

X-Digital Systems XDS PR01 Quick Start Guide

1 Guidelines

- **It is very important that you review this guide in its entirety before installing your XDS PR01 receiver. Additionally, please make sure you have followed all of the instructions in this guide before calling support.**
- Please make all satellite RF, data (LAN/WAN) and audio connections prior to applying AC power to the XDS receiver
- XDS urges stations to use an uninterruptible power supply (UPS) to protect the receiver from power spikes and brownouts. If you are located in an area susceptible to frequent lightning storms, please also consider lightning suppressors. Many uninterruptible power supplies are not rated to provide sufficient protection for lightning strikes.
- This receiver will **NOT** receive network programming until you connect it to the internet and activate it per the instructions in this document. Your XDS receiver must always be connected to the internet to ensure proper operation.

2 Unpacking

The following items should be included in the box with your receiver:

1. A copy of the XDS PR01 User's Guide
2. A network data sheet containing RF settings and technical support contact information
3. An optional part kit from your network that may include the following items: Two six foot RG-6 cables, one L-band two port splitter that allows DC power to pass through one port, one twenty foot Category 5 patch cord, one DB-9 connector with shell, one DB-37 connector with shell

If the contents of your box differ from the above list, please look for documentation specifying the contents of the kit.

3 Connecting your Receiver

3.1 Satellite RF Connection

Your XDS receiver is preconfigured to tune itself to the settings specified in the attached Network Configuration Data Sheet. Once the RF connection from your downlink is properly connected and you apply AC power, the receiver should automatically tune and lock to the network carrier

3.1.1 Cabling

When connecting your receiver we recommend using the included cable and splitter or something of equivalent rating. If you are using preexisting splitters and wiring, please make sure the cables are RG-6 and that the splitter is rated for L-Band frequencies (950-2150 MHz). Use of lower rated equipment can result in roll off and significantly degraded signal quality.

3.1.2 LNB Voltage

Your receiver was shipped from the factory with the LNB voltage disabled by default. If you need the receiver to drive the LNB on your dish, you can enable it after you have powered it up and connected to the web interface. Please see section 4.2.2 for details.

3.2 Internet Connection

The XDS PRO1 receiver requires a broadband connection that is always on. The broadband connection is used by the network to remotely troubleshoot, send content to the internal storage, send commercial playback schedules, retrieve as-played logs of commercial insertions, and stream live audio to the receiver.

3.2.1 Connecting the Receiver to your LAN

If you elect to place the receiver on your local network inside of your firewall, you will connect a patch cable from your internal switch or router to one of ports labeled LAN. The receiver is set by default to obtain an IP address via DHCP. If your network does not have a DHCP server, you will need to assign it a static address through a serial connection before it is able to connect to your network and you can use the web interface. Please see Appendix A at the end of this guide for details on this process.

3.2.2 Connecting the Receiver to the WAN

If you would like your receiver to access the internet directly through a DMZ connection or outside of your firewall, you will connect a patch cable to the port labeled WAN on the back of the receiver. Because the main management method for the PRO1 receiver is the web interface, XDS does not recommend connecting it solely to the WAN port. In general, access to the receiver from a PC in your LAN will be blocked if the receiver is in a DMZ zone or outside of your firewall. To assign a static IP address to the WAN port you should use the web interface to edit the WAN port settings. Please see section 4.3.2 for details.

3.3 Connecting the Audio Ports

The audio output of the PRO1 receiver is analog routed through the DB-9 connector labeled Audio-A on the rear panel. The table below details the wiring pin out for the port:

Pin	Signal
1	L OUT+
2	Ground
3	L OUT+
4	Ground
5	R OUT+
6	L OUT-
7	Ground
8	L OUT-
9	R OUT-

Please see the XDSPRO1 User's Guide for detailed specifications on the audio output.

3.4 Relay Closures

The receiver has a DB-37 connector labeled Relay-A on the rear panel which contains sixteen relay/contact closures that can drive external automation systems. The table below details the pin out for the port:

Pin	Function	Pin	Function
1	Relay 1A	20	Relay 1B
2	Relay 2A	21	Relay 2B
3	Relay 3A	22	Relay 3B
4	Relay 4A	23	Relay 4B
5	Ground	24	Ground
6	Relay 5A	25	Relay 5B
7	Relay 6A	26	Relay 6B
8	Relay 7A	27	Relay 7B
9	Relay 8A	28	Relay 8B
10	Ground	29	Relay 9B
11	Relay 9A	30	Relay 10B
12	Relay 10A	31	Relay 11B
13	Relay 11A	32	Relay 12B
14	Relay 12A	33	Ground
15	NC TxData	34	Relay 13B
16	Relay 13A	35	Relay 14B
17	Relay 14A	36	Relay 15B
18	Relay 15A	37	Relay 16B
19	Relay 16A		

If your automation system can read text cues directly, the cue serial stream is available from pins 15 and 10. The NC TxData pin is RS-232 data with no flow control or handshaking. By default, the baud rate is set to 9600 bps, eight data bits, no parity, and

one stop bit. Full electrical specifications for the relay closures can be found in the User's Guide.

