

8x8 Digital Audio Processor with 8x8 Dante Network Audio

DSP-88-DNT

WyreStorm®

Quickstart Guide

💡 WyreStorm recommends reading through this document in its entirety to become familiar with the product's features prior to starting the installation process.



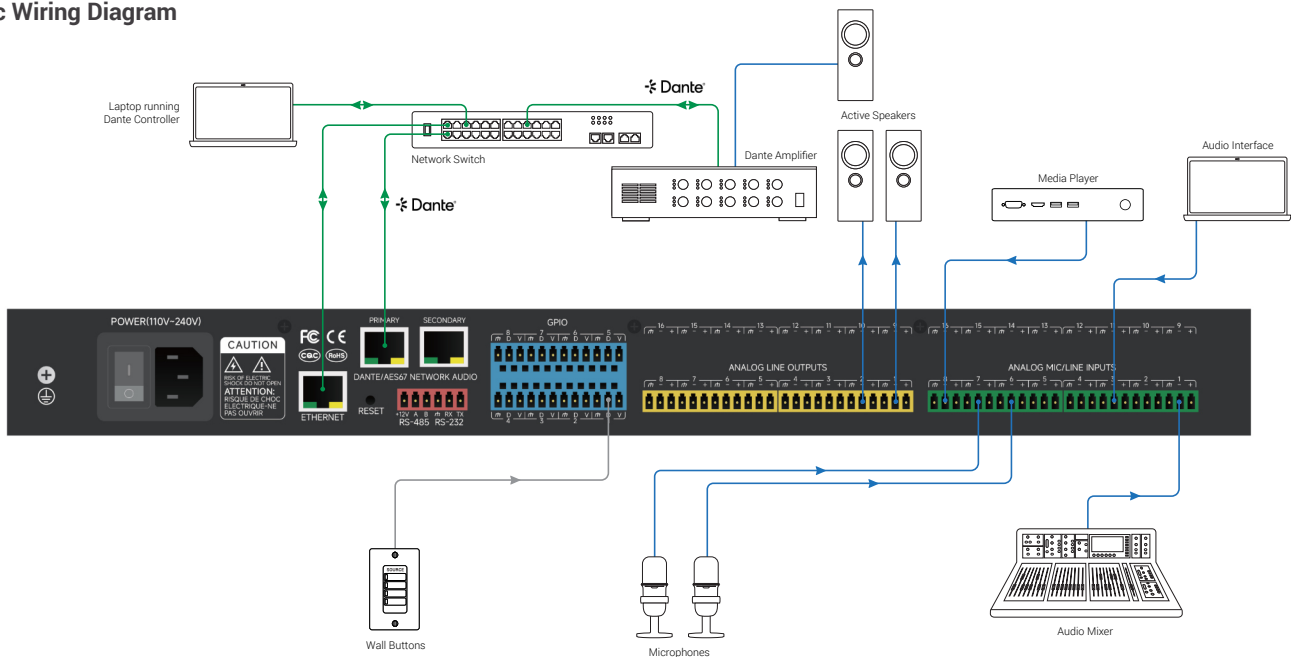
⚠️ IMPORTANT! Installation Requirements

- Visit the product page to download the latest firmware, document version, additional documentation, and configuration tools.
- Keep the device away from water. Do not expose to drips or splashes.
- Use dry cloth only to clean the device.
- Do not block ventilation. Reserve at least 2 inches (5.08 cm) of clearance on both sides.
- Ensure a proper protective earth/grounding connection to the power socket.
- Unplug the device during thunderstorms or extended idle periods.
- All maintenance must be carried out by qualified personnel.
- Recommended maximum operating ambient temperature: 30°C / 86°F.

