



Video Multiprocessing Gateway (VMG)

Release 3.1.3

Software Upgrade Guide

RGB Networks, Inc.
390 West Java Drive
Sunnyvale, CA 94089
Support Tel: 877-RGB-NETW
Fax: (408) 701-2710
www.rgbnetworks.com

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VMG Software Upgrade Guide document history

Part Number	Software Release	Release Date	Description
250-0176-01 Rev A	3.1.3	11/17/12	<ul style="list-style-type: none">• Include 3.1.3 upgrade information.
250-0166-01 Rev A	3.1.2	8/31/12	<ul style="list-style-type: none">• Include 3.1.2 upgrade information• Add new chapter: procedures for upgrading spares.
250-0162-01 Rev A	3.1.1	7/27/12	<ul style="list-style-type: none">• Include 3.1.1 upgrade information.
250-0154-01 Rev A	3.1.0	05/14/12	<ul style="list-style-type: none">• Information for use with all VMG upgrades.
250-0150-01 Rev A	3.0.3	03/05/12	<ul style="list-style-type: none">• Information for use with all VMG upgrades.
250-0142-01 Rev A	3.0.1	11/30/11	<ul style="list-style-type: none">• Information for use when upgrading from: 3.0.0 to 3.0.1.
250-0140-01 Rev A	3.0.0	11/7/11	<ul style="list-style-type: none">• Contrast GUI differences contained in previous release 2.5.1 and 2.5.2 and those provided in the current release 3.0.0.• Describe effects to configuration as a result of upgrade from Release 2.5.1 and 2.5.2 to Release 3.0.0.• Provide procedure for VMG software upgrade.

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Introduction

The Video Multiprocessing Gateway (VMG) from RGB Networks delivers the industry's highest density digital video solution for multi-screen audio/video transcoding, grooming, statistical multiplexing, transrating, and digital program insertion (DPI). Based on a flexible, scalable, and modular platform, the VMG expedites deployments of advanced video services and simplifies operation and management, while reducing operational and capital costs.

Receiving input through its Gigabit Ethernet (GigE) interfaces, this advanced product can simultaneously support standard definition (SD) and high definition (HD) program services. One chassis can simultaneously perform digital ad insertion, program substitution, switching, and grooming, and real time transcoding.

The VMG is fully MPEG-2 and H.264 compliant and interoperable with leading cable and telecom industry equipment.

The Video Multiprocessing Gateway from RGB makes configuration more intuitive and simple by providing the *VMG Element Manager*, an easy-to-use Java-based graphical user interface (GUI) accessible through a standard Web browser

Document Organization

The chapters in this document are arranged to provide the reader with a logical progression of the tasks involved in configuration and usage of the VMG.

This guide is organized as follows:

- [Chapter 1, *Introduction*](#) – describes the contents and conventions used in this upgrade guide.
- [Chapter 2, *Overview*](#) – contains information about what to expect as a result of performing the current upgrade. This chapter also contains a birds-eye view for management of various upgrades.
- [Chapter 3, *System—Upgrade Procedures*](#) – provides steps to perform a software upgrade for the VMG, from Release 2.5.1 to the current release. Also included are steps for reverting from an upgrade to a previously saved configuration.
- [Appendix A, *3.0.3 Upgrade Notes*](#) – provides details about changes to the *VMG Element Manager* GUI that are the result of VMG Release 3.0.3 features.

Document Audience





This guide is intended for system administrators and operators who are responsible for configuration and maintenance of the VMG and for processing network broadcasts. Users of this guide should be familiar with general video and networking terminology, and should be accustomed to basic network software configuration.

Most importantly, the user must be familiar with the basics and principles of broadcast network processing.

Document Conventions

Table 1 provides an easy way to recognize information of particular importance in this manual.

Table 1. Document Conventions

When you see:	It means:
	Note: This points out information that may not be part of the text but provide tips and other helpful advice.
	Caution: This provides an alert to an action that may have undesirable consequences if the instructions are not followed correctly. Cautions also indicate that failure to follow guidelines could cause damage to equipment or loss of data.
	Warning! This shows that failure to take the necessary precautions or to follow guidelines could cause harm to equipment and personnel.
	Navigation tip: follow the path alongside the pointer to navigate to a specific option.
Clicking any blue link takes you to the item to which the link refers.	

Related Documentation

- *Video Multiprocessing Gateway (VMG) Release 3.1.3 VMG Element Manager User Guide*, 250-0175-01 Rev A.
- *VMG Release Notes*, Release 3.1.3

Technical Assistance

Use the contact information provided in this section if you need to phone or write to RGB Customer Support for assistance with VMG upgrades.

Table 2. Contact Information

Use this contact information	
Customer Portal:	http://support.rgbnetworks.com
Phone From inside USA: From outside USA:	1.877.RGB.NETW (877.742.6389) +1.408.701.2800
Email	support@rgbnetworks.com

Overview

This chapter provides a brief description about expected results for an upgrade to the current release.

- If you are upgrading from VMG Release 3.0.3, 3.1.0, 3.1.1, or 3.1.2, please use the procedure provided in the section entitled [“Upgrading to 3.1.3” on page 7](#).
- If you are upgrading from a release prior to 3.0.3, please refer to [Table 3 on page 4](#) to view proper upgrade sequencing.



Note: *To upgrade a VMG to the current release, you can either use steps documented in this manual or use RGB’s **EasyUpdate** application, which is a guided software method that steps you through the upgrade process. The **EasyUpgrade** application is release-specific and can be obtained from RGB Customer Support.*

In this Chapter:

- [“About This Release,” next.](#)
- [“VMG Software Versions” on page 4.](#)

About This Release

Completion of the 3.1.3 upgrade will result in availability of the following new features from the VMG:

- Support for the VMG-14+ with two fan trays.
- Decimal point entry improvements—pertinent to TS bitrates, video bitrates, audio sample rates, Dolby Advanced Decode parameters, and license management—for non-English locales.

For all details about current release functions, refer also to [“Related Documentation” on page 2](#).

VMG Software Versions

It is not advisable to skip releases when upgrading VMG software. For reliable upgrade from a previous VMG releases, use the sequencing listed in [Table 3](#) as your guide.

Table 3. Upgrading to 3.1.3 from previous VMG releases

Sequencing to Release 3.1.3	Procedures
3.1.2 ⇨ 3.1.3	page 7
3.1.1 ⇨ 3.1.3	page 8.
3.1.0 ⇨ 3.1.3	page 8.
3.0.3 ⇨ 3.1.3	page 8.
3.0.2 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 9* page 8.
3.0.1 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 9* page 8.
3.0.0 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 9* page 8.
2.5.4 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 9* page 8.
2.5.2 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 9* page 8.
2.5.1 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 9* page 8.
2.5.0 ⇨ 2.5.1 2.5.1 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 10 page 9* page 8.
2.4.0 ⇨ 2.5.0 2.5.0 ⇨ 2.5.1 2.5.1 ⇨ 3.0.3 3.0.3 ⇨ 3.1.3	page 11 page 10 page 9* page 8
2.2.2 and prior	page 14.