3.5 Download and Installation of the Discovery Tool

Please see the included Network Configuration Data Sheet for the URL of the X-Digital Systems Receiver Discovery Tool. Additionally it can be found under the **Help** tab of the Affiliate website. The page includes installation instructions, a download link for the installer, and usage instructions. A quick start guide for the Discovery Tool can also be downloaded from this page. Once installation is complete, please move on to the verification section of this guide.

4 Verification of Functionality

Once all of the connections have been made, you may connect AC power to the receiver and begin verification of the receiver functionality.

4.1 Locating the receiver on your network

Begin by launching the Discovery Tool from the PC where it was installed. Once it has opened, click the **Start** button at the top to begin scanning your local network. As it finds receivers on your network, it will populate the results in the grid below. You may see multiple results returned if you have other XDS satellite receivers on your network. Look for a receiver that has **PRO1** in the receiver type field and a serial number matching the unit you just installed. Once your unit is located, click on the IP address in the first column to launch the web interface in your default browser. At the login prompt for the web interface, please login with the following credentials:

User: tech

Password: radio

Note: If your unit does not show up in the list or if you do not have a DHCP server on your network, you will need to follow the steps in Appendix A at the end of this guide before proceeding.

4.2 Verify the receiver is tuned and locked to the network carrier

Once the satellite is properly connected and the receiver is powered up the receiver is configured from the factory to tune and lock to your network's carrier. Please verify as follows:

4.2.1 Front Panel

Quick verification of the tuner status can be done from the front panel of the receiver. If the green LED labeled as **Signal** is lit, the receiver is locked to a satellite carrier. However, this does not guarantee that the receiver is locked to

the correct carrier. To verify the correct carrier or if your receiver does not automatically lock, you will need to use the web interface.

4.2.2 Web Interface

Once logged in to the web interface, you will be on the **Status** tab of the **General** page. Click on the **Tuner** tab to view the current tuner settings and statistics of the receiver. On this page you will be able to see the frequency and symbol rate. If the settings do not match the values in the Network Configuration Data Sheet, click the **Edit Tuner Settings** button at the bottom of the tab. You will now be able to edit the applicable tuner settings for your carrier as well as enable the LNB power if the receiver is designated to supply DC voltage to your dish. After you are finished making changes, click **Save Tuner Settings**.

4.3 Verify IP connectivity to the NOC

In order for the NOC to send programming and schedule information to your receiver, it must be able to communicate with the receiver over the internet.

4.3.1 NOC Connection Test

On the **General** page of the web interface under the **Status** tab there is a tool named the **NOC Connection Test** that will allow you to verify connectivity to the NOC. Click the **Initiate Test** button and then confirm you want to start the test by clicking **Begin Test**.

The test should take no longer than a minute or two but during this time the web interface will be unresponsive to other commands. After the test completes you will either see 'NOC Connection Successful' or 'Cannot Connect to NOC.' If your receiver is able to connect, your settings are correct and you are ready to proceed with the next tests. On the other hand, if your receiver is unable to connect, you will need to adjust your IP settings until the test is successful. You may need to check settings on the receiver or in your network including any switches, routers or firewalls. The receiver will need to be able to communicate on TCP port 80 to the internet. Please see the next section if you need to assign the receiver a static IP address or configure a proxy server.

4.3.2 Assigning a Static IP Address from the Web Interface

Assigning a static IP address to either the LAN or WAN port can be done on the **General** page of the web interface under the **Setup** tab. Click on **Edit Configuration Settings** at the bottom of the tab to make adjustments. The TCP/IP Networking section allows DHCP to be toggled, a gateway to be specified, a static IP address to be set for the LAN or WAN port, or an HTTP proxy server and port to be specified. Once all adjustments are complete, click **Save Configuration Settings**. Please note that if you changed the IP address of

the receiver you will need to navigate to the new address in a browser to reconnect to the web interface.

