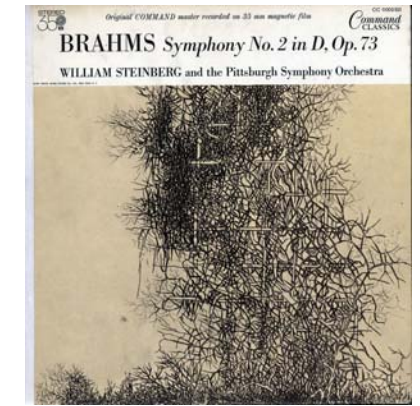
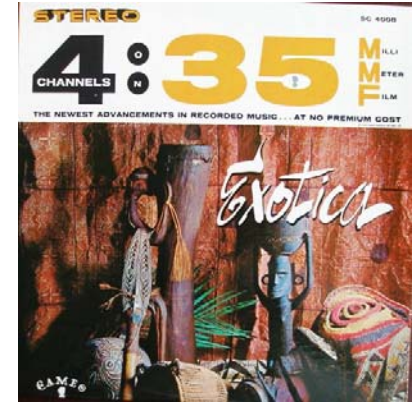
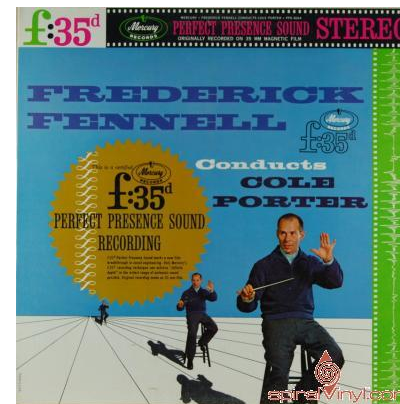


The 35mm Album Master Fad

135th AES Convention, 2013-10-19

© 2013 by Thomas Fine





A Brief History of 35mm Magnetic Film

- **Post WWII – Magnetic tape recording migrated to the U.S. from Germany.**
- **1947 – DuPont produced 35mm magnetic film, RCA produced a conversion kit for the PR-23 optical recorder.**
- **By 1951 – RCA produced 35mm recorders for 1, 2 and 3 tracks, and Westrex entered the business with magnetic recorders for 35mm and 17.5mm.**
- **SMPTE Progress Report of 1952 stated that by the end of 1951, “approximately 75% of the original production recording, music scoring and dubbing in Hollywood was being done on magnetic recording equipment.”**

RCA PR-23 Optical/Magnetic Film Recorder

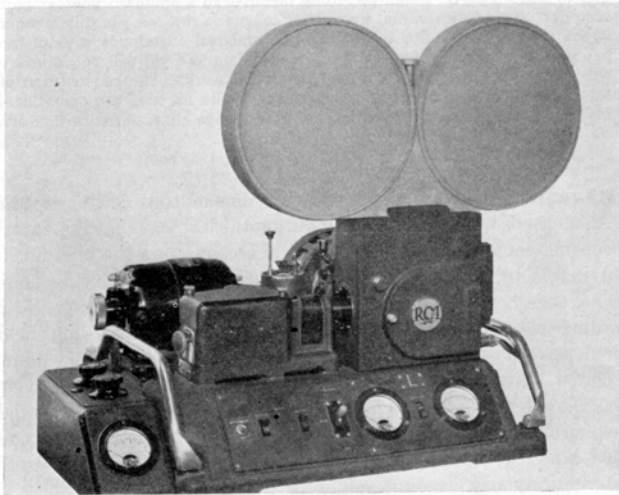


Fig. 1—Magnetic conversion kit in PR-23 recorder.

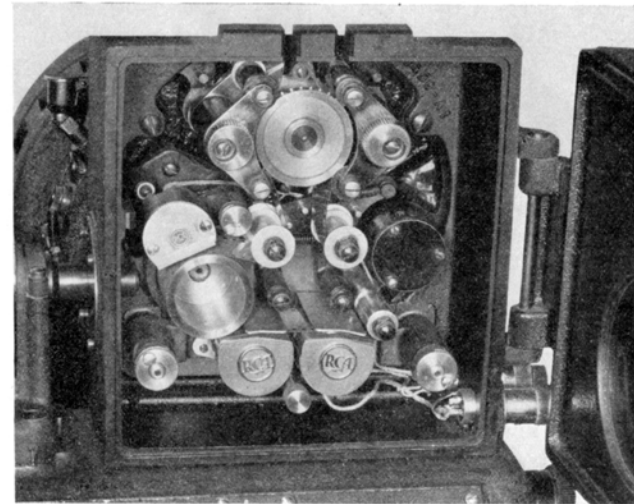


Fig. 3—Film path and magnetic heads.



Fig. 2—Electrical units of magnetic conversion kit.

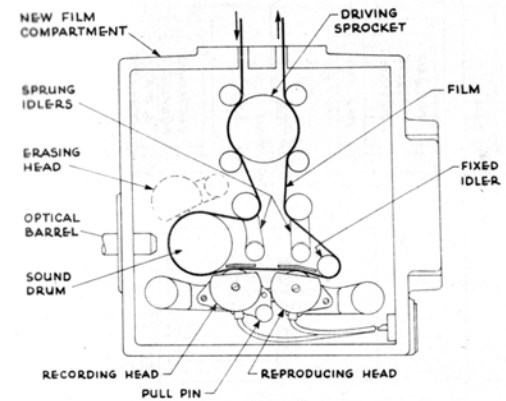
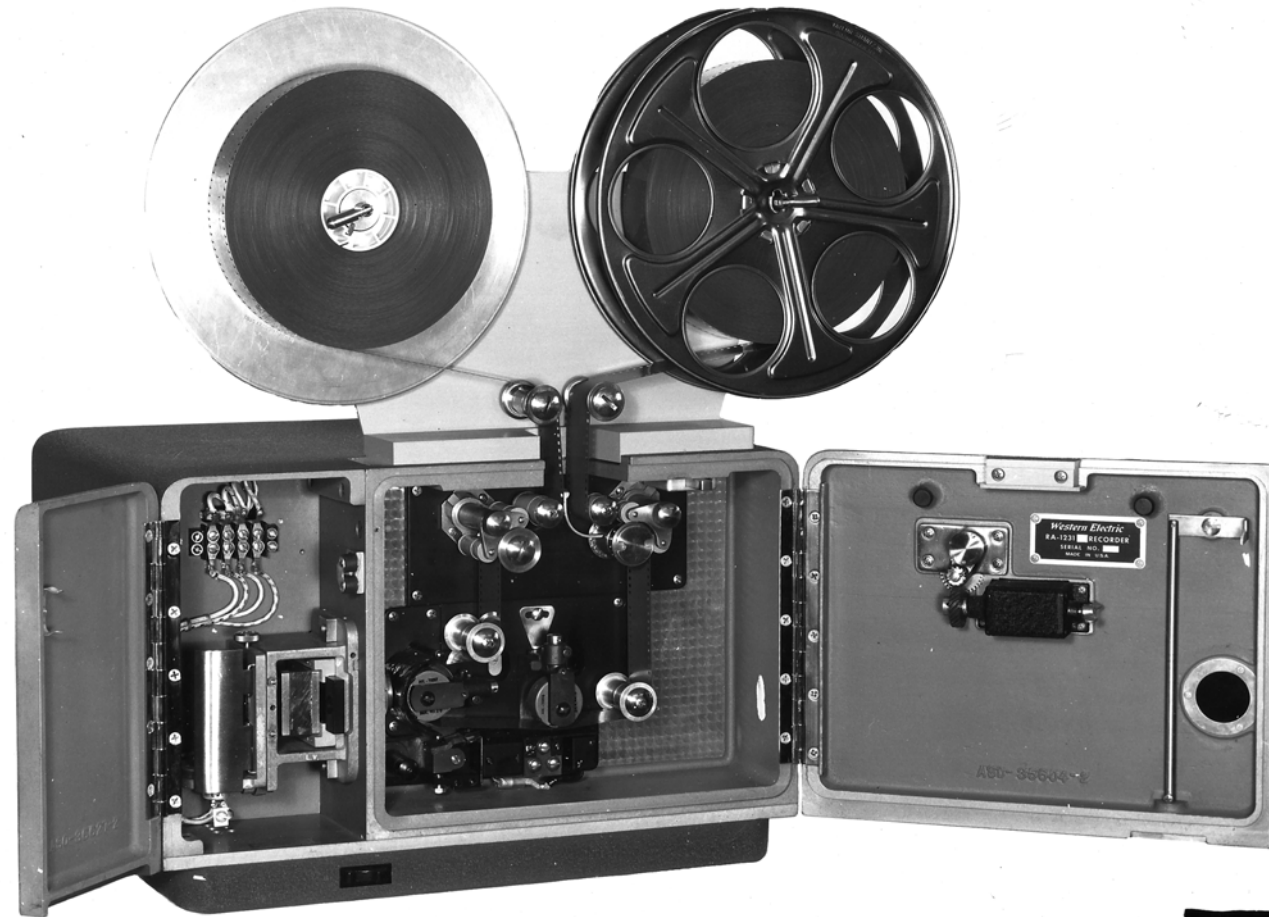


