ClearOne®

StreamNet™

StreamNet-Enabled Devices/ Crestron Control Installation Guide

ClearOne
5225 Wiley Post Way
Suite 500
Salt Lake City, UT 84116

Telephone	1.800.283.5936 1.801.974.3760
Tech Sales	1.800.705.2103
FAX	1.801.974.3669
E-mail	tech.support@ClearOne.com support@netstreams.com
On the Web	www.ClearOne.com www.netstreams.com www.StreamNetpartners.com

StreamNet-Enabled Devices/Crestron Control Installation Guide

ClearOne Part No. 800-000-000-03 February 2012 (Rev. 1.0)

Table of Contents

AV Distribution and Control Using StreamNet

StreamNet technology based products are designed to distribute audio, video and control data using standard networking technology. By embracing open standards, we have developed a system that leverages reliability, expandability and cost-effectiveness for customers.

Using standardized Ethernet TCP/IP protocols to distribute audio and video streams over LANs, StreamNet offers scalability enabling virtually unlimited zones and sources along with the most advanced integration capabilities available in distributed audio and video.

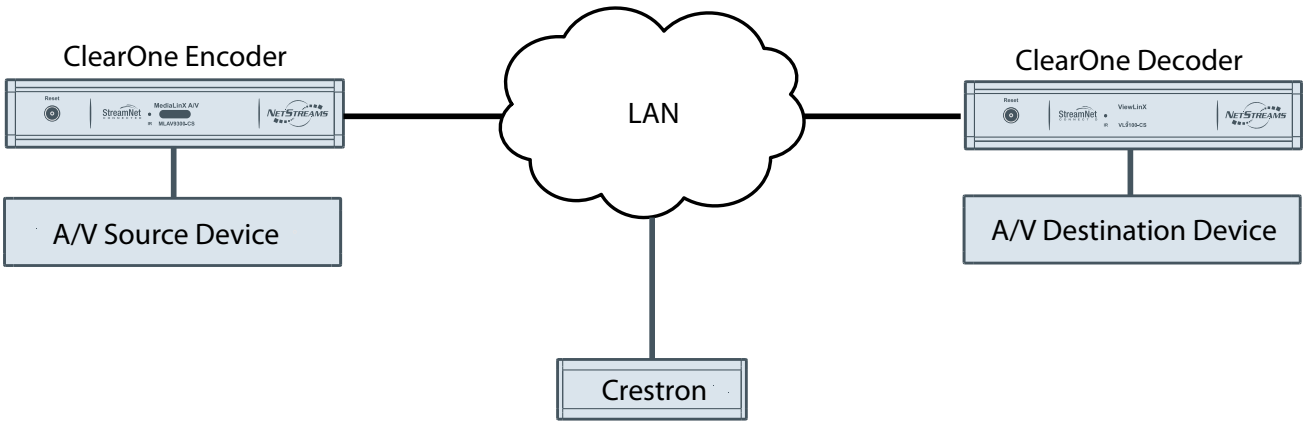
With StreamNet, seamless communication with other third-party systems, such as lighting control systems, automation systems and security systems is easily achieved. Some customers, however, choose to use the third-party system controllers to manage the entire system including StreamNet audio video distribution. In order to assist Crestron control system users, we have developed control modules which are detailed and explained in this document.

DISTRIBUTION MODEL WITH STREAMNET-ENABLED PRODUCTS

AV distibution using StreamNet-enabled products places the encoders and decoders at the individual sources and destinations. The encoders and decoders interface with the network to move signals and commands to and from their destinations and sources.

- **Encoders** are placed at the AV sources to convert the source outputs, place the signals on the network and to receive their own commands from the IP network.
- **Decoders** are placed with the destination devices to receive and convert the signal data from source encodersand to receive their own commands from the IP network.
- **Processor, Renderer, and SourceView Modules** provide the Crestron control needed for the use of the ClearOne StreamNet devices.

The GUI and the command processing programming that are essential to this control and communication are contained in software modules loaded into the Crestron GUI and processing devices.