4.4 Verify Audio Reception

From the factory your receiver is configured to play out the Test Channel for your network. The Test Channel can be used to verify audio reception as well as verify proper wiring to the rear DB-9 connector.

The Test Channel is intended to check receiver operation; it does NOT indicate that you can receiver regular network programming. You must complete all installation and activation steps including a fulltime internet connection to receive program audio. Your PRO1 receiver must ALWAYS be connected to the internet.

5 Verification of Programming and Activation

You can edit and activate the programming schedule of your receiver through the Affiliate website of your network. The URL for this site is provided on the Network Data Sheet.

To login you will use the serial number of your receiver as the username and a password generated by the receiver. The password can be found as follows:

- In the web interface navigate to the **Status** tab of the **General** page
- Click **Show Daily Login and Password** near the bottom of the tab
- Use these credentials to log in to the Affiliate website

5.1 Setup from the Affiliate Website

Once logged in to the Affiliate website, the following adjustments should be made prior to activation:

1. **Set a friendly password:** This will be a persistent password that will allow you to log in to the site without finding the daily password
2. **Adjust Time Zone:** In addition to the proper time zone for your location, please make sure your day light savings settings are correct
3. **Review Schedule:** You will see the default schedule for the station assigned to your receiver. Please verify and modify your schedule as desired. **Note:** This receiver is equipped with digital storage that allows a 'tape delay' of live network programming per your affiliate agreement. You can use this capability to schedule your receiver with a combination of live and delayed programming. The User's Guide contains a full explanation of the scheduler

4. **Review Relay Mappings:** The receiver will be preconfigured by the network with the default relay mappings. Please review and modify as desired to connect the receiver with your automation equipment.
5. **Approve Setup and Activate:** Once you have reviewed all of the settings above, press the **Approve Setup and Activate** button. Within a few minutes, the NOC will send the updated programming to your receiver and the **Update** LED on the front panel will turn off.

6 Support Contact Information

If you have any problems with the steps in this guide, please call the Technical Services contact specified in the Network Configuration Data Sheet. The support staff will be able to assist you in setup and verification.

7 Full User's Guide

This Quick Start Guide is not a full equipment manual. To download the XDS PRO1 User's Guide, please see the **Help** tab of the Affiliate website where all documents related to receiver operation can be found. Please note that the User's Guide may periodically change to reflect changes in software features.

8 Appendix A – Serial Configuration of IP Address

If you do not have a DHCP server on your local network or the receiver fails to acquire an IP address, you will need to connect a standard serial cable from a PC to the DB-9 port labeled console on the rear panel. If you connect a null cable you will not be able to communicate with the receiver. Settings for the serial connection are 115200 Baud, eight data bits, no parity, one stop bit and no flow control. Once connected please execute the following commands:

1. LOGIN TECH RADIO
2. E0 DHCP OFF
3. E0 ADDR *a.b.c.d*
4. E0 MASK *a.b.c.d*
5. E0 GATEWAY *a.b.c.d*
6. E0 DNS *a.b.c.d,...* [You may specify up to 3 DNS servers separated by commas]
7. E0 SHOW

Make sure you replace the *a.b.c.d* in each command with the actual values for your network. The last command will display the currently set IP address, subnet mask and gateway. Please confirm these settings are correct and then navigate to the web interface to verify connectivity.

Important Notice

FCC Compliance

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION OF THIS DEVICE IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE; AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

UL and CSA Compliance

THE XDS-PRO DVB SATELLITE RECEIVER WAS TESTED ACCORDING TO UL 60950-1:2003 AND CSA C22.2 No. 60950-1:2003. THIS DEVICE MEETS THE SAFETY AND TEST REQUIREMENTS OF THE TEST SPECIFICATIONS, AND WAS FOUND TO BE IN COMPLIANCE WITH PROTECTION AIMS OF THE APPLICABLE EC-DIRECTIVES AND THE REQUIREMENTS OF THE STANDARDS. THE XDS-PRO DVB SATELLITE RECEIVER MAY BE MARKED WITH THE TUV MARK AS SHOWN BELOW; CERTIFICATE No. U8 07 01 62269 001

Warning!

Approved external telecom power cross protection must be incorporated into the final installation in accordance with Annex NAC of UL/CSA standard 60950-1. Failure to comply may result in a fire or electric shock hazard and will void regulatory compliance certification.

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Patent Pending

X-Digital Systems, Inc., DVB Satellite Receiver – Patents Pending

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