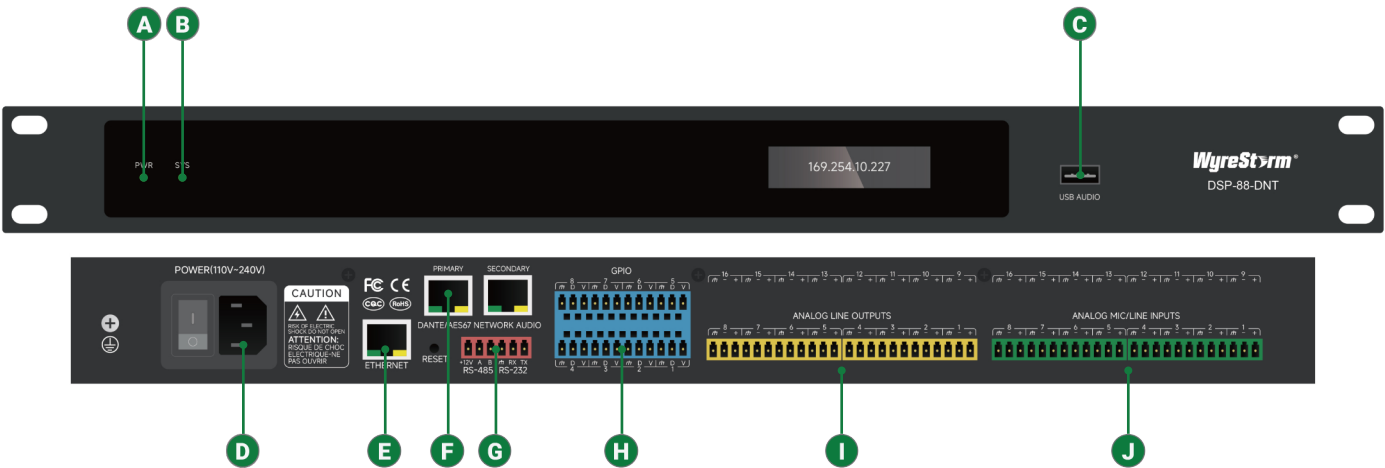
In the Box

- 1x DSP-88-DNT unit
- 1x 6-Pin Phoenix connector
- 6x 12-Pin Phoenix connectors
- 1x Small screwdriver
- 1x USB-A to USB-A cable
- 4x Power cord (US / UK / AU / EU plugs included)
- 1x Equipment foot pads
- 1x Quickstart Guide

Basic Wiring Diagram



Panel Descriptions



A Power LED	Indicates the power status of the device - On: The device is powered on - Off: The device is powered off	F Dante	Connect to a Dante audio network/VLAN
B Status (LED)	Indicates the signal status of the device - On/Blinking: Audio is active and being transmitted - Off: No audio is currently transmitted	G RS-232 + RS-485	Connect to third-party control terminals or central control equipment.
C USB Audio	USB soundcard (1-in / 1-out). Used for recording via a connected PC.	H GPIO	8 configurable input/output logic level control ports (0V or 5V). Configurable via software for triggering internal functions or outputting state.
D Power	Connect to AC 110–240V power supply. Rocker switch controls processor power.	I Output	Analog signal outputs (balanced Phoenix). Connect to power amplifiers, active speakers, and other equipment.
E Ethernet	Network control interface. Connect a PC to this port to configure and monitor the device using DSP Controller software.	J Input	Analog signal inputs (balanced Phoenix). Connect microphones, line sources, DVD players, etc.

Wiring and Connections

WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating any wires to ensure proper operation and to avoid damaging the equipment.

Balanced Connection

All analog inputs and outputs use removable balanced Phoenix connectors. For XLR connections: the female connects to the output device; the male connects to the input device.

Unbalanced Connection

RCA and 1/4-inch TS interfaces are unbalanced. A multi-strand shielding conductor should be used on both ends.

Phantom Power

+48V DC phantom power is available per input channel. Enable only for condenser microphones. Do not enable phantom power on line-level inputs — doing so may damage external equipment.

Setup and Configuration

The DSP Controller software is built into the device and downloaded directly from it. No separate installer disc is required.

1. The DSP-88-DNT uses an Auto IP method to generate the initial IP address based on the network connections.
2. By default the IP address is set to DHCP and will pull the IP address from a connected DHCP server.
3. Should the network not contain a DHCP server the IP address will be generated based on the units mac address.
1. Network Setup: Check the LCD window on the front panel. The LCD window should show the IP address.
2. Download Software: Open a web browser (IE or Chrome recommended) and navigate to IP address from the front LCD window. Locate the download link and install the DSP Controller software.
3. Prerequisite: Ensure Microsoft .NET Framework (latest version) is installed on your PC before running the installer.
4. Connect: Launch DSP Controller. Click the discover button (top-right corner) to find all processors on the network. Select your device to connect. Up to 4 users can connect simultaneously.

