the Adjustment Dialogs

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

3. Press the red **ADJUST** Soft Key. The first slider appears.
4. Press the up and down arrow keys to view and adjust the different sliders:

— For best results, start the sliders at one end and gradually adjust them.
— To reset the default values, press the red **DEFAULT** Soft Key.

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

Selecting a Camera

The camera select option is always available. At any time, you can select different local video sources. During a call, you can change both local and remote video sources.

_ To select a camera

Local Camera Select Dialog

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.

1. Press <CAM>. The Camera Select dialog opens. The currently selected camera is highlighted.
2. Press the left or right arrow buttons to switch between the local optional 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. Press the down arrow key to view the remote camera options.

Remote Camera Select Dialog

4. Press the left or right arrow buttons to switch between the remote cameras.
5. Press <OK> to select the highlighted camera and close the dialog.

Muting the Video

Mute the local outgoing video to transmit a frozen image in place of the local video. The view you see of the remote party remains unaffected as the conference continues, and both incoming and outgoing audio continue as usual.

_ To mute the outgoing video
Press <Mute Video>. An animated icon on your screen indicates that local video is being muted.
To restore the outgoing video, press <Mute Video> again.

8 NETWORK CONFIGURATION

This chapter explains how to set up Falcon IP to operate with your network connections. Network options may be edited at any time, either from the Set Network dialog described in this chapter or from a remote station .

8.1 General Network Configuration

_ To set up network connections
1. Press <Menu>. The Menu appears.
2. Select **Network**. The Set Network dialog appears with the Location tab open.
— Press the up and down arrow buttons to move among the tabs.
— Press the right arrow button to open a tab.
— Press the left arrow to leave a tab.
3. After setting network properties in the tabs, press <OK>.
A message asks you to wait while the system restarts itself.

8.2 Understanding Network Properties

This section describes the required network information.

Location Tab

Set Network Dialog - Location

Station Name The Station Name is the identification of the Falcon IP. 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 Service (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.Company.com

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

LAN Tab

Set Network Dialog - LAN Tab
In the LAN tab, enter the system's addressing information.

Obtain IP Auto The IP addresses are automatically entered after restarting Falcon IP. This feature is successful only if the system has access to a DHCP server. If you deselect this checkbox, the remaining boxes are available.

IP Address Enter a permanent IP Address here. If Falcon IP receives an address from the DHCP server, it is a temporary address. If you manually enter an address in this box, it is a permanent address.

Subnet Mask Enter your company's subnet mask.

DNS Server & WINS Server
Enter the IP Addresses of the DNS server and of the WINS server. Registering with these servers enables Falcon IP to translate names to IP addresses.

Domain
Enter the DNS domain name of your company (**yourcompany.com**).

Default Gateway
Enter the IP address of the network Gateway router to be able to send and receive calls between subnets.

H.323 Tab

H.323 is the standard for videoconferencing over IP networks. An important component of IP networks is the Gatekeeper. It is a network management mechanism for video, audio, and data streaming over LANs and WANs.
When Falcon IP registers with a Gatekeeper, it receives the following services:

Translation of addresses. Every registered endpoint can reach every other with User Numbers or User Names because the Gatekeeper translates them into IP

Addresses. The User Name of Falcon IP is the Station Name.

Access control. The Gatekeeper secures communication within its zone of registered endpoints by rejecting calls from outside the zone.

Bandwidth control. The Gatekeeper stops calls that would have congested the network.

Zone management. The Gatekeeper manages all endpoint communication, including Gateways as well as videoconferencing stations.

NOTE
If you want to register with a protocol-translation gateway/gatekeeper (such as a Radvision Gateway) to be able to send and receive calls between networks (IP and ISDN), enter the IP Address of the gateway in the Gatekeeper Configuration of the H.323 tab.

Gatekeeper Configuration
Check this box to register with a Gatekeeper.

IP Address Enter the IP address of the Gatekeeper.