DOWNLOADED ITEMS

The downloaded Crestron ClearOne Module.zip file contains the following:

- Sample program with user interface
- Required libraries
- Crestron Module specific files

SOFTWARE MODULE OVERVIEW

Processor Module - This module is the communication conduit to the ClearOne StreamNet system. It routes messages to and from the ClearOne StreamNet Renderer modules, sends the complete source list to all of the SourceView modules and maintains communication with the StreamNet system.

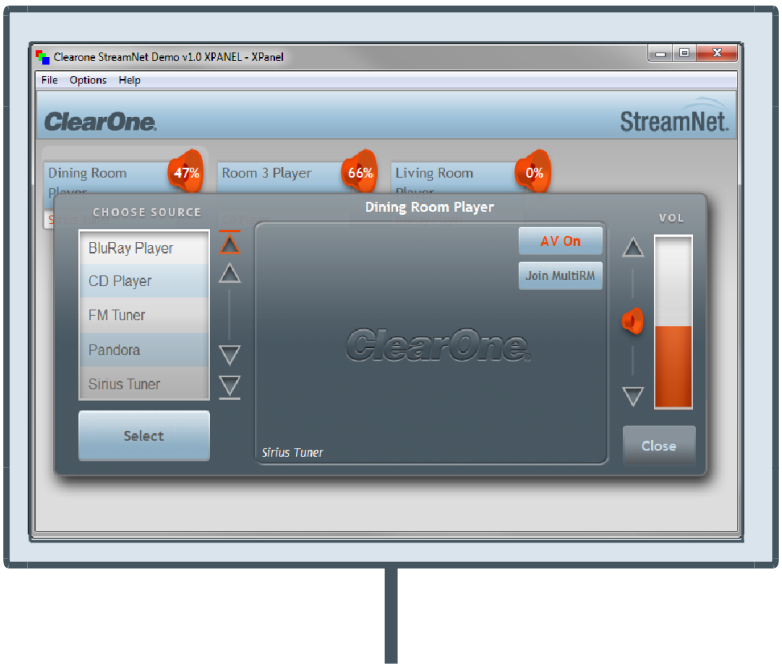
Renderer Module - This module controls a single zone on the StreamNet system. It connects to the ClearOne StreamNet Processor Module

SourceView Module - This optional module manages the source list from the StreamNet system in a list control style. This module connects to the ClearOne StreamNet Processor module and to the Renderer module. You can have multiple instances of this module off of the same processor module. The intention is to have one SourceView module per touchpad on the system and tie the “Select_Source_Text” to the Renderer module’s “Set_Selected_Source_Name” signal when selected via the touchpad.

(In theory you could have a source SourceView module for each zone, but that is not necessary.)

INTERFACE SAMPLE

The following image typifies the user interface presented for operation of ClearOne StreamNet devices on Crestron.



Upload
ClearOne StreamNet Demo v1.0 XPANEL.exe

Processor Module Information

The ClearOne StreamNet system is a networked Audio/Video streaming system. This makes it loosely defined as a Switcher where the Audio/Video signals from a source “stream” to one or multiple destinations (Renderer, Zone or Room).

GENERAL INFORMATION

Specification	Description
SIMPLWINDOWS NAME:	ClearOne StreamNet Processor Module v1.1
CATEGORY:	Switcher
VERSION:	1.1
SUMMARY:	This module has been designed to be the communication conduit to the ClearOne StreamNet system. It’s primary responsibies are to route messages to and from the ClearOne StreamNet Renderer Slave Modules, to send the complete source list to ClearOne StreamNet Renderer Slave Modules, to send the complete source list to all of the SourceView Modules and to maintain communication with the StreamNet system.
GENERAL NOTES:	You may use any StreamNet Device IP address on the system. However, due to the potential for communication traffic on larger systems, you should to have a dedicated ControlLinX device for the communication portal.
CRESTRON HARDWARE REQUIRED:	Any 2 Series or 3 Series controller with Ethernet.
SETUP OF CRESTRON HARDWARE:	Valid IP Address that will allow it to communicate with the StreamNet System.
VENDOR FIRMWARE:	Version 2.80.02 was used for testing.

VENDOR SETUP

The StreamNet System must be fully configured using ClearOne's "StreamNet Dealer Setup" application. Each renderer slave module will need to know and match exactly the programmed name of the zone that it will control as defined in the ClearOne programming.

