



grass valley

A **BELDEN** BRAND

iCONTROL APPLICATION SERVER

IC-HW-R330XL

Quick Start Guide

M226-0700-354

2019-02-07

www.grassvalley.com

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Getting Started with iControl

This *Quick Start Guide* is designed to help you get iControl up and running for the first time, on your **IC-HW-R330XL** Application Server.

A new iControl system, as shipped, includes one or more iControl Application Servers and related hardware accessories. It also ships with a document folder containing this Quick Start Guide, Release Notes, as well as a Welcome letter with Setup & Configuration checklists that provide a summary of the main steps that you must complete, to set up and configure your iControl system. Follow this Quick Start Guide for detailed instructions, at each of these steps.

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Overview

iControl is a high-level Element and Network Management System for television service providers, content originators and broadcasters, used to perform wide-ranging video and audio signal, device and facility monitoring and control over a TCP/IP network.

The central element of any iControl system is the iControl Application Server. The Application Server is a compact, 1 RU server that interfaces to video, audio and other hardware through configurable Ethernet ports, and connects to a local LAN over TCP/IP.

iControl runs in a distributed network environment. Devices to be monitored or controlled are either directly connected to the iControl Application Server, or accessible over a TCP/IP connection. Each iControl Application Server runs several device control services, as well as a lookup service.

Multiple Application Servers can coexist on a network, allowing large-scale distributed systems to be defined and controlled. Using a Web browser, multiple users can connect to any Application Server from any convenient desktop or portable computer.

iControl comprises a set of software components, the principal ones being:

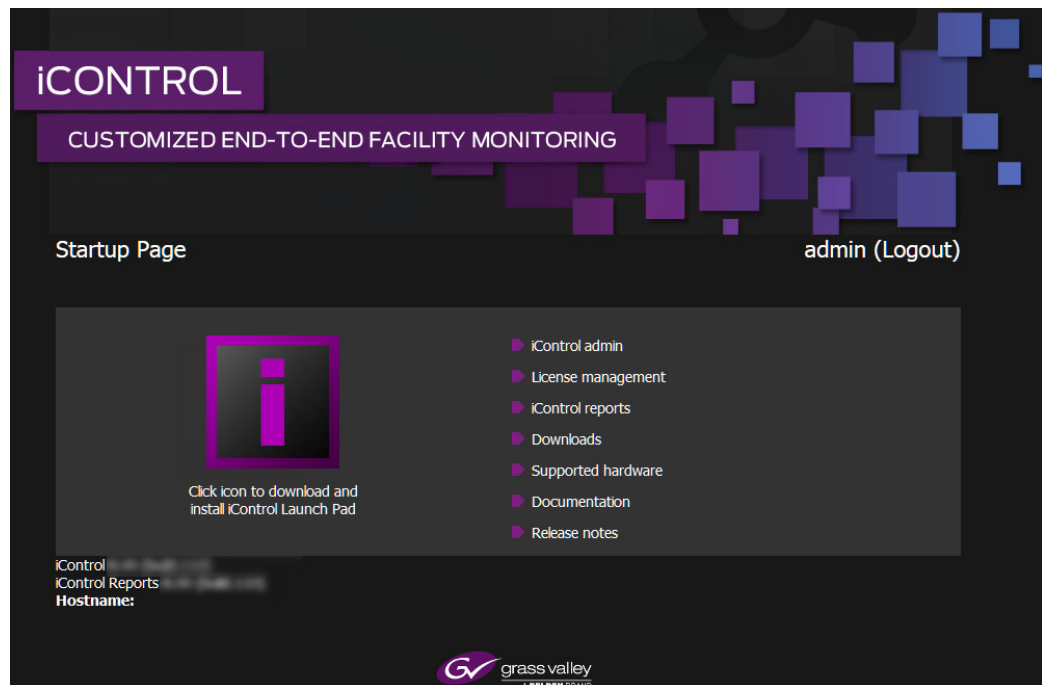
- iC Navigator
- iC Router Control
- iC Creator

- iC Web

Each of these core components can be started from **iControl Launch Pad**, which is a client application, available from the iControl's *Startup* page.

