PROCEED

CDP Compact Disc Processor

Important Safety Instructions

Please read all instructions and precautions carefully and completely before operating your Proceed component.

1. **ALWAYS** disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.

2. This product is equipped with a three-conductor AC mains power cord which includes an earth ground connection. To prevent shock hazard, all three connections must **ALWAYS** be used. If your electrical outlets will not accept this type of plug, an adapter may be purchased. If an adapter is necessary, be sure it is an approved type and is used properly, supplying an earth ground. If you are not sure of the integrity of your home electrical system, contact a licensed electrician for assistance.

3. **ALWAYS** keep electrical equipment out of the reach of children.

4. AC extension cords are not recommended for use with this product. If an extension cord must be used, be sure it is an approved type and has sufficient current-carrying capacity to power this product.

5. **NEVER** use flammable or combustible chemicals for cleaning audio components.

6. **NEVER** operate this product with any covers removed.

7. **NEVER** wet the inside of this product with any liquid.

8. **NEVER** pour or spill liquids directly onto this unit.

9. **NEVER** block air flow through ventilation slots or heatsinks.

10. **NEVER** bypass any fuse.

11. **NEVER** replace any fuse with a value or type other than those specified.

12. **NEVER** attempt to repair this product. If a problem occurs, contact your Proceed® dealer.

13. **NEVER** expose this product to extremely high or low temperatures.

14. **NEVER** operate this product in an explosive atmosphere.

15. **ALWAYS** unplug sensitive electronic equipment during lightning storms.

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Unpacking the CDP

Unpack your CDP Compact Disc Processor and remove all accessories from the carton.

Important!

Keep all packing materials for future transport of your CDP. Shipping your new component in anything other than its purpose-designed packing material may result in damage that is not covered by the warranty.

Remove the Transport Screw

Place the CDP Compact Disc Processor upside-down on a soft, clean surface. Remove the transport screw from the bottom of the unit and save it with the packing materials for future use.

Warning!

The transport screw must be removed before operating the CDP, since it immobilizes the transport mechanism during shipping to prevent damage. This screw must also be replaced before shipping the unit.

Placement of the CDP

The CDP should be placed close to your preamplifier, thus keeping interconnect cabling reasonably short. It may be placed on a shelf or in a cabinet where it is convenient to operate.

Drawings are included in this manual to facilitate special installations and custom cabinetry (see *Dimensions*).

Operating Voltage & Frequency

The CDP Compact Disc Processor is set at the factory (internally) for 100V, 120V, 200V, 220V, or 240V AC mains operation as appropriate for the country in which it is to be sold. (*230V/50Hz only in European Union countries, in compliance with CE regulations.*) Make sure that the label on the rear panel of the CDP (beside the AC input receptacle) indicates the correct AC operating voltage for your location. Attempting to operate the CDP at an incorrect voltage can damage the unit.

Neither the voltage nor the line frequency setting may be changed by the user.

Voltage label

WARNING: BEFORE ATTEMPTING TO OPERATE THIS DEVICE, REFER TO OWNER'S MANUAL FOR PROPER OPERATING INSTRUCTIONS AND SAFETY PRECAUTIONS. HAZARDOUS VOLTAGE AVAILABLE INSIDE; DISCONNECT AC – MAINS CABLE BEFORE OPENING UNIT.

PROCEED® cdp S/N

MADRIGAL AUDIO LABORATORIES, INC.

designed and manufactured in USA

No User Serviceable Components Inside.
For service, contact Madrigal Audio Laboratories or an Authorized Dealer. Any modification to this equipment will void all warranties.

If the AC mains voltage or frequency indicated on your CDP is incorrect, please contact your local, authorized Proceed dealer or distributor.

The CDP can easily be powered by a normal 15-ampere AC mains line. If other devices are also powered from the same AC line, their additional power consumption should be taken into account.

A Quick Start…

We recognize that many people are understandably eager to begin listening to their new components, and that reading the manual is often done (if at all) at a later time—perhaps while listening to music with the new product itself. We *strongly* recommend that you read this manual thoroughly, as the CDP Compact Disc Processor incorporates many unusual features that enhance its operation.

Fortunately, we can help you get some music up and running on your system quickly, so that you may begin enjoying your new CD player while reading more about it. The goal here is simply to make some music as quickly as possible. The following procedure assumes that the rest of your system is already connected (e.g., preamplifier to power amplifier, to speakers), and that you are using the CDP as a CD player rather than as a digital preamplifier.

1   **TURN OFF YOUR ASSOCIATED COMPONENTS**
     This minimizes the opportunity for a momentary electrical surge disturbing your system while making connections. If you have a large power amplifier, allow its power supply to fully discharge before proceeding (which may take as long as several minutes, depending on its design).

2   **REMOVE THE TRANSPORT SCREW FROM THE BOTTOM OF THE CDP**
     If you have not done so already, remove the knurled transport screw from the bottom of the CDP now. Be sure to save it and all packing material for possible future use. *(Tip: consider taping it to the rear of the unit so it will be found the moment you need it.)* Shipping the CDP without proper packing material and without the transport screw in its proper position may cause damage to the unit that would not be covered by the warranty.

3   **CONNECT THE CDP TO AC POWER**
     Connect the AC cord to the CDP at the receptacle on the rear panel, and then to your AC outlet. Depress the front panel **power** button. The CDP will take a few moments to initialize.

4   **CONNECT THE LEFT AND RIGHT OUTPUTS TO APPROPRIATE INPUTS ON YOUR PREAMP**
     The CDP provides for both balanced and single-ended interconnection (via XLR and RCA connectors, respectively). Choose either the balanced (preferred) or single-ended outputs, and connect them to a line-level input on your preamplifier (probably labeled "CD" or some such), using high quality cables.

5   **POWER UP THE REST OF THE SYSTEM (POWER AMPLIFIER LAST)**
     Always turn the power amplifier(s) off first, and on last. This good habit minimizes the opportunity for unexpected transients to be passed to your loudspeakers. (Another good habit: turn the volume down on your preamp before turning it back on.)

6   SELECT THE INPUT YOU ARE USING ON YOUR PREAMPLIFIER

Take care that a Tape Monitor switch does not override your selection of the input on your preamplifier, or you will be struck by how "quiet" your new CD player is....

7   LOAD A DISC IN THE DRAWER AND PRESS PLAY; SLOWLY RAISE THE VOLUME ON YOUR PREAMPLIFIER

Congratulations! You should now be able to enjoy your favorite music while reading the rest of this manual. (Please, do read the rest of this manual.)

Warm up/break-in period

Although your Proceed CDP Compact Disc Processor delivers outstanding performance straight out of the box, you should expect to hear it continue to improve as it reaches its normal operating temperatures and its various components "break-in." It has been our experience that the greatest changes occur within the first 300 hours as the CDP reaches thermal equilibrium and the capacitors fully form. After this initial break-in period, the performance of your new product should remain quite consistent for years to come.

The only exception to this rule is if power is removed from the unit for an extended period of time, allowing it to cool down. Depending on the degree of cooling involved, you should expect a brief warm-up period before the CDP's sound quality is at its best. Unless your CDP was allowed to become quite chilled, subsequent thermal re-stabilization should not take long.

Using the CDP as a digital processor

The CDP incorporates two digital inputs for use with digital sources such as laserdisc players, digital recorders, and digital cable radio systems. These digital inputs use the digital audio processor in the CDP. In relatively straightforward systems with only one or two digital sources beyond the CD player itself, the CDP may be the only digital processor needed.

You may access either of the digital sources connected to the two auxiliary digital inputs on the CDP by pressing **source** on the remote control. This action cycles through the CD transport portion of the CDP, to Input 1 (the S/PDIF input), to Input 2 (the EIAJ input), then returning to the CD.

Using the CDP as a digital preamp

Since the CDP already includes some input selection capabilities, the addition of a high quality volume control turns it into a combination CD player/digital preamplifier. In simple systems consisting only of three or fewer digital sources, amplification and loudspeakers, the CDP may be the only control center needed.

Most owners of the CDP will also have analog sources (radio, tape, VCR, etc.) and will therefore require an analog preamplifier. For this reason, the CDP's volume control circuitry is bypassed by default (as shipped from the factory). But if you would prefer to use the CDP's volume control circuitry, you may enable it in the Setup menu. Please see *Customizing the CDP*, later in this manual for details.

Special Design Features

Congratulations on your purchase of the CDP Compact Disc Processor. The Madrigal design team is confident you will enjoy the outstanding performance of the CDP for many years. In case you are interested in technical details, what follows is a brief outline of some of the key technologies in your new CD player.

Transport Design

The first portion of any CD player it its transport: the mechanism by which information is recovered from the disc itself and made ready for conversion to analog. The characteristics of an outstanding CD transport are simple to define: it must recover the correct data from the disc, and deliver it to the digital processor portion of the CD player without any timing errors (sometimes called "jitter"). As simple as this sounds, achieving it in reality has been extremely difficult—as evidenced by the significant sonic differences between various CD transports.

Conventional CD transport design depends on the quality of the oscillator used to control the rate at which the disc itself spins. This oscillator exists in an extremely "noisy" electrical environment close to the motor that spins the disc. The electrical noise introduces timing errors in the delivery of the digital signal that have come to be known as "jitter." Subsequent handling of the digital audio signal in traditional transport designs cannot improve upon this "jittery" signal, lacking a better reference. To the contrary, the various stages of signal processing between the laser pickup and the final output can only contribute additional jitter of their own.

The Proceed CDP leaps beyond conventional digital audio technology by employing a proprietary, closed-loop jitter-reduction system in conjunction with a double speed CD-ROM drive. Using a custom-made crystal oscillator with better than five part-per-million accuracy, the digital signal is reclocked immediately before being sent to the digital to analog converters, eliminating transport-related jitter from the digital audio signal. This same crystal oscillator controls the all-digital servo used to control the rate at which the disc spins, and the digital to analog conversion process.

In effect, the design of the CDP turns the accepted *status quo* on its head. By placing the all-important reference clock immediately prior to digital to analog conversion, and slaving both the mechanical subassemblies and the digital to analog converters to it rather than the other way around, the signal presented to the outputs of the CDP is virtually uncontaminated by jitter. The sonic advantages of this design are immediately apparent in the clarity, warmth and stunning dynamic contrasts exhibited by the CDP.

