

*the ultimate in* **FIDELITY**  
*of music reproduction...*



*Klipschorn*<sup>®</sup>

CORNER  
HORN  
LOUDSPEAKER  
SYSTEM







Klipschorn

CORNER  
HORN  
LOUDSPEAKER  
SYSTEM

NINE FULL OCTAVES  
TRUE TONE REPRODUCTION  
SMOOTH RESPONSE

*You are in the concert hall...*  
**AT HOME**

THE CRESCENDO OF FULL ORCHESTRA, the slightest touch of bow on string, the explosion of drum, or tinkle of triangle — these are reproduced through the Klipschorn loudspeaker just as you would hear them in the original performance.

Throughout its range of nine octaves — more than the human ear can hear — the Klipschorn system responds with definition of tone, free from distortion. The bass is true without boom; the treble accurate without artificial “hi-fi” effects, the middle range precise without “muddiness.” For the Klipschorn system is more than just a “high fidelity” speaker — it is the nearest approach to a true sound reproduction system yet developed.

Designed for discriminating listeners, the Klipschorn system has become the acknowledged standard of all loudspeakers — the choice of famous conductors and recording artists.

#### RE-PRODUCES THE ORIGINAL MUSIC

THE FIDELITY OF THE KLIPSCHORN SYSTEM has been demonstrated by supplementing laboratory pressure tests with listening tests. A typical listening test involves recording a violin or piano in the presence of a group of critical listeners. Then the recording is played back on a Klipschorn speaker. While the artist alternates with the playback the original and playback are compared. The audience usually is unable to distinguish between original and reproduced sound.


#### FIDELITY -- NOT "HI-FI"

HIGH FIDELITY IS AT BEST A MISNOMER (it can be neither “high” nor “low,” but fidelity or infidelity!). It is frequently mis-applied to speakers with a shrill piercing quality. The Klipschorn system, on the other hand, is designed for accurate reproduction of original sound without bizarre artificial “hi-fi” effects.

#### RESULT OF INTENSIVE RESEARCH

THE KLIPSCHORN SOUND REPRODUCER is the culmination of fifteen years' research and development by the acoustics and electronics authority, Paul W. Klipsch. It comprises three horn speakers with drive units chosen after testing of principal foreign and domestic makes. Laboratory and listening tests have proven that the combination now used offers a closer approach to fidelity than any other combination of any number of speaker elements available.

THE KLIPSCHORN WOOFER, developed, patented and manufactured by Paul W. Klipsch, comprises a folded modified-exponential horn with the corner walls of a room forming the final flare. A feature is the coordinated design of the back air chamber. The combination of horn and air chamber affords an octave more bass range than the same horn alone. This combination, with exploitation of the corner principle, offers a lower cut-off of less than 30 cycles, contrasted with 50 cycles for theater speakers of four to eight times the size of the Klipschorn system.

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THE KLIPSCHORN SQUAWKER, also patented and manufactured by Klipsch, has undergone more years and hours of development than any other part of the Klipschorn system. It is also modified-exponential in design with a special wide angle astigmatic flare which distributes mid-range sounds uniformly.

THE TWEETER HORN is integral with the tweeter drive motor, and involves astigmatic flare of near-exponential taper.

## PRODUCT OF SKILLED CRAFTSMANSHIP

KLIPSCHORN SYSTEMS ARE INDIVIDUALLY FABRICATED and finished under the personal supervision of Paul W. Klipsch. Acoustic elements are accurately formed and fitted in strict accordance with the authentic Klipsch design. Wood parts are made of proper grades of water resistant plywood. Structural joints are bonded with modern adhesives, and employ several gross of screws plus additional fastenings to insure the air tight structure essential to proper back air chamber function.