Fig. 4—Film path showing tight-loop system and magnetic heads in position.

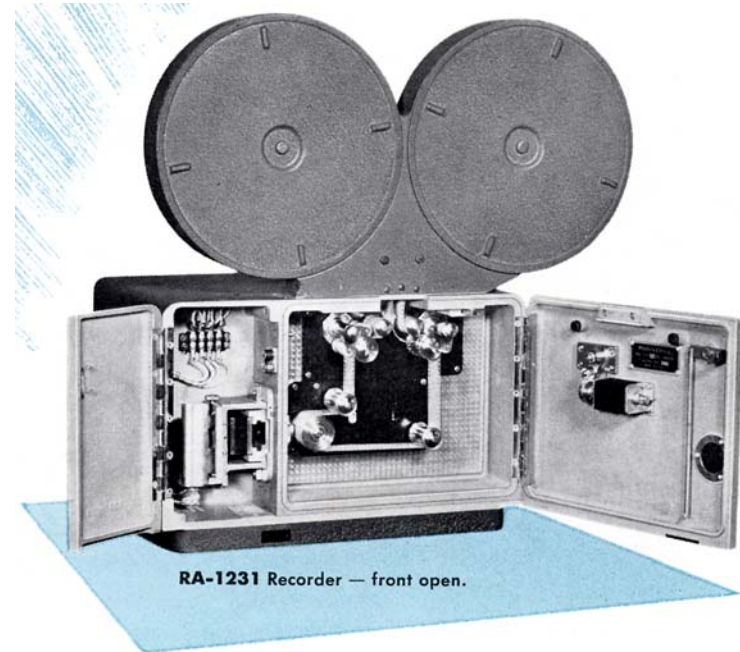
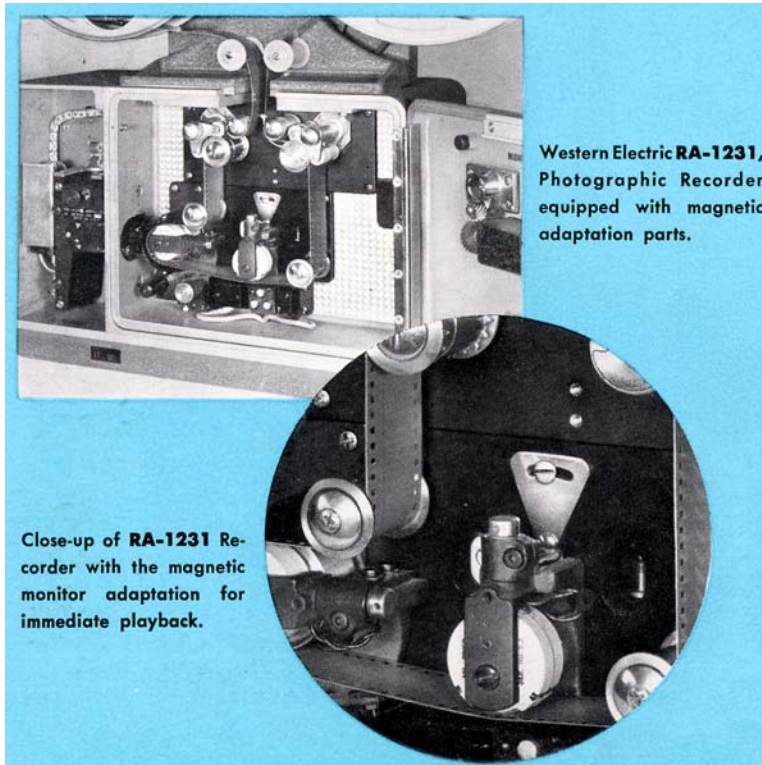
Westrex RA-1231 Optical/Mag Recorder



P-3477

Westrex RA-1231 optical recorder with the magnetic conversion. It could be used for either optical or mag recording as long as the reel adapters were changed. Record head is on sound drum and play head is to the right.

Westrex RA-1231 Optical/Mag Recorder



Westrex Series 1000 Magnetic Recorder

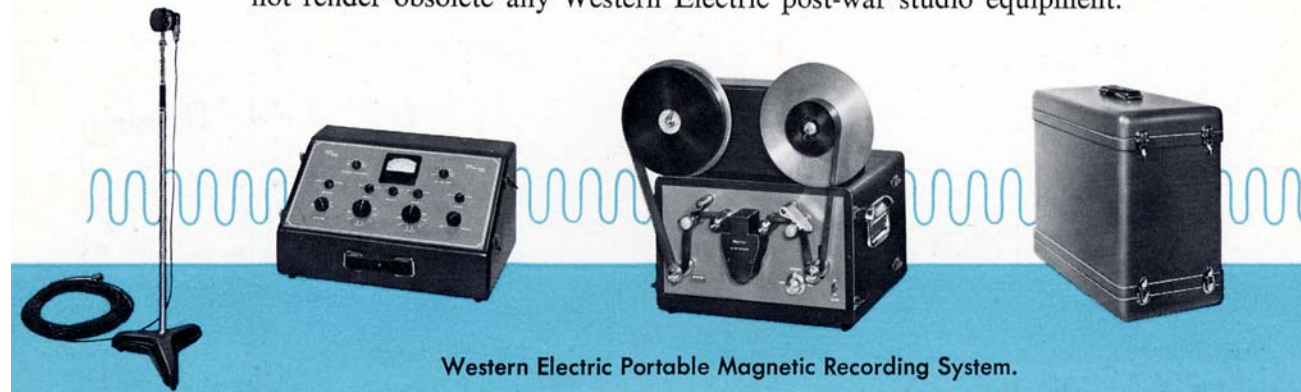
Post War DEVELOPMENTS

Magnetic Recording is the newest development of Western Electric.

The Magnetic Recorder uses perforated film impregnated with iron oxide particles which faithfully record the sound spectrum when passed by the magnetic recorder head.

This method gives a signal-to-noise ratio greatly improved over any previously obtained by photographic means. It offers economy in operation in that (1) it requires no processing and can be played back immediately and (2) the same magnetic film can be used over and over again.

Westrex offers not only a complete lightweight portable Magnetic Recording System (The Westrex Series 1000) but also magnetic adaptation parts for all of its post-war Recorders, Re-recorders and Reproducers. New magnetic recording, therefore, does not render obsolete any Western Electric post-war studio equipment.



Western Electric Portable Magnetic Recording System.

[Note: Magnetic film in the U.S. was actually coated with iron oxide particles, not impregnated with them.]

