# Telepresenter Quickstart Manual

## NCast Corporation

Publisher

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# Table of Contents

# Introducing the NCast Telepresenter

**Introduction**

Welcome to interactive graphics presentation that is easy, reliable and cost-effective. The Telepresenter G2 transmits and receives graphical data, which is then presented through channels to both desktop and conference room G2 users. Use the web interface to login automatically to begin receiving a session. To deliver a presentation or conference, select an empty channel via the web and you will transmit the local graphics instantly.

**Contents**

This section covers the following topics:

# Overview

**How it Works**

The G2 captures graphics output from any laptop, PC, document camera, standard DB15 or DVI source and displays the graphics on an attached SVGA-XGA monitor. The G2 also accepts audio inputs from line level and microphone devices. In addition, remote participants can watch XGA (1024x768) graphic quality presentations at any desktop or laptop via industry standard media players.

The sending unit continually accepts input, compresses, and transmits data in the form of RTP packets. The receiving units organize, decompress and play this information in the correct sequence. The conference control protocol sends out information to maintain floor control throughout the session. The coordinator (instructor) can also temporarily allow participants to take the floor and submit their graphics.

The G2 produces a communication stream in a channel that contains graphical data and audio (if applicable) packets, which can be easily controlled for customized presentations. Any of the data packet types may be disabled or altered to further reduce bandwidth usage.

The G2 also provides remote administration from any standard web browser for easy network set up and configuration. Floor control is also administered via this method as well.

**Coordinator and Participant**

Anyone who wants to share visual information, designs, and concepts with dispersed groups of people can use the Telepresenter to gather input and make immediate changes. The creator of a session (person or group) is the coordinator with immediate floor control. The recipient of a transmission is the participant.

# Uses & Features

**Applications**

The Telepresenter may be used in a variety of situations for live interactive communication, and also offers the ability to archive sessions. You can start a session to:

- Share visual information, designs, and concepts with dispersed groups of people to gather input and make immediate changes
- Conduct customer and employee training across many geographical areas
- Discuss research, engineering, architecture, product design, or process analysis when the participants are not able to meet in one central location
- Access a centralized bank of expertise from a field location
- Disseminate archived presentations and training seminars to remote employees.

# Telepresenter Packaging, Requirements, and Options

**Package Contents**

The Telepresenter package contains the following items:

- Telepresenter unit
- AC Power cord
- Male-to-Male SVGA-XGA cable, 1.8 m.
- USB 64 MB Stick (optional)

**Video/Monitor Requirements**

The Telepresenter has the following video/monitor requirements:

- VGA/XGA or higher resolution monitor

**Network Requirements**

The Telepresenter has the following network requirements:

- 10/100BT Ethernet Connection
- 100 Kbps to 5 Mbps network bandwidth (for MPEG-4)
- Web browser for administration and Internet functions

**Optional Items**

The Telepresenter has optional items, recommended for certain features:

- IP Multicast protocol
- Graphics input device (laptop/desktop computer, document camera)
- Microphone 2.5 mm input
- Line In/Out 2.5 mm input

# Network Setup

## Prepare a Site for the Telepresenter

**Background** Use this procedure when you first purchase the Telepresenter and when you are ready to install the hardware at your site.

**Procedure** Follow the steps in the table below to prepare a site with multicast for the G2.

### Multicast

| Step | Action |
|---|---|
| 1 | Enable network multicast between expected endpoints (all desktop/laptop computers and Telepresenters).<br>**IP Multicast Address range: 224.0.0.1 to 239.255.255.255**<br>The above address range is from a Class D; unlike conventional IP addresses, this address does not point to a particular node, but instead to a group. |
| 2 | Set up the multicast function in the routers between the sites. To set up IP multicasting with firewalls, you must allow packets sent to the standard IP multicast addresses to be enabled on all routers in between. |
| 3 | If some remote sites have less than a T-1 installed, scale down the graphic transmission rates for endpoints from 1.0 Mbps to 300 Kbps. This ensures proper performance of the Telepresenter and provides bandwidth for graphics and other administrative protocols used by the Telepresenter. |

### Unicast

| Step | Action |
|---|---|
| 1 | Use the G2's embedded streaming server for sending out multiple unicast signals (35) to desktop viewers. |
| 2 | To receive a unicast stream, on the RTSP link available on the Viewer page. The G2 system supports up to 10 concurrent unicast streams. |

# How to Assign an IP Address

**IP Addresses**

IP addresses may be assigned to the Telepresenter by two ways: DHCP or Static IP. If your network is configured for DHCP, the IP address will be provided automatically. If you wish to use a Fixed IP address then you will need to use the USB stick supplied.

**DHCP**

| Step | Action |
|---|---|
| 1 | Attach an SVGA/XGA monitor to the Telepresenter's DB15 output. |
| 2 | Connect the Ethernet cable and power up the Telepresenter. |
| 3 | The IP address of the G2 will be displayed shortly on the attached graphics monitor. |

**Fixed**

| Step | Action |
|---|---|
| 1 | Insert the supplied USB disk into a desktop or laptop computer. |
| 2 | Browse to the attached USB disk, and inside will be a .txt file. Edit this .txt file using Notepad or similar program, and enter the proper IP address. Edit the Gateway if appropriate as well. |
| 3 | Following the update save the file to the USB disk. Take this disk and insert it into the USB port. |
| 4 | Connect the Ethernet cable and power up the Telepresenter. |
| 5 | The IP address of the G2 will be displayed shortly on the attached graphics monitor. |

# Login

**Introduction**

This section describes how to login to the Telepresenter for the first time, and also covers levels and rights.

