

7E Talking Head TH-1 and TH-2

VideoReporter System

User Guide

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7E Communications Limited

Swan House, Swan Road, Feltham, Middlesex, TW13 6LL, England

<http://www.7E.com>

Motion Media Technology Limited

Severn Bridge, Aust, Bristol, BS35 4BL, United Kingdom

<http://www.motionmedia.co.uk>

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IMPORTANT SAFETY INFORMATION

- There are no user serviceable parts inside the main unit. Access to the inside of this unit should be only by approved service personnel.
- Keep the VideoReporter away from water and other liquids (except when cleaning, as directed below). If you suspect that liquid has entered the equipment, immediately disconnect the unit from the ISDN and from the mains supply, ensuring first that your hands and the mains outlet area are dry. Do not use the equipment again until it is thoroughly dry.
- Clean the outside of the equipment only with a soft, lint-free cloth, either dry or slightly dampened with water. Disconnect the power and the ISDN cables before using a damp cloth to clean the equipment.
- Before connecting any equipment that was not supplied with the system, check the specification of the connectors (see *Chapter 9, Technical data*) for compatibility.
- Do not use the equipment during a thunderstorm. There is a small risk of electric shock from a lightning strike. To avoid possible damage to the equipment, disconnect the power and ISDN cables during thunderstorms.
- Do not use the equipment if you suspect a gas leak. Operation of any electrical equipment can generate sparks which may ignite the gas and cause an explosion.
- Do not let cables trail where they might cause someone to trip or pull the VideoReporter onto the floor.
- Do not place heavy objects on top of the VideoReporter.
- Do not place the main unit in direct sunlight. Do not point the camera directly at the sun, as this is likely to cause serious damage.
- Do not use the system in a situation where failure to perform could pose a threat to health or life. Note in particular that the VideoReporter will not function in the event of a power cut without an alternative DC source.
- Never overload mains power sockets.

Connection to the AC mains supply

- In order to remove mains power from this product, you must disconnect the power plug from the mains supply socket outlet. In order to safely achieve this, the product must be installed close to the mains supply outlet and be positioned in such a way that user access to the mains plug and socket connection is not restricted.
- The product must only be used with the provided power supply. This power supply has been extensively tested for use with the product; use of an alternative power unit may invalidate any international type approval relating to the product.
- The power supply unit contains no user-serviceable parts. If the power supply unit, cable or plug becomes damaged, contact the dealer for a suitable replacement and dispose of the damaged unit. Disconnect the mains supply before attempting to handle a damaged power supply unit or damaged mains cable or plug. Any attempt to open the power supply unit is likely to expose a potential electric shock hazard.

Type Approvals

- Your attention is drawn to the approvals section at the end of this manual.

1 Introduction

About this User Guide

To help you get started as quickly as possible this User Guide is accompanied by a Quick Start Guide that takes you step-by-step through unpacking, setting up your VideoReporter and making and receiving your first calls.

When you have read the Quick Start Guide, you will find out more about your VideoReporter by reading this User Guide:

- **About your VideoReporter System** contains general information about using and caring for your equipment. It includes a brief tour of the system components and explains how to connect the VideoReporter to an external camera and monitor.
- **Making calls** explains how to make and receive speech and video calls, including manual dialling and use of the Phonebook.
- **During calls** introduces various controls you can use during calls and explains how to change the audio and video settings that affect the sound and pictures.
- **Getting the best from your VideoReporter** contains tips for setting up your room and your VideoReporter System to get the best sound and pictures.
- **Configuring your VideoReporter** explains how to set up your VideoReporter to work with your satellite/ISDN connection and how to change other aspects of its operation to suit your preferences.
- **Connecting a PC for data-sharing** explains how to connect a PC for data-sharing during calls.
- **Troubleshooting** lists some checks you can make if you have a problem with your VideoReporter System, to help you identify and solve the problem.
- **Technical data** contains detailed information about the VideoReporter's specification and the standards, approvals and regulations that apply.

Tips and Information

Throughout the manual you will see boxes like this, containing background information and tips.

Finally, if you can't find the information you're looking for, don't forget the **Index** at the back of the User Guide.

Features

- Videoconferencing with sound and pictures
- Video calls to/from any H.320 videophone
- Speech-only calls to/from ordinary telephones
- Half-rate (low bandwidth) video calls for economy
- Phonebook feature for quick and easy dialling
- All controls available from infra-red remote control
- Connect other equipment:
 - Extra/alternative camera, display or microphone
 - VCR to record calls or play pre-recorded video clips
 - Connect your PC
 - Application sharing and file transfer.

2 About your VideoReporter System

Your VideoReporter System consists of:

- the videophone, power supply and infra-red remote control
- a camera, either provided by you or supplied with the videophone.

This chapter tells you more about each of these components and expands on the information provided in the Quick Start Guide:

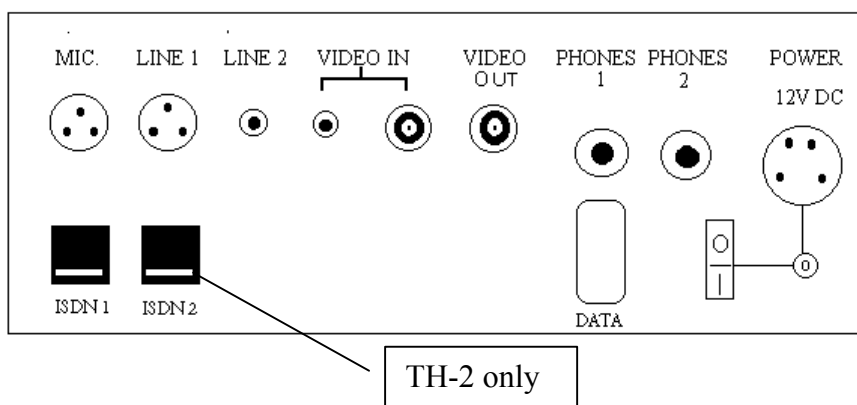
- setting up the system
- your satellite/ISDN connection
- powering up and down
- the remote control
- the video screen
- care and cleaning.

Setting up the system

Positioning the equipment

The videophone unit should be set up so that you have a clear view of the internal/external monitor, and no obstruction to the remote control. Ideally the remote control should be left in its stowing position and used from there.

Connecting Equipment



- It is designed for use with an external audio source either at microphone or line level, with a choice of XLR or Phono inputs. An internal camera may also be provided if specified at time of order.

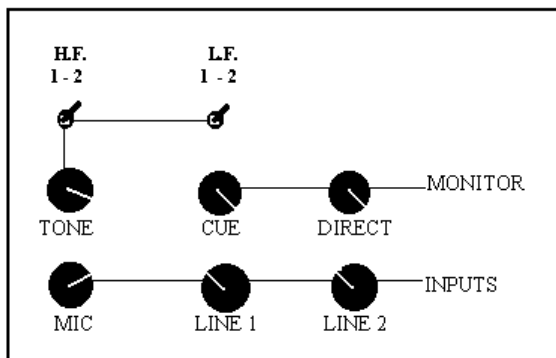
Please note: Under the system configuration menu **AUDIO IN** should be set to **LINE 1** for all external audio inputs.

- Cameras and VCRs can be connected via either a BNC or a Phono socket (but not both) to **VIDEO IN**, which takes a composite feed.
- An external monitor or VCR may be connected to the **VIDEO OUT** socket. Note that as this source is terminated, its use may reduce picture quality on the internal monitor.
- Headphones/earpieces are connected to **PHONES 1** or **PHONES 2**.
 - **PHONES 1:** direct and return (cue) audio mixed
 - **PHONES 2:** direct audio (R - ring) and return (cue) audio (L - tip)

If you use an XLR adaptor, note that this is an unbalanced source.

- Power is connected either via the 2.5mm coaxial connector, for the included AC mains adapter unit or 12V ‘cigar lighter’ lead; or the 4-pin XLR for a 12 to 13.2V camera battery.
- The ISDN cable(s) supplied should be connected between the RJ-45 socket located beneath the microphone input and an appropriate ISDN socket either in the form of a landline or satellite terminal. If you have a TH-2, you should connect your ISDN line or the first Inmarsat to ISDN 1 and your second Inmarsat to ISDN2.

Audio and monitoring



The input level is controlled by the appropriate level control knob on the front panel, labelled either as ‘MIC’, ‘LINE 1’ or ‘LINE 2’. Level should be adjusted until the meter, located just above these controls, is regularly peaking at ‘0’ (yellow LED). If more than one red LED lights regularly, decrease the level, otherwise audio distortion will occur. Correct setting of this control is vital to the transmission of good-quality audio.

The MIC input only is connected to both a low-pass filter and a presence cut/boost (TONE) control; in both the centre position is off. These filters should be set to suit the individual by listening tests across the ISDN link. The setting will vary according to the voice coding rate set, but is repeatable across units.

The headphone volume levels are adjusted via the ‘MONITOR’ control knobs. These adjust the volume for both outgoing (‘DIRECT’) and incoming (‘CUE’) audio.

Satellite/ISDN connection

This VideoReporter typically requires a EuroISDN **Basic Rate ISDN connection** (aka ‘2B+D’) with an **S-interface**, standard on Inmarsat GAN satellite.

Note: another type of interface, the U-interface is used in some countries, notably the USA, and some European PBXs, an NT1 (Network Termination type 1) is used convert this to an S-interface, this is in effect what the large socket or similar on your EuroISDN line is. Your supplier should be able to advise you.

It **cannot** be used on a non-ISDN line such as the ordinary telephone network. If you have any doubt about your connection, check with your telephone service provider.