STYLED

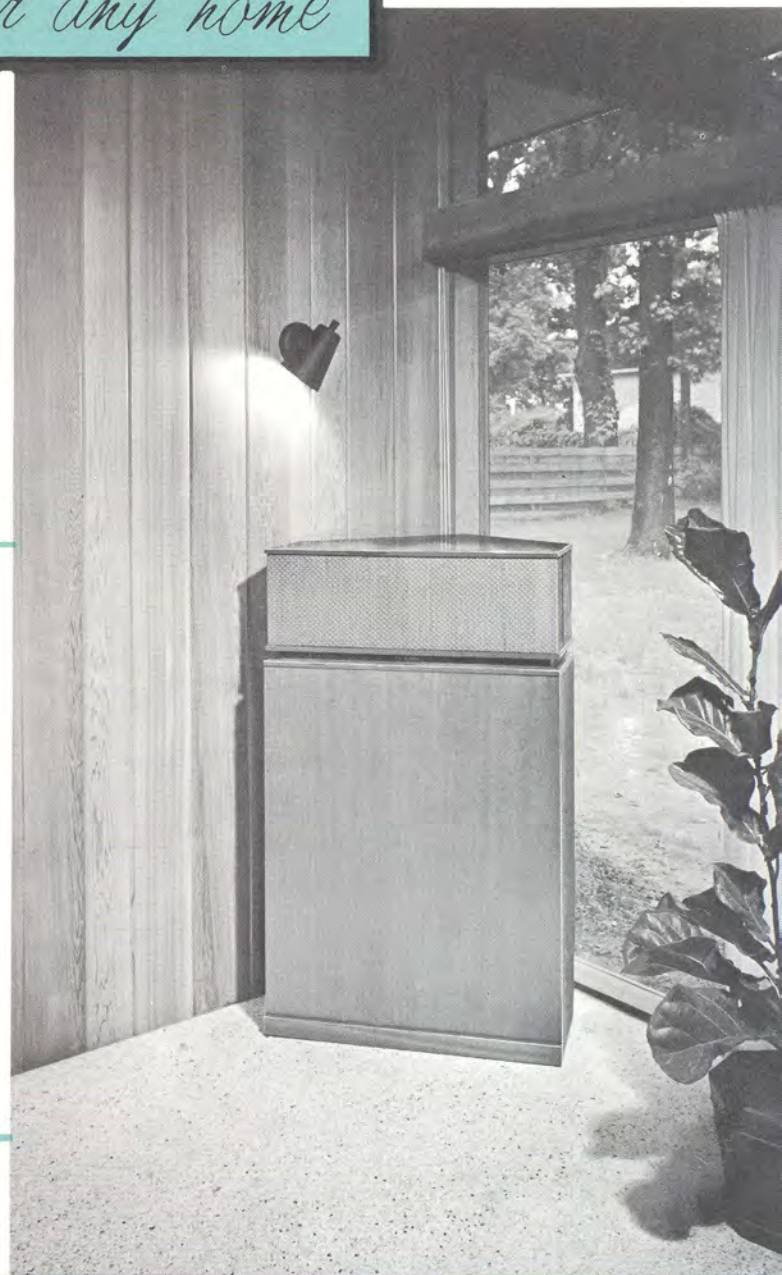
*for any home*

KLIPSCHORN SPEAKERS ARE OFFERED IN A VARIETY OF STYLES and finishes including mahogany, prima vera\*, birch, and fir; colors from blond to dark and finishes from hand-rubbed to unfinished. Their form is an expression of function and, like that of the grand piano, offers a unique idiom of design.

