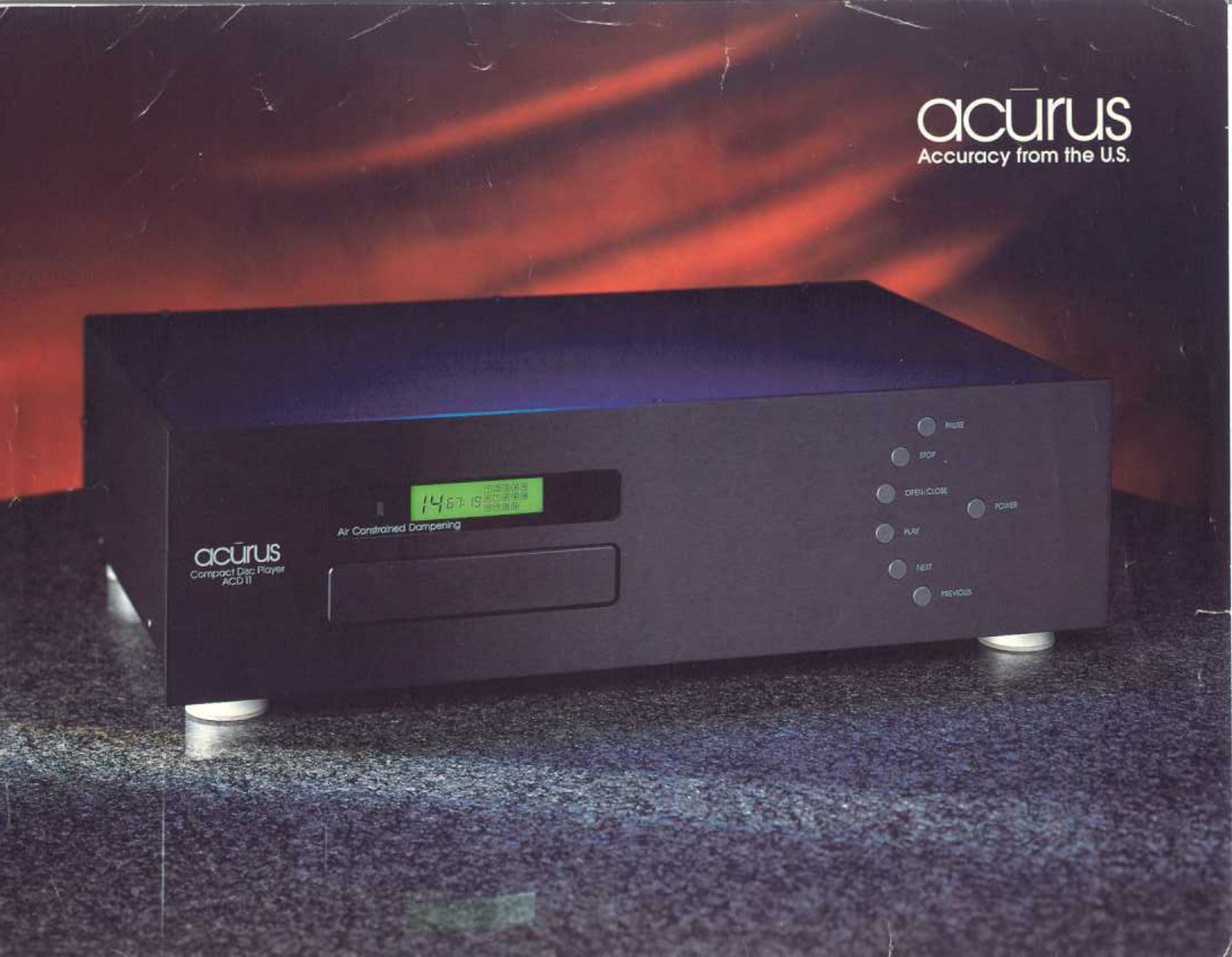
acūrus
Accuracy from the U.S.
acūrus
Compact Disc Player
ACD 11
Air Constrained Dampening
PAUSE
STOP
OPEN/CLOSE
POWER
PLAY
NEXT
PREVIOUS

At Acurus we understand that a CD player requires a combination of electronic and mechanical optimization for superior operation. The key is to retrieve all the detail available in digital recordings while exhibiting exceptional musicality. This brochure will explain the expense that went into engineering and constructing our goal. When quality is compared to price, you will understand why the U.S. made Acurus is internationally acclaimed as the best value in audio.

