NXG-IP SERIES
IP MODULES

STOCK #	MODEL NAME	DESCRIPTION
6798	NXG-IP	IP Module (SPTS); 256 Input / 256 Output IP Streams; 4x GbE Ports
6798 M	NXG-IP-MPTS	IP Module (MPTS); 128 MPTS Input IP Streams; 4x GbE Ports; 16 programs per MPTS

We recommend that you write the following information in the spaces provided below.

Purchase Location Name:	
Purchase Location Telephone Number:	
NXG-IP Module Serial Number(s):	

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Reverse engineering or disassembly is prohibited.

CROSS-REFERENCE & HYPERLINKING USAGE

This guide makes use of hyperlinks for the Table of Contents, some cross-reference linking between sections, and external hyperlinking to web addresses. This has been done to assist the reader in finding the information they are seeking in a much quicker way. In addition to hyperlinking, the Table of Contents also makes use of the bookmarking feature present in the Adobe Reader application.

PRODUCT AND DOCUMENTATION UPDATES

The latest user documentation (PDF) and Firmware Updates can be obtained by visiting our website. Navigate to the product page by entering the full Model Name in the search field. **Firmware Updates** can also be directly accessed under the "Support" section of the website. If you cannot find your product model on the website, please reach out to Tech Support through our support request form.

RETURNING PRODUCT FOR REPAIR (OR CREDIT)

A Return Material Authorization (RMA) Number is required on all products returned to Blonder Tongue, regardless if the product is being returned for repair or credit. Before returning product, please review our return policies or contact our service department for further information.

TABLE OF CONTENTS

SECTION 1 – GENERAL & SAFETY INSTRUCTIONS

The **STOP** sign symbol is intended to alert you to the presence of **REQUIRED** operating and maintenance (servicing) instructions that if not followed, may result in product failure or destruction.

The **YIELD** sign symbol is intended to alert you to the presence of **RECOMMENDED** operating and maintenance (servicing) instructions.

The **LIGHTNING** flash symbol is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER FROM THIS UNIT.

NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE

NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

You should always follow these instructions to help ensure against injury to yourself and damage to your equipment.

➡ Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature per Section 2.3.

➡ Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

➡ Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

➡ Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

➡ Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

➡ Read all safety and operating instructions before you operate the unit.

➡ Retain all safety and operating instructions for future reference.

➡ Heed all warnings on the unit and in the safety and operating instructions.

➡ Follow all installation, operating, and use instructions.

➡ Unplug the unit from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the unit.

➡ Do not use accessories or attachments not recommended by Blonder Tongue, as they may cause hazards, and will void the warranty.

➡ Do not operate the unit in high-humidity areas, or expose it to water or moisture.

➡ Do not place the unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious personal injury and damage to the unit. Install the unit only in a mounting rack designed for 19" rack-mounted equipment.

➡ Do not block or cover slots and openings in the unit. These are provided for ventilation and protection from overheating. Never place the unit near or over a radiator or heat register. Do not place the unit in an enclosure such as a cabinet without proper ventilation. Do not mount equipment in the rack space directly above or below the unit.

➡ Operate the unit using only the type of power source indicated on the marking label. Unplug the unit power cord by gripping the plug, not the cord.

➡ The unit is equipped with a three-wire ground-type plug. This plug will fit only into a ground-type power outlet. If you are unable to insert the plug into the outlet, contact an electrician to replace the outlet. Do not defeat the safety purpose of the ground-type plug.

➡ Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

➡ Be sure that the outdoor components of the antenna system are grounded in accordance with local, federal, and National Electrical Code (NEC) requirements. Pay special attention to NEC Sections 810 and 820. See the example shown in the following diagram:
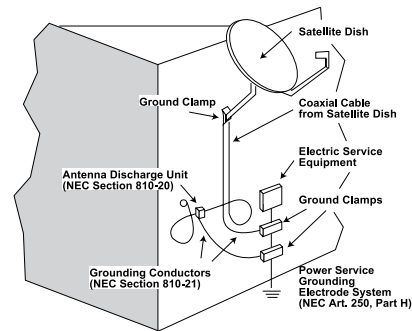
➡ We strongly recommend using an outlet that contains surge suppression or ground fault protection. For added protection during a lightning storm, or when the unit is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the lines between the unit and the antenna. This will prevent damage caused by lightning or power line surges.

➡ Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing the antenna, take extreme care to avoid touching such power lines or circuits, as contact with them can be fatal.

➡ Do not overload wall outlets or extension cords, as this can result in a risk of fire or electrical shock.

➡ Never insert objects of any kind into the unit through openings, as the objects may touch dangerous voltage points or short out parts. This could cause fire or electrical shock.

➡ Do not attempt to service the unit yourself, as opening or removing covers may expose you to dangerous voltage and will void the warranty. Refer all servicing to authorized service personnel.

➡ Unplug the unit from the wall outlet and refer servicing to authorized service personnel whenever the following occurs:

 ❏ The power supply cord or plug is damaged;
 ❏ Liquid has been spilled, or objects have fallen into the unit;
 ❏ The unit has been exposed to rain or water;
 ❏ The unit has been dropped or the chassis has been damaged;
 ❏ The unit exhibits a distinct change in performance.

➡ When replacement parts are required, ensure that the service technician uses replacement parts specified by Blonder Tongue. Unauthorized substitutions may damage the unit or cause electrical shock or fire, and will void the warranty.

➡ Upon completion of any service or repair to the unit, ask the service technician to perform safety checks to ensure that the unit is in proper operating condition.

SECTION 2 – PRODUCT SUMMARY

2.1 PRODUCT APPLICATION & FEATURES

APPLICATION

The **NXG-IP (IP Module SPTS)** and **NXG-IP-MPTS (IP Module MPTS)** are part of Blonder Tongue's flagship NeXgen Gateway (NXG) platform that provides IP input and output connectivity to the NXG backplane.