There are three other core iControl components, important for system administration, and the smooth, integrated operation of iControl as a whole. You can access pages dedicated to their functions from the *Startup* page. These other components are:

- iControl Admin
- iControl License management
- iControl Reports



iControl's Startup Page



iControl Launch Pad

For a more in-depth overview of iControl's features, please refer to Chapter1: "Introduction to iControl" in the *iControl User Guide*.

System Requirements

Client Platform Requirements

You can connect to an iControl Application Server from any client PC on your network, by using a standard Web browser (Microsoft Internet Explorer or Google Chrome). Once you are connected to an Application Server, you can download iControl client applications to your PC.

For the PC hardware requirements for a client platform, see the *iControl Release Notes*.

Network Requirements

Users can access the iControl Application Server from a client PC using a standard Web browser. When a client logs in and launches an iControl module, the software is automatically downloaded from the Application Server. Consequently, no other application software is needed, which greatly simplifies installation and system maintenance.

Grass Valley recommends that the iControl Application Server (as well as the associated equipment it controls) be installed on a dedicated LAN, using the existing security infrastructure. A qualified system administrator should verify that the setup follows your organization's security standards.

Software Component Compatibility

The Dell PowerEdge R330 application server supports iControl versions 5.00 and later.

- If you want to install—or reinstall—a version of iControl between 6.00 and 7.20 on a Dell PowerEdge R330 application server, you must apply the *R330 Compatibility* component upgrade `R330-compatibility.zip`, available from Grass Valley Technical Support (see [page 16](#)), as well.
- If you must install iControl version 5.00 on a Dell PowerEdge R330 application server, please contact Grass Valley Technical Support (see [page 16](#)).
- If you wish to add a Dell PowerEdge R330 application server to an existing Redundancy Group, you must install component upgrade `ICONTROL-19711.zip`, available from Grass Valley Technical Support (see [page 16](#)), on all *non-R330* application servers in the Redundancy Group.

iControl is compatible with several Grass Valley software components. The versions of these software components recommended by Grass Valley for best performance and maximum functionality are listed in the release notes.

Step 1: Hardware Warranty and Ownership Transfer

When you purchase a Dell server from Grass Valley Canada, you qualify for a 39-month warranty with ProSupport (i.e., next business day on site) service level. This warranty, as well as the ownership, are transferable to the client (you). Once the warranty is transferred, you may call Dell USA any time for assistance. For customers in Canada, you may call Dell Canada for assistance.

You can find the Warranty and Ownership Transfer form in the Support section of Dell's website.

To perform the warranty and ownership transfer of your Dell server

- 1 Pull out the information tag, from your server's front panel, and note the service tag number.

The information tag is a slide-out label panel, located on the front of your server, toward the center.

- 2 In your browser's address bar, enter www.dell.com/support/assets-transfer. (Alternatively, navigate to www.dell.com, and search for *ownership transfer*.)
- 3 Enter your service tag number to access the Warranty and Ownership Transfer form.
- 4 Complete the form, using the information listed below.

Original owner	Grass Valley Canada
Postal code	H4S 2C6

Step 2: Physical Setup

Grass Valley's Application Server is the hardware at the heart of the iControl system, providing control, monitoring, logging and interface services. As of iControl version 7.30, all Application Servers configured with new systems are Dell PowerEdge model R330 (order code IC-HW-R330XL). The Application Server is a compact 1 RU server that interfaces to other iControl devices over TCP/IP. Users can connect to the Application Server via TCP/IP from any desktop or portable computer.

Notes

- Hardware documentation for the Dell PowerEdge R330 is available from dell.com/poweredgemanuals.
 - Install the faceplate, after the server is placed in a rack.
-

To install the iControl Application Server

- 1 Place the Application Server in a standard 19-inch rack, using the rails, screws and washers provided.

Make sure that the unit has adequate ventilation.

- 2 Connect power cords, and then turn the server on.

The power switch is located on the front panel.