| Step | Action |
|---|---|
| 1 | Using the IP address displayed on the graphics monitor, enter this address into the URL of your Internet Browser. |
| 2 | Once you have navigated to the site, you will be presented with the default page for the “viewer” level login. No password is required for the viewer login as a default. However, the user has the ability to modify this feature to require a password for viewers to login. The viewer has only read rights to the Telepresenter. Read rights allow the viewer to view online streaming events, but does not allow for any type of system modification or floor control. |

**Coordinator**

The Coordinator is able to start and stop a session, change the channel the G2 is currently transmitting/receiving from, and coordinate floor control.

| Step | Action |
|---|---|
| 1 | Using the IP address displayed on the graphics monitor, enter this address into the URL of your Internet Browser. |
| 2 | Once you have navigated to the site, you will be presented with the default page for the “viewer” level login. In the upper right hand corner, will be a login and password entry box. |
| 3 | Use the login id “coordinator”. The default password is “ncast”. Once this password is entered, new hidden screens will be available. |

**Administrator**

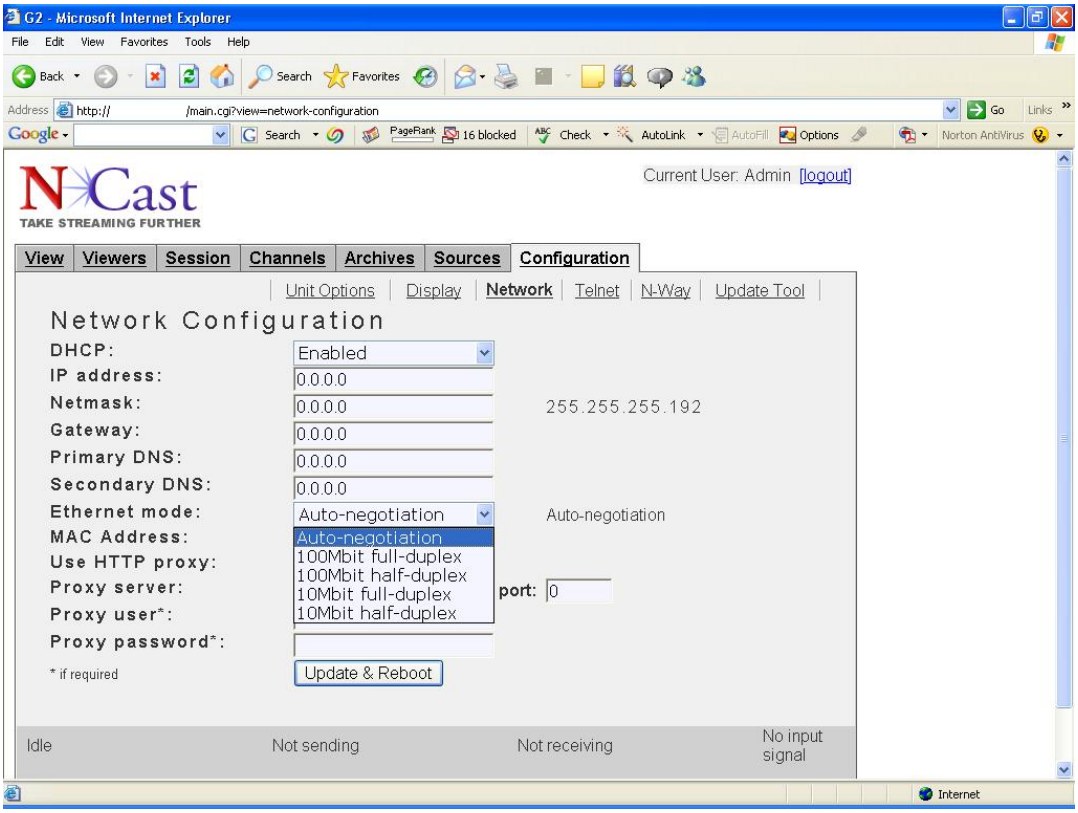
The Administrator maintains all rights to the Telepresenter.

| Step | Action |
|---|---|
| 1 | Using the IP address displayed on the graphics monitor, enter this address into the URL of your Internet Browser. |
| 2 | Once you have navigated to the site, you will be presented with the default page for the “viewer” level login. In the upper right hand corner, will be a login and password entry box. |
| 3 | Use the login id “admin”. The default password is “ncast”. Once this password is entered, new hidden screens will become available. |

# IP Settings

**Introduction** This section describes how to establish network settings on the Telepresenter.

| Step | Action |
|---|---|
| 1 | Login as Administrator. |
| 2 | Click on the Network tab. |
| 3 | Verify that the IP Address and Gateway are correct. Also update other IP settings as appropriate. |
| 4 | Once the setting changes are complete, click on the Update button. |
| 5 | The screen should refresh and display your new settings. |
| 6 | See the following table for a more in-depth description of all fields. |



| Network Configuration | |
|---|---|
| **Setting** | **Description** |
| DHCP | Enable/Disable DHCP settings for automatic address retrieval from the network. |
| IP Address | Assign a specific address to the Telepresenter.<br>This will also display the current address assigned |
| Netmask | The Netmask ID. A range of IP addresses defined so that only machines with IP addresses within the range are allowed access to an Internet service. 192.168.*.* is a good example. |
| Gateway | Gateway address connecting disparate networks |
| Nameserver 1 & 2 | The address of the server where the mapping between the G2's global name and its physical location on the network resides. |
| Ethernet Mode | Adjusts the hardware settings for the connection between the Telepresenter and its network switch. |
| Use HTTP proxy | Use HTTP proxy to transmit data. |
| Proxy server, user, password, port | Settings for the Proxy server, if applicable. |

# Viewer Capabilities

## Viewers

**Introduction** The viewers page represents the current attendees of a given session. It also allows the coordinator floor control functionality when the G2 is in Collaboration mode.