* See also “3.0.3 Upgrade Notes” on page 19.

System—Upgrade Procedures

This chapter provides steps for performing a VMG upgrade, from previous releases to Release 3.1.3. Steps are also provided if you need to revert from Release 3.1.3 to a previous release.



Caution: *The VPM card is incompatible with VMG Release 3.1.3. An attempt to upgrade a VMG with VPM will result in the following system indications:*

- VPM will be reported as operationally DOWN at the GUI.
- A critical alarm will be raised.
- GUI status bar will display red “unsupported card” message for the VPM slot.

DO NOT attempt an upgrade to Release 3.1.3 if you have active VPMs loaded in the VMG.



Note: *Procedures in this chapter outline the steps necessary to perform an VMG upgrade or a software reversion. For details about any step, please refer to the title(s) listed in “Related Documentation” on page 2.*



Note: *VMG Release 3.0.3 introduced the option to specify either of two IP address modes—One-IP, and Three-IP—from the GigE Configuration screen. When upgrading from 2.5.x, the One-IP model will be retained. The following table identifies the IP address mode available with specific VMG releases:*

Table 4. IP Address Options Supported By VMG Releases

VMG Release	GigE Address Modes	
	One-IP	Three-IP
2.5.x (and previous)	Yes	No
3.0.0	No	Yes
3.0.1	No	Yes
3.0.2	No	Yes
3.0.2.p1	No	Yes
3.0.3	Yes	Yes
3.1.0	Yes	Yes
3.1.1	Yes	Yes
3.1.2	Yes	Yes
3.1.3	Yes	Yes



Note: *To complete any procedure that requires special handling for V6 AMP Upgrade and assignment of asset tags (such as [Upgrading to 2.4.0 from 2.3.3](#)), contact RGB Customer Support for assistance.*

In This Chapter:

- “Upgrading to 3.1.3,” next.
- “Upgrading to 3.0.3 from 3.0.2, 3.0.1, 3.0.0, 2.5.4, 2.5.2, and 2.5.1” on page 9.
- “Upgrading to 2.5.1 from 2.5.0” on page 10.
- “Upgrading to 2.5.0 from 2.4.0” on page 11.
- “Upgrading to 2.4.0 from 2.3.3” on page 12.
- “Upgrading to 2.4.0 from 2.2.2” on page 13.
- “Upgrading to 2.2.2 from Previous Releases” on page 14.
- “Reverting to Backup” on page 15.

Upgrading to 3.1.3

This software upgrade procedure supports the following upgrades:

- From Release 3.0.3_48986 to Release 3.1.3_55956.
- From Release 3.0.3.p1_50339 to Release 3.1.3_55956.
- From Release 3.0.3.p2_51622 to Release 3.1.3_55956.
- From release 3.1.0_51841 to Release 3.1.3_55956.
- From Release 3.1.1_53023 to Release 3.1.3_55956.
- From Release 3.1.2_54105 to Release 3.1.3_55956.
- From Release 3.1.2.p1_54691 to Release 3.1.3_55956.



Note: *The VMG configuration database will be erased following an attempt to upgrade from any unsupported release.*



Note: *When upgrading from Release 3.1.1, settings previously in place for `TUNE_TCM_EBP_ENABLE` and `TUNE_TCM_EBP_SEGMENT_LENGTH_IN_IDR` will be overwritten by the 3.1.3 software upgrade.*

The upgrade to VMG 3.1.3 will set the EBP configuration to 0 (disable) and the EBP segment length to 0.

To reinstate your EBP configuration after the upgrade, you must manually enable it via the VMG Element Manager and change the segment length to the required value.



Note: *When upgrading both AMP and NPM, do the AMP upgrade first but do not reboot. Then, upgrade the NPM and follow-up with the reboot.*

Steps

1. Before upgrading the VMG, ensure that all NPM and AMP modules are operational and (for redundant system) in “Fully Redundant” state.
2. Back up the VMG configuration database before performing the update, and record your trap server configuration. This will need to be reconfigured if upgrading from 3.0.3, 3.0.3.p1, 3.0.3.p2 to Release 3.1.3.

To proceed, use steps (as provided in the following topics) that comply with proper sequencing (Table 3 on page 4) for VMG upgrade:

- “Upgrading from 3.0.3, 3.0.3.p1, 3.0.3.p2 to Release 3.1.3” on page 8.
- “Upgrading from 3.1.0, 3.1.1, 3.1.2, and 3.1.2.p1 to Release 3.1.3” on page 8.

Upgrading from 3.0.3, 3.0.3.p1, 3.0.3.p2 to Release 3.1.3

1. Use the VMG *Element Manager* to upgrade the VMG to Release 3.1.3. At the **Upgrade Software** dialog, enable (check) the **Reboot chassis after successful software upgrade** option.

The VMG now upgrades the system software and—during the reboot—upgrades the database from the previous release to Release 3.1.3.



Note: *The AMP will now be operationally down if upgrading from 3.0.3, 3.0.3.p1, 3.0.3.p2 because the 3.0.x AMP is not compatible with VMG Release 3.1.3 software. Proceed to the next step to upgrade the AMP(s).*

2. Use the VMG *Element Manager* to upgrade the AMPs. At the **Upgrade Software** dialog, enable (check) the **Reboot chassis after successful software upgrade** option.



Note: *There are two AMP image files in VMG 3.1.3. Please enter the first file name in the ftp path (e.g. AmpBuild_4.7.5-16401.noarch.001.rgb). The upgrade software will automatically upgrade the AMP with both AMP image files (AmpBuild_4.7.5-16401.noarch.001.rgb and AmpBuild_4.7.5-16401.noarch.002.rgb).*

3. Reconfigure the trap server (as recorded from Step 2, on page 7) after the reboot.
4. Verify the grooming configuration and outputs.

Upgrading from 3.1.0, 3.1.1, 3.1.2, and 3.1.2.p1 to Release 3.1.3

1. Use the VMG *Element Manager* to upgrade the AMPs.



Note: *There are two AMP image files in VMG 3.1.3. Please enter the first file name in the ftp path (e.g. AmpBuild_4.7.5-16401.noarch.001.rgb). The upgrade software will automatically upgrade the AMP with both AMP image files (AmpBuild_4.7.5-16401.noarch.001.rgb and AmpBuild_4.7.5-16401.noarch.002.rgb).*

2. Use the VMG *Element Manager* to upgrade the VMG to Release 3.1.3. At the **Upgrade Software** dialog, enable (check) the **Reboot chassis after successful software upgrade** option.


The VMG now upgrades the system software and—during the reboot—upgrades the database from the previous release to Release 3.1.3.

