AvediaPlayer

exterity®

Exterity AvediaPlayer r92xx series V3.2.1

Getting Started Guide

Leading IPTV Delivery

Notices

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Edition

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Exterity Limited, Ridge Way, Hillend Industrial Park, Dalgety Bay, Fife, KY11 9JD, Scotland, UK

http://www.exterity.com

Products Described by This Guide

AvediaPlayer r9200

AvediaPlayer r9210

AvediaPlayer r9220

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Safety Notices

Before installing and operating these products, please read the safety information in this guide.

Safety Notices

Before installing and operating these products, please read the safety information in this manual.

Important Safety Instructions

There are no instructions specifically for service personnel in this document. There are no user serviceable parts inside any Exterity product. To prevent electric shock or fire hazard, do not remove cover. Refer service to qualified service personnel.

This chapter contains important safety information. If you are unsure about any of the information in the section, please contact Exterity.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

USA and Canada

1 Read these instructions.

2 Keep these instructions.

3 Heed all warnings.

4 Follow all instructions.

5 Do not use this apparatus near water.

6 Clean only with dry cloth.

7 Do not block any ventilation openings. Install in accordance with the instructions contained in this manual.

8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11 Only use attachments/accessories specified by the manufacturer.

12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13 Unplug this apparatus during lightning storms or when unused for long periods of time.

14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15 Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.

16 To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.

17 The mains plug of the power supply cord shall remain readily operable.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

EU and Others

Do not proceed beyond a **WARNING!** notice until you have understood the hazardous conditions and have taken appropriate steps.

Safety Information

Warning: There are no user serviceable parts inside any Exterity product. To prevent electric shock or fire hazard, do not remove cover. Refer service to qualified service personnel.

For 230/240 volt operation, be sure to use a harmonised grounded 3 conductor cord, rated 6 Amp minimum. Use a suitable cord for connection to the equipment and terminating in an IEC.

This equipment relies upon a safety earth for operation, ensure that you always use a power cord with appropriate earth and that the inlet to which is inserted also has the appropriate earth. If in any doubt about the earth provision in your building consult a qualified electrician.

Use only the dedicated power supply or cord supplied for your device.

The Exterity products use ventilation holes for cooling. None of the ventilation holes should be blocked. Keep all materials at least 5cm away from all the ventilation holes.

Do not expose the product to any rain or moisture.

Do not use the product near a naked flame e.g. a candle.

The operating conditions of the product should be 0°C-40°C with a Relative Humidity of 5 – 95%. The product should not be operated outside of these conditions.

There are no user-serviceable parts inside these products. Any servicing, adjustment, maintenance, or repair must only be performed by service-trained personnel.

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About This Guide

This manual – the AvediaPlayer r92xx Receivers Getting Started Guide – shows you how to perform the first steps of configuring and connecting Exterity AvediaPlayer r92xx Series Receivers to your TV/display and IP network.

- Refer to the *Administrator's Guide* for detailed information about configuring your AvediaPlayer Receiver(s) for use. All AvediaPlayer documentation is available in the Receivers tab at http://www.exterity.com/support/productdocs.html.
- Refer to the *Installation Solutions Guide* for information about installing the AvediaPlayer Receivers using the TV mounting plates, enclosures and fixtures available from Exterity.
- Refer to the *AvediaPlayer Receiver Remote Control Handset Administrator's Guide* for information about the configuration and use of the remote control handset.

Scope

This manual describes the installation, connection and initial configuration of the AvediaPlayer r92xx Series Receivers. For full configuration information refer to the *AvediaPlayer r92xx Administrator's Guide*.

Audience

This manual is intended for use by systems integrators or systems administrators who are installing and setting up Exterity products. The manual assumes that readers are familiar with installing and configuring network-based and audio-visual products.

Terms and Definitions

The following terms and definitions are used in this document:

Table 1 Terms and definitions

Term	Definition	Term	Definition
DHCP	Dynamic Host Configuration Protocol	IGMP	Internet Group Management Protocol
DNS	Domain Name Server	POE	Power Over Ethernet
EDID	Extended Display Identification Data	SNMP	Simple Network Management Protocol

Documentation Conventions

The following conventions are used in this guide:

Note: A Note calls attention or adds information that is important for the proper operation of the product.

`Courier Font` - is used to identify scripts, code examples, or keyboard commands.

SMALL CAPITALS – are used to indicate Remote Control handset buttons and button presses, for example MODE and PLAY.

Emphasis is used when referring to another document, for example *AvediaPlayer Administrator's Guide*.

1 About the AvediaPlayer r92xx Series Receivers

The AvediaPlayer r92xx Series Receivers are network devices which display an IP network delivered MPEG-2 transport stream (TS) on a television or display. Streams from Exterity TVgateway, Encoder, Transcoder, and AvediaServer products are supported, as well as streams from some third party products.

Models

All AvediaPlayer r92xx Series Receivers provide the following AV outputs:

- Video: HDMI (with HDCP) 1080i & 1080p, 720p, 576p, 480p @ 50Hz, 59.94Hz or 60Hz
- Audio: HDMI (8 channel PCM or Bitstream), TOS (2 channel PCM or Bitstream)

AvediaPlayer r9200 Receiver

The AvediaPlayer r9200 features a single Ethernet port and an HDMI output in a compact form factor and the lowest power consumption of the r92xx Series Receivers.

AvediaPlayer r9210 Receiver

The AvediaPlayer r9210 Receiver provides additional support for analogue video and audio outputs. Rear panel connections provide support for:

- HD component (YPbPr, 3 x RCA): 1080i, 720p (50Hz/60Hz),
- SD component (YPbPr, 3 x RCA): 576p, 576i (50Hz), 480p, 480i (60Hz)
- SD composite (CVBS, RCA): PAL 576i (50Hz)
- SD S-Video (Y/C, mini-DIN): PAL 576i (50Hz)
- Analogue unbalanced stereo audio outputs

AvediaPlayer r9220 Receiver

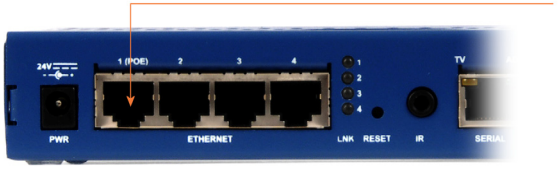
The AvediaPlayer 9220 Receiver has an internal Ethernet switch, allowing three additional network devices to be connected to the network through the receiver. The receiver must be connected to the network switch using the port marked Ethernet 1 (POE). The ports marked Ethernet 2, 3, and 4 can be used for other network devices, for example, a computer or IP phone.