Digital Servo Control

The laser mechanism used in the CDP uses all digital servo controls of its operations. Critical functions such as focus and tracking are handled completely in the digital domain with mathematical precision. Whereas conventional, analog servos require periodic realignments for optimum performance (to compensate for the aging of various analog components), a digital servo remains stable over time, never needing readjustment under normal conditions.

Input/Output Versatility

The CDP incorporates two digital inputs, allowing two external digital sources such as a laserdisc player and a digital recorder to benefit from the excellent digi-

tal processor that is incorporated within. The two most common digital interfaces are supported for the widest compatibility: **eiaj** optical (sometimes called "TosLink™") and **s/pdif** electrical, via an RCA connector.

A high quality s/PDIF digital *output* is also provided via an RCA connector. This digital output may be used to feed the selected source signal to the input of a digital recorder or to an outboard digital processor. (This output benefits from the closed-loop jitter reduction circuitry described above when the CD transport is the selected source.)

Fully balanced design

The CDP is fully balanced in both the analog and digital domains. The auxiliary, single-ended digital inputs are immediately converted to balanced signals before any further routing or processing of the signal. Conversion to analog is accomplished in two opposing polarity 18-bit converters per channel.

This approach maintains the integrity of the signal, reducing the opportunities for music-destroying noise and digital artifacts to enter the signal path.

24 bit digital architecture and HDCD® compatibility

All digital filtering and processing maintains a true 24-bit throughput capability, providing greater digital resolution than any existing source component. Even the most stringent requirements of professionals can easily be met with this design.

In addition, the CDP also incorporates High Definition Compatible Digital® decoding to take full advantage of the increased resolution available from HDCD® encoded 16-bit CDs. The High Definition Compatible Digital® format retains much of the resolution inherent in professional twenty bit recordings by encoding this information more efficiently within the sixteen bit space available within the Compact Disc format.

Volume Control

The CDP's volume control may be enabled in the Setup menu (see *Customizing the CDP*). Through most of the useful range of this scale, the increments are slightly more than ½ dB per step, providing excellent volume resolution. Significantly, this volume control circuitry uses an advanced hybrid analog and digital design that avoids the sonic penalties associated with purely digital volume controls.

Industrial Design

The CDP shares the handsome industrial design of other Proceed components such as the PRE preamplifier. Dark buttons against a light face simplify the operation of the CDP, even in a dimly-lit room. The large, easily read display provides information as to the operational status of the CDP from across the room, making the supplied remote control more genuinely useful than on products lacking such a display.

In keeping with its sophisticated design, the CDP also incorporates a Madrigal-designed loading mechanism. Contrasting strongly with the bulky, plastic drawers commonly used, the slim ⅛ inch drawer is machined from a solid piece of aluminum and rides on highly polished steel and Teflon™ bearings. Its variable-speed design opens and closes quickly, but without jarring the disc contained within, nor risking a jam from dislodging it.
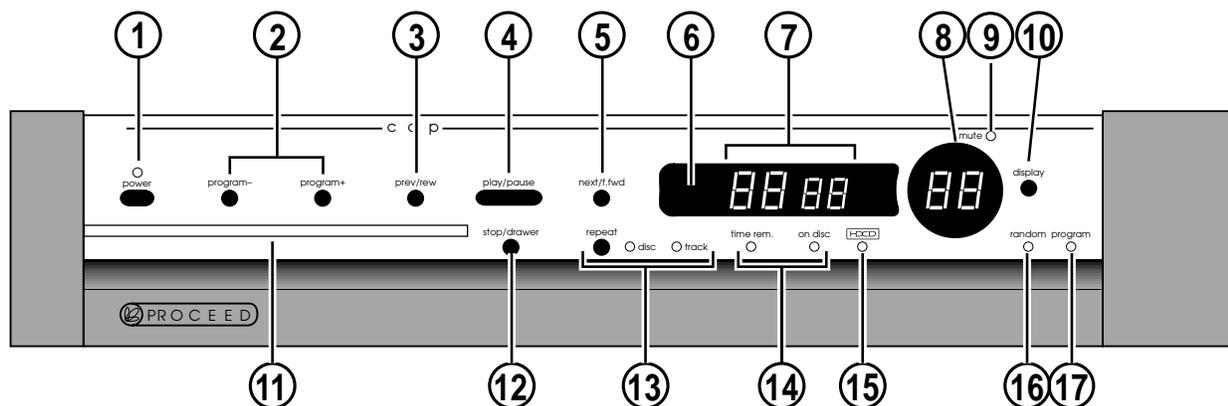
Front Panel, CDP

1 POWER & POWER LED

Assuming that the CDP's power cord is connected to AC power, pressing this latching power button connects the CDP to the AC mains and turns on the unit. When power is restored after an interruption, the CDP will be ready to operate (that is, it won't be in standby mode), after a few moments' delay to allow its circuits to stabilize.

While the CDP is in **standby** (see **9**, below), the LED above the **power** button is red. When the CDP is ready to operate (that is, when it is not in standby mode), this LED is amber. Naturally, when AC power is off, the LED is off.

2 PROGRAM – AND PROGRAM + BUTTONS

Using these two buttons, the CDP can be easily programmed to play a special "playlist," or sequence of tracks, on any particular disc. Pressing **program +** adds a selection to a program (or advances through an existing playlist when reviewing a program you have already created).

Alternatively, it may be simpler to omit the one or two songs that you have heard too many times on the radio, playing the rest of the tracks in order. Pressing **program –** will delete the selected track from the playlist, omitting it on playback.

A program may be entered any time a disc is in the CDP and the unit is in the **stop** mode. For detailed information on programming the CDP, see *Programming the CDP* later in this manual.

3   PREV/REW BUTTON

Pressing this button *momentarily* will return you to the beginning of the **current** track. Pressing it *repeatedly* will move you backward through the available tracks, one at a time. *Pressing and holding* this button will instead perform a reduced-volume reverse scan of the music, reminiscent of the audible **rewind** function found on many cassette decks. This scanning mode allows you to quickly find a particular point within a track.

(Note that if you press **prev/rew** within two seconds of the beginning of a track, the CDP will assume that you meant to go further back and take you to the beginning of the *previous* track rather than the current track.)

4   PLAY/PAUSE BUTTON

Press this button in order to **play** a disc. If a programmed sequence of tracks exists for that particular disc, the program will be played from its beginning. Also, as you might expect, you may press the **play** button immediately after placing a disc in the CDP's drawer; the drawer will close and the CDP will enter the play mode as soon as it has read the disc's table of contents.

Pressing this button during play will **pause** the CDP at that point within the track; the time display will blink slowly as a reminder that you are in the **pause** mode.

the extended pause mode   After about two minutes in **pause**, the CDP will go automatically into an "extended pause" mode that stops the disc and turns off the laser against the possibility that you have been called away and may not return for some time. The **extended pause** mode is indicated by the display blinking more slowly than in normal pause. You may force the CDP to enter extended pause by *pressing and holding* the **play/pause** button for about five seconds.

In effect, **extended pause** is much like **stop**, with the exception that pressing **play** will return you to the point on the disc where you had left off listening, after only a momentary hesitation to spin the disc back up to speed and scan to the appropriate point.

5   NEXT/F.FWD BUTTON

Pressing this button *momentarily* will advance the CDP to the beginning of the **next** track. *Pressing and holding* this button will instead perform a reduced-volume fast forward scan of the music, reminiscent of the audible **fast forward** function found on many cassette decks. This scanning mode allows you to quickly find a particular point within a track.

6   INFRARED TRANSCEIVER (WITHIN DISPLAY)

Infrared commands transmitted from the remote control are received by a receiver behind this section of the display. Remote control of the CDP may be unreliable if there is not a clear line of sight between the remote control and the receiver (if the remote is far off-axis, or if the CDP is within a cabinet, for example). In such a case consider using a third-party IR repeater to route the signal to the IR input jack on the rear panel (see *Rear Panel, CDP*, below).

In addition to receiving IR commands, the CDP has the ability to teach a learning remote control its own commands from an IR transmitter located in this same area. (See *Using Learning Remote Controls* for more information.)

7   TIME INDICATOR

The time section of the display can be set to display any of the following four indications of time in minutes and seconds: **time elapsed in track**, **time elapsed on disc**, **time remaining on disc**, **time remaining in track**. These four options are accessed by pressing the **display** button to the right of the display (see 9, below), which cycles through the four modes of time display, using the **on disc** and **time rem.** LEDs to indicate which mode is chosen at any moment. When in **stop**, the indicated time will normally default to the total remaining time on the disc (or in the *playlist* for the current disc, if programmed). This time indication may be changed if desired once in **stop**.

8   TRACK INDICATOR

The next two characters are used to indicate the number of the track being played. When a compact disc is loaded but the transport is in the **stop** mode, this same space indicates the total number of tracks on the disc (or in the program for the current disc, if programmed).

9   MUTE INDICATOR

The CDP's remote control includes a **mute** button to allow quick and easy reduction of the system's volume when desired. The output level of the CDP will quickly reduce by a user-defined amount (approximately -20 dB as delivered from the factory) when **mute** is engaged. This LED flashes red while ramping the volume up or down on the CDP, then glows red continuously for the duration of muted playback. Pressing **mute** again will ramp the volume back to its previous setting.

Note: **The mute indicator will continue to operate even when the display is turned off, in order to avoid any unpleasant surprises (such as might happen when you attempt to mute an already-muted system, inadvertently raising the volume instead).**

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10   DISPLAY BUTTON

The **display** button cycles through the four time display modes used to indicate where you are on the disc. These four display modes are:

- **time elapsed in track**   (neither LED lit)
- **time elapsed on disc**   (**on disc** LED lit)
- **time remaining on disc**   (**on disc** *and* **time rem.** LEDs lit)
- **time remaining in track**   (**time rem.** LED lit)

These four options are accessed by repeatedly pressing the **display** button, which cycles through the four modes. In effect, the CDP assumes you will be most interested seeing *elapsed time* on the *current track;* only departures from that assumption are denoted by LEDs. The CDP will remember the last display mode selected and continue to display that information until you change it, except in **stop** (when it always defaults to showing the time remaining on disc, or in the disc's *playlist* if it has been programmed). If desired, once in **stop** the time indication may be changed to show any of the other display modes.

