XDS-PR0 SERIES

This quick start guide applies to **XDS-PRO4Q** and **XDS-PRO1Q** receivers.

1. IMPORTANT GUIDELINES

- *REVIEW THIS GUIDE IN ITS ENTIRETY BEFORE INSTALLING YOUR XDS-PRO RECEIVER. FOLLOW THESE INSTRUCTIONS BEFORE CALLING SUPPORT.*

- ***REVIEW ATTACHED NETWORK CONFIGURATION DATASHEET*** *-THIS RECEIVER IS PRE CONFIGURED AS SPECIFIED IN THE ATTACHED NETWORK CONFIGURATION DATASHEET. IF THE* **<u>NETWORK CONFIGURATION DATASHEET</u>** *DOES NOT HAVE CONFIGURATION VALUES YOU MUST CONTACT YOUR UPLINK SERVICE PROVIDER NETWORK TO ACQUIRE THE SATELLITE TUNING DETAILS: L-BAND FREQUENCY, SYMBOL RATE, AND WEB ADDRESS OF THE AFFILIATE WEBSITE.*

- *YOUR NETWORK MAY REQUIRE THAT THIS RECEIVER BE CONNECTED TO THE INTERNET (PLEASE SEE NETWORK CONFIGURATION DATASHEET). IN THAT CASE, THIS RECEIVER WILL **NOT** RECEIVE NETWORK PROGRAMMING UNTIL YOU CONNECT IT TO THE INTERNET AND ACTIVATE IT PER THE INSTRUCTIONS IN THIS DOCUMENT.*

- *MAKE ALL SATELLITE RF, DATA (LAN/WAN), AND AUDIO CONNECTIONS PRIOR TO APPLYING AC POWER TO THE XDS RECEIVER.*

- *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.*

- *THERE ARE NO USER ADJUSTABLE SWITCHES, JUMPERS OR CONTROLS INSIDE THE UNIT ITSELF, SO DO NOT OPEN THE UNIT. OPENING THE UNIT AND BREAKING THE WARRANTY LABEL WILL RESULT IN A VOID OF THE WARRANTY.*

- ***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.*

For more details on configuration parameters for the XDS-PRO Series Receivers please consult the relevant chapters in the User Manual using the link provided by your Affiliate Web Site.

2. PREPARING FOR INSTALLATION

2.1 Unpacking
Inspect the carton upon receiving and note any damage to the carton for possible unit damage. Carton includes:
- The XDS-PRO Receiver
- XDS-PRO Quick Start Guide
- Network Configuration Datasheet containing RF Settings and technical support contact information.

Carton may include the following optional items:
- An optional cable kit containing mating DB-37 connectors with shells (1 – PRO1, 2 – PRO4), mating DB-9 connectors with shells (1 – PRO1, 4 – PRO4), RF cable, LAN cable, and RF splitter.
- CD with complete documentation. Documentation including User Manual is also available for download at your Affiliate's Web Site.

2.2 Rack Mounting
The unit is designed for installation in an EIA standard 19-inch (480 mm) equipment rack. Use pan or round head screws and soft washers in all four Front Panel mounting locations.

2.3 Downloading/Installing the XDS Discovery Tool
The XDS Discovery Tool is a software application that helps discover XDS-PRO receivers in the local network (LAN) to help in the configuration process. This tool is intended to help configure XDS-PRO receivers that **DO NOT HAVE** a front panel.
Please see the included Network Configuration Data Sheet for the URL to download the X-Digital Systems Receiver Discovery Tool. This URL contains installation instructions, a download link for the installer, usage instructions, and a quick start guide for the XDS Discovery Tool. This tool can also be found under the Help tab of the Affiliate website.

3. CONNECTING YOUR RECEIVER

3.1 Satellite RF Connection
Your XDS-PRO 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. If the Network Configuration Datasheet does not include a specific network, you must contact your uplink service provider network to acquire the satellite tuning details: L-band frequency, symbol rate, and web address for the affiliate website.