THE CD DRIVE

The ACD-11 has a highly advanced drive. The finest glass optics are used to focus the laser. Unlike the usual plastic lenses, glass provides years of consistent focus and reliability because it is not affected by heat and environmental pollution. The clamping mechanism covers a far larger area of the disc than is typical of CD drives, to assist in providing vibration control and therefore, accurate focus of the laser. Because the drive is mechanical, and subject to the problems posed by resonance (as are all mechanical devices) its performance is directly affected by the chassis in which it is mounted.

THE CHASSIS

The rigidity of the chassis is important in controlling the vibrations which can be transmitted to the disc, the laser and the lens. The greater the rigidity the less the flex. This is the latest thinking in automotive technology and is how the worlds most advanced automotive chassis are engineered. Less chassis flexing provides greater isolation from vibrations transmitted to the drive and disc. The steel forming the ACD-11 chassis is over 75% thicker than the typical CD player. Added to this heavy gauge steel are resonance dampening panels. These panels also borrow from automotive chassis technology in that they are tuned to damp out the steels natural resonant frequency. This extremely rigid and resonance free chassis is then placed upon the most advanced suspension system ever created for a CD player or drive.

AIR CONSTRAINED DAMPENING™

ACD stands for Air Constrained Dampening, the highly advanced suspension system of Acurus' ACD-11. At the core of the suspension system is a newly developed microcellular elastomer. This microcellular elastomer dampens vibration by deflecting energy and thereby reducing the amplitude of resonance. While damping lessens the effects of resonance, isolation avoids resonance entirely by controlling a structure's natural frequencies. The effective spring constant of an isolation mount depends on mount geometry and the modulus of the isolation material. By controlling the density and thickness of the elastomer the effective spring constant is controlled to provide the proper spring rate for the suspension. A unique property of Acurus' microcellular elastomer is that its energy deflective abilities are the same whether compressed or uncompressed. This is important since it is required to continuously deflect vibrations rather than a single impact. In addition, its temperature resistance and extremely low outgassing mean it will retain its damping and isolation capabilities far longer than other materials.

THE ACD CHASSIS SUSPENSION

The entire chassis is suspended on a cushion of air. This suspension prevents external vibrations, such as sound waves, from affecting the drive, disc and laser focus. Each arm of the suspension utilizes three layers of the microcellular elastomer in constrained form. The bottom layer isolates the solid aluminum arm from its area of surface contact, in much the same way that an automobile's tire absorbs some shock prior to the vibration arriving to the suspension system. The next layer isolates the solid aluminum arm from the chassis, the same as an automobile's spring isolates the solid aluminum arm, attached to the wheel, from the chassis. Finally, the top layer of elastomer is constrained inside the chassis, eliminating any direct contact between the aluminum arm and the chassis, in the same manner that air or nitrogen springs in advanced suspensions are the only contact between the aluminum arm and the chassis.

THE TRANSPORT SUSPENSION

The transport or CD drive has a suspension in addition to the chassis suspension, creating a double isolation system. The drive is mounted on a separate constrained air dampening suspension, which isolates it from the chassis. There is no direct contact of the drive to the chassis. In addition to this air suspension, a coil spring suspension sits above the microcellular elastomer at each corner of the drive. To further prevent vibrations from effecting the compact disc and laser focusing mechanism, damping material is added directly to the drive. The result is an unprecedented clarity of focus which is clearly audible during playback.

THE DIGITAL TO ANALOG CONVERTER

The one bit digital to analog converter portion is mounted directly to the drive for the shortest possible signal path. This eliminates signal path induced jitter. As is typical of Acurus components the analog stage consists of a glass epoxy circuit board, one percent tolerance metal film resistors and tight tolerance poly capacitors. This creates a fully discrete analog stage at a level found only in costly external D/A converters. To protect the other components in your system from digital noise entering through the AC line, a line filter is added to the ACD-11's power supply.

ACD11

Compact Disc Player

SPECIFICATIONS

Frequency Response:
5Hz-20kHz ±0.3dB

Total Harmonic Distortion:
0.005%

Signal to Noise Ratio:
100 dB A weighted

Dynamic Range:
92 dB

Channel Separation:
88 dB

Output Voltage:
2 Volts

Oversampling Rate:
32X

Digital Output:
Coaxial

Remote Functions:
Stop, Play, Pause, Program, Random, Track Number, Scan, Repeat, Search, Display Light On/Off

Dimensions:
17"W x 5"H x 11" D

19" front panel optional

Weight:
20 lbs.

MONDIAL DESIGNS LIMITED
20 Livingstone Avenue, Dobbs Ferry, NY 10522
914-693-8008