If you elect to use the CDP's volume control (see *Customizing the CDP*), you may change the default display in the round window from the track number to the current volume setting by *pressing and holding* the **display** button. (You may return to a default display of the track number by clicking **display** again.) By default, the CDP will display the track number until either the **up** or the **down** button is pressed; it will then display the volume for four seconds (to allow you to see what you are doing). Once the volume is displayed, continued (or repeated) pressing of the **up** or **down** buttons will change the output level.

11 DRAWER

The CDP employs an elegant, slim drawer that is machined from a solid piece of aluminum. It is normally opened and closed by pressing the **stop/drawer** button. If opened, it may also be closed simply by gently pushing the front edge inward (as though you were going to close it manually). The CDP will interpret this as a request to close the drawer and take over for you, smoothly closing the drawer.

If the CDP senses an obstruction during opening of the drawer mechanism, it will stop where it is and wait for your intervention. After removing the obstruction, press either the **play** or the **stop/drawer** button again to close the drawer normally.

Similarly, if the CDP senses an obstruction during the closing of its drawer (as might be caused by an improperly seated CD, or an inquisitive child's finger), it will stop immediately and attempt to reopen. If the nature of the obstruction prevents this also, it will stop where it is and wait for your intervention. After removing the obstruction, press the **stop/drawer** button again to close the drawer.

12 STOP/DRAWER BUTTON

Pressing this button once while a disc is playing will **stop** the disc, resulting in the total number of tracks and the total time on the disc being displayed (unless you elect to display volume information instead; see displaying volume, page 15). (Both the **disc** and the **time rem.** LEDs are lit in **stop** to clarify the meaning of the information being displayed at this point.)

Pressing this button once the disc has stopped, or if there is no disc in the transport, will cause the **drawer** to open. If the disc is still playing, you may press the button twice rapidly, to effect both the **stop** command and the **drawer open** command; the CDP will remember the second button push and execute it as soon as the disc has stopped spinning.

Pressing the **stop/drawer** button will cause an open drawer to close. If it senses a disc in the drawer, the CDP will take a moment to read the disc's table of contents so that it may display the total number of tracks and the total time on the disc for your information.

Finally, *pressing and holding* the **stop/drawer** button while the CDP is stopped will display the version number of the operating software and its checksum. This "hidden feature" allows you to double-check the version number and integrity of the software in your unit without having to open it up, should this ever become necessary.

13   REPEAT BUTTON AND INDICATORS

You may choose to either repeat the entire disc (including any programs you might have entered for that particular disc) or an individual track by pressing the **repeat** button. From normal operation, the first press of the repeat button will light the **disc** LED below the display. Pressing the **repeat** button again will light the **track** LED. Pressing it a third time will cycle out of any repeating mode, as will pressing **stop/drawer** at any time. In either case, both repeat LEDs will be extinguished.

The **disc repeat** LED is lit when the CDP is set to repeat a disc (or a disc's program, if it has one) endlessly.

The **track repeat** LED is lit when the CDP is set to repeat a single track endlessly.

14   TIME ON DISC AND TIME REMAINING LED INDICATORS

These LEDs are used to indicate which of the four available display modes the CDP is in. The four indications of time that can be displayed are:

- **time elapsed in track**   (neither LED lit)
- **time elapsed on disc**   (**on disc** LED lit)
- **time remaining on disc**   (**on disc** *and* **time rem.** LEDs lit)
- **time remaining on track**   (**time rem.** LED lit)

These four options are accessed by repeatedly pressing the **display** button, which cycles through the four modes. If a custom playlist exists for the current disc, time elapsed or remaining "on disc" refers to the *playlist* rather than the entire disc.

15   HDCD® INDICATOR

This LED will automatically illuminate whenever the CDP is decoding an HDCD encoded recording, whether from the CD transport section or from an external digital source.

16   RANDOM LED INDICATOR

By pressing **rndm** on the remote control, the CDP will enter a random play mode in which the order of the current disc's playlist is scrambled, and then played. The **random LED** on the front panel will illuminate to indicate this **random play** mode. Moreover, placing the CDP into **random play** mode while the **disc repeat** function is engaged will cause it to play the various tracks on the disc randomly indefinitely (until you stop it). This can be a great way to provide background music during a dinner party, for example.

17   PROGRAM LED INDICATOR

The **program LED** is used in conjunction with the **program+** and **program–** buttons to indicate those tracks that are either included in or excluded from the current playlist. (See *Programming the CDP* for more information.)
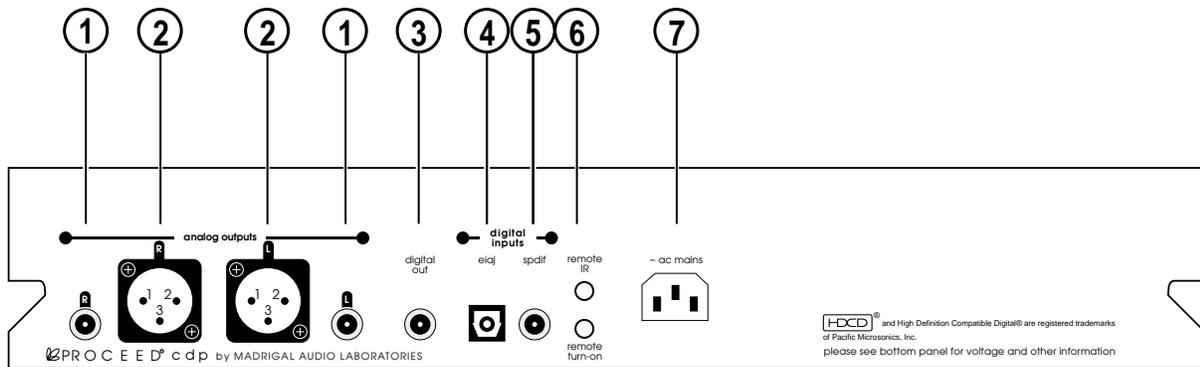
Rear Panel, CDP

Caution!

Disconnect all associated equipment from the AC mains BEFORE making any signal connections and applying power to the CDP.

1   SINGLE-ENDED ANALOG OUTPUTS

These outputs provide single-ended analog audio (*via* cables equipped with RCA-type connectors) to a preamplifier, integrated amplifier, or receiver equipped with single-ended inputs. Most components accept this type of output.

If you engage the volume control circuitry in the CDP, these outputs may be routed directly to a power amplifier. This mode of operation is somewhat less desirable sonically than using a high quality active preamplifier, but may be advantageous under some circumstances.

Note:

When you engage the volume control circuitry in the CDP, the volume will initially be set to 00 as a safety measure to protect your loudspeakers. You will need to raise the volume before you will be able to hear any output from your CDP.

If you choose to use the single-ended outputs of the CDP, connect its right-channel and left-channel single-ended outputs to the corresponding inputs on your preamplifier (or power amplifier if you are using the variable output mode of the CDP), using high quality single-ended interconnecting cable such as Madrigal's CZ Gel-2.

2   BALANCED ANALOG OUTPUTS

These outputs provide balanced analog audio (*via* cables equipped with XLR-type connectors) to a preamplifier, integrated amplifier, or receiver equipped with balanced inputs. Balanced interconnection between the CDP and the component that follows it offers the best quality interconnection and is highly recommended.

If you engage the volume control circuitry in the CDP, these outputs may be routed directly to a power amplifier that accepts balanced inputs. This mode of operation is less desirable sonically than using a high quality active preamplifier, but may be advantageous under some circumstances.

The pin assignments of these XLR-type male outputs conform to the international AES standard, and are as follows:
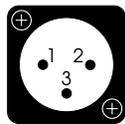
Pin 1: Signal ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal − (inverting)
Connector ground lug: chassis ground

Refer to your preamplifier's operating manual to verify that the pin assignments of its input connectors correspond to the CDP. If not, wire the cable so that the appropriate output pin connects to the equivalent input pin, or reverse the leads of *both* your speaker cables to "reverse the reversal" and restore correct polarity.

If you choose to use the balanced outputs of the CDP, connect its right-channel and left-channel balanced outputs to the corresponding inputs on your preamplifier (or power amplifier if you are using the variable output mode of the CDP), using high quality balanced interconnecting cable such as Madrigal's CZ Gel-1.

3   DIGITAL OUTPUT

This output provides digital audio (*via* a 75Ω cable equipped with RCA-type connectors) to the digital input of a DAT, CD-R, MD, DCC, or any other component that accepts an s/PDIF electrical digital input. It automatically sends a copy of the currently selected digital source's datastream to the connected device for recording or further digital processing. (The digital output is unaffected by changes in the volume control circuitry of the CDP, allowing you to adjust volume without affecting your digital recordings.)

Connect the digital output of the CDP to the RCA input of your digital recorder using a high quality 75Ω cable such as Madrigal MDC-2.

4   EIAJ DIGITAL INPUT

This input accepts digital audio conforming to the EIAJ optical (sometimes called "Toslink") digital interface standard from the EIAJ digital output of a digital FM tuner, compact disc player, laserdisc player, or digital audio recorder.

Connect the digital output of your digital source component to the EIAJ input of the CDP using a high quality EIAJ optical cable. It is accessed by pressing **source** on your remote control, and indicated by **In 2** in the CDP display. (Pressing **source** repeatedly will cycle you from **CD** to **In 1** to **In 2**, and back to **CD** again.)

5   S/PDIF (RCA) DIGITAL INPUT

This input accepts digital audio conforming to the 75Ω S/PDIF digital interface standard (*via* a cable equipped with RCA-type connectors) from the digital output of a digital FM tuner, compact disc player, laserdisc player, or digital audio recorder.

Connect the digital output of your digital source component to the RCA input of the CDP using a high quality 75Ω cable such as Madrigal MDC-2. It is accessed by pressing **source** on your remote control, and indicated by **In 1** in the CDP display. (Pressing **source** repeatedly will cycle you from **CD** to **In 1** to **In 2**, and back to **CD** again.)

