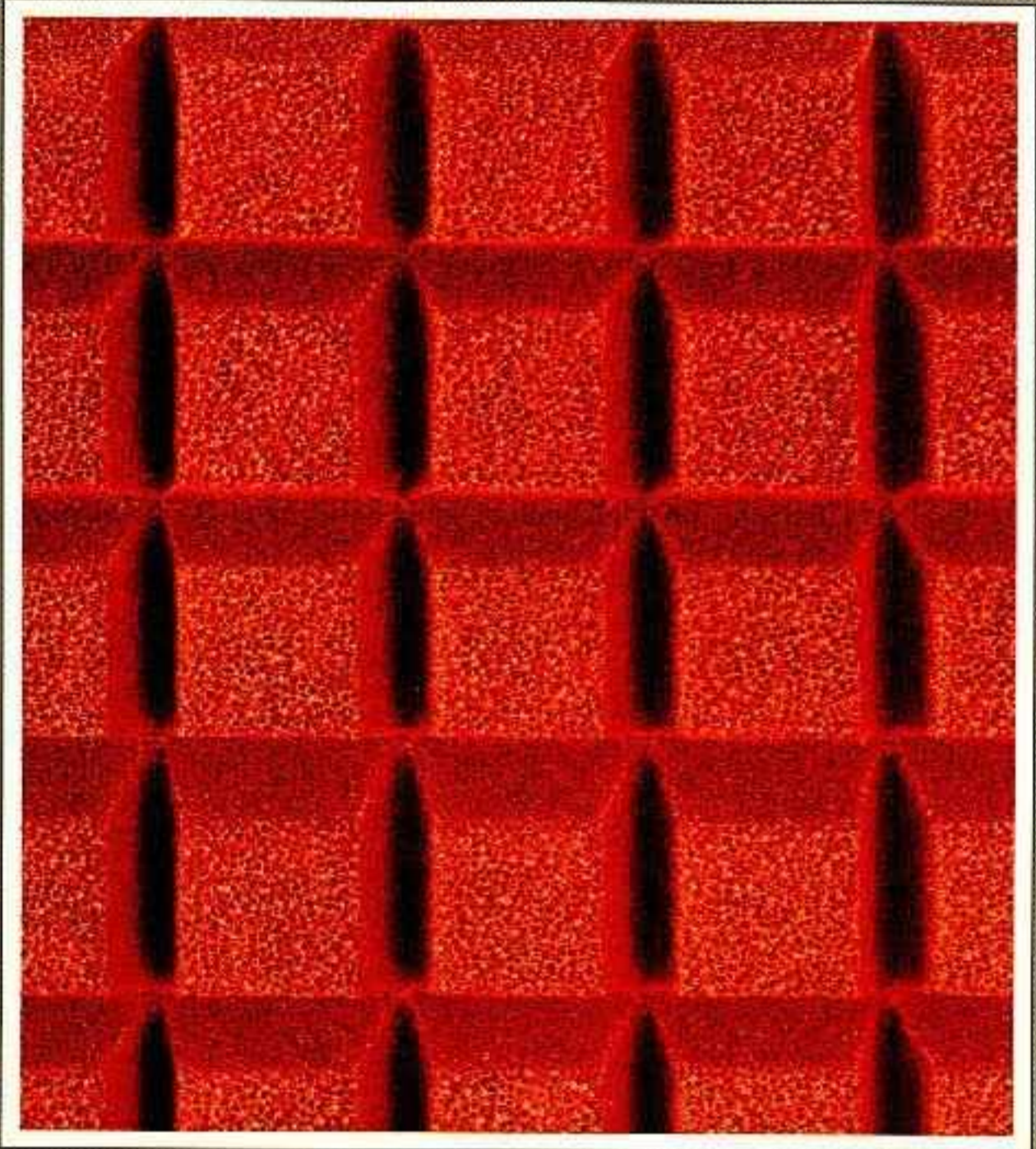
