

X-Digital Systems XDS PR04P Quick Start Guide

1 Guidelines

- **It is very important that you review this guide in its entirety before installing your XDS PR04P 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.
- **Appendix A** at the bottom of this document contains a front panel menu map that can help you navigate through the XDS receiver settings and configuration

2 Unpacking

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

1. A copy of this XDS PR04P Quick Start Guide
2. A network data sheet containing RF settings and technical support contact information
3. An optional parts kit from your network

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 from the Network Setup section of the front panel. Please see Appendix A for details.

3.2 Internet Connection

The XDS PRO4P 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 the port labeled LAN-1. 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 the front panel. Please see section 4.2.2 for details on manually assigning IP addresses.

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 LAN-2 on the back of the receiver. To assign a static IP address to the WAN, please see section 4.2.2.

3.3 Connecting the Audio Ports

The analog audio outputs of the PRO4P receiver is routed through the DB-9 connector labeled Audio-A through Audio-D on the rear panel. The table below details the wiring pin out for the ports:

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-

(*) - These additional output pins are provided for StarGuide receiver compatibility.

Your receiver will be delivered with a parts kit that will include four mating DB-9 connectors with shells. Please see the XDSPRO4P User's Guide for detailed specifications on the audio output.

3.4 Relay Closures

The receiver has two DB-37 connectors labeled Relay-A and Relay-B on the rear panel. These connectors contain sixteen relay/contact closures that can drive external automation systems. The tables below detail the pin out for the ports:

Relay A – DB37M

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	NA	NA

Relay B – DB37M

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	Ground	34	Relay 13B
16	Relay 13A	35	Relay 14B
17	Relay 14A	36	Relay 15B
18	Relay 15A	37	Relay 16B
19	Relay 16A	NA	NA

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.

The parts kit included with your receiver will include two mating DB-37 connectors with shells. Full electrical specifications for the relay closures can be found in the XDS PRO4P User's 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 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:

4.1.1 Acquiring Lock

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. You can navigate to the Tuner section of the front panel to verify that the frequency and symbol rate match the values specified in the included Network Data Sheet. Additionally, you can manually change the value here if your receiver does not automatically lock.

- At the main screen with the network logo, press the SET key, then the left or right arrow keys to reach **Setup**. Press SET.
- Press the left or right arrow keys to reach **Tuner**. Press SET.
- Press the left or right arrow keys to reach **Frequency**. Press SET.
Check Network Data Sheet for Frequency
- Use the four arrow keys and the SET key to set the frequency to the value on the Network Data Sheet packed with your receiver.
- Press the left or right arrow keys to reach **Symbol Rate**. Press SET.
Check Network Data Sheet for Symbol Rate
- Use the four arrow keys and the SET key to set the symbol rate to the value on the Network Data Sheet packed with your receiver.

4.1.2 Signal Quality

Once the tuner is locked and the correct carrier is verified, the quality of the signal should be verified to ensure reliable service. On the starting screen of the front panel the receiver displays the E_b/N_0 (shown as **EB**) and AG (automatic gain shown as **AG**) values from the tuner. The EB value should be above 7 and AG should fall between 40 and 60. If your values do not fall within these ranges, please verify proper dish orientation and RF wiring.

4.2 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.

4.2.1 NOC Connection Test

Under the Network Setup section of the front panel there is a tool called Test NOC that will allow you to verify internet connectivity to the NOC. Press the **2** softkey that is labeled **NOC** to initiate the test.

After the test completes you will either see 'Successfully Connected to NOC' 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.

4.2.2 Assigning a Static IP Address

Assigning a static IP address to either the LAN or WAN can be done from the Network Setup section of the front panel. This 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. When specifying IP addresses, use the **Up/Down** keys to adjust the numerical values and the **Left/Right** keys to move between octets. The **SET** key will save the specified address. Once all adjustments are complete, run the TEST NOC again to make sure the receiver is able to successfully connect to the NOC. Please see Appendix A for help on navigating through the front panel menus.

4.3 Verify Audio Reception

Once the receiver is locked to the network carrier, you can verify audio functionality as follows:

4.3.1 Verify Audio Reception

From the factory your receiver is configured to play out the Test Channel for your network on all audio ports, however, your network may ship the receiver with current programming and authorizations active. Even if this is the case, the Test Channel can be used to verify audio reception as well as verify proper wiring to the rear DB-9 connector.

Connect a set of headphones (or use front panel speaker) and verify you can hear the **Test Channel**.

To manually program the XDS receiver speaker/headphone to output the **Test Channel**:

- At the main screen with the network logo, press the SET key, then the left or right arrows to reach **Audio Ports**. Press SET.
- Press the left or right arrows to reach **Headphones**. Press SET.
- Press the left or right arrows to reach **Program**. Press SET.
- Use the up and down arrows to find the network's **Test Channel**. Press SET.

The Test Channel is intended to check receiver operation; it does NOT indicate that you can receive regular network programming. You must complete all installation and activation steps including a fulltime internet connection to receive program audio. Your PRO4P receiver must ALWAYS be connected to the internet.

4.3.2 Verify Audio Ports

Each DB-9 connector carries one radio program stream, either mono or stereo. If the program is mono, the same audio appears on the left and right pin pairs.

In most cases, the left and right sides of a stereo channel are no longer used to carry unrelated mono programs.