6   REMOTE IR INPUT AND REMOTE TURN-ON OUTPUT

The CDP incorporates an infrared repeater input to facilitate a wide range of installation options. If desired, the CDP may be placed inside a cabinet or outside the normal line-of-sight in the listening area, with the controlling IR signal being relayed to the CDP by any of a number of commercially-available IR repeaters.

The specifications for this IR input call for a triggering voltage of 5-12 volts at no more than 100 milliamperes of current, with the tip of the ⅛" mini-plug having positive polarity, as below:

IR input tip polarity

− +

5-12 volts @ less
than 100 mA
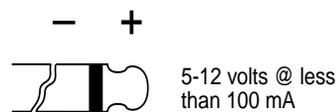
If you would like more information on the possibility of using an infrared repeater with your CDP, please contact your Proceed dealer.

The CDP also includes a remote turn-on output trigger that can control a Proceed power amplifier. If you choose to drive a Proceed AMP 2 directly from the CDP (using the CDP's adjustable output mode), connecting this output with the matching input on the AMP 2 will allows you to turn both units on or off from the CDP remote control's **standby** button.

This turn-on output uses a two conductor ⅛" mini-jack, as does the matching input on the power amp. They may be connected using any standard wire fitting those requirements. (Very little current is used, so there is no practical gauge requirement on the wire.)

7 AC POWER INPUT

This input accepts AC power from the AC mains (via the supplied AC cable).
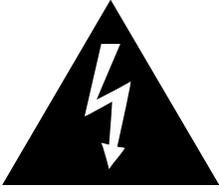
Warning!

The CDP is set internally for 100, 120, 200, 220, or 240VAC mains operation at either 50 or 60Hz. Make sure that the label on the rear of the unit indicates the correct AC operating voltage and frequency for your location before connecting it to AC mains.

Connect the female end of this cable to the CDP. Connect the male end of this cable to wall outlet or to an "unswitched" convenience outlet like those found on some audio components.

AC power cord polarity

To CDP   To AC mains

1 = Line (hot)
2 = Neutral
3 = Earth ground
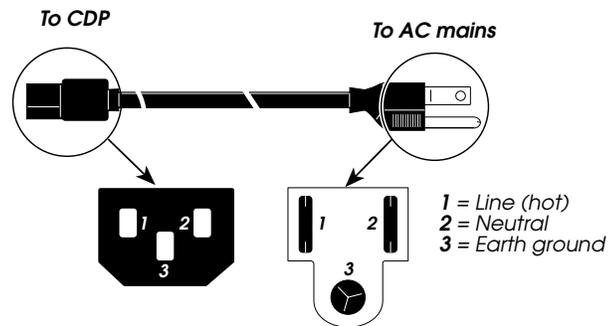
The power consumption of the CDP is only about 25 watts. As such most people will leave it on (or in standby) at all times. If you elect to place the CDP on a switched outlet, we advise waiting at least five seconds between power cycles to allow the normal power-up sequence to complete without interruption.

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Remote Control, CDP
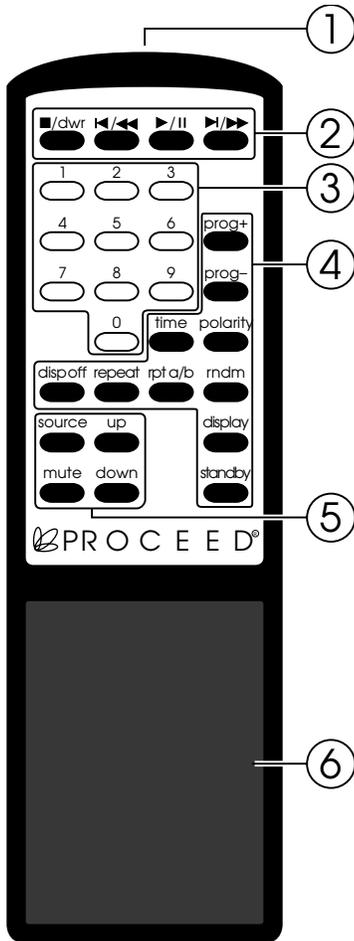
1   IR TRANSMITTER

The CDP's Remote Control sends infrared (IR) commands through its projection lens, and the CDP receives IR commands through its Remote sensor window. (See *"Front Panel, CDP"*). If either of these lenses is obstructed, no IR commands can be received by the CDP. If you notice IR performance deteriorating, you may want to clean these lenses with a soft cloth and some glass cleaner. (Spray the cleaner on the cloth first, and then wipe the lens with the moistened cloth. ***Do not spray the cleaner directly on either lens***, as this may allow moisture to migrate into the electronics behind the lens assemblies.)

2   TRANSPORT BUTTONS

The buttons used for routine operation of transport functions on the CDP are grouped at the top of the remote control. They include:

(■/dwr) **stop/dwr**: Press to **stop** play. The same button will operate the **drawer** if stopping the disc has no relevance (e.g., if it is already stopped, or if there is no disc inside the CDP).

(I◄/◄◄) **previous/rewind**: When pressed and released quickly, this will take you to the beginning of the **current** track; when pressed repeatedly, this button will step you backwards through the previous tracks, one at a time. (I◄ is the international symbol for *previous*). When pressed *and held*, the CDP will enter a reverse audible scanning mode similar to the familiar *rewind* function of many cassette decks, allowing a precise location within a track to be located. (Note that if you press **prev/rew** within two seconds of the beginning of a track, the CDP will assume that you meant to go further back and take you to the beginning of the *previous* track rather than the current track.)

(►/II) **play/pause**: Press to enter the **play** mode from either **stop**, **pause** or **standby**. When in **play** mode, press to **pause** play in the current location. If left in **pause** mode for more than two minutes, the CDP will enter **extended pause** mode, shutting down both the laser and the drive motors to enhance longevity and reliability. Upon pressing **pause** or **play** a second time, the disc will spin up and begin playing from the location where it had been paused.

(►I/►►) **next/fast forward**: When pressed and released quickly, this will take you to the beginning of the **next** track. (►I is the international symbol for *next*). When pressed *and held*, the CDP will enter a fast forward audible scanning mode similar to the familiar *fast forward* function of many cassette decks, allowing a precise location within a track to be located.

3 NUMERIC KEYPAD

The numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 may be used to directly access individual track numbers of discs played by the CDP. For example, to go directly to track 13, press **1** followed by **3**, and then press **play**. You do not have to add a 0 before a single-digit track number: **7**, followed by **play**, will take you directly to track number 7. (In fact, if the CDP is already in play, simply pressing the number button will be sufficient; pressing **play** while playing engages **pause**.)

The CDP displays a certain amount of intelligence with respect to direct track access. If the first number entered identifies a particular track unambiguously (such as 2 on a 12-track disc), the CDP is "smart" enough to immediately move to that track. If the first number entered could be the first of two digits (such as 1 on a 12-track disc), the CDP will wait for a moment to determine whether you wish to enter a second number. If not, it will then go to the single-digit track you selected.

These numbers may also be used in conjunction with other features, such as programming and direct access by time. For example, when in the **stop** mode, you may press **5** and press the **prog –** button to delete track 5 from your playlist. In this case, the CDP would play that particular disc normally, except that it would automatically skip from track 4 to track 6.

Selecting a particular track does not affect the operating mode. That is to say, pressing **7** while in **play** begins playing track 7; pressing **4** while in **pause** leaves you paused at the beginning of track 4.

4 OTHER BUTTONS

The buttons used for programming and other functions on the CDP are grouped beside and below the numeric keypad with which they will be used. They include:

prog+: Press while the disc is stopped to add a selected track to your programmed playlist (see *Programming the CDP* for more information).

prog–: Press while the disc is stopped to delete a selected track from your playlist, in "omission" programming (see *Programming the CDP* for more information).

time: Pressing this button (followed by appropriate numbers from the numeric keypad) allows direct access to any particular time on a disc. Note that this is a context-sensitive control—the time accessed will be according to the currently selected time display mode, e.g., 30:00 with the **time remaining** and **time on disc** LEDs lit will take you to that point where thirty minutes remains to the end of the disc.

polarity: Pressing this button toggles between non-inverted and inverted polarity during playback, indicated by a **P** and a **–P**, in the round display, respectively. Either opening the drawer or changing inputs will automatically reset the CDP to its normal, non-inverting polarity (although after cycling through the auxiliary inputs, returning to the CD will restore its previously-chosen polarity).

disp off: Turns off the front panel display (except the **standby** and **mute** LEDs) to facilitate listening in a darkened room with minimal visual distractions. Pressing any key will cause the display to turn on to indicate the change made; after a few seconds it will turn off again.

repeat: Press once to enter **disc repeat** mode (repeating the entire disc, or an entire playlist if one is entered). This action will illuminate the **disc repeat LED**. Press a second time to enter the **track repeat** mode (repeating a single track *ad nauseam*). A third press will cycle you back to normal operation, as will pressing **stop**.

rpt a/b: Press once to establish a beginning point (point **A**) for an endless playback loop. The display will flash to indicate that it is ready to accept your designated ending point (point **B**). Once this has been done, the CDP will repeat the segment of the disc between points **A** and **B** until you press **rpt a/b** again, or **stop**. The display will continue to flash to remind you that the CDP is in its **repeat A/B** mode. (Note that **A** must precede **B** on the disc; if B precedes A, the A/B loop doesn't make sense and will be ignored.)

rndm: By pressing **rndm** on the remote control, the CDP will enter a **random play** mode in which the order of the current disc's playlist is scrambled, and then played. The random LED on the front panel will illuminate to indicate random play. Moreover, placing the CDP into random play mode while the disc repeat function is engaged will cause it to play the various tracks on the disc randomly indefinitely (until you stop it). This can be a great way to provide background music during a dinner party, for example.

display: Pressing this button duplicates the function of pressing the **display** button on the CDP, cycling through the four **time modes** (*time elapsed* or *time remaining*, either on the *track* or on the *disc*).

standby: Pressing this button places the CDP in standby, which turns the **display** off, turns off all outputs, disables the front-panel controls, and closes the drawer (if open). The internal circuitry remains powered up in order to maintain its thermal stability and optimum performance at all times.

