

Spectrum™ Onboard Playout Control and PlayoutTool

RELEASE 7.2

User Guide

January 24, 2013

Copyright © 2000–1/24/13 Harmonic Inc. All rights reserved. Omneon, and the Omneon logo are trademarks of Harmonic Inc.

Disclaimer

Harmonic reserves the right to alter the equipment specifications and descriptions in this publication without prior notice. No part of this publication shall be deemed to be part of any contract or warranty unless specifically incorporated by reference into such contract or warranty. The information contained herein is merely descriptive in nature, and does not constitute a binding offer for sale of the product described herein. Harmonic assumes no responsibility or liability arising from the use of the products described herein, except as expressly agreed to in writing by Harmonic. The use and purchase of this product do not convey a license under any patent rights, copyrights, trademark rights, or any intellectual property rights of Harmonic. Nothing hereunder constitutes a representation or warranty that using any products in the manner described herein will not infringe any patents of third parties.

Trademark Acknowledgments

Harmonic and all Harmonic product names are trademarks of Harmonic Inc. All other trademarks are the property of their respective owners.

The software described in this document is furnished under a license agreement or nondisclosure agreement. The software may be used or copied only in accordance with the terms of those agreements.



May be covered by one or more of U.S. Patents No. 6,571,351; 6,696,996; 6,545,721; 6,574,225; 6,895,003; 6,522,649; 6,643,702; foreign counterparts and pending patent applications.

This system is distributed with certain other software that may require disclosure or distribution of licenses, copyright notices, conditions of use, disclaimers and/or other matter. Use of this system or otherwise fulfilling their conditions constitutes your acceptance of them, as necessary. Copies of such licenses, notices, conditions, disclaimers and/or other matter are available in any one of the following locations: the LEGAL NOTICES AND LICENSES directory of the distribution disk of the software, the root directory of the hard disk drive of the Products, or by contacting us at support@harmonicinc.com.

Notice

Information contained in this guide is subject to change without notice or obligation. While every effort has been made to ensure that the information is accurate as of the publication date, Harmonic Inc. assumes no liability for errors or omissions. In addition, Harmonic Inc. assumes no responsibility for damages resulting from the use of this guide.

License Agreement and Limited Warranty

1. **AGREEMENT:** This is a legal agreement ("Agreement") between you ("you" or "your") and Harmonic, or its appropriate local affiliate ("Harmonic", "we", "us" or "our"). Use of our product(s) and any updates thereto purchased or validly obtained by you (the "Products"), and/or the Software (as defined below) (collectively, the "System"), constitutes your acceptance of this Agreement. "Use" includes opening or breaking the seal on the packet containing this Agreement, installing or downloading the Software as defined below or using the Software preloaded or embedded in your System. As used herein, the term "Software" means the Harmonic owned software and/or firmware used in or with the Products and embedded into, provided with or loaded onto the Products in object code format, but does not include, and this Agreement does not address, any third-party or free or open source software separately licensed to you ("Third Party Software"). If you do not agree to this Agreement, you shall promptly return the System with a dated receipt to the seller for a full refund.
2. **LICENSE:** Subject to the terms and conditions of this Agreement (including payment), we hereby grant you a nonexclusive, nontransferable license to use the object code version of the Software embedded into, provided solely for use with or loaded onto the Product, and the accompanying documentation ("Documentation") for your internal business purposes. The Software and any authorized copies are owned by us or our suppliers, and are protected by law, including without limitation the copyright laws and treaties of the U.S.A. and other countries. Evaluation versions of the Software may be subject to a time-limited license key.
3. **RESTRICTIONS:** You (and your employees and contractors) shall not attempt to reverse engineer, disassemble, modify, translate, create derivative works of, rent, lease (including use on a timesharing, applications service provider, service bureau or similar basis), loan, distribute, sublicense or otherwise transfer the System, in whole or part except to the extent otherwise permitted by law. The Software may be operated on a network only if and as permitted by its Documentation. You may make one (1) back up copy of the object code of the Software for archival purposes only. Evaluation Software will be run in a lab, nonproductive environment. Results of any benchmark or other performance tests may not be disclosed to any third party without our prior written consent. Title to and ownership of the Software and Documentation, and all copyright, patent, trade secret, trademark, and other intellectual property rights in the System, shall remain our or our licensors' property. You shall not remove or alter any copyright or other proprietary rights notice on the System. We reserve all rights not expressly granted.
4. **LIMITED WARRANTY:** (a) Limited Warranty. We warrant to you that, commencing on your receipt of a Product and terminating 1 year thereafter, the System will perform substantially in accordance with its then-current appropriate Documentation. The Product (including replacements) may consist of new, used or previously-installed components. (b) Remedies. If the System fails to comply with such warranty during such period, as your sole remedy, you must return the same in compliance with our product return policy, and we shall, at our option, repair or replace the System, provide a workaround, or refund the fees you paid. Replacement Systems are warranted for the original System's remaining warranty period. (c) Exclusions. EVALUATION SOFTWARE IS LICENSED ON AS-IS BASIS AND SUBJECT TO 4(d). We will have no obligation under this limited warranty due to: (i) negligence, misuse or abuse of the System, such as unusual physical or electrical stress, misuse or accidents; (ii) use of the System other than in accordance with the Documentation; (iii) modifications, alterations or repairs to the System made by a party other than us or our representative; (iv) the combination, operation or use of the System with equipment, devices, software or data not supplied by us; (v) any third party hardware or Third Party Software, whether or not provided by us; (vi) any failure other than by us to comply with handling, operating, environmental, storage or maintenance requirements for the System in the Documentation, including, without limitation, temperature or humidity ranges. (d) Disclaimers. We are not responsible for your software, firmware, information, or data contained in, stored on, or integrated with any Product returned to us for repair or replacement. SUCH

LIMITED WARRANTY IS IN LIEU OF, AND WE SPECIFICALLY DISCLAIM, ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF SATISFACTORY QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. WE DO NOT WARRANT THAT THE SYSTEM WILL MEET YOUR REQUIREMENTS OR BE UNINTERRUPTED OR ERROR-FREE. NO ADVICE OR INFORMATION, WHETHER ORAL OR WRITTEN, OBTAINED FROM US OR ELSEWHERE, WILL CREATE ANY WARRANTY NOT EXPRESSLY STATED IN THIS AGREEMENT. Some jurisdictions do not allow the exclusion of implied warranties or limitations on how long an implied warranty may last, so such exclusions may not apply to you. In that event, such implied warranties or limitations are limited to 60 days from the date you purchased the System or the shortest period permitted by applicable law, if longer. This warranty gives you specific legal rights and you may have other rights which vary from state to state or country to country.

5. **LIMITATION OF LIABILITY:** WE AND OUR AFFILIATES, SUPPLIERS, LICENSORS, OR SALES CHANNELS ("REPRESENTATIVES") SHALL NOT BE LIABLE TO YOU FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR EXEMPLARY DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO LOST REVENUES, PROFITS OR SAVINGS, OR THE COST OF SUBSTITUTE GOODS, HOWEVER CAUSED, UNDER CONTRACT, TORT, BREACH OF WARRANTY, NEGLIGENCE, OR OTHERWISE, EVEN IF WE WERE ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS AGREEMENT, WE AND OUR REPRESENTATIVES' TOTAL LIABILITY TO YOU ARISING FROM OR RELATING TO THIS AGREEMENT OR THE SYSTEM SHALL BE LIMITED TO THE TOTAL PAYMENTS TO US UNDER THIS AGREEMENT FOR THE SYSTEM. THE FOREGOING LIMITATIONS SHALL NOT APPLY TO DEATH OR PERSONAL INJURY TO PERSONS OR TANGIBLE PROPERTY IN ANY JURISDICTION WHERE APPLICABLE LAW PROHIBITS SUCH LIMITATION. YOU ARE SOLELY RESPONSIBLE FOR BACKING UP YOUR DATA AND FILES, AND HEREBY RELEASE US AND OUR REPRESENTATIVES FROM ANY LIABILITY OR DAMAGES DUE TO THE LOSS OF ANY SUCH DATA OR FILES. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO SUCH EXCLUSIONS MAY NOT APPLY TO YOU.

6. **CONFIDENTIALITY:** Information in the System and the associated media, as well as the structure, organization and code of the Software, are proprietary to us and contain valuable trade secrets developed or acquired at great expense to us or our suppliers. You shall not disclose to others or utilize any such information except as expressly provided herein, except for information (i) lawfully received by the user from a third party which is not subject to confidentiality obligations; (ii) generally available to the public without breach of this Agreement; (iii) lawfully known to the user prior to its receipt of the System; or (iv) required by law to be disclosed.

7. **SUPPORT:** Updates, upgrades, fixes, maintenance or support for the System (an "Upgrade") after the limited warranty period may be available at separate terms and fees from us. Any Upgrades shall be subject to this Agreement, except for additional or inconsistent terms we specify. Upgrades do not extend the limited warranty period.

8. **TERM; TERMINATION:** The term of this Agreement shall continue unless terminated in accordance with this Section. We may terminate this Agreement at any time upon default by you of the license provisions of this Agreement, or any other material default by you of this Agreement not cured with thirty (30) days after written notice thereof. You may terminate this Agreement any time by terminating use of the System. Except for the first sentence of Section 2 ("License") and for Section 4(a) ("Limited Warranty"), all provisions of this Agreement shall survive termination of this Agreement. Upon any such termination, you shall certify in writing such termination and non-use to us.

9. **EXPORT CONTROL:** You agree that the Products and Software will not be shipped, transferred, or exported into any country or used in any manner prohibited by the United States Export Administration Act or any other export laws, restrictions, or regulations (the "Export Laws"). You will indemnify, defend and hold us harmless from any and all claims arising therefrom or relating thereto. In addition, if the Products or Software are identified as export controlled items under the Export Laws, you represent and warrant that you are not a citizen, or otherwise located within, an embargoed nation (including without limitation Iran, Iraq, Syria, Sudan, Libya, Cuba, North Korea, and Serbia) and that you are not otherwise prohibited under the Export Laws from receiving the Software. All rights to the Products and Software are granted on condition that such rights are forfeited if you fail to comply with the terms of this Agreement.