IMPORTANT

An unexpected power disruption, such as might occur during a power failure, can damage the file system on an Application Server. It is strongly recommended that all Application Servers be connected to a standby power source, such as a UPS (Uninterruptible Power Supply), as a preventive measure.

- 3 [OPTIONAL] Install the Grass Valley faceplate onto the front of the Application Server by sliding it onto the guide blocks on the side handles, then pushing it in until it clicks into place.

Step 3: Networking Setup

IMPORTANT

Ethernet Port Labels on Dell PowerEdge R330 Application Servers

The physical Ethernet ports on the back of the Dell PowerEdge R330 are labeled **Gb1** and **Gb2**. The physical (cabling) port called **Gb1** corresponds to logical port **eth0**. Likewise, the physical port called **Gb2** corresponds to logical port **eth1**. In all iControl-related documentation, when speaking of cabling and physical ports, we use the logical port names. For example, if a procedure instructs you to connect a cable to **eth0**, you must connect the cable to the physical port labeled **Gb1**, on the Dell PowerEdge R330.

Logical Ethernet port usage

The Application Server is shipped with the **eth0** port turned on, in a default configuration that permits an initial connection. You must use **eth0** as your main network interface. The other Ethernet port (**eth1**) is also configurable, but is intended for specialized use, such as connecting Grass Valley Densité frames and some third-party devices (e.g., SNMP devices) as long as they are on the same local subnet as **eth1**. The **eth1** network interface is disabled by default.

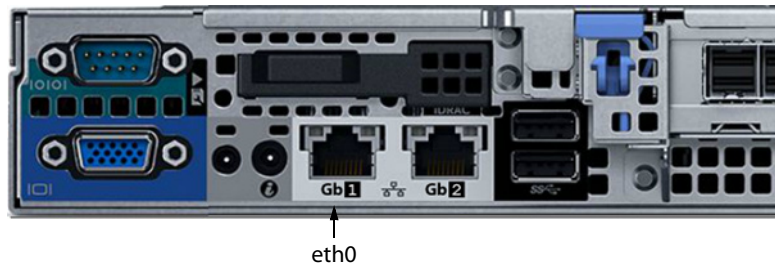
Before you can begin operations, you must configure the Application Server, to make it available on your local network. Specifically, you must:

- Connect to the Application Server from a client PC
- Log on to the Application Server's *iControl admin* page and configure the server's TCP/IP settings:
 - Ethernet interface
 - Network gateway
 - Domain Name Service settings
 - Host name and IP address
- Apply your changes and perform a readiness check

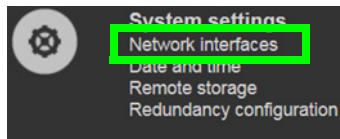
Configuring the Application Server's Network Settings

To configure your Application Server's network settings

- 1 Configure a client PC to access the application server in its default configuration (see [Configuring TCP/IP Settings on a Client PC](#), on page 8).
- 2 Using a crossover Ethernet cable, connect your client PC to the **eth0** port, on the Application Server.



- 3 Open *iControl admin* on your client PC (see [Opening iControl admin](#), on page 7).
- 4 In the *iControl admin* page, under **System settings**, click **Network interfaces**.



The *Network interfaces* page appears.

- 5 Under **System**, perform the following:
 - a Type the host name by which you would like this Application Server to be known on your network.
 - b If required, add DNS servers to the list of IP addresses in the **DNS Servers** list.
- 6 Under **Eth0**, configure Ethernet interface settings:
 - a Select the **Activate at boot-time** check box.

Note: If you do not select the **Activate at boot-time** check box, the **eth0** interface will revert to its previous values the next time the system restarts.

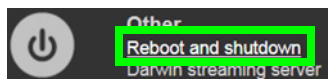
- b Type the IP address you would like to use for this Application Server.

Note: Typically the IP addresses for all devices on a LAN begin with the same two data groups, and the remaining two are assigned by the system administrator.

- c Type the appropriate network mask.
 - d Type the desired gateway address, if required.

Note: Ask your system administrator for the IP address of the network gateway that this Application Server will use. If a gateway is *not* required, then leave **Default Gateway** empty.