3. Verify the grooming configuration and outputs.

Upgrading to 3.0.3 from 3.0.2, 3.0.1, 3.0.0, 2.5.4, 2.5.2, and 2.5.1


The software upgrade procedure in this section was tested as follows:

- From Release 2.5.1_43838 to Release 3.0.3_48986.
- From Release 2.5.2_44361 to Release 3.0.3_48986.
- From Release 2.5.4_45155 to Release 3.0.3_48986.


 **Note:** Earlier releases must first be upgraded to (minimum) Release 2.5.1 prior to attempting the upgrade to Release 3.0.3. See also [Chapter , “3.0.3 Upgrade Notes,”](#) for details.

Steps

1. Back up the VMG configuration database before performing the update.
2. Document all GigE IP addresses and allocate an additional two IP addresses for each GigE interface, if you plan on migrating to three-IP address mode.
3. Use the *VMG Element Manager* to upgrade the AMPs.

 **Note:** Before proceeding to next step, wait until all NPM and AMP cards are operational and (for redundant system) in “Full Redundant” state.
Please use the *VMG Element Manager System Information* tab to check individual card states and (if applicable) redundancy states.

4. Use the *VMG Element Manager* to upgrade the VMG to Release 3.0.3.

 **Note:** The TCMs may reboot during the upgrade due to an existing problem in the 2.5.x release.

5. Use the *VMG Element Manager* to reboot the VMG.

The VMG now upgrades the database, from the previous release to Release 3.0.3.

6. For Three-IP address mode only (skip this step if you will be retaining the One-IP address mode):
 - a. Log in to the *VMG Element Manager* and access the **GigE Port Configuration** screen.
 - b. At the **GigE Port Configuration** screen, select Three-IP.
 - c. Reconfigure each GigE interface to be used with one Virtual IP address and two physical IP addresses.
 - d. Use the *VMG Element Manager* to reboot the VMG.
All services should recover in about 6 or 7 minutes.
5. Verify the output transporting stream configuration (defaults), as described in “[Updates for Transport Stream Configurations](#)” on page 21.

Upgrading to 2.5.1 from 2.5.0

The software upgrade procedure in this section was tested as follows:

- From Release 2.5.0_41060 to 2.5.1_43838.

Steps

1. Back up the VMG configuration database before performing the upgrade.



Note: *VMG Release 2.5.1 performs database upgrade from 2.5.0_41060 only.*

2. Use the *VMG Element Manager* to upgrade the AMPs.



Note: *Before proceeding to next step, wait until all NPM and AMP cards are operational and (for redundant system) in “Full Redundant” state. Please use the VMG Element Manager System Information tab to check individual card states and (if applicable) redundancy states.*

3. Use the *VMG Element Manager* to upgrade the VMG to Release 2.5.1.

At **Upgrade Options**, select **Reboot VMG after Upgrade**.

The VMG now upgrades the database, from Release 2.5.0 to Release 2.5.1, and all IPTV (AVTX+VTX+PIP, etc) and MBR services should recover in about 6 or 7 minutes.

Upgrading to 2.5.0 from 2.4.0

The software upgrade procedure in this section was tested as follows:

- From Release 2.4.0_38377 to 2.5.0_41060.



Note: VMG Release 2.5.0 performs database upgrade from 2.4.0_38377 only.

Notes

This upgrade will result in changes to transport streams, as described in [Table 5](#).

Table 5. Effects to Transport Streams - Release 2.4.0 to Release 2.5.0

SI #	Transport Stream Types		Description
	Release 2.4.0	Release 2.5.0 (after upgrade)	
1	MBR	MBR input video resolution class defaults to HD.	Multi-bitrate audio and video transcoded transport streams.
2	MBR-PIP	VTX+PIP	Video transcoded main transport stream and associated PIP video transport stream.
3	IPTV transcoding TS but not H.264 and PIP	VTX	This is video transcoded transport stream.
4	Non-transcoding TS	VTR	This is video transrating transport stream.
5	n/a	AVTX+PIP	Audio and video transcoded main transport stream and associated PIP video transport stream.
6	n/a	AVTX	Audio and video transcoded transport stream.
7	IPTV transcoding TS H.264 and PIP	PIP	VMG 2.4.0 does not have PIP-only transport stream type explicitly, but the IPTV grooming allows user-selection of the H.264 PIP option.

Steps

1. Back up the VMG configuration database before performing the upgrade.
2. Use the *VMG Element Manager* to upgrade the VMG to Release 2.5.0.
3. Use the *VMG Element Manager* to Reboot the VMG.

The VMG upgrades the configuration database from Release 2.4.0 to 2.5.0, and all IPTV services should recover after 6 or 7 minutes.

4. Use the *VMG Element Manager* to upgrade the AMPs.



Note: Before proceeding to next step, wait until all NPM and AMP cards are operational and (for redundant system) in “Full Redundant” state.
Please use the *VMG Element Manager System Information* tab to check individual card states and (if applicable) redundancy states.

5. Use the *VMG Element Manager* to reboot the VMG.

All MBR services should recover after 6 or 7 minutes.

Upgrading to 2.4.0 from 2.3.3

The software upgrade procedure in this section was tested as follows:

- From Release 2.3.3_36991/37730 (AMP 367992) to 2.4.0_38377.

Notes

- The upgrade to Release 2.4.0 clears the 2.3.x VMG configuration database.
- VMG Release 2.3.x uses H.264 HD licensing for MBR transport streams.
VMG Release 2.4.x uses H.264 SD licensing.
Make sure that sufficient H.264 SD xcoding licenses are available before performing this upgrade.
- If applicable, the `vptune.cfg` files will be moved to `/mnt/default/` following this upgrade.

Steps

1. If no changes have occurred to the `vptune.cfg` files, remove them.
If you need to retain the `vptune.cfg` files, back up the `vptune.cfg` files.
2. Back up the Release 2.3.x VMG configuration database.
3. Contact RGB Customer Support for AMP EEPROM reprogram (asset tag, serial number, product name, product number).
4. Use the *VMG Element Manager* to upgrade the AMPs.
If there are redundant AMPs, upgrade the standby AMP first.



Note: Before proceeding to next step, wait until all NPM and AMP cards are operational and (for redundant system) in “Full Redundant” state.
Please use the *VMG Element Manager System Information* tab to check individual card states and (if applicable) redundancy states.

5. Use the *VMG Element Manager* to upgrade the VMG to Release 2.4.0
At **Upgrade Options**, make sure the **Reboot VMG after Upgrade** is disabled.
6. Use the *VMG Element Manager* to reboot the VMG.
Make sure the **Clean DB to factory default** option is enabled.



Note: If the VMG is 6RU, move the AMP cards to slots 3 and 4.

7. Power cycle the VMG.
The VMG now recovers with no configuration database.
8. Use the *VMG Element Manager* to configure VMG global, licenses, and GigE ports.
 - No database upgrade.
 - No change to existing tuning parameters. New tuning parameters will be default values.
9. Execute the configuration tool to set other configurations for the VMG.