10. **U.S. GOVERNMENT RIGHTS:** The Software and the documentation which accompanies the Software are "Commercial Items," as that term is defined at 48 C.F.R. §2.101, consisting of "Commercial Computer Software" and "Commercial Computer Software Documentation," as such terms are used in 48 C.F.R. §12.212 or 48 C.F.R. §227.7202, as applicable. Consistent with 48 C.F.R. §12.212 or 48 C.F.R. §§227.7202-1 through 227.7202-4, as applicable, the Commercial Computer Software and Commercial Computer Software Documentation are being licensed to U.S. Government as end users (a) only as Commercial Items and (b) with only those rights as are granted to all other end users pursuant to the terms and conditions herein. Harmonic, 4300 North First Street, San Jose, CA 95134 U.S.A.

11. **GENERAL:** You shall not assign, delegate or sublicense your rights or obligations under this Agreement, by operation of law or otherwise, without our prior written consent, and any attempt without such consent shall be void. Subject to the preceding sentence, this Agreement binds and benefits permitted successors and assigns. This Agreement is governed by California law, without regard to its conflicts of law principles. The U.N. Convention on Contracts for the International Sale of Goods is disclaimed. If any claim arises out of this Agreement, the parties hereby submit to the exclusive jurisdiction and venue of the federal and state courts located in Santa Clara County, California. In addition to any other rights or remedies, we shall be entitled to injunctive and other equitable relief, without posting bond or other security, to prevent any material breach of this Agreement. We may change the terms, conditions and pricing relating to the future licensing of our Systems and other intellectual property rights, including this Agreement, from time to time. No waiver will be implied from conduct or failure to enforce rights nor effective unless in a writing signed on behalf of the party against whom the waiver is asserted. If any part of this Agreement is found unenforceable, the remaining parts will be enforced to the maximum extent permitted. There are no third-party beneficiaries to this Agreement. We are not bound by additional and/or conflicting provisions in any order, acceptance, or other correspondence unless we expressly agree in writing. This Agreement is the complete and exclusive statement of agreement between the parties as to its subject matter and supersedes all proposals or prior agreements, verbal or written, advertising, representations or communications concerning the System.

Every reasonable attempt has been made to comply with all licensing requirements for all components used in the system. Any oversight is unintentional and will be remedied if brought to the attention of Harmonic at support@harmonicinc.com.

Documentation Conventions

This guide may use some special symbols and fonts to call your attention to important information. The following symbols appear throughout this guide:



DANGER: The Danger symbol calls your attention to information that, if ignored, can cause physical harm to you.



CAUTION: The Caution symbol calls your attention to information that, if ignored, can adversely affect the performance of your Harmonic product, or that can make a procedure needlessly difficult.



LASER DANGER: The Laser symbol and the Danger alert call your attention to information about the lasers in this product that, if ignored, can cause physical harm to you.



NOTE: The Note symbol calls your attention to additional information that you will benefit from heeding. It may be used to call attention to an especially important piece of information you need, or it may provide additional information that applies in only some carefully delineated circumstances.



IMPORTANT: The Important symbol calls your attention to information that should stand out when you are reading product details and procedural information.



TIP: The Tip symbol calls your attention to parenthetical information that is not necessary for performing a given procedure, but which, if followed, might make the procedure or its subsequent steps easier, smoother, or more efficient.

In addition to these symbols, this guide may use the following text conventions:

Convention	Explanation
Typed Command	Indicates the text that you type in at the keyboard prompt.
<Ctrl>, <Ctrl>+<Shift>	A key or key sequence to press.
<i>Links</i>	The <i>italics in blue</i> text to indicate Cross-references, and hyperlinked cross-references in online documents.
Bold	Indicates a button to click, or a menu item to select.
ScreenOutput	The text that is displayed on a computer screen.
<i>Emphasis</i>	The <i>italics</i> text used for emphasis and document references.



NOTE: You require Adobe Reader or Adobe Acrobat version 6.0 or later to open the PDF files. You can download Adobe Reader free of charge from www.adobe.com.

Contents

Introduction	1
Spectrum System Documentation Suite.	1
Locating the Latest Documentation on the Harmonic Website	3
Technical Support.	3
Useful Information when Contacting Technical Support	3
Chapter 1: Onboard Playout Control Configuration Overview	5
ChannelPort and MediaPort Installation Overview	5
Onboard Playout Control Configuration Overview	5
Configuring a ChannelPort Channel for Onboard Playout Control	5
Configuring a MediaPort 7000 Channel for Onboard Playout Control	6
Chapter 2: Spectrum Onboard Playout Control	7
OPC Workflow Overview	7
About Traffic and Billing Services	8
About Spectrum OPC Playlists	8
Loading a Spectrum OPC Playlist	8
Retrieving a Spectrum As-run List.	9
Configuring Error Thresholds	10
About Media Fetch.	10
Chapter 3: Installing PlayoutTool	11
System Requirements	11
Windows	11
Macintosh Operating System	11
System Compatibility	11
Installing PlayoutTool	11
Installing Adobe Air	11
Installing PlayoutTool	11
Chapter 4: Using PlayoutTool.....	13
Configuring the PlayoutTool Connection	13
Using PlayoutTool.	14
Home Window	14
Channel List View	15
Viewing Channel Selectors	16
Viewing the Channel Status Area	16
Viewing On-Air Primaries and Secondaries	19
Viewing Paged Events	20
Viewing Event Details	22
Viewing Channel Alarms	26
Viewing Diagnostic Logs	27
Using Channel Override	28

Activating Channel Override	28
Appendix A: Contacting the Technical Assistance Center	30

Introduction

Welcome to the *Spectrum Onboard Playout Control User Guide*.

This document provides the following in-depth information for using the Spectrum Onboard Playout Control (OPC) feature.

- Introduction (this section) provides the following topics:
 - [Spectrum System Documentation Suite](#)
 - [Technical Support](#)
- [Chapter 1, Onboard Playout Control Configuration Overview](#) provides an overview of configuring a ChannelPort or MediaPort 7000 channel for Onboard Playout Control.
- [Chapter 2, Spectrum Onboard Playout Control](#) provides an overview of the Spectrum Onboard Playout Control feature.
- [Chapter 3, Installing PlayoutTool](#) provides instructions for installing PlayoutTool.
- [Chapter 4, Using PlayoutTool](#) provides instructions for using the OPC monitoring tool, PlayoutTool.

Spectrum System Documentation Suite

The table below describes the documents which comprise the Spectrum System Documentation Suite.

Spectrum (MediaDirector 2201, 2202, MediaCenter, MediaPort 5000, MediaPort 7000, ChannelPort)	
This document...	Provides this information...
Spectrum System Installation and Hardware Reference Guide	<ul style="list-style-type: none">■ System installation■ Software installation and upgrade details■ Orientation to system components including MediaDirectors, MediaCenters, MediaPorts, ChannelPorts, and MediaStores■ Troubleshooting system components■ Specifications for system components
Spectrum System Protocol Reference Guide	<ul style="list-style-type: none">■ Command sets and preroll parameters for controlling MediaDirectors■ The Omneon implementation of FTP server
Spectrum Quick Reference Guides	<ul style="list-style-type: none">■ Front and back panel views of Spectrum devices■ LED assignments and legends
Spectrum ChannelPort Template Authoring Guide	ChannelPort template authoring
Spectrum ChannelPort Tools User Guide	Using ChannelPort tools
Spectrum Onboard Playout Control and PlayoutTool User Guide	<ul style="list-style-type: none">■ Onboard Playout Control Overview■ Using PlayoutTool
Spectrum Component Replacement Guide	Component replacement instructions for all Spectrum devices
Spectrum and MediaDeck Release Notes	Last minute information regarding a product release

Spectrum MediaDeck 7000	
This document...	Provides this information...
Spectrum MediaDeck 7000 User Guide	<ul style="list-style-type: none"> ■ System installation ■ Upgrade instructions ■ Orientation to system components
Spectrum MediaDeck 7000 Installation Guide	System installation
Spectrum and MediaDeck Release Notes	Last minute information regarding a product release
Spectrum MediaDeck 7000 Read Me First	<ul style="list-style-type: none"> ■ Passwords for downloading MediaDeck and SystemManager files ■ Instructions for obtaining and installing the license file for SystemManager ■ Installation overview
Spectrum (MediaDirector 2100, 2101, 2102, 2102B, MediaPort 1000, 3000, 4000, 6000 Series)	
This document...	Provides this information...
Omneon Spectrum System Getting Started Guide	<ul style="list-style-type: none"> ■ System installation ■ Software installation and upgrade details
Omneon Spectrum System Hardware Orientation Guide	<ul style="list-style-type: none"> ■ Orientation to system components including MediaPorts, and MediaStores ■ Troubleshooting system components ■ Specifications for system components
Omneon Spectrum System Protocol Reference Guide	<ul style="list-style-type: none"> ■ Command sets and preroll parameters for controlling MediaDirectors ■ The Omneon implementation of FTP server
Omneon Spectrum Quick Reference Guides	<ul style="list-style-type: none"> ■ Front and back panel views of Spectrum devices ■ LED assignments and legends
Omneon MediaDeck	
This document...	Provides this information...
Omneon MediaDeck User Guide	<ul style="list-style-type: none"> ■ System installation ■ Upgrade instructions ■ Orientation to system components
Omneon MediaDeck Installation Guide	System installation
Spectrum and MediaDeck Release Notes	Last minute information regarding a product release
Omneon MediaDeck Read Me First	<ul style="list-style-type: none"> ■ Passwords for downloading MediaDeck and SystemManager files ■ Instructions for obtaining and installing the license file for SystemManager ■ Installation overview

All items are packaged in self-extracting files and available for download from the Omneon FTP site at the following location: <ftp://ftp.omneon.com/updates/omneon/Current/Spectrum/>

- **Release Notes:** Spectrum_v7.2.0.0_ReleaseNotes.pdf

- **All other components of the Spectrum System Documentation Suite:**
MediaDeckAndSpectrum-v7.2.0.0-Documentation.exe
- **For ChannelPort templates, tools, and documentation, as well as Onboard Payout Control tools and documentation:** ChannelPortTemplatesAndTools-7.2.0.0-SWandDoc.exe.

