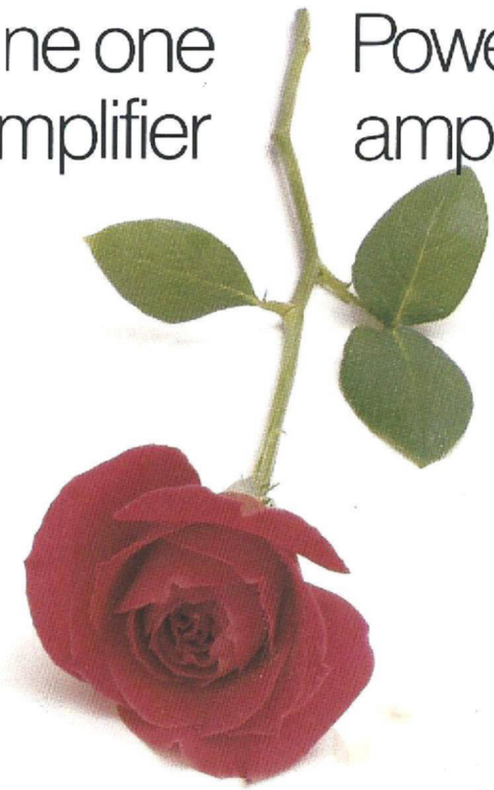
crown

Straight line one pre-amplifier

Power line one amplifier



Clean look,

The Crown *Power Line One* amplifier and the *Straight Line One* pre-amplifier were designed for very special persons, who delight in accurate sound reproduction. Who want to be aware of the softest notes, and to clearly identify each instrument in a bright, vibrant passage. They're designed for persons who persist in evaluating new components, trying to reproduce the ambience of the concert hall. When such persons assemble a system that satisfies, they are content to listen, and enjoy.

You may have had experience with several sophisticated systems, or you may be considering your first high-quality component system. In either case, you probably feel the need for some improvement in your system. We think the *Straight Line One* and the *Power Line One* will provide that improvement.

You will first of all, be pleased at the smart, professional appearance they will add to your audio system. But your greatest enjoyment will surely come from the unusual sonic accuracy of these units. The *Power Line One* and *Straight Line One* are acoustically as transparent as can be imagined. The technology that makes this possible is detailed for you in this brochure.

clean sound.

If you are at all familiar with American audio components, the Crown name should be your ultimate assurance of quality and reliability. For over 25 years, Crown has been designing and building state-of-the-art audio components at its factory in Elkhart, Indiana. You and your friends may already know the reputation Crown has built with products like the DC-300A high power amplifier. All of that experience, that dedication to quality, is available to you in the *Straight Line One* and *Power Line One.*

We don't have to say much about their simplicity and ease of operation. A brief look at the front panels will demonstrate that. All the basic controls you need to create – and monitor – fine quality sound are available on the Crown *Power Line One* and *Straight Line One*.

Both the *Straight Line One* and the *Power Line One* are also available with a satinized aluminum front panel to match other Crown products.

You'll have to prove the quality of their sound to your own satisfaction. Examine the specifications carefully; compare them with other brands you know and respect. Then listen to them. Your Crown dealer's showroom would be a good place to do that. Or maybe you have a friend who already owns one or both of these Crown components.

Both the *Power Line One* and the *Straight Line One* are fully warranted by Crown for three years after purchase. If these units do not function according to specification, Crown will provide parts or labor needed to repair the unit. Crown will also pay for round-trip shipping of the unit to the nearest warranty repair station. We'll even furnish a new shipping container if you've lost the original.

That's an unusual warranty, and we give you an unusual warranty certificate – the Crown Care Card. It's a wallet sized card, imprinted with your name, the product model number and serial number and the expiration date of your warranty. It identifies you, and your unit, should you ever require service. It's also a constant reminder that you have purchased components which represent a significantly better value for your dollars – components engineered and built to meet your need for reliable high-fidelity music reproduction. We hope you decide to enjoy the Crown *Power Line One* and *Straight Line One* in your own system.

