

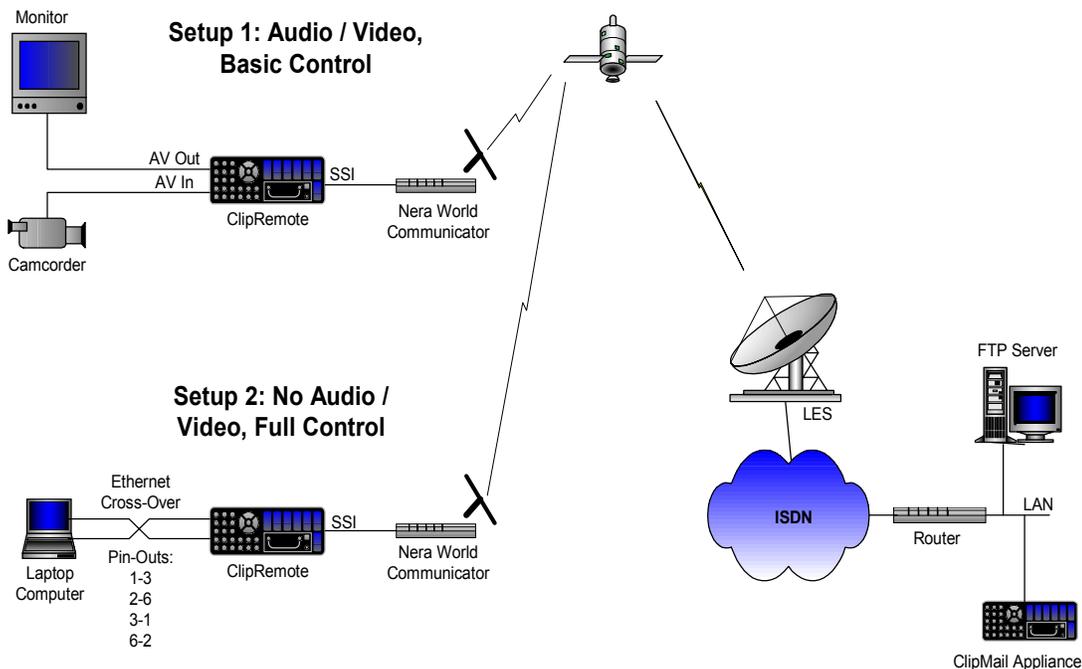
Remote Access using a Nera World Communicator Satellite Data Terminal with ClipRemote

Introduction

Telestream's ClipRemote system has been designed to interface directly with a serial DCE device such as a Modem, Terminal Adapter, or Satellite Data Terminal. The ClipRemote software, when properly configured, is capable of establishing a dial-up connection using the 'AT' command set, and creating a TCP/IP interface through this device using asynchronous PPP. The user can pre-configure all login and network information via the Network Controller interface, then connect and disconnect using a single button press via the Network Controller or video on-screen user interface. Connections to ISPs or private networks as well as simultaneous Ethernet and serial connections are supported.

Hardware Setup

The SSI (System Serial Interface) male DB-9 connector on the back of the ClipRemote should be connected to the RS-232 port on the Nera World Communicator using a one to one cable. In the drawing below, setup 1 is useful for making, reviewing and sending a clip to a pre-configured destination, and setup 2 is ideal when transmitting a pre-made clip to any destination. When only two systems connect via Ethernet, a crossover cable may be used in place of a hub or switch as shown. These two setups are not mutually exclusive; it is possible to have audio, video, Ethernet and SSI all active at once.





Configuring the Nera World Communicator

The Nera World Communicator may be configured using either the menus on the LCD panel, or by using the vtLite PC program included on the Nera software CD. Following is a list of settings under the heading “Configure DTE” which are required for ClipRemote compatibility:

- Speed: 115200 bps
- Format: d=8, p=none, s=1
- Flow Control: none

Configuring the ClipRemote

The ClipMail Network Controller must be used to initially configure all dial-up connections. From the main screen, select “Setup”. This will open a new screen with a button labeled “Dial-Up...” This will bring up a menu of any previously configured dial up destinations. To create a new one, select “New”. This will bring up a “New Dial-Up” configuration screen. Enter a meaningful name for this configuration, and select “Connection Setup”. This will open a new screen for entering the phone number (exactly how the Nera World Communicator will receive it), along with several serial port parameters.

NOTE: unless there is a legitimate reason to change these, the defaults should be used. Username and password are entered here for the remote server or ISP account. The fields “Login Prompt” and “Password Prompt” are only used for accounts that expect a manual login. Typically, these are left blank. Selecting “Done” returns us to the menu screen, which should now show the new dial-up destination. With this selected and the Nera World Communicator ready to accept a call, click on “Connect” to dial the remote site.

A pop-up window will appear, which will report the status of the connection process. If it does not disappear within 30-40 seconds, it will then report the error encountered in the dial-up and login process. Selecting “Cancel” at this point will terminate the PPP connection and hang-up the Nera World Communicator. NOTE: It is highly recommended that this be verified by looking at the LCD panel on the unit.

Issues with the Inmarsat 64kbps Data Service

Telestream appliances use FTP (File Transfer Protocol) to send and receive MPEG files and also to communicate with each other using the Telestream proprietary MTP (Media Transfer Protocol). MTP is the protocol used for opening and closing connections on the remote site, as well as reserving disk space. These transfers take place before the actual MPEG file is sent, and may take 2-3 minutes to complete over the satellite link. Also, due to the long delay, it is normal for the displayed progress bar on the ClipRemote GUI to stay still for 20-30 seconds before any progress is shown. Because of this, the average bit rate calculation displayed will be lower than the actual average bit rate.



All FTP transfers use TCP connections, which require that acknowledge packets are received from the recipient of the data. The sender will only transmit a certain amount of data without receiving an acknowledge packet back from the receiver before it stops and waits. This amount of data is set by the receiver and is called the window size.

It is recommended that the receiver advertise a window size of at least 10,400 bytes for a satellite connection. This is due to the long round trip time (up to 1.3 seconds) between remote and destination systems when using a satellite connection. Telestream appliance products advertise a window size of 64Kbytes, but a Windows 2000 or NT system will advertise a default window size of only 8760. This limits the maximum throughput achieved over the satellite link.

By editing the registry on the destination FTP server, the default value of 'TcpWindowSize' may be changed. A free utility program called "Dr.TCP" is available for download on several Internet sites that automates this. This method is preferred since manual editing of the Windows registry may adversely affect the operating system. A good source for information on this topic is available at: <http://support.microsoft.com/support/kb/articles>.