User Number Change the default example to a numeric string that will identify this system with the Gatekeeper and other contacts. Make sure that this number is unique in the Gatekeeper's database and that it is different from the Station Name.

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.

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.

8.3 Testing Network Configuration

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

_ To check network configuration

_ To check the status of the ISDN lines, see "ISDN Status_ To check the network connection, see "LAN Status"

ISDN Status

Status Dialog - ISDN, When Not in a Call

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

Checking Falcon IP is checking the line. Wait until the status changes.

Connected The line is connected properly.

Disconnected The line is not connected properly.

LAN Status

Status Dialog - LAN, When Not in a Call

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

_ Check that the system is **Registered** or **Not Registered** with the Gatekeeper, depending on the H.323 options that you chose.

If, in the H.323 tab, you selected **Gatekeeper Configuration** and entered the correct IP address, you should be registered. If you are not, change the **User Number** that you entered. You might have entered one that is already taken.

For more help, press the green **DIAG** button to open the Diagnostics dialog.

11 SETTING UP FALCON IP

This chapter explains how to set up the Falcon IP system and connect accessories. Before setting up Falcon IP, make sure you have the necessary components--follow the checklist provided in the package. If anything is damaged or missing, contact your local VCON distributor.

11.1 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.

_ To connect a single TV monitor

1. Use either the S-Video (CAB72009) or the Composite cable (CAB72008), depending on the TV monitor that you have. If your TV offers both types of connections, use the S-Video type for higher quality.
2. Connect the red and white audio cables joined with the video cable that you decide to use.

_ To connect dual TV monitors

The Dual Monitor configuration displays the remote video on the S-Video TV, and the local video on the Composite TV.

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.

Basic Falcon IP Connections

The illustration on the next pages shows the basic accessories connected to the Main Unit.

CAB72009 or CAB72008 CAB42001
ISDN CABLES -1, 2, or 3 to outlet

Optional Falcon IP Connections

VCR
CABLES
CAB72010 CAB90051

_ 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.

11.2 Turning on Falcon IP

1. Press the **PWR** switch on (**I**).
2. Verify that the green LED is lit, indicating that the system is ready.
3. Turn on the TV monitor(s) and any connected optional accessories. Wait for the Guide Screen to appear.

12 TROUBLESHOOTING

This chapter provides simple solutions for common oversights and issues.
If you are unable to find a solution to your problem, call your local VCON Distributor. The solutions are grouped by the type of equipment affected:
_ Main Unit and Accessories,
_ IP Network,
_ ISDN Lines.

12.1 Diagnostics Dialog

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

_ To open the Diagnostics Dialog
Status Dialog
1. Press <Status>. The Status dialog opens.

Diagnostics Dialog
If there is a problem described in the Diagnostics dialog, consult with the system administrator to find a solution.
If the problem you are trying to solve is not described in the Diagnostics dialog, try to find the solution in the following sections.
2. Press the green **DIAG** Soft Key. The Diagnostics dialog opens.
You can restore the factory-set defaults for the system, by pressing the blue **SET DFLT** Soft Key.
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 restarts.
If you have a problem with the Phone Book, you can erase it completely, by pressing the green **ERASE PBK** Soft Key.
A confirmation message appears. Click **OK** if you are sure you want to erase all Phone Book entries.

12.2 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 is audible.
3. Verify that the microphones and TV sets 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.

12.3 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. .

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**.

Cannot Connect Solution

You dial over IP and it does not connect.

1. Verify with the system administrator that the Falcon IP 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.

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 User Name (Station Name) in the Location tab of the Set Network dialog is legal.
3. Verify that you gave the correct User Number and User Name (local Station Name) to the remote party.

12.4 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 .

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 unsuccessful, 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 loop back test: dial your 2nd, 4th, and 6th ISDN numbers. If Falcon IP successfully calls itself, go to the next step.
6. Ask the remote party to run a loop back test, to check the operation status of their lines.

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.