The AvediaPlayer r9220 Receiver allows the use of 802.1q VLANs on its switch ports. Refer to “AvediaPlayer r9220 Connections” on page 20 for more information.

2 Before You Begin

This section describes the key considerations required before connecting the AvediaPlayer Receiver to a TV and your IP network.

Network Considerations



Exterity r92xx Receivers accept IP multicast streams from other network devices. This means that the network switches must be multicast-enabled in order to prevent unwanted flooding of traffic on the network.

For these purposes, "Multicast-enabled" is understood to mean that all network switches carry out IGMP snooping. One device must act as the IGMP querier.

Exterity Receivers support version 2 and 3 of IGMP.

The Ethernet port – (Ethernet 1 on AvediaPlayer r9220) is a 10/100 Mbps interface used to connect the receiver to the network switch using a standard straight-through Cat 5 cable.

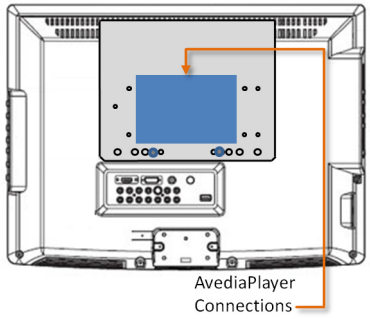
On the AvediaPlayer r9200 and 9210 Receivers, two LEDs show the status of the Ethernet interface. In normal operation the orange **link** LED is permanently lit if the connection is 100Mbps, and not lit if it is 10Mbps. The green **activity** LED flickers on when packets are transmitted or received.

On the AvediaPlayer r9220, **Ethernet 1** should be used to connect the receiver to the network switch using a standard straight-through Cat 5 cable. The green **activity** LED (for port 1) flickers when packets are transmitted or received.

All AvediaPlayer r92xx Series Receivers are PoE enabled devices. They can be powered using any LAN Switch or Mid-span device meeting the 802.3af PoE specifications.

In its default setting the AvediaPlayer r92xx Receiver obtains an IP address automatically from a DHCP server. If required you can manually configure a static IP address, subnet mask, and default gateway.

Physical Location



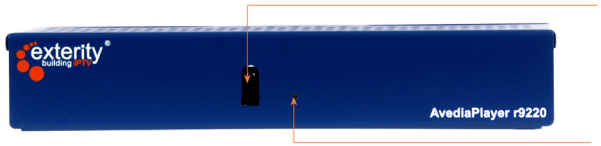
AvediaPlayer Receivers are typically located close to, or attached to the connected TV or display device. Mounting kits enable you to securely mount any AvediaPlayer r92xx Series Receiver to a television and display, or to a wall or under a surface such as a desk or shelf. Refer to the *Installation Solutions Guide* for more information. Consult your Exterity sales representative for details of the available AvediaPlayer r92xx Series installation accessories. Please see the *Avedia Accessories Technical Specification* for details of order codes.

Power

POE – The receiver can be powered through the network interface by Power over Ethernet (PoE) using any LAN Switch or Mid-span device meeting 802.3af PoE specifications.

DC Supply – The receiver can be powered through the power jack using the 24V/0.5A external power adaptor available from Exterity as an accessory. Please see the *Avedia Accessories Technical Specification* for details of order codes.

User Control



IR Window – You control the AvediaPlayer Receiver using the IR Exterity Remote Control. If the receiver's location means that the IR Window is not easily visible, control functions can be maintained using an IR Extender connected to the rear panel (see below). The front panel IR receiver is disabled when a rear panel connection is made.

Status LED – The Status LED pulses on and off in normal operation. It flashes during startup, or to indicate the receiver is responding to remote control commands. The LED behaviour, which can be customised, is described in the *AvediaPlayer r92xx Administrator's Guide*.

Remote Control Handsets – Remote Control Handsets provide user control of the AvediaPlayer Receiver. They are not supplied with the receiver and must be ordered separately. Please see the *Avedia Accessories Technical Specification* for details of order codes.

IR Extender – An IR extender is available to allow IR remote control of the receiver when the front panel IR window is obscured. The IR extender is not supplied with the receiver and must be ordered separately. Please see the *Avedia Accessories Technical Specification* for details of order codes.

Please note that IR extenders should be kept away from IR sources such as sunlight, certain fluorescent lights and televisions. The extender should be at least 5-10 cm away from the actual display.

Note: Operation of the AvediaPlayer Receiver when using the User Interface allows typical user functions such as channel selection, volume control, and where configured, browser operation and interaction with middleware.

Configuration is carried out using the Web Admin Interface. Some configuration functions can also be made using the serial admin interface and the Exterity AvediaServer Director application.

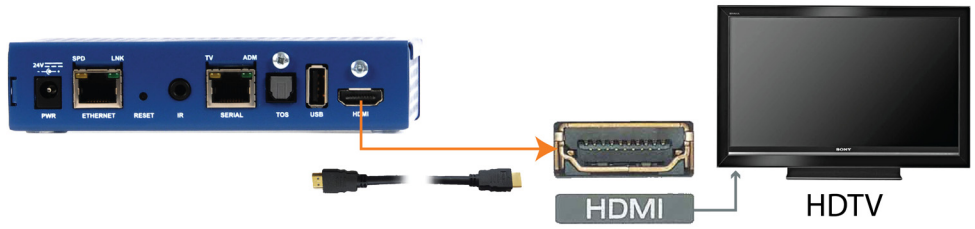
3 Connection and Power On

This section shows you how to connect the AvediaPlayer r92xx Receiver to your TV, power it on, and ensure it is correctly configured for its connection to your IP network.

Connect the AV Outputs

Select the connection required for your TV/display and/or audio device:

HDMI



HDMI – Use a standard HDMI cable to connect the AvediaPlayer to an HD television/display.

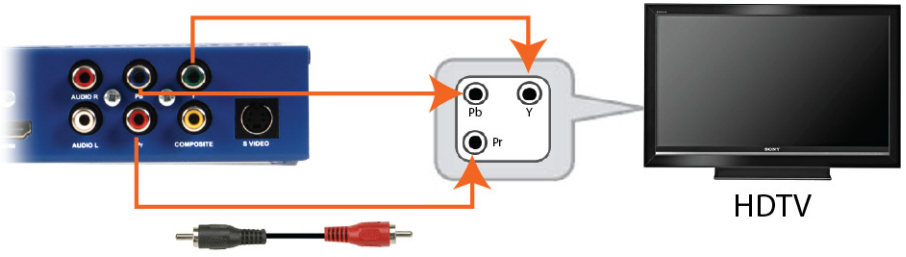
When connected to the TV/display using the HDMI interface, optimum settings for the receiver-TV combination are determined automatically

Note: You must use HDMI compliant cables to connect the AvediaPlayer Receiver to the display device.