**Passing the Floor**

| Step | Action |
|---|---|
| 1 | Click on the Viewers link. |
| 2 | If there is more than one user in a session, you will notice that the user with floor control will have a box highlighted in a different color. |

## View

**Introduction** The View page allows for desktop users to view live streams when the G2 is in Streaming mode.

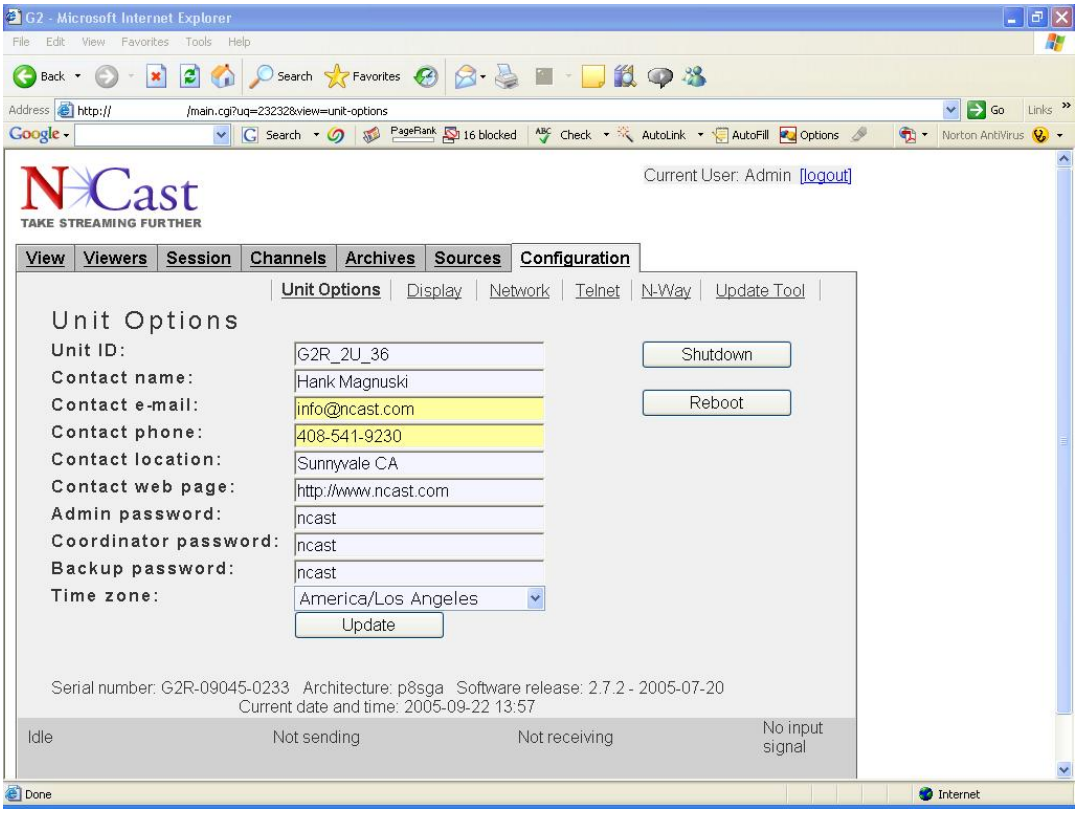
| Step | Action |
|---|---|
| 1 | Click on the View tab. |
| 2 | The View page will list two links, “Launch QuickTime Player in Full Screen” and “Launch QuickTime Player in Window.” Both players will have an option between “Multicast” and “RTSP.” |
| 3 | If the user clicks on the full screen link, the graphics stream will take up the full screen. Type Alt + F4 to close this screen. |
| 4 | If the user clicks on the overlaid window link, a new window will open with the incoming graphics stream. |
| 5 | If the user clicks on the RTSP link, this will request a unicast signal from the unit. |

# G2 Settings

## Unit Options

**Introduction** This section describes how to set up unit options on the Telepresenter.

| Step | Action |
|---|---|
| 1 | Click on the Unit Options tab. |
| 2 | Take a minute to personalize the Telepresenter to your environment. Notice that the passwords for the administrator and coordinator accounts are here as well. |
| 3 | If any changes are made, click on the update button after completion. |
| 3 | Also, notice that the serial number and software version are displayed below. |



| Field | Description |
|---|---|
| Unit ID | Assigned name or ID of unit (appears in announcements) |
| Contact name | Name of a contact person, administrator or owner of the unit (appears in announcements) |
| Contact email | E-mail address of the contact person of the unit |
| Contact phone | Phone number of the contact person |
| Contact location | Location of the unit |
| Contact web page | Home page of the administrator (organization) web page |
| Admin password | Administrator password |
| Coordinator password | Coordinator password |
| Backup password | Backup password for entry into unit when password is lost in other user accounts |
| Time Zone | Establish the appropriate time zone here. Note this will also apply to any archives produced. |
| **Button** | **Description** |
| Shutdown | This will initiate system shutdown and will turn the unit off. |
| Reboot | This will reboot the unit. |

