

SR-6464DSP-D

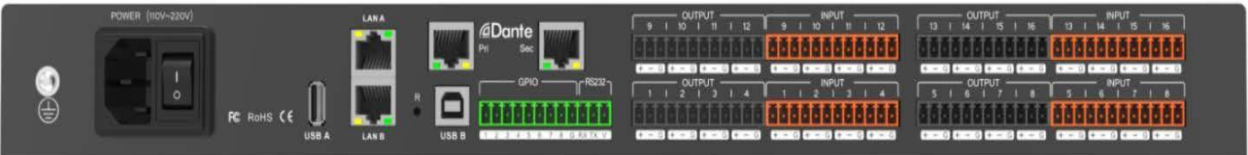
User Manual

Network Audio Processor

FRONT PANEL



REAR PANEL



DANTE
64 × 64

ANALOG I/O
16 in · 16 out

DSP
SHARC 21569

FORM FACTOR
1U · 19-inch

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SECTION 01

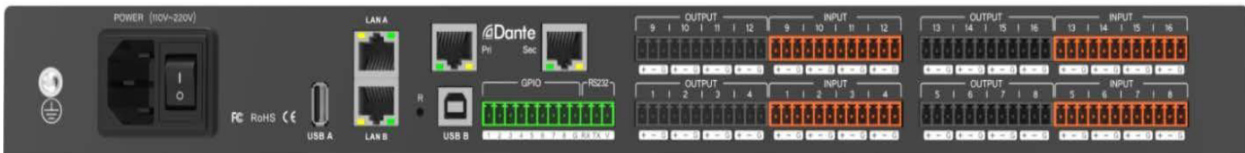
Product Overview

1.1 Product Appearance

FRONT PANEL



REAR PANEL



1.2 Features & Specifications

- Advanced, reliable hardware: Analog Devices high-performance DSP **SHARC 21569** + NXP i.MX ARM processor
- Supports **64 × 64 Dante** network audio channels (compatible with AES67)
- Up to 32 analog audio I/O channels, plus USB-A, USB-B, RS-232 and GPIO interfaces
- 16 mic/line-level analog audio input channels; 16 line-level analog audio output channels
- Multiple assignable, routable AEC processor modules
- Two Gigabit Ethernet ports for Dante audio connectivity or network backup
- Two independent 100M Ethernet ports for control connections or network backup
- Up to 8 × 8 USB digital audio recording and broadcasting channels
- 8 GPIO interfaces, freely configurable as input or output
- Built-in dedicated power module and 12 V (500 mA) DC external power supply
- Configured, controlled and monitored over the network with **PUMA Designer** software — static or automatically-assigned addresses
- Compatible with the TCP01 touch-screen control panel and WP01 programmable knob control panel

SPECIFICATIONS

Model	SR-6464DSP-D
DSP chip	SHARC ADSP-21569
USB sound card	Supported
Core functions	Open architecture — arbitrarily set signal processing and flow; arbitrarily design the user control interface
Processing modules	Graphic EQ, parametric EQ, high/low-pass and all-pass filtering, frequency crossover, noise gate, compressor, multi-function mixer, automatic mixing, adaptive echo cancellation, and feedback-cancellation algorithms (notch, auto-adaptive filtering)
Automatic camera tracking	Supported
Scene preset	Arbitrary custom settings, GB-level storage
Analog input / output	16 / 16
Dante input / output	64 / 64
USB digital channel	Max. 16 in / 16 out; compatible with 8/2/1-channel formats
Ethernet control port	Active + standby control
Dante interface	Active + standby
RS-232	1
GPIO	8 two-way
Wi-Fi connection	Supported
Input gain	0–60 dB, 3 dB per level, 20 levels total
Output gain	4 dBV / 24 dBu
Balanced / unbalanced I/O	Supported
MIC / LINE I/O	Supported
Phantom power	48 V, independently switchable per channel
Processing algorithms	AFC · AEC · ANC · AM · AGC
Sampling	48 kHz
Frequency response	20 Hz – 20 kHz, ± 0.3 dB
THD + N	$\leq 0.005\%$ @ 1 kHz, 4 dBu
Working power	AC 110–220 V, 50/60 Hz
Operating temperature	0 – 40 °C

Chassis (W × D × H)	482 × 258 × 45 mm
Signal-to-noise ratio	> 108 dB
Common mode rejection	> 60 dB
Signal delay / latency (analog in to analog out, 48 kHz)	< 0.35 ms
Signal processing	64-bit floating point

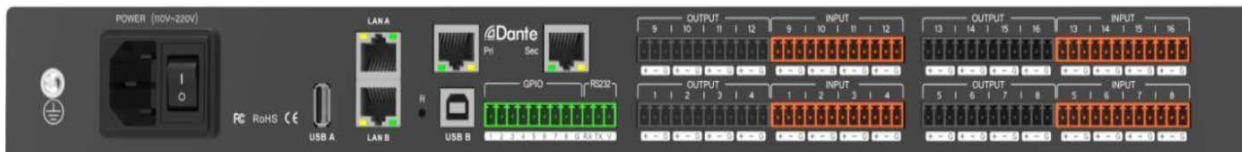
1.3 Device Panel Interface Description

1.3.1 Front Panel



1. **Display screen** — shows the device name, IP address and firmware version.
2. **Power indicator** — lights red once the device is powered on.
3. **Status indicator** — lights green when a scene is loaded; off otherwise.
4. **Input-channel level indicators** — the corresponding channel indicator lights when input level is present.