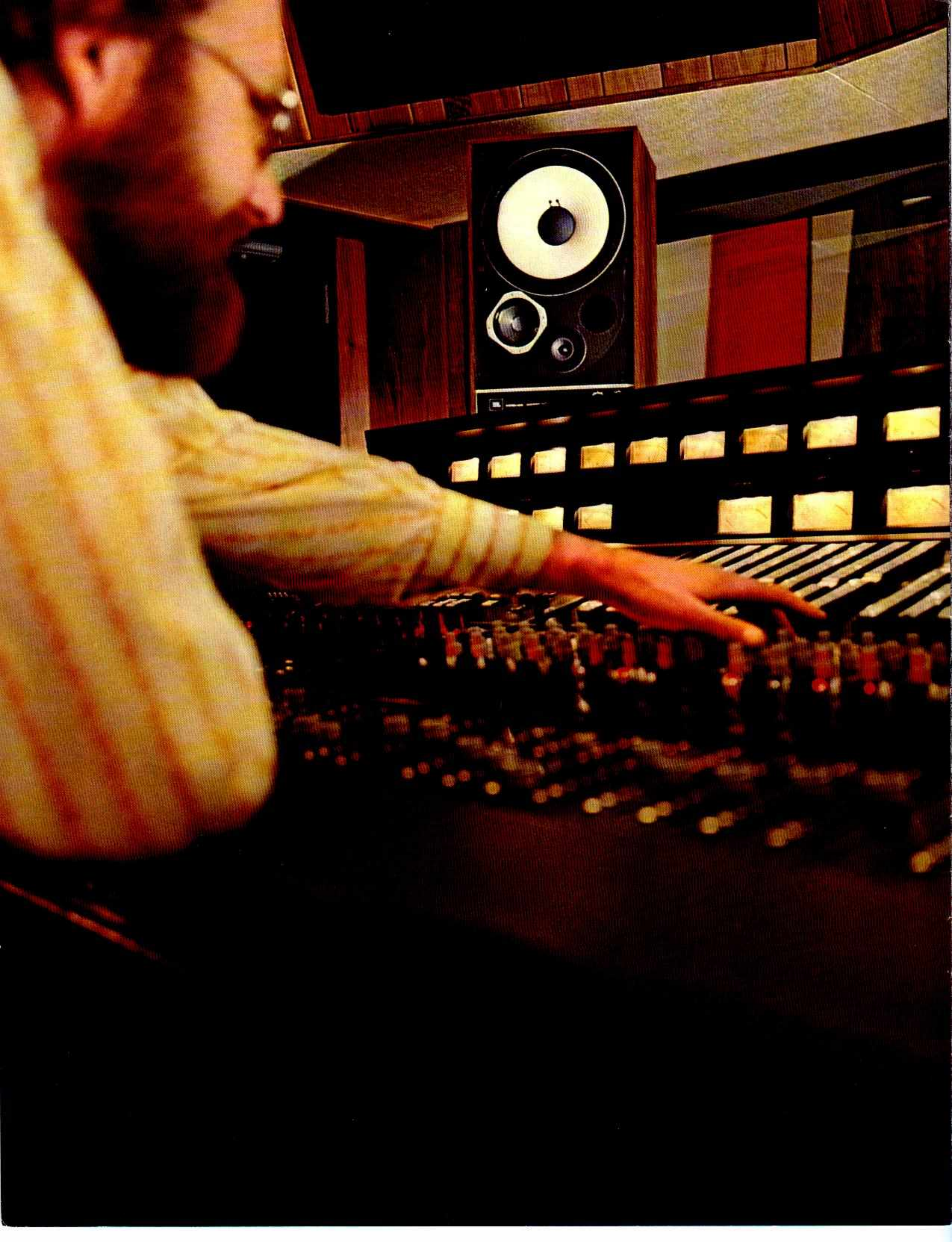