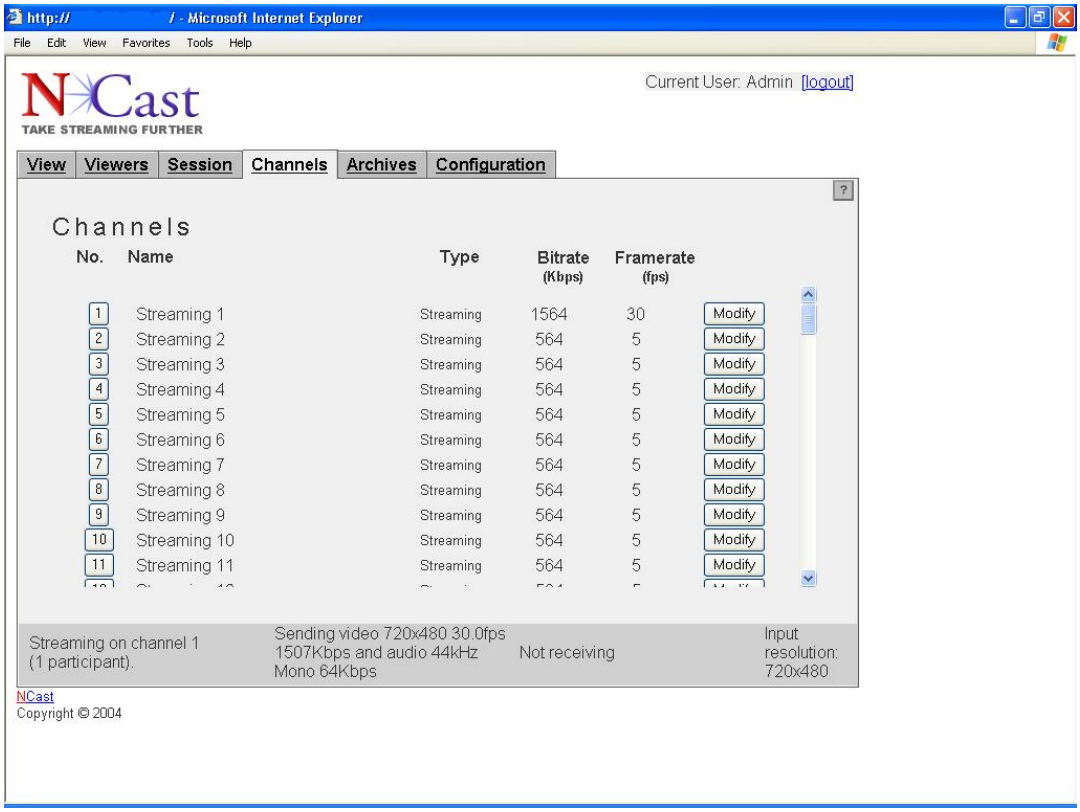
# Channel Table

**Introduction**

Each unit ships with a default of ten channels available for customization. A channel represents a communication medium for starting and joining a session. Each channel contains a multitude of settings that are invisible to the user and address multicast addresses, packet size, etc.

**Starting/Joining a Session**

| Step | Action |
|---|---|
| 1 | Click on the appropriate channel that you wish to begin/join a session on. |
| 2 | The unit will probe the channel, and then start/join the session automatically. |



**Channel Table Overview**

| Field | Description |
|---|---|
| No. | Refers to the channel number. By clicking on this button, the user will command the unit to start/join a session on the channel. The session will correspond to the characteristics that are set in the particular channel. |
| Name | Arbitrary name that is assigned to the channel by the administrator. Only the administrator has write access to this field. |
| Type | The G2 has five classified modes: 1) Streaming (send)- One way streaming. 2) Receive Only- The unit will only receive streams, and will not send. 3) Streaming (full duplex)- The unit will both stream and receive from another G2. 4) Conference Coordinator- The unit will act as the coordinator unit of a conference, and has the ability to pass the floor. 5) Conference Participant- This unit will act as a conference participant, who assume floor control. |
| Bitrate | The maximum total bitrate consumed by the unit, either by receive or transmit. |
| Framerate (fps) | This field displays the maximum frames per second allowed for transmit. This field is not applicable to received streams. |
| **Button** | **Description** |
| Modify | This button will allow the administrator to modify the settings of that particular channel. |

**Modifying a Channel**

| Step | Action |
|---|---|
| 2 | The Channel Table lists all available channels. Scroll down to see channels that are not currently listed on-screen. |
| 3 | To change the settings on a given channel, click on the “Modify” button. |
| 4 | The page will update to list the modifiable settings. Change the settings as desired. For further information on the purpose of each setting, please refer to **Appendix A.** |
| 5 | If you are in the middle of a session, the settings of that session will not update until the session is stopped and restarted. |

# Session

**Introduction** The session page represents the current settings of the session. This information is supplied by the data that is written in the Channel Table. The only operations possible at this page are starting and stopping a current session.

**Starting/Joining a Session**

| Step | Action |
|---|---|
| 1 | Click on the End Session button to end a session. |
| 2 | Click on the Start Session button to start a session. |