The **NXG-IP** accepts incoming MPEG-2 or H.264 IP transport streams in an SPTS format, and the **NXG-IP-MPTS** supports multiple as well as single transport streams (limited case).   Both modules provide SPTS outputs to the backplane for muxing and distribution.

Up to 256 SPTS and 32 MPTS can be supported on corresponding modules on each of their four (4) front panel 1Gb RJ45 Ethernet ports.   The **NXG-IP** has a full-duplex capacity of 1024 SPTS inputs and 1024 SPTS outputs per module. The **NXG-IP-MPTS** supports up to 16 programs on each of its 32 MPTS for a full capacity of 2048 streams.

NXG-IP KEY FEATURES

- ▸ Each RJ45 GbE port is input or output configurable
- ▸ Supports up to 256 SPTS per RJ45 GbE port
- ▸ Supports up to 1024 SPTS full-duplex per module
- ▸ Supports MPEG-2 and H.264 (AVC) content
- ▸ All 4 ports can be set to same subnet
- ▸ VBR or CBR
- ▸ IGMPv2 and IGMPv3
  (primary and secondary source IP addresses)

NXG-IP-MPTS KEY FEATURES

- ▸ Supports direct feed from Master Controller
- ▸ Each RJ45 GbE port supports up to 32 MPTS
- ▸ Supports up to 128 MPTS per module
- ▸ Supports up to 16 programs per MPTS
- ▸ Supports MPEG-2 and H.264 (AVC) content
- ▸ VBR or CBR
- ▸ Both ports 1 & 2 can be set to same subnet
- ▸ IGMPv2 and IGMPv3
  (primary and secondary source IP addresses)

> **!** **NOTE:** Both models have the same silkscreened names on the front panel. If using both SPTS and MPTS modules, the user should refer to the Master Controller GUI (graphic user interface) to identify the slot numbers for each model installed into the platform.

2.2 PRODUCT MODULE DESCRIPTION

(A) **Status LED:**   Status indicator colors are as follows.

- ▸ OFF = Indicates the module is not correctly connected or receiving power.
- ▸ GREEN = Indicates the module is running without errors.
- ▸ AMBER = Indicates that one or more warnings have been detected.
- ▸ RED = Indicates that one or more errors have been detected.

(B) **GbE Ports:**   RJ45 port; 1000Base-T Ethernet (GigE) - Detailed use per model below

- ▸ **GbE 1:**   used for content input or output (SPTS); used for content input only (MPTS)
- ▸ **GbE 2:**   used for content input or output (SPTS); used for content input only (MPTS)
- ▸ **GbE 3:**   used for content input or output (SPTS); reserved (MPTS)
- ▸ **GbE 4:**   used for content input or output (SPTS); reserved (MPTS)

> **!** **REMINDER:** Both input and output is available on NXG-IP (Stk#6798). The NXG-IP-MPTS (Stk#6798 M) is capable of input **ONLY** on Ports 1 and 2.

2.3 PRODUCT SPECIFICATIONS

INPUT	
IP	2.2 Gb via RJ45 Connectors
Video Codecs	MPEG-2; H.264 (AVC)
Addressing	Multicast or Unicast
MPEG TS	SPTS Full-Duplex (NXG-IP; Stk#6798) MPTS (NXG-IP-MPTS; Stk#6798 M)
Management	IGMPv2 & IGMPv3

GENERAL	
Dimensions (W x H x D)	1.15 x 7.0 x 15.5 in (29 x 178 x 394 mm)
Weight	2.0 lbs (0.9 kg)
Power	DC via NXG Mainframe Backplane
Power Consumption	11 W
Operating Temp.	32 to 122 °F (0 to 50 °C)
Storage Temp.	-13 to 158 °F (-25 to 70 °C)
Operating Humidity	0 to 95% RH @ 35 °C max, non-condensing

OUTPUT	
NXG-IP (STK#6798)	
IP	2.2 Gb via RJ45 Connectors
Video Codecs	MPEG-2, H.264 (AVC)
Addressing	Multicast or Unicast
MPEG TS	SPTS Full-Duplex
NXG-IP-MPTS (STK#6798 M)	
IP	2.2 Gb to Mainframe backplane; SPTS available for all other modules

ALARMS & MONITORING	
Front Panel	1x Status LED (Bicolor)

2.4 MODULE INSTALLATION

For general module installation instructions, please refer to the NXG Base Platform User Manual.

SECTION 3 – STATUS

The "**Status**" tab (Figure 3) displays the general health and module information at a glance. The information is provided as a quick way to monitor the module or assist with troubleshooting issues that may arise.

Figure 3 - "Module" Tab - Full View

3.1 MODULE STATUS

In the section entitled "**Module Status**" (Figure 3.1), the following parameters about the module health are displayed:

Figure 3.1 - "Status" Tab - Module Status

1 **Status:** Indicates the current status of the module. Status Levels and colors shown below:

▶ **Ok** - No issues at the current time

▶ **Updating** - an update is in-progress via the Master Controller's Firmware Update page.

▶ **Error** - One or more errors have occurred. A short summary of the error message is shown under "Detected Issues". Check system log for more information on error(s).

▶ **Warnings** - One or more warnings have been triggered. Check system log for more information.

2 **Temperature:** Indicates the temperature of the module.

3.2 DETECTED ISSUES

In the section entitled "**Detected Issues**", the following module-specific information is indicated:

Figure 3.2a - "Status" Tab - No Detected Issues

If any issues arise, the problem will be shown here and the color will correlate to the urgency of the issue. When there are no issues, the text will say "No issues detected" and remain black text color. When there is an Error, then the text will change to **red** and indicate what is causing the error (see Figure 3.2b)

Figure 3.2b - "Status" Tab - Detected Issue

3.3 MODULE INFORMATION

In the section entitled "**Module Information**", the following module-specific information is shown below:

Module Information		
1	Serial Number	2018060433
2	Software Version	1.0.2.0
3	Backplane Firmware Version	1.12
4	Slot Location	8
5	Model Number	NXG-IP

Figure 3.3 - "Status" Tab - Module Information

1 **Serial Number:** Indicates the serial number of the module installed.