You may need to change some ISDN-related configuration items to match your network. See *Chapter 6, Configuring your videophone* for more details.

Basic Rate ISDN

A Basic Rate ISDN line is composed of two ‘channels’, known as B-channels, each of which is roughly equivalent to an ordinary telephone line.

These channels can be used separately—which is how, for example, you can have a telephone and a fax machine on a single ISDN line—or they can be used together to provide a higher-capacity connection. Normally an ISDN supplier will charge twice as much for a dual-channel call as for a single-channel call.

Depending on your ISDN service provider, you may be given a single telephone number for both channels or a different number for each channel. Similarly, when someone tells you their video number they may give you a single number or two numbers.

Speech and video calls over satellite/ISDN

The VideoReporter can make four types of call:

- **Speech-only calls** (like ordinary telephone calls) use a **single channel**.
- **Normal Video calls** use **both channels**, because they contain much more information than speech calls and need the extra capacity.
- **Half-rate video calls** use only a **single channel**. These cost less than normal video calls, but because there is only half the capacity the video quality is reduced.
- **Inmarsat video calls** normally use only a **single channel** per satellite terminal with high per minute call costs. **Both channels** can be used with a TH-2 or an external 7E *SODA* or *SODA duo*.

See **Chapter 3, Making calls** for more about making speech, video and half-rate video calls.

Connecting the ISDN cable(s)

Plug the end of the ISDN cable into either your ISDN S-interface socket or your Inmarsat satellite phone’s S-interface. If you have a TH-1, the other end of the cable should be connected to the ISDN socket on the TH-1. If you have a TH-2, you should connect your ISDN line or the first Inmarsat to ISDN 1 and your second Inmarsat to ISDN2. *It is essential that ISDN1 is connected.* Calls at 128kbps (2-channels) can be made via ISDN1 if your ISDN service supports two channels or via the satellite link.

Power

Initial configuration

After powering up for the first time you will need to make some configuration changes, as described in the preceding pages, before you can use the videophone.

For details see *Chapter 6*, in particular the *Installation*, *ISDN Profile* and *Main audio-visual setup* sections.

See also the *Important Safety Information* at the front of the manual relating to the mains power supply.

Your VideoReporter requires a nominal 12V DC electrical supply. It is supplied with a multi-voltage AC power adaptor (either 12V or 14V DC) and a 12V cigar lighter cord. It can also be used with a 12 to 13.2V camera battery. We do not recommend the use of 14.4V camera batteries and remind you that some lighting batteries are 30V.

When not in use the VideoReporter automatically powers down to a stand-by mode to save power.

Powering up

1. **Connect the ISDN cable and all audio-visual equipment to the VideoReporter before powering up.**
2. Connect the power adaptor or 12V cigar lighter cord to the “Power 12V DC” input located inside the TH-1 unit.
3. Finally connect the power adaptor to the mains or the 12V cigar lighter cord to the 12V source.

Powering down

Current settings saved

Don't worry – the configuration settings, audio and video settings and the contents of the Phonebook memories are all saved when the VideoReporter is powered down.

When you power it up again they will be exactly as they were before you powered it down.

1. **Disconnect the power supply from the mains or the 12V cigar lighter adaptor from the 12V source.**
Do not leave the power supply connected to the mains when the VideoReporter is not connected.
2. **Disconnect the power cable from the VideoReporter.**
3. **Disconnect the ISDN cable and other equipment.**

Warning: The cigar lighter adaptor should not be left connected to the 12V source (for example, vehicle electrical system) even though it is protected by a 3A fuse.

Stand-by mode

As a power-saving measure, the VideoReporter will power down to stand-by mode if it is not used for a few minutes. (See *Preferences* in *Chapter 6* if you want to change the number of minutes.)
When in stand-by mode the indicator light is red/amber.

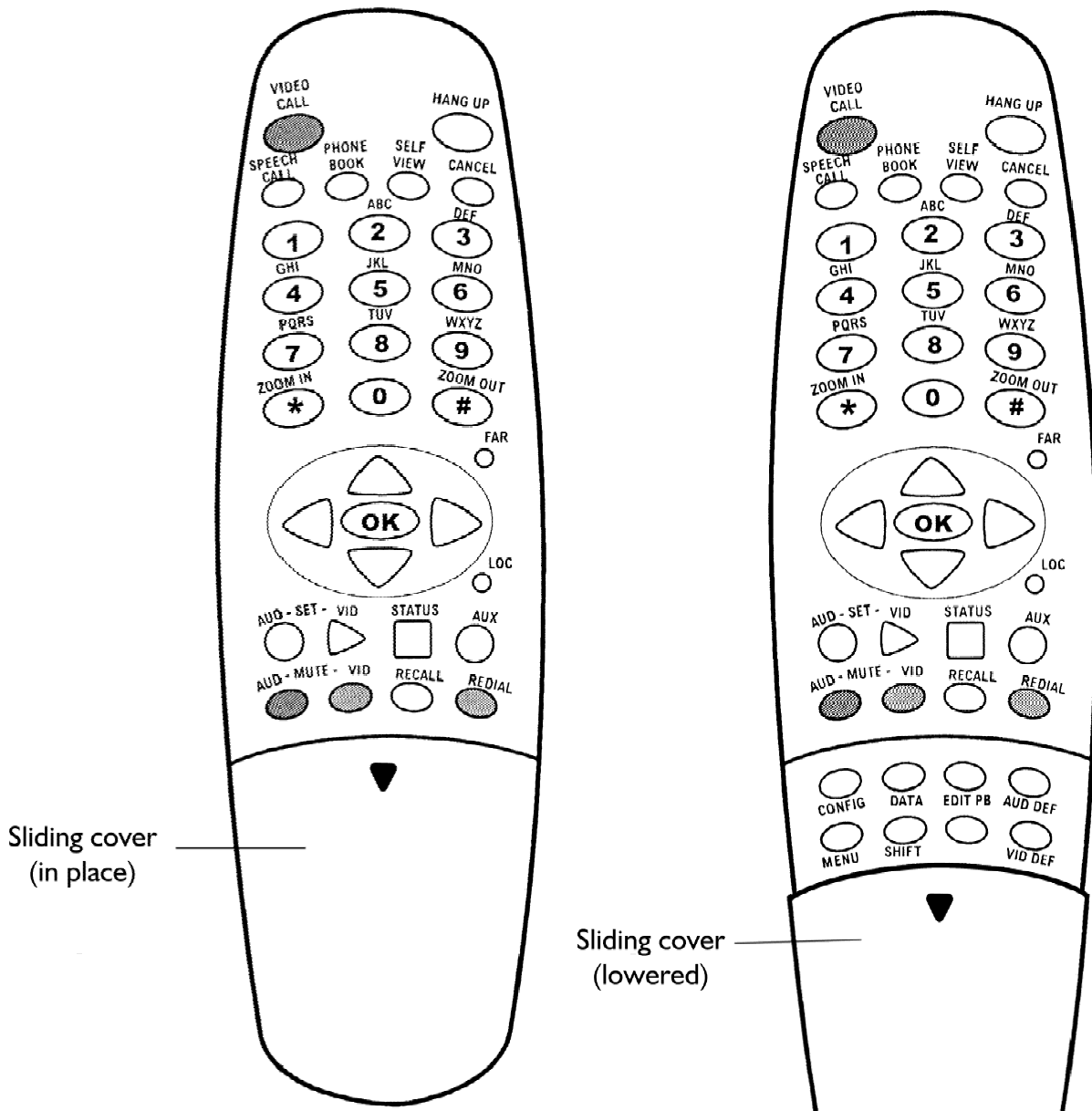
The VideoReporter will automatically power up out of stand-by mode if there is an incoming call or if you use the remote control.

If you have a controllable camera connected, this will also power down when the VideoReporter goes into stand-by mode.

The remote control

This works just like a TV or video remote control: point it towards the remote control sensor, located in the far left hand corner of the videophone, and press the button you wish to use. It emits infrared both forward and downward, so does not need to be removed from the cradle to operate.

The control requires two AA batteries (preferably alkaline), which are located under a panel on the underside.



Sliding cover
(in place)

Sliding cover
(lowered)

The use of each of these buttons is described elsewhere in this User Guide, but briefly they are:

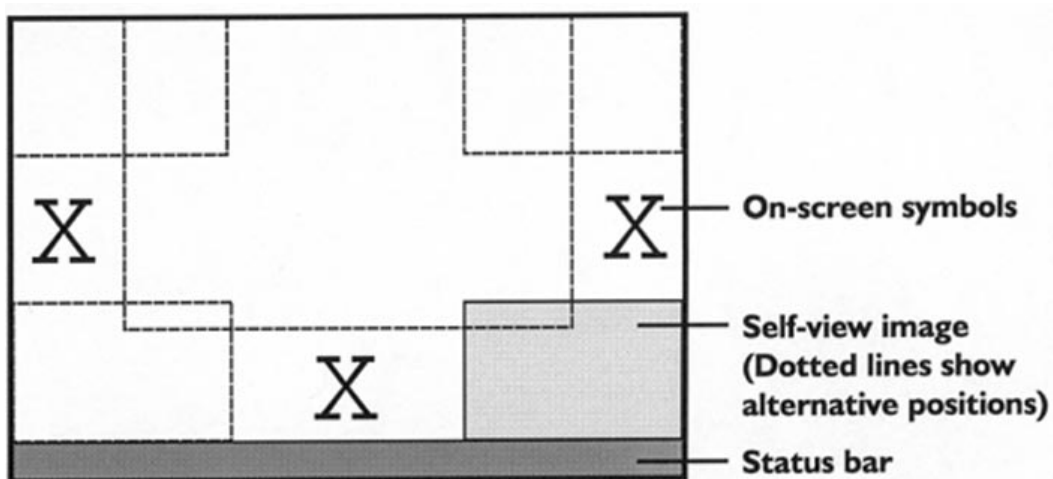
VIDEO CALL	Make a video call
HANG UP	End a call
SPEECH CALL	Make a speech-only call
PHONE BOOK	Open the Phonebook (to store, edit or dial)
SELF VIEW	Move/remove the Picture-in-picture Self-view
CANCEL	Cancel or abort the current action (opposite of OK).
Number buttons	<ol style="list-style-type: none"> 1. When dialling, enter digits 2. During calls, generate tones 3. When editing the Phonebook, enter digits and letters 4. In camera control mode, * and # zoom in and out, 0 homes camera.