Straight line

The circuit technology used in the Straight Line One is best described in the name Crown has chosen for the unit. With all controls set flat, the signal proceeds through the circuit in a straight line. The controls are all accessory to the main circuit line, and the signal is diverted through them only when they are called for by the user. The improvement in distortion-free operation is significant.

New phono pre-amp

One of the more significant innovations in the Straight Line One is the phono pre-amp section. The most visible difference is that the phono pre-amp is a separate module. More importantly, however, the circuits in this phono pre-amp have been so carefully designed that the thermal noise of the cartridge on your turntable is the dominant noise of the phono-pre-amp section.

One of the principal advantages of this new phono pre-amp is the total elimination of troublesome RFI. The circuits in the phono pre-amp have been designed so that RFI signal components are self-cancelling. RFI filters are also included which are absolutely transparent to audio range signals. The separate chassis design for the phono pre-amp section makes it possible to mount the section next to the turntable, which shortens the RFI sensitive cabling from cartridge to phono pre-amp to a minimum.

one pre-amplifier

The phono pre-amp also includes a complementary cascode input, a circuit design characterized by low noise and distortion. A low capacitance input makes it possible to utilize a wide range of cartridges in your turntable.

The separate phono pre-amp also adds flexibility to system assembly. Straight Line One owners can connect the phono pre-amp output to any of the four main chassis inputs. You could, if you wished, use the Straight Line One to control four turntables by simply adding a separate Crown phono pre-amp for each turntable.

High-technology circuits

You may recognize some of the circuit technology in the Straight Line One as similar to that first developed in the Crown DL-2 Control Center. Many additional hours of engineering and computer time have been expended at Crown in refining those circuit concepts so they could be made available in a less costly pre-amplifier.

But Crown's engineers were determined that the sonic quality of this pre-amplifier would at least match that of the DL-2. They were also committed to a design whose simplicity and ease of operation would make the unit attractive to system owners whose principal enjoyment was in listening, and not so much in re-recording, or mixing, or "engineering" sound.

As a result, the front panel of the Straight Line One is a model of simplicity.

Simple, precise control

There is a power switch, which can be used for system power-up. Four 110v switched outlets are provided on the back of the Straight Line One.

There are four input selector switches which are interlocked to prevent accidentally adding inputs.

There are two monitor switches which enable the user to monitor the inputs of Tape 1 and Tape 2.

There is a high-pass (rumble) filter to eliminate low-frequency noise. When switched in, the filter rolls off the signal at 30Hz, at 18dB per octave. Without this filter, the frequency response of the Straight Line One is flat (±0.1dB from 10Hz to 20KHz).

The balance control is a precision-stepped rotary switch which allows precise resetting of right/left balance. The LED output level display on the companion Power Line One amplifier shows the user when his system is in balance.

The Straight Line One volume control is also a precision-stepped rotary switch which provides input gain control for first stage amplification, rather than attenuation. This design choice means that the rated signal to noise ratio occurs at maximum volume. As you reduce volume the Straight Line One signal to noise ratio *improves*. Gain is in 2dB steps (measured at the pre-amp output), with a tracking error between channels of less than ±0.1dB.

Reports all types of overload

An unusual feature of this pre-amplifier is the overload indicating system on the front panel. This provides monitoring of the gain stages in the pre-amp. Non-linear behavior in any or all of these stages will be reported on these LED's. Overload indicators on the pre-amplifier enable the user to optimize the loudness settings of both pre-amp and amp for minimal distortion (providing your amp is also equipped with overload indicators, as is the Power Line One).

Circuit technology in the gain stages on the main chassis creates an unusually low level of noise and distortion. The IC's used were especially designed for use in audio components, and therefore require minimal additional circuitry for high-quality audio. This simplicity of design contributes to a high reliability, assuring a long, trouble-free life.

