

AUDIO FIDELITY
AF AFSD 5845
STEREODISC*
STEREOPHONIC HIGH FIDELITY

LEON BERRY

GIANT

WURLITZER

PIPE ORGAN

VOL. 4



a study in **HIGH FIDELITY** sound

LEON BERRY VOL. 4

It was not until the fourth century, B.C., that any traceable ancestor of the organ made its appearance. At that time an instrument called the "hydraulus" was invented. It was a mechanism that combined water and air pressure, cylinders, feeders, pipes and valves and produced sounds over a range of about three octaves corresponding to the Greek modes. The use of water was to steady the pressure of the wind. (Any organ pipe will rise in pitch if the pressure is slightly increased.) The hydraulus was used for many years, and was replaced only when organs were constructed with bellows which supplied wind pressure. These were known as "pneumatic" organs.

Listening to the smooth-sounding, impressive theater organ today, it is very difficult to imagine just what the old pneumatic organ sounded like around the tenth century. One gets some indication of this in a description by Sir John Stainer, the great English church composer:

"The large pipes of every key of the old organ stood in the front. The whole instrument sounded and shrieked in a harsh, loud manner. The keyboard had eleven to thirteen keys in a diatonic succession without semitones. It was impossible to get anything except a choral melody for one voice on such an organ. The width of a single key amounted to three inches and even as much as five to six inches. The valves to the keys and the whole mechanism being clumsy, playing with the finger was not to be thought of, but the organist was obliged to strike with the clenched fist and the organist was often called an organ beater."

Over the next five centuries, considerable change was effected in the organ. The keys were gradually reduced in size and semitones were added. By 1500 the keys had approximately the proportions which organ keys have now. And a pedal keyboard had been devised (around 1470), thus adding to the finger keyboard and increasing the organ's capacity for tonal dynamics. Virtually every imaginable material known to man has been employed in the organ at one time or another—wood, ivory, glass, bone, fibre, gold, silver, brass, tin, lead, iron, alabaster, clay, paper and even sized fabrics. The number of designs for organ parts that were developed but never actually used is far too great even to estimate.

Tin in a pure form ranks first in point of quality in the construction of organ pipes. It is almost indispensable in the production of keener string-tones stops. For the duller toned pipes like metal flutes and certain types of diapasons, a high percentage of lead is mixed with the tin. Wood pipes are also employed widely, but these offer a more limited range of tone than is obtainable from metal pipes. Actually, there are three general classes of pipes—flue pipes, reed pipes and diaphones. The flue pipe operates on the basis of a vibrating column of air. In the reed pipe, sound is produced through the activation of a reed tongue. The diaphone, not generally employed in most organs, operates on the basis of valvular reeds. It is like a beating reed, and is used often for loud pedal stops.

Flue pipes are divided into four main classes—diapasons (one of two sonorously toned organ stops covering the entire compass of the instrument and sounding pitches in unison with, or an octave higher or lower than, the notes played.), flutes, strings and echoes (miniatures of the first three groups).

All theater organs in this country have reed pipes. The reason for this is that the reed tone can be made the most interesting and characteristic of any tone on the organ. In fact, reed tone imparts character, variety and distinction to the overall tone of the organ. These operate with a metal tongue set in a brass tube through which wind pressure is directed against the tongue.

When organ pipes leave the hands of the pipe manufacturer, they are passed on to the voicer in order that the height of the mouth may be regulated and so that the pipes may be nicked in the proper manner. Pipemakers must consider such

matters as the scale of each set of pipes, the quality of material, its thickness, and many other factors. When the pipes come to the voicer, they are just so many pieces of metal or wood made in the form of organ pipes, but generally incapable of sounding a note. They leave his shop as finished instruments of music, fashioned according to his skill.