**The L100 Century  
by JBL**





The L100 Century is the most successful bookshelf loudspeaker ever produced by JBL. It may be the most successful loudspeaker in its class ever produced by anyone.

But we don't expect you to take our word alone. The plain fact is that the L100 was offered for home use only after it proved to be a runaway bestseller with studio recording engineers—the most demanding listeners you'll ever find.

This professional acceptance was no accident. The speaker was originally developed and offered for sale as a control monitor for recording studios.

Now we're going to tell you how it became the JBL Century L100.

### **What is a loudspeaker for?**

Twenty years ago the goal of high-fidelity components was to reproduce "concert hall realism." But most present-day recording techniques no longer attempt to recreate a live performance. Instead, a new musical experience is created in the recording studio control room using advanced technical means to expand the sound spectrum. Sounds you can experience only on a record. Sounds which could never exist in a live concert.

Recreation of the final mixdown of the recording session has become the goal of modern home music systems and their loudspeakers.

The brief explanation in these pages is intended to help you understand how the L100 Century can realize the full potential in your recordings.

You will also get a glimpse into the dedication to excellence that has earned JBL a position of leadership in producing loudspeaker systems for recording studios, concert halls, amplified musical instruments and, most of all, for the home.

### **The recording studio. JBL is there.**

More than eight out of ten record albums sold today are popular or rock music. How are those albums made?

At each recording session (perhaps rhythm section and vocalists at one, instrumental soloists at another, and still other instrumentalists at a third session) the engineer listens for the clarity and vividness of individual sounds using the monitor loudspeakers in his control room as his sole basis for judgment.

Leaving considerations of balance and shading for later, he tries to get as much musical sound as possible onto each track of his tape by "close miking" techniques (you put the mike in the drum, so to speak).

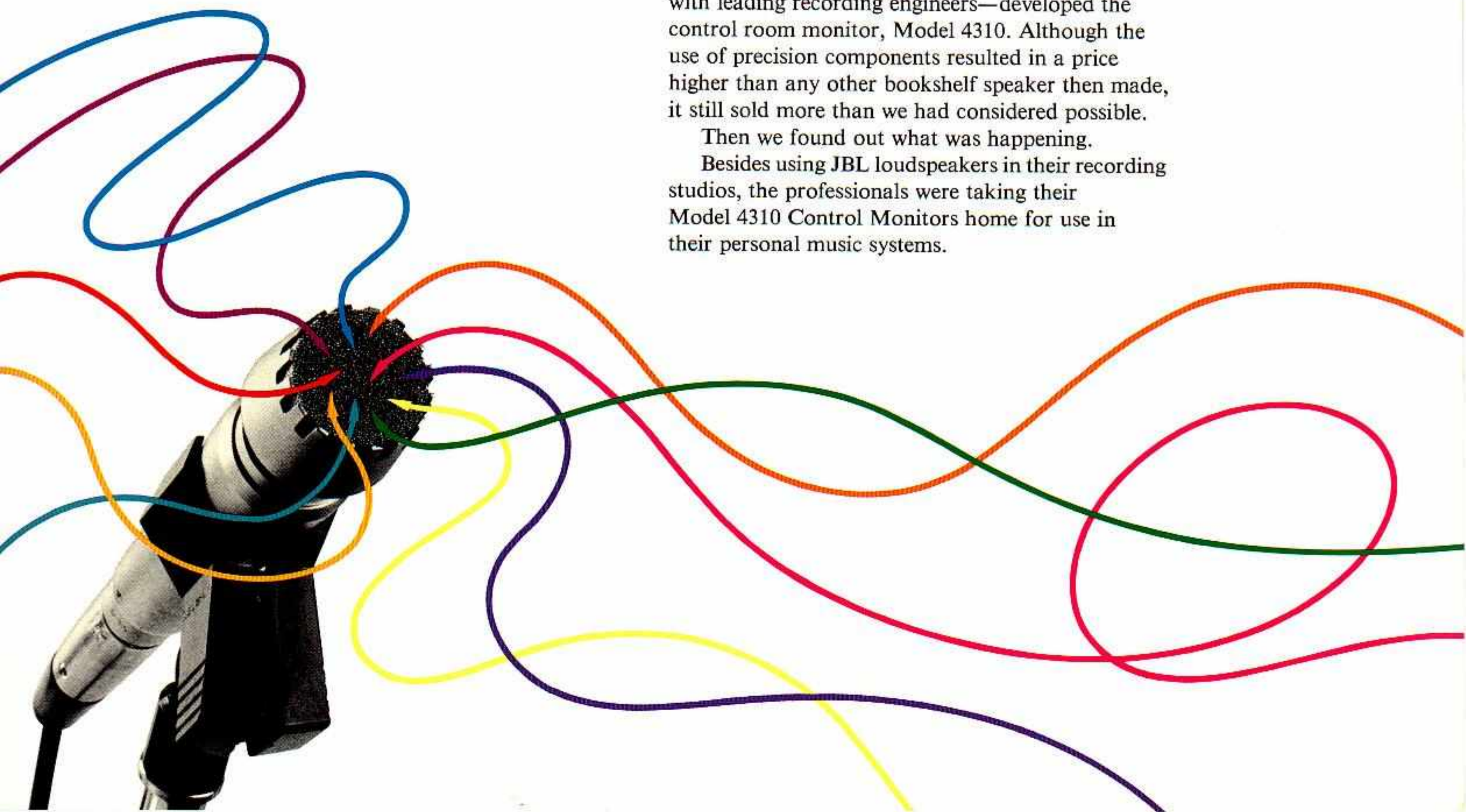
The studio monitor loudspeakers are critical in determining microphone placement during the recording, and what sounds go onto each track of the tape. It is the studio monitor that tells the recording engineer and the record producer what raw materials (sounds) they've captured and can work with. And after hours of mixdown sessions; after as many as sixteen individual tracks, altered for effect, are combined into the final stereo or quadraphonic tracks—it is the same studio monitor that tells those experts what the finished recording truly sounds like.

