
DTA1

Automotive
Digital to Analog
Processor

OWNER'S MANUAL

SOUNDSTREAM[®]
T E C H N O L O G I E S

DTA 1 Digital to Analog Processor

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Thank you for purchasing the Soundstream **DTA1**. You now own the finest automotive Digital to Analog processor made, a precision component with audiophile performance.

For maximum performance, we suggest you take a few moments to read through this manual, to better acquaint yourself with the design features and capabilities of your new **DTA1**.

This Soundstream product is the result of the combined efforts of Krell Digital and Soundstream Technologies. It is made with American craftsmanship and the highest quality control standards, to provide you with many years of listening pleasure. To further help protect your investment and to aid us with service questions, please fill in and retain the following requested information:

Model Number: _____

Serial Number: _____

Dealer's Name: _____

Date of Purchase: _____

Date of Installation: _____

DESIGN FEATURES

We've designed the **DTA1** (as shown in Figure 1) to be an audiophile replacement for the standard digital to analog (D/A) processors found in many of today's mass-marketed, CD and DAT mobile components. When you bypass your source's D/A circuits and route the digital output to the **DTA1**, your mobile audio system will be greatly enhanced by these features:

- **18-bit Digital Processor with 8x Oversampling Digital Filter** – this high-performance processor resamples the incoming digital signal to create an 8x oversampled, 1 **8-bit** datastream. With 8x oversampling, more data points are added to create a more accurate waveform. This allows the use of a simpler, better-sounding analog filter at the converters' outputs, for precise analog signal reconstruction.
- **Hybrid Digital to Analog Conversion (DAC) System** – our unique combination of traditional, oversampled "ladder" and newer "1-bit" DAC technologies. Resampled data is split up and handled by two separate converters per channel, working in parallel. The result is an accurate analog conversion with the lowest possible noise and distortion specifications.

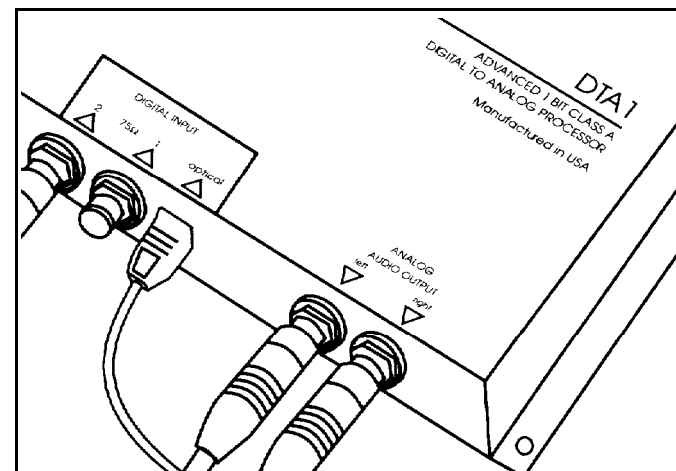


Figure 1

- **Line level Analog Output Stages** – to amplify the analog signals coming from the DACs. This Krell preamplifier has all-discrete, Class A outputs that feature low-output impedance to drive long cable runs. The design also includes a modified version of Krell's proprietary home audio grounding system, with separate analog power supply to insure minimal digital signal crosstalk. With it you'll hear cleaner, more transparent music reproduction without annoying low-level digital artifacts.
- **Three Inputs with Priority Switching** – for connection to digital input signals. One input uses an Optical connector for interface to industry-standard fiber-optic cable in lieu of coaxial cable. The other two inputs connect to standard **75 ohm coaxial cables terminated with RCA connectors**. The **DTA1** is compatible with CD, DAT, and the new DCC digital cassette formats at both 44.1 and 48 kHz sampling frequencies. Through clever sensing circuits, the **DTA1** will automatically choose the Optical input as the source whenever a signal is present at that connection (as explained in the Installation section). Similarly, for the 75 ohm inputs, input 1 has priority over input 2. Switching between sampling frequencies is transparent.
- **Quality Construction** – we use only premium parts to build each **DTA1**, including double-sided masked glass epoxy circuit boards, polypropylene capacitors, gold-plated RCA input/output connectors, and a rugged heavy gauge steel enclosure.
- **Simple Installation** – the **DTA1** can be mounted in any convenient location inside the vehicle with four sheet metal screws. The **DTA1** obtains power from the standard **12 Vdc** automotive electrical system and uses the audio system's remote turn-on voltage for circuit activation. Once installed, the **DTA1** operates automatically without any need for adjustments or controls.