2 **Software Version:** Indicates the software version of the module. To update the module software, please see "**Section 5 - Firmware Updates**".

3 **Backplane Firmware Version:** Indicates the backplane firmware version for this module. Backplane version is only needed for tech support and software debugging.

4 **Slot Location:** Indicates the slot location on the platform chassis where the module is currently installed into.

5 **Model Number:** The model name of the installed IP Module will be indicated here as either "NXG-IP" (SPTS) or "NXG-IP-MPTS".

SECTION 4 – FRONT PANEL CONFIGURATION

4.1 INTRODUCTION: CONFIGURATION SETTINGS

The "**FP Configuration**" Tab (Figure 4.1a) allows the user to configure the IP settings for the front-panel GigE ports.

Figure 4.1a - "FP Configuration" Tab - Full View

1 There are four (4) IP Link Ports that correlate to the front-panel ports of the module. Beside the numbered port, on the primary header for each set of configurations, the following may appear depending on which IP module model is installed and what settings are applied to them:

▶ **Not Linked:** When unlinked, this will be the only information that is shown beside the numbered port.

▶ **Linked:** when linked, the data rate (Gb/S) at which the port is linked at will display. (ex. FP2 is linked and is 1 Gb/S).

4.1 INTRODUCTION TO THE CONFIGURATION SCREEN (CONTINUED)

Port 3 and 4 have special assignment designations as follows:

- ▶ **Port 3 - Master Controller unbound ports via backplane:** All unbound ports can feed into this port through the backplane.

- ▶ **Port 4 - Master Controller bound port via backplane:** A single port from Master Controller being bound can be bound to this port. The feed will go directly from the Master Controller port to this port.

For each IP Link Port, the following parameters are shown or can be configured:

2   **MAC:** A read-only unique identifier assigned to a network interface.

3   **IP:** Set the IP address to be on the same IP network as your input source or output source.

> ⚠ **NOTE:** As of NXG-IP/NXG-IP-MPTS version 1.2.0.7_x or higher and Master Controller 1.5.0.7_x, the 4 IPs can be set to the same subnet. Any version prior, will require all addresses to be on a different subnet. It is recommended to ALWAYS update to the latest release version.

4   **Subnet:** Set the IP subnet mask.

5   **Gateway:** Set the IP address of the default gateway.

6   **IGMP:** Internet Group Management Protocol (IGMP) v2 or v3 can be chosen from the drop-down list (Figure 4.1b).

- ▶ **v2:** Allows you to join or send multicast group addresses.

- ▶ **v3:** Allows you to join or send multicast group addresses with a source IP address. The source IP addresses are entered as shown under Section 5.1, "Add Input Streams Configuration".

7   **Bound Port:** Allows the selection of bound Master Controller ports from the drop-down list (Figure 4.1c). Selections are as follows:

- ▶ **Disabled:** The Bind Port option is disabled.

- ▶ **Master Controller FP1 - FP4:** The user can select any of the four ports on the Master Controller during setup.

- ▶ **Master Controller SFP+:** the user is able to set up a direct feed ingress at greater than 1Gbps and up to 2.5 Gbps. It is, however suggested to keep the feed to 2.2 Gbps or lower to keep the system operating optimally. Note that this is the most common and optimal use of the bound port.

FP 3 - Not Linked		
	Actual	Configured
MAC	00:14:39:00:B7:56	00:14:39:00:B7:56
IP	172.16.82.1	172.16.82.1
Subnet	255.255.255.0	255.255.255.0
Gateway		
IGMP	IGMPv3	IGMPv3 ▾
		IGMPv2
		IGMPv3

Figure 4.1b - IGMP Setting Options

Master Controller bound port via backplane - Linked 2.5 Gb/S	
MAC	00:14:39:00:B3:8A
IP	192.168.40.94
Subnet	255.255.0.0
Gateway	
IGMP	IGMPv2 ▾
Bound Port	Master Controller SFP+ ▾
	Disabled
	Master Controller FP1
	Master Controller FP2
	Master Controller FP3
	Master Controller FP4
	Master Controller SFP+

Figure 4.1c - Bound Port Setting Options

> ⚠ **NOTE:** Bound Port is a feature of the NXG-IP-MPTS for Multicast use. This is not available in the NXG-IP blade.

4.2 BOUND PORT QUICK SETUP

To bind the Master Controller to a port on the **NXG-IP-MPTS** blade, the following steps should be taken:

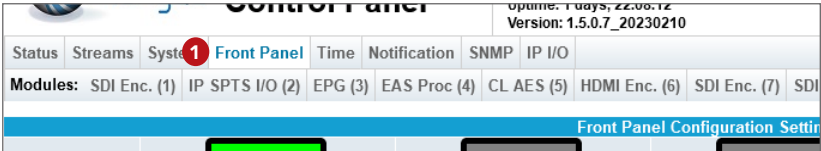**1** Navigate to the **Front Panel** Tab to begin setup on the Master Controller.

Figure 4.2a - Master Controller: Front Panel Configuration Settings

2 Set the "**Mode**" to "**Isolate for Module Use Only**" in order to set the port aside for your IP module to gain exclusive access to it.
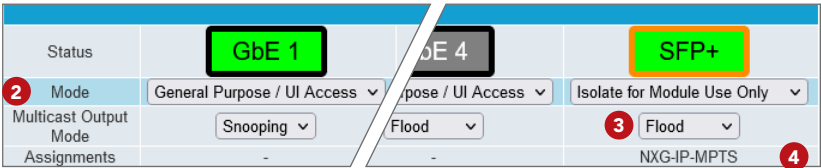
Figure 4.2b - Master Controller: Front Panel Option Settings

3 Set the "**Multicast Output Mode**" to "**Flood**". This will enable IGMP and the Multicast Router.

Note: Select flooding on a port when connected to your core switch. This will allow all multicast traffic to the port, the external switch will handle the IGMP functions

4 Once set up, the "**Assignments**" row will display the assigned module for that port (GbE or SFP+).

> **!** **NOTE:** Please review Section 5.1 and 5.4 of the **NXG-System User Manual** for additional information on the Front Panel and Status Indication Information for the Master Controller.