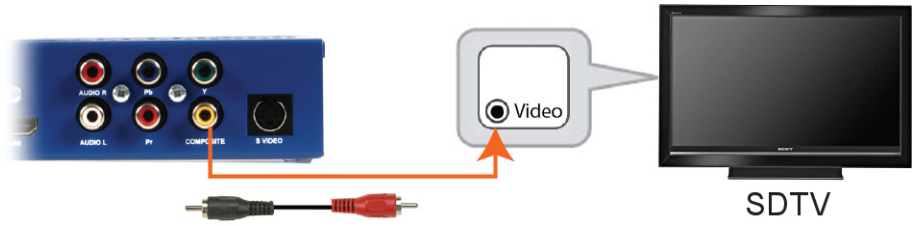
Digital Audio

TOS – Use a standard TOSLINK cable to connect the 2 channel PCM or Bitstream audio output to an external audio system if required.

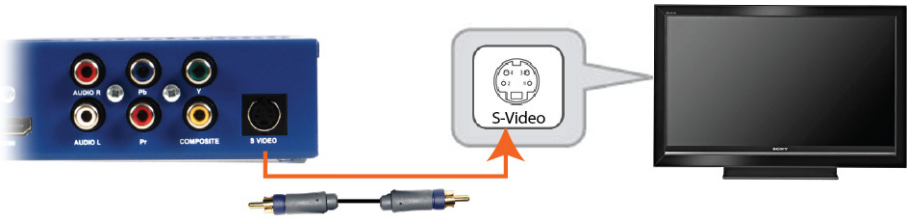
AvediaPlayer r9210 Only - Component/Composite/S-Video/Analogue Audio



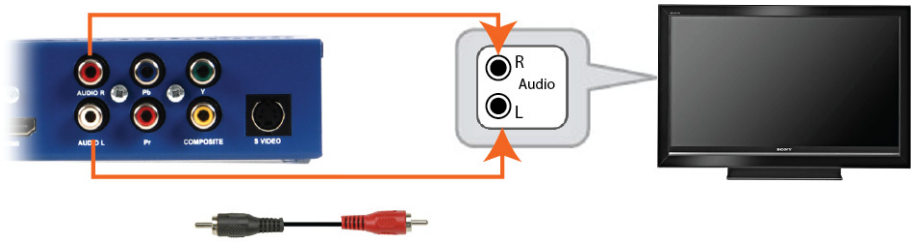
Component Video – (HD and SD) Use standard phono cables (RCA).



Composite Video – (SD only) Use a standard phono cable (RCA).



S-Video – (SD only) Use a standard S-Video cable.



Analogue Audio – Analogue audio 1 volt peak-to-peak maximum. Use standard phono cables (RCA).
(not required if using HDMI)

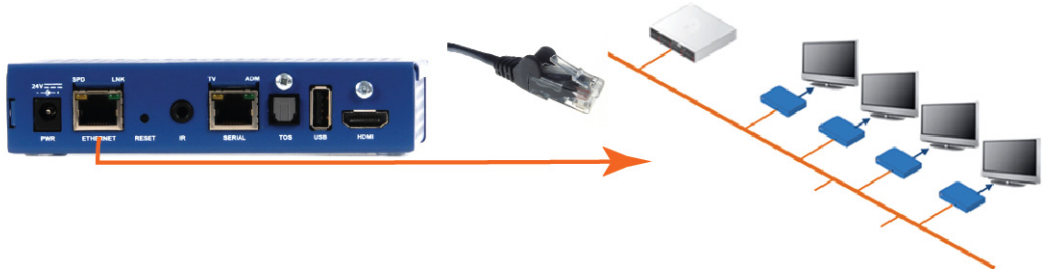
Connect a Wired Handset or IR Extender

IR – Connect the tethered remote control when control with the IR handset is not possible or desired.

Alternatively, connect the IR Extender cable to the IR jack to enable the user to control the receiver with an IR handset when the front panel IR receiver window is obscured.

Connect to the IP Network

In their default setting AvediaPlayer r92xx Receivers are configured to obtain an IP address from the DHCP server on your network. You can subsequently configure a static IP address if required, or pre-configure a static address prior to connection to your network. Refer to “IP Address Configuration” on page 24 for more information.



PoE – All AvediaPlayer r92xx Series Receivers are PoE enabled devices. They can be powered using any LAN Switch or Mid-span device meeting the 802.3af PoE (Power over Ethernet) specifications.

Connect to Power Source

DC Supply

DC Supply - Use the supplied Power cord to connect the in-line AC-DC Power Supply to the line supply.

Power On

Connect the receiver to the power source, AC-DC power supply or PoE and confirm the front panel LED flashes according to the startup activity.

The Status LED flashes during startup or to indicate the receiver is responding to remote control commands as follows:

Function	LED activity
Start-up	On 20 seconds, pulse on and off, 20 seconds. Followed by IP address acquisition
Acquiring IP address via DHCP	4x per second
Standard operation (Default LED status: On)	Pulses on and off, blinking briefly on/off on reception of remote handset commands.
Standard operation (Default LED status: Off)	Always off, blinking on briefly on reception of remote handset commands.

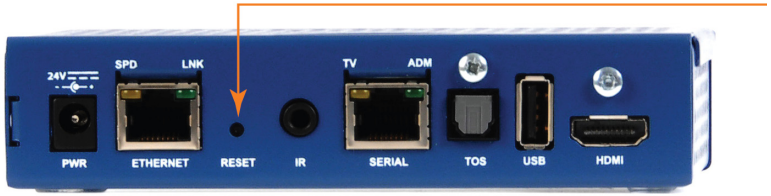
Note: The LED behaviour is a configurable option. Refer to the *AvediaPlayer r92xx Administrator's Guide* for more details.

Additional Connections and Functions

Kensington Lock

All AvediaPlayer r92xx Series Receivers provide a Kensington® lock slot, located to the rear of the right-side panel.