35mm: 1950's High-Resolution Medium

- Film moves at 18 in/s, vs 15 in/s for tape.
- Film stock's base is 5 mil (acetate) or 3 mil (polyester), vs. 1.5 mil for 2500' NAB reels of tape. Result: lower print-through for film. Some film types also had thicker magnetic layer. Result: more maximum level before saturation.
- 3-track 35mm spec is for 200-mil track width (only slightly smaller than full-track ¼" tape). 3-track ½" tape spec is for 100-mil track width.
- Sprocket film drives maintain consistent speed and wow/flutter specs throughout the roll. Tape machines of 1958 tended to move tape at slightly different speeds at both ends of the reel, noticeable in pitch shifts if portions from the beginning and end of a reel were spliced together. Westrex testing found that wow and flutter was worse at beginning of reel, best at end.
- Wider tracks and faster speed produce about 13 dB better signal-to-noise ratio for film, according to Westrex tests presented to AES 1959 Convention. Tests compared acetate-base film and ¼" tape (with 72-mil track width), so somewhat better performance could be expected from 3-track ½" tape.
- RIGHT: Width comparison of 35mm, ½" tape and ¼" tape.





Everest Records

- Harry Belock was Hollywood sound man in the 1920's, knew about film-sound techniques and technology. Also worked for CBS, designing disk-recording equipment.
- Audiophile Belock met audio dealer/engineer Bert Whyte. They had mutual enthusiasm to start a new record label as the stereo era dawned.
- Everest Records, early 1958 through mid-1960.
- Company built a studio in Bayside, Queens.
- Initially recorded on 3-channel ½" tape, but acquired 3-channel 35mm equipment in 1959.
- Westrex engineering manager John G. Frayne profiled Everest's 35mm equipment and techniques for AES Convention/Journal.

JAES Article Describes Everest Records

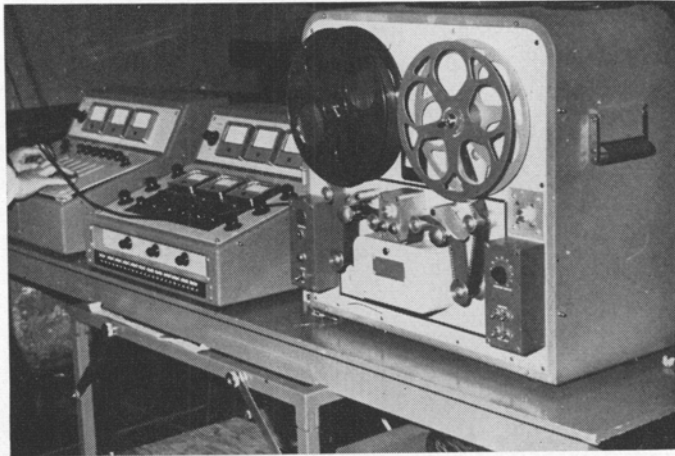


FIG. 5. Westrex 35-mm three-track magnetic recording portable unit (Everest Records).



FIG. 7. One of the Everest's disk recording rooms showing a special Westrex 35-mm three-track reproducer and associated equipment.

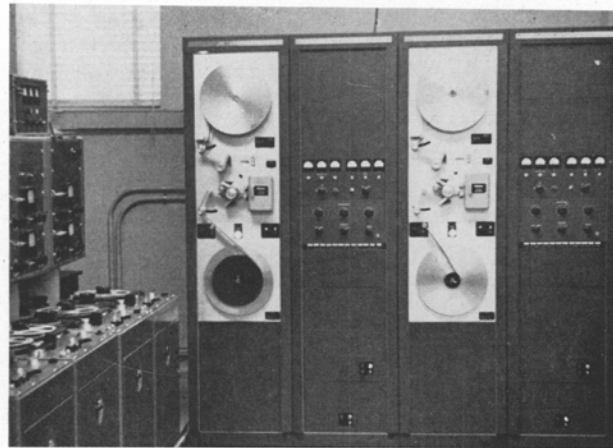
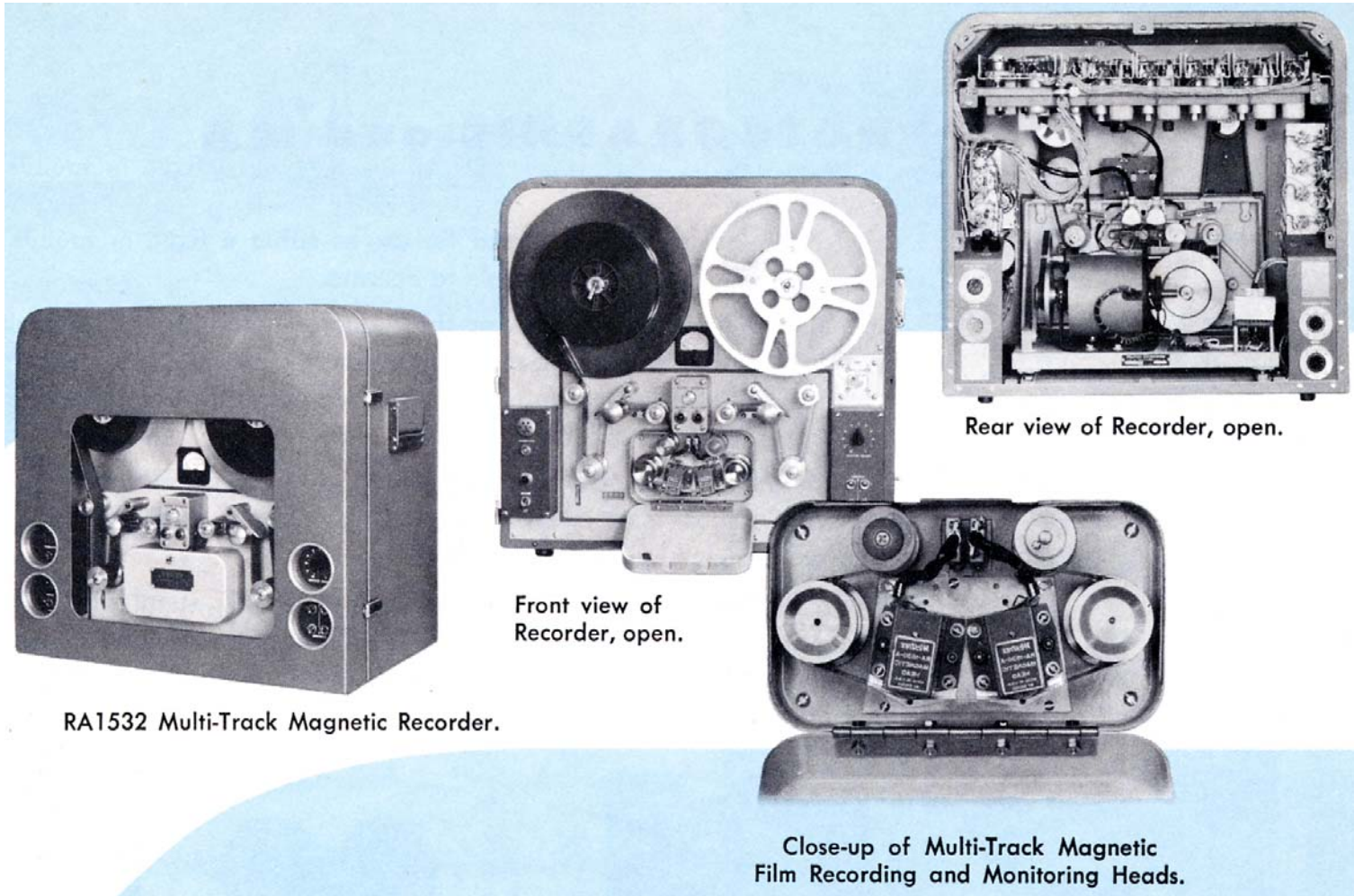


FIG. 6. Main recording room showing two Westrex 35-mm three-track recording machines (Everest Records).