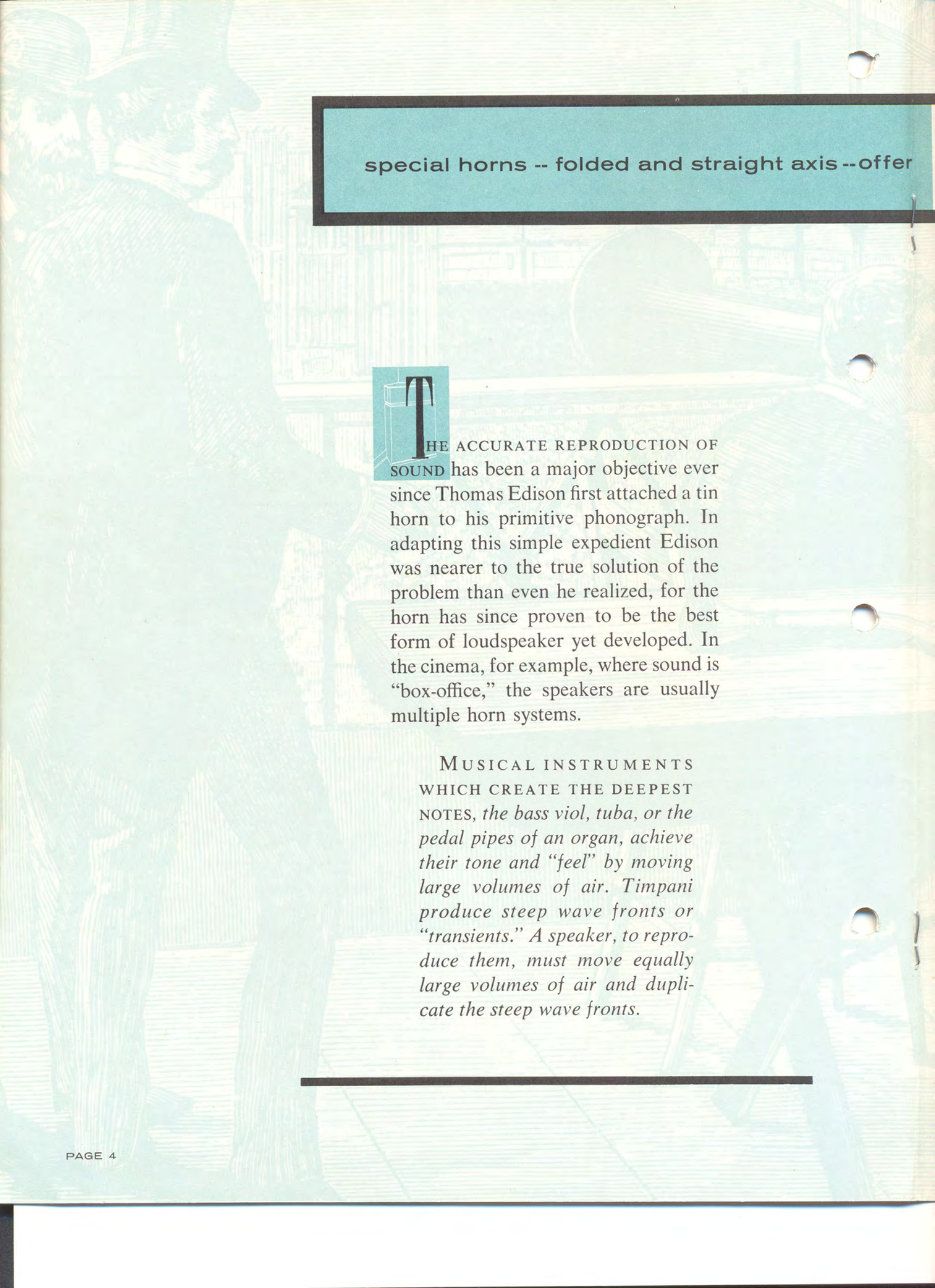
Unfinished models are available for custom installation by architects and decorators or where the owner wants Klipschorn quality at low cost.

\*Prima vera is an exotic imported hardwood, naturally blond, with grain structure resembling ribbon-stripe mahogany.

*Klipschorn*







special horns -- folded and straight axis --offer

**T**HE ACCURATE REPRODUCTION OF SOUND has been a major objective ever since Thomas Edison first attached a tin horn to his primitive phonograph. In adapting this simple expedient Edison was nearer to the true solution of the problem than even he realized, for the horn has since proven to be the best form of loudspeaker yet developed. In the cinema, for example, where sound is "box-office," the speakers are usually multiple horn systems.

MUSICAL INSTRUMENTS WHICH CREATE THE DEEPEST NOTES, *the bass viol, tuba, or the pedal pipes of an organ, achieve their tone and "feel" by moving large volumes of air. Timpani produce steep wave fronts or "transients." A speaker, to reproduce them, must move equally large volumes of air and duplicate the steep wave fronts.*

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smooth

## NINE OCTAVE RANGE

TO THIS IMPORTANT PROBLEM, PAUL W. KLIPSCH gave his attention in 1940 and, after years of research, he has developed the Klipschorn corner horn loudspeaker system. This system has the required air column for reproducing the deepest notes and steepest wave fronts, yet demands but small space in a living room. It achieves its effect by making the room itself part of the intricate folded horn. When properly installed, it offers a broader response in less space than the best theater speakers.

THE BODY OF THE WOOFER is not a "cabinet," nor "enclosure," but part of a bass horn, with the room walls forming a further part. The air column in this horn is set in motion by vibration of the cone diaphragm in the driver

*unit. As air waves move from the driver unit out to the mouth of the horn, they expand through passages whose cross sectional areas increase exponentially.*

THE EXPONENTIAL HORN WAS FIRST DESCRIBED by the physicist, Dr. A. G. Webster, in 1919, and this flare is still recognized as offering the widest range per cubic foot. Incorporated in the Klipschorn system are three horns, each employing the exponential taper. Besides the bass horn, there is one for mid-range tones, also specially developed by Klipsch, and a tweeter horn for the treble notes. With this combination of three horns and suitable driver units, the Klipschorn system is able to offer the nearest approach ever made to fidelity of sound RE-production.

*Klipschorn*<sup>®</sup>

CORNER HORN  
LOUDSPEAKER SYSTEM



# S P E C I F I C A T I O N S



## FREQUENCY RANGE

25 cycles to over 22,000 cycles, with full available efficiency from 30 cycles to over 13,000 cycles (low C on the organ is 32.7 cycles and 13,000 cycles is near the top of the range of human hearing). Minimum bass horn efficiency is over 50% (Typical open cone speaker is 2%). Crossover frequencies are 500 and 5,000 cycles.