Reset



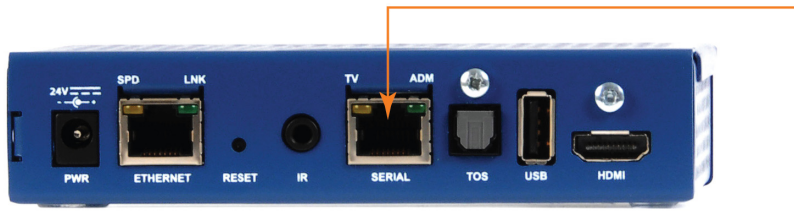
You can reboot the receiver by pressing a pin or the end of a pen into the **RESET** port. You can also return the receiver to the factory default settings.

Briefly press **RESET** to reboot the AvediaPlayer Receiver.

Press and hold **RESET** until both **ADM** and **TV LEDs** flash to return the device to factory default settings. (The serial port is set to admin control mode.)

Note: You can also set the Admin/Serial port function using the RESET button. Refer to the *AvediaPlayer r92xx Administrator's Guide* for more details.

Serial TV /ADM



Serial TV /ADM – This serial interface is dual purpose. Its function is configured on the TV page of the web interface. In its default configuration it can be used to access the command line admin interface to configure basic device capabilities and to troubleshoot problems – Refer to "Using the Serial Admin Interface" on page 23. For more details on using this interface, refer to the *AvediaPlayer r92xx Administrator's Guide*.

It can also be used to allow the receiver to communicate with a serial-controllable television. The interface wiring is shown in the *AvediaPlayer r92xx Administrator's Guide*. Contact your Exterity supplier for more details on supported televisions.

USB

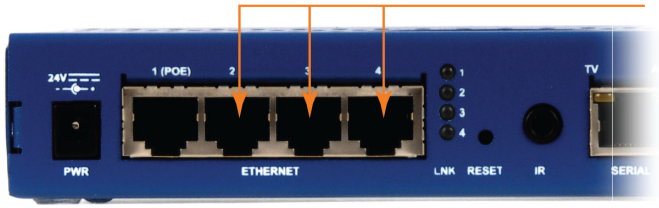
An external storage device (FAT32 format) can be connected to the USB port. The storage device can be used to hold items such as video content and playlists to provide failover support, additional fonts, and html content for digital signage.

For details on using this interface, refer to the *AvediaPlayer r92xx Administrator's Guide*.

AvediaPlayer r9220 Connections

In addition to the connections available on all AvediaPlayer r92xx Series Receivers, the AvediaPlayer r9220 provides additional LAN connections and a network switch.

Ethernet Ports



Ethernet Ports – The AvediaPlayer r9220 model provides three additional 10/100 Mbps Ethernet ports, allowing other devices (for example, PC, IP phone) to be connected to the main network. Devices should be attached to these ports using a standard straight-through Cat 5 cable.

Ethernet 1 should be connected to the network switch. Ethernet 2, 3, and 4 can be used for additional devices. The ports are not powered. The AvediaPlayer r9220 also provides LAN switch functions and VLAN configurations can be implemented as described in the *AvediaPlayer r92xx Administrator's Guide*.

4 Basic Configuration

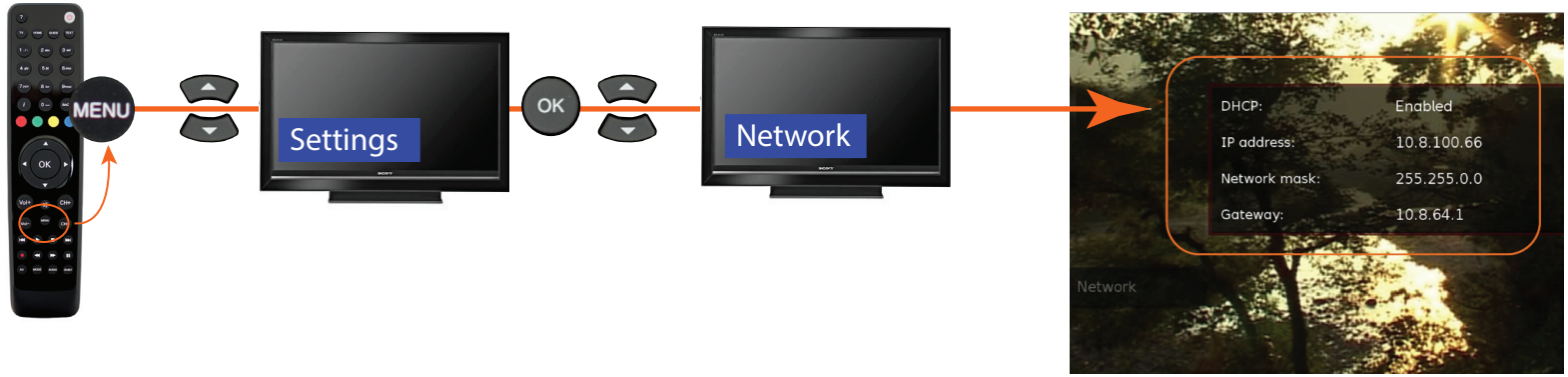
The AvediaPlayer r92xx Receivers can be configured using the Serial Admin Port, the Web Admin Interface, and the AvediaServer Director application. To use the Web Admin Interface, you need to know the AvediaPlayer Receiver's IP address. The AvediaServer Director application automatically discovers devices on your network and lists details such as their type and serial number, enabling you to identify each one.

Determining the IP address of the AvediaPlayer Receiver

If you have connected the AvediaPlayer Receiver to an IP network with a DHCP server, you can determine the IP address of the AvediaPlayer Receiver:

- Using the connected TV and Remote Handset
- Using the AvediaServer Director application
- Using the Serial Admin Interface

Using the Connected TV and Remote Handset

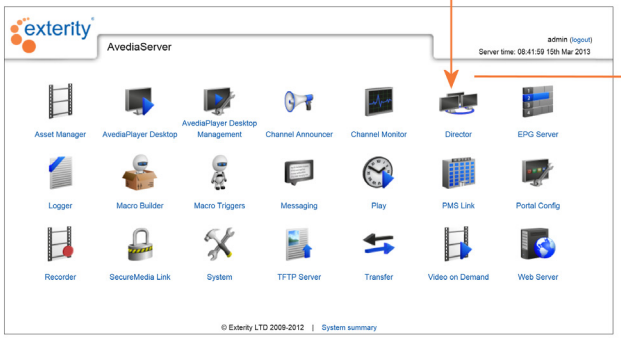


Using AvediaServer Director

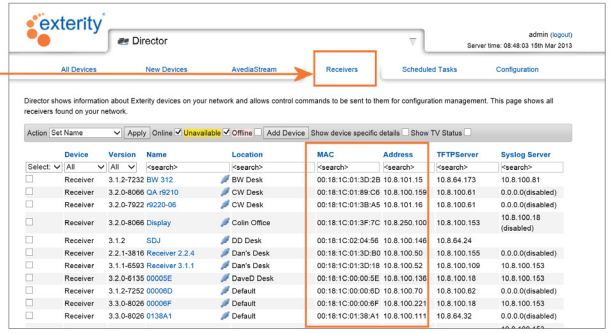
1

Enter the IP address of the AvediaServer

2



Start the AvediaServer Director application and select the Receivers tab.