So recording professionals demand monitors that can deliver clean, crisp, wide-range performance (even at very loud levels), extremely lifelike vocal reproduction, and powerful bass fundamentals. The need for many monitors in the equipment-jammed control booth frequently dictated the use of a compact, bookshelf size unit.

To meet those demands, JBL—in cooperation with leading recording engineers—developed the control room monitor, Model 4310. Although the use of precision components resulted in a price higher than any other bookshelf speaker then made, it still sold more than we had considered possible.

Then we found out what was happening.

Besides using JBL loudspeakers in their recording studios, the professionals were taking their Model 4310 Control Monitors home for use in their personal music systems.





**JBL**

MODEL 4311 CONTROL MONITOR

PRESENCE  
PILANCE

JBL  
CROSSOVER

JBL  
CROSSOVER

4311

## Out of the studio and into the living room.

With the success of the Model 4310, JBL did just what you would expect. We developed a handsomely styled equivalent of the utilitarian 4310 Control Monitor. With an oiled walnut enclosure and a colorful sculptured grille made of open-pore foam—the same material used for microphone windscreens.

This speaker was the original JBL Century L100. At \$273 it was one of the most expensive bookshelf loudspeakers made, yet with many thousands in use, the largest-selling product in the JBL line.

## Choose one: (a) Rest on laurels or (b) Tamper with success.

The people who bought those Century L100 speakers were delighted. The only people not satisfied were us.

As you will read a little farther on, our product development engineers are also our product-improvement experts. And they set out to make a runaway success even better.

It wasn't easy. It took a better tweeter (a high-frequency direct radiator with a smaller cone for wide dispersion), a shift in crossover frequencies, and other improvements even more subtle.

When our engineers' ears told them they had succeeded, they asked some other experts if they agreed.

They agreed. Top recording engineers from studios like Warner Brothers and Elektra Records compared the sound of the 4310 Control Monitors they used every day, with the sound of the new version of our Century L100 home loudspeakers, and concluded that:

*The New L100 Century represents a significant advance beyond the JBL studio monitor which was being used industry-wide.*

Then, of course, the recording studio engineers demanded a studio version of the new speaker. We were obliged to oblige and soon offered them a Model 4311 Control Monitor, acoustically equal to the new, improved Century L100. How's that for a turn around?

To you we offer the new, improved L100 Century—with the pride that comes from knowing that "new, improved" really means what it says; constructive changes confirmed by the professional judgment of recognized experts in the recording business.

## With all the brands of loudspeakers around, it's surprising how few manufacturers there are.

You'd probably be surprised to learn how many of the "famous name brands" buy their speakers from any of a half-dozen manufacturers of mass-produced loudspeakers.