Arrow buttons	1. Change values of audio and video settings 2. When entering information, move about the screen 3. In camera control mode, pan and tilt the camera.
OK	Confirm current action. For example, dial the number entered.
FAR/LOC	Far-end/local camera control (if supported)
SET AUD/SET VID	Change the audio/video settings
STATUS	Show or hide the Status bar
AUX	Switch between Main and Aux audio-visual set-ups
MUTE AUD/MUTE VID	Switch the outgoing audio/video on and off
RECALL	Standard Recall button
REDIAL	Re-dial the last number dialled
MENU	Enter the menu system, for access to advanced functions. Not normally used.
DATA	Start and stop data sharing
AUD DEF/VID DEF	Restore the default audio/video settings
CONFIG	Configure the VideoReporter
SHIFT	Access extra functions: Change colour scheme (SHIFT + number)

The video screen

The videophone picture is shown either on the built-in screen or on any TV, monitor or other display that is connected to any of the video outputs.

As well as displaying the image of your caller, certain parts of the screen are used to display extra information, including a Self-view image, call status and other information about the state of the VideoReporter:



Self-view image

Using Self-view to adjust the video settings

Because the Self-view shows the brightness and contrast of the image you are sending, you can use it to help you adjust these video settings to give a good-quality image. The Self-view image automatically pops to its large, central position while you are adjusting settings.

Note that while there is no call in progress the Self-view image comes directly from the camera and does not accurately represent the frame rate and resolution you will be able to send. During a call the image shown gives a better representation of the video quality seen at the far end.

The Self-view image shows the picture that your camera sees. During calls this is what the person at the other end will see. Like the Picture-in-Picture feature on some TVs, it is a small image set into the main image. You see your caller's picture on the whole screen, with a small image of yourself in one corner.

The Self-view image is reversed, so that you see yourself as if you were looking in a mirror. This makes it easier for you to compose yourself in front of the camera. The person you are calling, however, sees the picture the right way round, so they will be able, for example, to read any text you show them, even though you see it reversed in the Self-view image.

There are several possible positions for the Self-view image, including off (that is, hidden), and a large, central position that is useful when you are changing the video settings (see *Chapter 4*).


Each time you press the SELF VIEW button the Self-view image moves to a new position, cycling through the sequence.

Some users keep the Self-view image in picture at all times; others prefer to remove it during calls and use it only for composing the shot and adjusting the video settings.


The status bar

The status bar gives you information about each call you make. It is normally displayed at the bottom of the screen, although you can remove it if you wish.

- While a call is being established, the left-hand side shows a series of messages indicating the progress. During the call it shows the length of the call so far, in hours and minutes (HH:MM).
- The right-hand side shows one or more symbols to help you keep track of the state of the VideoReporter. Symbols containing a figures 1 or 2 show the state of the first and second ISDN channels respectively:

 Calling

 Connected and negotiating with the far-end videophone

 Fully connected.



An upward pointing arrow is displayed when the SHIFT button has been pressed and the videophone is waiting for a second button.



A loudspeaker with 'sound waves' indicates that you should be able to hear sound.



A telephone with a lifted receiver indicates that Auto-answer (see *Chapter 6, Configuring your videophone*) is enabled.



A '+' sign (which may be combined with the loudspeaker symbol) indicates that the auxiliary audio and video inputs (see *Chapter 4, Audio-visual set-ups*) are selected.



A zigzag symbol indicates that data sharing (see *Chapter 7, Connecting a PC for data sharing*) has been enabled.

We recommend that you leave the status bar visible at all times, but if you wish you can switch it off and on by pressing the STATUS button.

For certain applications you may prefer to have the status bar disappear automatically when an incoming call has been answered. To do this, set the status bar menu option to 'hide' under the **config – preferences** menu option.

On-screen symbols

Certain important information is shown by symbols at the edges of the screen. You cannot remove these symbols while they are active.



Outgoing audio is muted (see *Audio mute* in *Chapter 4*).



Outgoing video is muted (see *Video mute* in *Chapter 4*).



Camera control is active (see *Controlling the camera* in *Chapter 4*).

Colour scheme

You can choose from 10 different colour schemes and transparency levels for the on-screen text, status bar and dialog boxes. Try them all to see which you prefer.

To change the colour scheme, press SHIFT followed by a digit (0 to 9). Scheme number zero (SHIFT 0) is the default.

Care and cleaning

The VideoReporter can be kept clean by occasionally wiping it with a dry or slightly damp cloth. Use a soft cloth to avoid scratching the surface, and use only water for cleaning. Do not use sprays, polishes, solvents or other cleaners, as these may damage the VideoReporter.

3 Making calls

Speech calls and video calls

The H.320 standard

H.320 is an internationally accepted standard for making video telephone calls over ISDN. Any equipment using this standard should work with any other.

Although in the past some manufacturers sold video-conferencing products that would only inter-work with their own equipment, this is now very rare. Today almost all ISDN-based video telephony uses H.320.

This VideoReporter can make and receive speech-only calls and two types of video calls (normal and half-rate calls, see *ISDN connection* in *Chapter 2*):

- You can make a speech call to any number that you would be able to call with a normal telephone, including other ISDN phones or ordinary non-ISDN telephones. You can also receive calls from any of these phones.
- You can make a video call to any H.320-compliant video telephony equipment. This covers the vast majority of ISDN-based videophones and video-conferencing systems. You can also receive video calls from any H.320-compliant equipment.

The VideoReporter automatically detects whether an incoming call is a video call or a speech-only call and handles it accordingly.

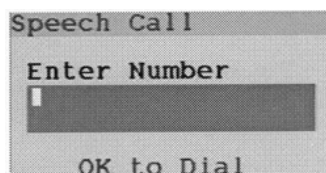
You can make any type of call either by manual dialling or by using the Phonebook for automatic dialling. Both methods are described in this chapter.

Manual dialling

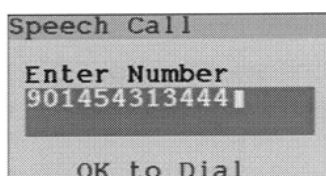
Making a speech-only call

1. Press **SPEECH CALL**.

A dial tone is heard and the Speech Call screen appears on the TV screen:



2. Type in the number using the **number buttons**.



If you make a mistake you can use the **left arrow** button to go back and correct it.

3. When you have finished entering the number, press **OK** to dial.

The status bar shows the progress of the call. When the far-end phone is answered, you can talk to the other person using an external microphone and either the built-in monitors' speaker or an external loudspeaker/headphones.

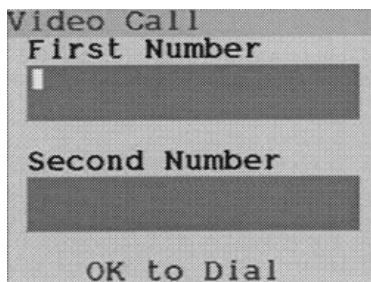
4. At the end of the call, press **HANG UP** to end the call.

As with an ordinary telephone, it is essential that you terminate any speech call you make. A speech call that you dialled is not terminated when the other person hangs up, but only when you do so.

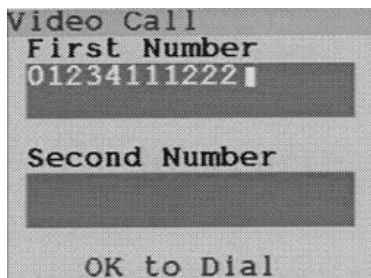
Making a video call

1. Press **VIDEO CALL**.

The Video Call screen appears on the TV screen:



2. Type in the first (or only) number:



Standard video calls

Remember that a standard video call uses both ISDN channels (ISDN or TH-2).

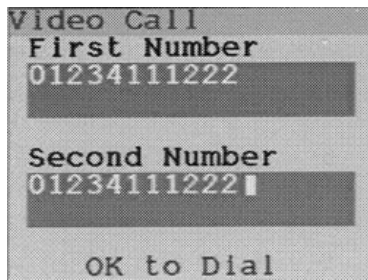
To make a standard video call you must enter a number for each channel. As mentioned in Chapter 2, a Basic Rate ISDN line may have a different number for each channel or the same number may be used for both

If you make a mistake you can use the Left arrow button to go back and correct it.

Note: If you press OK at this stage the videophone will dial a half-rate video call (see next page). To dial a standard video call you must fill in the second number.

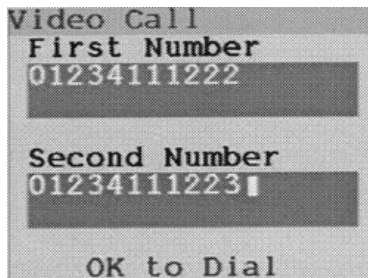
3. Press the **down arrow** to move into the second box.