# Display

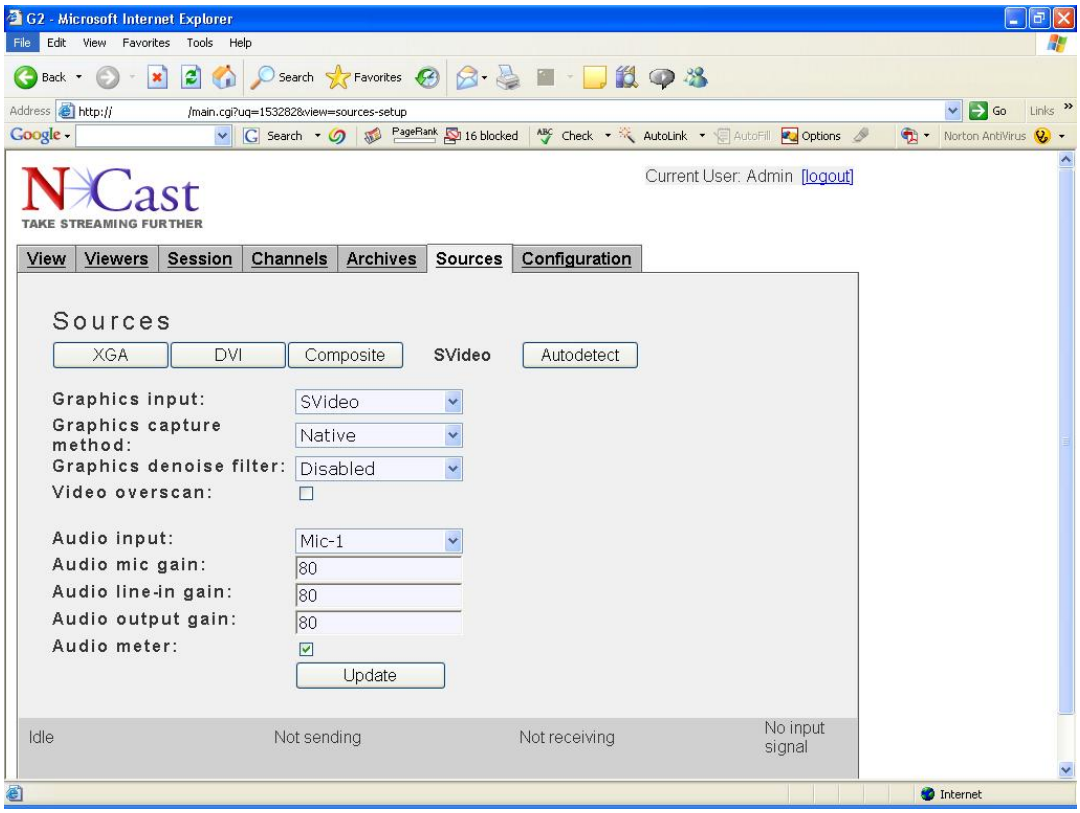
**Introduction** The user is able to set the desired fixed resolution and toggle loopback on/off.


| Field | Description |
|---|---|
| Display type | There are two selections: native and fixed. Native will stream at whatever resolution is inputted, however at a maximum of 1024x768. Fixed will stream only at whatever resolution is selected. |
| Fixed type resolution | This setting will allow at maximum, the designated resolution to be transmitted. For instance, if the user has attached a laptop outputting a signal at XGA, but the setting in this field calls for SVGA, then the system will scale the image. |
| Display loopback | This field toggles local loopback on/off (displaying the G2's image on the screen). |

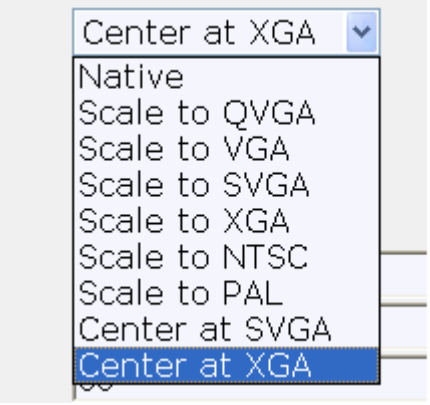
| Button | Description |
|---|---|
| Update | This button will update the settings of the unit. |

# Sources

**Introduction** This page displays settings for applicable media input and output.




| Field | Description |
|---|---|
| Graphics input | Type of graphical input device used, choices are: SVGA, Composite, DVI, SVideo, and Autodetect. SVGA also includes XGA input, as the maximum input resolution of the G2 is 1600x1200. The Composite and SVideo options correspond to video inputs only. The Autodetect option automatically checks for the graphical input amongst all options. |

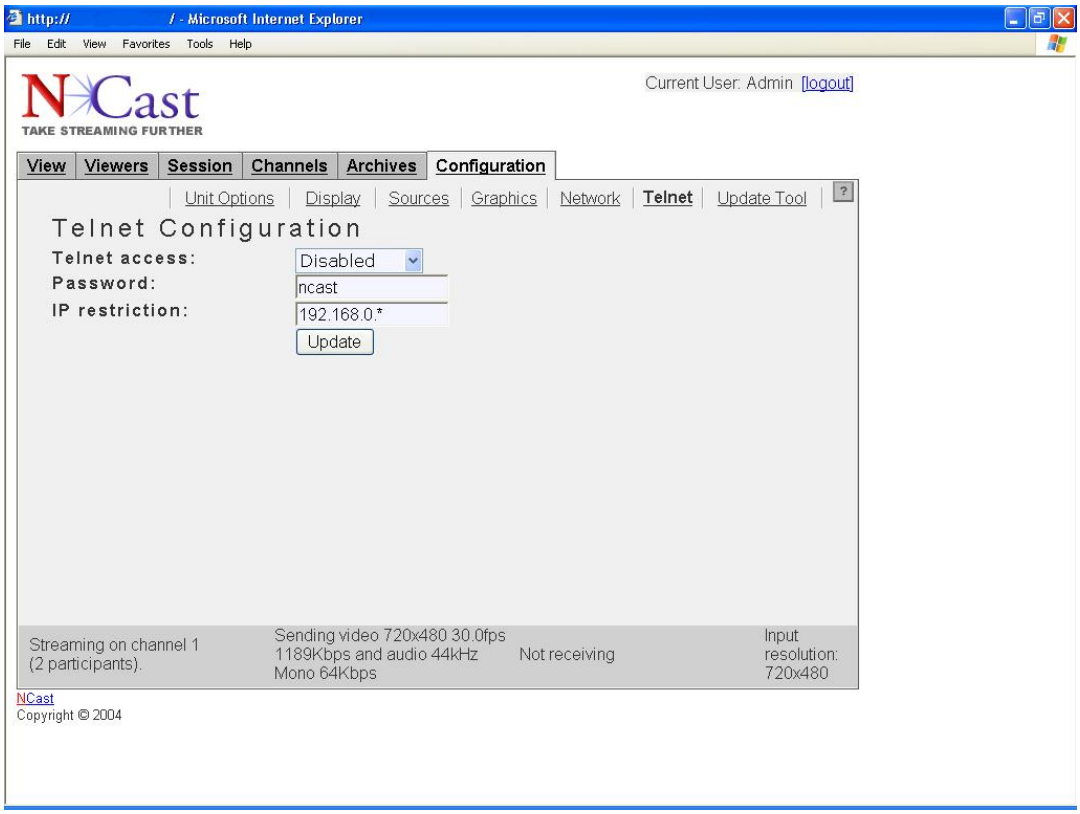
| | |
|---|---|
| Graphics capture method |  <br>This feature allows the user the ability to scale video to full screen. The dropdown includes different resolutions that can be used.<br>**Native-** The native option keeps the signal at its original resolution, without any scaling. If however, the input source is switched during a presentation, the desktop players will not handle the change. A new archive file will also be created during this transition.<br>**Scale to XGA**<br>**Scale to SVGA…**<br>The media streams and archive files are kept at the specified resolution. The input source is scaled to the specified resolution. The archive file is continuous and the resolution does not change.<br>**Center at XGA**<br>**Center at SVGA**<br>The media stream and archive file are kept at XGA, SVGA resolution and video is centered within window with a black border filling in the extra space. The archive file is continuous at XGA, SVGA resolution. |
| Graphics deinterlace method | This adds a filter to smooth out the MPEG-4 image. Though it will smooth out the image, it will also reduce the amount of detail. |
| Graphics Denoise Filter | Small amounts of noise in the graphics or video input ruins compression efficiency and causes unnecessary data to be transmitted on the channel. The downside of this feature is it can reduce the sharpness of the image. |
| Video Overscan | Applies only to video input. This feature accounts for a 5% loss that can occur with some video signals because of screen size. |
| Audio input | Input selection field. The two available options are: line input and microphone input. |
| Audio mic gain | Gain level of the audio input microphone. |
| Audio line-in gain | Gain level of the audio line-in input. |