To manually program the XDS receiver to output the **Test Channel** on a desired audio port:

- At the main screen with the network logo, press the SET key, then the left or right arrows to reach **Audio Ports**. Press SET.
- Press the left or right arrows to select the **Audio Port** (letter A, B, C or D). Press SET.
- Press the left or right arrows to select **Program**. Press SET.
- Use the up and down arrows to find the **Test Channel**. Press SET.

Verify that you can hear the Test Channel through all receiver ports.

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:

- On the front panel in the Setup section where the serial number is displayed press the **3** soft key to show the daily password.
- Use this password along with your receiver serial number 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 each day
2. **Adjust Time Zone:** In addition to the proper time zone for your location, please make sure your daylight savings settings are correct

- 3. Review Schedule:** In the XDS system each program, not each channel, is permissioned and labeled for station use. Therefore, instead of tuning to a channel to find a program, you will schedule the programs to appear on each output port based on the stations that have received authorization(s). You will need to review your schedule before activating your receiver. For detailed instructions on using the scheduler, please see the PRO4P User's Guide.

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 **Update** 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 PRO4P 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 USB Port

The Front Panel USB port is not implemented at this time. Please DO NOT plug in any device at this time.

9 VU Meters

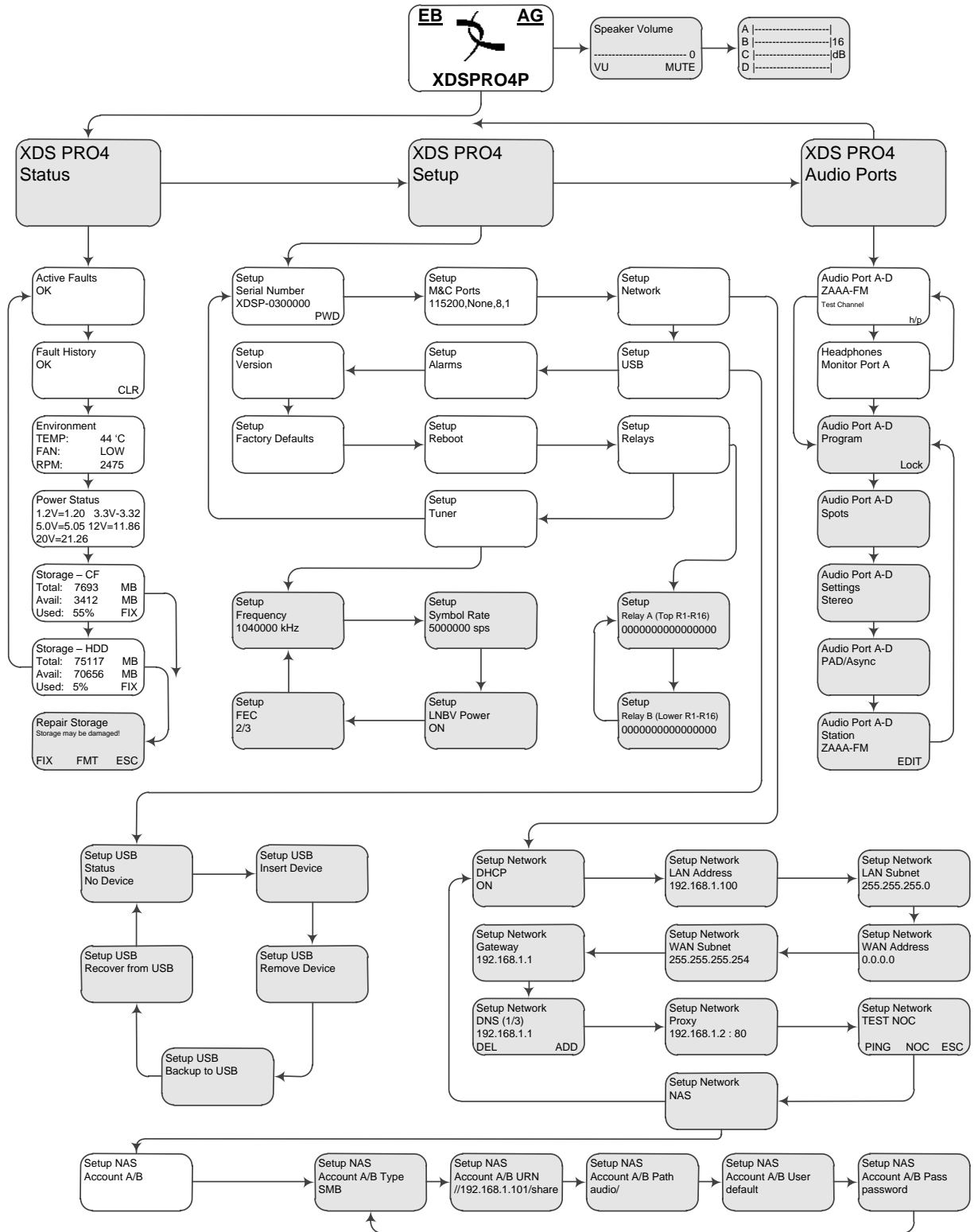
VU meters are available on the receiver by selecting:

- Left or Right key on the front panel
- Press the **1** softkey which is labeled as VU
- Press the Up key to exit

10 Modem Connection

If you are unable to obtain a broadband connection in your area, please contact Technical Services for your network to discuss the possibility of using a modem connection instead.

APPENDIX A – XDS RECEIVER MENU TREE:




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

Disclaimer

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