The Straight Line One is obviously one of today's better component values, combining tomorrow's sonic quality with a comfortable level of operating simplicity.

Discuss this Crown component with your dealer, or with your friends. We think you will agree its performance is simply unmatched.

The Power Line One is a simple, beautiful, practical power amplifier.

With eight ohm loads, it will deliver fifty watts per channel of pure, undistorted sound.

With four ohm loads, the Power Line One will deliver up to eighty watts per channel.

The Power Line One also converts instantly to mono (and back to stereo). With two of them, you could enjoy the stereo sound of 160 watts per channel into 8 ohm loads.

But big, big power was not our reason for building the Power Line One. If big, big power is your criteria for an amplifier, may we suggest you investigate the Crown DC-300A, the choice of many professionals, or the newer, even more powerful Crown SA-2.

Distortion-free home listening

The Power Line One is intended to function in medium power systems with high signal reproduction quality. Its designers therefore, have selected an AB + B circuit design. This concept has been proven in a number of Crown amplifier designs to optimize linearity for the rated output range of the Power Line One. It is also a cost efficient circuit design, enabling Crown engineers to easily meet the value objectives for the Power Line One.

Precision control

The exterior of the Crown Power Line One reflects the simplicity of the circuit design.

There is, of course, a power on/off switch, with associated amber LED.

Stepped rotary controls, one for each channel, provide input attenuation for precise control and resettability of level and balance.

Three sets of speakers can be driven by the Power Line One. A master output is provided for the main speakers, with two extra sets of outputs which can be switched in or out with front panel pushbuttons.

One interesting possibility (you are sure to figure out others) is to hook up a second set of speakers through a time-delay unit to simulate a "surround" sound with two-channel sources.

Visual monitoring

The Power Line One also includes an unusual monitoring capability resulting from two separate visual indication systems.

One system, a pair of vertical green and yellow LED bars, indicates peak output voltage in real time. This system makes it much easier to balance right/left outputs, and helps you evaluate how much headroom you have available.

Power line one amplifier

One very good reason for the excellence of sonic performance of the Power Line One is a test unit designed and built by Crown and called the SOAR Transistor Analyzer. The output power transistors on all Crown amps are tested on the SOAR. The test provides not just a "go/no-go" type of quality control test, but a detailed analysis of the operating area of the output device.

Each Crown output device – and Crown has tested thousands of them – has been mapped on the SOAR, and the results of many years of testing have been encoded for our computer. As a result, Crown engineers can accurately compute an optimum circuit design for a particular output device, with a minimum number of electrical components. That optimum circuit will provide maximum utilization of device capabilities with a minimum circuit. In audio circuit design, least is best.

You benefit directly from this because you get a truly distinguished amplifier for your system at an affordable cost.

A second system incorporates the IOC (Input-Output Comparator) system recently developed by Crown. The IOC system compares output and input waveforms. Differences are detected *before* they become audible distortion, and reported on large red LED's. Many different causes of distortion-overload, TIM, protection circuit activation or any behavior which generates non-linearity – can be detected. Listening pleasure is enhanced.

The IOC indicating system is also part of a DC speaker protection feature of the Power Line One. When the IOC system is triggered, a special timing and detection circuit is activated. If the signal polarity does not reverse within seven seconds, the speaker leads are automatically disconnected, protecting your speaker coils against damage from sub-sonic or DC signal components.

Consider – carefully – the specifications listed for the Power Line One. It should be obvious that Crown has crafted a unique component. Distortion of all kinds is simply not audible. Try your most demanding record on a system which includes a Power Line One. You may well hear subtle overtones, nuances that just weren't obvious before. You may discover that the Power Line One is the only acceptable companion for the Straight Line One.


crown
POWER LINE ONE
POWER
PEAK-HOLD
SPEAKER
1
2
LEFT
VOLUME
RIGHT
40
30
20
0
dB
0
20
10
0

ONE
LEFT
30
40
50
dB

crown
POWER LINE ONE
MONO
MODE
STEREO
REMPLACER SEULEMENT
REPLACE ONLY WITH
MONO
SPK. 1
SWITCHED OUTPUTS
SPK. 2

SELECTED SPECIFICATIONS

For complete specifications, consult the product manual at your Crown dealer.