| | |
|---|---|
| Audio output gain | Gain level of the audio output. |
| Audio meter | This toggle will switch on/off an on-screen (attached loopback output) level meter. This meter will display the fluctuating signal levels on local input and network signal. |
| **Button** | **Description** |
| Update | This will update the settings of the unit, if they have been changed. |

# Telnet

**Introduction**

Telnet service is offered as an option for control of the Telepresenter. For a detailed listing of telnet commands, please refer to www.ncast.com/whitepapers.html, and click on the Telepresenter Serial Interface link.




| Field | Description |
|---|---|
| Telnet access | Toggle on/off control access from Telnet. |
| Password | Field to set a control password to allow Telnet control. |
| IP Restriction | Only addresses that fall within this specified IP restriction will be allowed access to the Telepresenter Telnet. |
| **Button** | **Description** |
| Update | This button will update the settings of the unit. |

## N-Way

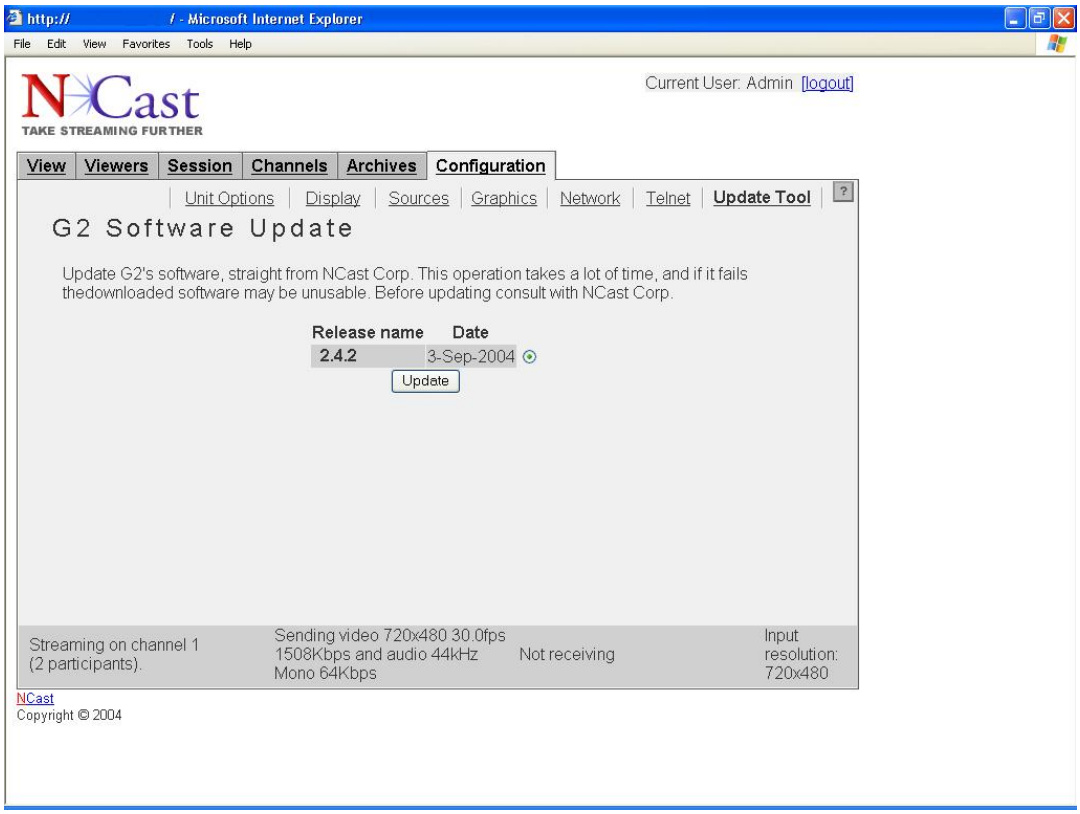
**Introduction**

N-Way service is enabled upon request. Upon support, this feature will allow G2's functionality to link directly with the NCast Streaming Server. Check out our website at www.ncast.com for more details on this service offering.