The first number is copied into the second box:



4. If necessary, change this number.

If the videophone you are calling uses the same number for both B-channels you do not need to change the second number. If it uses different numbers for the two B-channels, use the **left arrow** button to move back and change the second number:



5. Press **OK** to dial.

The status bar messages show the first ISDN channel calling, and then, when the far end answers, connecting. Then the second channel automatically calls and connects. You and the person you are calling can now see and hear each other.

6. At the end of the call, press **HANG UP** to end the call.

Making a half-rate video call

Proceed as for a standard video call but press **OK** after entering only one number instead of two.

Don't forget that the video quality on a half-rate video call will not be as good as on a normal video call.

Ending calls

To terminate a call, press the **HANG UP** button on the remote control.

As with an ordinary telephone it is essential that you terminate any call you make. A call dialled by you is not terminated when the other party hangs up, but only when you do. (This is a feature of telephone networks.)

Video calls are terminated when either party hangs up.

Redialling

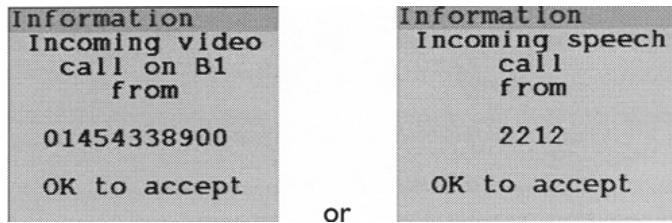
The **REDIAL** button re-dials the last number you dialled, whether that was a speech call or a video call, and whether you dialled it manually or via the Phonebook.

Answering calls

When a call arrives the videophone rings. If it was in stand-by mode it will power up automatically.

1. If necessary, switch on any external devices and select the appropriate inputs.

The appropriate Incoming Call screen is displayed:



2. Press **OK** to answer the call.

The status bar messages show the call connecting and you are connected to your caller.

(If you don't want to answer the call, you can either leave it to ring until the caller hangs up, or press **CANCEL** to terminate the call immediately.)

Auto-answer and privacy options

The videophone can be configured to answer incoming calls automatically, so that you don't have to press **OK** on the remote control.

You can also configure your videophone so that video calls start off in voice-only mode, allowing you to decide when you wish to turn on the video.

See the *Preferences* section in *Chapter 6, Configuring your VideoReporter* for details of both options.

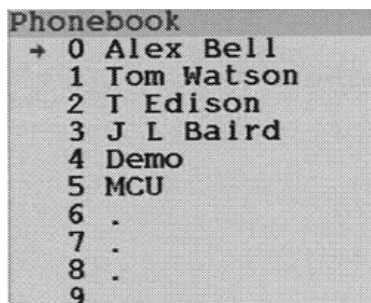
Using the Phonebook

The Phonebook has 10 memories for you to store your frequently-used numbers so that you can dial them more easily. The memories are indexed from 0 to 9 and accessed using the number pad.

You can store any kind of number (speech-only, video or half-rate video) in a Phonebook memory, with a name to identify it.

Opening the Phonebook

1. Press **PHONEBOOK** to display the list of names currently stored in the Phonebook:

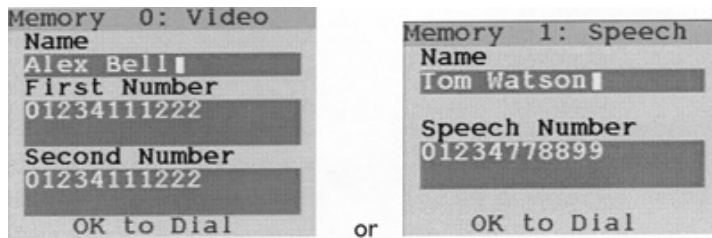


2. Use the **Up** and **Down** arrows to select the entry you want to dial or edit.

Dialling from the Phonebook

1. Open the Phonebook, select the entry you want to dial and then press **OK**.

The appropriate memory screen appears, with the stored number filled in:



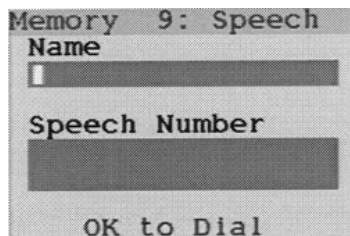
2. Press **OK** to dial the number.

The call then proceeds exactly as it would if you had dialled the number manually.

Storing a number in the Phonebook

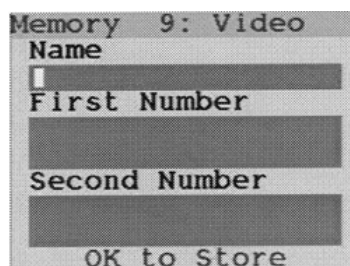
1. Open the Phonebook, select an empty memory slot then press **OK**.

An empty screen for a speech call appears:



2. If you want to store a speech number go straight to Step 3. To store a video number, press **VIDEO CALL**.

The screen changes to one for a video call:



3. Type in the name, using the letters on the number pad:

When you are in the Name box, the number buttons change their behaviour so that you can enter letters:

- When you first press a particular button, it enters the first of the letters marked above the button.
- Each time you press the button, the character entered cycles through each of the letters shown, first in upper case and then in lower case, followed by the digit on the button, then any accented characters.

The '1' button allows you to enter punctuation such as hyphens and brackets.

- When you have selected the correct letter, press the **right arrow** to move on to the next position.

- To enter a space, press the **right arrow** twice.
- If you make a mistake, use the **left arrow** to go back and correct it.

Wrong call type?

If you accidentally start entering a video number into a Speech Call screen, simply press VIDEO CALL to change it to a Video Call screen.

Similarly, press **SPEECH CALL** to change a Video Call screen to a Speech Call one.

4. When the name is complete, use the down arrow to move into the number box(es) and enter the number(s).

Enter the numbers in the same way as for manual dialling, that is a single number for a speech-only or half-rate video call or two numbers (which may be the same) for a standard video call.

5. Press **OK** to store the entry or **CANCEL** if you want to discard it.

After storing a new number, you are offered the chance to call it. Either press **OK** to dial the number or **CANCEL** if you don't want to make a call.

Changing an entry in the Phonebook

Proceed exactly as for storing a new entry, but instead of an empty slot, select the entry you wish to change.

To delete the existing information:

- Use the **left arrow** to delete backwards one character at a time.
- Use **SHIFT + left arrow** to delete the whole line.

4 During calls

There are a number of controls that you can use during a call:

- Muting audio and video
- Adjusting the audio and video settings
- Generating tones
- Using Recall to access exchange functions
- Switching between your Main and Auxiliary audio-visual set-ups
- Controlling the camera (Remote-control pan-tilt-zoom camera option only).

Audio and video mute

Many ordinary telephones have a Mute button which turns off the microphone, so that you can still hear the person you are calling but they cannot hear you.

The **AUD MUTE** and **VID MUTE** buttons on the videophone work in the same way:



When you press **AUD MUTE** the person at the other end will no longer be able to hear you although you will still be able to hear them. A microphone symbol with a cross appears on screen to remind you that you are muted.

To un-mute, simply press **AUD MUTE** again. The audio mute symbol disappears to confirm that you are no longer muted.



When you press **VID MUTE** you stop sending video. What the person at the other end sees depends on their videophone: usually they will see the video picture freeze. A video screen symbol with a cross appears on screen to remind you that you are not sending video.

To start sending video again, simply press **VID MUTE** again. The video mute symbol disappears to confirm that you are no longer suppressing video.

(See also the **VID MUTE** and **AUD MUTE** configuration settings in *Chapter 6*, which allow you to change the initial audio and video mute setting for incoming and outgoing calls.)

Muting

It is good practice to warn the person at the other end when you are about to mute audio or video. If you don't, they may think something has gone wrong with their phone.

Audio and video settings

Just like a TV set, the VideoReporter has various settings that you can adjust to get the best sound and picture for the environment in which you are using it. (See *Chapter 5* for some tips for how best to adjust these settings.)

For convenience the settings are split into Audio settings and Video settings.

Audio settings

- Audio Gain** The sensitivity of the microphone. This affects the volume of the sound you send to the other end. This setting also affects the LINE IN and MIC IN audio inputs.
- Audio Quality** This affects the quality of the sound you send to the other end. There is a trade-off between audio quality and video quality: higher-quality audio uses more of the available bandwidth, leaving less for video. The default setting is best for most situations, but if audio quality is particularly important to you, try increasing this setting. Note that if the videophone you are calling does not support high-quality audio, this setting will have no effect.
- Ring Volume** The volume of the ringer. (Note that setting the ringer volume to minimum is not the same as turning it off. See *Ringer* in the *Preferences* section of *Chapter 6, Configuring your videophone* if you want to do this.)
- AutoAns Rings** If Auto-answer is enabled (see the *Preferences* section in *Chapter 6, Configuring your videophone*), this is the number of times the videophone will ring before it automatically answers an incoming call.

Video settings

- Brightness** The brightness of the picture you send to the far end.
- Contrast** The contrast of the picture you send to the far end.
- Saturation** The colour saturation of the picture you send to the far end.
- Hue** The hue of the picture you send to the far end (NTSC cameras only).
- Frame rate** The maximum number of frames per second of the video you send: A high frame rate (more frames per second) gives smoother movement but can result in loss of detail. Conversely, a low frame rate gives a clearer image, but can appear jerky. A 'medium' setting is a good compromise for most situations.
- Resolution** This setting takes one of two values: High (352 × 288 pixels) or Low (176 × 144 pixels). It affects the resolution of the picture you send: High resolution gives a more detailed image than Low, but Low resolution permits a higher maximum frame rate, giving a more responsive but less detailed picture.
- High resolution is usually the best setting, unless you need a particularly fast frame rate.