> **!** **REMEMBER:** Click on the **[APPLY SETTINGS]** button to save and apply new values or configuration changes.

SECTION 5 – INPUT CONFIGURATION

The "**Input**" Tab allows a user to add and assign input streams to each IP port.

NOTE: Clicking the small arrow (collapsed; expanded) beside each program will show or hide further choices or read-only data.
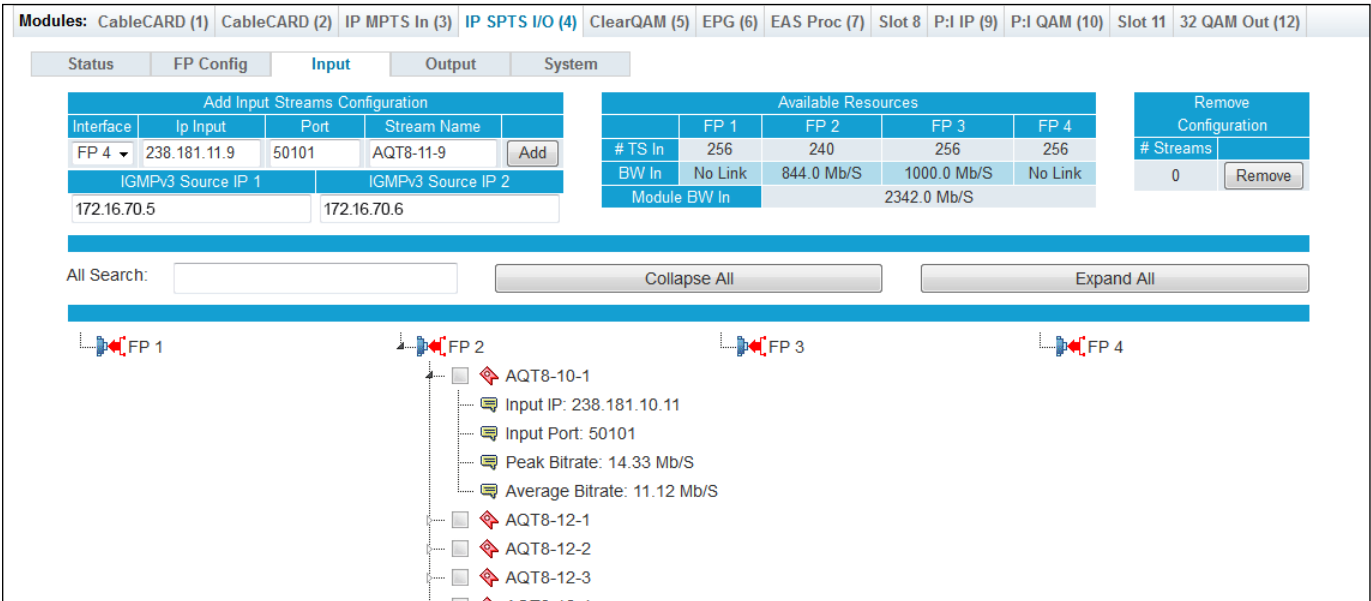

Figure 5 - "Input" Tab - Full View (SPTS Shown)

NOTE: NXG-IP-MPTS (Stk #6798 M) stream info will display the IP and Port as shown above, however there are differences in how other details are displayed. See Section 5.3 for further information.

5.1 ADD INPUT STREAMS CONFIGURATION

1 **Interface:** Choose from Port 1 to Port 4 (on the front panel) to assign streams to.

2 **IP Input:** Assigned IP address for the stream

3 **Port:** Assigned port for the stream

4 **Stream Name:** User-defined name for the stream being added. The name length limit is 16 characters.

IGMP CONFIGURATION FIELDS

Configuration for the following fields can be enabled through the FP Config tab described in Section 4.

5 **IGMPv3 Source IP 1:** Source IP #1 address

6 **IGMPv3 Source IP 2:** Source IP #2 address

Note: If the port is set to IGMPv2, Source IP 1 and Source IP 2 will not be available to set up. When in IGMPv2, the input for these settings will be disabled and grayed out. (example: Figure 5.1b)

Figure 5.1a - "Add Input Streams Configuration"
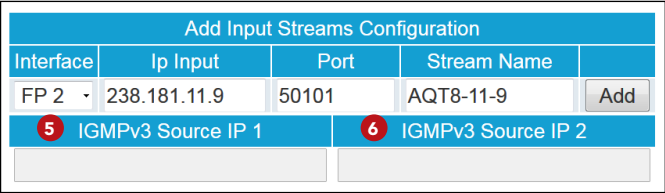
Figure 5.1b - View with IGMPv2 set on FP Config Tab

7 Add Once configuration details have been completed, the user can click to add the Input Stream to the IP Port.

5.2 AVAILABLE RESOURCES

The "**Available Resources**" table displays, in real-time, the remaining available resources after factoring out the current assigned streams. The resources being monitored are as follows:

1 **TS In:** Displays the remaining Transport Stream (TS) available for each port. The transport streams allowed can be up to 256 per input port. As streams are added to input, this number will go down.

Available Resources				
	FP 1	FP 2	FP 3	FP 4
1 TS In	256	219	256	256
2 BW In	No Link	413.0 Mb/S	No Link	No Link
3 Module BW	1912.2 Mb/S			

Figure 5.2 - "Available Resources"

2 **BW In:** Displays the remaining bandwidth (Mb/S) for each linked port. As streams are added to Input, this number will also go down. If the Port is not linked, "No Link" will show in these fields.