You'd probably be surprised to learn how many of them buy enclosures from somebody else.

And some of them even hire somebody to put the speakers in the enclosures for them.

At JBL we make and assemble all our own components. We always have and we always will.

## With all the high price tags around, it's surprising how little it costs to make some of those speaker systems.

The loudspeakers themselves in some of those "famous name brand" products actually cost less than the wooden enclosures they're housed in.

At JBL we make acoustically correct and visually pleasing enclosures. They aren't cheap. But they can't rank in cost with the speakers that go inside.

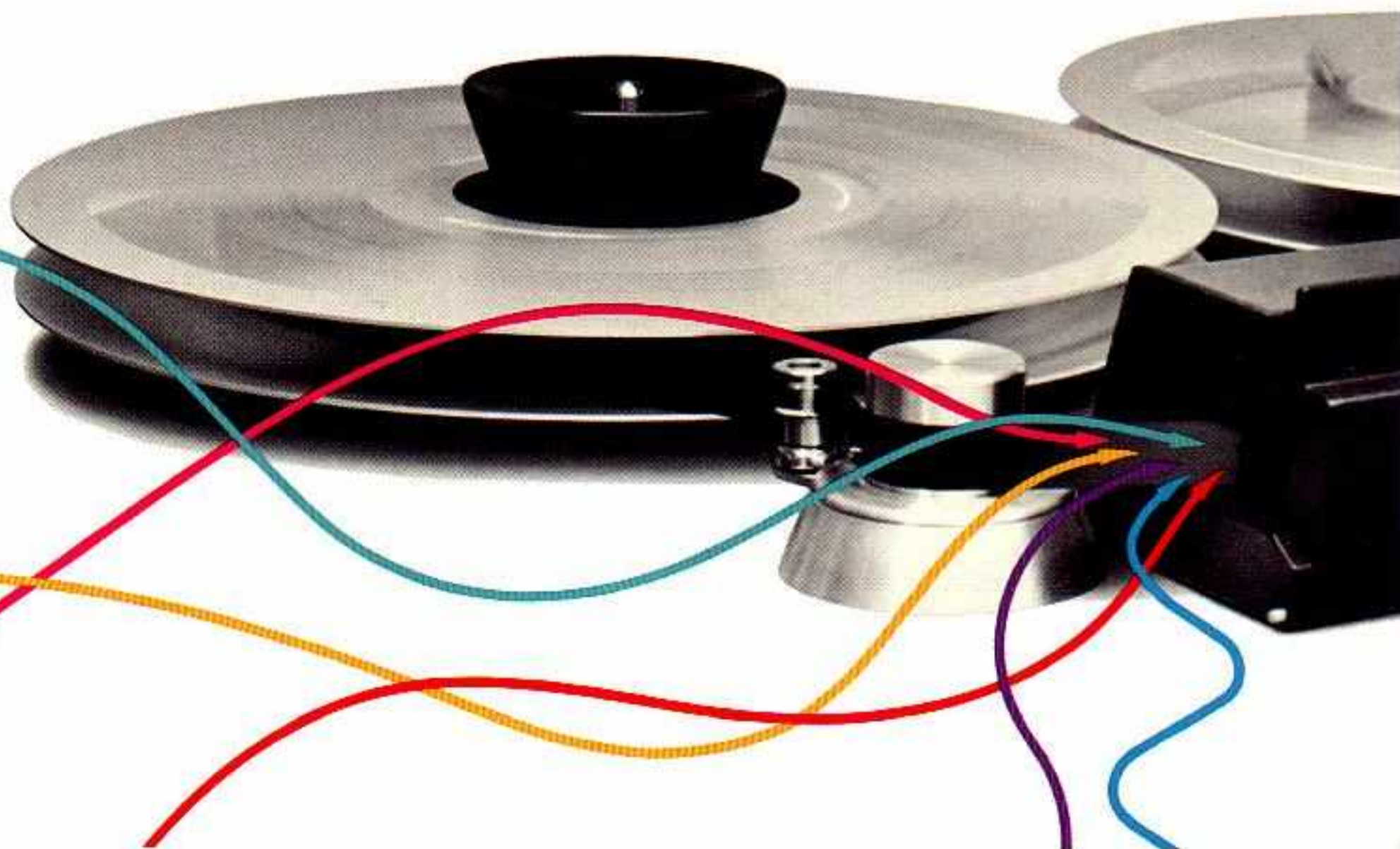
## The engineering story.