High and low resolution

High and low resolution are also known as CIF and QCIF resolution respectively.

Some videophones can only encode and decode QCIF video, and you will only see low-resolution images when talking to these phones.

Your VideoReporter will automatically send QCIF video to these phones: you do not need to change the Resolution setting explicitly.

Default audio and video settings

The VideoReporter is delivered with all the settings at reasonable default values. You can restore the audio and video settings to these defaults at any time by pressing **AUD DEF** or **VID DEF** respectively.

Changing audio or video settings

To change any of these settings, use the **SET AUD** or **SET VID** button. They work in the same way:

1. Press the **SET AUD** or **SET VID** button.

Each time you press the button you see the next setting in the list. Keep pressing the button until you see the one you want to change.

You are shown a slider bar with the current value, for example:



2. Use the arrow buttons to change the value.

Use the **right arrow** to increase the value; use the **left arrow** to decrease it.

As you change the value the slider bar moves to show the new value, and if you are changing a setting that affects the picture (such as the brightness, contrast) you will see the effect at once in the Self-view image.

3. When you have adjusted the setting to your satisfaction, either press the **SET AUD** or **SET VID** button again to move on to the next audio or video setting or, if you have finished changing settings, press **OK**.

Generating tones

As on many phones, the number buttons generate tones (known as DTMF tones) which can be used during calls to access tone-operated menus and other automated services.

Note that DTMF tones are not generated when the audio is muted in video calls.

Recall

If you are connected to a suitable exchange, the **RECALL** button lets you use exchange features, such as call forwarding, during speech calls. See the documentation for your exchange for details.

Audio-visual set-ups

The videophone has connectors on the back allowing you to connect a wide range of different audio-visual equipment. To simplify the use of a second camera, microphone, display, or VCR, you can configure a second audio-visual set-up and then switch seamlessly between the main (default) set-up and this auxiliary set-up at the press of a button.

Each audio-visual set-up comprises:

- A video input. This can be any of the video inputs on the VideoReporter.
- An audio input. This can be any of the audio inputs on the VideoReporter or the built-in microphone.
- The video output type (PAL or NTSC). You can connect video equipment such as TVs and VCRs of either type to the VideoReporter, but you must configure the VideoReporter to match it, so that it outputs video in the correct format.

There is no need to specify audio or video outputs, because these operate in parallel rather than as alternatives.

The *Main and Aux Audio/Video* section in *Chapter 6* describes how to configure the Main and Auxiliary set-ups.

PAL and NTSC

PAL and NTSC are different international TV standards. Most video equipment supports one (or sometimes both) of these standards.

Countries using NTSC include North America, most of South America, Japan and Taiwan.

Switching between the Main and Auxiliary audio-visual set-up

When the VideoReporter is first powered up it uses the Main audio-visual set-up.

1. To switch to the Auxiliary audio-visual set-up, press the **AUX** button on the videophone remote control.

The videophone immediately switches to the audio-visual set-up you configured. The picture may take a second or two to become stable.

When you are using the Auxiliary audio-visual set-up, the status bar shows a plus sign (+) as a reminder.

2. To switch back to the Main audio-visual set-up, press **AUX** again.

AUX buttons

Don't confuse the VideoReporter's **AUX** button with the **AUX** button on your TV remote control, which is used to select *its* auxiliary inputs.

Controlling the camera

Camera Control allows you to operate your camera (or even the camera at the other end of the call) using the VideoReporter's remote control:

- Pan and tilt the camera to point at different people or objects.
- Zoom in and out for close-ups and wide shots.

You must have a compatible automatic pan-tilt-zoom camera, either supplied as part of the VideoReporter System or recommended for use with it by 7E Communications or an authorised dealer. If the data socket has been used to connect an external camera, it is not available for software upgrading or data sharing, but a second data socket can be fitted if required.

Remote controls

Local Camera Control allows you to use the VideoReporter's remote control to operate the camera. Remember to point the remote control at the VideoReporter, not at the camera!

If your camera has its own remote control unit, this can also be used to control the camera if you wish, although obviously it can be confusing if two people try to control it at the same time.

Camera controls

In Camera Control mode, the camera moves in response to button presses on the remote control. Hold the button down for continuous movement or use brief single presses for finer control.

- The four arrow buttons pan the camera left and right, and tilt it up and down.
- The **ZOOM IN** (*) and **ZOOM OUT** (#) buttons zoom the camera in and out.
- The **0** button returns the camera to its 'home' position.



The Camera Control symbol appears on your screen while the videophone is in Camera Control mode, as a reminder

Local camera control

Provided you have a suitable camera connected, Local Camera Control allows you to control it via the videophone remote control. As the camera responds you can see the result in the Self-view image.

To enter local camera control mode:

Press the **LOC** button.

The Camera Control symbol appears on the screen as a reminder. The Self-view image also becomes un-mirrored, so that you can make sense of camera movements.

To exit local camera control mode:

Press the **LOC** button a second time.

The Camera Control symbol disappears to confirm that you are no longer in Camera Control mode and the Self-view image reverts to its default state.

Far end camera control

Provided the person you are calling has a suitable camera connected and their videophone is configured to allow you to control their camera, Far End Camera Control allows you to control the far end camera via the videophone remote control.

To enter far end camera control mode:

Press the **FAR** button.

The Camera Control symbol appears on the screen as a reminder.

To exit Far End Camera Control mode:

Press the **FAR** button a second time.

The Camera Control symbol disappears to confirm that you are no longer in Camera Control mode.

5 Getting the best from your VideoReporter

There are a few steps you can take when setting up your room and using the VideoReporter System to ensure you get the best results:

Lighting

As with conventional photography, correct lighting is vital to achieving the best results.

Make sure your face is well lit, preferably from the front, and avoid having lights behind you that might shine into the camera lens.

Remember that you can adjust the brightness and contrast of the picture you are sending (see *Video settings* in *Chapter 4, During calls*) but note that extreme settings will adversely affect the quality of the picture you are sending. If in doubt use the default settings.

Movement

Too much movement tends to slow down the frame rate of the video, resulting in a jerky picture. Avoid having a lot of movement in the background – for example, don't sit with your back to a corridor – and try not to move around excessively. This doesn't mean you have to sit completely still: just move naturally, but be aware that if you wave your arms around the person you are calling may see a jerky picture. Remember too that a small movement near the camera is just as bad as a big movement at a normal distance.

You can also control the frame rate of the video you are sending, to adjust the balance between smoothness and clarity (see *Video settings* in *Chapter 4*). If movement is important, try raising the frame rate; if clarity is important, try reducing the frame rate. If you have something very detailed to show you can drop the frame rate to its lowest setting for a while to allow the other end to see the best possible detail or capture a good, clear still image.

Sound

You can use the Audio Quality setting to increase the quality of the sound you are sending (see **Chapter 4**). However, because of the trade-off against video quality, you should only do this if audio quality is particularly important and you are prepared to suffer a slight loss of video quality.

You can control the volume of the sound you are sending by adjusting the sensitivity of the microphone (see *Audio gain setting* in *Chapter 4, During calls*). However, unless you are sitting particularly close to or far from the microphone it is best to leave this at the default setting and let the person at the other end adjust the volume to suit his own surroundings.

If a large group of people is using the VideoReporter System, you will find that the optional tabletop microphone placed in the centre of the group gives the best results.

Before making a call

Use the Self-view image to check that the camera is pointing where you want it to and that it is in focus. If necessary, adjust the camera brightness and contrast to give a good picture. The default audio and video settings should be suitable for most situations, and you will probably only need to make minor adjustments to them.

If you are using a separate monitor, we recommend that you first adjust this so that it has a reasonable volume and picture when used with other video sources such as broadcast TV or a VCR. Having done this you should then leave its settings alone and adjust your VideoReporter's video settings to give a good Self-view picture. Leave the Audio Gain setting at its default setting unless the person you are calling asks you to change it.

6 Configuring your VideoReporter

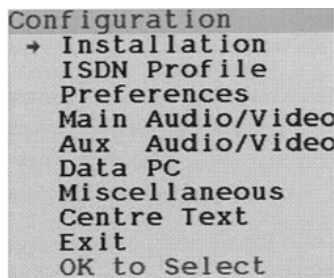
You can configure various aspects of the VideoReporter's operation to suit your needs:

- If the default ISDN configuration is not suitable for your network, you will need to change it before making a call
- You can select a different language for the screens and messages
- You can set up the VideoReporter to automatically answer incoming calls and change its default behaviour
- If you have a VCR or an extra camera, display and/or microphone connected, you can define an auxiliary audio-visual set-up
- You can configure the serial port for data-sharing
- You can adjust the positioning of the on-screen text so that it is centred on your display.

Changing the configuration

1. To enter the configuration system, press **CONFIG**.

The configuration menu is displayed:



```
Configuration
→ Installation
  ISDN Profile
  Preferences
  Main Audio/Video
  Aux Audio/Video
  Data PC
  Miscellaneous
  Centre Text
  Exit
  OK to Select
```

2. Use the **up** and **down arrows** to move the pointer to the section you want to change, then press **OK** to enter that section.
Each section is described individually on the following pages.
3. Use the **up** and **down arrows** to move the pointer from one field to the next.
4. To change any field, press the **right arrow** repeatedly to cycle through the available options and find the one you want.
5. When you have finished changing fields in the current section, press **OK** to store those changes (or **CANCEL** to discard them).

The values are stored and you are returned to the configuration menu.

6. When you have finished changing the configuration, move the pointer to Exit and press **OK** to leave the configuration system.

The installation section

Language

If your videophone supports more than one language, you can change the language used for all on-screen text.