CONNECTIONS

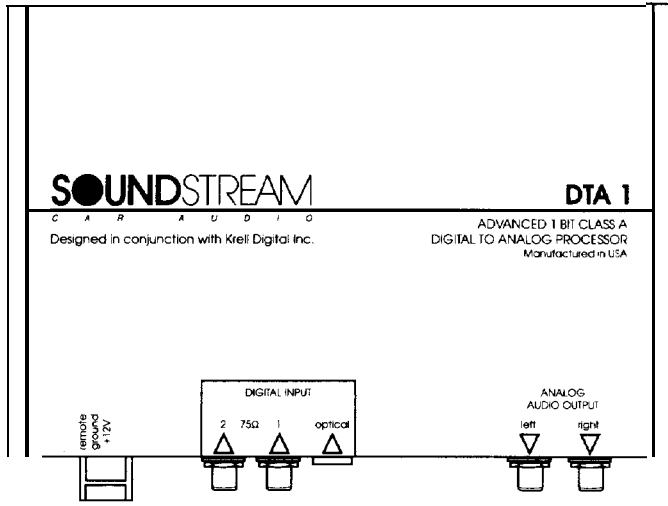


Figure 2

Power Connections (Barrier Strip)

Remote: Connect to control head unit remote turn-on.

Ground: Connect to Chassis Ground.

+12V: Connect to +12 Vdc. An adjacent LED indicator confirms power to DTA1.

Digital Inputs

Optical: Fiber-optic jack – First Digital Input.

1: 75Ω RCA coaxial jack – Second Digital Input.

2: 75Ω RCA coaxial jack – Third Digital Input.

Analog Audio Outputs

Left: RCA audio jack – Analog Left Output.

Right: RCA audio jack – Analog Right Output.

INSTALLATION

Automotive sound system installations can be tricky, especially for first-timers. For this reason, we recommend using a professional installer, who has the tools and, more importantly, the experience to do the job right. If you decide to install the equipment yourself, we hope this manual will serve as a helpful guide.

Recommended Signal Cables

The DTA1 uses custom gold-plated RCA jacks for analog and 2 of the available 3 digital audio connections. For best analog signal transfer, we recommend using Soundstream DL•1 Stereo Audio Cable, Streamline Audio Cable, or an equivalent premium cable. For digital audio connections, use a precision flexible 75 ohm cable like Soundstream's HRV• 1, 75 ohm Interconnect Cable, to insure accurate transmission of digital signals.

Wiring Layout

In general, you should plan to connect the DTA1 between the digital source and the control head unit, as shown in Figure 3. If you are using an equalizer or active crossover, be sure to insert the DTA1 in the chain before any of these components.

Determine how your vehicle's wiring is laid out, and plan to run your new wiring along the same routes. Be sure to keep power wires away from all audio signal wires. (NOTE: Wires containing audio signals can cross a power wire, but not run alongside it.)

You can route the new wires under the carpeting, but make sure they do not interfere with the vehicle's normal operation. Keep all