JBL has a loudspeaker engineering department with many vital responsibilities: product development and product improvement for studio monitors, for speaker systems to reinforce live concerts, for musical instruments and for home entertainment.

JBL engineers work in all areas of loudspeaker technology. The atmosphere is creative. It is no surprise that creative products and product improvements like the L100 Century emerge.

We design all our own speaker systems. Then we get busy proving that we're the only ones able to improve on our original designs.

That is one thing we don't expect to change.



In our engineering department JBL loudspeakers are designed better. That is not our final goal; it is an important means to an end.

In our factory JBL loudspeakers are built better. Again, that is not our goal, but a means to an end.

The goal—and the fact—is that JBL loudspeakers sound better. To recording engineers. To professional musicians. To concert audiences. And, we hope, to you.

That is the end.

### **Technical information.**

*Low frequency*—Music below 1500 Hz is reproduced by a powerful 12-inch, long excursion loudspeaker with a 3-inch edgewound copper ribbon voice coil, massive magnetic assembly, and large Alnico V magnet. The cone is molded in a shape which makes possible uniform wide angle distribution of the full low frequency range, and is coated with an exclusive damping compound (the reason for the cone's white color) which prevents unwanted reverberations traveling within the cone material. An enclosure with a tuned port is employed to optimize bass efficiency and dynamic range.

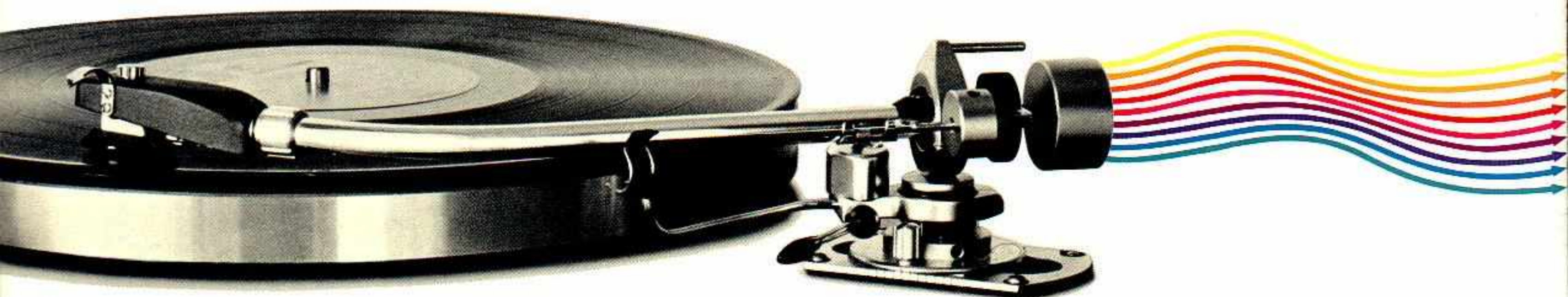
*Midrange*—Vocals and midrange sounds are reproduced by a 5-inch transducer having high sensitivity and power handling capacity. A  $\frac{7}{8}$ -inch copper voice coil, suspended in an intense magnetic field provided by a 2.75-pound magnetic assembly energized by an Alnico V magnet, drives the midrange transducer.