ISDN

Although ISDN is an international standard, in practice there are small but important differences in the way it has been implemented in different countries. Your VideoReporter will be configured with an appropriate variant for the country in which it was sold or satellite terminal to be used, but you may need to choose a different variant if your network or configuration is non-standard.

The TH-1/2 is primarily intended for use with a satellite systems such as Inmarsat GAN, which are EuroISDN compliant, although some models of GAN terminals offer other ISDN variants, if you are not sure which variant you use, your supplier will be able to tell you.

When you change the ISDN setting, the new value will not come into effect until the VideoReporter is restarted. If there is no call in progress, the VideoReporter will automatically restart when you press **OK**. This takes a few seconds.

If you are using a TH-2 the EuroISDN option MUST be selected.

Restrict

Most ISDN networks operate at 64kbit/s on each B-channel, but some, known as Restricted networks, operate at only 56kbit/s. This is becoming less common, but does still occur on some networks in the USA, (your Inmarsat GAN may need to be setup specially to support 56kbps).

H.263

Controls the use of H.263 video encoding:

- Auto The VideoReporter automatically uses the most appropriate video-encoding standard (H.261 or H.263) for the circumstances. *This setting should be checked regularly as repeated failure to connect in H.263 mode may result in reversion to "Disable" mode, see below.*
- Manual Reserved for rev. 2.11
- Disable The VideoReporter uses H.261 at all times.

H.261 and H.263

The H.320 standard supports two different methods for encoding video, called H.261 and H.263.

In general, H.263 gives better results at low bandwidths. However, H.263 is not as well established as H.261, and some videophones do not yet support it properly. You may experience difficulty using H.263 with these phones.

Where the VideoReporter is able to detect such problems, it will automatically switch to using H.261 for the current call. If this fails, it will release the call and change the H.263 configuration item to 'Disable', so that all future calls use H.261. However, these measures are not foolproof and you may need to change the H.263 configuration item yourself.

Unless you experience difficulties, we recommend leaving this item set to Auto.

The ISDN Profile section

This section allows you to configure Service Profile IDs (SPIDs) or Multiple Subscriber Numbering (MSN) for your VideoReporter.

- SPIDs are only required by certain ISDN networks, principally in the USA. If your ISDN provider has not given you any SPIDs, it is probably safe to assume that you do not need to use them. They are not relevant to Inmarsat GAN use.

If you *do* need SPIDs, you will not be able to make any calls until you have configured the SPIDs and the corresponding Directory Numbers into the VideoReporter.

- MSN is a supplementary service offered by some ISDN suppliers. Unless you have requested this service for your line, you will not need to configure MSN.

If you *are* using MSN, you will not be able to receive incoming calls until you have configured the MSN digit into the videophone.

Whilst Inmarsat GAN terminals support MSNs, the implementation is not direct, you may need to seek advice from your Inmarsat supplier.

Do not enter any information in this section unless you need to use SPIDs or MSN.

If you store a new MSN or SPIDs, the new value will not come into effect until the VideoReporter is restarted. If there is no call in progress, the VideoReporter will automatically restart when you press **OK**. This takes a few seconds.

Directory number(s)

The directory number is the number dialled by a caller in order to reach your ISDN line. Your line may have one or two directory numbers (see *ISDN connection, Chapter 2*).

Multiple Subscriber Number

Each MSN terminal is assigned a single digit. When an incoming call arrives on the line, only the terminal whose MSN digit matches the last digit of the number dialled will respond.

Configuring SPIDs

SPID 1/SPID 2

You must fill in both boxes, even if both SPIDs are the same.

The SPID associated with your first/second directory numbers.

When you move into the SPID 2 box the first SPID is copied in automatically. If you have a single directory number and SPID you do not need to change this value. If you have two SPIDs, use the **Left** arrow to move back and change this value.

Local number 1/Local number 2

You must fill in both boxes, even if both numbers are the same.

The local directory number(s) of your ISDN line (that is, omitting any national or area codes).

When you move into the Local number 2 box the first number is copied in automatically. If you have a single directory number you do not need to change this value. If you have two numbers, use the **Left** arrow to move back and change this value.

Configuring MSN

SPID 1/SPID 2

Leave both these boxes blank.

Local number 1/Local number 2

In Local Number 1, enter the single MSN digit to be associated with the videophone. *Do not enter the whole local number.*

Leave Local Number 2 blank.

The preferences section

Auto ans

This item lets you configure the VideoReporter to automatically answer incoming calls, so that you don't have to press **OK** on the remote control to accept a call.

The value VidOnly enables auto-answering for incoming video calls, but not speech calls.

Remember that if you leave the videophone in Auto-answer mode it will answer incoming calls even when you are not there. Whilst this may be useful for video calls, it is unlikely to be appropriate for speech calls.

Vid mute

This item controls whether or not you are immediately visible to the other person at the start of calls. Some people, for example, prefer to answer incoming calls in a voice-only mode and to switch on the picture only when they know who is calling.

There are four possible values:

- CallIn Video is initially muted when you answer incoming calls, but not when you make outgoing calls.
- CallOut Video is initially muted when you make outgoing calls, but not when you answer incoming calls.
- All Video is muted at the start of all calls, both incoming and outgoing.
- None Video is active at the start of all calls.

See *Audio and video mute* in *Chapter 4* for more about muting.

Aud mute

You can also mute audio at the start of calls. You might choose to do this on video calls if you don't need sound—for example, deaf or hearing-impaired callers using sign language—because doing so frees up the maximum amount of resource for video, improving the quality.

There are two possible values:

- None Audio is active at the start of all calls.
- VidOnly Audio is muted at the start of all video calls (incoming and outgoing), but active for speech-only calls.

See *Audio and video mute* in *Chapter 4* for more about muting.

Ringer

You can select a different ringer sound to be used when an incoming call arrives. The videophone demonstrates each sound to help you choose the one you want.

One of the available values is Off, which means that there will be no audible ring when a call arrives. You may wish to use this setting if you are using a flashing beacon instead, but note that this is not available as standard.

Beware of selecting this value if you do not have a flashing beacon attached. If the TV is switched off, or if you are not watching the screen, you may not notice when an incoming call arrives. If you have Auto-answer enabled, the call could even be connected without your noticing.

You can also adjust the volume of your chosen ringer, by changing the *Ring Volume* audio setting (see *Chapter 4*).

Status

This item allows you to choose whether the status bar is always visible (On) or whether it disappears 10 seconds after a call is connected (Hide). Hide mode also suppresses error messages; it is intended primarily for use at the studio end, to prevent error messages from going on air during live reports.

Sleep

This item allows you to change the length of time the videophone will wait before powering down into stand-by mode if it has not been used (see *Chapter 2*).

The main and aux audio/video sections

These sections allow you to define your Main and Auxiliary audio-visual set-ups, which you will be able to switch between using the **AUX** button. (See *Audio-visual set-ups* in *Chapter 4* for more details.)

Video in

The video input to be used:

Compln1 **the video source (for example, camera, VCR) connected to COMP IN 1**

Compln2 the video source connected to COMP IN 2

Not available as Standard – Do not use!

Y/C In the video source connected to Y/C IN

Not available as Standard – Do not use!

P Cam the camera connected to P CAM

Not available as Standard – Do not use!

Audio in

The audio input used by the microphone or other audio source: any of the audio inputs on the VideoReporter or the built-in microphone.

Int Mic the built-in microphone

Not available as Standard – Do not use!

Line In **the audio source connected to LINE IN (TH-1's mixer)**

Ext Mic the audio source connected to MIC IN

Not available as Standard – Do not use!

P Cam the microphone in the camera connected to P CAM

Not available as Standard – Do not use!

TV/monitor/video out type

The TH-1/TH-2 monitor is dual standard: PAL or NTSC. This item allows the selection of the most appropriate video standard for the display or other video output device. Use of the AUTO setting should be avoided.

The data PC section – optional on earlier models

This section controls the operation of the COM1 data port. (See *Chapter 7, Connecting a PC for data sharing* for more details.)

Baud rate, data bits, parity, stop bits, flow ctrl, protocol

These items allow you to match the operating mode of the COM1 data port with that of your PC's serial port.

For recommended settings, consult the instructions supplied with your data sharing support software (see *Chapter 7, Connecting a PC for data sharing* for more details).

The miscellaneous section

(When you select this item you are presented with another menu page. Use the **up** and **down** arrows to select an item, and then press **OK**.)

Call info, data info

Information about the call/data transfer in progress. These are normally only used for diagnostic purposes.

Version, serial number

Software version and videophone serial number, which you will need to provide if you require Technical Support.

Audio defaults, video defaults

Restore the default audio/video settings. (These items have the same effect as the **AUD DEF** and **VID DEF** buttons.)

Restart phone

Restarts the videophone. There are two rare circumstances when you may need to restart the videophone:

- if you changed the ISDN configuration *during a call*, so that the videophone was unable to restart automatically. (See *Installation section* and *ISDN Profile section*, earlier in this chapter for details.)
- if the videophone is left in an unusual state, possibly as the result of an ISDN fault, restarting it will restore it to the correct state.

The centre text section

This section allows you use the arrow keys to centre the on-screen text to suit your TV.

7 Connecting a PC for data sharing

The VideoReporter supports data sharing using applications such as Microsoft® NetMeeting™. By connecting your videophone to a PC running a suitable application, you can transfer files and share data and applications with a PC at the far end during a video call. You may also need to install support software on your PC. You can obtain this software from your supplier or from Motion Media's Web site: <http://www.motionmedia.co.uk>

The support software is accompanied by detailed installation instructions and notes on configuring and running NetMeeting. The following instructions refer only to the VideoReporter's part in data sharing.