- 7 Click **Apply**.
- 8 On the *iControl admin* page, click **Reboot and shutdown**, under **Other**.



The *Reboot and shutdown* page appears.

- 9 Click **Reboot**.
- The Application Server restarts with its new network settings.

IMPORTANT

You may lose communication to the Application Server

If your PC is on a different subnet than the Application Server's new address, you will need to change the PC's network settings to further communicate with the Application Server after it has rebooted.

- 10 Disconnect the client PC that was used to configure the Application Server. Remember to restore the previous network settings on the PC.
- 11 Connect the Application Server to its designated network. Use a standard Ethernet cable plugged into the Application Server's **eth0** port (see [step 2](#) on page 5).

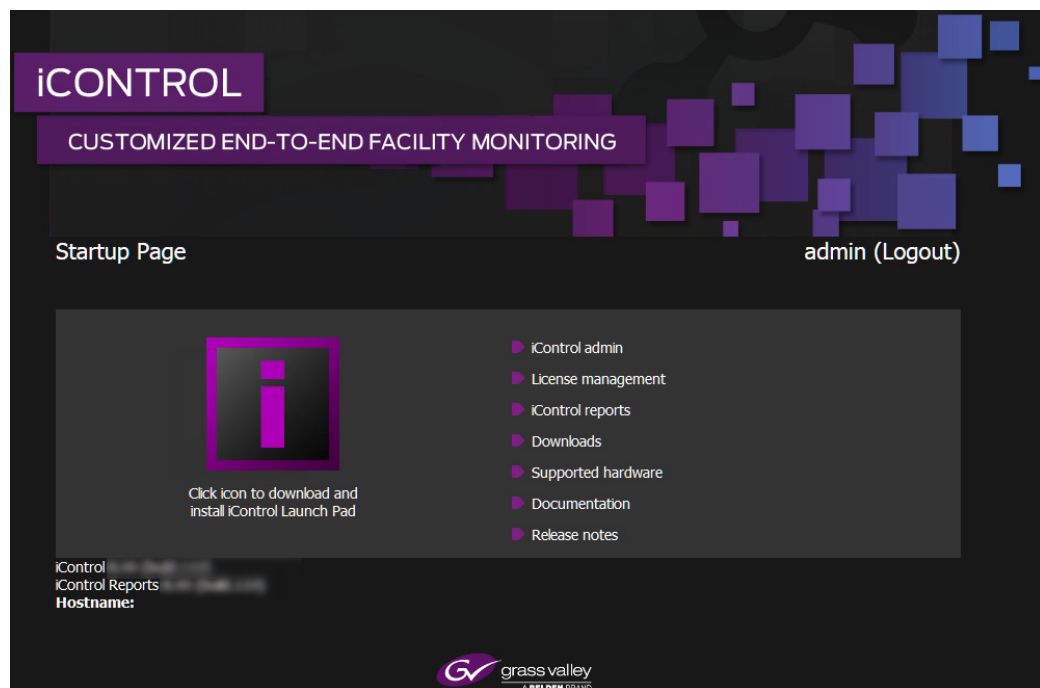
Opening iControl admin

To open iControl admin

- 1 On your client PC, open a browser window, and then type your Application Server's IP address, in the address bar.

Note: If your Application Server still has its factory-default network settings, its IP address is **10.0.3.6**.

The iControl Startup page appears.

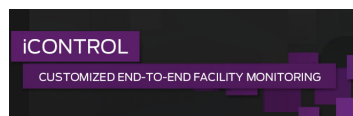


Notes

- If your Web browser cannot find the Application Server, make sure the PC's network settings are correct (see [Configuring TCP/IP Settings on a Client PC](#), on page 8).