## Update Tool

**Introduction**

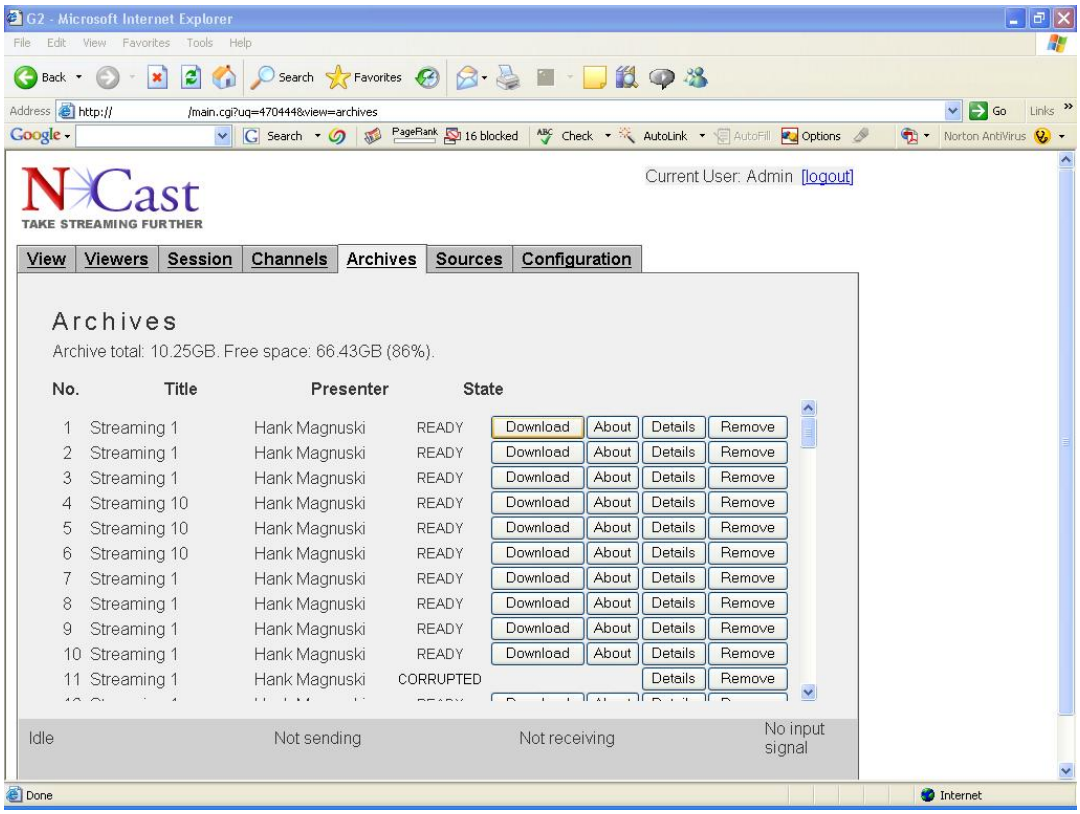
This page will display new software releases as they become available, and allows the user to download them. The release name and current date are displayed.



| Field | Description |
|---|---|
| Release name | The version number of the release (sometimes more than one will be listed). |
| Date | The date of the release (sometimes more than one will be listed). |
| **Button** | **Description** |
| Update | By pressing this button, the latest release will be downloaded to the unit. |

# Archives

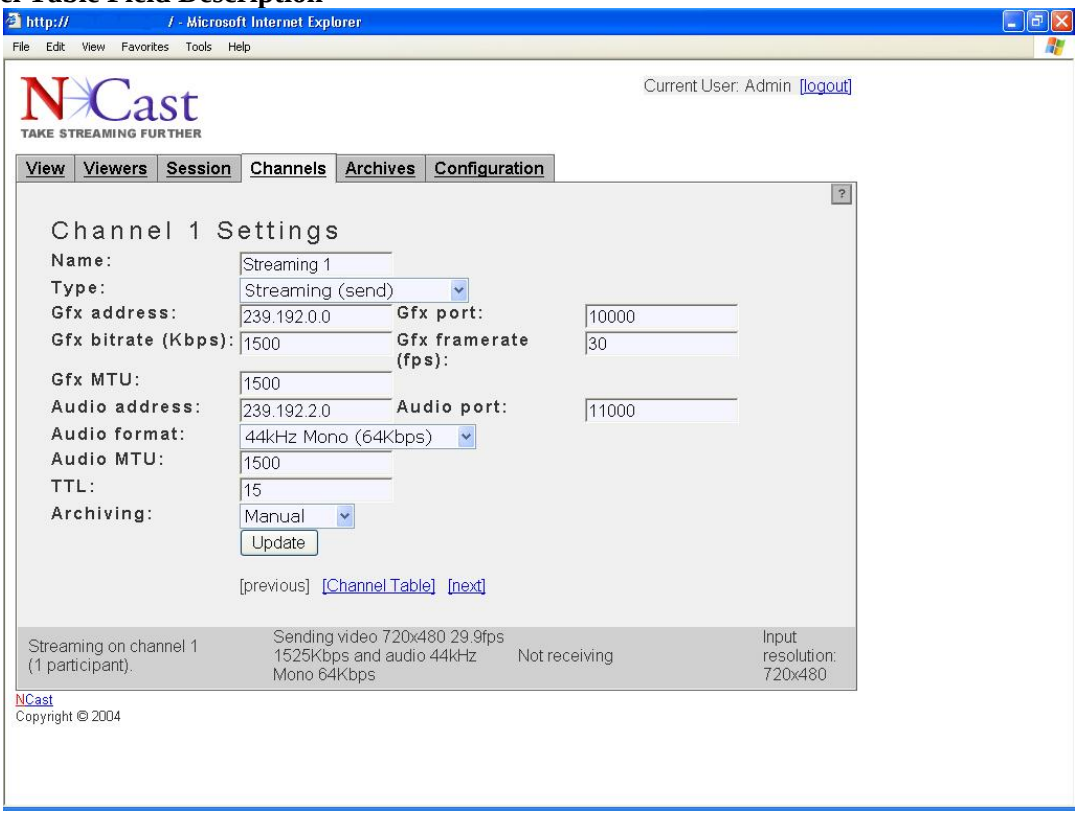
**Introduction** This page lists previous archives created by the Telepresenter during past sessions.