3 **Module BW:** Displays the remaining bandwidth (Mb/S) that the module is allowed, once the input bandwidth has been subtracted.

5.3 INPUT STREAM LIST VIEW

The Input Stream list view appears below the configuration area and the search functions. It displays both a method of choosing configured streams to remove (see Section 5.4) and additional details for the streams which have been configured and added to the Inputs.

IP Port #: Displays the programs which have been added to the IP Port #. (Note: IP Port #2 is shown as an example)

Source Stream: Displays the Source Stream Name. Empty checkboxes (☐) are selectable to remove configured input streams, as detailed below.

When the line is expanded, the following data (💬) for each program is shown:

1 **Input IP:** Input IP address that the stream is assigned to.

Figure 5.3a - Input Stream List View (SPTS)

2 **Input Port:** Input Port that the stream is assigned to.

3 **Peak Bitrate:** The peak bitrate consistently shows the maximum bitrate of that program.

4 **Average Bitrate:** The bitrate is calculated over a period of time to give you the average bitrate of that program.

The **NXG-IP-MPTS** (Stk # 6798 M) displays the additional following information, after **Input IP** and **Input Port**, as shown:

Program Name: Displays the Program Name and bandwidth (Mb/S). When the line is expanded, the following data (💬) for each program is shown:

6 **Short Channel Name:** 7-letter name for the channel.

7 **Program Number:** Configures the MPEG Program used in all PSI tables for this stream. Range is 1 - 65,535.

8 **Peak Bitrate and Average Bitrate:** are as described above.

Figure 5.3b - Input Stream List View (MPTS)

5.4 REMOVE CONFIGURATION

The "**Remove Configuration**" table provides a way of removing configured streams from the IP Input.

 # Streams: Displays the number of selected configured streams that the user wishes to remove. To select a stream, as noted in Section 5.3 above, checking the empty box (✓) allows the user to select one or more programs to be removed from the Input configuration.

Once all streams are selected, the click the [Remove] button and all configured streams will instantly be removed in real-time.

> ⚠️ CAUTION: The remove function is instantaneous, there will be no warning before the function is completed, so ensure that a copy of the current configuration is saved. This can be done through the Status tab.

5.5 INPUT STREAM SEARCH FUNCTIONS

The list of streams which have been configured and added will show below the configuration area.

Figure 5.5 - Input Stream List Search Functions

1 The "**Search**" function is provided as a way to easily find a program within a list. This standard function is real-time, acting as a filter to isolate matches as the user types into the input field.

2 The "**Collapse All**" and "**Expand All**" buttons are also provided, in addition to the search function, in order to further filter data.

SECTION 6 – OUTPUT CONFIGURATION (STK# 6798 - SPTS ONLY)

The **"Output"** Tab only appears on the NXG-IP (Stk# 6798) module and allows the user to add and assign output streams to each IP port.

NOTE: Clicking the small arrow (▷ collapsed; ▲ expanded) beside each program will show or hide further choices or read-only data.
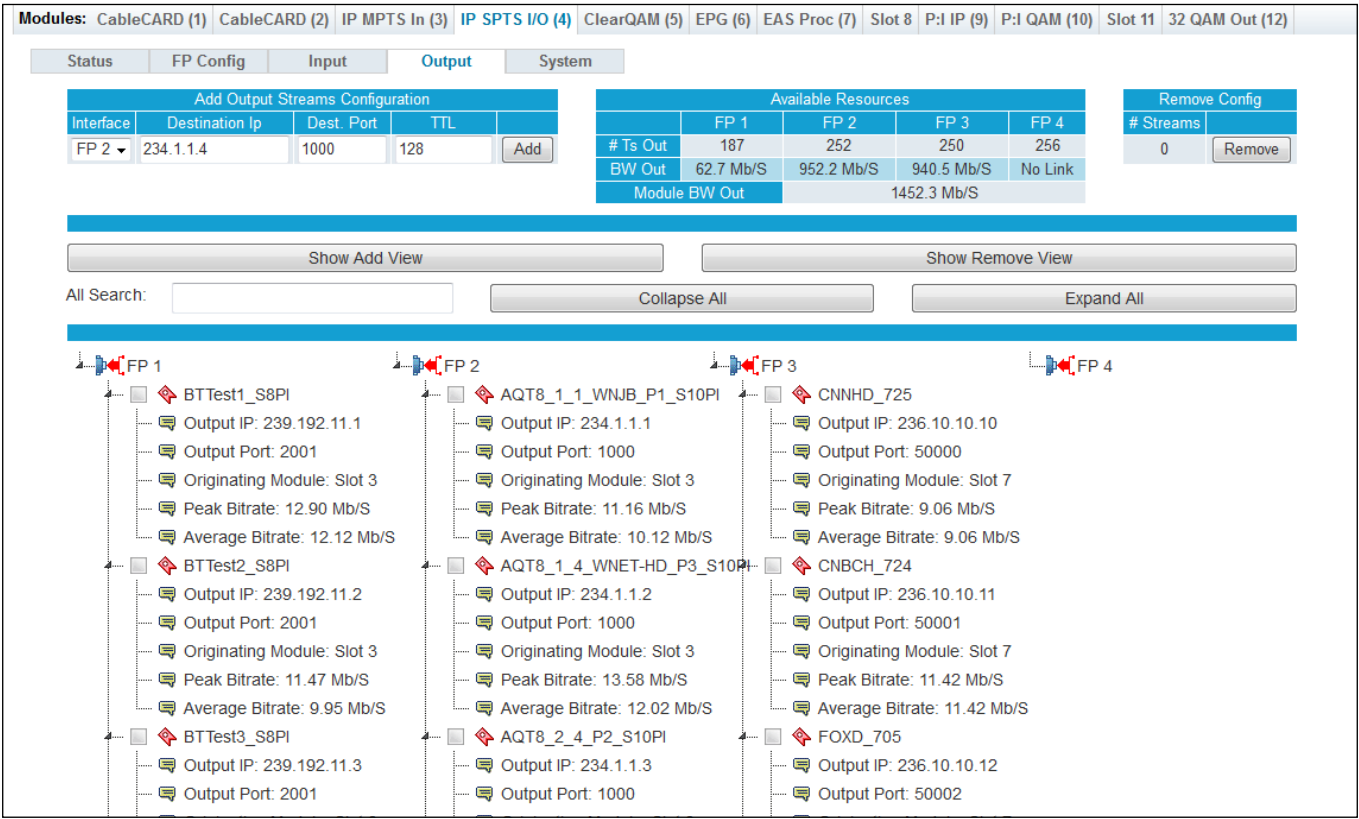