With all the refinements that have been effected in the modern organ, three stand out dramatically as proof of the tremendous progress that has been made. One is that modern organ tone may be sustained indefinitely. A second is that the tone can be increased or decreased while it is sustained. And the third is that the range of tone volume from soft to loud is virtually the same. The theater organ also incorporates several important improvements over the ordinary organ. There is a much larger number of tonal effects and imitative qualities. Also, acoustical quality for sound amplification purposes is far more exact than it is in the ordinary organ. Then, also, the theater organ affords immeasurably more opportunity to make use of special sound-producing parts of the organ at will and to control certain types of sound because it is infinitely more sensitive to tone activation and in tone production.

The modern theater organ presents a fantastic contrast not only with the hydraulus but the organ as it existed in the time of John Stainer. Literally thousands of tone combinations are possible these days. In place of the block-type keys that had to be hit by fists there are regular piano-size keys that need only the lightest touch of a finger either to produce a thunderous roar or the most delicate whisper, thanks to electronic circuitry and modern acoustics. But even these modern refinements would be lost to the ear were it not for the extraordinary skills of sound engineering such as are applied in this recording. Every aspect of this recording, from the actual performance (during which special microphone placement and painstaking control of every engineering detail were important considerations) to the finished product (a record produced from the finest vinyl obtainable), is the result of first class skill and long experience in record manufacture.

In this recording Leon Berry plays a two manual Wurlitzer pipe organ installed in the basement of his house in suburban Chicago. The instrument originally was housed in a Crystal Lake, Illinois, theater, where it was unused until Berry carted it home. Once he had the organ in his clutches, he spared neither effort nor time in putting the instrument in first class order, apart from making vast improvements in its sound-producing system. When he brought the organ home, Berry was playing an organ at the Hub Rink in Chicago. Every night, after he had finished his stint at the latter organ, he came home and disappeared into his basement to spend hours working on the organ he had acquired. For months he busied himself in installing new ranks of pipes, polishing the console and otherwise improving the organ in every manner possible. The end result was that he built expression shutters along one entire wall, increased the number of ranks of pipes to six, and added percussion instruments (including sleigh bells, glockenspiel, xylophone, chinese blocks, castanets, crash cymbal, bass drum, traps and other "hardware," as Berry calls it.

LEON BERRY is one of the country's top recording theater organists. He knows his instrument not only as a musician but also as a sound expert thoroughly conversant with its structure and technical operations. For some years Berry has been organist at the Hub Rink in Chicago. But his talents as an organist were never more apparent than in this and previous recordings he has made for Audio Fidelity, where the many subtleties that are ordinarily lost to the ear in a live performance are captured in dazzling fashion through the ultimate in high fidelity recording techniques. Here is musical fare designed to meet the most exacting standards of high fidelity fans.

GIANT WURLITZER PIPE ORGAN

TECHNICAL DATA (RIAA)

Total Frequency Range Stereophonic Recording

This High Fidelity Stereophonic Recording was produced featuring the Frey Stereophonic Curtain of Sound* technique. When heard on a balanced playback system, the elements or musicians on the recording will be reproduced in the exact locations, directionally, as at the original performance. This original, positive technique to produce a pure, true stereophonic effect so that the instruments or elements of the recording are perfectly relocated as to direction of sound is an Audio Fidelity development and is true stereophonic reproduction.

This recording was made on an Ampex 350-2 with special electronic circuitry, using Altec, Electrovoice, RCA, and Telefunken microphones. The masters were cut with an automatic Scully Record Lathe mounting a Westrex 45-45 cutter with special feedback electronic circuitry driven by custom 200 watt amplifiers.

Precision mastering was done so as to achieve maximum stylus velocity consistent with minimum distortion, resulting in the ultimate in channel separation and realizing the greatest possible signal-to-noise ratio.

While the total frequency range of 16 cps to 25,000 cps on this record may not be within the range of ordinary human hearing, nevertheless inspection of the grooves with a microscope will show the etchings of the upper dynamic frequencies. It is the opinion of the manufacturer that if these frequencies were omitted from this record a certain warmth of tone that is felt and sensed rather than heard would be lost. For this reason and to achieve the ultimate in our "Studies in HIGH FIDELITY STEREOPHONIC SOUND" we have gone to these extreme electronic lengths.