1.3.2 Rear Panel



1. **Grounding screw** — grounds the device's internal circuit.
2. **POWER interface** — connect 110–220 V AC; the rocker switch controls processor power.
3. **USB-Type A** — USB storage device interface (U-disk, card reader).
4. **ETHERNET control interface** — connect a client computer to debug and monitor the device.
5. **RESET hole** — press and hold for 5 seconds to restore factory settings and restart.
6. **Dante primary + secondary** — network audio transmission; when connecting internally to the primary, only one need be plugged in.
7. **USB-Type B** — USB sound-card interface.
8. **RS-232 + GPIO control port** — connect a control terminal or central-control device to send and receive commands.
9. **OUTPUT** — signal output; connect power amplifiers, active speakers, etc.
10. **INPUT** — signal input; connect microphones, media players and other sources.

SECTION 02

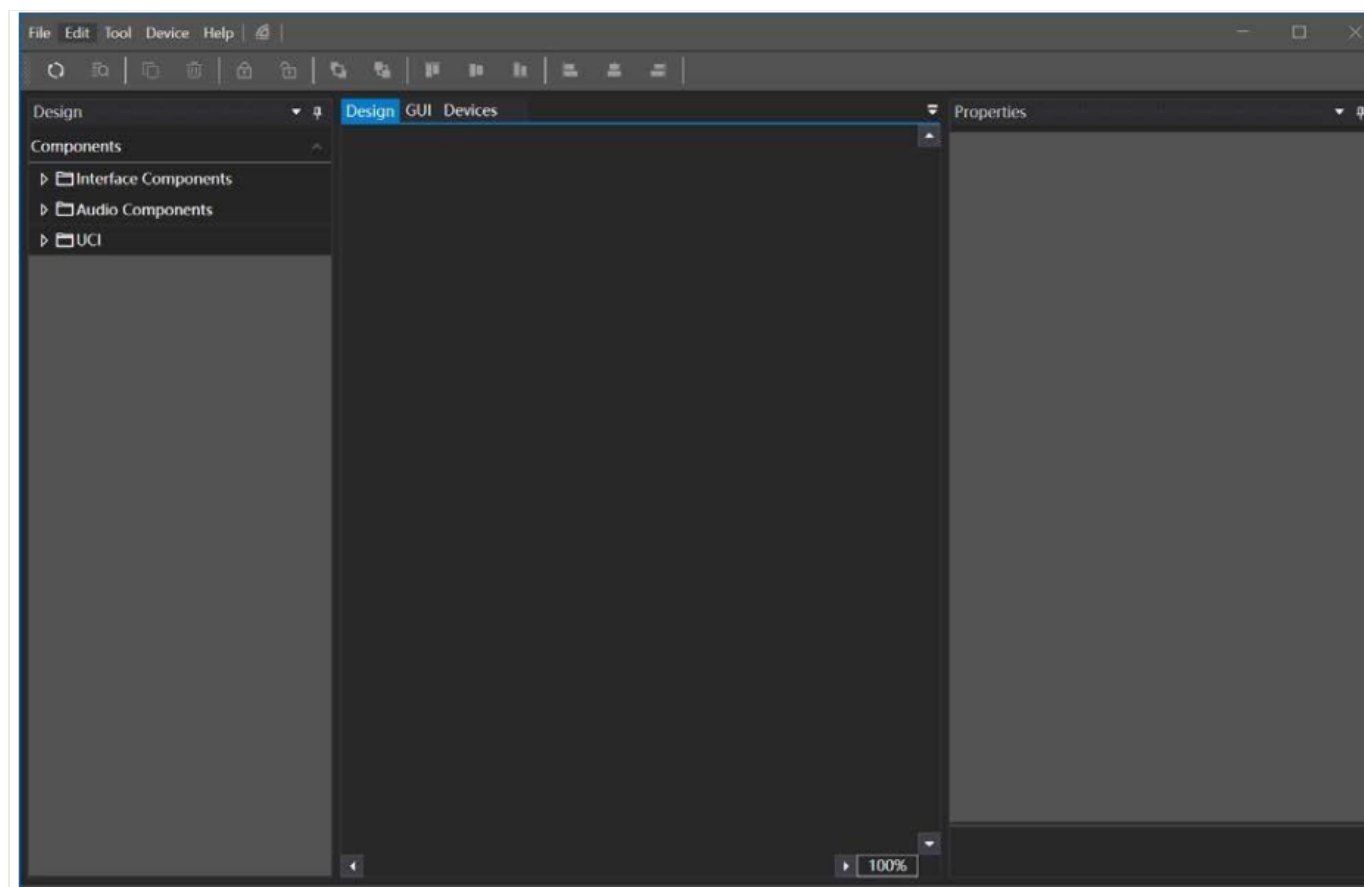
Software User Guide

2.1 Software Download

After starting the device, read the device IP address from the front-panel display and enter that address in a web browser. The **DOWNLOAD** link on the page provides the PC applications: **Designer**, **UCI**, and **Dante Controller**.