You may also alternatively use "auto" as the player name. The processor module will automatically assign the player name to the renderer slave module based on the AutoAssignSlot value and the ClearOne system Dealer Setup program.

When more than 16 renderers/zones need to be controlled, additional processor modules can be added to your SIMPL programming to a maximum of 8 total. Since the processor module has the potential for parsing a lot of data, please follow the rules when adding more than one processor module per SIMPL program.

1. Connect to a different ClearOne StreamNet device per processor module. Use the IP address from each of the devices you select.
2. Establish the connection of the additional processor modules one at a time only when the previous processor module indicates it is fully initialized.
3. ClearOne StreamNet SourceView slave modules should be only connected to the first processor module.
4. Each processor module should have a unique "AutoAssignSlot" value.

PARAMETERS

Message	Description
IP_Address	IP Address of the StreamNet device that will be used as the communications portal. See General Information.
IP_Port	IP Port to be used. Port 15000 is the default port.
AutoAssignSlot	This settings determines what Renderer Players are assigned to the ClearOne StreamNet Renderer Modules when the renderer module have "auto" assigned as the player name.

CONTROL

Message	A - Analog D - Digital S - String	Description
Connect	D	Set high to attempt communication with the StreamNet Device defined by the IP_Address parameter. Set Low to disconnect.
From_All_Renderer_Modules	S	Common message pipe from ALL renderer slave modules.

FEEDBACK

Message	A - Analog D - Digital S - String	Description
Connect_FB	D	Indicates high when successfully connected to StreamNet device.
Is_Initialized	D	Indicates when the processor module has finished parsing the initial data from the ClearOne StreamNet system. Use this signal to determine when the next ClearOne StreamNet Processor modules can connect and initialize. Only one processor module should be initializing at the same time.
Status	A	Detailed status of the IP communication socket. SOCKET_STATUS_NO_CONNECT = 0 SOCKET_STATUS_WAITING = 1 SOCKET_STATUS_CONNECTED = 2 SOCKET_STATUS_CONNECT_FAILED = 3 SOCKET_STATUS_BROKEN_REMOTELY = 4 SOCKET_STATUS_BROKEN_LOCAL = 5 SOCKET_STATUS_DNS_LOOKUP = 6 SOCKET_STATUS_DNS_FAILED = 7 SOCKET_STATUS_DNS_RESOLVED = 8
To_All_SourceView_Modules	S	Sends a multiplexed list of source names to all SourceView modules after successfully connecting to the StreamNet system.See the “ClearOne StreamNet SourceView Module” section of this document for further information. » Note: This signal uses the same protocol as the serial multiplexer symbol. So, if you choose, you can use the Serial Demultiplexer symbol to decode the output versus using a “ClearOne StreamNet SourceView Module”. If you use the serial demulitplexer symbol, set the form parameter to 1 in order to decode properly.

Message	A - Analog D - Digital S - String	Description
To_Renderer_Slave_Module[1]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[2]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[3]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[4]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[5]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[6]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[7]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[8]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[9]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[10]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.

Message	A - Analog D - Digital S - String	Description
To_Renderer_Slave_Module[11]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[12]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[13]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[14]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[15]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.
To_Renderer_Slave_Module[16]	S	Communication message to a single instance of a “ClearOne StreamNet Renderer module v1.0”. Connect to the “From_Processing_ Module” input signal on the Renderer module.

» Note: Control modules are developed for a maximum 128x128 system, but are optimized for small systems.

TESTING

Program/Device	Version/Description
OPS USED FOR TESTING:	PRO2 - v4.003.0015
SIMPL WINDOWS USED FOR TESTING:	3.02.14
CRES DB USED FOR TESTING:	27.00.010.00
DEVICE DATABASE:	36.02.002.00
SYMBOL LIBRARY USED FOR TESTING:	V743
SAMPLE PROGRAM:	“ClearOne StreamNet Demo v1.0 PRO2.exe”
REVISION HISTORY:	V1.1 – Initial Release

Renderer Module Information

This module has been designed to control a single zone on the StreamNet system. It connects to the ClearOne StreamNet Processor Module.