Westrex RA-1532 Magnetic Film Recorder



Everest Records: 3-Track 1/2" Tape at First



**Everest recording session at
Walthamstow Hall, U.K., 1958.**

**LEFT: Engineer Joe Kane at custom
Westrex 3-channel mixer**

**BELOW: Members of the LSO listen to
tape playback**



Everest Records: Switch to 35mm Mag-Film



Everest 35mm recording at Walthamstow Hall, U.K., 1959-June.

LEFT: Engineer Joe Kane (blue shirt, glasses), assistant engineer Ed Abele

BELOW: Leopold Ludwig/LSO record Richard Strauss's "Ein Heldenleben"



Everest Records Marketing Featuring 35mm

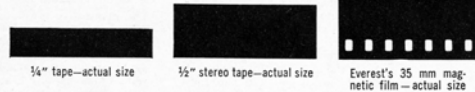
Everest
brings you
the finest sound
on records



Direct From 35mm Magnetic Film to Disc

Now . . . on Everest Records, monaural or stereo . . . great music with the highest, most accurate fidelity yet achieved! Brilliant performances by the world's finest musicians are recorded on 35 mm magnetic film . . . then transferred directly to discs. The result: an extraordinary listening experience for you.

EVEREST MAGNETIC FILM COMPARED WITH CONVENTIONAL TAPES



Everest magnetic film is much wider and five times thicker than conventional tapes. With this sprocket-driven *magnetic film* Everest achieves:

- the widest dynamic range ever recorded
- recording without "wow" or flutter
- elimination of print-through distortion and tape-stretch
- the lowest possible noise factor

Now hear this exciting new sound yourself. Everest offers you these and other selections in a growing library of great monaural and stereo recordings.

All Everest recordings are high fidelity . . . available in monaural long play, stereo discs and tape. *Stereo

EVEREST RECORDS
Product of Belock Recording Co. Division of Belock Instrument Corp.

DECEMBER 1959



Strauss: Ein Heldenleben, M. Maguire, violin; Leopold Ludwig, the London Symphony Orchestra. LPBR 6038 SDBR 3038*



I Want To Be Happy—the music of Vincent Youmans. The master at his best. Tutti Camera and his Orchestra. LPBR 5062 SDBR 1062*



Berlioz: Symphonie Fantastique, Op. 14, Sir Eugene Goossens conducting the London Symphony Orchestra. LPBR 6037 SDBR 3037*



Stravinsky: Petrouchka. Original version. Complete. Sir Eugene Goossens, the London Symphony Orchestra. LPBR 6033 SDBR 3033*



Beretty Collins—"Won't You Spend Christmas with Me." Timeless carols: "Noel," "Silent Night" and others. LPBR 5013 SDBR 1013*



Tchaikovsky: Symphony No. 5 in E minor, Op. 64, Sir Malcolm Sargent, the London Symphony Orchestra. LPBR 6039 SDBR 3039*

107

This is **EVEREST** the peak of achievement in recorded sound!

the peak of achievement in recorded sound!

EVEREST is recorded on magnetic film 35mm wide actually this size

1/2" tape used for conventional stereo recording

Actual size of standard 1/2" recording tape

• No distortion from print-through
• No distortion from lack of channel width
• Absolute minimum of "wow or flutter"
• Highest possible signal-to-noise ratio
• Greatest quality and dynamic range ever recorded

With 35 mm magnetic film, the base material on which the magnetic oxide is coated is five times thicker than conventional tape and is similar to the film used for motion pictures. This thickness permits the recording of extremely high sound intensities without the danger of layer-to-layer "print-through." The width of 35 mm magnetic film is such that it can accommodate three channels, each of which is as wide as the standard 1/2" recording tape. Because of this great channel width it is possible to produce stereo recordings in which the usual "background noise" is avoided. Another characteristic of magnetic film is motion picture film is that it is sprayed base out along each edge. The drive mechanism is also similar to motion picture cameras in that sprocket gears engage these sprocket holes affording a smoothness of motion that reduces "wow and flutter" to an absolute minimum. The film has another advantage in the great tensile strength which effectively eliminates pitch changes due to "tape stretch," a condition heretofore almost impossible to control.

Drawing on the extensive experience in the motion picture sound field BELLOCK INSTRUMENT at which EVEREST is designed, Bellock Instrument Corporation has built special equipment to EVEREST's recording specifications in order to accomplish these advantages. This equipment includes the use of special recording heads which afford complete wide band frequency response beyond that normally specified in any present day motion picture recording.

It is of interest to note that when sound tracks of great motion pictures originally recorded on 35 mm magnetic film are remixed on photographic records, the normal technique is to reproduce the sound from the 35 mm magnetic film to conventional tape. EVEREST, through its advanced processes and equipment, is the only record company able to transfer all Master Records directly from the 35 mm magnetic film to the recording heads.

To insure maintaining the high quality of EVEREST sound in every EVEREST recording, the same equipment that is used in the BELLOCK Recording Studios is utilized for recording master masters in the world. By utilizing specially designed portable versions of EVEREST 35 mm equipment, EVEREST engineers are able to make recordings and remasters the right standards and conditions of quality available in the Studios.

This advanced engineering and special equipment in addition to meticulous attention to detail, results in EVEREST sound, a sound that has been acclaimed an expert by critics and record enthusiasts throughout the world.

EVEREST

These magnificent selections from the Everest Catalogue of fine recordings are available either as monophonic or stereophonic discs . . .

Everest Records Reissues

THE EVEREST COLLECTION EVC 9039

EVC 9000 Falla: The Three-Cornered Hat - Jorda / London Symphony Orchestra (LSO);
Bartok: Dance Suite - Fenarock / London Philharmonic Orchestra (LPO)
9001 Vaughan Williams: Symph. No. 9 - Boult / LPO; Arnold: Symph. No. 3 - Arnold / LPO
9002 Rachmaninoff: Symphonic Dances; Stravinsky: Rite of Spring - Goossens / LSO
9003 Copland: Appalachian Spring; Gould: Spirituals for String Choir & Orch. -
Suskind / LSO; Gershwin: An American in Paris - Stenberg / Pittsburgh Symp.
9004 Stokowski Conducts Strauss: Don Juan; Till Eulenspiegel's Merry Pranks;
Dance of the Seven Veils from Salome - Stokowski / Stadium Symp. Orch. of New York
Carnegie; Fantasy on a Theme Tune - Stokowski / Houston Symp. Orch.
9006 Shostakovich: Symph. No. 6 - Boult / LPO; Symp. No. 8 - Sargent / LSO
9006 Vaughan Williams: Job: The Weaver - Boult / LPO; Arnold: Soudan Dances - Arnold / LPO
9007 Villa Lobos: The Little Train; Anilil; Comborone; Gnatara; Panambi; Estancia -
Goossens / LSO
9008 Bartok: Concerto for Orchestra - Stokowski / Houston Symp.
Kodaly: Psalmus Hungaricus - Fenarock / LPO
9009 Hindemith: Voina Ota - J. Fuchs / Goossens / LSO; Hindemith: Symp. in E-flat - Boult / LPO
901014 Beethoven: Symphonies Nos. 1-9 (Complete) - Krips / LSO

FUTURE RELEASES

9015 Liszt: Sonata in B minor; Funerailles; Mephisto Waltz - Bolet
9016 Brahms: Symp. No. 3 - Stokowski / Houston Symp.; Symp. No. 4 -
Stenberg / Pittsburgh Symp.
9017 Berlioz: Symphonie Fantastique - Goossens / LSO
9018 Respighi: Pines of Rome; Fountains of Rome - Sargent / LSO;
Festa Romane - Goossens / LSO
9019 Prokofiev: Chout - Suskind / LSO; Lt. Kije Suite - Sargent / LSO
9020 Khachaturian: Gayane Ballet Suite - Fitzouard / LSO
9022 Mahler: Symphony No. 1 - Boult / LPO
9024 Stokowski Conducts Wagner: Wotan's Farewell; Magic Fire Music; Parsifal;
Good Friday Spell - Stokowski / Stadium Symp. Orch. of New York
9025 Tchaikovsky: Francesca da Rimini; Hamlet - Stokowski / Stadium Symp. Orch. of New York;
Scrabble; Polka d'orchestre - Stokowski / Houston Symp.
9028 Copland: Symp. No. 3 - Copland / LSO; Antheil: Symp. No. 4 - Goossens / LSO