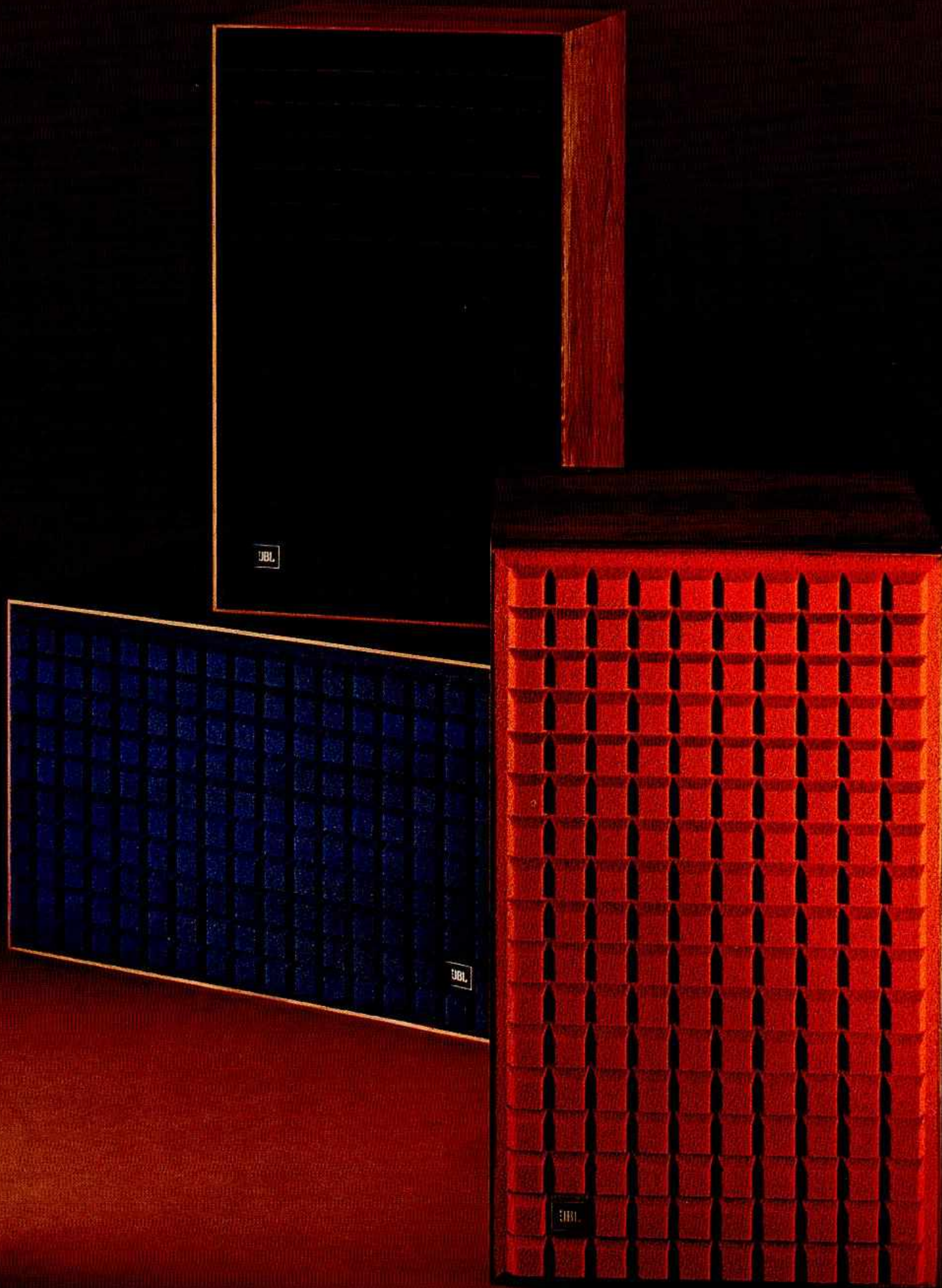
*High frequency*—Delicate treble fundamentals, overtones and harmonics above 6000 Hz are reproduced by a 1.4-inch direct radiator. Its  $\frac{5}{8}$ -inch copper voice coil is unusually large in relation to cone diameter, for greatest efficiency and transient response. Suspending the outer edge of the cone assembly with an impregnated cloth and surrounding the entire dynamic structure with a ring of dense foam eliminates unwanted radiations and reflections. The small surface of the cone and center dome is responsible for uniform high frequency dispersion.