For Spectrum media and wrapper formats, refer to:
Spectrum_Media_and_WrapperFormats.pdf in the Spectrum System Documentation Suite.

For the SystemManager documentation, navigate to:

<ftp://ftp.omneon.com/updates/omneon/current/SystemManager>

SystemManager documents are packaged **SystemManager-v5.25.0.0-Documentation.exe**.

Acrobat® Reader® is needed to view the product documentation. Download this for free from: <http://www.adobe.com>

All files on the Omneon Support Server are password protected. Contact Omneon [Technical Support](#) if you need assistance with unlocking the files.

Locating the Latest Documentation on the Harmonic Website

The latest documentation can be found at <http://www.harmonicinc.com/documents-detail>.

Technical Support

For information on contacting Harmonic Technical Support, refer to [Appendix A, Contacting the Technical Assistance Center](#).

Useful Information when Contacting Technical Support

In order to assist Omneon Technical Support, review the following information:

- **What version of firmware is installed on your system?**

From the **Home** tab, click the **Upgrade Firmware** icon in the left-hand column to display the **Upgrade Firmware** page. The firmware version for each device is shown in the **Current Firmware Version** column.

- **What version of SystemManager software is installed?**

From SystemManager, click the **Help** tab. The version is shown in the **Server Software** section of the page.

- **Which Windows operating system is running on the SystemManager client PC?**

- a. From Windows, click the **Start** button, and then click **Run**.
- b. In the **Open** field, type: winver, and then press **Enter** to open the **About Windows** dialog box, which shows the version number.

- **How much memory is installed on the SystemManager platform? (for example, 256 MB, 512 MB, or 1 GB)**

- a. From Windows, click the **Start** button, and then click **Run**.
- b. In the **Open** field, type: winver and then press **Enter** to open the **About Windows** dialog box. Look for the line that reads, "Physical memory available to Windows."

- **Please provide the manager.oda file from the SystemManager platform or client PC**

Omneon Technical Support may request that you email the manager.oda file, which contains configuration information for your system. This file is located on the SystemManager platform at D:\Omneon\Manager\omdb, or if you are using a client PC with a single C: partition, it will be in the same directory on the C: drive.

■ **What is the model and serial number of the hardware involved?**

- For Spectrum and MediaDeck devices: from the **Home** tab, click the **Upgrade Firmware** icon in the left-hand column to display the **Upgrade Firmware** page. Both MediaDirectors and MediaDecks are listed in the **MediaDirectors** section. Find the Model Numbers and Serial Numbers listed in their respective columns.

Scroll down to the **MediaPorts** section to view the Model Numbers and Serial Numbers for MediaPorts and MediaDeck Modules.
- For Omneon MediaGrid Devices: Click the **Servers & Switches** icon in the left-hand column. From the Servers and Switches page, in the **Name** column, click the link for the Omneon MediaGrid device to open the **Properties** page for that device.
- For ProXchange devices: Click the ProXchange Servers icon in the left-hand column. From the **Servers** page, in the **Name** column, click the link for the ProXchange device to open the **Properties** page for that device.
- For ProBrowse devices: Click the ProBrowse Servers icon in the left-hand column. From the **Servers** page, in the **Name** column, click the link for the ProBrowse device to open the **Properties** page for that device.
- For MAS devices: Click the MAS Servers icon in the left-hand column. From the Servers page, in the **Name** column, click the link for the MAS device to open the **Properties** page for that device.

For Spectrum Systems

■ **What is the name of the Player that is being used?**

From SystemManager, click the **Player Configuration** link in the left-hand column, and then click the name of the MediaDirector or MediaDeck. The **Player List** page for that device appears. The names and status of all players are listed.

■ **What file format and bit rate is the Player configured for? (for example, MPEG, DV, or IMX?)**

- a. From SystemManager, click the **Player Configuration** link in the left-hand column, and then click the name of the MediaDirector or MediaDeck. The **Player List** page for that device appears.
- b. From the player list, click the **Properties** link to view all the details for a player.

■ **If the problem is related to Ingest or Playout of a clip, what is the Clip ID involved?**

The clip name or clip ID should be indicated by whatever software application you are using to play or record video. For Omneon ClipTool, clip names are displayed in the clip management area of the ClipTool main window.

■ **What brand of Automation, if any, is being used for control?**

■ **Is the Automation using VDCP or API for communication control?**

Chapter 1

Onboard Payout Control Configuration Overview

ChannelPort and MediaPort Installation Overview

ChannelPort and MediaPort 7000 modules can be installed in a MediaDeck 7000 or a MediaPort 7000.

For information on installing a ChannelPort or MediaPort 7000 module in a MediaDeck 7000, refer to the *MediaDeck 7000 User Guide*.

For information on installing a ChannelPort or MediaPort 7000 module in a MediaPort 7000 as part of a Spectrum System, refer to the *Spectrum Installation and Hardware Reference Guide*.

Onboard Payout Control Configuration Overview

Spectrum Onboard Payout Control (OPC), including PayoutTool, works in coordination with a Payout Channel running on a Spectrum video server that you configure using SystemManager.

The following sections provide an overview of the Onboard Payout Control configuration steps:

- [Configuring a ChannelPort Channel for Onboard Payout Control](#)
- [Configuring a MediaPort 7000 Channel for Onboard Payout Control](#)

Configuring a ChannelPort Channel for Onboard Payout Control

Please read the following configuration overview before configuring a ChannelPort channel for Onboard Payout Control.

1. Refer to the *Spectrum ChannelPort Template Authoring Guide* for information on creating graphic templates that can be played on the ChannelPort. Refer to the *Spectrum ChannelPort Tools User Guide* for instructions on installing and using FXTool and PreviewTool.
2. In SystemManager, create the player you wish to use for OPC and configure it to use "Harmonic Payout" for Control. Refer to "Initial Player Configuration" in the *SystemManager User Guide* for instructions.
3. In SystemManager, attach the player to the ChannelPort and then activate it. Refer to "Attaching Players" and "Changing the Player State: Activating and Deactivating, Enabling and Disabling" in the *SystemManager User Guide* for instructions.
4. In SystemManager, configure the ChannelPort channel. Refer to "Configuring a ChannelPort Channel" in the *SystemManager User Guide* for instructions.
5. If you are connecting ChannelPort to an EAS, refer to "Configuring a ChannelPort Channel" in the *SystemManager User Guide* for instructions.
6. In SystemManager, enable the Traffic and Billing service for the corresponding video server. Refer to "Enabling the Traffic and Billing Service" in the *SystemManager User Guide*.

7. In SystemManager, configure the Playout Channel for Onboard Playout Control by selecting “Playout” for the Channel Type on the Playout Channel Properties page. Configure other Playout Channel settings as needed. Refer to “Configuring a Playout Channel” in the *SystemManager User Guide*.
8. If you are using the Media Fetch service, enable Media Fetch on the Playout Channel Properties page and then configure the Media Fetch settings. Refer to “Configuring the Media Fetch Service” in the *SystemManager User Guide* for instructions.
9. Refer to the *Spectrum Onboard Playout Control and PlayoutTool User Guide* for information about creating playlists and installing and using the PlayoutTool.
10. Download and install PlayoutTool. Refer to “Installing PlayoutTool” [Chapter 3, Installing PlayoutTool](#) for instructions.

Configuring a MediaPort 7000 Channel for Onboard Playout Control

Please read the following configuration overview before configuring a MediaPort 7000 channel for Onboard Playout Control.

1. In SystemManager, create the player you wish to use for OPC and configure it to use “Harmonic Playout” for Control. Refer to “Initial Player Configuration” in the *SystemManager User Guide* for instructions.
2. In SystemManager, attach the player to the MediaPort 7000 and then activate it. Refer to “Attaching Players” and “Changing the Player State: Activating and Deactivating, Enabling and Disabling” in the *SystemManager User Guide* for instructions.
3. In SystemManager, enable the Traffic and Billing service for the corresponding video server. Refer to “Enabling the Traffic and Billing Service” in the *SystemManager User Guide*.
4. In SystemManager, configure the Playout Channel for Onboard Playout Control by selecting “Playout” for the Channel Type on the Playout Channel Properties page. Configure other Playout Channel settings as needed. Refer to “Configuring a Playout Channel” in the *SystemManager User Guide*.
5. If you are using the Media Fetch service, enable Media Fetch on the Playout Channel Properties page and then configure the Media Fetch settings. Refer to “Configuring the Media Fetch Service” in the *SystemManager User Guide* for instructions.
6. Download and install PlayoutTool. Refer to [Chapter 3, Installing PlayoutTool](#) for instructions.

Chapter 2

Spectrum Onboard Playout Control

Onboard Playout Control (OPC) is an optional, licensed Spectrum system feature that provides unattended playout of clips and graphics driven by a channel's traffic schedule. OPC controls the Playout Channel and graphics plane of a Spectrum system, but it is not an automation system: each instance of OPC controls only the channel for which it has been configured.

OPC consists of software present on a Spectrum system (MediaCenter, MediaDirector, or MediaDeck 7000) plus a tool for monitoring channels, called PlayoutTool (refer to [Chapter 4, Using PlayoutTool](#) for more information).

Media Fetch, also an optional, licensed feature is available for use with OPC. Refer to [About Media Fetch](#) for more information.



NOTE: Neither OPC nor PlayoutTool offer the ability to adjust or edit a playlist in real time.