Upgrading to 2.4.0 from 2.2.2

The software upgrade procedure in this section was tested as follows:

- From Release 2.2.2_36010 to 2.4.0_38377.



Note: *VMG Release 2.4.0 performs database upgrade from 2.2.2_36010 only.*

Notes

- Following this upgrade, the profile for IPTV and the main transport stream in MBR-PIP will be **High** and the profile for IPTV (PIP) transport stream and MBR-PIP will be **Main**.
- This upgrade will result in the following change, when upgrading from previous release that contains a configured MBR transport stream and/or MBR PIP transport stream.
The first transport stream name in the MBR transport stream and/or MBR PIP transport stream will be displayed as the name of the MBR transport stream and/or MBR-PIP transport stream.
- If IPTV grooming scheduling is configured, you must remove it manually before performing this upgrade.
- If program redundancy is configured, you must remove it manually before performing this upgrade.
- If applicable, this upgrade will disable AFD forwarding.
- AMP upgrade is not applicable to the VMG Release 2.2.2.
- New tuning parameters will be populated in `vptune.cfg` with default values.

Steps

1. Back up the VMG configuration database (which includes `vptune.cfg`).
2. At the *VMG Element Manager*, **Configure GigE Port** screen, make sure the **AMP Connection** option is unchecked.
3. Use the *VMG Element Manager* to upgrade the VMG to Release 2.4.0.
4. Power cycle the VMG.
The VMG upgrades the configuration database from 2.2.2 to 2.4.0.
All services should recover after 6 or 7 minutes.
5. If needed, enable AFD forwarding.

Upgrading to 2.2.2 from Previous Releases

All VMG releases prior to Release 2.2.2 must first upgrade to Release 2.2.2 before attempting upgrades to later releases.

The software upgrade procedure in this section was tested as follows:

- From Release 2.1.0_28340 to 2.2.2_36010.
- From Release 2.2.0_32581 to 2.2.2_36010.
- From Release 2.2.1_33464 to 2.2.2_36010.

Notes

- `vpTune.cfg/vptun.cfg` will be moved to `/mnt/default` (as `vpTune.cfg`) following a reboot with a successful upgrade.
- When restoring from the previous backup, the customized file can be lost if not explicitly copied back.
- If this file does not currently exist, it will be created and will include factory defaults.

Steps

1. Back up the latest VMG 2.1.x configuration database.
2. Use the *VMG Element Manager* to upgrade the software.
3. Use the *VMG Element Manager* to reboot the VMG following a successful upgrade.

Reverting to Backup

This section contains steps for use with particular releases, in the following topics:

- “How to Perform a Rollback to Release 3.0.x,” next.
- “How to Perform a Rollback to Release 2.4.x” on page 15.
- “How to Perform a Rollback to Release 2.3.x” on page 16.
- “How to Perform a Rollback to Release 2.2.2” on page 16.

How to Perform a Rollback to Release 3.0.x

Use the procedure in this section if you need to back out of 3.1.3 and restore a previous release on the VMG.

1. Before upgrading the VMG, ensure all NPM and AMP modules are operational and (for redundant system) in “Fully Redundant” state.
2. Use the VMG *Element Manager* to upgrade the AMP to the previous release.
In redundant systems—and before continuing with this upgrade—wait until the VMG *Element Manager* reports that both NPMs (and AMPs if present) are operationally “Up” and the system is “Fully Redundant.”
3. Use the VMG *Element Manager* to upgrade the VMG to the previous release.
At the **Upgrade Software** dialog, disable (un-check) the **Reboot chassis after successful software upgrade** option.



Note: *The database will be erased automatically (only licenses will be retained). A critical alarm will be raised at the end of this upgrade process.*

4. Use the VMG *Element Manager* to reboot the VMG. The VMG will now recover with no database.
5. Use the VMG *Element Manager* to restore the database that was saved before upgrading to Release 3.1.3.

How to Perform a Rollback to Release 2.4.x

Use the procedure in this section if you need to back out of 3.0.3 and restore a previous release (up to Release 2.4.x) on the VMG.

The procedure in this section was tested with Release 3.0.3, to access and reload the previous release to the VMG.

1. Use the VMG *Element Manager* to upgrade the AMP to the previous release.
2. Use the VMG *Element Manager* to Upgrade the VMG to the previous release.
Ensure that the **Reboot on Upgrade** option is **disabled**.
3. Use the VMG *Element Manager* to reboot the VMG.
Ensure that the **Clean DB to factory default** option is **enabled**.
The VMG recovers with no database.
4. Use the VMG *Element Manager* to restore the database that was saved before upgrading to Release 3.0.3.

How to Perform a Rollback to Release 2.3.x

1. Use the *VMG Element Manager* to upgrade the VMG to 2.3.x.
Make sure the **Reboot on Upgrade** option is disabled.
2. Use the *VMG Element Manager* to upgrade the AMPs to Release 2.3.x.
If there are redundant AMPs, upgrade the standby AMP first.
3. Use the *VMG Element Manager* to reboot the VMG.
Make sure the **Clean DB to factory default** option is enabled.
The VMG now recovers with no database.
4. Use the *VMG Element Manager* to configure VMG global, licenses, and GigE Ports.
5. Copy back `/mnt/vptune.cfg` (if you have the backup 2.3.x version).
6. If the VMG is 6RU, move the AMPs to slots 5 and 6.
7. Power cycle the VMG.

How to Perform a Rollback to Release 2.2.2

1. If AMP installed, pull it out of the VMG chassis.
2. Use the *VMG Element Manager* to upgrade the VMG to Release 2.2.2.
Make sure the **Reboot on Upgrade** option is disabled.
3. Use the *VMG Element Manager* to reboot the VMG.
Make sure the **Clean DB to factory default** option is enabled.
The VMG now recovers with no database.
4. Use the *VMG Element Manager* to restore the previously saved Release 2.2.2 VMG configuration database.
5. Power cycle the VMG.

Spares—Upgrade Procedures

This chapter provides steps for upgrading VMG spare NPMs. Two methods are provided, but both methods intend to match the version loaded to the production NPM to a spare NPM.

In This Chapter:

- “Production Chassis Method,” next.
- “Spare Chassis Method” on page 18.

Production Chassis Method

Use the following steps to upgrade a spare NPM to the same version as the NPM running in the production chassis, using only the production chassis.



Note: *This procedure requires that the production chassis be offline for about one hour.*

1. Back up the VMG database from the NPM currently in the production chassis.
2. Remove any NPM and AMP card(s) from the production chassis.
3. Install a spare NPM (and spare AMP, if applicable) into the production chassis.
4. Use the IP address previously loaded, or as configured by RGB.
5. Upgrade the NPM to the required version, with Reboot and Factory Default.
6. Upgrade the AMP, if applicable. A reboot is not required with an AMP upgrade.
7. Restore the VMG database, as saved from the NPM that was originally in the production chassis.
8. Reboot the VMG.
9. Verify that the services have been restored.