GENERAL INFORMATION

Specification	Description
SIMPLWINDOWS NAME:	ClearOne StreamNet Renderer Module v1.0
CATEGORY:	Switcher
VERSION:	1.00
GENERAL NOTES:	In order to use this module you must know the renderer player name you wish to control as programmed in the StreamNet system.
CRESTRON HARDWARE REQUIRED:	Any 2 Series or 3 Series controller with Ethernet.
SETUP OF CRESTRON HARDWARE:	Valid IP Address that will allow it to communicate with the StreamNet System.
VENDOR FIRMWARE:	Version 2.80.02 was used for testing.

VENDOR SETUP

The StreamNet System must be fully configured using ClearOne's "StreamNet Dealer Setup" application. Each renderer slave module will need to know and match exactly the programmed name of the zone that it will control as defined in the ClearOne programming.

PARAMETERS

Message	Description
Player_Name	When the "Player_Name" equals "auto" (case insensitive), the processor module automatically assigns the player name based on the order as created in the ClearOne programming of the StreamNet System. To manually assign the player name, the "Player_Name" must exactly match what has been programmed into the StreamNet system. The player name is also referred to as a zone name or a renderer name or even a room name. » Suggestion:If you take one of the programmed room names, and add the word "Player" on the end, that is the Player_Name for that zone. For example "Dining Room" player name would be "Dining Room Player" To determine the Room Names that have been programmed into the system, browse to the IP address of one of the StreamNet devices on the network, the list of locations are the Room Names. See also "Module_Is_Registered" feedback signal.

CONTROL

Message	A - Analog D - Digital S - String	Description
Raise_Volume	D	When signal is set high, the volume will continue to ramp until signal is set low.
Lower_Volume	D	When signal is set high, the volume will continue to ramp until signal is set low.
Mute_Volume	D	Volume will mute on the signal's rising edge.
Unmute_Volume	D	Volume will unmute on the signal's rising edge.
Toggle_Mute	D	Volume will toggle on the signal's rising edge.
Raise_Bass	D	When signal is set high, the Bass will continue to ramp until signal is set low.
Lower_Bass	D	When signal is set high, the Bass will continue to ramp until signal is set low.
Raise_Treble	D	When signal is set high, the Treble will continue to ramp until signal is set low.
Lower_Treble	D	When signal is set high, the Treble will continue to ramp until signal is set low.
Adjust_Balance_Left	D	When signal is set high, the Balance will continue to adjust left until signal is set low.
Center_Balance	D	Balance will center on the signal's rising edge
Adjust_Balance_Right	D	When signal is set high, the Balance will continue to adjust right until signal is set low.
Raise_Band_1	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Center_Band_1	D	EQ Band will center on the signal's rising edge.
Lower_Band_1	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Raise_Band_2	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Center_Band_2	D	EQ Band will center on the signal's rising edge.
Lower_Band_2	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Raise_Band_3	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Center_Band_3	D	EQ Band will center on the signal's rising edge.
Lower_Band_3	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.

Message	A - Analog D - Digital S - String	Description
Raise_Band_4	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Center_Band_4	D	EQ Band will center on the signal's rising edge.
Lower_Band_4	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Raise_Band_5	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
Center_Band_5	D	EQ Band will center on the signal's rising edge.
Lower_Band_5	D	When signal is set high, the EQ Band will continue to ramp until signal is set low.
AV_On	D	The zone will start rendering video and audio on the rising edge of this signal.
AV_Off	D	The zone will stop rendering video and audio on the rising edge of this signal.
Join_MultiRoom_Session	D	On the rising edge of this signal, the zone will join the Multi-Room session that has been set using "Set_Multiroom_Session_Name" string signal. If no name is set, it will join a default session, "All Rooms MultiRoom".
Leave_Multiroom_Session	D	On the rising edge of this signal, the zone will leave Multi-Room session.
Set_Volume_Level	A	On change of this 16bit analog signal, the volume will be set using this absolute value.
Set_Bass_Level	A	On change of this 16bit analog signal, the bass will be set using this absolute value.
Set_Treble_Level	A	On change of this 16bit analog signal, the treble will be set using this absolute value.
Set_Balance_Level	A	On change of this 16bit analog signal, the balance will be set using this absolute value.
Set_Band_1_Level	A	On change of this 16bit analog signal, the EQ band will be set using this absolute value.
Set_Band_2_Level	A	On change of this 16bit analog signal, the EQ band will be set using this absolute value.
Set_Band_3_Level	A	On change of this 16bit analog signal, the EQ band will be set using this absolute value.