*Dividing network*—The function of the network is far more complex than merely diverting low and high notes to a woofer and tweeter respectively: it wastes none of the power that should be used to drive the loudspeakers; it precisely controls each speaker's operation in the transition frequency range. Controls on the front of the cabinet, behind the removable foam grille, permit adjusting midrange and high frequency levels for greater or less audible output in relation to the bass.

*Power handling capacity*—The specified power handling capacity indicates the continuous program level that can be accepted by a JBL loudspeaker system without damage. Its peak power handling capacity is considerably greater than the continuous rated value, as reflected in the remarkable transient response of JBL loudspeaker system components. The L100 will produce clean sound at comfortable listening levels when driven by an amplifier having an output of as little as 10 Watts RMS per channel. However, for reproduction of the full dynamic range of contemporary recordings at high volume, a quality amplifier delivering up to 150 Watts RMS per channel will provide optimum performance. Such an amplifier has the reserve power necessary for accurate reproduction of transients, which can reach momentary peaks equivalent to ten times the average power level. In almost all cases, the volume level generated by a JBL loudspeaker will become noticeably discomforting to the ear before the loudspeaker can be damaged by excessive power from the amplifier.

*Enclosure*—Only furniture hardwoods, hardwood veneers, and compressed woods are used. Tight, wood-welded, hand-fitted joints eliminate undesirable resonance and warpage. Hand-rubbed oiled walnut finish on all four sides permits the L100 Century to be placed in either an upright or horizontal position.





JBL attributes major importance to the validity of published information. Rather than repeat the ambiguity of most technical specifications, JBL has traditionally refrained from listing data for which no widely-accepted test procedure has been established. In the absence of such standards any well-equipped laboratory can legitimately produce a variety of frequency response curves for a loudspeaker, depending on the conditions selected. At JBL the final analyses are comprised of extensive listening sessions. Although laboratory data are an integral part of the process, the trained ear is the ultimate criterion. The success of this philosophy is reflected in the enthusiastic acceptance of JBL systems by recording studio engineers, producers and performers—professionals whose artistic achievements are closely related to the equipment they use.

JBL continually engages in research related to product improvement. New materials, production methods and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description but is always warranted to equal or exceed the original design specifications unless otherwise stated.



James B. Lansing Sound, Inc.  
3249 Casitas Avenue  
Los Angeles, California 90039

Power Capacity*	50 Watts continuous program
Nominal Impedance	8 ohms
Crossover Frequencies	1500 and 6000 Hz
Efficiency	1 Watt input produces 78 dB Sound Pressure Level at a distance of 15'
<i>(Note: 75-80 dB is a comfortable listening level.)</i>	
<b>Low Frequency Loudspeaker</b>	
Nominal Diameter	12 inches (30 cm)
Voice Coil	3-inch (7.6 cm) edgewound copper ribbon
Magnetic Assembly Weight	6.75 pounds (3.1 kg)
Flux Density	10,400 gauss
Sensitivity**	42 dB
<b>Midrange Transducer</b>	
Nominal Diameter	5 inches (13 cm)
Voice Coil	7/8-inch (2.2 cm) copper
Magnetic Assembly Weight	2.75 pounds (1.2 kg)
Flux Density	16,500 gauss
EIA Sensitivity	46 dB
<b>High Frequency Direct Radiator</b>	
Nominal Diameter	1.4 inches (3.6 cm)
Voice Coil	5/8-inch (1.6 cm) copper
Magnetic Assembly Weight	1.6 pounds (0.7 kg)
Flux Density	15,000 gauss
Sensitivity***	47 dB
Finish	Oiled Walnut
Grille Color Options	Ultra Blue, Chocolate Brown or Burnt Orange
Dimensions	14 1/4" x 23 1/2" x 13 5/8" deep 36 x 60 x 35 cm deep
Shipping Weight	55 lbs (25 kg)

\*Based on a laboratory test signal. See Power Capacity section for amplifier power recommendation.

\*\*Since the major portion of the energy reproduced by the low frequency loudspeaker lies below 800 Hz, this specification has been developed by using a test signal warbled from 100-500 Hz, rather than the conventional 1-kHz sine wave test signal on which EIA sensitivity rating is based.

\*\*\*Averaged above 2 kHz.