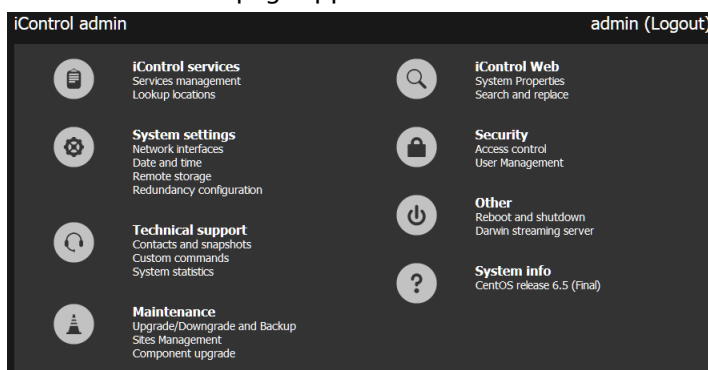
Notes (continued)

- Click the *iControl logo*—visible on all iControl pages—to return to the Startup page.



- 2 Click **iControl admin**.
The system prompts you for a user name and password.
- 3 Type the following credentials, and then click **Log in**.
 - User name: `admin`
 - Password: `icontrol`

The iControl admin page appears.



Configuring TCP/IP Settings on a Client PC

You will use a client PC to configure the new Application Server. The client PC must have network settings that will allow it to communicate with an iControl Application Server in its default state.

To configure the TCP/IP settings of a client PC

- 1 Press the Windows key on your keyboard, type "control panel" and then press Enter.
- 2 In the search box, type "adapter" and then, under **Network and Sharing Center**, click **View network connections**.
- 3 In **Network Connections**, right-click the network adapter you wish to configure (e.g., *Local Area Connection*, or *Ethernet*), and then click **Properties**. If the system prompts you for an administrator password or confirmation, type the password or provide confirmation.
The Properties window for the selected network adapter opens.
- 4 On the **Networking** tab, under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
The **Internet Protocol Version 4 (TCP/IPv4) Properties** window opens.
- 5 Take note of the PC's current settings.
- 6 On the **General** tab, click **Use the following IP address**.
The default IP address of a new Application Server is 10.0.3.6.
- 7 Type an IP address in the same range (e.g., 10.0.3.10), in the **IP address** box.

The default subnet mask of a new Application Server is 255.255.0.0.

- 8 Type `255.255.0.0`, in the **Subnet mask** box.
- 9 Click **OK**.
- 10 In **Local Area Connection Properties**, click **Close**.

Notes

- The factory-default IP address and subnet mask settings for an Application Server appear on a sticker, on the top cover of the chassis.
 - Remember to return the PC to its original network settings once you have finished configuring the Application Server.
-

Step 4: Optional Networking Setup

Once the Application Server is plugged into and available on your network, you may need to configure additional settings to permit it to operate in that environment.

- Disable superfluous Lookup Services (see [Disabling Superfluous Lookup Services](#), below).
- Configure alarm discovery locations (see [Specifying Service and Alarm Discovery Locations](#), on page 10).
- Activate the iControl Services Gateway (see [Activating the iControl Services Gateway](#), on page 11).
- Configure date and time settings (see [Configuring an Application Server's Date and Time](#), on page 12).
- Add mappings to client workstations' hosts files (see [Configuring Client Workstations for Better Streaming Performance](#), on page 13).

Disabling Superfluous Lookup Services

iControl uses a lookup service for discovery over a network. By default, each iControl Application Server runs a lookup service that registers and makes available information about the devices on its network. It also registers with all lookup services that are running on other Application Servers on the same subnet.

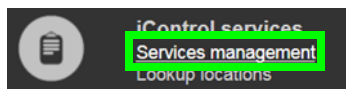
IMPORTANT

The lookup service should only be activated on a maximum of two Application Servers per subnet.