5   DIGITAL PROCESSOR CONTROLS

These four buttons control the digital processor portion of the CDP.

source: Pressing this button switches between the various inputs of the CDP (CD, Input 1 and Input 2). If the CD is playing, it will stop two minutes after switching to either auxiliary input. If the CDP senses an active digital source on any input, it will ramp the volume down and up while changing sources. Pressing *and holding* this button will access the CDP balance feature (if in adjustable output mode); see *Adjusting Balance*, p. 29.

up: Pressing this button raises the volume (if you have elected to use the variable output mode of the CDP during initial setup). It may also be used to shift the image to the right when using the CDP's Balance control.

mute: Pressing this button reduces the output level of the CDP by a user-definable amount, and is indicated by the red mute LED above the round display window. The amount of volume reduction can be changed by *pressing and holding* the mute button until the display changes to show the current mute level (from the factory, this will be "36" which corresponds to about -20 dB; each step is equal to 0.55 dB). Once the display has changed to show the current mute level, use the up or down buttons to increase/decrease the size of the change in volume effected by pressing mute. *(Example: changing "36" to "55" would result in a 30 dB change in volume when mute was pressed.)*

down: Pressing this button lowers the volume (if you have elected to use the variable output mode of the CDP during initial setup). It may also be used to shift the image to the left when using the CDP's Balance control.

6   BATTERY COMPARTMENT

The two AA batteries used by the Remote Control must be placed inside the compartment on the back of the remote's housing (near the bottom). Carefully remove the battery compartment cover and insert the batteries, being careful to orient them as indicated inside the battery compartment. Then replace the cover, clicking it into place.

Conditions that Affect IR Performance

IR communication between the Remote Control and the CDP can be affected by:

- Direct sunlight
- Interior lighting
- Wall, window, ceiling, and floor treatments
- The angle of the Remote Control relative to the CDP

If the CDP will be subject to direct sunlight, place it no more than 10 feet from where you'll normally operate the Remote Control. Where bright sunlight virtually floods the room, IR communication may be inconsistent.

In a room lighted primarily with incandescent fixtures, place the CDP no more than 25-30 feet from where you'll normally operate the Remote Control. In a room with fluorescent fixtures, this range will be reduced. Where bright fluorescent lighting virtually floods the room, IR communication may be inconsistent.

IR, like visible light, reacts differently when it meets different surfaces. Carpeting and draperies, for example, tend to diffuse (scatter) IR and interfere with its transmission. Glossy or reflective surfaces, such as mirrors and smooth walls, "bounce" (reflect) IR and won't interfere with its transmission. When placing the CDP, it's important to account for potential IR bounce and diffusion. For example, in a room with thick carpeting, heavy draperies, and many pieces of furniture, you may need to place the CDP closer to where you'll normally operate the Remote Control than you would in a sparsely furnished room with bare walls and hardwood flooring.

If possible, install the CDP directly opposite from where you'll normally operate the Remote Control. In practice, the Remote Control will operate the CDP at up to 30 degrees to either side of this direct line. To either side of this line, successful IR communication will depend on bounce and ambient lighting. *(Please refer to diagram on next page.)*
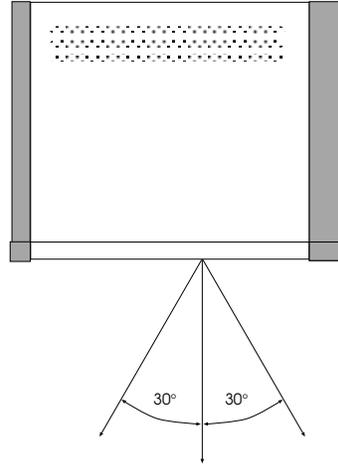
If the requirements of your installation preclude a clean line of sight between the CDP and your listening position, you may want to consider using an infrared repeater to route the remote control's commands directly to the CDP, using the external ir input on the rear panel. (See item #6 in *Rear Panel, CDP.*) Please ask your dealer for more information on third-party IR repeaters.

Basic Operation

Before operating your CDP, take a minute to become familiar with its controls and their locations. (See *"Front Panel"* and *"Remote Control."*)

Loading a CD

To load a CD:

1. Enable the CDP's controls by pressing **standby** if in standby.
2. Press **stop/drawer** to open the drawer.
3. Place a CD into the recess of the drawer, label side up. Handle the CD by the outer edges and center hole only.
4. Press **stop/drawer**.

Playing a CD

To play all tracks on the CD, press the **play/pause** button. All tracks will play in order. Play will stop automatically at the end of the CD.

To begin play with a track other than the first track:

1. Before pressing **play/pause**, press **next** until the number of the desired track shows on the Display. If you pass the track you want to play, you can "back up" by pressing **prev**. (You may also select the track directly using the numbered buttons on the Remote Control.)
2. Press **play/pause** to begin playing that track. The remaining tracks will play in order. Play will stop automatically at the end of the CD.

Pause

To suspend play while a CD is playing, press **play/pause**. To resume play at the same point, press **play/pause** again.

If left in **pause** for about two minutes, the transport will stop spinning automatically and the laser will turn off (thereby enhancing the longevity of both). Pressing **play/pause** again will resume play at the point where **play/pause** was first pressed, after a short delay to find the correct starting point.

Random Play

Using the Remote Control, you may have the CDP play tracks totally at random. To do this, press the **rndm** key, then press **play**. The random LED will illuminate to indicate the **random play** mode. To cancel **random play**, press **rndm** a second time, or **stop**.

Navigating the Disc

You may skip to another track any time while a CD is playing. To move to another track, press **next** (to go forward) or **prev** (to go backward) until the number of the track you want to play shows on the Display. (You may also select the track using the numbered buttons on the Remote Control.) Play will resume as soon as the pickup reaches that track.

You may search for a particular passage on the CD using **fast forward** and **rewind,** by *pressing and holding* the **next** and **prev** buttons (respectively). Use the reduced-volume audible scan available during these modes to search the CD until the laser pickup reaches the passage you want to hear.

As soon as you release the button, play resumes. (Unless you had begun your fast search in the **stop** mode, in which case the CDP will enter **pause** at your chosen location, allowing you to cue up a particular point on the disc.)

If you search past the beginning or end of a track, the laser pickup will move on to the previous (or next) track. If you try to search forward past the end of a CD or program, the laser pickup will stop at the end of the last track. If you try to search backward past the beginning of a CD or program, the laser pickup will stop at the beginning of the first track of the disc (or playlist).

Direct Time Access

You may use **time** on the Remote Control to begin play at a specific *time* on the disc.

1. Select the desired track using either **next** and **previous** or the **numeric keypad** on the Remote Control.
2. Press **time**, then press the numbered buttons corresponding to when you would like play to begin. (The numbers you select will appear in the **time** portion of the display.)
3. To begin play at that point, press **play**.

   Note: The time you select depends on the selection you've made with the display button: elapsed or remaining, CD or track.

For example, if you want to begin play one minute and thirty seconds into track 2, select track 2 by pressing **2** on the remote control. Press **time**, enter **1 3 0**, then press **play**. (This example assumes that the most recently used display mode was *elapsed time on track*.) If you do not press **play**, the CDP will time-out after ten seconds (that is, it will "forget" that you had begun to do something, and revert to normal operation).

Alternatively, you might want to set the CDP to play music for a specific period of time. Say you'd like to listen to music until the evening news begins in 30 minutes. Make sure both the **time on disc** and **time remaining** LEDs are on while playing a disc (indicating *time remaining on disc*); press **time**; enter **3 0 0 0**; and press **play**. This sequence will direct the CDP to a point 30 minutes from the end of the disc, and engage play at that point. When the music ends, you will know it is time to turn on the news.

Repeat Disc

To repeat (continuously) all tracks on a CD, press **repeat** until the **disc repeat** LED is lit. To return to normal play, press **repeat** again two more times (to cycle through **track repeat** to normal **play**). Pressing **stop** will also restore the CDP to normal (non-repeating) operation.

Repeat Track

To repeat (continuously) the track in (normal) play, press **repeat** twice (to cycle through **disc repeat** to **track repeat**). While the track repeat function is active, the LED above the button is lit.

This feature is helpful (for example) when trying to learn how to play a particular song by playing along with the disc. To learn sections of the song, you may want to use the Repeat A-B function described below. Once you have most of the sections learned, you can put them together with a track repeat.

Track repeat takes priority over other functions such as **next** and **previous**. (Specifically, they will merely return play to the beginning of the repeating track.) To return to normal operation, press **repeat** again.

<table>
<tr><td>

A-B Repeat

</td><td>

To repeat (continuously) a specific phrase or passage on a CD (when learning how to play a favorite solo, for example), press **rpt a/b** on the remote at the beginning of the passage you would like to repeat. The display will blink while continuing to play to indicate that the CDP is waiting for you to define the end of your A–B loop. At the end of your chosen passage, press **rpt a/b** on the remote again. The passage you selected will repeat continuously. (Note that **B** must follow **A** on the disc, or the **A–B loop** is not meaningful and will be ignored by the CDP.)

To return to normal play, press the **rpt a/b** button again.

</td></tr>
<tr><td>

Adjusting Balance

</td><td>

If you have elected to use the CDP's volume control circuitry (see *Customizing the CDP*), you may also adjust the relative balance between left and right channels. (Setting your CDP to a fixed output will automatically reset the balance control to its "centered" position.)

To adjust the balance on the CDP (assuming it is already in its "preamplifier", or volume controlled setting; see *Customizing the CDP*):

</td></tr>
</table>

1   **PRESS AND HOLD THE SOURCE BUTTON ON THE REMOTE CONTROL**
     The display will change to show **bAL 00** when the balance mode is activated.

     Fine adjustment of balance can only be made when sitting at the listening position, and relatively few people ever bother; therefore it makes sense to make balance a secondary function on the remote control, accessed by pressing and holding a button normally used for something more common. Think of pressing *and holding* a button as being like an *emphatic* press of a button. In this case, you want to adjust the way a particular source sounds, to correct for a balance problem. Hence, press and hold **source**.