STRAIGHT LINE ONE

SWITCHING MODULE

Frequency Response: ±0.1dB 10Hz-20KHz with IHF load.

Phase Response: ±10 degrees 20Hz-20KHz with IHF load.

Hum and Noise: 97dB below rated output 20Hz-20KHz. 101dB below rated output A weighted.

***Intermodulation Distortion:** Less than 0.00055% at rated output with IHF load (60Hz-7KHz 4:1).

***Total Harmonic Distortion:** Less than 0.0003% at 1KHz. Less than 0.0009% 10Hz-20KHz at rated output with IHF load.

†**NTIM Distortion** (10K load): <.0035% @ 2.5v peak equiv. level.

Inputs: Four high level plus two tape monitors.

Input Impedance: 25K ohms ±10%.

Input Gain: 20dB ±0.5dB with IHF load.

Output Impedance: Main outputs 600 ohm.

Output Voltage: 2.5 volts rated output with IHF load. 10 volts before overload.

Volume Control: Precision switched control with 58dB (and off) dynamic range.

Muting: Delays output turn on by 7 seconds.

Low Filter: Active filter −3dB at 33Hz with 18dB per octave roll off.

AC Outlets: Four switched with 25A switch and one unswitched.

Dimensions: 19 x 3½ x 7¾ in. (48.2 x 8.9 x 19.6 cm). Front panel fits EIA 19″ rack.

PHONO MODULE

Frequency Response: ±0.5dB of RIAA, 20Hz-20KHz

Phase Response (10K load): Within ±5°, 20Hz-20KHz (RIAA); +2°, −12°, 20Hz-20KHz (flat).

Hum & Noise: (dB below 10mv input, inputs shorted, 20Hz-20KHz)

	Unweighted	A weighted
RIAA	88	94
Flat	84	89

***Intermodulation Distortion** (10K load, SMPTE analyzer): <.0005% @ 2.5v out (switch in flat).

***Total Harmonic Distortion** (10K load): <.002%, 20Hz-20KHz @ 2.5v out.

†**NTIM Distortion** (10K load): <.0004% @ 2.5v peak equiv. level.

Input Gain: Adjustable from 30 to 50dB, 2.5v @ 1KHz for rated output @ max. gain.

Input Impedance: 47 or 100K ohms, switch selectable. Parallel capacitance at input jack less than 5pf.

Input Overload: 33-330mv @ 1KHz depending on gain. 100mv @ 40dB gain.

Output Impedance and Voltage: 600ohms with max. 11v RMS, 20Hz-20KHz, 10K load.

Dimensions: 1¾ x 4¼ x 5¾ in. (4.5 x 10.8 x 14.6 cm).

POWER LINE ONE

STEREO

Output Power: 50 watts per channel minimum RMS (both channels operating) into an 8 ohm load over a bandwidth of 20Hz-20KHz at a rated RMS sum total harmonic distortion of 0.05% of the fundamental output voltage.

80 watts per channel minimum RMS (both channels operating) into a 4 ohm load over a bandwidth of 20Hz-20KHz at a rated RMS sum total harmonic distortion of 0.07% of the fundamental output voltage.

Frequency Response: ±0.1db 20Hz-20KHz at rated power into 8 ohm load +0, −3.0dB 5Hz-100KHz at rated power into 8 ohm load.