3.1.1 Cabling
When connecting your receiver we recommend using 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. Your receiver may include an optional cable kit with these connectors.

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 Tuner Setup section of the front panel. Please see Appendix A for details. If you have a XDS-PRO receiver without a front panel, 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
Your network may require that the XDS-PRO receiver is always connected to a broadband connection (Internet). 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 4.2.3 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. Since main management method for the XDS-PRO receiver is the web interface, X-Digital Systems does not recommend connecting it solely to the WAN. 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, please see section 4.2.2.

3.3 Connecting the Audio Ports
The analog audio output of the XDS-PRO receivers 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.

Optional cable kit may include four mating DB-9 connectors with shells. Please see the XDS-PRO User's Guide for detailed specifications on the audio output.

3.4 Relay Closures
The XDS-PRO4 receiver has two DB-37 connectors labeled Relay-A and Relay-B on the rear panel. The XDS-PRO1 receiver has one DB-37 connector labeled Relay-A. 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 Relay Port A pins 15 and 10 (GND). 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.

Optional cable kit may include one or two mating DB-37 connectors with shells. Full electrical specifications for the relay closures can be found in the XDS-PRO User's Guide.

3.5 Locating the Receiver on Your Network

This section is required for those who have an XDS-PRO1 receiver with no front panel LCD.

Begin by downloading, installing, and launching the Discovery Tool to a PC residing in the same network as the receiver. 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:

<u>**User:**</u> tech
<u>**Password:**</u> 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. 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

If your XDS-PRO receiver does not automatically lock and/or to verify the correct network satellite settings, you will need to use the front panel controls or the web interface on XDS-PRO receivers with no front panel controls.

4.1.1.1 Using Front Panel Controls

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.

4.1.1.2 Using 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**.

4.1.2 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 or in the web interface 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 Using Front Panel Controls

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 NOC Connection Test Using the Web Interface

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.

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4.2.3 Assigning a Static IP Address Using Front Panel Controls

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.

4.2.4 Assigning a Static IP Address Using the Web Interface

Assigning a static IP address to either the LAN or WAN 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.

4.3 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.

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 XDS-PRO receiver must ALWAYS be connected to the internet.

4.3.2 Verify Audio Ports

Each DB-9 audio 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-PRO receivers 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.
- Or the web interface in the **General** section find and click the **Show Daily Login and 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:

a. 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
b. Adjust Time Zone: In addition to the proper time zone for your location, please make sure your daylight savings settings are correct
c. 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 XDS-PRO 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

d. 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.

e. 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.
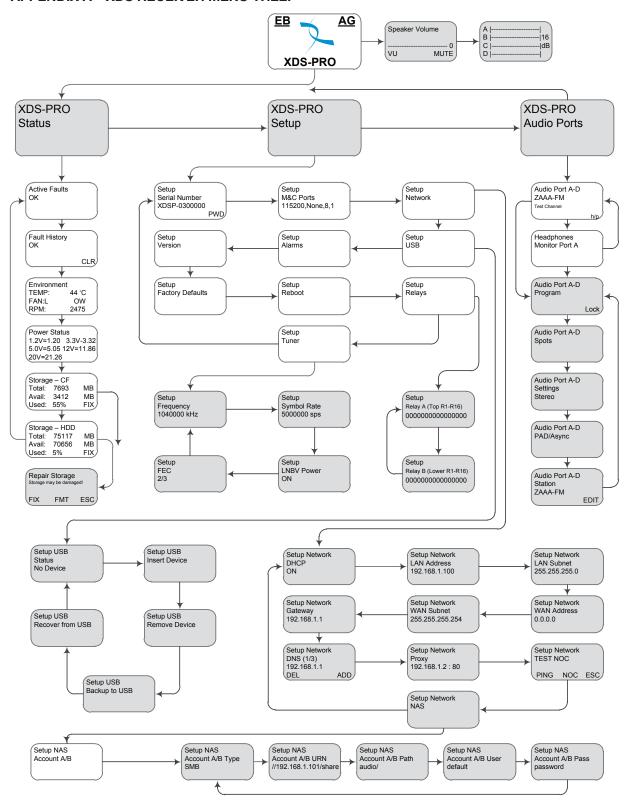
7. FULL USER'S GUIDE

This Quick Start Guide is not a full equipment manual. To download the XDS-PRO 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.