This chapter includes the following sections:

- [OPC Workflow Overview](#)
- [About Traffic and Billing Services](#)
- [About Spectrum OPC Playlists](#)
- [About Spectrum OPC Playlists](#)
- [Retrieving a Spectrum As-run List](#)
- [Configuring Error Thresholds](#)
- [About Media Fetch](#)

OPC Workflow Overview

The following steps provide an overview for getting started with Onboard Playout Control:

1. Configure the ChannelPort channel for Onboard Playout Control.
 - ❑ If you are using a ChannelPort, refer to [Configuring a ChannelPort Channel for Onboard Playout Control](#) in [Chapter 1, Onboard Playout Control Configuration Overview](#) for instructions.
 - ❑ If you are using a MediaPort 7000, refer to [Configuring a MediaPort 7000 Channel for Onboard Playout Control](#) in [Chapter 1, Onboard Playout Control Configuration Overview](#) for instructions.



NOTE: The playout channel of a MediaPort 7000 can be configured for OPC, but a MediaPort 7000 cannot play graphic secondaries.

2. Your traffic and billing department creates a playlist that must adhere to the Spectrum OPC playlist schema. Refer to [About Spectrum OPC Playlists](#) for more information.
3. Copy the playlist to the Playlist folder on the Spectrum video server. Refer to [About Spectrum OPC Playlists](#) for more information.
4. Once all the events in the playlist have been executed, you can retrieve your as-run list from the as-run folder on the Spectrum video server. Refer to [Retrieving a Spectrum As-run List](#) for more information.

About Traffic and Billing Services

When you enable traffic and billing services in SystemManager, you enable the use of the playlist and as-run folders, which is an integral part of the OPC feature. After enabling traffic and billing, you can override the default locations of playlist and as-run folders.

Refer to [About Spectrum OPC Playlists](#) for more information about playlists and the playlist folder. Refer to [Retrieving a Spectrum As-run List](#) for more information about as-run lists and the as-run folder.

Refer to “Enabling Traffic and Billing Services” in the *SystemManager User Guide* for instructions on enabling/disabling traffic and billing services.

About Spectrum OPC Playlists

The Spectrum OPC playlist is an XML file that contains information about primary and secondary events that are scheduled to be played at a certain time. This information is set by your traffic services department.

The ChannelPortTemplatesAndTools-v7.2.0.0-SWandDoc package contains a sample OPC playlist as well as an XML schema document (.xsd) for creating an OPC playlist. The OPC .xsd file contains the rules for ensuring your playlist will be a “valid” .xml file.



IMPORTANT: Playlist must conform to the Spectrum OPC Playlist schema.

For an example of an OPC playlist, refer to **playoutengine_playlist_example.xml**.

For the OPC playlist schema, refer to **playoutengine_playlist.xsd**.

Loading a Spectrum OPC Playlist

Harmonic has provided a default location on your Spectrum video server for loading your playlists. The default location is shown in the following path:

```
\\<IP address>\<file system>\traffic\<serial number>\playlists
```

- IP address: The IP address of your Spectrum video server (MediaDirector, MediaCenter, or MediaDeck 7000).



TIP: You can find the IP address of the Spectrum video server by navigating to the Properties page for that device in SystemManager. For details, refer to “Viewing Spectrum Video Server Properties” in the *SystemManager User Guide*.

- The <file system> default name is **fs0**.
- Serial number: The serial number of your Spectrum video server (MediaDirector, MediaCenter, or MediaDeck 7000).



TIP: You can find the serial number of the Spectrum video server by navigating to the Properties page for that device in SystemManager. For details, refer to “Viewing Spectrum Video Server Properties” in the *SystemManager User Guide*.

To load a playlist via the filesystem:

1. Click **Start**, and in the search field type in the IP address of your MediaDirector, MediaCenter, or MediaDeck 7000.
2. Open the **file system** folder.
3. Open the **traffic** folder.

4. Open the folder with the serial number of your MediaDirector, MediaCenter, or MediaDeck 7000.
5. Open the **playlists** folder.
6. Copy your playlist to this location.
7. To monitor the playlist when it runs, use PayoutTool. Refer to [Chapter 4, Using PayoutTool](#) for instructions.

If you want to configure and use a playlist folder that is not the default folder, see “Configuring a Payout Channel” and “Enabling Traffic and Billing” in the *SystemManager User Guide*.

Retrieving a Spectrum As-run List

An as-run list is a log, created by OPC, of executed primary and secondary events. They contain the same data as your playlists, but they also include the actual times and durations of played events. In addition, any failures or errors that occurred during payout are noted in as-run lists.

Harmonic has provided a default location on your Spectrum video server where as-run lists are stored after OPC creates them. The default location is shown in the following path:

```
\\<IP address>\<file system>\traffic\<serial number>\asruns
```

- IP address: The IP address of your Spectrum video server (MediaDirector, MediaCenter, or MediaDeck 7000).



TIP: You can find the IP address of the Spectrum video server by navigating to the Properties page for that device in SystemManager. For details, refer to “Viewing Spectrum Video Server Properties” in the *SystemManager User Guide*.

- The <file system> default name is **fs0**.
- Serial number: The serial number of your Spectrum video server (MediaDirector, MediaCenter, or MediaDeck 7000).



TIP: You can find the serial number of the Spectrum video server by navigating to the Properties page for that device in SystemManager. For details, refer to “Viewing Spectrum Video Server Properties” in the *SystemManager User Guide*.

To retrieve an as-run list via the filesystem:

1. Click **Start**, and in the search field type in the IP address of your MediaDirector, MediaCenter, or MediaDeck 7000.
2. Open the **file system** folder.
3. Open the **traffic** folder.
4. Open the folder with the serial number of your MediaDirector, MediaCenter, or MediaDeck 7000.
5. Open the **asruns** folder.



NOTE: Once they are created, as-run lists are kept in this location for 45 days. After 45 days, they will be deleted from the Spectrum system.

If you want to configure and use an as-run folder that is not the default folder, see “Configuring a Payout Channel” and “Enabling Traffic and Billing” in the *SystemManager User Guide*.

Configuring Error Thresholds

To prevent the Spectrum system from creating playlist alarms before a playlist is finalized, you can configure the error thresholds.

For example, you may load a playlist to the playlist folder on the Spectrum video server before all the media clips are prepared. If this playlist is sent to OPC before the media clips are ready, you will see errors in the Spectrum Syslog or in the PlayoutTool Channel Status area or Paged Events area.

The following error thresholds can be configured in SystemManager:

- **Playlist Warning Threshold (hh:mm:ss):** If there is a problem in the playlist (for example, missing material or a schedule gap), this is the amount of time before the Event Start when the Spectrum system will generate a warning.
- **Playlist Error Threshold (hh:mm:ss):** If there is a problem in the playlist (for example, missing material or a schedule gap), this is the amount of time before the Event Start when the Spectrum system will generate an error.
- **Schedule Gap Error Threshold (seconds):** If there is a schedule gap in the playlist that is greater than the threshold, the Spectrum system will generate an error.
- **Schedule Overlap Error Threshold (seconds):** If there is a schedule overlap in the playlist that is greater than the threshold, the Spectrum system will generate an error.
- **Generate Error on Empty Playlist:** If there are not enough events in the playlist to extend past the time indicated in the Playlist Error Threshold field, the Spectrum system will generate an error.

For more instructions on configuring error thresholds, refer to “Configuring a Playout Channel” in the *SystemManager User Guide*.

For more information on viewing alarms in PlayoutTool, refer to [Chapter 4, Using PlayoutTool](#).

About Media Fetch

Media Fetch is an optional, licensed feature that extends the functionality of OPC. After it is configured, Media Fetch uses File Transfer Protocol (FTP) to automatically retrieve material that is scheduled to be played. Up to four remote data stores can be configured for Media Fetch.

Each Playout Channel instance needs to be configured for Media Fetch.

As an extension of OPC, Media Fetch sequences transfers so that material needed earliest is transferred ahead of material needed later.

Spectrum systems support Media Fetch only when it is used in conjunction with OPC. It is not possible to use Media Fetch with any other playout control or automation system.

For instructions on configuring Media Fetch, refer to “Configuring the Media Fetch Service” in the *SystemManager User Guide*.

Chapter 3

Installing PlayoutTool

This chapter includes installation instructions for PlayoutTool, a monitoring tool for the Spectrum Onboard Playout Control (OPC) feature.

This chapter includes the following sections:

- [System Requirements](#)
- [Installing PlayoutTool](#)

System Requirements

Before installing PlayoutTool, your computer must conform to the following minimum requirements:

Windows

- 2.33GHz or faster x86-compatible processor or Intel® Atom™ 1.6GHz or faster processor for netbooks
- Windows XP Home, Professional, or Tablet PC Edition with Service Pack 3; Windows Server 2003; Windows Server 2008; Windows Vista Home Premium, Business, Ultimate, or Enterprise (including 64-bit editions) with Service Pack 2; or Windows 7
- 512MB of RAM (1GB recommended)

Macintosh Operating System

- Intel Core™ Duo or faster processor
- Macintosh OS X v10.6, v10.7, or v10.8
- 512MB of RAM (1GB recommended)

System Compatibility

PlayoutTool is compatible with Spectrum System software version 7.2 and greater.

Installing PlayoutTool

The following installation instructions are for Windows operating systems. The installation process for Macintosh OS X may vary slightly.

Installing Adobe Air

Adobe® Air® is required to install and run PlayoutTool. If you do not already have Adobe Air installed, you can download the latest version for free at <http://get.adobe.com/air/>.