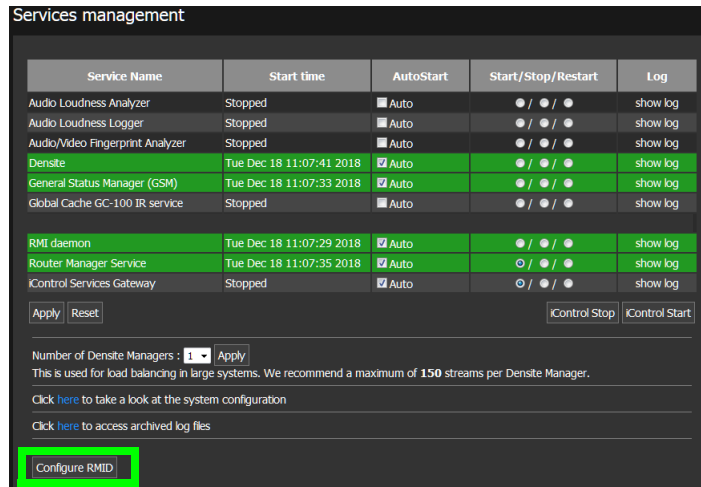
If you have multiple Applications Servers and/or multiple subnets in your iControl network, you should disable superfluous lookup services.

To turn an Application Server's lookup service off

- 1 Open the *iControl admin* page (see [Opening iControl admin](#), on page 7).
- 2 In iControl admin, under **iControl services**, click **Services management**.

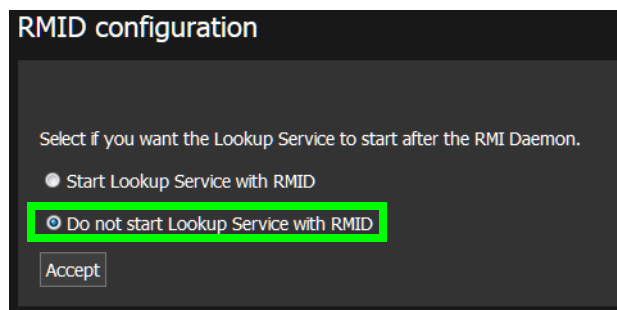


The Services management page appears.



- 3 Click **Configure RMID**, near the bottom of the page.

The *RMID configuration* page appears.



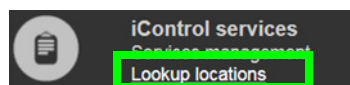
- 4 Click **Do not start Lookup Service with RMID**, if you do not want this Application Server to run the Lookup Service.
- 5 Click **Accept**.

Specifying Service and Alarm Discovery Locations

To operate **iC Web** on client PCs on a subnet other than the one used by the iControl Application Server, you must add the IP address of an Application Server running a lookup service.

To add a lookup location for service and alarm discovery

- 1 Open the *iControl admin* page (see [Opening iControl admin](#), on page 7).
- 2 In iControl admin, under **iControl services**, click **Lookup locations**.



The *Lookup location* page appears.

Lookup locations admin (Logout)

Service and alarm discovery

If you would like your client applications such as iC Navigator and iC Web to discover services and alarms originating from Application Servers not belonging to your client PC's subnet, include the IP addresses of each Application Server hosting the lookup services where these services are registered.

Details/Examples

IP address:

Name (optional):

Add lookup

Current lookup entries are:

IP address	Name
10.37.94.36	X

- 3 Under **Service and alarm discovery**, type the IP address and (optionally) the name of an Application Server that is running a lookup service.
- 4 Click **Add lookup**.
The new lookup location appears in the Service and alarm discovery table.

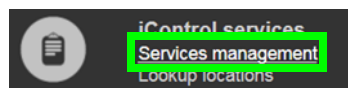
Activating the iControl Services Gateway

The iControl Services Gateway is software that enables external devices to access resources (via XML) on an iControl network. If any of the following situations apply, you should activate the iControl Services Gateway on your Application Server:

- You wish to use an RCP-200 remote control unit, as a client to the Application Server.
- You wish to display decoded VBI or CC, from VCP or SCP probes, in iC Web.
- You wish to use third-party applications, to control Densité cards via iControl.

To activate the iControl Services Gateway

- 1 Open the *iControl admin* page (see [Opening iControl admin](#), on page 7).
- 2 In iControl admin, under **iControl services**, click **Services management**.

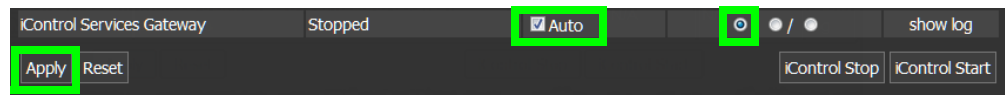


The *Services management* page appears.