OMEGA RECORD GROUP, INC. 27 W. 72ND ST., N.Y. NY 10023 TEL: (212) 769-3000 FAX: (212) 769-3159

THE SOUND OF **EVEREST** 20 DIGITAL
35 MM ULTRA ANALOG

"These recordings are still considered to be among the best ever made."
-K.C.P., Stereo Review, Sept., 1994

SIR ADRIAN BOULT
ANATOLE FISTOULARI
SIR EUGENE GOOSSENS
ENRIQUE JORDA
SIR MALCOLM SARGENT
LEOPOLD STOKOWSKI
WALTER SUSSKIND

SAMPLER **SBM**

Above and Below: Vanguard Classics CDs, early 1990's



Above: Classic Records LPs and DVD-A/CDs, late 1990's

Original Everest 35 mm magnetic tape recorder

Ted Gosman, Everest engineer, 1959

Sony PCM-9000 20-bit high-resolution magneto-optical master recorder

Sony Super Bit Mapping K-1203 processor

Note: Three U-47 omni-directional tube condenser microphones, especially modified by Mr. Frank Church, were utilized for all Everest sessions. These microphones were placed in a spaced array across the front of the orchestra.

Below: Countdown Media/BMG downloads and CDRs, late 2013





Fine Recording Bayside

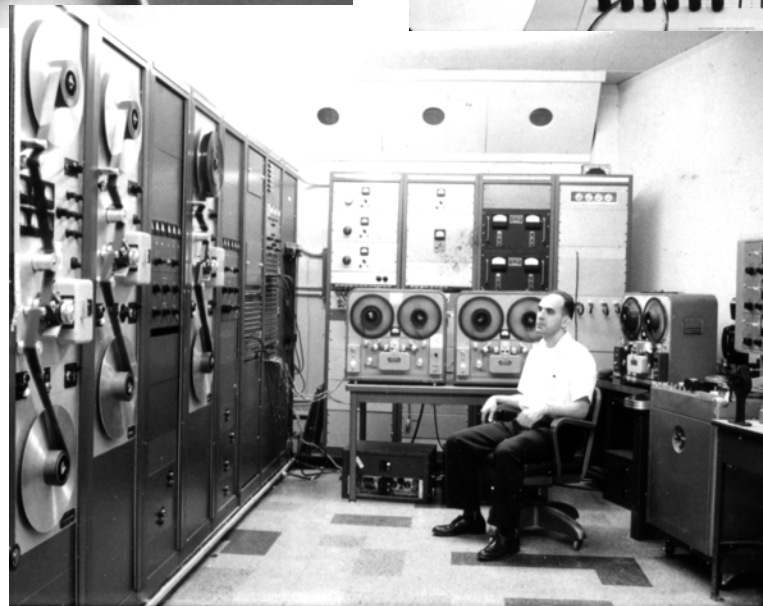
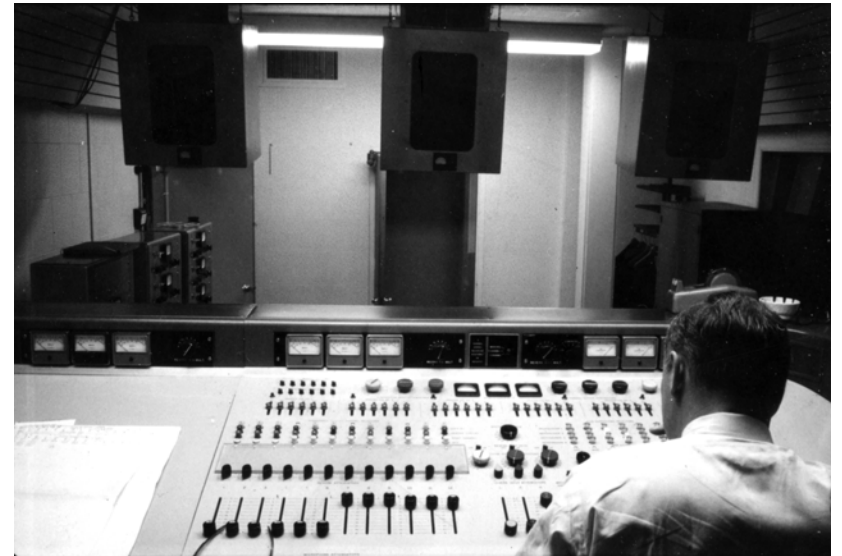
- Belock Instruments' board shut down Everest in late 1960.
- By spring, 1961, Fine Recording Inc. acquired the studio in Bayside, Queens and all of the recording equipment. Former Everest engineer Ted Gossman was hired. Facility renamed Fine Recording Bayside.
- Owner C. Robert Fine had many years' experience in film-sound production and working with magnetic film. Fine Recording's studio in Manhattan already had extensive sound-for-picture business.
- Fine Recording clients Mercury Records, Command Records and Cameo/Parkway expressed interest in 35mm recording.

Fine Recording Bayside



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Mercury "Civil War" Production Session

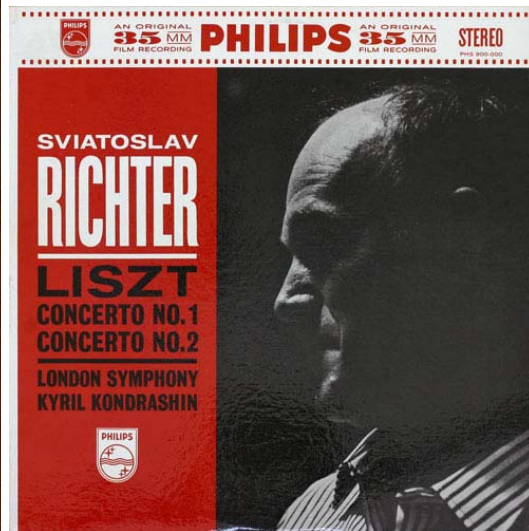




Mercury Living Presence 35mm

- First MLP recording on 35mm took place May, 1961 in Rochester – SR90245 / Fred Fennell – The Music of Andrea and Giovanni Gabrieli.
- 35mm recordings made in London, Moscow, Detroit, Minneapolis, Rochester and at Fine Recording Bayside.
- Mercury recorded Richter/Liszt (Philips PHS 900 000) in London 6/61 on 35mm.
- 35mm equipment traveled to Moscow 6/62.
- Final 35mm recordings made in London, 7/63.
- Surviving 35mm masters were used to make MLP CD reissues in the 1990's. Playback on original Westrex equipment.

Mercury Living Presence 35mm LP Covers



Mercury Living Presence 35mm Ads



Mercury announces the first Living Presence recording made directly from 35-mm. magnetic film

RACHMANINOFF: Piano Concerto No. 3, Byron Janis, pianist; London Symphony, Antal Dorati. SR90283—stereo; MG50283—monaural.

This disc, either stereo or monaural, has virtually no background hiss. Its frequency and dynamic ranges seem almost limitless. It has the perspective, clarity, and spaciousness of a live performance. The piano and all the instruments of the orchestra sound so completely natural that you will probably think it is a live performance.

Put Mercury's marvelous new recorded-on-film album of Rachmaninoff's *Third Piano Concerto* on your turntable, and listen. It's truly a disc with a difference.