Installing PlayoutTool

To install PlayoutTool:

1. Open the **Flexapps** folder located in the **ChannelPortTemplatesAndTools-v7.2.0.0-SWandDoc.exe**.

2. Locate the PlayoutTool installer icon, as shown in [Figure 3-1](#).



Figure 3-1: PlayoutTool Installer Icon

3. Double-click the PlayoutTool installer icon to open the PlayoutTool installation dialog, as shown in [Figure 3-2](#).

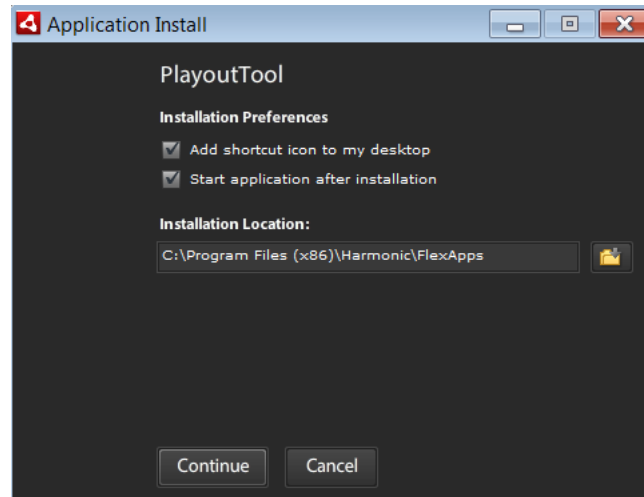


Figure 3-2: PlayoutTool Installation Dialog

4. Choose an installation location, and click **Continue** to complete the installation of PlayoutTool.

Refer to [Chapter 4, Using PlayoutTool](#) to begin using PlayoutTool.

Chapter 4

Using PlayoutTool

PlayoutTool is a tool for monitoring Playout Channels that have been licensed for Spectrum Onboard Playout Control (OPC), which allows for automatic, unattended execution of a playlist derived from a traffic schedule. For a complete overview of OPC, refer to [Chapter 2, Spectrum Onboard Playout Control](#).



IMPORTANT: PlayoutTool does not provide functionality for editing a running playlist.

This chapter contains the following sections:

- [Configuring the PlayoutTool Connection](#)
- [Using PlayoutTool](#)
- [Using Channel Override](#)

Configuring the PlayoutTool Connection

The first time you run PlayoutTool, you will encounter a configuration window. Before you use PlayoutTool, you need to configure its connection with your Spectrum video server.

To configure the connection:

1. Start PlayoutTool.
2. In the **Home Window**, click **Configure Connection**.

The Configure Connection dialog box opens, as shown in [Figure 4-1](#).

Figure 4-1: Configure Connection Dialog Box

3. In the **Label** box, type in a unique name for your connection.
4. In the **Host** box, type in the host IP address of the connected Spectrum video server. This may be the MediaDeck 7000 in which the ChannelPort or MediaPort is installed, or, if the ChannelPort or MediaPort is installed in a MediaPort 7000, the host IP address of the connected MediaDirector or Media Center.



TIP: You can find the host IP address for the Spectrum video server by navigating to the **Properties** page for that device in SystemManager. For details, refer to "Viewing Spectrum Video Server Properties" in the *SystemManager User Guide*.

- When PlayoutTool has confirmed the host, the button next to the **Host** box will turn green.
5. If needed, in the **Description** box, type in a description for the connection.
 6. Click **OK**.

Using PlayoutTool

This section provides an overview of the PlayoutTool user interface. It includes descriptions of the following:

- [Home Window](#)
- [Channel List View](#)
- [Viewing Channel Selectors](#)
- [Viewing the Channel Status Area](#)
- [Viewing On-Air Primaries and Secondaries](#)
- [Viewing Paged Events](#)
- [Viewing Event Details](#)
- [Viewing Channel Alarms](#)
- [Viewing Diagnostic Logs](#)

Home Window

[Figure 4–2](#) shows the PlayoutTool Home Window.

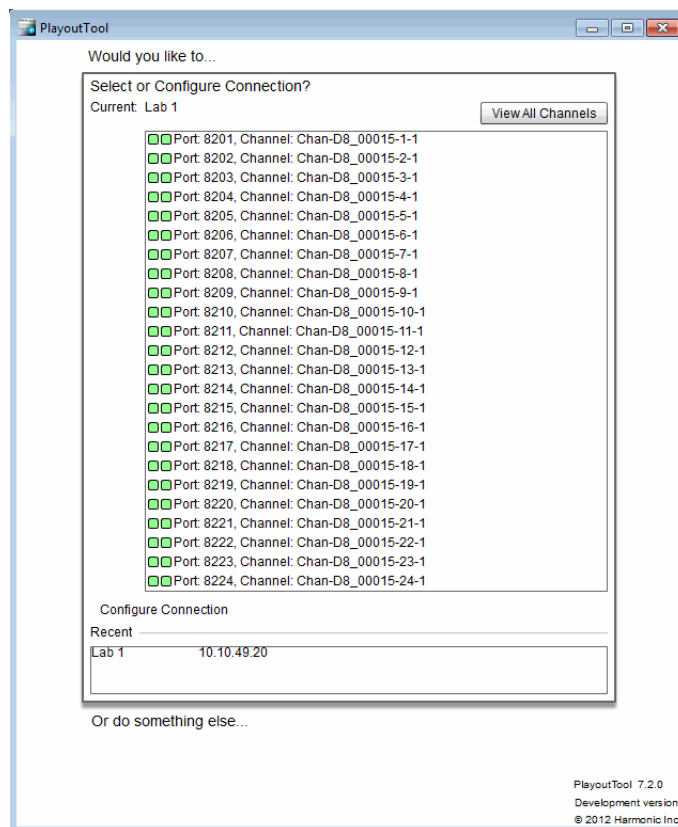


Figure 4–2: PlayoutTool Home Window

From this window, you can perform the following actions:

- Click **Configure Connection** to configure a connection with a Spectrum video server. Refer to [Configuring the PlayoutTool Connection](#) for instructions on configuring a connection.
- View or select a previously configured connection.



NOTE: After a configuration is made, all channels on that video server will be displayed in the Home Window.

- Click **View** to start monitoring channel(s).
- Click **Or do something else...** to view diagnostic logs created by PlayoutTool. Refer to [Viewing Diagnostic Logs](#) for more information.

Channel List View

Figure 4–3 shows the PlayoutTool Channel List view.

A → Channel buttons: Chan-D8_00015-1-1, Chan-D8_00015-2-1, Chan-D8_00015-3-1, Chan-D8_00015-4-1, Chan-D8_00015-5-1, Chan-D8_00015-6-1, Chan-D8_00015-7-1, Chan-D8_00015-8-1, Chan-D8_00015-9-1, Chan-D8_00015-10-1, Chan-D8_00015-11-1, Chan-D8_00015-12-1, Chan-D8_00015-13-1, Chan-D8_00015-14-1, Chan-D8_00015-15-1, Chan-D8_00015-16-1, Chan-D8_00015-17-1, Chan-D8_00015-18-1, Chan-D8_00015-19-1, Chan-D8_00015-20-1, Chan-D8_00015-21-1, Chan-D8_00015-22-1, Chan-D8_00015-23-1, Chan-D8_00015-24-1.

B → 10:32:49 [Play] [Stop] [Mute] [Solo] [Record] [Preview] [Full Screen] [Help] [About]

C → On-Air
Primary 00:00:03 GPromo2
Graphics Layer 1, Graphics Layer 2, Graphics Layer 3, Graphics Layer 4, Graphics Layer 5, Graphics Layer 6, Graphics Layer 7, Graphics Layer 8.
Take Next, Channel Override

D →

S	E	Exp St Time	Material	T #	Duration	S Tran	E N	SOM	R Sch St Time	Description
				L		Start Offset	I	E End Offset	O Stop Ani Lead	#T
ψ		10:32:32:00	GPromo2		00:00:20:00	Fade-Cut	D	P	10:34:01:20	
		10:32:32:00	GPromoDVE_50.swf	4		S +00:00:00:00	C	E +00:00:00:00	C	0
		10:32:32:00	German CH Final-50.flv	5		S +00:00:00:00	C	E +00:00:00:00	C	0
		10:32:32:00	GPromo_text_50.swf	6		S +00:00:00:00	C	E +00:00:00:00	C	10
ψ		10:32:52:00	MakingofDiamondJubileeSong		00:00:56:11	M V-Fade	D	P	20:39:22:13 10:34:21:20	
		10:32:53:00	1080i_RSS_sports.swf	2	00:00:40:23	S +00:00:01:00	M	D	M	2
		10:33:35:00	top gear.flv	3	00:00:10:00	S +00:00:43:00	C	D	C	0
ψ		10:33:48:11	BBCInterstitial1		00:00:19:14	Fade-Cut	D	P	10:35:18:06	
		10:33:48:11	L-Bar.mp4	1		S +00:00:00:00	C	E +00:00:00:00	C	0
		10:33:48:11	1080i_creditaDVE_BP.swf	2		S +00:00:00:00	C	E +00:00:00:00	C	1

E →

Detail Display Channel Alarms

Primary Event Details

Expected Start Date	2012-12-20	Expected Start Time	10:32:32:00	Overdue Error	
Gap/Overlap Error		Overlap/Gap	+00:00:00:00	Material Availability Status	
Media Fetch Status		Material	GPromo2	Material Type	
Segment		Duration	00:00:20:00	Start Mode	Follow
Transition Type	Fade-Cut	End Mode	Duration	Source Name	Player
Start of Material		Rating		Scheduled Start Date	2012-12-20
Scheduled Start Time	10:34:01:20	Event Description		Event Origin	Traffic
Event Status	On-Air	Event Title		Event UUID	c763b617-9f60-41db-9e44-d203

Figure 4–3: Channel List View





[Table 4–1](#) explains the areas of the Channel List view.

Table 4–1: Channel List View Areas

Area	UI Name
A	Channel Selectors Refer to Viewing Channel Selectors for more information.
B	Channel Status Area Refer to Viewing the Channel Status Area for more information
C	On-air Primaries and Secondaries Refer to Viewing On-Air Primaries and Secondaries for more information
D	Paged Event Area Refer to Viewing Paged Events for more information
E	This area has two functions: <ul style="list-style-type: none"> ■ Primary Event Details/Graphics Secondary Details Refer to Viewing Event Details for more information ■ Channel Alarms view Refer to Viewing Channel Alarms for more information

Viewing Channel Selectors

Each Channel selector shows the following:

- The name of the channel as reported by discovery calls to the Spectrum video server.
- The summary status of the channel. Channel summary status is represented by the following colors:
 - Grey : Channel status is “Normal.”
 - Yellow : Channel status is “Info.”
 - Amber : Channel status is “Warning.”
 - Red : Channel status is “Alarm,” or the TCP link to the ChannelPort or MediaPort is disconnected.