Figure 6 - "Output" Tab - Full View

6.1 ADD OUTPUT STREAMS CONFIGURATION
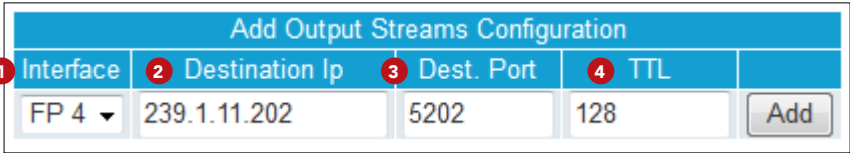
The following parameters are configurable for each Interface IP Port's output.

Figure 6.1a - "Add Output Streams Configuration"

① Interface: Choose from Port 1 to Port 4 (on the front panel) to assign streams to.

② Destination IP: User must enter the IP address of the receiving equipment.

③ Destination Port: User must enter the IP Port of the receiving equipment. The range is 1 to 65535.

④ Time-to-Live (TTL): A limit setting on the time that an IP packet can exist in an IP network. The value is set by the sender of the packet, and is reduced by every host on the route to packet's final destination. If the Time to Live reaches zero before the packet arrives at its final destination, then the packet is discarded. The purpose of this field is to avoid an undeliverable packet from circulating on an IP network perpetually. The range is 1 to 255. (Factory Default: "128")

6.1 ADD OUTPUT STREAMS CONFIGURATION (CONTINUED)

Figure 6.1b - View modes

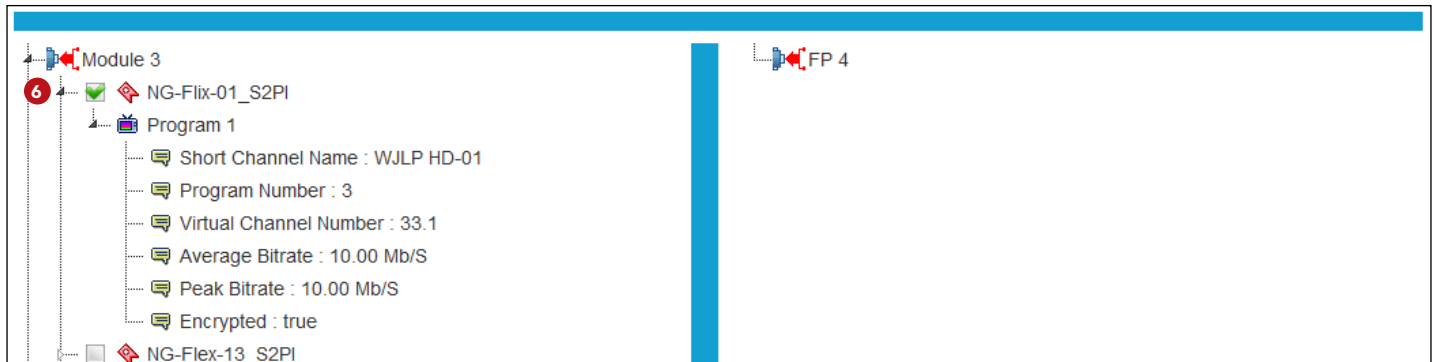**5**   Select "**Show Add View**" to select the programs to add to Output.

Figure 6.1c - Add View - Selecting a stream

6   In "**Add View**", the installed modules will display the streams that have been sent to the backplane. The use can select programs from these various modules to add to Output on the chosen IP Port. To select, check the box (✓) next to the programs to add to the IP Output. After configuration details have been completed and the streams have been selected, the user can click ⬚ Add ⬚ to add the Input Stream to the IP Port.
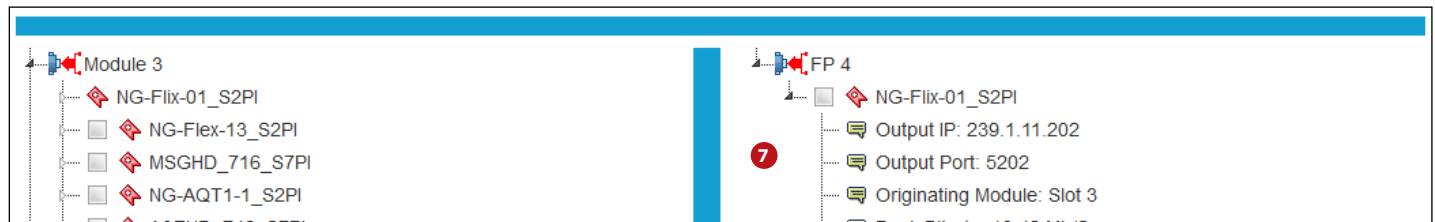
Figure 6.1d - Add View - After adding a stream

7   Once the streams have been added, they will show up on the right column of "**Add View**" mode.

6.2 AVAILABLE OUTPUT RESOURCES

The "**Available Resources**" table displays, in real-time, the remaining available resources after factoring out the current assigned streams to the IP Output. The resources being monitored are as follows:

Available Resources				
	FP 1	FP 2	FP 3	FP 4
① Ts Out	256	219	256	256
② Out BW	No Link	954.5 Mb/S	No Link	No Link
③ Module Out BW		2412.6 Mb/S		

Figure 6.2 - "Available Resources"

1   **TS Out:** Displays the remaining Transport Stream (TS) for each port. The transport streams allowed for input can be up to 256 per Port. As streams are added to Output, this number will go down.