Although any 33 1/3 RPM stereophonic record playback equipment may be used in playing this recording, it is recommended that playback equipment of extreme wide range and fidelity be used so that the recording may be enjoyed to its utmost.

| | |
|----------------------|-------------------|
| Low Frequency Limit | 16 CPS |
| High Frequency Limit | 25,000 CPS |
| Crossover | 500 CPS |
| Rolloff | 13.75 DB at 10 KC |

Audio Fidelity Records produced and released the world's first Stereophonic High Fidelity record (Stereodisc) in November, 1957.*

SIDE 1

1. Wedding of the Painted Doll (Brown) Miller Music, ASCAP
2. Somebody Loves You (Brown) Remick Music, ASCAP
3. No Se Porque Te Quiera (Matamoros) Peer, BMI
4. Strolling In The Park (Haley) Leo Feist, ASCAP
5. They Didn't Believe Me (Kern) T. B. Harms, ASCAP
6. Meet Me Tonight In Dreamland (Friedman) Shap., Bernstein, ASCAP

SIDE 2

1. Cocktails For Two (Johnston) Famous Music, ASCAP
2. Let Me Call You Sweetheart (Friedman) Shap., Bernstein, ASCAP
3. The Harvest Moon (Tours) Harms, Inc., ASCAP
4. Blue Room (Rodgers) Harms, Inc.
5. Cielito Lindo (Fernandez) (Frey-Berry) Matador Music, BMI
6. You Belong To My Heart (Lara) Peer, BMI

Write for free catalogs listing the latest Audio Fidelity monaural, Stereodisc* and Stereo Mastertape* releases: Audio Fidelity, 770 Eleventh Avenue, New York 19, New York.

WHAT IS STEREOPHONIC SOUND?

Ordinary high fidelity sound has to come through a loudspeaker. If you use two loudspeakers, the program can come to you through both of them, like two holes in the wall. But when you use stereophonic recordings on stereophonic equipment, each loudspeaker brings you a different part of the total sound, so the program—orchestra, jazz ensemble, railroad train or what-have-you re-assembles itself in your listening room.

This is not the same as a multiway loudspeaker system, where separate loudspeaker units are used to handle the different frequencies, one for bass, one for treble, and one for the very high overtones that add definition and clarity to the reproduction. Stereophonic sound requires **two program channels**, each of which carries the full frequency range, bass, treble, and super-overtones.

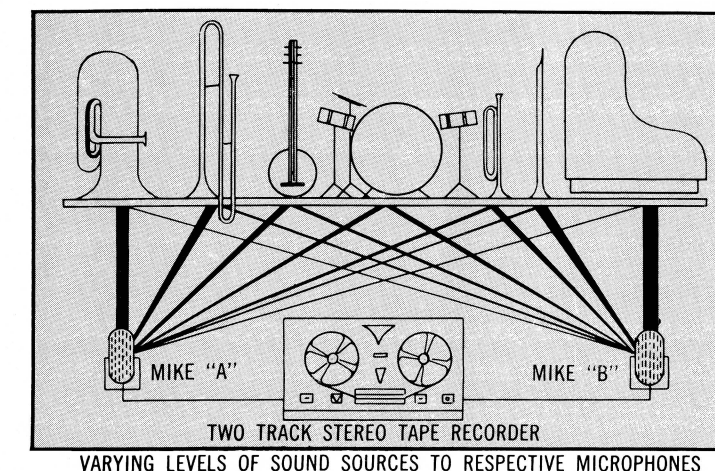
How do you put two channels on one disc?

A conventional LP has a groove that wiggles from side to side to correspond with all the frequencies in the program, from 16 cycles to 25,000 cycles as on an AUDIO FIDELITY record. But the groove stays level, it does not go up and down. For stereophonic recordings, each channel, one for the left loudspeaker and one for the right, makes the groove go both up-and-down and sideways at the same time. But the combination is different for each channel. This enables the specially-designed stereo cartridge to separate the vibrations from a single groove and produce two high-quality program outputs at the same time without getting them mixed. Each channel from the cartridge must be amplified with a separate amplifier connected to its own loudspeaker. Note that each wall of the stereo groove is a primary source of sound, and therefore, two sound tracks are contained in every groove.