To view a channel, click the tab for that channel.

Viewing the Channel Status Area

[Figure 4–4](#) shows the status icons of the Channel Status area.

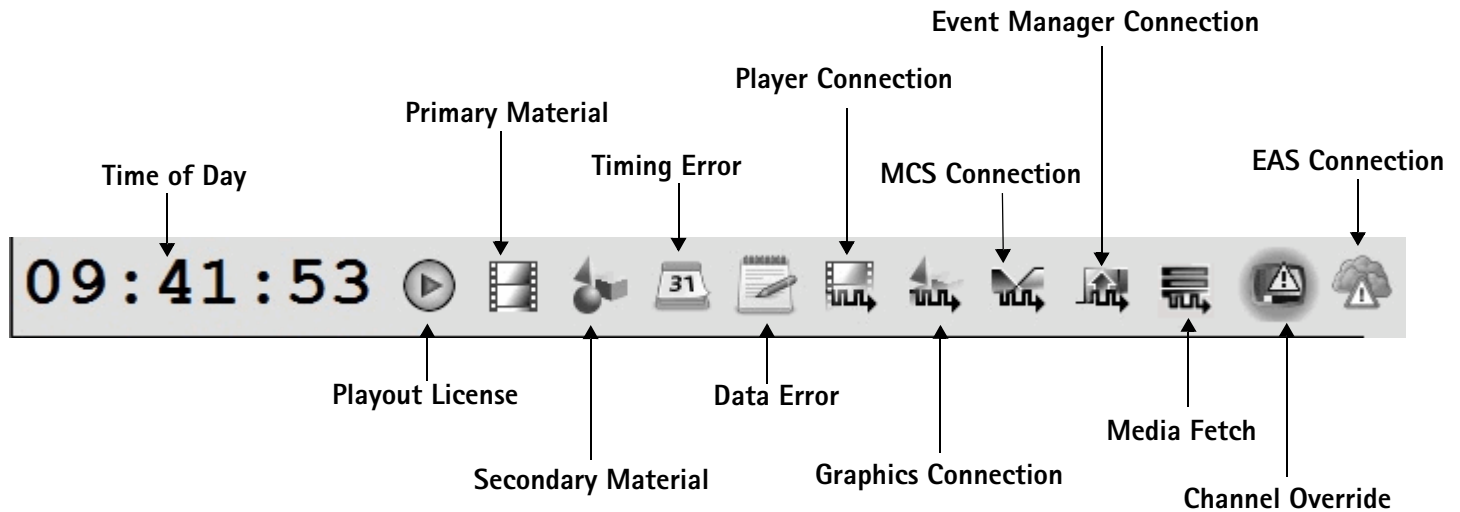


Figure 4-4: Channel Status Area Icons

When viewing channel status icons, please remember the following:

- A tooltip contains the status of each icon.
- When a channel has an error, the area behind the relevant icon will change color to match the severity of the error. The colors correspond to the error colors listed in [Viewing Channel Selectors](#).

The available icon statuses are as follows:

- **Playout License status**
 - Good: The channel is licensed for operation.
 - Alarm: The channel is not licensed for operation.
 - Unknown: The status of the license has not been determined. (You may see this status for a short time after a channel has been restarted.)
- **Primary Material status**
 - Good: No primary material is missing.
 - Missing: Primary material is missing somewhere in the loaded schedule.
 - Warning: Missing primary material is scheduled within the warning region.
 - Alarm: Missing primary material is scheduled within the alarm region.
 - Unknown: The status of the missing primary has not been determined. (You may see this status for a short time after a channel has been restarted.)
- **Secondary Material status**
 - Good: No secondary material is missing.
 - Missing: Secondary material is missing somewhere in the loaded schedule.
 - Warning: Missing secondary material is scheduled within the warning region.
 - Alarm: Missing secondary material is scheduled within the alarm region.
 - Unknown: The status of the missing secondary has not been determined. (You may see this status for a short time after a channel has been restarted.)
- **Timing Error status**
 - Good: No timing errors exist

- ❑ Error: A timing error exists in the loaded schedule.
 - ❑ Warning: A timing error is scheduled within the warning region.
 - ❑ Alarm: A timing error is scheduled within the alarm region.
 - ❑ Unknown: The status of the timing error has not been determined. (You may see this status for a short time after a channel has been restarted.)
- **Data Error status**
 - ❑ Good: No data error exists in the loaded schedule.
 - ❑ Error: A data error exists in the loaded schedule.
 - ❑ Warning: A data error is scheduled within the warning region.
 - ❑ Alarm: A data error is scheduled within the alarm region.
 - ❑ Unknown: The data error status has not been determined. (You may see this status for a short time after a channel has been restarted.)
 - **Player Connection status**
 - ❑ Idle (icon not shown): The channel is not configured, or no player is configured for this channel.
 - ❑ Good: The connection with the player is normal.
 - ❑ Alarm: The connection with the player is not normal.
 - ❑ Unknown: The connection status of player has not been determined. (You may see this status for a short time after a channel has been restarted.)

For information on configuring players, refer to “Player Configuration” in the *SystemManager User Guide*.

- **Graphics Connection status**
 - ❑ Idle (icon not shown): The channel is not configured, or no graphics device is configured for this channel. If the channel is connected to a MediaPort, a graphics device won’t be configured.
 - ❑ Good: The connection with the graphics device is normal.
 - ❑ Alarm: The connection with the graphics device is not normal.
 - ❑ Unknown: The connection status of graphics device has not been determined. (You may see this status for a short time after a channel has been restarted.)

For information on configuring a graphics playout channel, refer to “Configuring a ChannelPort Channel” in the *SystemManager User Guide*.

- **MCS Connection status**
 - ❑ Idle (icon not shown): The channel is not configured, or no Master Control Switcher (MCS) device is configured for this channel. If the channel is connected to a MediaPort, a graphics device won’t be configured.
 - ❑ Good: The connection with the MCS device is normal.
 - ❑ Alarm: The connection with the MCS device is not normal.
 - ❑ Unknown: The connection status of MCS device has not been determined. (You may see this status for a short time after a channel has been restarted.)

For information on configuring the ChannelPort Master Control Switch (MCS), refer to “Configuring a ChannelPort Channel” in the *SystemManager User Guide*.

- **Media Fetch status**
 - ❑ Idle (icon not shown): The channel is not configured, or Media Fetch is not configured for this channel.
 - ❑ Good: The connection with the Media Fetch service is normal.

- ❑ Alarm: The connection with the Media Fetch service is not normal.
- ❑ Unknown: The connection status of the Media Fetch services has not been determined. (You may see this status for a short time after a channel has been restarted.)

For information on configuring Media Fetch, refer to “Configuring the Media Fetch Service” in the *SystemManager User Guide*.

■ Event Manager Connection status

- ❑ Idle (icon not shown): The channel is not configured, or no event manager is configured for this channel.
- ❑ Good: The connection with the event manager is normal.
- ❑ Alarm: The connection with the event manager is not normal.
- ❑ Unknown: The connection status of event manager has not been determined. (You may see this status for a short time after a channel has been restarted.)

■ Playlist Override status

- ❑ Idle: The channel is not configured.
- ❑ Off: Playlist Override is not active.
- ❑ On: Playlist Override system is active.
- ❑ Unknown: The status of Playlist Override is unknown. (You may see this status for a short time after a channel has been restarted.)

■ EAS (Emergency Alert System) status

- ❑ Idle (icon not shown): The channel is not configured, an event manager connection is not configured, or EAS status reporting is not configured for this channel.
- ❑ Off: The EAS system is not active.
- ❑ On: The EAS system is active.
- ❑ Unknown: The status of the EAS system is unknown. (You may see this status for a short time after a channel has been restarted.)

For information configuring an EAS, refer to “Configuring a ChannelPort Channel” in the *SystemManager User Guide*.

Viewing On-Air Primaries and Secondaries

The On-Air Primary and Secondaries area is split into eight secondary graphics layers and one primary video layer.

When a secondary graphic or template is loaded and faded up on a layer, the file name and a countdown are displayed on that layer.

When a primary source on air, the file name and a countdown are displayed on that layer.

[Figure 4–5](#) shows the On-Air Primary and Secondaries area.

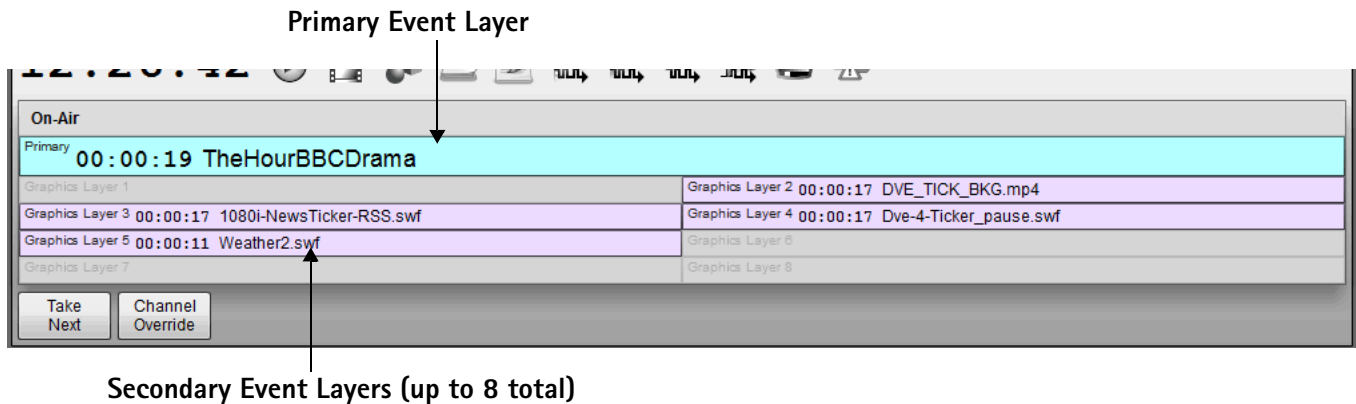


Figure 4–5: On-Air Primaries and Secondaries Area

In the On-air Primary and Secondaries area, the following control buttons are available:

- **Take Next:** If there was no playlist loaded on the video server, and a new playlist is loaded, click to execute the new playlist. This button is not available when a new playlist is not loaded.
- **Channel Override:** Refer to [Using Channel Override](#) for instructions on using the Playlist Override feature.