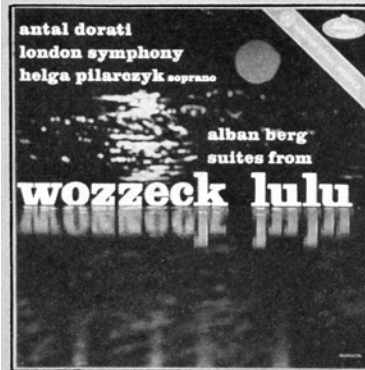
OTHER NEW RELEASES

SCHUBERT: Symphony No. 8 ("Unfinished"); Incidental Music to "Rosamunde". Minneapolis Symphony, Skrowaczewski. SR 90218—stereo; MG 50218—monaural.
CHABRIER: España; Suite Pastorale; Danse Slave; Fête Polonoise. Detroit Symphony, Parry. SR 90212—stereo; MG 50212—monaural.
SOUSA ON REVIEW: Twelve Marches. Eastman Wind Ensemble, Fennell. SR 90284—stereo; MG 50284—monaural.

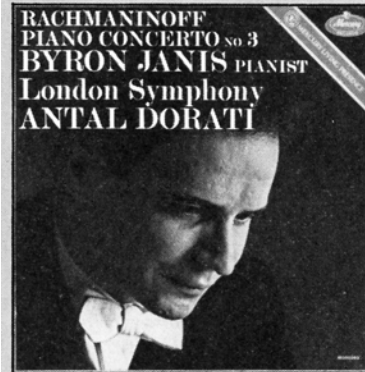


CIRCLE 79 ON READER-SERVICE CARD

104



BERG Excerpts from "Wozzeck"; Suite from "Lulu". Helga Pilarczyk sings the parts of Marie and Lulu from two of the twentieth century's most lyric and impassioned operas, and Antal Dorati brings other parts of the scores to equally full life. London Symphony. SR90278/MG50278.



RACHMANINOFF Piano Concert No. 3 in D minor. Byron Janis, young American virtuoso, puts his signature on another immensely popular concert piece. London Symphony, Dorati. SR90283/MG50283



NOW!

**FROM 35MM FILM
LIVING PRESENCE
*plus***

● **plus** increased realism. Broad, clear musical sound, more natural than you have ever heard on a recording.

● **plus** wider dynamic range. Fortissimos and pianissimos that were never before possible.

● **plus** incredibly quiet surfaces. No tape hiss. No flutter. All you hear is the music.

Mercury artists, as always, provide superb-*plus* performances. Hear these newest (and other)* Living Presence albums today.

35 mm
Living
Presence
plus

35 mm
Living
Presence
plus

35 mm
Living
Presence
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35 mm
Living
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plus

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Living
Presence
plus

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Living
Presence
plus


35 mm
Living
Presence
plus

Mercury Living Presence 35mm Ads



“When the cannonade was at its height, a Confederate band of music began to play polkas and waltzes which sounded very curious, accompanied by the hissing and bursting of the shells.”

COLONEL ARTHUR J. L. FREMANTLE, British military diarist with Lee at the time of the Battle of Gettysburg



THE CIVIL WAR

★ ITS MUSIC AND ITS SOUNDS ★

THIS UNIQUE ALBUM tells the story of the Civil War through its music and the men who made it—bandsmen, buglers, fifers and drummers. The Union and Confederate songs recorded here are taken from actual Civil War band books and played on authentic Civil War instruments. Included are such favorites as Hail to the Chief, Listen to the Mockingbird, Dixie and Bonnie Blue Flag; Camp, Garrison and Field Calls for Fife and Drum; and Cavalry Bugle signals.

For this deluxe LIVING PRESENCE SOUND SERIES presentation, Mercury has combined over 1500 shots from authentic Civil War weapons in 93 separate battle sound tracks to re-create the Battle of Gettysburg's awesome sounds of conflict. Martin Gabel narrates this spectacular dramatic sequence.

FREDERICK FENNELL
EASTMAN WIND ENSEMBLE

THERE HAS NEVER BEEN A RECORD ALBUM LIKE THIS ONE—IT IS A LASTING AND INSPIRING RECORDED

LPS 2-501 DOCUMENT FOR THE ENTIRE FAMILY. LPS 2-501

LIVING PRESENCE SOUND SERIES 35^M

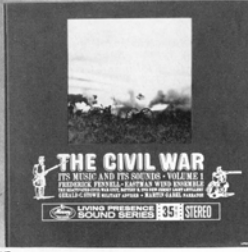
AN ORIGINAL 35MM MAGNETIC FILM RECORDING

CIRCLE 61 ON READERS-SERVICE CARD

OTHER SPECTACULAR SOUND PRESENTATIONS IN MERCURY'S SERIES OF BATTLE-MUSIC RECORDINGS:

1812 OVERTURE (with cannon and bells) by Tchaikovsky. Minneapolis Symphony, Dorati. SR90054/MG50054

WELLINGTON'S VICTORY (with cannon and muskets) by Beethoven. London Symphony, Dorati. LPS0000/LPS0000



APRIL 1962

69

Mercury Living Presence 35mm CDs

MERCURY LIVING PRESENCE 35 M M

BYRON JANIS
 SCHUMANN *Piano Concerto in A Minor, Op. 54*
 Minneapolis Symphony Orchestra
 Stanislaw Skrowaczewski conducting
Arabeske in C, Op. 18


TCHAIKOVSKY
Piano Concerto No. 1 in B-flat Minor, Op. 23
 London Symphony Orchestra
 Herbert Menses conducting



MERCURY LIVING PRESENCE 35 M M

SCREAMERS
 Circus Marches

MARCH TIME
 Marches by Edwin Franko Goldman & Others




FREDERICK FENNELL
 conducting the
EASTMAN WIND ENSEMBLE

MERCURY LIVING PRESENCE 35 M M

PROKOFIEV
ROMEO AND JULIET
 BALLET SUITES NOS. 1 & 2
 MINNEAPOLIS SYMPHONY ORCHESTRA
 STANISLAW SKROWACZEWSKI

MOUSSORGSKY
A NIGHT ON BALD MOUNTAIN
 LONDON SYMPHONY ORCHESTRA
 ANTAL DORATI



MERCURY LIVING PRESENCE 35 M M

BALALAIKA FAVORITES
 OSIPOV STATE RUSSIAN FOLK ORCHESTRA
 FIRST RECORDINGS EVER MADE IN THE SOVIET UNION
 BY AMERICAN MUSICAL AND
 TECHNICAL STAFF AND EQUIPMENT
 RECORDED BY MERCURY ON LOCATION IN MOSCOW




MERCURY LIVING PRESENCE 35 M M

BYRON JANIS
 LISZT - PIANO CONCERTOS NOS. 1 & 2
ENCORE BYRON JANIS
 LISZT - SCHUMANN - FALLA - GUION
 FIRST RECORDINGS EVER MADE IN THE SOVIET UNION
 BY AMERICAN TECHNICIANS AND MUSICAL
 STAFF AND EQUIPMENT
**RECORDED BY MERCURY
 ON LOCATION IN MOSCOW**



MERCURY LIVING PRESENCE 35 M M

Janos Starker
 DVORAK
 CELLO CONCERTO
 IN B MINOR, OP. 104
 BRUCH
 KÖLNIDREI
 TCHAIKOVSKY
 VARIATIONS ON
 A ROCOCO THEME
 ANTAL DORATI
 London Symphony
 Orchestra




Mercury Living Presence 35mm CDs



Mercury Living Presence 35mm CDs





Mercury Pop 35mm – f:35^d

- Mercury's pop and jazz divisions already had the audiophile-oriented "Perfect Presence" series. 35mm recordings were added under the "f:35d" banner.
- Recordings were made at: Fine Recording Bayside; United Recording Studios, Hollywood; Radio Recorders, Hollywood; Universal Recording, Chicago.
- Artists included David Carroll, Xavier Cugat, Fred Fennell, Pete Rugolo, Herman Clebanoff.
- Packaging featured gatefold covers, gold-colored labels, detailed information about recording setups and 35mm technology, etc.