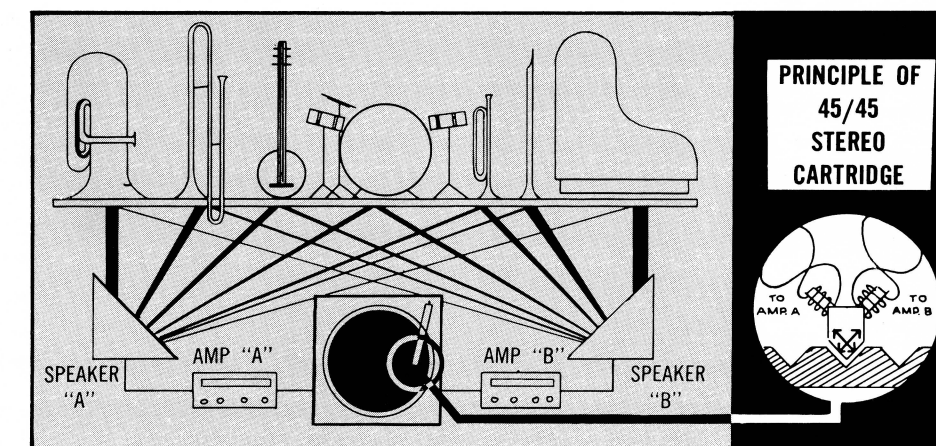
How can I get the best results from the stereo record?

Now you have the stereophonic program and you want to use your loudspeakers to give the best possible rendition. First choose good—but not necessarily expensive—loudspeakers. The important things are that they have a **smooth** frequency response (give uniform rendition of all musical tones) and that (especially with the more elaborate types) the sound is well integrated from each speaker in the system. (Adequate dispersion or spreading of the high notes is very important in stereo—check speakers for good diffraction).

Separate loudspeaker systems spaced apart will usually sound better for stereophonic sound. If the room is small (say 12' by 14' or less) a built-in console type system with the speakers placed at either end of the cabinet should sound quite well. Furnishing and arrangement can make quite a difference, so these rules for speaker placement are flexible. Experimentation is the only way to be sure that you have the best set-up for your room.