Admin – log in using:

username: `admin`

password: `labrador`

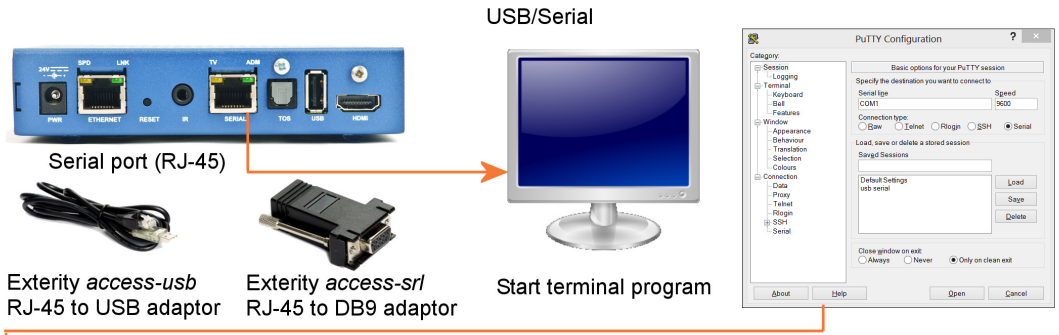
to access the Web Admin Interface.

Director – lists all Exterity devices in your network.

Match the AvediaPlayer receiver MAC address and its IP address.

Using the Serial Admin Interface

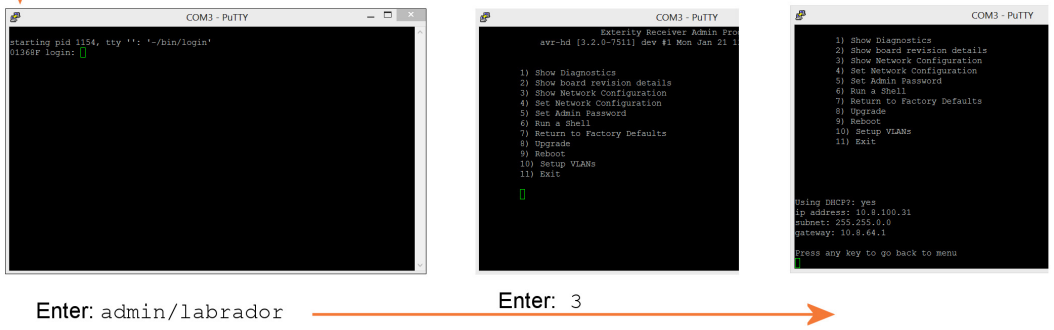
1



Terminal Program such as PuTTY.

- Baud rate: 115200
- Data bits: 8
- Parity: none
- Stop bits: 1
- Flow control: none

2



Admin – log in using:
username: `admin`
password: `labrador`
to access the Serial Admin Interface.

Note: You can use the Serial Admin Interface to configure a static IP address prior to connection to your IP network. Refer to “Setting Network Configuration using the Serial Admin Interface” on page 24 for more information.

IP Address Configuration

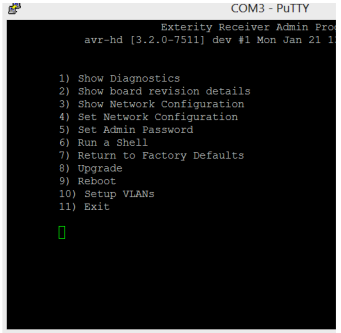
When the IP address has been determined, you can log into the Web Admin interface to configure a name and location for the device and to specify different IP addressing. Alternatively, if the IP address is not known, you can configure the DHCP/IP address settings using the Serial Admin interface.

Setting Network Configuration using the Serial Admin Interface

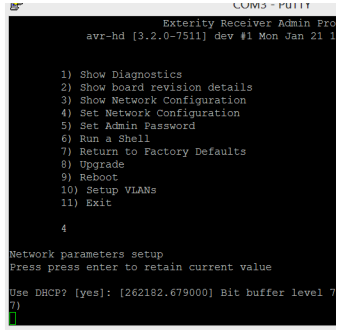
This section shows how to use the Serial Admin interface to configure the correct IP addressing details. Additional switch settings are required to configure the AvediaPlayer r9220 four-port Ethernet switch.

Connect to the AvediaPlayer Receiver as shown described in “Using the Serial Admin Interface” on page 23.

Enter: `admin/labrador`



Enter: `4`

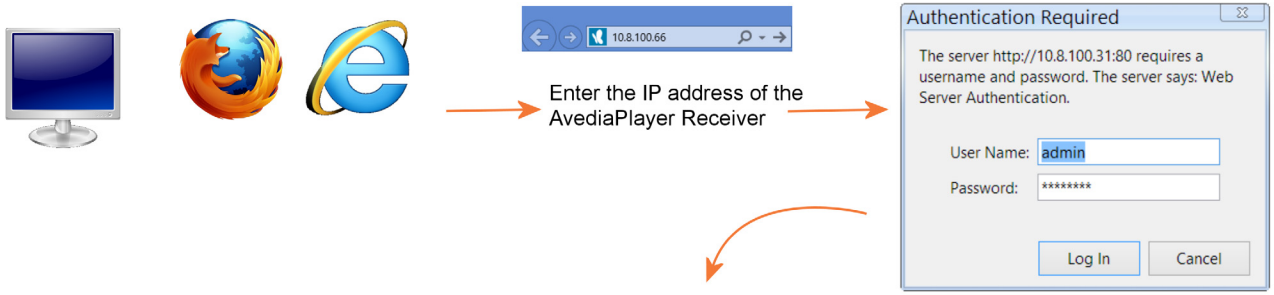


Admin – log in using:
username: `admin`
password: `labrador`
to access the Serial Admin Interface.