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APPENDIX A – XDS RECEIVER MENU TREE:

```
EB          AG
    XDS-PRO
```

Speaker Volume
------------------------------- 0
VU   MUTE

```
A |----------------------|
B |----------------------|16
C |----------------------|dB
D |----------------------|
```

XDS-PRO Status

XDS-PRO Setup

XDS-PRO Audio Ports

Active Faults
OK

Setup
Serial Number
XDSP-0300000   PWD

Setup
M&C Ports
115200,None,8,1

Setup
Network

Audio Port A-D
ZAAA-FM
Test Channel   h/p

Fault History
OK   CLR

Setup
Version

Setup
Alarms

Setup
USB

Headphones
Monitor Port A

Environment
TEMP: 44 'C
FAN:L   OW
RPM: 2475

Setup
Factory Defaults

Setup
Reboot

Setup
Relays

Audio Port A-D
Program   Lock

Power Status
1.2V=1.20 3.3V-3.32
5.0V=5.05 12V=11.86
20V=21.26

Setup
Tuner

Audio Port A-D
Spots

Storage – CF
Total: 7693   MB
Avail: 3412   MB
Used: 55%   FIX

Setup
Frequency
1040000 kHz

Setup
Symbol Rate
5000000 sps

Setup
Relay A (Top R1-R16)
0000000000000000

Audio Port A-D
Settings
Stereo

Storage – HDD
Total: 75117   MB
Avail: 70656   MB
Used: 5%   FIX

Audio Port A-D
PAD/Async

Repair Storage
Storage may be damaged!

FIX   FMT   ESC

Setup
FEC
2/3

Setup
LNBV Power
ON

Setup
Relay B (Lower R1-R16)
0000000000000000

Audio Port A-D
Station
ZAAA-FM   EDIT

Setup USB
Status
No Device

Setup USB
Insert Device

Setup Network
DHCP
ON

Setup Network
LAN Address
192.168.1.100

Setup Network
LAN Subnet
255.255.255.0

Setup USB
Recover from USB

Setup USB
Remove Device

Setup Network
Gateway
192.168.1.1

Setup Network
WAN Subnet
255.255.255.254

Setup Network
WAN Address
0.0.0.0

Setup USB
Backup to USB

Setup Network
DNS (1/3)
192.168.1.1
DEL   ADD

Setup Network
Proxy
192.168.1.2 : 80

Setup Network
TEST NOC

PING   NOC   ESC

Setup Network
NAS

Setup NAS
Account A/B

Setup NAS
Account A/B Type
SMB

Setup NAS
Account A/B URN
//192.168.1.101/share

Setup NAS
Account A/B Path
audio/

Setup NAS
Account A/B User
default

Setup NAS
Account A/B Pass
password

Important Notice

Regulatory Compliance
North America
Emissions - FCC
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 UNDESIRED OPERATION.

Safety – UL and CSA
UL 60950-1:2007
CAN/CSA-C22.2 No. 60950-1:2007

Europe
THE XDS-PRO DVB SATELLITE RECEIVER WAS TESTED ACCORDING TO THE REQUIREMENTS OF THE EMC DIRECTIVE 89/336/EEC AND LOW VOLTAGE DIRECTIVE 73/23/EEC AND COMPLIES WITH ALL THE REQUIREMENTS FOR THE CE MARK. THE XDS-PRO DVB SATELLITE RECEIVER IS PRODUCTION MONITORED BY TUV SÜD AMERICA AND MAY BEAR THE TUV CUE MARK.

EMC
EN55022 (2006) +A1 Class B
EN55024 (1998) +A1 +A2
EN61000-3-2 (2006) +A1 +A2
EN61000-3-3 (2008)

Safety - TUV
EN 60950-1:2006+A11:2009+A1:2010

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

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