Mercury Pop 35mm - f:35^d Cover Art

f:35^d PERFECT PRESENCE SOUND

Prepare to enter a new adventure in the world of sound. Sound you've never experienced in record listening before. Sound with a new dimension that defies comparison with any other recording technique. MERCURY's new f:35^d Perfect Presence Sound involves so many revolutionary elements that a whole new chapter has been created in the history of sound recording.

These are some of the fantastic elements that rocket f:35^d PPS recordings to new plateaus of listening pleasure.

f **MONITORING RECORDING TECHNIQUE**

Film fidelity. Not high fidelity... not increased fidelity... but ultimate fidelity. The greatest signal to noise ratio ever.

35 **TRACK NO. 1 TRACK NO. 2 TRACK NO. 3**

The original recording is made from 35mm magnetic film. Film runs faster, broader sound with a greater dynamic range. It means that instruments and singers' voices are more accurately reproduced in terms of timbre, clarity and sustenance, thanks to the absence on film of flutter and background hiss. It means that the entire recording gains in perspective and specification.

d **In-f-i-n-i-t-e D-e-p-t-h**

f:35^d Perfect Presence Sound offers far more than the ordinary separation found on other stereo recordings. The early attempts at separating sound into two channels, used in other recording techniques, permitted the listener to separate music from the right and left, with increased definition of the various instruments of the orchestra. "Infinite depth" pertains to you, the listener, not only left and right, but front and rear as well. Advanced Recording.

The relative depth was one of the achievements of MERCURY's Perfect Presence Sound series. The "infinite depth" phenomenon was even better achieved in f:35^d magnetic recordings.

The f:35^d recording technique is adaptable to the Fairchild Corporation's mark-harshard new extension work. When the Fairchild extension is available, sources of f:35^d Perfect Presence Sound recordings can be among the first to take advantage of this amazing new development in sound reproduction.

Perfect Presence Sound

PERFECT PRESENCE SOUND FROM 35MM MAGNETIC FILM

Perfect Presence Sound, even though the treatment may be played upon while the magnetic are wound. When placed on tape for a new recording sound. In addition, two sound microphones are placed at the distance from the sound source as the sound microphone is placed from the studio. The two microphones are fed only to the two "outside" channels of the f:35^d track film. The addition of these ultra-sensitive microphone results are the Perfect Presence Sound's "infinite depth."

35MM MAGNETIC FILM RECORDING ADVANTAGES

1. Film runs the background noise of a recording room is reduced.
2. No flutter. Film is used as a specially designed magnetic which gains in strength for almost any operational path across the recording head.
3. The recording width of film is nearly three times that of conventional magnetic tape. This allows much more space for each channel in permanent recording and eliminates the danger of "cross-talk" between tracks.
4. The full thickness of film is up to 1.2 mils for tape means less danger of print-through in storage.
5. Better magnetic response and a greatly extended frequency range on track possible due to the fact that the film is 30 times as long as the tape for recording film, and the almost long path for the tape is 30 times longer.

Below is a block diagram of the f:35^d automatic phasing, mixing console. Each channel has its own preamplifier with built-in equalization, electronic reverberation, and gain reduction amplifiers. Any part of the frequency spectrum can be varied by as sensitive a measurement as ± 1 db.

BOBBIED

f:35^d PERFECT PRESENCE SOUND STEREO

Los Chavales De España Spanish Fire

THIS IS AN ORIGINAL 35MM MAGNETIC FILM RECORDING

f:35^d

Jazz Blue Club

CLEBANOFF and his Orchestra

Strings Afire

f:35^d PERFECT PRESENCE SOUND RECORDING

f:35^d HIGH FIDELITY

f:35^d PERFECT PRESENCE SOUND STEREO

FREDERICK FENNELL

Conducts COLE PORTER

f:35^d PERFECT PRESENCE SOUND RECORDING

STEREO TAPE & TRACK 70, 196 BT-6024

f:35^d PERFECT PRESENCE SOUND HIGH FIDELITY

CUGAT PLAYS CONTINENTAL HITS

f:35^d PERFECT PRESENCE SOUND RECORDING

Xavier Cugat and His Orchestra

Jazz Blue Club



Command Records 35mm

- Enoch Light's Command Records, owned by ABC Records, was established in 1958 to produce "stereo spectacular" audiophile recordings. Succeeded right away with "Persuasive Percussion," "Provocative Percussion," "Bongos," etc.
- Command jumped into 35mm with both feet. Pop album "Stereo/35mm" topped Billboard's Stereo LP chart.
- After signing William Steinberg/Pittsburgh Symphony, Command Classics launched. All orchestral titles recorded on 35mm.
- Various Command pop and classical titles were recorded on 35mm through 1968.
- Enoch Light left Command in 1967 to start Project 3.

Command Records "Stereo 35/MM" Ad

Advertisement

Command Records Introduces



The first time you hear this record will be one of the most startling experiences of your entire life.

For the very first time you will hear sound that is completely liberated, sound that is totally free—pure, full, honest sound with no mechanical restrictions whatsoever.

No record like this has ever been made before.

It reveals the most astounding development in recording techniques since the first fabulous Command Record, *Persuasive Percussion*, completely revolutionized the accepted concepts of sound on records.

You will hear sound so intensely real that you can actually feel the presence of each individual musical instrument.

For the first time you will hear music reproduced in all its full power and glory, with all of its widest, widest breadth and with every last element of imposing depth. The sound is so pure, so totally true, that it is possible to reproduce music of such great intensity that it actually approaches the threshold of pain.

Listening to this record can be a shocking experience. It can be exhausting, it can be exhilarating. But it won't be a casual experience. This is an adventure in listening that you will never forget.

Three main elements have made this fantastic record possible:

(1) The unique Command recording techniques that have made Command the most distinguished name in sound recording,

(2) Plus the natural acoustics of the greatest sound chamber in the world—the auditorium of Carnegie Hall in New York,

(3) Plus a miraculous new method of recording on film.

The key to this startling breakthrough to a whole new world of sound recording lies in new techniques for using 35 mm magnetic film for recording that have been devised by Command's research team, C. R. Fine, Chief Engineer and Enoch Light, Director of Artists & Repertoire. They began to explore the possibilities of film recording when it became apparent that tape recording had been developed, largely through their research, to such a point that further development was limited by the very nature of the tape itself.

These limitations were of such a minor nature that they would be of no consequence in normal, run-of-the-mill recording situations. But Command's recordings have always been designed for an especially discriminating and demanding audience, true connoisseurs of sound. Because of this, it is Command's policy to seek out every possible advance in sound reproduction, no matter how marginal it may seem or how costly it may be.

Perfect, Unadulterated Sound

In attempting to achieve perfect, unadulterated sound reproduction, in the recording of large orchestras, even the most advanced tape techniques are faced with two mechan-

ical limitations which create minor distortions that affect the ultimate purity, freedom and fullness of the reproduced sound. These two limitations are hiss and flutter. Flutter, caused by the path taken by the tape through the tape machine, creates a distortion so slight that most listeners would not be aware of it. But to the connoisseur of good music, it is evident that some peculiar non-musical sound is present, something mechanical. High frequency flutter creates raspiness in violins or, in other instruments, a sound that is not quite as clean as it should be.

A more serious limitation of tape is its physical dimensions. Most stereo recording is done on ¼-inch tape (two channels) or ½-inch tape (three channels). In either case, each stereo track is less than half the width of a monaural track on the same tape and there is a proportionate decrease in the ratio of signal to noise. That is, the noise level is raised and this increased noise level results in tape hiss. Moreover, since tape is only 1½ mils thick, very often at least an infinitesimal amount of print-through is bound to occur and this, too, has a slightly degenerating effect on the sound.

Superb Recording

Despite the combination of both flutter and hiss, it is possible to do excellent recording on tape. But Command's goal is not just excellent recording. Its goal is superb recording. And the slightly unreal instrument-sound resulting from the intermodulation effect of flutter and hiss stood in the way of that goal.