Configure static IP address by entering no for Use DHCP? Enter values when prompted for IP address, gateway, and subnet

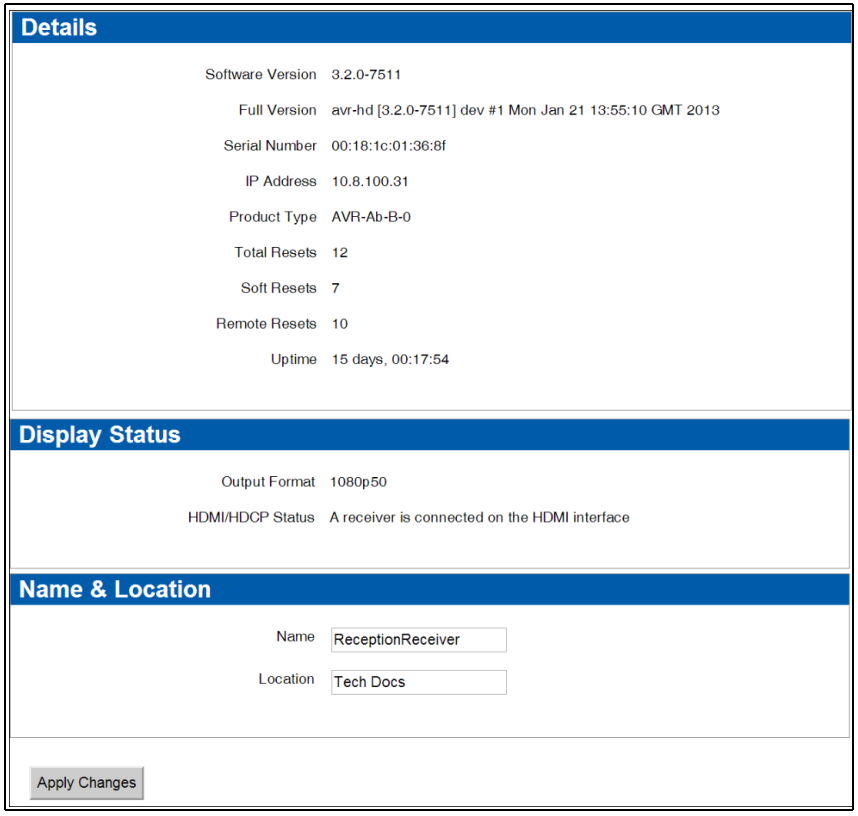
Logging into the Web Interface

1



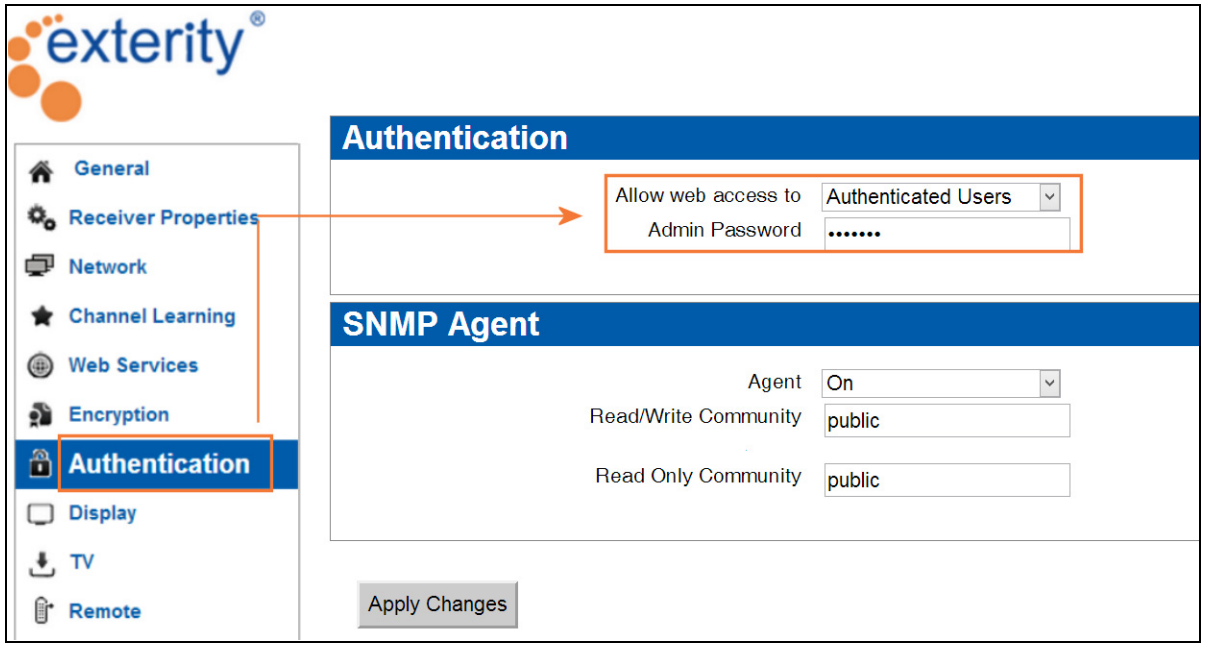
Admin – log in using:
username: `admin`
password: `labrador`
to access the Web Admin Interface.