2   **ADJUST THE BALANCE WITH EITHER THE UP/DOWN OR THE PREV/NEXT BUTTONS**
     Prev and **next** are associated with left and right by their arrows, and cause the image to shift in the indicated direction. On the remote control, you also have the option of using the **up/down** buttons (they are adjacent to the source button, and more convenient), where **up** moves the image to the right (in a "positive" direction). Remember that each step indicated in the display represents a change of about ½ dB. At its maximum setting, the display will change to **l.off** to indicate that the left channel is now turned off completely (leaving the image in the right speaker).

     The CDP will "time-out" automatically after a few seconds of no further adjustments, returning to normal operation. Alternatively, you may press and hold **source** again to leave the balance mode more quickly. The new balance setting is saved in nonvolatile memory, and will survive power outages.

Programming the CDP

Rather than playing an entire CD, you may choose to play only certain selections. To do this, you create a "playlist" for that particular CD. It may be used immediately upon being created, and will remain in memory until replaced by a different playlist.

Before using your CDP's programming features, become familiar with its controls and their locations, as well as their basic functions.

> **Note:** *During the playing of a playlist, the CDP's basic functions operate as described in "Basic Operation," except that they affect the playback of the* **program***, not the entire CD. For instance, pressing* **next** *during play skips to the next track in the playlist, whether or not it is the next track on the CD. In the same way, engaging* **disc repeat** *will repeat the entire* **playlist***, not the entire disc.*

The CDP allows up to 99 selections per playlist, with any given track appearing once only. In practical terms, the only limitation on the length of your playlist is the number of tracks on your disc.

Important Note:

Assembling a playlist is possible only when the disc is stopped.

Assembling a Playlist

To assemble a new playlist:

1. Load a CD, and wait for the display to show the number of tracks and their total playing time.
2. Using the **next** and **previous** buttons (or the numbered buttons on the Remote Control), select the first track in your playlist.
3. Add the first selection to your playlist by pressing **program +**. The CDP will acknowledge your command by lighting the green **program LED** on the front panel to indicate that the track currently displayed has been added to the playlist.
4. Assemble the rest of your playlist by repeating steps 2 and 3. Make sure to press **program +** after each selection.

Programming by Omission

If you want to play *most* of a CD, and just "omit" a few tracks, you may want to use this shortcut:

1. Load a CD, and wait for the display to show the number of tracks and their total playing time.
2. Using the **next** and **previous** buttons (or the numbered buttons on the Remote Control), select the first track you want to *eliminate* from your program.
3. "Omit" the track by pressing **program –**. This action both places the CDP in its program mode and deletes the track from the current playlist. The display will advance to the *next available track*

remaining in the playlist. This next track will be shown with the green **program LED** lit to indicate that it is still *in* the playlist.

4. Using **next** and **previous**, move to any other tracks you would prefer to skip, pressing **program –** to eliminate each track from the playlist. Once you are in the program mode, the green **program LED** will illuminate to indicate a track is in the playlist, and extinguish for any track omitted from the playlist.

Reviewing a Playlist

To review your playlist before playing it:

1. Assemble a playlist and press **stop**.
2. Without selecting any particular track (while the playlist's total number of tracks and total playing time are displayed), press **program +**. The display will show the first selection in your playlist.
3. To view the next selection, press **program +** again, and so on.
4. After you view the last selection, one more press of **program +** will cause the display to "wrap around" to the first track in the playlist.

(Alternatively, you may use the next and prev buttons to step through all the tracks, noting which tracks are included in the program by watching for the green program LED.)

Deleting a Track from a Playlist

You may delete any selection from a playlist. To delete a selection:

1. Press **stop** after assembling a program.
2. Press **next** or **previous** until the selection you want to delete appears on the display (programmed tracks cause the program LED to light green; non-programmed tracks extinguish it).
3. Press **program –** ; the display will turn off the green **program LED** to indicate that the current track has been removed from the playlist.
4. Repeat steps 3 and 4 for each selection you want to remove from your program.

Adding a Track to a Playlist

You also may add a selection to the end of a previously assembled playlist.

1. From stop, using the **next** and **previous** (or the numbered buttons on the Remote Control), select the track you want to add to your playlist.
2. Add the selection to your playlist by pressing **program +**.
3. Repeat steps 2 and 3 for each selection you want to add to your program. Make sure to press **program +** after each selection.

Temporarily Ignoring a Program

If you have created a program for the current disc but would like to temporarily override it and listen to the entire disc, press **program –** from **stop**. The **program LED** will extinguish to indicate the program has been overridden. Pressing **program+** will restore the program.

Erasing a Program

If you have created a program for the current disc but would like to erase it from memory, press and hold **program –** until **EP** (Erased Program) appears in the display, and the **program LED** is extinguished.

Customizing the CDP

The CDP offers three user options that modify the way it operates to accommodate individual tastes. These options are accessed through the User Setup menu, and include enabling the CDP's volume control circuitry, setting a user-definable mute level, and enabling an autostandby function. The details of these options are described below.

Navigating the User Setup Menu

Getting into the User Setup menu is a simple matter of pressing and holding the **P+** button (think of it as an emphatic form of "programming" your CDP) until the left portion of the display changes to indicate **U1**. You may then press **P+** momentarily to cycle through the user options, **U1**, **U2**, and **U3**. Having selected the option you wish to change, you may then change the setting (shown in the round display) by pressing the **prev** or **next** buttons, or the **up/down** buttons on the remote control.

The CDP will "time-out" after about ten seconds, returning to normal operation; alternatively, you can press and hold the **P−** button to exit more quickly.

Operation with Fixed or Adjustable Outputs

As shipped from the factory, the CDP operates with a fixed line level output, as do most CD players. Given that most people enjoy both analog and digital sources, they should also have a volume control in the analog portion of their system (namely, in their preamplifier). For this reason, the most sensible setup is to use the CDP as a CD player and digital audio processor for one or two additional digital sources.

In a simple system consisting only of three or fewer digital sources, it is possible to use the CDP as a combination CD player and digital preamplifier by enabling its volume control circuitry. To do so:

Caution!

> **When going from an adjustable output level to fixed, the volume will return to a full line level, equivalent to 85 in the adjustable mode of operation. If still connected to an operating power amplifier, this will represent a potentially dangerously high volume. Be sure to reconnect the CDP _as a CD player_ to a preamplifier with a reduced volume setting before returning to a fixed volume setting.**

1   PRESS AND HOLD P+ UNTIL THE LEFT DISPLAY SHOWS "U1"
This gets you into the User Setup menu (U1 stands for "User setting #1"). You will see **F** in the round display to indicate the normal, ***fixed***-output mode of operation. If you were already in the volume-controlled preamplifier mode, the round display would show an **A** to indicate ***adjustable***.

2   PRESS THE "NEXT" BUTTON TO CHANGE THE OPTION
In this case, there are only two options: **F** (fixed output) and **A** (adjustable output). Thus as you press **next**, the setting toggles between the two options. (You may also use **prev**, **up** or **down**.)

3   PRESS AND HOLD THE P+ BUTTON TO CONFIRM YOUR CHANGE
The CDP's display will show **done** when it has saved your choice to non-volatile memory. You may either allow the CDP to time-out (return to normal operation), or press **program +** again to advance to user setting #2: mute level (see next section).

Displaying Volume

If you elect to use the CDP's volume control (see *Customizing the CDP*), you may change the default display in the round window from the track number to the current volume setting by *pressing and holding* the **display** button. (You may return to a default display of the track number by clicking **display** again.) By default, the CDP will display the track number until either the **up** or the **down** button is pressed; it will then display the volume for four seconds (to allow you to see what you are doing). Once the volume is displayed, continued (or repeated) pressing of the **up** or **down** buttons will change the output level.

User-definable Mute Level

The CDP also allows you to set your preference for mute level. That is to say, you can determine yourself how large the change in volume will be when you press **mute** on the remote control. The factory default is approximately -20 dB (decibels), roughly ¼ the perceived volume.

Incremental changes in volume occur in 0.55 dB steps throughout most of the usable range. Thus, the default mute level setting is 36 (since 36 x 0.55dB = 19.8 dB); if you prefer more attenuation of the volume, for example, a setting of 55 would result in about a 30 dB attenuation (55 x 0.55dB = 30.25dB).

To change your mute level setting:

1   PRESS AND HOLD P+ UNTIL THE LEFT DISPLAY SHOWS "U1"
This gets you into the User Setup menu (U1 stands for "User setting #1").

2   PRESS P+ MOMENTARILY TO ADVANCE TO "U2"
User Setting #2 is the for Mute Level. You will notice a number displayed in the round display, corresponding to the change in volume outlined above. (The factory default is 36, corresponding to about 20 decibels).

3   PRESS THE "PREV" OR "NEXT" BUTTON TO CHANGE THE MUTE LEVEL
In this case, you may select any amount of attenuation, from 0 (no effect) to 99 (fully muted). Each click of the **prev** or **next** button increments the mute level setting by one digit, corresponding to a volume change of about 0.5 dB (through most of the range; the steps become larger at very low volumes). If you are using the remote control rather than the front panel to make these changes, you may use either **prev** and **next**, or the **up** and **down** buttons to effect changes.

4   PRESS AND HOLD THE P+ BUTTON TO CONFIRM YOUR CHANGE

The CDP's display will show **done** when it has saved your choice to non-volatile memory. You may either allow the CDP to time-out (return to normal operation), or press **program +** again to advance to user setting #3: autostandby (see next section).

Autostandby

The CDP can be set to automatically enter **standby** after a period of inactivity. Specifically, you may elect to have the CDP enter **standby** after 5, 15, 30, or 60 minutes without a signal (e.g., CD in stop, or pause, or extended pause, or lacking an active digital signal in one of the external digital inputs). You may also elect to leave this **autostandby** feature in its default "off" setting (meaning that the CDP will go into **standby** only when explicitly told to do so). To change your **autostandby** preference:

1   PRESS AND HOLD P+ UNTIL THE LEFT DISPLAY SHOWS "U1"

This gets you into the User Setup menu (U1 stands for "User setting #1").