When the procedure is completed, you can remove the spares to re-install the original NPM (and AMP, if applicable) into the production chassis.

Spare Chassis Method

Use the following steps to upgrade a spare NPM from a lab chassis to the same version as the NPM running on the production chassis.

Note: *This procedure does not impact services.*

1. Back up the VMG database from the NPM currently in the production chassis.
2. Do not make any configuration changes—using either the VMG Element Manager or the Bulk Configuration Tool—to the production chassis.
3. Remove any NPM and AMP card(s) from the lab chassis.
4. Install a spare NPM (and spare AMP, if applicable) into the lab chassis.
5. Use the IP address previously loaded, or as configured by RGB.
6. Upgrade the NPM to the required version, with Reboot and Factory Default.
7. Upgrade the AMP, if applicable. A reboot is not required with an AMP upgrade.
8. Restore the VMG database, as saved from the NPM that was originally in the production chassis.

Note: *As a cautionary measure, perform step 8 during a site maintenance window.*

9. Resume configurations and operations per your site requirements.

Upgrade Notes

3.1.0 Upgrade Notes

Release 3.1.0 contains a bug fix (similar to a bug fix in Release 3.0.3) that impacts audio gain settings:

Issue: 14689

Symptom: Dialnorm loss of about 6 dB when transcoding AC-3.

In all VMG 3.10+ releases, this fix causes the level of audio transcoded from AC-3 inputs to increase by 6 dB after completion of an upgrade to VMG 3.1.0 or later. After the upgrade you should decrease the audio gain settings by 6 dB on all outputs transcoded from AC-3 inputs in order to maintain the same audio output levels that were in use prior to the upgrade.

Also, with VMG releases 3.1.0 or later, the following changes occur:

- The Dolby AC-3 audio encoder no longer supports encoding of AC-3 outputs with 32 kHz or 44.1 kHz sample rates.

If the VMG was previously configured for AC-3 outputs with 32 or 44.1 kHz sample rates, these must be modified to 48 kHz in order to transcode audio for those outputs after the upgrade to VMG 3.1.0.

- The VMG's possible range of audio gain adjustment has been changed from +24 dB to -24 dB to +12 dB to -12 dB to avoid issues associated with excessive clipping or attenuated audio.

The range will not be changed during the upgrade process. After upgrading to VMG 3.1.0 you must set the audio gain to a value between -12 and +12 dB to avoid any potential audio issues.

3.0.3 Upgrade Notes

Completion of a 3.0.3 upgrade—from Release 2.5.1, 2.5.2, 2.5.4, 3.0.0, 3.0.1, 3.0.2, or 3.0.2.p1 to 3.0.3—updates the VMG configuration and provides new options at the *VMG Element Manager*, as described in the following topics:

- “GigE One-IP and Three-IP Address Modes,” next.
- “Updates for Transport Stream Configurations” on page 22.

GigE One-IP and Three-IP Address Modes

Both Three-IP address mode and One-IP address mode—for GigE port configuration—are supported in Release 3.0.3. When upgrading the VMG from a previous release (VMG2.5.x or VMG3.0.x), this change is transparent: no special action is required for the upgrade.

- When upgrading from 3.0.0/3.0.1/3.0.2/3.0.2.p1 to 3.0.3, the Three-IP address mode will be adopted.
- When upgrading from 2.5.1/2.5.2/2.5.4, the one-IP address mode will be adopted.



Note: See also Table 4, “IP Address Options Supported By VMG Releases,” on page 5.

If you plan to take full advantage of the faster NPM switchover feature after upgrading from Release 2.5.1/2.5.2/2.5.4 to 3.0.3, use the **Configure GigE Ports** screen at the *VMG Element Manager* to configure the GigE ports with the Three-IP address mode option. This configuration requires pre-allocation of three unique IP addresses for each Gige interface before the upgrade, followed by manual configuration of the GigE ports at the *VMG Element Manager*—with the **Configure GigE Ports** screen set for Three-IP address mode—after the upgrade.

The changes—from Release 2.5.x to Release 3.0.3—to the **Configure GigE Port** screens are shown in the following figures:

- Figure 1, “Configure GigE Ports Screen—VMG Release 2.5.x,” on page 21.
- Figure 2, “Configure GigE Ports Screen—VMG Release 3.0.3—Three-IP Address Mode,” on page 21.
- Figure 3, “Configure GigE Ports Screen—VMG Release 3.0.3—One-IP Address Mode,” on page 22.

For each GigE port running in Three-IP address mode, a virtual IP address and two physical IP addresses are required. When you change the GigE configuration from One-IP address mode to Three-IP address mode, each existing address becomes the virtual IP address. To fulfill requirements for Three-IP address mode, you need to configure the additional two physical IP addresses for each enabled GigE port (however, non-enabled GigE ports may be configured, also, at this time). This configuration applies to NPMs in the following slots:

- Slots 7 and 8 (VMG-14), or
- Slots 1 and 2 (VMG-6, VMG-8).

Both Three-IP address mode and One-IP address mode are applicable to redundant and non-redundant systems.

Figure 1. Configure GigE Ports Screen—VMG Release 2.5.x

Configure GigE Ports

Port	Enable	Status	MAC Address	Virtual MAC Address	Name	IP Address	Subnet Mask	Gateway	Auto Negotiation	Strict ARP	Mirror Output To
GigE 1	<input checked="" type="checkbox"/>	Down	30:21:12:33:44:50(A)			10.1.187.1	255.255.255.0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 2
GigE 2	<input checked="" type="checkbox"/>	Up	30:21:12:33:44:51(A)			10.2.187.1	255.255.255.0		<input type="checkbox"/>	<input type="checkbox"/>	
GigE 3	<input checked="" type="checkbox"/>	Down	30:21:12:33:44:52(A)			10.3.187.1	255.255.255.0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 4
GigE 4	<input checked="" type="checkbox"/>	Up	30:21:12:33:44:53(A)			10.4.187.1	255.255.255.0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
GigE 5	<input checked="" type="checkbox"/>	Up	30:21:12:33:44:54(A)			10.5.187.1	255.255.255.0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 6
GigE 6	<input checked="" type="checkbox"/>	Up	30:21:12:33:44:55(A)			10.6.187.1	255.255.255.0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

☐ AMP Connection

Port	Enable	Status	MAC Address	Virtual MAC Address	Name	IP Address	Subnet Mask	Gateway	Auto Negotiation	Strict ARP	Mirror To
GigE 7	<input type="checkbox"/>	Down	30:21:12:33:44:56(A)						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> GigE 8
GigE 8	<input type="checkbox"/>	Down	30:21:12:33:44:57(A)						<input type="checkbox"/>	<input type="checkbox"/>	