2



Changing the Admin Password

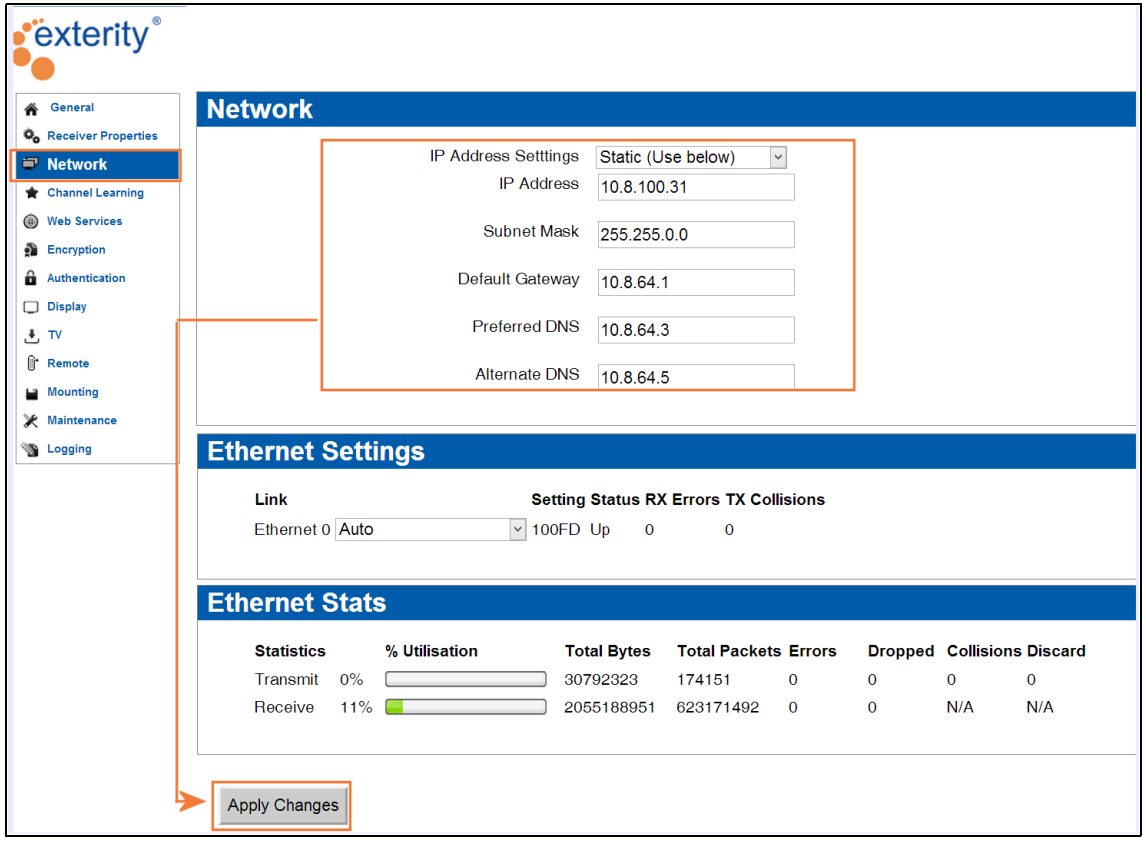
This section shows how to use the web admin interface to change the administrator password. Exterity recommends that you do this as soon as possible.



Admin – log in using:
username: `admin`
password: `labrador`
to access the Web Admin Interface.

Setting Network Configuration using the Web Admin Interface

This section shows how to use the web admin interface to configure the AvediaPlayer Receiver to ensure it connects to your IP network and interacts correctly with all other network devices.



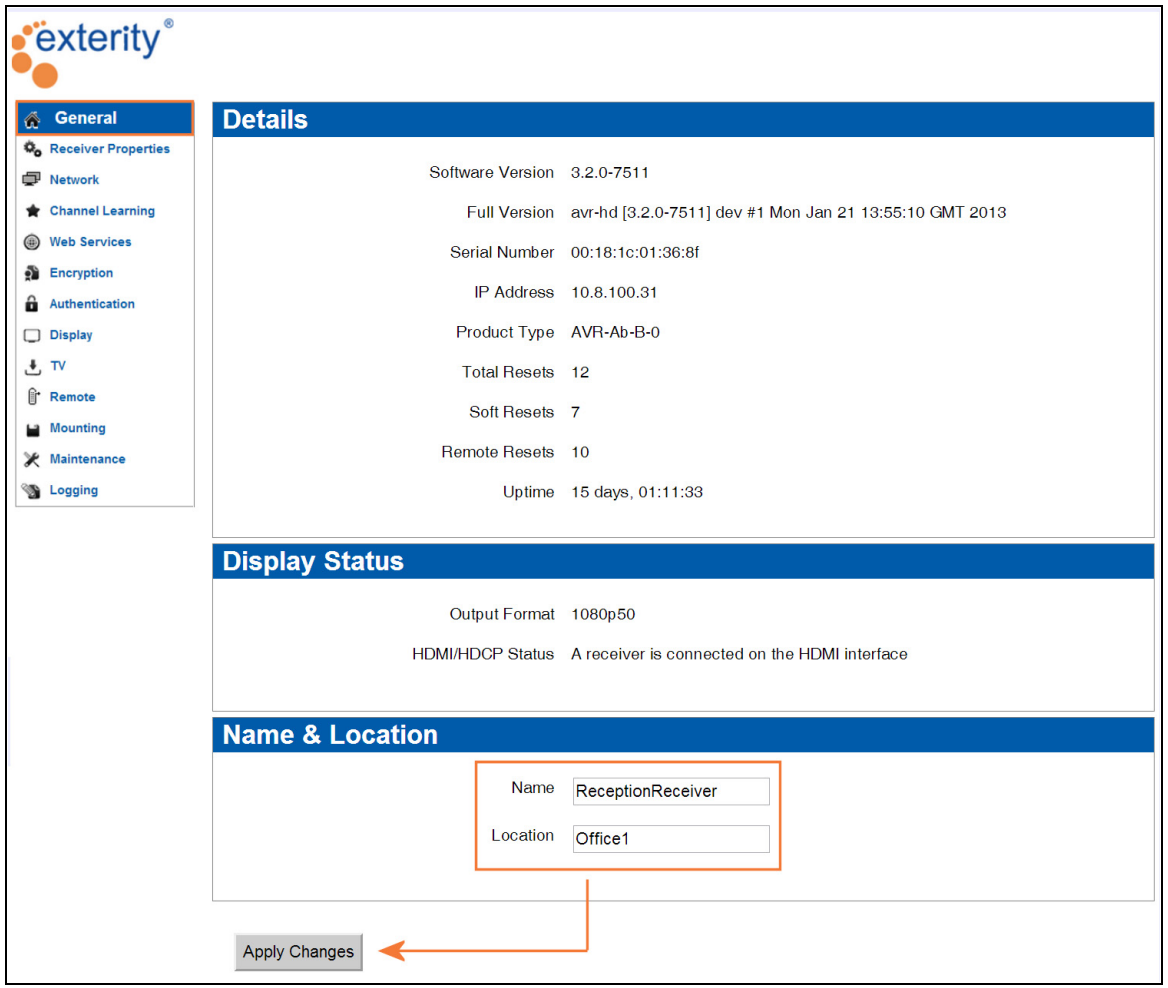
You can configure the receiver to obtain an IP address automatically using DHCP, or you can specify static addressing information, such as IP address, subnet mask and default gateway.

Click the IP Address Settings drop-down list and select DHCP (Automatic) or select Static (Use below). Specify values for IP Address, Subnet Mask, Default Gateway, Preferred DNS Server, and Alternate DNS Server.