2   PRESS P+ TWICE MORE TO ADVANCE TO "U3"

User Setting #3 is the for **autostandby**. You will notice either dashes or a number displayed in the round display, corresponding to the number of minutes selected (as shipped from the factory, you will see two dashes to indicate **autostandby off**: **--**).

3   PRESS THE "PREV" OR "NEXT" BUTTON TO SELECT YOUR PREFERENCE

You may select autostandby off (**--**), or **5**, **15**, **30**, or **60** minutes. (Alternatively, you may use **up** or **down** on the remote control.)

4   PRESS AND HOLD THE P+ BUTTON TO CONFIRM YOUR CHANGE

The CDP's display will show **done** when it has saved your choice to non-volatile memory. You may either allow the CDP to time-out (return to normal operation), or press **program +** again to return to user setting #1: fixed or adjustable outputs.

Using Learning Remote Controls

The CDP includes both an infrared receiver *and* an infrared transmitter. With this capability, it can "teach" a learning remote control any commands that might be needed for remote operation.

Specifically, the CDP can send all of the necessary IR commands from its **display** window, enabling you to teach a learning remote any or all of its pre-programmed commands, as well as some optional special commands that are available to solve specific installation-related problems.

The CDP has two special modes of operation into which it may be placed in order to facilitate the "teaching" of remote control commands to a learning remote control. The first allows you to easily teach the commands for which there are corresponding front panel buttons. The second allows you to teach "special" commands to the remote control for which there are no corresponding front panel buttons.

Teaching CDP Front Panel Commands

1 PRESS AND HOLD THE REPEAT BUTTON TO ENTER THE FRONT PANEL TEACHING MODE

The display will show **L 0** to indicate that the CDP is ready to teach a learning remote control the infrared commands that correspond to its front panel buttons. *(The **L 0** stands for "Learn Zero;" there are other IR code numbers for special functions, about which you will read shortly. The "zero" is used for any command for which there is a corresponding front panel button.)*

If you change your mind, simply don't touch *any* button for ten seconds and the CDP will return to normal operation. (*Hint:* you may remember that this special "hidden" feature of the CDP is accessed via a press-and-hold of the **repeat** button by associating its use with the external IR "repeaters" so often used in custom installations; the functionality found here is of most value in such installations.)

2 PRESS ANY FRONT PANEL BUTTON TO CAUSE THE CDP TO SEND THE CORRESPONDING IR COMMAND

Line up the IR window of your remote control with the left side of the CDP display, at a distance of approximately 2"-6". Select the to-be-learned button on the remote, then press the corresponding button on the CDP to fire the appropriate IR code. A "decimal point" will light for a few seconds to indicate the firing of the IR code, thus showing **. L 0** in the display.

Most learning remotes need to be held fairly still while they learn new IR commands; movement can garble the received IR. If you are uncertain as to how to prepare your remote control for learning new commands, refer to the instructions provided with the remote control.

3 REPEAT THE PROCESS OF "TEACHING" NEW COMMANDS TO THE VARIOUS BUTTONS ON YOUR REMOTE CONTROL UNTIL ALL APPROPRIATE OR DESIRED FRONT PANEL COMMANDS HAVE BEEN LEARNED BY YOUR REMOTE

4 WHEN FINISHED, EXIT THE TEACH IR MODE BY ALLOWING THE CDP TO "TIME-OUT"

You may wish to teach your remote control some of the CDP's special commands (those for which there is no corresponding front panel button); in this case, you should go directly to the next section. Otherwise, simply avoid pressing any buttons for about ten seconds, and the CDP will automatically return to normal operation.

At some point, however, you should test all your newly "learned" commands to ensure that they were "learned" correctly.

Teaching Other CDP Commands

As mentioned above, the CDP has the capability to teach learning remote controls commands for which there are no front panel counterparts, such as the numeric keypad functions. These commands can be especially helpful in solving problems in certain kinds of custom installations.

These "positive control" commands in the CDP will place it into a certain mode of operation regardless of its current state. For example, a positive control command to enter **standby** will *leave* the CDP in **standby** if already there, or *switch* it to **standby** if it is currently operating. This type of positive control is especially helpful when you do not necessarily know the current status of the CDP, as might be the case in a multi-room home entertainment system (for example).

1 PLACE THE CDP IN ITS FRONT PANEL TEACHING MODE

As explained on the previous page, you do this by pressing and holding the **repeat** button until the display reads **L 0**. If no further buttons are pressed within approximately ten seconds, the CDP will "time out" and return to normal operation.

2 RELEASE, THEN PRESS AND HOLD THE REPEAT BUTTON A SECOND TIME TO PLACE THE CDP IN ITS CUSTOM IR MODE

After about three seconds, the display will change from **L 0** to **L 1**. This indicates that the special IR codes that do not correspond to front-panel buttons are now available for teaching to a learning remote control—including some that are designed to solve problems unique to custom installations.

3 PRESS THE PROGRAM + BUTTON REPEATEDLY TO ADVANCE TO THE DESIRED FUNCTION

The table on the next page lists the various commands that are available for the CDP for which there is no front-panel equivalent. In some cases, they represent "positive control" alternatives to commands which normally toggle between two settings (such as standby and operate). In other cases, they represent functions which exist only on the remote control. In the second column are the designations that will be displayed to indicate that the CDP is ready to fire the corresponding IR code.

Pressing **program +** will advance you to the next command in the table; pressing **program –** will back up to the previous command in the table.

When the last item has been reached, pressing **program +** will return you to the beginning of the table. If no button is pushed for more than ten seconds, the CDP will "time out" and return to normal operation.

Command	Display
positive control for operate	L 1
positive control for standby	L 2
positive control for display on	L 3
positive control for display off	L 4
A–B repeat	L 5
Numeric Keypad: 1	L 6
Numeric Keypad: 2	L 7
Numeric Keypad: 3	L 8
Numeric Keypad: 4	L 9
Numeric Keypad: 5	L 10
Numeric Keypad: 6	L 11
Numeric Keypad: 7	L 12
Numeric Keypad: 8	L 13
Numeric Keypad: 9	L 14
Numeric Keypad: 0	L 15
Direct Access by Time	L 16
display toggle	L 17
random	L 18
polarity toggle	L 19
source toggle	L 20
mute toggle	L 21
up	L 22
down	L 23
positive control for mute	L 24
positive control for unmute	L 25
positive control for selecting CD	L 26
positive control for selecting Input 1	L 27
positive control for selecting Input 2	L 28
positive control for play	L 29
positive control for pause	L 30
positive control for stop	L 31
positive control for open drawer	L 32
positive control for close drawer	L 33

4   MOMENTARILY PRESS THE REPEAT BUTTON TO TRANSMIT THE SELECTED CODE

Line up the IR window of your remote control with the left side of the display of the CDP, at a distance of approximately 2"-6". Select the to-be-learned button on the remote, then fire the selected code from the CDP by pressing **repeat**. *(If you are uncertain as to how to prepare your remote control for learning new commands, refer to the instructions provided with the remote control.)*

5   REPEAT THE PROCESS OF "TEACHING" NEW SPECIAL COMMANDS UNTIL ALL DESIRED COMMANDS HAVE BEEN LEARNED BY YOUR REMOTE CONTROL.

If you take longer than approximately ten seconds between button pushes, the CDP will time out and return to normal operation. If this occurs, return to step #1 in this section. You may either cycle through the entire list by pressing **program +** repeatedly, or move backwards through the list by pressing **program –**.

6   WHEN FINISHED, RETURN TO NORMAL OPERATION BY ALLOWING THE CDP TO "TIME OUT"

The CDP will "timeout" and return to normal operation after approximately ten seconds. (Alternatively, you may press and hold the repeat button to force the CDP back into normal operation.)

Troubleshooting

In general, refer any service problems to your Proceed dealer. Before contacting your dealer, however, check to see if the problem is listed here. If it is, try the suggested solutions. If none of these solves the problem, contact your Proceed dealer.

1. **THE CDP WON'T FUNCTION, AND THE DISPLAY IS DARK.**
    - ✓ The CDP isn't plugged into the AC mains.
    - ✓ The **power** button has not been engaged.
    - ✓ The wall socket (or extension cord, if used) is faulty, or the wall socket has a tripped circuit breaker or blown fuse.
    - ✓ A fuse is blown in your CDP (contact your Proceed dealer).

2. **THE DISPLAY IS LIT, BUT THERE IS NO OUTPUT**
    - ✓ The proper digital input is not selected.
    - ✓ The proper source isn't selected on your preamplifier.
    - ✓ The connecting cables are connected incorrectly or are faulty.
    - ✓ The CDP is configured for adjustable output levels, and the volume is set to an inaudible level such as 00 (as when first powered up in that mode).

3. **THE CDP WON'T PLAY A CD INSERTED IN THE PLAYER.**
    - ✓ The CD is inserted upside down.
    - ✓ There may be condensation (moisture) on the laser pickup. This can happen if the CDP is moved from a cold environment (such as a warehouse or a shipper's truck) to a warm one. Plug in the CDP, leave it on for one hour to warm up, then try playing a CD again.

4. **WHEN A CD IS PLAYING, THE SOUND "SKIPS."**
    - ✓ The CD is severely scratched or dirty.
    - ✓ The CDP is on an unstable surface or is too close to your speakers.

5. **THE REMOTE CONTROL DOESN'T OPERATE THE CDP.**
   - ✓ The Remote Control is at the wrong angle relative to the CDP, and the CDP can't receive the signal.
    - ✓ The sensor window on the front panel of the CDP is dirty or blocked.
    - ✓ The Remote Control's projection lens is dirty.
    - ✓ Fluorescent lighting or sunlight is interfering with the operation of the Remote Control.
    - ✓ The Remote Control's batteries need to be replaced.
    - ✓ The Remote Control's batteries are installed incorrectly.

6. **THE UNIT IS OPERATING ERRATICALLY**
    - ✓ The microprocessor's program may have been temporarily corrupted by adverse power conditions or severe static shock. Cycling power off and on should reset it.
    - ✓ The program itself may have been damaged. Press and hold the **stop/drawer** button until the display changes to indicate the current software version number and its checksum; then call your dealer/distributor with this information.