Port	Enable	Status	MAC Address	Virtual MAC Address	Name	IP Address	Subnet Mask	Gateway	Strict ARP
10GigE 1	<input type="checkbox"/>	Down	30:21:12:33:44:58(A)						<input type="checkbox"/>
10GigE 2	<input type="checkbox"/>	Down	30:21:12:33:44:59(A)						<input type="checkbox"/>

Apply Configuration Cancel

Figure 2. Configure GigE Ports Screen—VMG Release 3.0.3—Three-IP Address Mode

Configure GigE Ports

Three-IP

Port	Admin State	MAC Address	Name	Virtual IP Address	Physical IP Address (slot 7)	Physical IP Address (slot 8)	Subnet Mask	Gateway	Auto Negotiation	Strict ARP	Mirror Output To
GigE 1	<input checked="" type="checkbox"/>	00:11:07:00:e1:80(A)		10.99.71.11	10.99.71.12	10.99.71.13	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 2
GigE 2	<input checked="" type="checkbox"/>	00:11:07:00:e1:81(A)		10.99.72.21	10.99.72.22	10.99.72.23	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
GigE 3	<input checked="" type="checkbox"/>	00:11:07:00:e1:82(A)		10.99.73.31	10.99.73.32	10.99.73.33	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 4
GigE 4	<input checked="" type="checkbox"/>	00:11:07:00:e1:83(A)		10.99.74.41	10.99.74.42	10.99.74.43	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
GigE 5	<input checked="" type="checkbox"/>	00:11:07:00:e1:84(A)		10.99.75.51	10.99.75.52	10.99.75.53	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 6
GigE 6	<input checked="" type="checkbox"/>	00:11:07:00:e1:85(A)		10.99.76.61	10.99.76.62	10.99.76.63	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	

☒ AMP Connection

Port	Admin State	MAC Address	Name	Virtual IP Address	Physical IP Address (slot 7)	Physical IP Address (slot 8)	Subnet Mask	Gateway	Auto Negotiation	Strict ARP	Mirror Output To
GigE 7	<input checked="" type="checkbox"/>	00:11:07:00:e1:86(A)		10.100.2.16			255.255.255.0	10.100.2.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 8
GigE 8	<input checked="" type="checkbox"/>	00:11:07:00:e1:87(A)		10.100.1.16			255.255.255.0	10.100.1.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Port	Admin State	MAC Address	Name	Virtual IP Address	Physical IP Address (slot 7)	Physical IP Address (slot 8)	Subnet Mask	Gateway	Strict ARP
10GigE 1	<input type="checkbox"/>	00:11:07:00:e1:88(A)							<input type="checkbox"/>
10GigE 2	<input type="checkbox"/>	00:11:07:00:e1:89(A)							<input type="checkbox"/>

Apply Cancel

Figure 3. Configure GigE Ports Screen—VMG Release 3.0.3—One-IP Address Mode

Configure GigE Ports

One-IP

Port	Admin State	MAC Address	Name	IP Address	Subnet Mask	Gateway	Auto Negotiation	Strict ARP	Mirror Output To
GigE 1	<input checked="" type="checkbox"/>	00:11:07:00:e1:80(A)		10.99.71.11	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 2
GigE 2	<input checked="" type="checkbox"/>	00:11:07:00:e1:81(A)		10.99.72.21	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
GigE 3	<input checked="" type="checkbox"/>	00:11:07:00:e1:82(A)		10.99.73.31	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 4
GigE 4	<input checked="" type="checkbox"/>	00:11:07:00:e1:83(A)		10.99.74.41	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
GigE 5	<input checked="" type="checkbox"/>	00:11:07:00:e1:84(A)		10.99.75.51	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 6
GigE 6	<input checked="" type="checkbox"/>	00:11:07:00:e1:85(A)		10.99.76.61	255.255.255.0		<input type="checkbox"/>	<input checked="" type="checkbox"/>	

☒ AMP Connection

Port	Admin State	MAC Address	Name	IP Address	Subnet Mask	Gateway	Auto Negotiation	Strict ARP	Mirror Output To
GigE 7	<input checked="" type="checkbox"/>	00:11:07:00:e1:86(A)		10.100.2.16	255.255.255.0	10.100.2.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> GigE 8
GigE 8	<input checked="" type="checkbox"/>	00:11:07:00:e1:87(A)		10.100.1.16	255.255.255.0	10.100.1.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Port	Admin State	MAC Address	Name	IP Address	Subnet Mask	Gateway	Strict ARP
10GigE 1	<input type="checkbox"/>	00:11:07:00:e1:88(A)					<input type="checkbox"/>
10GigE 2	<input type="checkbox"/>	00:11:07:00:e1:88(A)					<input type="checkbox"/>

Apply Cancel

Updates for Transport Stream Configurations

Software support for up to 36 SD transcodes per TCM—for use in VTX and AVTX transcoding—began with VMG Release 3.0.0. To provide this performance increase, the VMG groups three similar videos on one video processor. In order for the VMG to determine which videos are similar, the VMG requires information on the resolution, video type and standard of each input, and the specified output video type.

As mentioned above, this release adds new information associated with each stream to the VMG database. Following a software upgrade, the input resolution class defaults to HD and must be changed to SD in order to take advantage of the improved SD transcoding density.



Note: *Transcoding from SD to PIP is not supported in this release. To transcode SD to PIP you must specify in the VMG Element Manager that the SD input(s) you wish to transcode is HD.*

An upgrade from Release 2.5.1, 2.5.2, or 2.5.4 to Release 3.0.3 introduces new configuration elements at the *VMG Element Manager* transport stream configuration screens, and also affects default settings (see also Table 4 on page 5).

This section provides screen views and information associated with the Release 3.0.3 upgrade from release 2.5.x, as applicable to the following transport streams:

- VTX Output Transport Stream.
- AVTX Output Transport Stream.
- PIP Output Transport Stream.
- VTX+PIP Output Transport Stream.
- AVTX+PIP Output Transport Stream.
- MBR Transport Stream.

VTX Output Transport Stream

The VMG Release 3.0.3 **Create Output VTX Transport Stream** screen is updated to provide video transcoding settings for input resolution, for both SD (Figure 5) and HD (Figure 6; default).

Figure 4. Create Output VTX Transport Stream Screen—VMG Release 2.5.2

Figure 5. Create Output VTX Transport Stream Screen (SD)—VMG Release 3.0.3

Figure 6. Create Output VTX Transport Stream Screen (HD)—VMG Release 3.0.3

Following upgrade, all VTX transport stream settings for video transcoding will default to HD.

Modifying Output VTX Transport Stream Settings

In release 3.0.0 the **Modify Output VTX Transport Stream** screen has been expanded to include the information required by the VMG to support 36 SD transcodes per TCM. This includes the setting of the **Input Resolution Class**, **Input Video Type**, **Input Video Standard**, and the **Output Video Type**.

Use the **Modify Output VTX Transport Stream** screen (Figure 7) to change the settings.