6.2 AVAILABLE OUTPUT RESOURCES (CONTINUED)

2 **Out BW:** Displays the remaining bandwidth (Mb/S) for each linked port. As streams are added to Output, this number will also go down. If the Port is not linked, "No Link" will show in these fields.

3 **Module Out BW:** Displays the remaining bandwidth (Mb/S) that the module is allowed, once the input bandwidth has been subtracted.

6.3 STREAM LIST VIEWS

The Output Stream list views appear below the configuration area and the search functions. The Add View displays a method of choosing streams to add and remove while the Remove view displays only the method of choosing configured streams to remove (see Section 6.4). Both views also allow viewing of additional details for the streams which have been configured and added to the Inputs.

ADD VIEW (LEFT COLUMN) - EXPANDED

Module (#): Displays programs sourced from all input modules within the NXG platform. Example shown in Section 4: Pro:Idiom IP (3).

Source Stream: Displays the Source Stream Name. Empty checkboxes ( ) are selectable to remove configured input streams, as detailed in Section 6.4.

When the line is expanded, the following data ( ) for each program is shown:

1 **Short Channel Name:** 7-letter name for the channel.

2 **Program Number:** Configures the MPEG Program used in all PSI tables for this stream. Range is 1 - 65,535.

3 **Virtual Channel Number:** Channel number assigned to a program within the Virtual Channel Table (VCT).

4 **Average Bitrate:** The bitrate is calculated over a period of time to give you the average bitrate of that program.

5 **Peak Bitrate:** The peak bitrate consistently shows the maximum bitrate of that program.

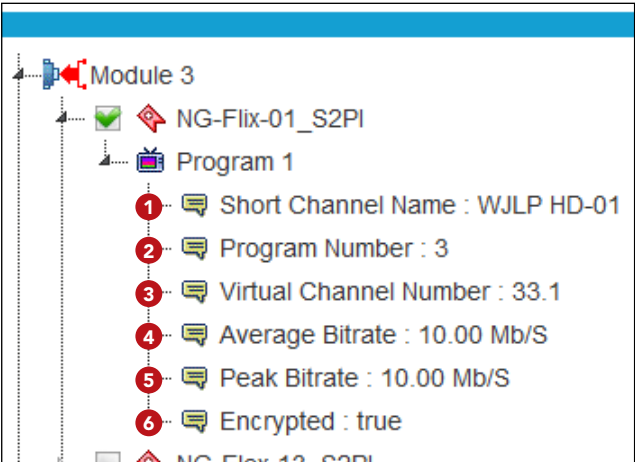**6** **Encrypted:** Indicates if the channel is encrypted

Figure 6.3a - Add View - Left Column

ADD VIEW (RIGHT COLUMN) / REMOVE VIEW - EXPANDED

IP Port #: Displays the programs which have been added to the IP Port #. (Note: IP Port #4 is shown as an example)

Source Stream: Displays the Source Stream Name. Empty checkboxes ( ) are selectable to remove configured input streams, as detailed below.

When the line is expanded, the following data ( ) for each program is shown:

1 **Output IP:** Output IP address that the stream is assigned to.

2 **Output Port:** Output Port that the stream is assigned to.
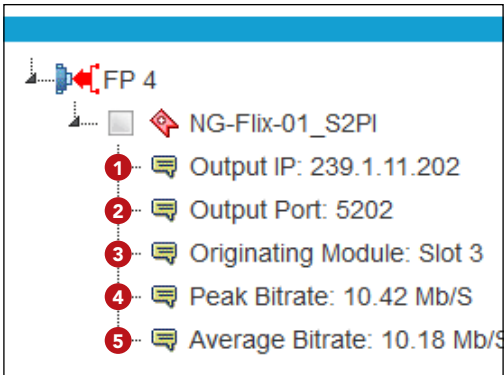

Figure 6.3b - Add View (Right Column) / Remove View - Expanded
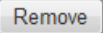
6.3 STREAM LIST VIEWS (CONTINUED)

3 **Originating Module:** Module Slot Number that the stream is originating from.

4 **Peak Bitrate:** The peak bitrate consistently shows the maximum bitrate of that program.

5 **Average Bitrate:** The bitrate is calculated over a period of time to give you the average bitrate of that program.

6.4 REMOVE CONFIGURATION

The "**Remove Configuration**" table provides a way of removing configured streams from the IP Output.

 # Streams: Displays the number of selected configured streams that the user wishes to remove. To select a stream, as noted in Section 6.3 above under the Remove View in particular, the user is able to check the empty box ( ) to select one or more programs to be removed from the Output configuration.

Once all streams are selected, then click the [Remove] button and all configured streams will instantly be removed in real-time.

! CAUTION: The remove function is instantaneous, there will be no warning before the function is completed, so ensure that a copy of the current configuration is saved. This can be done through the Status tab.

6.5 OUTPUT STREAM SEARCH FUNCTIONS

The list of streams which have been configured and added will show below the configuration area.
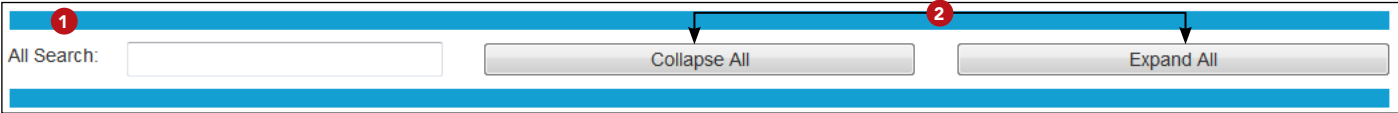

Figure 6.5 - Output Stream List Search Functions

1 The "**Search**" function is provided to find a program within a list. This standard function is real-time, acting as a filter to isolate matches as the user types into the input field.