TWO TRACK STEREO TAPE RECORDER
VARYING LEVELS OF SOUND SOURCES TO RESPECTIVE MICROPHONES

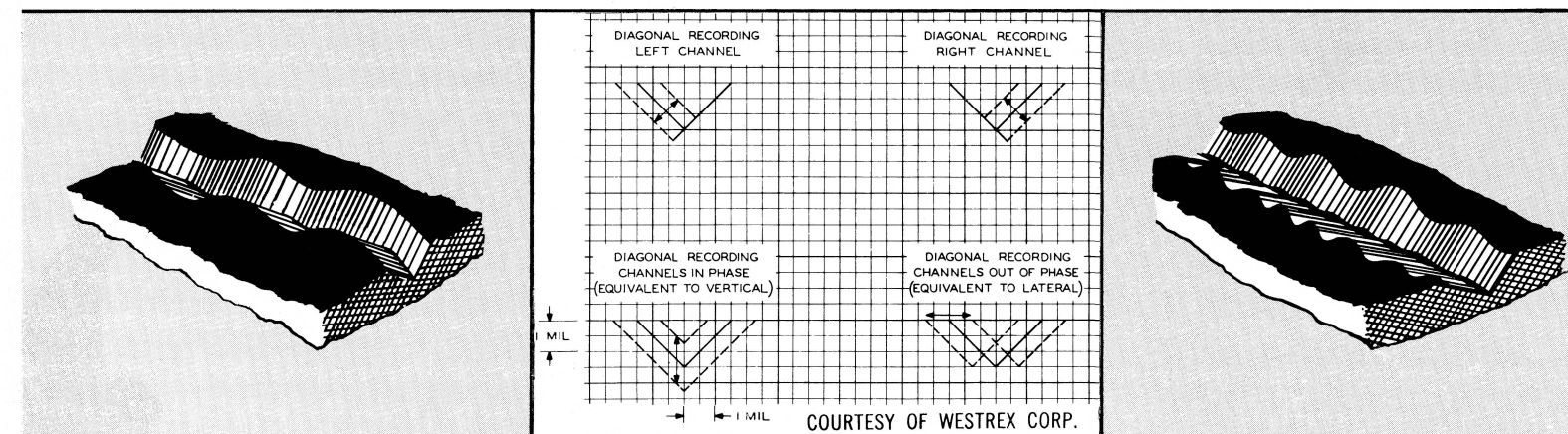


REPRODUCTION OF STEREO RECORDING FROM STEREO DISC
NOTE PERFECT REPRODUCTION OF INSTRUMENT PLACEMENT

What can I play with what?

An **Audio Fidelity** record can be played with any cartridge, but naturally you want to get the best from it. A Stereodisc* should be played with a stereo cartridge. It will play with an old style LP cartridge, and will give high fidelity sound that way. But it will not produce stereophonic sound that way. And many old style LP pickups, though quite good for their own purpose, may not be compatible, although they sound all right as high fidelity. Further to this, we most strongly recommend that the collector who wants to buy stereo records now, and the rest of his stereo equipment later, buy and install a stereo cartridge now, so that he can play his new stereo records straightaway on his existing monaural equipment with perfect safety.

Note that a stereo cartridge will play the older **Audio Fidelity** and other high fidelity records. But it will still only sound like high fidelity. You need a stereo cartridge, stereo record and stereo equipment to get real stereophonic reproduction.



MONAURAL RECORD GROOVE

STEREOPHONIC RECORD GROOVE

COURTESY OF WESTREX CORP.



The Highest Standard
in STEREOPHONIC
HIGH FIDELITY



AUDIO
FIDELITY.
STEREO DISC*



*The Highest Standard
in High Fidelity*

*Compatible Stereophonic
Phonograph Record
Engineered for the Finest
STEREOPHONIC
HIGH FIDELITY*

A Revolutionary Advance in Listening Pleasure

AUDIO FIDELITY

LEON BERRY at the GIANT WURLITZER ORGAN VOL. 4

RIAA

AFSD 5845-A
SIDE 1

STEREODISC*
*Reg. Appl. For



33 1/3
RPM

1. WEDDING OF THE PAINTED DOLL (Brown) 2:44
2. SOMEBODY LOVES YOU (Brown) 2:30
3. NO SE PORQUE TE QUIERA (Matamoros) 2:15
4. STROLLING IN THE PARK (Haley) 2:55
5. THEY DIDN'T BELIEVE ME (Kern) 2:45
6. MEET ME TONIGHT IN DREAMLAND (Friedman) 2:37

Production, A & R: Sidney Frey

PRINTED IN U.S.A.

A STUDY IN HIGH FIDELITY SOUND
AUDIO FIDELITY INC., 770 ELEVENTH AVENUE, NEW YORK 19, N. Y.

AUDIO FIDELITY

LEON BERRY at the GIANT WURLITZER ORGAN VOL. 4

RIAA

AFSD 5845-B
SIDE 2

STEREODISC*
*Reg. Appl. For



33 1/3
RPM

1. COCKTAILS FOR TWO (Johnston) 2:46
2. LET ME CALL YOU SWEETHEART (Friedman) 2:22
3. THE HARVEST MOON (Tours) 2:00
4. BLUE ROOM (Rodgers) 2:00
5. CIELITO LINDO (arr: Berry-Frey) 2:30
6. YOU BELONG TO MY HEART (Lara) 3:29

Production, A & R: Sidney Frey

PRINTED IN U.S.A.

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