Message	A - Analog D - Digital S - String	Description
Set_Band_4_Level	A	On change of this 16bit analog signal, the EQ band will be set using this absolute value.
Set_Band_5_Level	A	On change of this 16bit analog signal, the EQ band will be set using this absolute value.
Set_Selected_Source_Name	S	On change this signal will "route" a source to this renderer for streaming. This source name MUST match exactly a source that has been programmed into the StreamNet system. The processor module provides a list of programmed source names. Please see "Processor Module Information" for more information. You can also use "SourceView Module" to manage this selection.
Set_MultiRoom_Session_Name	S	On Change this signal will change the Session Name that this renderer will join. See "Join_MultiRoom_Session" and "Leave_MultiRoom_Session" for more information.
From_Processing_Module	S	Connect this signal to one of the output "To_Renderer_Slave_Module[xx]" string signals of the processing module.

FEEDBACK

Message	A - Analog D - Digital S - String	Description
Module_Is_Registered	D	Indicates high when successfully registered with the processor module, meaning the processor module actually found the "Player_Name" in the StreamNet Programming.
Render_Is_Sleeping	D	Indicates high when renderer is sleeping.
Volume_Is_Muted	D	Indicates high when Volume is muted.
AV_Is_On	D	Indicates high when renderer is in rendering mode, accepting audio/video streaming from source.
MultiRoom_Is_Active	D	Indicates high when this zone is part of a MultiRoom session.
Volume_Level	A	16-bit analog value representing the current known volume level for this zone.

Message	A - Analog D - Digital S - String	Description
Bass_Level	A	16-bit analog value representing the current known bass level for this zone.
Treble_Level	A	16-bit analog value representing the current known treble level for this zone.
Balance_Level	A	16-bit analog value representing the current known balance level for this zone.
Band_1_Level	A	16-bit analog value representing the current known EQ Band level for this zone.
Band_2_Level	A	16-bit analog value representing the current known EQ Band level for this zone.
Band_3_Level	A	16-bit analog value representing the current known EQ Band level for this zone.
Band_4_Level	A	16-bit analog value representing the current known EQ Band level for this zone.
Band_5_Level	A	16-bit analog value representing the current known EQ Band level for this zone.
Selected_Source_Name_Text	S	Indicates the current source routed to this zone.
MultiRoom_Session_Name_Text	S	Indicates the current MultiRoom session name assigned to this zone.
Renderer_Player_Name_Text	S	Indicates the successfully registered “Player_Name” for this zone.
To_Processing_Module	S	Tie to the “From_All_Renderer_Modules” string signal of the processor module.

TESTING

Program/Device	Version/Description
OPS USED FOR TESTING:	PRO2 - v4.003.0015
SIMPL WINDOWS USED FOR TESTING:	3.02.14
CRES DB USED FOR TESTING:	27.00.010.00
DEVICE DATABASE:	36.02.002.00
SYMBOL LIBRARY USED FOR TESTING:	V743
SAMPLE PROGRAM:	“ClearOne StreamNet Demo v1.0 PRO2.exe”
REVISION HISTORY:	V1.0 – Initial Release

SourceView Module Information

This module has been designed to manage the source list from the StreamNet system in a list control style. This module is optional and it connects to the ClearOne StreamNet Processor module and to the Renderer module. You can have multiple instances of this module off of the same processor module. The intention is to have one SourceView module per TP on the system and tie the "Select_Source_Text" to the render module's "Set_Selected_Source_Name" signal when selected via the TP.

(In theory you could have a source SourceView module per zone, but totally not necessary.)