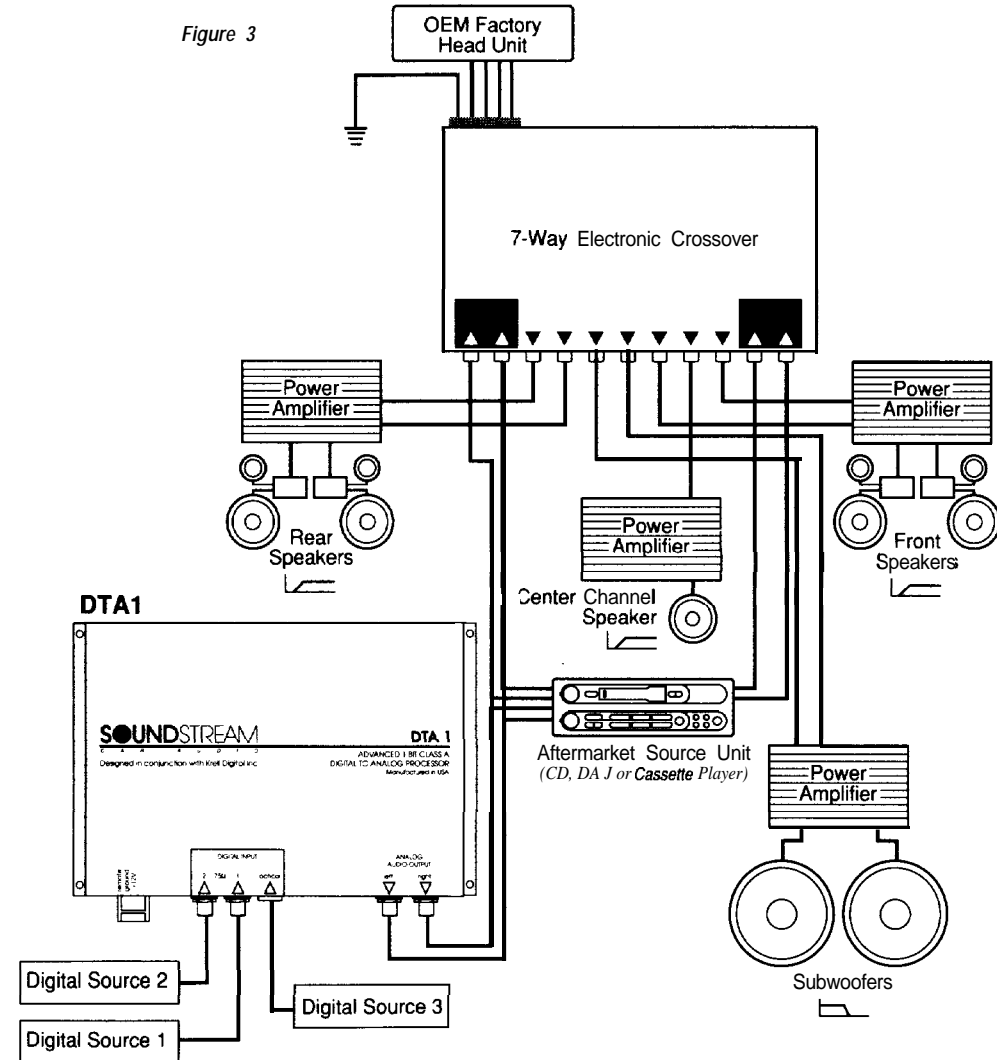


Figure 3

wires inside the vehicle, hidden from passengers. An exposed wire can inadvertently be pulled out, and may cause disconnection or shorting.

location and Mounting

The **DTA1** is compact in size and it generates virtually no heat. It can be located almost anywhere within the passenger compartment, trunk, or storage area. However, do not install the **DTA1** in the engine compartment or in any outside location exposed to dirt and moisture.

Use the **DTA1** as a template to mark drill holes. Before mounting the **DTA1** to your vehicle's chassis, inspect the site for any hidden brake or gas lines, wires, or cables.

After selecting a suitable location, mount the **DTA1**, and then perform the following connection steps:

Connecting Audio Signal Cables

1. Make sure power to your audio system is off.
2. Locate the Digital Output connector on the back of your CD or DAT control head unit.
3. Connect an appropriate length of RCA coaxial cable from the source's digital output to digital 75 Ω input 1 on the **DTA1**

NOTE: If you use an optical link, connect an appropriate length of fiber-optic cable from the source's **digital** output to the Optical input on the **DTA1**. However, if you are installing a second source, remember that the **DTA1** uses automatic priority switching to select signals at Optical input over those present at the 75 ohm inputs, 1 or 2. Also, input 1 has priority over input 2. **However, CD players not equipped with a Remote On/Off control will continue generating digital sync code which will be sensed by the DTA1. If this type of player is part of your installation, we suggest connecting the unit to a lower priority input via RCA cables.**

4. Repeat steps 2 and 3 to connect an additional CD or DAT control head unit.
5. Connect an appropriate length of high-performance stereo RCA audio cable from the Left and Right analog audio outputs on the **DTA1** to the CD or Aux input of your head unit or preamp in your mobile system chain (see Figure 3).

Connecting Power Wires

6. With power still off, connect a black wire (18 gauge) from the Ground terminal to a good chassis ground (e.g., bare metal or bolt, not painted or coated).

7. Connect another (e.g., orange or aqua) wire from the Remote terminal to your control head unit's remote turn-on connection.

NOTE: This connection enables the **DTA1** to follow a timed sequence for minimal turn-on and turn-off thumps and is required for circuit activation.

8. Connect a red wire (18 gauge) from the +12V terminal through a 0.75 A in-line (fast-blow) fuse, to a constant +12 Vdc source, so that it is "hot" even when the ignition is off. Try connecting it to the battery cable itself, or tapping into a power lead on the control head unit (see Figure 3).

DTA 1 Operation

9. Turn on your control head unit, selecting a source connected to the **DTA1**, and slowly increase the volume while listening to a familiar musical selection. With proper installation, your **DTA1** should provide you with an increased **sense** of transparency and music reproduction. There are no adjustments or controls.

NOTE: If you experience problems at this point, review the installation steps and check all your connections. If you are installing the **DTA1** as part of a new system, try leaving the **DTA1** out of the chain until you get your entire system operating properly first. Then repeat steps 1 through 8 to insert the **DTA1** once again into the audio system chain.

SERVICE Your **DTA1** is protected by a limited warranty. Please read the enclosed warranty information carefully. Should any problem occur, contact your local Soundstream dealer.

SPECIFICATIONS	
D/A Converter	8x Oversampling, 18-bit/1-bit hybrid
Sampling Frequency	32 kHz, 44.1 kHz, 48 kHz
Frequency Response	5 Hz to 20 kHz, ± 0.25 dB
S/N	>100 dB, A-weighted
Dynamic Range	96 dB
THD	<0.03%, 20 Hz to 20 kHz
Channel Separation	-85 dB @ 1 kHz
Minimum Recommended Load	600 Ω
output Level	2V rms
Dimensions	8.1"(L) x 5"(W) x 1.5"(H)