Figure 7. VMG Release 3.0.3

AVTX Output Transport Stream

The VMG Release 3.0.3 **Create Output AVTX Transport Stream** screen is updated to provide **Video Type** and **Video Standard** settings for SD input resolution class.

- For SD, a **Video Type** previously set as SD in Release 2.5.2 (Figure 8) will default to MPEG-II, and **Video Standard** will default to NTSC (Figure 10).
Use the **Modify AVTX** screen (Figure 12) to modify the settings.
- For HD, there is no change from Release 2.5.2 (Figure 9) to Release 3.0.x (Figure 11).

Figure 8. Create Output AVTX Transport Stream Screen (SD)—VMG Release 2.5.2

The screenshot shows the 'Create Output AVTX Transport Stream' configuration window. The 'Port' is set to 'GigE 3'. The 'Transcoding' checkbox is checked, and the dropdown menu shows 'AVTX (Audio + Video)'. Below this, there are checkboxes for 'TS DPI', 'Program DPI', and 'SPTS', with 'SPTS' being checked. The 'Bitrate (Mbps)' is set to '38.0'. The 'Network PID' is '8175'. The 'TS Type' is 'MPEG-2'. The 'Input Resolution Class' is set to 'SD'. The 'Apply Configuration' and 'Cancel' buttons are at the bottom right.

Figure 9. Create Output AVTX Transport Stream Screen (HD)—VMG Release 2.5.2

The screenshot shows the 'Create Output AVTX Transport Stream' configuration window. The 'Port' is set to 'GigE 3'. The 'Transcoding' checkbox is checked, and the dropdown menu shows 'AVTX (Audio + Video)'. Below this, there are checkboxes for 'TS DPI', 'Program DPI', and 'SPTS', with 'SPTS' being checked. The 'Bitrate (Mbps)' is set to '38.0'. The 'Network PID' is '8175'. The 'TS Type' is 'MPEG-2'. The 'Input Resolution Class' is set to 'HD'. The 'Apply Configuration' and 'Cancel' buttons are at the bottom right.

Figure 10. Create Output AVTX Transport Stream Screen (SD)—VMG Release 3.0.0

Create Output AVTX Transport Stream

Port: GigE 4 ☒ Transcoding: AVTX (Audio + Video) ☐ TS DPI ☐ Program DPI ☒ SPTS

TS Name: TS Bitrate (Mbps): 5.5

☒ Multicast IP: Async Data Bitrate(Mbps): 0

UDP Port: Auto / Video Bitrate(Mbps): ☐ 3

Subnet Mask:

ARP:

MAC Address: ☐ Pick TS ID

☒ RTP ☐ FEC Network PID: 8175

TS Type: MPEG-2

Multiple TS

Transcoding can be enabled on a SPTS output transport stream only
TS DPI, Program DPI and FEC are not supported with Transcoding

Video Transcoding

Input Resolution Class: SD Video Type: MPEG2 Video Standard: NTSC

Output Resolution Class: SD Video Type: MPEG2

Apply Configuration Cancel

Figure 11. Create Output AVTX Transport Stream Screen (HD)—VMG Release 3.0.0

Create Output AVTX Transport Stream

Port: GigE 4 ☒ Transcoding: AVTX (Audio + Video) ☐ TS DPI ☐ Program DPI ☒ SPTS

TS Name: TS Bitrate (Mbps): 20

☒ Multicast IP: Async Data Bitrate(Mbps): 0

UDP Port: Auto / Video Bitrate(Mbps): ☐ 15

Subnet Mask:

ARP:

MAC Address: ☐ Pick TS ID

☒ RTP ☐ FEC Network PID: 8175

TS Type: MPEG-2

Multiple TS

Transcoding can be enabled on a SPTS output transport stream only
TS DPI, Program DPI and FEC are not supported with Transcoding

Video Transcoding

Input Resolution Class: HD

Output Resolution Class: HD Video Type: MPEG2

Apply Configuration Cancel

Modifying Output AVTX Transport Stream Settings

Use the **Modify Output AVTX Transport Stream** screen (Figure 12) to adjust AVTX video transcoding settings.

Figure 12. Modify Output AVTX Transport Stream Screen—VMG Release 3.0.0

PIP Output Transport Stream

VMG Release 3.0.3 provides **Input Resolution Class** options for PIP transport streams, in the **Create Output PIP Transport Stream** screen for SD (Figure 14) or HD (Figure 15).

Following upgrade, all PIP transport streams will default to HD. Use the **Modify Output PIP Transport Stream** screen (Figure 16) if you need to set PIP transport stream SD parameters.

Figure 13. Create Output PIP Transport Stream Screen—VMG Release 2.5.2

Figure 14. Create Output PIP Transport Stream Screen (SD)—VMG Release 3.0.0

Create Output PIP Transport Stream

Port: GigE 4 ☒ Transcoding: PIP (Video) ☐ TS DPI ☐ Program DPI ☒ SPTS

TS Name: TS Bitrate (Mbps): 0.5

☒ Multicast IP: UDP Port: Auto / Video Bitrate(Mbps): 0.2

Subnet Mask: Pick TS ID: ☐ Network PID: 8175

ARP: TS Type: MPEG-2

MAC Address: ☐ RTP ☐ FEC

Transcoding can be enabled on a SPTS output transport stream only
TS DPI, Program DPI and FEC are not supported with Transcoding

Video Transcoding

Input Resolution Class: SD Video Type: MPEG2 Video Standard: NTSC

Output Resolution Class: PIP Video Type: H264

Figure 15. Create Output PIP Transport Stream Screen (HD)—VMG Release 3.0.0

Create Output PIP Transport Stream

Port: GigE 4 ☒ Transcoding: PIP (Video) ☐ TS DPI ☐ Program DPI ☒ SPTS

TS Name: TS Bitrate (Mbps): 1.2

☒ Multicast IP: UDP Port: Auto / Video Bitrate(Mbps): 0.3

Subnet Mask: Pick TS ID: ☐ Network PID: 8175

ARP: TS Type: MPEG-2

MAC Address: ☐ RTP ☐ FEC

Transcoding can be enabled on a SPTS output transport stream only
TS DPI, Program DPI and FEC are not supported with Transcoding

Video Transcoding

Input Resolution Class: HD Video Type: MPEG2 Video Standard: NTSC

Output Resolution Class: PIP Video Type: H264

Modifying Output PIP Transport Settings

Use the **Modify Output PIP Transport Stream** screen (Figure 16) to modify settings.