PC Requirements

OS	Windows 7 or later
Processor	1 GHz or higher
Memory	2 GB or more
Storage	1 GB free space
Display	1024 x 768, 24-bit color or higher
Network	Ethernet interface; CAT5 cable or existing LAN

RS-232 and IP Settings

Baud Rate	115200 bps
Data Bits	8 bits
Parity	None
Stop Bits	1 bit
Flow Control	None
IP Address	DHCP
UDP Control Port	50000 (default; configurable in Device Settings)
Command Delimiter	CR+LF (0x0D 0x0A) — append to all RS232 commands
RS-232 Message Interval	Minimum 100ms between commands

Note: If the DHCP function fails to take effect, the Default IP Address of DSP-88-DNT is 169.254.10.227; And the Default Subnet Mask is 255.255.0.0

GPIO Configuration

The device has 8 GPIO ports, each independently configurable as input or output via DSP Controller (Settings > GPIO Setting).

Input GPIO functions: Preset recall, routing, gain adjustment, mute/unmute, RS232 command trigger, analog-to-digital gain (for external potentiometer).

Output GPIO functions: Preset state output, channel level threshold output, mute state output, command output. Logic levels: 0V or 5V. Trigger types include high/low level, rising/falling edge, and edge with cancel.

Troubleshooting

Issue	Possible Cause	Solution
Cannot connect DSP Controller to device	PC not on same network subnet as device	Add 169.254.x.x address to your PC network adapter. Default device IP is 169.254.10.227, subnet 255.255.0.0.
Software fails to download from device	Browser compatibility or pop-up blocking	Use Microsoft Edge or Google Chrome. Disable browser download pop-up blocking in settings and retry.
No audio output	Signal routing not configured in matrix, or output fader muted	Check the Matrix module in DSP Controller. Verify output channel is not muted and fader is at correct level.
Phantom power causing damage to connected device	Phantom power enabled on a line-level input	Disable phantom power (+48V) on any input not connected to a condenser microphone requiring it.
Device not responding to RS-232 commands	Wrong baud rate, incorrect wiring, or message interval too short	Verify settings: 115200 baud, 8 data bits, no parity, 1 stop bit. Allow minimum 100ms between commands.
Factory reset required	Configuration corrupt or device inaccessible via network	Connect via RS232 using SecureCRT (115200, 8N1). In the bootloader dialog, run 'del config' to reset network settings to default IP 169.254.10.227, or 'del all' to clear all configuration.
Presets not saving after power cycle	Default startup mode set to 'previous preset' or preset not saved	In Device Settings, set Default Startup to the desired preset number. Ensure preset is saved before powering off.
GPIO not triggering correctly	Trigger type mismatch between hardware and software settings	In GPIO Settings, verify that the trigger type (high/low level, rising/falling edge) matches the signal from your control system.

Specifications

Processor	ADI SHARC 21489 (32-bit / 40-bit floating point)
Sampling Rate / Bit Depth	48 kHz / 24-bit
Analog Inputs	Up to 8 balanced analog inputs via removable Phoenix connectors
Analog Outputs	Up to 8 balanced analog outputs via removable Phoenix connectors
Dante Inputs	Up to 8 Dante inputs via RJ45 connectors
Dante Outputs	Up to 8 Dante outputs via RJ45 connectors
Input Gain Range	0 / 3 / 6 / 9 / 12 / 15 / 18 / 21 / 24 / 27 / 30 / 33 / 36 / 39 / 42 / 45 / 48 dBu
Phantom Power	+48V DC, per input
Maximum Input Level	+18 dBu
Frequency Response	±0.3 dB (20 Hz – 20 kHz)
THD + Noise	≤ 0.001% @ 4 dBu (A-weighted)
Input Dynamic Range	113 dB
Output Dynamic Range	113 dB
Channel Isolation @ 1 kHz	108 dB
Input Impedance (Balanced)	5.4 kΩ
Output Impedance (Balanced)	600 Ω
System Delay	< 3 ms
Control	Ethernet (UDP), RS232, RS485, GPIO
Presets	16 user-configurable presets
USB	USB soundcard (1-in / 1-out) on front panel — UAC compliant
Power Supply	AC 110–240V, 50–60 Hz
Maximum Power Consumption	< 40W
Dimensions (W × D × H)	482 × 260 × 45 mm (18.91" × 9.5" × 1.72")
Rack Space	1U
Weight	4 kg (8.8 lbs)
Operating Temperature	0 to + 45°C (32 to + 113 °F), 10% to 90%, non-condensing

Note: WyreStorm reserves the right to change product specification, appearance or dimensions of this product at any time without prior notice.

Warranty Information

WyreStorm Technologies ProAV Corporation warrants that its products to be free from defects in material and workmanship under normal use for a period of five (5) years from the date of purchase. Refer to the Product Warranty page on wyrestorm.com for more details on our limited product warranty.