## RESPONSE

The listening test, especially involving comparison with original sound, is accepted as final, although sound pressure curves are relied on as a research aid. Whether by response curve or comparison between speaker and original sound, tests prove the statement "Klipschorn response is more extended and uniform and less distorted than the response of any other speaker."

## DRIVER UNITS

The choice of drive units is based on laboratory and listening tests, rather than such esoteric considerations as phenolic versus duralumin diaphragms or tangential versus annular compliance. The recording-reproduction comparison in which the artist alternates with his own play-back is the criterion for

judging how closely the Klipschorn system approaches identity with the original sound. When and if a further narrowing of the gap between Klipschorn performance and perfection can be made by a new choice of drive units, the Klipschorn owner can have the benefit.

Currently the woofer or bass driver is either a Stephens 103-LX-2, or an Electro-Voice 15W-K. The squawker or middle range driver is a University SA-HF and the tweeter a University 4401. The woofer motors were designed and developed especially for Klipschorn woofers; the DC resistance value is less than 4 ohms, and the nominal impedance in the Klipschorn K-3 woofer is 16 ohms. The impedance variation from nominal is less than a factor of 2.5 up or down.

The mid-range driver type SA-HF when mounted in an infinite horn, is capable of response down to 100 cycles; its use assures flat middle range response when used on the Klipschorn K-5 mid-range horn with its 280 cycle cutoff and 500 cycle lower crossover frequency.

The 4401 tweeter offers a range to beyond 22,000 cycles with smooth uniform response between 5,000 and nearly 14,000 cycles. The second crossover frequency of 5,000 cycles eliminates any near-cutoff response anomalies.

## POWER INPUT RATING

A 10-watt amplifier is adequate for home use and has served audiences up to 900 people.

Rating, continuous below 500 cycles — 15 watts.

Rating, continuous above 500 cycles — 2 watts.

Complex wave instantaneous peak, 150 watts; momentary, 50 watts.

## OBSOLESCENCE

The basic structure of the Klipschorn sound reproducer is fundamentally correct; improvements in detail will doubtless occur, but the basic system need never be changed. With possible future changes in drive units, the Klipschorn system may be kept up to date for a lifetime. Conversion kits are available to afford 1955 performance from early Klipschorns of serial number 14 and higher.

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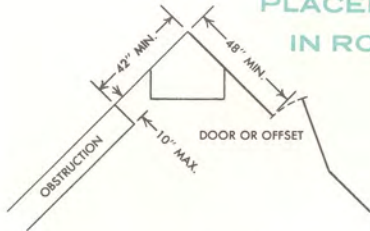
CORNER  
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# Klipschorn®

## CORNER HORN LOUDSPEAKER SYSTEM

### RECOMMENDED PLACEMENT IN ROOM



Preferred maximum and minimum spacing to bookcases, doors, columns, etc., which, experience shows, gives most efficient performance. Maxima and minima may be violated with resultant loss in performance, dependent on amount of violation.

Note: An artificial corner may be built to accommodate the Klipschorn speaker, but maximum efficiency is achieved by use of natural corners.

### ADAPTABLE TO MANY USES

The Klipschorn speaker system, while designed primarily for home use, is also ideal for public halls, schools, churches, libraries, studios, audition rooms, and laboratories. As a sound generator for electric organs, it is unparalleled, giving a richness and realism to the organ never otherwise achieved. A model with motor driven tremulant is available for electric organ application.

### RECOMMENDED ASSOCIATED EQUIPMENT

Because "the better the speaker the worse it sounds," unless and until all associated apparatus is free of noise and distortion, the Klipschorn system imposes severe demands upon amplifiers and source material. For this reason, it is imperative that equipment of highest quality be used. Freedom from distortion and actual power output (undistorted) at 30 cycles is more important than published power ratings. Klipsch and Associates will answer inquiries and make specific recommendations on request. We suggest you ask before you buy.

### TECHNICAL BIBLIOGRAPHY

The scientific background of the Klipschorn system is well established. The following bibliography contains the more important papers pertaining to it. Reference includes an extensive bibliography of the related arts.

1. "A Low Frequency Horn of Small Dimensions," Journal of the Acoustical Society of America, Vol. 13, No. 2, Oct. 1941, pp 137-144.
2. "Improved Low Frequency Horn," Jour. Acous. Soc. Am., Vol. 14, No. 3, Jan. 1943, pp 179-182.
3. "A High Quality Loudspeaker of Small Dimensions," Jour. Acous. Soc. Am., Vol. 17, No. 3, Jan. 1946, pp 254-258.