Connecting the equipment

You will need an RS-232 null-modem cable, available from electrical or computer stores.

1. Connect one end to the PC's serial port, and the other to the VideoReporter's data connector.

Configuring the COM1 port

2. Configure the port characteristics in the Data PC section (see *Chapter 6*).

Follow the instructions supplied with the data sharing support software.

To start data sharing on your videophone:

3. Press **DATA**.

To stop data sharing on your videophone:

4. Press **DATA** again.

8 Troubleshooting

This chapter contains information to help you if you have a problem with your VideoReporter System:

- Preliminary checks
- Pop-up messages
- Status bar messages
- Re-setting the videophone
- Further assistance.

Preliminary checks

This section lists some common problems and the checks you should make before reporting a fault on your system.

Power

- Indicator light on front panel not lit (No power)
 - Check all connections (see *Powering up* in *Chapter 2*).
 - Check the mains outlet by plugging in another appliance.
- Indicator light red/amber
 - May be in stand-by mode: press any button on the remote control and see if the VideoReporter powers up.
- No response to remote control
 - Check remote control batteries and replace if necessary.
 - Keep the remote control in its stowing position pointed directly at the sensor located in the far left hand corner of the VideoReporter when you use it. The indicator light on the VideoReporter should blink off each time you press a button.
- Will not power up when the COM 1 or COM 2 data connector has a cable plugged in
 - If this happens, disconnect the cable while you power up the videophone, then re-connect it when the videophone has powered up and is ready.

Call connection

- Unable to make or receive any calls
 - Check that you have the correct ISDN interface (see *ISDN connection* in *Chapter 2*).
 - Check that your ISDN-related configuration (ISDN variant, Restricted/Unrestricted mode and ISDN Profile) is correct (see *Chapter 6*).
 - Test the ISDN line by connecting another ISDN telephone.
 - See the Status bar messages later in this chapter to narrow down the problem area.

- Unable to make outgoing calls; incoming calls OK
 - Check configured SPIDs (see *ISDN Profile* in *Chapter 6*).
- Unable to receive incoming calls; outgoing calls OK
 - Check configured Directory Numbers or MSN if appropriate (see *ISDN Profile* in *Chapter 6*).
 - Check that the screen is not showing the Speech Call, Video Call or Phonebook dialling screen. You will not be able to receive calls while you are in the process of making an outgoing call.
 - If the VideoReporter is sharing the line with another piece of equipment, such as a fax, the other equipment may be configured to answer incoming calls automatically, as soon as they arrive, so that the VideoReporter does not get a chance to answer.

You can check this by temporarily disconnecting the other equipment, or by re-configuring it so that it rings a few times before answering, giving you time to answer the videophone first.

The best solution to this problem is to use MSN (Multiple Subscriber Numbering) to give each piece of equipment its own number.
- Second B-channel fails to connect; 1B (half-rate video) calls OK
 - Check that the Second SPID and Directory number are correctly configured (see *ISDN Profile* in *Chapter 6*).
- Video calls to some equipment (usually older systems) fail to connect properly; other video calls work correctly
 - The other equipment may not be properly H.320 compliant. Specifically it may not support H.263 video encoding. Try disabling H.263 (see *Installation section* in *Chapter 6*).
- Unable to make video calls; voice calls OK
 - Check configured Restricted/Unrestricted mode (see *Installation section* in *Chapter 6*).
- Unable to make voice calls; video calls OK
 - Check configured ISDN variant (see *Installation section* in *Chapter 6*).
- Caller ID not shown for incoming call
 - If true for all incoming calls, you may not have the Caller ID service enabled. Check with your ISDN supplier.
 - If true only for some incoming calls, the callers concerned are not supplying the information.

Local audio/video

- No sound/pictures from connected TV/monitor
 - Check that the TV/monitor is switched on and that its auxiliary inputs are selected. (These are selected using the *TV's* Aux button, not the VideoReporter's.)
 - Test the TV/monitor's auxiliary inputs by connecting another audio/video source such as a VCR.
 - Check connections from the videophone's audio and video outputs to the TV's auxiliary audio and video inputs (see *Audio-visual connectors* in *Chapter 6*). In particular, if you

are using a SCART cable, check that you have correctly understood any labelling of inputs and outputs.

- Has the TV/monitor's volume/brightness setting been set too low, or is it muted? (To check, switch the TV/monitor back into its normal mode.)
- Have the Status bar and the Self-view image been hidden, leaving a blank screen? (To check, press **SELF VIEW** or **STATUS**.)
- Poor video quality
 - Is it a half-rate video call (only one channel shown on the status bar)?
 - Far end videophone may have limited frame rate or resolution.
 - The lighting or general set-up at the far end may be poor, or the far end videophone may not be properly adjusted.
- Video black and white, squashed or distorted
 - Check that you have configured the correct TV Type for your display in the audio-visual set-up (see *Chapter 6*). (If there is a '+' sign on the status bar you have the Auxiliary audio-visual set-up selected, otherwise you are using the Main audio-visual set-up.)
- Call connected but no sound/pictures received from far end
 - Has the far end audio/video been muted?
- Self-view window blank (blue); on-screen text and incoming video OK

This happens when there is no video source connected to the video input you are currently using.

- Check for a '+' sign on the Status bar and make sure that you are using the intended audio-visual set-up (Main or Aux). If there is a '+' sign on the Status bar you have the Auxiliary audio-visual set-up selected, otherwise you are using the Main audio-visual set-up. Press **AUX** to switch from one to the other.
- Check the Video In setting in the corresponding audio-visual set-up configuration, and make sure that it is the video input connector with the camera (or other video source) connected.
- Check that the camera (or other video source) is powered and working, and check the video connection between it and the VideoReporter.

Far-end audio/video

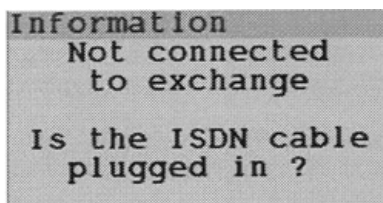
- Poor video quality seen at far end but local video quality OK
 - Probably caused by poor lighting or positioning of your videophone. (See *Chapter 5, Getting the best from your videophone*.)
- Call connected but far end is not receiving sound/pictures
 - Is the local audio/video muted? (Check for on-screen mute symbols.)

Miscellaneous

- Some apparent problems can be cleared by re-powering the videophone. See *Restarting the VideoReporter* later in this chapter.

Pop-up messages

If the videophone detects a problem it will display a 'pop-up message' on screen, for example:



To remove the message when you have read it, press **OK** or **CANCEL**.

Most of these messages are straightforward, but the following may need a little more explanation:

- “You are connected to two different videophones. Releasing second connection.”

There are two possible causes for this:

- You may have accidentally entered numbers which belong to two different videophones. If so, hang up the call, correct the numbers and dial again.
- You may have dialled correctly but there may actually be two videophones on the line you are calling (for example, if you are calling a video server). Occasionally two different terminals will accept the calls on your first and second channels. If this happens, hang up and then re-dial. If this keeps happening, inform the person you are trying to call: there may be a fault on his equipment.

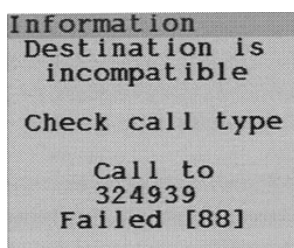
ISDN information codes

Because ISDN is digital, an ISDN phone can provide more information about network events and status than a normal telephone. If you have persistent problems with your network, this information will help your ISDN provider track down and solve the problem. Alternatively, if your videophone is not correctly configured for your network, the ISDN information codes will help you correct it.

The videophone displays the ISDN information codes in pop-up messages which contain:

- a brief explanation
- the number you dialled (so that you can check what you entered)
- the ISDN information code [in square brackets]

For example:



Note that these are not all ‘error’ codes; many represent normal events, such as the number you called being busy, or the network being temporarily congested.

The pop-up message should normally provide an adequate explanation, and the following table will help you correct any configuration problems. If you persistently receive codes in the range 34 to 127 even after carrying out the corrective action, contact your ISDN provider for help, quoting the ISDN information code.

<i>ISDN info code</i>	<i>Meaning</i>	<i>Probable cause, and corrective action</i>
1 to 31	Normal event	Normal events for a correctly functioning videophone. No action required.
34 to 47	Resource unavailable	Temporary ISDN network problem: Try call again after a short delay.
49 to 63	Service or option not available	SPID configuration may be incorrect. (See <i>ISDN Profile configuration</i> in <i>Chapter 6</i> .)
65 to 79	Service or option not implemented	1. SPID configuration may be incorrect. (See <i>ISDN Profile configuration</i> in <i>Chapter 6</i> .) 2. Restricted mode may be incorrectly configured. (See <i>Installation configuration</i> in <i>Chapter 6</i> .)
81 to 95	Invalid message	ISDN network error: repeat call.
69 to 111	Protocol error	ISDN variant may be incorrect. (See <i>Installation configuration</i> in <i>Chapter 6</i> .)
127	Interworking problem	ISDN variant may be incorrect. (See <i>Installation configuration</i> in <i>Chapter 6</i> .)
128 – 142	Product-specific codes	The pop-up message should be self-explanatory. If you have persistent problems contact your videophone supplier.

Status bar messages

The status bar at the bottom of the screen displays messages about the progress of a call, particularly while the call is starting and ending.

If there is a call-related problem, the sequence may not complete properly for various reasons. The point at which it fails can help to narrow down the cause.