GENERAL INFORMATION

Specification	Description
SIMPLWINDOWS NAME:	ClearOne StreamNet SourceView Module v1.0
CATEGORY:	Switcher
VERSION:	1.0
GENERAL NOTES:	Please see the "Processor Module Information" file for more detailed information.
CRESTRON HARDWARE REQUIRED:	Any 2 Series or 3 Series controller with Ethernet.
SETUP OF CRESTRON HARDWARE:	Valid IP Address that will allow it to communicate with the StreamNet System.
VENDOR FIRMWARE:	Version 2.80.02 was used for testing.

VENDOR SETUP

The StreamNet System must be fully configured using ClearOne's "StreamNet Dealer Setup" application. Each Renderer slave module will need to know and match exactly the programmed name of the zone that it will control as defined in the ClearOne programming.

PARAMETERS

Message	Description
Page_size	Quantity of sources to display per page. Range 1d to 10d.

CONTROL

Message	A - Analog D - Digital S - String	Description
Top	D	On the rising edge will page to the top of the list.
Bottom	D	On the rising edge will page to the bottom of the list.
Page_Up	D	On the rising edge will page up if not already at the top.
Page_Down	D	On the rising edge will page down if not already at the bottom.

Message	A - Analog D - Digital S - String	Description
Select_Source_1	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_2	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_3	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_4	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_5	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_6	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_7	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_8	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_9	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_10	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Select_Source_1	D	On the rising edge will assign “Select_Source_Text” feedback string signal the source name at this position.
Deselect_Source	D	On the rising edge will assign “Select_Source_Text” feedback string signal a null.
From_Processor_Module	D	Connect to “To_All_SourceView_Modules” on the processor module.

FEEDBACK

Message	A - Analog D - Digital S - String	Description
Is_Top	D	Indicates high when source list is at the top.
Is_Bottom	D	Indicates high when source list is at the bottom.
Source_1_Text	S	Source Name Text at this location.
Source_2_Text	S	Source Name Text at this location.
Source_3_Text	S	Source Name Text at this location.
Source_4_Text	S	Source Name Text at this location.
Source_5_Text	S	Source Name Text at this location.
Source_6_Text	S	Source Name Text at this location.
Source_7_Text	S	Source Name Text at this location.
Source_8_Text	S	Source Name Text at this location.
Source_9_Text	S	Source Name Text at this location.
Source_10_Text	S	Source Name Text at this location.
Select_Source_Text	S	Currently selected source name. Tie to the currently selected renderer module's "Set_Selected_Source_Name".

TESTING

Program/Device	Version/Description
OPS USED FOR TESTING:	PRO2 - v4.003.0015
SIMPL WINDOWS USED FOR TESTING:	3.02.14
CRES DB USED FOR TESTING:	27.00.010.00
DEVICE DATABASE:	36.02.002.00
SYMBOL LIBRARY USED FOR TESTING:	V743
SAMPLE PROGRAM:	"ClearOne StreamNet Demo v1.0 PRO2.exe"
REVISION HISTORY:	V1.0 – Initial Release

Service and Support

If you need assistance setting up or operating your product, please contact us. We welcome your comments so we can continue to improve our products and better meet your needs.

Technical Support

Telephone: 1-800-283-5936

E-mail: tech.support@ClearOne.com

Web site: www.ClearOne.com, www.NetStreams.com

Sales

Telephone: 1-800-707-6994

E-mail: sales@ClearOne.com

TechSales

Telephone: 1-800-705-2103

E-mail: techsales@ClearOne.com

Product Returns

All product returns require a Return Material Authorization (RMA) number. Contact ClearOne Technical Support before returning your product. Make sure you return all the items and packing materials that originally shipped with your product.

CLEARONE LOCATIONS

HEADQUARTERS:

Salt Lake City, UT USA
5225 Wiley Post Way
Suite 500
Salt Lake City, UT 84116

Tel: 801-975-7200
Toll Free: 800-945-7730
Fax: 801-977-0087
e-mail: sales@ClearOne.com

LATAM
Tel: 801-974-3621
e-mail: global@ClearOne.com

EMEA
Tel: 44 (0) 1189 036 053
e-mail: global@ClearOne.com

APAC
Tel: 801-303-3388
e-mail: global@ClearOne.com

TechSales
Tel: 800-705-2103
e-mail: techsales@ClearOne.com

Technical Support
Tel: 800-283-5936
e-mail: tech.support@ClearOne.com