### OVERALL DIMENSIONS

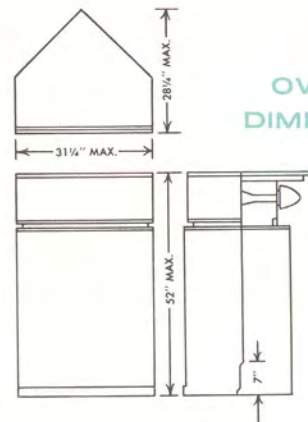


Diagram shows dimensions of the Style 7. Style 7C is 50½" high and the utility model is 49½" high. Baseboard cutout may be specified up to 7½".

4. "The Klipsch Sound Reproducer," FM and Television, Sept. 1947.
5. "Progress in Klipsch Speakers," FM and Television, Nov. 1948.
6. "Developments in Corner Horn Systems," FM and Television, Aug. 1949.
7. "Response and Distortion," FM and Television, April 1950.
8. "How to Get Best Results from a Klipschorn," High Fidelity, Summer 1951.
9. "Loudspeaker Developments," Transactions IRE-Prof. Group on Audio, Vol. 1, No. 3, May-June 1953, pp 16-21.

### PATENT NOTICE

Klipschorn is the Registered trademark of the Klipsch-designed speaker system built by Klipsch and Associates and protected by the patents listed below:

2,238,023	2,612,558
2,310,243	D 163,700
2,373,692	and pending applications.
2,537,141	CANADA 434,947

Electro-Voice, Inc., of Buchanan, Michigan, manufacturer of high quality microphones and loudspeakers, builds the "Georgian," "Patrician," and corner-horn back-loading models licensed under some of the above patents.

The Radio Shack Corporation of Boston, Mass., is licensed under some of the Klipsch patents.

The Northern Electric Company of Montreal, Canadian affiliate of the Western Electric Company, enjoys Canadian manufacturing rights.

Vitavox Ltd., of London, England, British loudspeaker manufacturer, has acquired English manufacturing rights.

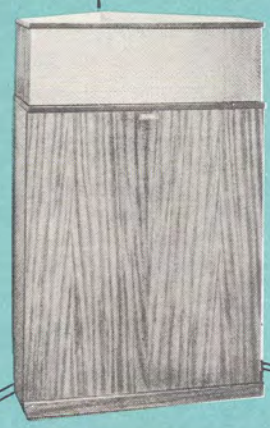
The G and H Wood Products Company, of 75 North 11th Street, Brooklyn 11, New York, manufactures the "Rebel" series under license.







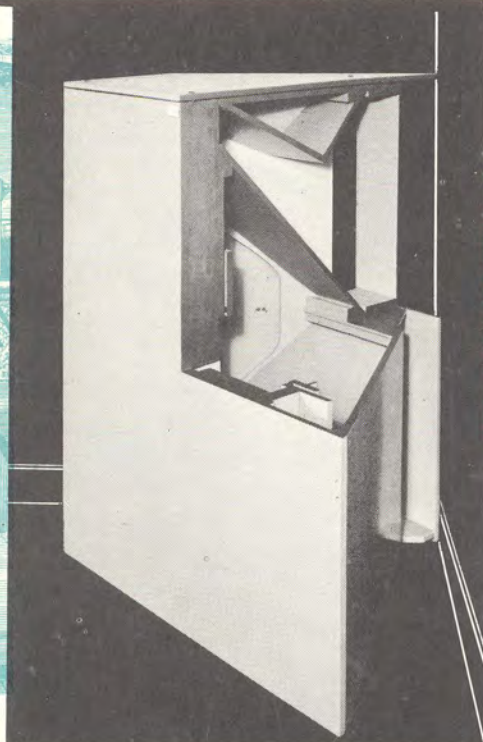
STYLE 7 is available in a variety of fine hand rubbed finishes in mahogany or prima vera, blond or dark. Lacquer enamel on fine grained hardwood is also available in any color.



STYLE 7C, identical in performance with Style 7, is finished in medium satin lacquer.



THE UTILITY MODEL is recommended for custom installations or laboratory use. It is supplied either finished or unfinished, without grilles.



Cutaway model of bass horn.



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CORNER HORN LOUDSPEAKER SYSTEM



**KLIPSCH AND ASSOCIATES**  
HOPE, ARKANSAS

JUNE 1955

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YOUR KLIPSCHORN DEALER