Service Name	Start time	AutoStart	Start/Stop/Restart	Log
Audio Loudness Analyzer	Stopped	<input type="checkbox"/> Auto	● / ● / ●	show log
Audio Loudness Logger	Stopped	<input type="checkbox"/> Auto	● / ● / ●	show log
Audio/Video Fingerprint Analyzer	Stopped	<input type="checkbox"/> Auto	● / ● / ●	show log
Densite	Tue Dec 18 11:07:41 2018	<input checked="" type="checkbox"/> Auto	● / ● / ●	show log
General Status Manager (GSM)	Tue Dec 18 11:07:33 2018	<input checked="" type="checkbox"/> Auto	● / ● / ●	show log
Global Cache GC-100 IR service	Stopped	<input type="checkbox"/> Auto	● / ● / ●	show log
RMI daemon	Tue Dec 18 11:07:29 2018	<input checked="" type="checkbox"/> Auto	● / ● / ●	show log
Router Manager Service	Tue Dec 18 11:07:35 2018	<input checked="" type="checkbox"/> Auto	○ / ● / ●	show log
iControl Services Gateway	Stopped	<input checked="" type="checkbox"/> Auto	○ / ● / ●	show log

Apply Reset iControl Stop iControl Start

- 3 Locate the **iControl Services Gateway** row in the list of services.
- 4 In the **AutoStart** column, select the **Auto** check box.
This is to ensure that the iControl Services Gateway will restart automatically if the Application Server is rebooted.
- 5 In the **Start/Stop/Restart** column, click the left-most button (corresponding to **Start**).
- 6 Click **Apply**.



After a few seconds, the Web page will reload, and the iControl Services Gateway row will be green (indicating that the service is active).

Configuring an Application Server's Date and Time

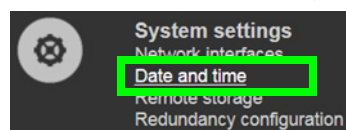
By default, the Application Server's date and time are based on the time set in the operating system. You may choose to peg the server's time to the time of another server. The other server must either be running an NTP (Network Time Protocol) server, or have the time protocol enabled in its *inetd* super-server daemon.

Notes

- For your system to use NTP for synchronization you must have the `ntpd` NTP client program installed.
- Before beginning this procedure, make sure the remote Application Server whose time you would like to synchronize to, is online and functioning.

To synchronize an Application Server's system time to that of another server

- 1 Open the *iControl admin* page (see [Opening iControl admin](#), on page 7).
- 2 In iControl admin, under **System settings**, click **Date and time**.



The *Date and Time* page appears.

- 3 In the **Time zone** area, select the desired time zone from the list, and then click **Save**.
- 4 In the **Time settings** area:
 - If you wish to synchronize your Application Server's time to a remote NTP server:
 - a In the **Time settings** area, enable **NTP synchronization**.
Three **NTP server IP address** fields appear.
 - b Type appropriate IP addresses, in the **NTP server IP address** fields, and then click **Apply**.
 - If you do **NOT** want to synchronize to a remote NTP server:
 - a In the **Time settings** area, disable **NTP synchronization**.
 - b Configure the desired date and time for this Application Server, and then click **Apply**.

Configuring Client Workstations for Better Streaming Performance

Any Windows 10, Windows 8, or Windows 7, 64-bit version workstation with access to an Application Server can be used to operate iControl, without the need for special client-side software.

Application Servers use the Darwin Streaming Server to stream video thumbnails from some network devices to iControl running on client PCs. For example, when you open a video card's control panel from iC Navigator, the control panel displays a thumbnail representation of the current video signal. For such streaming to work properly, a client PC must be able to resolve the host name (and reverse resolve the IP address) of the Application Server from which the iControl was launched. For better streaming performance, you should make sure that every client PC has all available Application Servers systems listed in its hosts file.