Viewing Paged Events

The Paged Event area displays a list of on-air and upcoming events to be handled by the OPC. If your video server is configured with a ChannelPort, you can monitor primary and secondary events. If your video server is configured with a MediaPort 7000, you can only monitor primary events. The Playout Channel will ignore any secondary events schedule for playout on a MediaPort 7000.

[Figure 4–6](#) shows the Paged Events area.

Primary/Graphic Secondary Event Details
(not all details shown in image)

Primary Event

S	E	Exp St Time	Material	T #	Duration	S Tran	E N SOM	R Sch St Time	Description
				L		Start Offset	I E End Offset	O Stop Ani Lead	#T
Ψ		12:54:33:05	BBCInterstitial1		00:00:19:14	Fade-Cut	D P	12:57:57:00	
		12:54:33:05	L-Bar.mp4	1		S +00:00:00:00	C E +00:00:00:00	C	0
		12:54:33:05	1080i_creditsDVE_BP.swf	2		S +00:00:00:00	C E +00:00:00:00	C	1
Ψ		12:54:52:19	ChineseKnockoffs		00:01:04:10	Cut-Fade	D P	20:00:19:08 12:58:16:14	
		12:55:00:12	RSS-Flip-BaySports2.swf	3	00:00:30:24	S +00:00:07:18	M D	M	0
		12:55:02:10	BBCThanks.flv	6	00:00:11:02	S +00:00:09:16	C D	C	0
		12:55:23:19	1080i-LogoLoop-FLV.swf	2	00:00:30:10	S +00:00:31:00	M D	M	0
		12:55:38:12	1080i-DynamicTextBannerBlurVideo.swf	4	00:00:15:01	S +00:00:45:18	M D	M	1
Ψ		12:55:51:04			00:00:15:00	S Mix	D E	12:59:20:24	
		12:55:52:04	1080i-streaklogo-3point.swf	1		S +00:00:01:00	E -00:00:01:00	00:00:01:15	0
		12:55:56:04	1080i60-countdown5.swf	2		E -00:00:10:00	C E +00:00:00:00	M	1
Ψ		12:56:06:04	FoodFactory		00:00:21:13	Fade-Cut	D P	+00:00:10:00 12:59:35:24	
		12:56:07:04	1080i-LogoLoop-PNG.swf	1	00:00:20:00	S +00:00:01:00	M D	M	0
		12:56:07:04	1080i-Fire Dynamic-3point.swf	5	00:00:20:00	S +00:00:01:00	M D	M 00:00:06:00	2
Ψ		12:56:27:17	BBCInterstitial3		00:00:10:24	Fade-Cut	D P	12:59:20:12	
		12:56:27:16	1080i-pillar.swf	5		S -00:00:00:01	C E +00:00:00:00	C	0
Ψ		12:56:38:16	Tennis		00:01:00:24	Cut-Fade	D P	13:00:08:11	

Secondary Events View Toggle

Expand/Hide Details Display ViewToggle

Secondary Events (purple)

Figure 4–6: Paged Events Area

When viewing paged events, please remember the following:

- The Paged Event area shows current and upcoming events.
- As events are played, they will be removed from the Paged Event area.
- To toggle secondary event view on or off, click the **Secondary Event View Toggle**.
- When primary or secondary events are selected in the Paged Event area, their details are shown in the Primary Event Details/Graphics Secondary Details area. Refer to [Viewing Event Details](#) for more information.





For a list of primary event icons that appear in the Paged Event area, refer to [Table 4–2](#).

For a list of secondary event icons that appear in the Paged Event area, refer to [Table 4–3](#).

Viewing Primary Event Icons and Status

[Table 4–2](#) shows primary event icons and their statuses.


Table 4–2: Primary Event Icons

Primary Detail	Icon	Definition
Secondary Availability		No secondaries
		Secondaries present
		Secondaries present with errors
Error Summary		Primary or associated secondaries has errors

Viewing Secondary Event Icons and Status

[Table 4–3](#) shows secondary event icons and their statuses.

Table 4–3: Secondary Event Icons

Secondary Detail	Icon	Definition
Error Summary		Secondary has an error

Viewing Event Details

The details of primary and secondary events can be viewed in the Primary Event Details/Graphics Secondary Details area.

The Primary Event Details/Graphics Secondary Details area can be shown or hidden by clicking and sliding the expander located between the Primary Event Details/Graphics Secondary Details area and the Paged Events area.

Viewing Primary Event Details

The Primary Details area displays a list of fields that contain information about Primary Events.

To view the details of a primary event:

1. Click **Details Display**.
2. Click on a primary event.

To close the Primary Event Details area, click the **Expand/Hide Detail Display** button.

[Figure 4–7](#) shows the Primary Details area.


Detail Display Channel Alarms		
Primary Event Details		
Expected Start Date 2012-12-20	Expected Start Time 08:55:30:12	Overdue Error
Gap/Overlap Error	Overlap/Gap +00:00:00:00	Material Availability Status 
Media Fetch Status	Material Tennis	Material Type
Segment	Duration 00:01:00:24	Start Mode Follow
Transition Type Cut-Fade	End Mode Duration	Source Name Player
Start of Material	Rating	Scheduled Start Date 2012-12-20
Scheduled Start Time 08:55:36:07	Event Description	Event Origin Traffic
Event Status Aired OK	Event Title	Event UUID e7470982-fd41-4362-bbaf-abad...

Figure 4–7: Primary Details Area

Table [Table 4–4](#) shows primary event icons and status that appear in the Primary Event Details Area.

Table 4–4: Primary Event Details Icons















Primary Detail	Icon	Definition
Event Overdue		Primary or secondary event is overdue
Gap/Overlap Error		Primary or secondary event has gap or overlap; text field shows amount of gap or overlap
Material Availability		Primary material availability unknown
		Primary material available
		Primary material not available
		Primary material not playable

Table 4–4: Primary Event Details Icons

Primary Detail	Icon	Definition
Media Transfer Status		Transfer status unknown
		Media location queried
		Media not located
		Media located
		Transfer requested
		Media transferring
		Media transferred
		Transfer error

Viewing Secondary Event Details

The Graphics Secondary Event Details area displays a list of fields that contain information about Secondary Events.

To view the details of a secondary event:

1. Click the **Secondary Events View** toggle button.
2. Click **Details Display**.
3. Click on a secondary event.

To close the Graphics Secondary Event Details area, click the **Expand/Hide Detail Display** button.

Figure 4–8 shows the Graphics Secondary Details area.


Detail Display Channel Alarms		
Graphics Secondary Event Details		
Expected Start Date 2012-12-20	Expected Start Time 12:45:22:19	Starts Too Soon Error
Secondary Conflict Error	Ends Too Late Error	Ends Before Starts Error
Material Availability Status 	Media Fetch Status	Material 1080i-DynamicTextBannerBlur.swf
Layer number 2	Duration 00:00:16:17	Start Mode Offset From Primary Start
Start Offset +00:00:08:07	Fade In Rate Medium	End Mode Duration
End Offset	Fade Out Rate Medium	Stop Animation Lead Time
Num Text Updates 3	Event Description	Event Origin Traffic
Event Status Scheduled	Event Title	Event UUID 0209fb10-7e97-4e34-aeda-f7a6...
Text Updates		
Box #	Offset	Text
0	00:00:00:00	sicily unpacked
1	00:00:00:00	On Her Majesty's Service
2	00:00:00:00	Top Gear!

Figure 4–8: Graphics Secondary Detail Area

Table [Table 4–5](#) shows primary event icons and status that appear in the Primary Event Details Area.

Table 4–5: Secondary Event Details Icons


















Primary Detail	Icon	Definition
Starts too Soon Error		Secondary starts too soon
Secondary Conflict Error		Secondary conflicts with another secondary
Ends too Late Error		Secondary ends too late (too much overhang)
Ends before Starts Error		Secondary ends before its start (negative duration error)
Starts too Soon Error		Secondary starts too soon
Material Availability		Secondary material availability unknown
		Secondary material available
		Secondary material not available
		Secondary material not playable

Table 4-5: Secondary Event Details Icons

Primary Detail	Icon	Definition
Media Transfer Status		Transfer status unknown
		Media location queried
		Media not located
		Media located
		Transfer requested
		Media transferring
		Media transferred
		Transfer error

Viewing Channel Alarms

When a channel has an alarm, the Channel Alarms button will change color. The colors correspond to the error colors listed in [Viewing Channel Selectors](#).

To open the Channel Alarm view, click **Channel Alarms**.

Figure 4-9 shows the Channel List Alarm view.

[illegible]

Figure 4-9: Channel List Alarm View

In the Channel Alarms view, the following control buttons are available:

- **Select All:** Click to select all log entries.

- **Copy to Clipboard:** Click to copy the log.

Channel Alarm status is represented by the following colors:

- Green : Channel Alarm status is for “Info”
- Yellow : Channel Alarm status is “Warning.”
- Amber : Channel Alarm status is “Failure.”
- Red : Channel Alarm status is “Critical.”

To close the Channel Alarms view, click the **Expand/Hide Detail Display** button.

Viewing Diagnostic Logs

The PlayoutTool diagnostic log displays logs created by PlayoutTool. Note that it does not display logs created by ChannelPort, the ChannelPort Playout Channel, OPC, or the MediaPort Playout Channel.