Figure 16. Modify Output PIP Transport Stream Screen—VMG Release 3.0.0

Modify Output PIP Transport Stream

Port: Gige 2 ☒ Transcoding PIP (Video)

TS Name:

☒ Multicast IP: 224.5.6.7 ☐ TS DPI ☐ Program DPI ☒ SPTS

UDP Port: 4455 TS Bitrate (Mbps): 0.5

Subnet Mask: Auto / Video Bitrate(Mbps): 0.2

ARP: Actual Video Bitrate(Mbps): 0

MAC Address: 01:00:5e:05:06:07 TS ID: 0

☐ RTP ☐ FEC Network PID: 8175

TS Type: MPEG-2

Transcoding can be enabled on a SPTS output transport stream only
TS DPI, Program DPI and FEC are not supported with Transcoding

Video Transcoding

Input Resolution Class: SD Video Type: MPEG2 Video Standard: NTSC

Output Resolution Class: PIP Video Type: H264

Apply Configuration Cancel

VTX+PIP Output Transport Stream

Release 3.0.3 updates the **Create VTX+PIP Transport Stream** screen to provide **Input Resolution Class** options (Figure 18). Following the upgrade, all VTX+PIP settings will default to HD.



Note: *Modification of the default Input Resolution Class—for VTX+PIP—is not supported in the current release.*

Figure 17. Create VTX+ PIP Transport Stream Screen—VMG Release 2.5.2

Index	Type	Name	TS ID	Multic...	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)
1	Main			<input checked="" type="checkbox"/>				15.0
2	PIP			<input checked="" type="checkbox"/>				0.3

Figure 18. Create VTX+ PIP Transport Stream Screen—VMG Release 3.0.3

Index	Type	Name	TS ID	Multicast	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)	Async Data Bitrate(Mbps)	Auto Video Bitrate	Video Bitrate(Mbps)
1	Main		0	<input checked="" type="checkbox"/>				18.5		<input type="checkbox"/>	8
2	PIP		0	<input checked="" type="checkbox"/>				1.2		<input type="checkbox"/>	0.3

Video Transcoding

Input Resolution Class:

Output Resolution Class: Video Type:

AVTX+PIP Output Transport Stream

Release 3.0.3 updates the **Create AVTX+PIP Transport Stream** screen to provide **Input Resolution Class** options (Figure 21). Following the upgrade, all AVTX+PIP settings will default to **HD**.

Note: *Modification of the default Input Resolution Class—for AVTX+PIP—is not supported in the current release.*

Figure 19. Create AVTX+ PIP Transport Stream Screen (SD)—VMG Release 2.5.2

Port: GigE 3 TS Type: MPEG-2

Index	Type	Name	TS ID	Multic...	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)
1	Main			<input checked="" type="checkbox"/>				15.0
2	PIP			<input checked="" type="checkbox"/>				0.3

Video Transcoding
Input Resolution Class: SD

Apply Cancel

Figure 20. Create AVTX+ PIP Transport Stream Screen (HD)—VMG Release 2.5.2

Port: GigE 3 TS Type: MPEG-2

Index	Type	Name	TS ID	Multic...	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)
1	Main			<input checked="" type="checkbox"/>				15.0
2	PIP			<input checked="" type="checkbox"/>				0.3

Video Transcoding
Input Resolution Class: HD

Apply Cancel

Figure 21. Create AVTX+ PIP Transport Stream Screen (HD)—VMG Release 3.0.0

Port: GigE 4 TS Type: MPEG-2

Index	Type	Name	TS ID	Multicast	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)	Async Data Bitrate(Mbps)	Auto Video Bitrate	Video Bitrate(Mbps)
1	Main		0	<input checked="" type="checkbox"/>				18.5		<input type="checkbox"/>	8
2	PIP		0	<input checked="" type="checkbox"/>				1.2		<input type="checkbox"/>	0.3

Video Transcoding
Input Resolution Class: HD
Output Resolution Class: HD Video Type: H264

Apply Cancel

MBR Transport Stream

The Release 3.0.3 upgrade does not affect MBR input resolution class settings. The **Output SDT** feature is introduced in the Release 3.0.3 **Create MBR Transport Stream** screens, for both SD (Figure 24) and HD (Figure 25).

Figure 22. Create MBR Transport Stream Screen (SD)—VMG Release 2.5.2

Create MBR Transport Stream

Port: GigE 3 TS Type: MPEG-2

Number of Transport Streams: 4

Index	Name	TS ID	Multicast	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)
1			<input checked="" type="checkbox"/>				
2			<input checked="" type="checkbox"/>				
3			<input checked="" type="checkbox"/>				
4			<input checked="" type="checkbox"/>				

Video Transcoding
Input Resolution Class: SD

Apply Cancel

Figure 23. Create MBR Transport Stream Screen (HD)—VMG Release 2.5.2

Create MBR Transport Stream

Port: GigE 3 TS Type: MPEG-2

Number of Transport Streams: 4

Index	Name	TS ID	Multicast	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)
1			<input checked="" type="checkbox"/>				
2			<input checked="" type="checkbox"/>				
3			<input checked="" type="checkbox"/>				
4			<input checked="" type="checkbox"/>				

Video Transcoding
Input Resolution Class: HD

Apply Cancel

Figure 24. Create MBR Transport Stream Screen (SD)—VMG Release 3.0.3

Create MBR Transport Stream

Port: GigE 4 TS Type: MPEG-2 ☒ Output SDT

Number of Transport Streams: 4

Index	Name	TS ID	Multic...	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)	Video Bitrate
1			<input checked="" type="checkbox"/>					
2			<input checked="" type="checkbox"/>					
3			<input checked="" type="checkbox"/>					
4			<input checked="" type="checkbox"/>					

Video Transcoding
Input Resolution Class: SD

Apply Cancel

Figure 25. Create MBR Transport Stream Screen (HD)—VMG Release 3.0.3

Port: GigE 4 TS Type: MPEG-2 ☐ Output SDT

Number of Transport Streams: 4

Index	Name	TS ID	Multic...	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)	Video Bitrate
1			<input checked="" type="checkbox"/>					
2			<input checked="" type="checkbox"/>					
3			<input checked="" type="checkbox"/>					
4			<input checked="" type="checkbox"/>					

Video Transcoding
Input Resolution Class: HD

Apply Cancel

Modifying MBR Transport Stream Settings

The following MBR TS Bitrate limitations have been in place since Release 3.0.0.

- MBR TS = 12 Mbps (total)
- MBR Video Bitrate = 9 Mbps (total)
- Elementary Streams = 2 audio / 2 data ES

These policies were not in effect in pre-3.0 VMG releases, and they are NOT implemented on pre-existing grooming through the upgrade process. You must manually modify them in the **Modify MBR Transport Stream** screen.

Figure 26. Modify MBR Transport Stream Screen—VMG Release 3.0.3

Port: GigE 4 TS Type: MPEG-2 ☐ Output SDT

Number of Transport Streams: 4

Index	Name	TS ID	Multic...	IP Address	Subnet Mask	UDP Port	TS Bitrate (Mbps)	Video Bitrate
1			<input checked="" type="checkbox"/>					
2			<input checked="" type="checkbox"/>					
3			<input checked="" type="checkbox"/>					
4			<input checked="" type="checkbox"/>					

Video Transcoding
Input Resolution Class: HD

Apply Cancel