To add mappings to a client workstation's hosts file

- 1 On the client PC, open the hosts file (no extension) in a text editor.
In Windows, the hosts file is located in `C:\WINDOWS\System32\drivers\etc`.
- 2 For each Application Server that the PC will be accessing, add a line of the form:
`AAA.BB.CC.DD HostName.yourDomain.com`
where `AAA.BBB.CC.DD` is the IP address of the Application Server.
- 3 Save, and close the hosts file.

Step 5: About Grass Valley's iControl Documentation

This section shows the iControl product documentation set so as to help you find the documentation you need when using iControl.

What Documentation Types are Available?

Grass Valley supports iControl with a range of documentation that targets users with content that is adapted to their needs and objectives.

Document Type	Contains
Release Notes	<ul style="list-style-type: none">• Identify known limitations• Identify software fixes• Identify new features
Datasheet	<ul style="list-style-type: none">• Provide the necessary information to a decision maker to make a good buying decision• Provides an overview of a product's features and benefits• Evaluate a product's suitability to an application
User's Manual	<ul style="list-style-type: none">• Configure and use the iControl software
Quick Start Guide	<ul style="list-style-type: none">• Essential procedures make a system operational


Accessing the iControl Product Documentation & Software Upgrades

All product documentation and software are available for download from the Grass Valley website (www.grassvalley.com). You must first have a login to the Grass Valley website to access all available documentation and software; see <https://www.grassvalley.com/account> to do so.

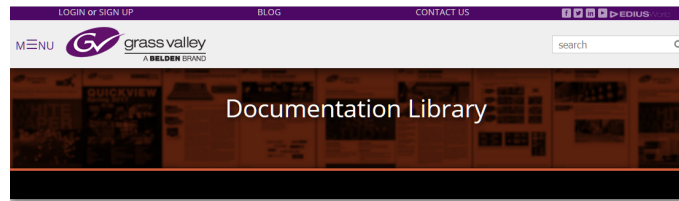
Product Documentation Download

Proceed as follows.

- 1 Open the iControl product documentation library through any one of the following methods. You can scan the QR code with a camera-equipped smartphone that has a QR code reader app to access the webpage directly.

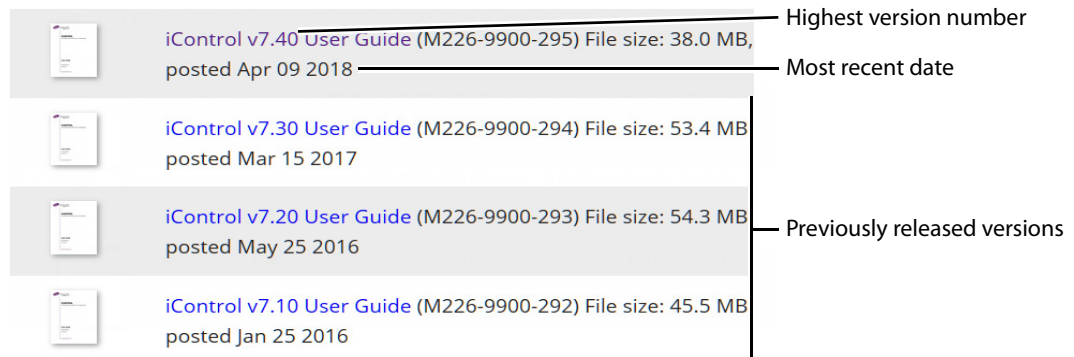
iControl Product Documentation Library URL / Hyperlink	QR Code
https://www.grassvalley.com/docs/icontrol/	

2 Click the link for your product.



Click the link for your product

3 Choose the latest document version available. Look for the latest version number or publication date. For example, a document shown as v7.40 is more recent than a document shown as v7.30.



4 Download and read the release notes for the latest product information. The latest software is available under *Software Downloads*.

Product Software Upgrades

Product software upgrades are provided through Technical Support. See [Grass Valley Technical Support](#), on page 16.

See the iControl Release Notes for how to install the software upgrade.



Grass Valley Technical Support

For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1-530-478-4148.

To obtain a local phone number for the support center nearest you, consult the Contact Us section of Grass Valley's website (www.grassvalley.com).

An online form for e-mail contact is also available from the website.

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