To open the Log View Window:

1. In the **Home Window**, click **Or do something else...**
2. Click **View Diagnostic Logs?**

Figure 4–10 shows the Log View Window.

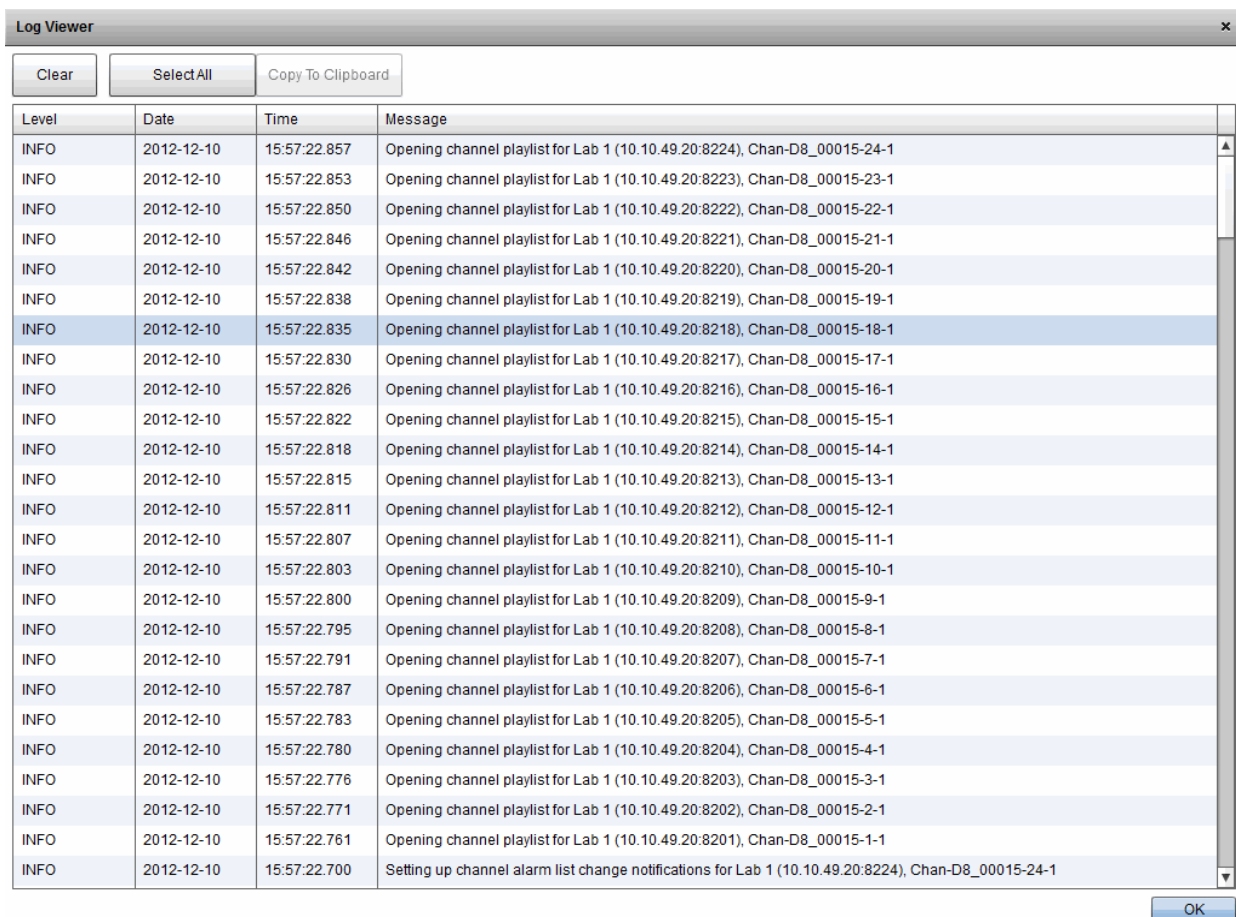


Figure 4–10: Log View Window

In the Log View Window, the following control buttons are available:

- **Clear:** Click to clear all entries from the log.
- **Select All:** Click to select all log entries.
- **Copy to Clipboard:** Click to copy the log.
- **OK:** Click to close the Log View Window.

Using Channel Override

Channel Override gives you the ability, if any undesirable material appears on-air, to quickly take a channel to black and to optionally display a preconfigured graphics template (for example, a “Technical Difficulties” graphic). After overriding the playlist on the channel, you can load a revised/corrected playlist to the Onboard Playout Control, start the playlist running, and put the playlist back on-air by cancelling the override.

Refer to [Chapter 2, Spectrum Onboard Playout Control](#) for information about loading a playlist to the Playout Channel.

Activating Channel Override

When Channel Override is activated, the following events occur (not necessarily in this order):

- The Master Control Switcher (MCS) on the ChannelPort switches to a player that puts the default “black” clip on air.
- If configured, a graphic template for playlist overrides is put on-air, on the configured layer. Refer to “Configuring a Playout Channel” in the *SystemManager User Guide* for more information.



NOTE: If OPC is running on a MediaPort 7000, no graphics template can be added in the event of a playlist override. If Channel Override is activated on a MediaPort channel, a “black” clip will be put on air.

- A status event is logged in the as-run log to record when the override was activated. Refer to [Chapter 2, Spectrum Onboard Playout Control](#) for information about the as-run log.
- An alarm is added in PlayoutTool to report Channel Override is active. Refer to [Viewing Channel Alarms](#) for more information.
- The Channel status indicates Channel Override is active. Refer to [Viewing the Channel Status Area](#) for information on viewing the Channel status.
- A log message is added to Syslog on the Spectrum video server.
- The as-run status of all on-air events (primary and secondary) indicates a failure (for example, “Preempted”).

When a Channel Override is cancelled, the following events occur (not necessarily in this order):

- The primary event that would have been on-air is “joined in progress.”
- If used, the graphics template for the playlist override is cut down, and secondary events are displayed (for the joined in progress primary event and following events).
- An alarm is added in PlayoutTool to report the override has ended.
- The Channel status indicates Channel Override is cancelled. The Channel Status icon will return to its default state, which is grey.
- A log message will be added to Syslog on the Spectrum video server.

To activate Channel Override:

1. Click the **Channel Override** button.
2. Load a revised a playlist.

Refer to [Chapter 2, *Spectrum Onboard Playout Control*](#) for instructions on loading playlists to the Playout Channel.

3. Click the **Channel Override** button again to cancel the playlist override and rejoin events in the revised playlist.

Appendix A

Contacting the Technical Assistance Center

Harmonic Global Service and Support has many Technical Assistance Centers (TAC) located Globally but virtually co-located where our customers can obtain technical assistance or request on-site visits from the Regional Field Service Management team. The TAC operates a Follow-The-Sun support model to provide Global Technical Support anytime, anywhere, through a single case management and virtual telephone system. Depending on time of day, anywhere in the world, we will receive and address your calls or emails in one of our global support centers. The Follow-the-Sun model greatly benefits our customers by provided continuous problem resolution and escalation of issues around the clock.

Table A-1: For Distribution and Delivery (Legacy Harmonic) Products

Region	Telephone Technical Support	E-mail
Americas	888.673.4896 or 408.490.6477	support@harmonicinc.com
EME	+44.1252.555.450	support.emea@harmonicinc.com
Asia Pacific – Other Territories	+852.3713.9300	hongkongtechsupport@harmonicinc.com
India	+44.1252.555.450	support.emea@harmonicinc.com
Russia	+7.495.926.4608	rusupport@harmonicinc.com
Africa	+44.1252.555.450	support.emea@harmonicinc.com
Mainland China	+86.10.8391.3313	chinatechsupport@harmonicinc.com

Table A-2: For Production and Playout (Legacy Omneon and Rhonet) Products

Region	Telephone Technical Support	E-mail
Americas	888.673.4896 or 408.490.6477	omneon.support@harmonicinc.com
EMEA	+44.1252.555.450	omneonemeasupport@harmonicinc.com
Asia Pacific – Other Territories	+65.6542.0050	apacsupport@harmonicinc.com
Japan	+81.3.5565.6737	japansupport@harmonicinc.com
China - Mainland	+86.10.8391.3313	chinasupport@harmonicinc.com
Russia and CIS	+7.495.926.4608	rusupport@harmonicinc.com

The Harmonic Inc. support website is:

<http://www.harmonicinc.com/content/technical-support>

The Harmonic Inc. Distribution and Delivery product software downloads site is:

<ftp://ftp.harmonicinc.com>

The Harmonic Inc. Playout and Production software downloads site is:

<ftp://ftp.Omneon.com//Updates/Omneon/Current/>

The Harmonic Inc. corporate address is:

Harmonic Inc.
4300 North First St.
San Jose, CA 95134, U.S.A.
Attn: Customer Support

The corporate telephone numbers for Harmonic Inc. are:

Tel. 1.800.788.1330 (from the U.S. and Canada)
Tel. +1.408.542.2500 (outside the U.S. and Canada)
Fax.+1.408.542.2511

HEADQUARTERS

Americas Sales

4300 North First Street
San Jose, CA 95134 U.S.A.
T 1 800 828 5521 inside the U.S.
+1 408 542 2559 outside the U.S.
F +1 408 490 6001

ASIA-PACIFIC

Harmonic (Asia Pacific) Limited

Suite 2301, L23, Office Tower
Langham Place, 8 Argyle St
Mongkok, Kowloon Hong Kong
T +852 3713 9300
F +852 2116 0083

EUROPE AND MIDDLE EAST

United Kingdom

250 Fowler Avenue, Ground Floor
IQ Farnborough
Farnborough Hampshire GU14 7JP
United Kingdom
T +44 (0)1 252 555 400
F +44 (0)1 252 377 171

Africa, India, Russia and CIS Countries

10 Haamel St
Park Afek
Rosh Ha'ayin, 48092 Israel
T +972.3.9007777
+972.3.9007800
F +972.3.9007766