Care and Maintenance

To remove dust from the cabinet of the CDP, use a feather duster. To remove dirt and fingerprints, we recommend isopropyl alcohol and a soft cloth.
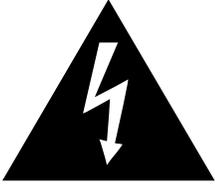
Caution!

Always apply the isopropyl alcohol to the soft cloth and then wipe the CDP with the dampened cloth. Never pour or spray even small amounts of any liquid directly on the CDP, as doing so may allow the liquid to reach the circuitry inside the unit. Any liquid inside the unit poses a hazard to both the user and to the unit, and must be avoided.

Make sure that the Remote sensor window on the front panel and the Remote Control's projection lens are kept clean and dust-free.

Fluorescent lighting and sunlight may interfere with the operation of the Remote Control. Avoid placing the CDP near fluorescent lamps or in direct sunlight.

When the Remote Control's batteries need to be replaced, use only AA batteries; always replace both batteries at the same time. If you don't plan to use the Remote Control often, remove the batteries. When not used for an extended period, even "leakproof" batteries can leak corrosive acids that will damage the Remote Control (and will void the warranty).

A CD, handled carefully, will last indefinitely. A warped, dusty, or scratched CD can cause playback problems, including audible skipping or other noises. Handle a CD by the outer edges only; if necessary, support it with your index finger at the center hole.

When you're finished playing a CD, always return it to its plastic case. Store your CDs where they won't be exposed to direct sunlight, high humidity, or extremely high or low temperatures.

U.S. and Canadian Warranty

90-Day Limited Warranty

This Proceed® product is warranted to be free from defects in material and workmanship under normal use for a period of ninety (90) days from the date of purchase. ***To extend the warranty of this Proceed product***, return the warranty registration card along with a copy of the original receipt of purchase to Madrigal Audio Laboratories, Inc., P. O. Box 781, Middletown, CT 06457.

Five Year Extended Warranty

The ***extended warranty*** for this Proceed product is ***five (5) years*** from the date of purchase. During the warranty period, any Proceed component exhibiting defects in materials and/or workmanship will be repaired or replaced, at our option, without charge for either parts or labor, at our factory. The warranty will not apply to any Proceed component that has been misused, abused or altered.

Any Proceed component not performing satisfactorily may be returned to the factory for evaluation. Return authorization must first be obtained by either calling or writing the factory prior to shipping the component. The factory will pay for return shipping charges only in the event that the component is found to be defective as above mentioned. There are other stipulations that may apply to shipping charges.

There is no other express warranty on this component. Neither this warranty nor any other warranty, express or implied, including any implied warranties of merchantability or fitness, shall extend beyond the warranty period. No responsibility is assumed for any incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts and other states do not allow the exclusion or limitation of incidental or consequential damages, so that the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. **This warranty is applicable in the United States and Canada only.** Outside of the U.S. and Canada, please contact your local, authorized Proceed distributor for warranty and service information.

Obtaining Service

We take great pride in our dealers. Experience, dedication, and integrity make these professionals ideally suited to assist with our customers' service needs.

If your Proceed component must be serviced, please contact your dealer. Your dealer will then decide whether the problem can be remedied locally, or whether to contact Madrigal for further service information or parts, or to obtain a Return Authorization. The Madrigal Technical Services Department works closely with your dealer to solve your service needs expediently.

Important!

Return authorization _must_ be obtained from Madrigal's Technical Services Department BEFORE a unit is shipped for service.

It is extremely important that information about a problem be explicit and complete. A specific, comprehensive description of the problem helps your dealer and the Madrigal Technical Services Department locate and repair the difficulty as quickly as possible.

A copy of the original bill of sale will serve to verify warranty status. Please include it with the unit when it is brought in for warranty service.

Warning!

All returned units must be properly packaged (preferably in their original packing material), and the proper return authorization numbers must be marked on the outer carton for identification. If the packaging to protect the unit is, in our opinion or that of our dealer, inadequate to protect the unit, we reserve the right to repackage it for return shipment at the owner's expense. Neither Madrigal nor your dealer can be responsible for shipping damage due to improper (that is, non-original) packaging.

Your dealer can order a new set of shipping materials for you if you need to ship your component and no longer have the original materials. There will be a charge for this service. We *strongly* recommend saving all packing materials in case you need to ship your unit some day.

Specifications

The correlation between published specifications and sonic quality is unreliable. A list of numbers reveals virtually nothing. All technical measurements must be subject to qualitative as well as quantitative interpretation.

Measurements of the CDP yield excellent results by any standards. However, only those specifications that apply to its actual operation are included here.

- **Frequency response**: 10 Hz – 20 kHz, +0dB, –0.2dB
- **Total harmonic distortion**: 0.005% @ 1 kHz, A-weighted
- **Maximum output (XLR, fixed output mode)**: 4 V rms (0 dB output)
- **Maximum output (XLR, variable output mode)**: 8 V rms (0 dB output)
- **Maximum output (RCA, fixed output mode)**: 2 V rms (0 dB output)
- **Maximum output (RCA, variable output mode)**: 4 V rms (0 dB output)
- **Dynamic range**: 98 dB (or better)
- **Signal to noise ratio (balanced outputs)**: 105 dB (ref: 0 dB output)
- **Channel separation**: better than 110 dB
- **Analog filter**: Bessel-tuned, linear phase to 40 kHz
- **Low-level linearity**: deviation unmeasurable to below -70 dB
  approximately +1.7 dB below -90 dB
  (undithered, referenced to 0 dB @ 1 kHz)
- **Volume range**: -116 dB to 0 dB
- **Volume resolution**: 0.55 dB steps above 43 in display,
  gradually increasing step size at lower levels
- **Digital inputs**: 1 each s/pdif electrical (RCA) and EIAJ optical
- **Digital input impedance**: 75Ω (s/pdif electrical)
- **Other input**: 1 ⅛" mini-jack for external IR repeater
- **Digital output**: 1 RCA (s/pdif)
- **Digital output impedance**: 75Ω (s/pdif electrical)
- **Analog outputs**: 1 set balanced stereo outputs
  1 set single-ended stereo outputs
- **Analog output impedance**: less than 20Ω
- **Power consumption**: less than 40 W
- **Mains voltage**: 100V, 120V, 200V, 220V, 240V,
  factory set for destination country only
- **Mains frequency**: 50 or 60 Hz,
  factory set for destination country only
- **Overall dimensions**: See "Dimensions"
- **Shipping weight**: 34 lbs. (15.5 kg)

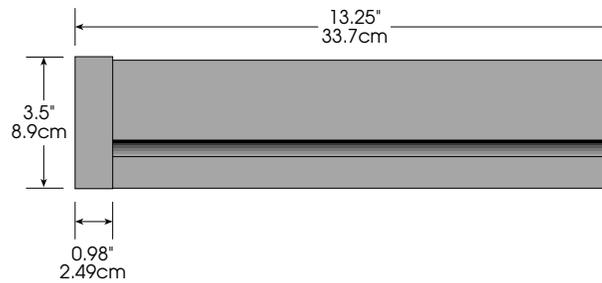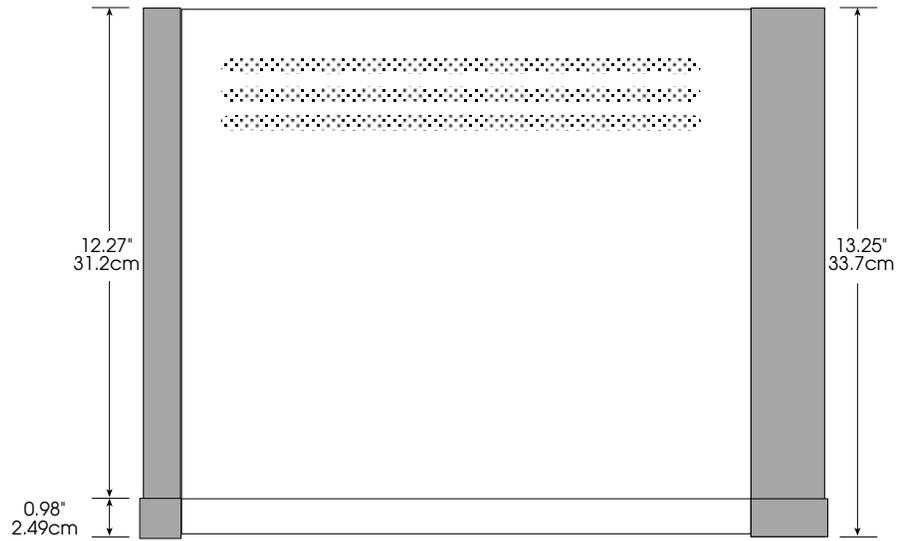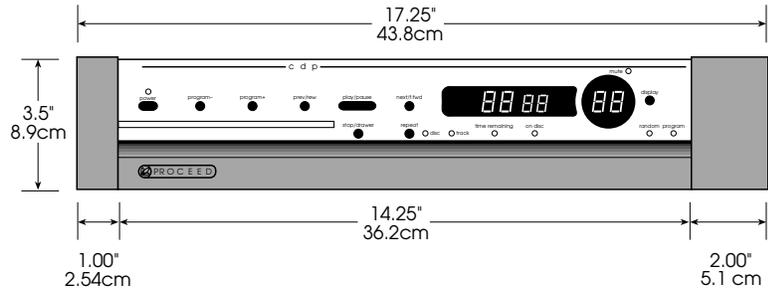For more information, see your Proceed dealer, or contact:

Dimensions

17.25"
43.8cm

3.5"
8.9cm

c d p

power · program- · program+ · prev/rew · play/pause · next/ff.fwd · mute

stop/drawer · repeat · time remaining · on disc · random · program

disc · track

PROCEED

14.25"
36.2cm

1.00"
2.54cm

2.00"
5.1 cm

12.27"
31.2cm

13.25"
33.7cm

0.98"
2.49cm

13.25"
33.7cm

3.5"
8.9cm

0.98"
2.49cm

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Installation Notes

PROCEED®