Making a video call

The normal sequence of messages when you make a video call is:

- B1 Calling
- B1 Ringing
- B1 Connected
- B2 Calling
- B2 Ringing

B2 Connected
(during call, call timer, HH:MM)
Call Released
Ready

Making a speech call

The normal sequence of messages when you make a speech call is:

Calling
Ringing
(during call, call timer, HH:MM)
Call Released
Ready

Receiving a speech call

The normal sequence of messages when you answer a speech call is:

Accepting...
(during call, call timer, HH:MM)
Call Released
Ready

Receiving a video call

The normal sequence of messages when you answer a video call is:

B1 Accepting
B1 Connected
B2 Accepting
B2 Connected
(during call, call timer, HH:MM)
B2 Released
Call Released
Ready

Restarting the videophone

In some circumstances you may find that simply restarting the VideoReporter is sufficient to clear an apparent fault. (See *Miscellaneous section* in *Chapter 6*.)

Remember too that you can set the audio and video settings back to their original default values (see *Chapter 4*). This may prove useful if you have accidentally set them to unusable values.

The configuration settings and the contents of the Phonebook are not affected by restarting the VideoReporter, nor by restoring the default audio and video settings.

Automatic restart

The VideoReporter automatically restarts itself after certain configuration changes (see *Chapter 6*).

In exceptional circumstances the VideoReporter may automatically restart itself because it has detected a fault. This is not a cause for concern unless it happens repeatedly. If this happens during

a call you may find that you are unable to make calls for a few minutes because the exchange has temporarily disabled your line.

Use of the MENU button

The MENU button accesses a menu of settings. We recommend that you leave most of these as set up when you received the VideoReporter. Two, however, provide facilities that you may find useful.

The LOOP option

The LOOP option offers the choice of None or Local. For normal use it is set to None. For testing or set-up purposes you may prefer to set it to Local. This redirects outgoing video and audio to the screen and speaker, so that you see the image and hear the sound that would normally be received at the other end of a call. You must dial a call, but you can use any number. Remember to return the setting to None before making or receiving a call.

The CONFIG option

The CONFIG option offers the choice of Store or Load Fact. By default it is set to Store, so that the videophone uses the user-adjustable settings that have been selected. Selecting Load Fact restores all these settings to their factory-set default values. You may find it useful to select Load Fact if you have inadvertently selected one or more settings that are inappropriate for your circumstances and you wish to restore the videophone to a usable condition quickly. Selecting Load Fact will cause the loss of previous user settings. For this reason, you may need to reconfigure some settings before making or receiving a call.

Further assistance

If you still have a problem, in the first instance contact your supplier, who is obliged by his agreement with 7E to provide you with support. If necessary he will refer your problem to the 7E support team.

If you cannot obtain support, require specialist assistance or you have an **urgent** problem, you may contact 7E Communications directly. We do, however, reserve the right to refer you to your supplier.

Our 24-hour support service is only available to contracted customers.

If the problem relates to your Inmarsat terminal and it was not provided by 7E or is not subject to a 7E airtime contract, any support will be chargeable.

9 Technical Data

TH-1 Technical Specification

Codec	ITU-TH.320 video conferencing incorporating:	
	<ul style="list-style-type: none">• H.261 and H.263 video coding<ul style="list-style-type: none">○ CIF resolution (352 × 288 pixels) at up to 15 fps○ QCIF resolution (176 × 144 pixels) at up to 30 fps• G.711, G.722 and G.728 duplex audio coding with echo cancellation• T.120 data exchange or transparent data via 9-pin data port	
Inputs	Microphone	Lo-Z, dynamic balanced input 3-pin XLR socket
	Line 1	Hi-Z, balanced input 3-pin XLR socket
	Line 2	Hi-Z, unbalanced input Phono socket
	Video 1	75Ω, 1V p-p, composite PAL/NTSC BNC and Phono sockets
	Video 2	Selection of I/O connector to video port via internal jumper
	Power	See below 4-pin XLR plug (1 & 4) 5.5/2.1mm coaxial
Outputs	Video	75Ω, 1V p-p, composite PAL/NTSC BNC socket
	Headphone 1:	program and return mixed Stereo 6.25mm (1/4") jack socket
	Headphone 2:	program (L) and return (R) Stereo 6.25mm (1/4") jack socket
	<i>Jack sockets accept A- or B-style jacks</i>	
ISDN	Euro-ISDN, 2B+D, 64/128kbps with MSN (compatible with Inmarsat-M4 and 7E S0DA)	
	North American (with SPIDs) NI2, DMS100 or AT&T S0, 56/112kbps	
	International	
	10-number memory, speed-dial, last number redial	
	RJ-45 socket	

Controls	Power	Miniature rocker switch
	Mic level	Rotary
	Line 1 & 2 level	Rotary
	Headphone 1/mixer level	Rotary
	Headphone 2/return (cue) level	Rotary
	Mic presence: 1.7kHz, flat or 2.7kHz -12dB to +12dB	3-way toggle switch Rotary
	Mic LF cut: 400Hz -12dB/octave, flat or 800Hz -12dB per octave	3-way toggle switch
Indicators	On/off LED and video status indicator (red/green LED)	
	PPM (10 LED display -20 to +3dB)	
Display	6.4" TFT backlit LCD (PAL/NTSC) with loudspeaker, volume and brightness controls	
Power	9 to 24V DC, 20W with standby (High-voltage option 9 to 30V)	
	Rev. C and earlier 10.8 to 14.4V, 20W, with standby	
Accessories	Supplied:	
	<ul style="list-style-type: none"> • AC adaptor 12V @ 3A, input 90 to 264 V AC, 47 to 400Hz • Remote control (requires 2 AA batteries) • 12V vehicle cigar lighter adapter • ISDN cable RJ-45 plug to RJ-45 plug, 5m in length 	
	Optional:	
	<ul style="list-style-type: none"> • S-video (Y/C) input/output • Second video input • Remote control camera port • Internal camera • 9 to 30V DC input • Adaptors for NP-1, PAG and Anton-Bauer batteries • Battery and charger 	
Physical Spec	Housed in black plastic, waterproof carry case with handle	
	Dimensions	Height: 155mm, width: 356mm, depth: 265mm
	Weight	4.5kg excluding battery
	Temperature	Operating: 0 to 40°C ambient, storage: -10 to +60°C
	Humidity (non condensing)	Operating: 20% to 90%, storage: 10% to 95%

Specification subject to change without notice

TH-2 Technical Specification

The TH-2 is identical to the TH-1 except that it incorporates a 7E S0DA ISDN splitter/combiner for Inmarsat GAN (M4). It supports only Euro-ISDN and is intended for connection to Inmarsat terminals.

Set-up

The TH-2 must be connected to two satellite phones or two Euro-ISDN lines. The two connections **cannot** share the same ISDN line.

Use

Proceed as when making a 128kbps call on a TH-1 (see *Chapter 3, Making calls*).

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Approvals: Notes for guidance

Approval for connection of items such as the Talking Head range of products is a complex subject and advice should be sought from your supplier or 7E Communications Ltd. if you have any doubts as to the meaning of the approvals notices on the next page.

The following are the designations used on 7E European and International marketing literature, local market literature (which may differ in detail) is available from your distributor.

- TH-1:** primarily intended for connection to approved Inmarsat GAN terminal(s), but also approved for direct connection to terrestrial ISDN networks within the European Community and other countries that accept the CE mark.
- TH-2:** only intended for connection to approved Inmarsat GAN terminal(s), it is however EuroISDN compliant and may be tested on (or exhibited using) terrestrial ISDN networks where a waiver for such purposes exists, such as the UK's NS/G/123445R/100022.
- TH-R:** primarily intended for connection to ISDN within the European Community and other countries that accept the CE mark, it may also be connected to approved Inmarsat GAN terminals.
- TH-R BU:** a lower cost unit based on the Motion Media set top enclosure, supplied with passive interconnect adaptors, a licence/serial number allowing the use of the Talking Head H.320 by satellite extensions, and 7E Communications technical support.
- Approvals, are as stated on the identification plate and in the Motion Media manual supplied with the product, in some regulatory regimes a MM120 may be supplied due to restrictions on product branding (see below).
- TH-R BB:** as TH-R BU, but with an "active shelf" to provide balanced audio in/out, this will be sourced locally by your distributor to 7E (functional specification) and may therefore vary from that shown in 7E international marketing literature or on our web site.
- MM120:** a Motion Media MM120 (see notes on branding in TH-R BB above) with a licence/serial number allowing the use of the Talking Head, H.320 by satellite extensions, and 7E Communications technical support.

Please note that neither 7E Communications nor Motion Media will support MM120s used in a mobile satellite application without the relevant licences.

- NB:** The software for the Talking Head range includes support for many different network variants, their inclusion does not imply approval for connection to that network or that 7E Communications/Motion Media will ultimately approve the devices for that network.

United States of America

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. 7E is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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.

European Community

Declaration of Conformity to Type

7E Communications Limited of Swan House, Swan Road, Feltham, Middlesex, TW13 6LL, England hereby declare under our sole responsibility that the apparatus model

Talking Head One (TH-1)

Talking Head Two (TH-2)

Talking Head Rackmount (TH-R)

to which this declaration relates is in conformity with the following EU directives:

99/5/EU Radio and Telecommunication Terminal Equipment

93/68/EEC CE Marking and Labelling

73/23/EEC Low Voltage (Safety) Directive

89/336/EEC EMC Directive

The following harmonised European Directives were applied in the fulfilment of the requirements of the Directive 99/5/EC:

EN60950 iss3

EN55 02 class a

EN55 013

EN50 082-1

EN61 000-3.2

EN61 000-3.3

The following telecommunications interface standards were voluntarily applied:

ETSI-TBR3/CTR (BR-ISDN)