2.2 Software Interface Introduction

Once installed, the Designer software opens to the workspace below. The window is organised into four regions.



- | | |
|--------------------|------------------|
| 1 Menu bar | 2 Component list |
| 3 Design interface | 4 Properties |

Menu Bar

MENU	COMMANDS
File	Check Design (Shift+F6) · End Run (F7) · Emulate (F5) · Save (Ctrl+S) · Load (Ctrl+O) · Upload (Ctrl+U) · Upgrade (Ctrl+Shift+U)
Edit	Select All (Ctrl+A) · Undo (Ctrl+Z) · Redo (Ctrl+Y)
Tool	Merge · Split · Pack Align (Left / Center / Right / Top / Middle / Bottom)
Device	Device List — displays all device names and IPs
Help	About — view the version number

Quick-operation options (toolbar and right-click menu): Refresh · Find Source Control · Copy (Ctrl+C) · Delete · Lock / Unlock · Bring to Front / Send to Back · vertical & horizontal align (top / middle / bottom / left / right).

Components & Wiring

Components are grouped into **hardware modules**, **audio modules** and **UCI**. Each module shows audio inputs on the left and outputs on the right. Drag a component from the list onto the design surface; copy-and-paste retains the copied component's configuration (including control settings made in Simulation mode).

- Connect channels in either direction — input-to-output or output-to-input. Only valid connection types are allowed (inputs cannot join inputs, outputs cannot join outputs).
- Wires follow their components when moved; deleting a component removes its routing. Select a wire and press Delete to remove it.
- **Interaction** (drag right-to-left) selects wires and anything fully enclosed, including channel ports. **Wrap** (drag left-to-right) selects channels without selecting the component.
- **Monitoring** — click an output channel to monitor; a speaker icon appears and the device audio can be heard on the computer (headphones connected).

Controls & Keyboard Input

Double-click a component to open its control panel. Knobs and faders respond to click-and-drag; buttons toggle by type; drop-downs and text-edit boxes accept selection or typed values. To enter a precise value: click the control, type the value, press Enter. Out-of-range entries clamp to the control's maximum or minimum; displayed values are limited to about three digits (excluding the decimal point).

Properties

Selecting a component shows its properties in the right pane, grouped as **Information** (appearance, size, colour), **Text** (size, colour, font) and **Audio** (component name, CPU-usage display). Background and border colours reflect the selected component; change them via the drop-down or the brush picker. Properties are editable in Design mode only.

Controls, User Interface & Control Properties

Copy controls from a component's control panel into the user interface; a pasted control stays linked to its source, so adjusting one updates the other. Layers and pages can be added or removed in the UI, with page size and background set per page. The UI provides these building blocks:

ELEMENT	FUNCTION
Label	Read-only text box for text-type readout.
Panel	Background board for UI design; set background colour and image.
Page jump button	Jumps to a specified page; set colour, text and picture.
Layer jump button	Jumps to a specified layer; set colour, text and picture.
Scene switch button	Jumps to a scene ID; set colour, text and picture.
Slider / Slider 2	Adjustable fader control — vertical or horizontal.
Knob 1 / Knob 2	Adjustable knob-style controls.
Checkbox	Turns a control on and off.
Edit box	Keyboard input to control the value.
Level	Level-bar status display.
Drop-down box	Drop-down list of available parameters.
Button / Single box	Press action; the single box cannot be de-selected once chosen.
List	Displays the list of files read.

Designer Modes

RUN	All controls active; adjustable controls affect the audio and level meters display live information.
ANALOG / SIM	Adjustable controls are active for testing logic, but no audio passes through; level meters are inactive.
DESIGN	No control is active; the layout is built and edited here. Any values shown are from an earlier simulation or run.

Device List

- **Connection** — open *Devices* from the menu bar; connectable devices are listed. Select one, enter username and password (both blank by default) and click Connect; the row turns blue on success.
- **Scene management** — administrators can Save, Load, Add (upload PC scenes), Delete, Modify and Disconnect. Other users may only switch existing scenes.
- **User management** — the first user added must be an administrator. Usernames are 1–15 characters, passwords 1–14; identities are administrator, user or guest.

- **Log** — query by time (month / week / day) and type (all / general / important); Delete clears all logs.
- **Device management** — rename the device (shown on the host screen after Apply); view and modify serial-port settings.
- **Network settings** — set IP address, subnet mask and gateway; configure DNS and DHCP, then click Apply.

SECTION 03

UCI — User Control Interface

The UCI is the operator-facing runtime for a finished control layout. Its menu provides:

File	Load a local scene.
Devices	Show or hide the device list.
Full screen	Display the scene full screen; right-click a blank area or press Esc to exit.
Help	View the version number.
Connection	Select the device, enter username and password (blank by default) and click Connect; the row turns blue on success.
Disconnect	Disconnect and exit the software.