Name and Location

Exterity recommends that you specify a name and location for each AvediaPlayer Receiver. This allows you to easily identify the device on the network and in a management application, such as the Exterity AvediaServer Director application.

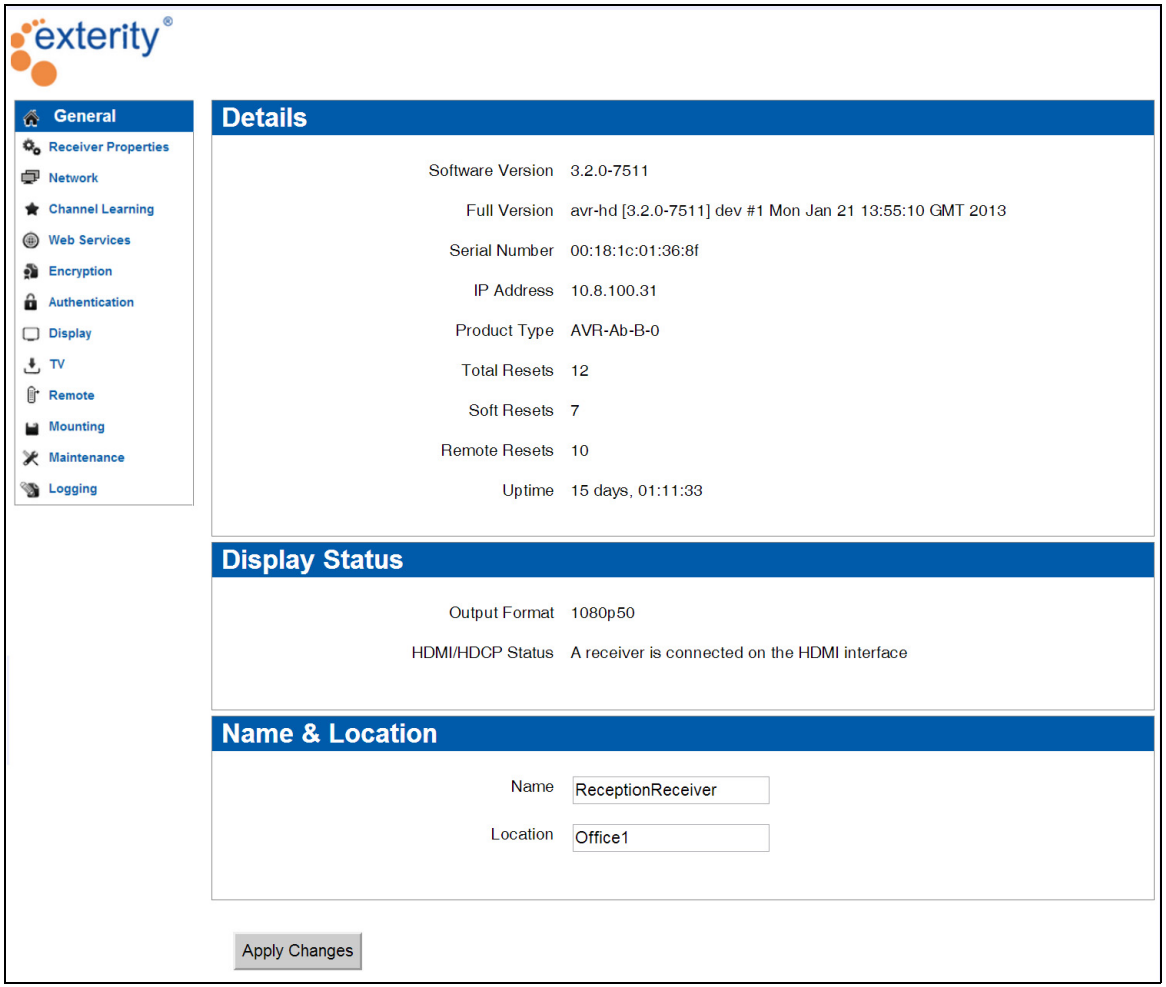
You can use the web management interface or the AvediaServer Director to specify a name and location. (For more information refer to the *AvediaServer Managing your IPTV System Administrator's Guide*, which is available on the Exterity website at http://www.exterity.com/support/productdocs.html)



A representative name and location can help you identify and manage more than one AvediaPlayer receiver. For example, when multiple receivers are deployed in a hospitality installation, you can use the room number and floor as the name and location.

General Page Reference

The General page displays hardware and software information for the receiver you are using and the status of its connection to the display device (HDMI only). You can specify a name and location to help identify each device when more than one receiver is installed on your network.



Exterity recommends that you change the name and location of each receiver to aid identification when there are multiple receivers in a network. Refer to “Name and Location” on page 28.

Details	
Software Version	The version of the currently installed device firmware
Full Version	The full firmware build code
Serial Number	The receiver serial number (MAC address)
IP Address	The IP address assigned to the receiver
Product Type	The receiver hardware code information
Total Resets	The total number of times the receiver has been re-started
Soft Resets	The number of times the receiver has been re-started using the command line interface
Remote Resets	The number of times the receiver has been re-started using the web management interface or SNMP commands, for example, from AvediaServer Director
Uptime	The length of time since the last restart
Display Status	
Output Format	Displays the configured Screen settings for the display device (Receiver Properties > Screen). When the Screen Resolution is set to Auto, the receiver outputs at the resolution requested by the display device.
HDMI/HDCP Status	"**Authentication has succeeded**" is displayed when the AvediaPlayer r92xx has confirmed it is outputting to an HDCP-compliant device via the HDMI interface. "**Authentication has failed**" is displayed when there has been a problem between the AvediaPlayer Receiver and the TV/display. This may be because the TV is in standby, or the TV HDCP chip may be inaccessible. "**Authentication in progress**" is displayed during the authentication process. "**No HDCP device on the HDMI interface**" is displayed when the display device connected to the AvediaPlayer Receiver is not HDCP-compliant. "**A device is connected on the HDMI interface**" is displayed when a device has been detected on the receiver's HDMI interface. "**Nothing is detected on the HDMI interface**" is displayed when nothing is connected to the receiver's HDMI interface. **"No encryption on the HDMI interface"** is displayed when the stream is not HDCP-protected.
Name and Location	
Name	The name of the AvediaPlayer Receiver. The default value is the last 6 characters of the serial number of the receiver.
Location	The location of the AvediaPlayer Receiver. The default value is 'default'.