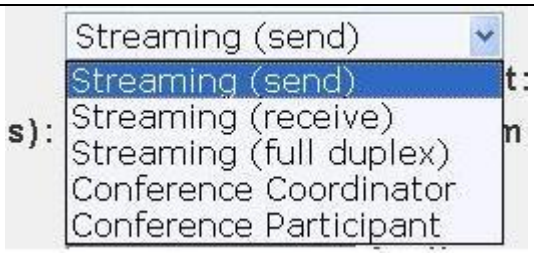

| Field | Description |
|---|---|
| No. | Channel number where the session was recorded. |
| Title | User configurable title of the archive |
| State | The state refers to the current status of the archived file. If the file is available for download or streaming, it will be illuminated in green and say “available.” |
| Download | Click on the button and select the Save As feature to save it to your desktop. |
| About | Along with every archive file an associated text file is kept with additional information about the archive. |
| Remove | Permanently deletes the archive from the system. |

# Appendix A

**Channel Table Field Description**



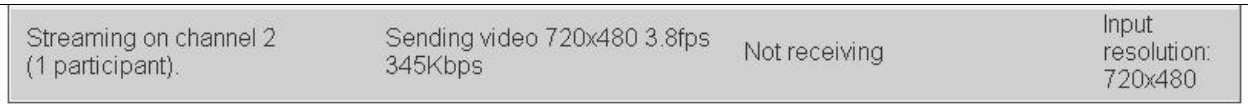

| Field | Description |
|---|---|
| Channel Name | An arbitrary naming convention for the Channel. |
| Name | Arbitrary name that is assigned to the channel by the administrator. The administrator has the ability to call this channel any name they want. |

| | |
|---|---|
| Type |  <br>The G2 has five classified modes: 1) Streaming (send)- One way streaming. 2) Receive Only- The unit will only receive streams, and will not send. 3) Streaming (full duplex)- The unit will both stream out and receive a stream from another G2. 4) Conference Coordinator- The unit will act as the coordinator unit of a conference, and assumes the coordinator controls. 5) Conference Participant- This unit will act as a conference participant, who can have the floor passed to them. |
| Gfx Address | **Graphics Address**: Address used for the graphic stream (multicast or unicast). |
| Gfx Port | Defines the assigned port for the stream. If traversing a firewall, verify that this port is open for traffic. |
| Gfx MTU | The maximum transfer unit (MTU) is the largest size of IP datagram that may be transferred using a specific data link connection. MTU lets you adjust the packet size of transmissions to fit the device. For example, satellite devices require a smaller MTU than Telepresenter default settings provide; therefore, you can tailor the packet size to be deliverable for other requirements. |
| Audio Address | Address used for the audio stream (multicast or unicast). Each stream has its own multicast/unicast address. |
| Audio Port | Defines the assigned port for the stream. If traversing a firewall, verify that this port is open for traffic. |
| Audio Format | This setting allows the user to choose the type of audio format, ranging from Mono to high fidelity Stereo. |
| Audio MTU | The maximum transfer unit (MTU) is the largest size of IP datagram that may be transferred using a specific data link connection. MTU lets you adjust the packet size of transmissions to fit the device. For example, satellite devices require a smaller MTU than Telepresenter default settings provide; therefore, you can tailor the packet size to be deliverable for other requirements. |

<table>
<tr><td>TTL</td><td>TTL is an acronym for “time to live.” This refers to the lifetime of a packet, and the number of router hops it will take before it automatically expires. You can determine the appropriate TTL value for your network; otherwise, the default value will be used. The table below defines conventional scope control values.
<table>
<tr><th>TTL</th><th>Scope Threshold</th></tr>
<tr><td>0</td><td>Restricted to the same host</td></tr>
<tr><td>1</td><td>Restricted to the same subnetwork</td></tr>
<tr><td>15</td><td>Restricted to the same site</td></tr>
<tr><td>63</td><td>Restricted to the same region</td></tr>
<tr><td>127</td><td>Worldwide</td></tr>
<tr><td>191</td><td>Worldwide; limited bandwidth</td></tr>
<tr><td>255</td><td>Unrestricted in scope</td></tr>
</table>
</td></tr>
<tr><td>Archiving</td><td>The allowed settings are: Never, Automatic and Manual. The automatic setting will automatically record every time the unit is in session. Manual will only record when the user clicks on the “Start Recording” button that appears on the Session page when the unit is in session.</td></tr>
<tr><td>Framerate</td><td>Measure of the framerate used by the G2. This value ranges from 1-30.</td></tr>
</table>

# Appendix B

**Status Bar**




| Field | Description |
|---|---|
| Streaming on channel 2 | Channel where activity is taking place, also lists the number of participants. |
| Sending status | The characteristics of the sending stream session (if applicable). . This lists resolution, fps., and total bandwidth used. |
| Receiving status | The characteristics of the received stream session (if applicable). This lists resolution, fps., and total bandwidth used. |
| Input | Input resolution of the incoming signal. |