1 KHz Power: 60 watts RMS into 8 ohms per channel with both channels operating, 0.01% total harmonic distortion.

***Harmonic Distortion:** Less than 0.001% from 20Hz-400Hz, and increasing linearly to 0.05% at 20KHz at 50 watts RMS per channel into 8 ohms.

***I.M. Distortion:** Less than 0.00095% from 0.25 watt to 50 watts into 8 ohms per channel (1 part in 10 billion by watts).

†**NTIM Distortion:** <.0035% @ 50w/ch peak equiv. level, 8 ohms.

Damping Factor: Greater than 400, DC-400Hz into 8 ohms at main output.

Load Impedance: Rated for 8 and 4 ohm usage. Safely drives any load including reactive loads.

Voltage Gain: 20.6±2% or 26.3dB at maximum gain.

Input Sensitivity: 1.0 volts for 50 watts into 8 ohms.

MONO

Output Power: 100 watts minimum RMS into a 16 ohm load over a bandwidth of 20Hz-20KHz at a rated RMS sum total harmonic distortion of 0.07% of the fundamental output voltage.

160 watts minimum RMS into an 8 ohm load over a bandwidth of 20Hz-20KHz at a rated RMS sum total harmonic distortion of 0.10% of the fundamental output voltage.

Frequency Response: ±0.1dB 20Hz-20KHz at rated power into 16 ohm load +0, −3.0dB 5Hz-100KHz at rated power into 8 ohm load.

1 KHz Power: 120 watts RMS into 16 ohms, 0.02% total harmonic distortion.

***Harmonic Distortion:** Less than 0.0015% from 20Hz-400Hz, and increasing linearly to 0.07% at 20KHz at 100 watts RMS into 16 ohms.

***I.M. Distortion:** Less than 0.0015% from 0.25 watt to 100 watts into 16 ohms (2 parts in 10 billion by watts).

†**NTIM Distortion:** <.005% @ 100w peak equiv. level, 16 ohms.

Damping Factor: Greater than 400, DC-400Hz into 16 ohms at main output.

Load Impedance: Rated for 16 and 8 ohm usage. Safely drives any load including reactive loads.

Voltage Gain: 41.2 ± 2% or 32.3dB at maximum gain.

Input Sensitivity: 1.0 volts for 100 watts into 16 ohms.

GENERAL

Hum and Noise: 110dB below rated output (20Hz-20KHz). 115dB below rated output A weighted.

Phase Response: +10 to −15 degrees 20Hz to 20KHz at 1 watt.

Input Impedance: 25K ohms ±30%

Amp Output Protection: Short, mismatch, and open circuit proof. V-I limiting is instantaneous with no annoying thumps, cutout etc.

Overall Protection: AC line fuse. Controlled slewing rate voltage amplifiers protects against RF burnouts. Input overload protection is furnished by internal resistance at inputs of amp. DC protection on switched outputs.

Turn On: Main output is instantaneous with minimum thumps and no program delay. Switched outputs are delayed 7 seconds.

Heat Sink: Internal aluminum heat sink with no external sharp corners.

Chassis: Plated steel construction.

Controls: Two rotary input level controls with detents, two pushbutton speaker switches and power switch on the front panel. Back panel stereo-mono slide switch.

Connectors: Input – phono jack, Main Output – color coded binding posts, Switched Outputs – spring clip posts.

Dimensions: 19 x 3½ x 12¼ in. (48.2 x 8.9 x 30.1 cm). Front panel fits EIA 19″ rack.

*The levels noted have been measured on custom test equipment developed at Crown. Commercially available equipment or test laboratories may not be able to duplicate these results. Contact Crown for details.

†NTIM (Noise Transfer Intermodulation) Distortion is a high frequency distortion test using a white noise test signal simulating music. The NTIM test provides a realistic evaluation of such distortion elements as TIM and SID.

Crown products are exported under the brand name "Amcron."

Printed in U.S.A.

crown

1718 W. Mishawaka Road, Elkhart, Indiana 46514

American innovation and technology...since 1951.