2 The "**Collapse All**" and "**Expand All**" buttons are also provided, in addition to the search function, to further filter data.

SECTION 7 – SYSTEM

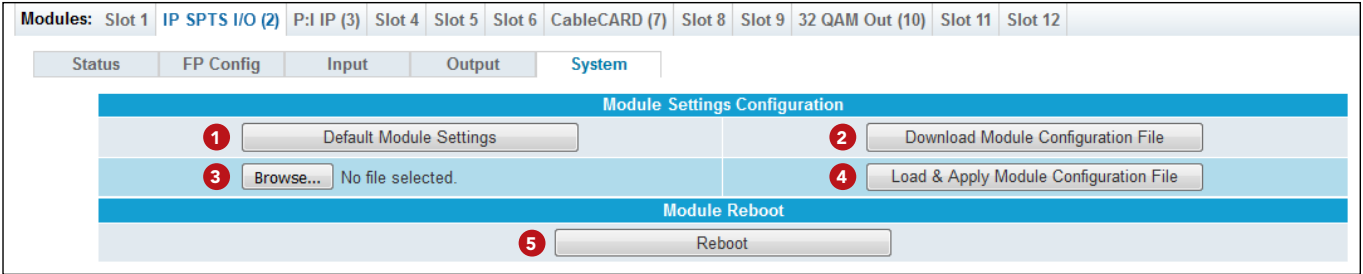The "**System**" Tab allows the user to manage the module configuration through the following controls:

Figure 7 - "System" Tab

7.1 MODULE SETTINGS CONFIGURATION

The "**Module Settings Configuration**" section allows the user to back-up and re-load the configuration settings.

1 [Default Module Settings]   Resets the module back to the Factory defaults. It is always recommended to save the existing configuration file before resetting to the default values .

2 [Download Module Configuration File]   Downloads the current module configuration file.

3 [Browse... No file selected.]   Browse and select a Configuration File.

4 [Load & Apply Module Configuration File]   After choosing file, click this to load and apply the configuration file.

7.2 MODULE REBOOT

The "**Module Reboot**" section allows the user to reboot the module from this screen.

5 [Reboot]   Click this button to reboot the module.

SECTION 8 – FIRMWARE UPDATES

The "**Firmware Update**" tab (Figures 5a, 5b, 5c, and 5d) is part of the Master Controller Module interface, and is used for all installed modules. It is located on the right side of the main menu allowing the user to review currently installed firmware versions and quickly update installed module(s).
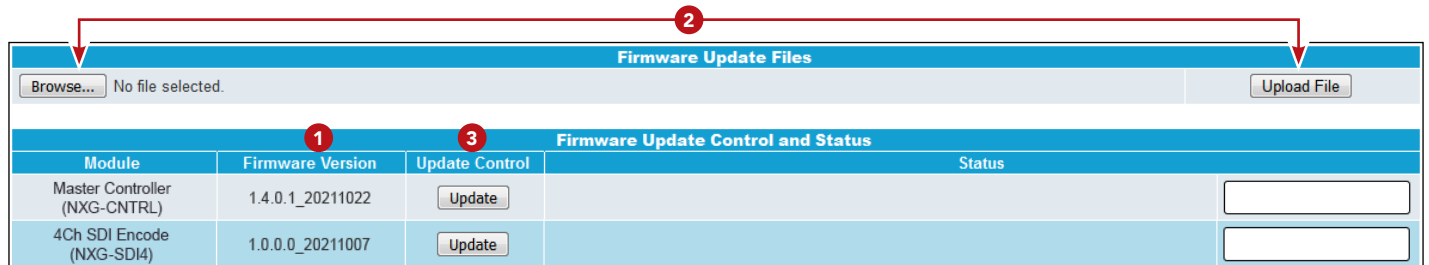

Figure 5a - "Firmware Update" Tab

1 Check "**Firmware Version**" to ensure you have the latest firmware. To determine if a new firmware update has been released, please go to our website at: (www.blondertongue.com/support/firmware-updates/)

Click the "**Firmware Download Site**" linked button and then click through the following folders to view the list of NXG modules: "*BLONDER TONGUE*" > "*N*" > "*NEXGEN GATEWAY*"

NOTE: There is a check of the file name versus module ID to eliminate a user inadvertently updating any modules with incorrect files. Multiple module updates can be performed simultaneously after uploading the files.

2 Under the "**Firmware Update Files**" section, the user can use [Browse...] and [Upload File] to select and send the module update file(s) into the NXG Platform. See a view of the file when uploaded to the platform as shown below on Figure 5b.

Figure 5b - File when uploaded

3 Update the Firmware version by clicking the [Update] button. The update status and progress will show under the "**Status**" columns. Below are the firmware updates as they appear while in-progress (Figure 5c) and upon completion (Figure 5d).

NOTE: After clicking the "Update" button, please allow a few seconds for the file to load.
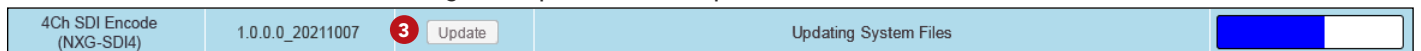
Figure 5c - Update In Progress

4 Once the update progress is complete, the user **MUST** reboot the unit. The most convenient method for this process is by clicking the [Reboot] button (Figure 5d) to apply and finalize the update(s).

Figure 5d - Completed Update

PLEASE NOTE: An update can be applied and finalized by using the reboot control through the module system page, the master controller system page, or by power-cycling a module (ie. pulling the module out of a NXG system).

When firmware updates are complete, the user can remove the loaded file by clicking the [X] button shown on **Figure 5b** next to the "**Upload File**" button under "**Firmware Update Files**".

SECTION 9 – TROUBLESHOOTING

For any additional technical support issues, please send more information to us about your issue via our website at www.blondertongue.com/support/ or call us toll-free at 1-800-523-6049 between the hours of 8:00 AM and 5:00 PM (EST, UTC -5).

NOTES

NOTES

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