In 35 mm film, Command's engineers saw a solution. Film has no flutter because it runs on a closed circuit loop and is held tightly against the recording head. It is able to carry the equivalent of three ¼-inch tape tracks with more than enough space between each track to guarantee absolute separation of channels. And because the film is 5 mils thick, the possibility of contamination by print-through is negligible.

The result is a milestone on the road to absolute perfection in recorded sound: A signal-to-noise effect that is absolutely ghostly. There is no background noise whatever!

New Ear Perceptibility

But film did more than provide solutions to the minor drawbacks of tape. It also opened up new possibilities. The much wider track used on film offered

SUGGESTED NATIONAL PRICE LIST: COMMAND STEREO #826SD "STEREO/35MM": \$5.98. COMMAND MONAURAL #R826 "SOUND/35MM": \$4.98. COMMAND 4-TRACK TAPE #4TR26: \$7.95.

Advertisement

tremendous, previously unheard-of leeway in dynamics—and as a result distortion was reduced to a bare minimum. The wider track on film allowed for tremendous peaks and transients, factors which make for wonderful ear perceptibility. What sounds your ear is willing to receive is conditioned by the presence or absence of transients. Lack of transients results in a distorted sound. When the ear hears distortion, it closes down just as the eye responds to a bright light by contracting. When sounds are lacking in transients, you hear less. The amazingly clean sound on film gives the ear a wonderful feeling of well-being, makes it increasingly receptive so that you actually hear more.

Film, of course, has been used for recording sound for motion pictures to be reproduced in theatres. But it has never proved satisfactory for recordings in the distinctly different circumstances of home use. This was a basic flaw in choosing film as a solution to the limitations of tape.

But, just as Command's engineers expanded the value and scope of tape recording, they applied their creative skills to the roadblocks that faced them in 35 mm film and, one by one, solved them. To do this, they had to make adaptations in equipment at almost every step of the recording process.

Utter Clarity and Truth

For the first time it is possible to record with utter clarity and truth from triple piano (*ppp*) to triple forte (*fff*). Even in a full crescendo, the individuality of each instrument is preserved, not lost in a mass of sound. With the orchestra playing fortissimo, it is now possible to give the full spectrum of sound with absolutely clean musical color.

The one hitch in this glorious vista of sound developed by Command's engineers was cost—film recording (cost of material) is an appalling *ten times* as expensive as tape recording. Were the results worth this vast difference in price?

Enoch Light, originator and producer of Command Records, decided that the only way to find out was to test film recording under the best possible circumstances.

For his recording studio, he hired Carnegie Hall which is recognized by sound experts and master musicians alike to have the finest acoustics in the world. He took advantage of the Hall's

natural acoustics by using the auditorium as a big sound chamber (it is part of Command's highly successful recording technique to use only true, natural sound). Normally from one to three microphones are dropped from the ceiling of the auditorium to record an orchestra. But Light used fourteen microphones with a twelve-position control board to give proper perspective to each instrument or group of instruments in relation to the whole orchestra.

Tremendous Sonic Leeway

For his orchestra, Light brought together more than sixty of the most skilled musicians in New York including many who were thoroughly familiar with the special recording techniques used by Light to create his unique Command Records in the past. Arrangements were written by Lew Davies that deliberately exploited the critical point of sound, using the full extremes of every instrument in all timbres and in all colors.

The musicians, keyed up by the excitement of the astonishing results they heard in the first playbacks, played at the very top of their form. The precision, the impact, the intonation in their playing and the balance that the musicians established among themselves reached a level of high perfection that matched the superb acoustics of the Hall and the brilliant fidelity of the miraculous recording technique for which they were playing for the first time.

Because every single sound can be heard so clearly and so individually, this was one of the most demanding series of recording sessions ever held. Not even the slightest error could be covered up.

"Everything is so exposed," Light remarked between takes, "if the least little thing goes wrong, we're in trouble."

That sort of full exposure was the goal. It is revealed in these astonishing, breathtaking recordings—performances that are an overwhelmingly, unprecedented combination of musical brilliance and startlingly real, completely unlimited sound reproduction.

Arrangements include: Heat Wave, The Man I Love, I've Got a Crush on You, All the Way, My Romance, You Do Something to Me, Zing Went the Strings of My Heart, Someone to Watch Over Me, Love for Sale, I'll See You Again, I See Your Face Before Me and With A Song in My Heart.

the greatest advance in sound since hi-fi was invented
Command records

Command Classics 35mm Ad

Command[®]
records *originators of the world's
leading stereophonic records announce an
important new advance in the recording
of great classical repertoire and world
famous artists.*

Command
CLASSICS
*designed for the most discriminating and
demanding individuals.*

*Original master
recorded on 35 millimeter magnetic film*

35
MM

For the very first time you will hear sound that is completely liberated, sound that is totally free—pure, full, honest sound with no mechanical restrictions whatsoever.

You will hear sound so intensely real that you can actually feel the presence of each individual musical instrument.

You will hear exciting performances recorded with utter clarity and truth from triple piano (ppp) to triple forte (fff).

Produced by Enoch Light and the COMMAND research team of music and sound experts these new COMMAND CLASSICS offer performances that are an unprecedented combination of musical brilliance and startlingly real, completely unlimited sound reproduction.

CIRCLE 35 ON READER-SERVICE CARD

42

HIGH FIDELITY MAGAZINE

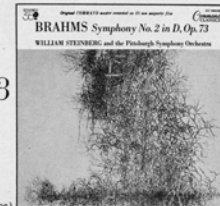
COMMAND CLASSICS PRESENTS

BRAHMS/ Symphony No. 2 in D, Op. 73
WILLIAM STEINBERG
and the Pittsburgh Symphony Orchestra

CC 33-11002 (mono)

CC 11002 SD (stereo)

CC 4T 11002 (4-track tape)

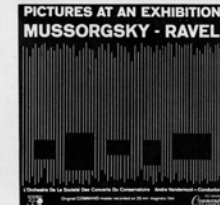
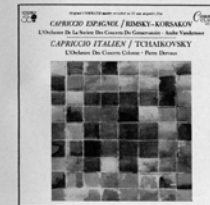
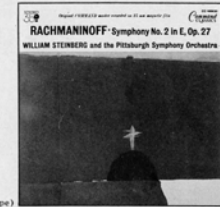


RACHMANINOFF
Symphony No. 2 in E, Op. 27
WILLIAM STEINBERG
and the Pittsburgh Symphony Orchestra

CC 33-11006 (mono)

CC 11006 SD (stereo)

CC 4T 11006 (4-track tape)



RIMSKY-KORSAKOV / *CAPRICCIO ESPAGNOL*
Andre Vandernoot / L'orchestre de la Societe des Concerts du Conservatoire

TCHAIKOVSKY / *CAPRICCIO ITALIEN*
Pierre Dervaux...L'orchestre des Concerts Colonne

CC 33-11004 (mono) CC 11004 SD (stereo) CC 4T 11004 (4-track tape)

RAVEL / *Daphnis et Chloe, Suite No. 2*
La Valse / Alborada del Gracioso
Pierre Dervaux...L'orchestre des Concerts Colonne

CC 33-11005 (mono) CC 11005 SD (stereo) CC 4T 11005 (4-track tape)

MUSSORGSKY-RAVEL / *PICTURES AT AN EXHIBITION*
Andre Vandernoot / L'orchestre de la Societe des Concerts du Conservatoire

CC 33-11003 (mono) CC 11003 SD (stereo) CC 4T 11003 (4-track tape)

SUGGESTED NATIONAL PRICE LIST: STEREO \$5.98 MONAURAL \$4.98 4-TRACK TAPE \$7.95

CIRCLE 35 ON READER-SERVICE CARD

OCTOBER 1961

43

Command Records 35mm

Command **most acclaimed label
in recorded sound!**
POPULAR... AND... CLASSICAL

STEREO 35/MM, Volume 1



The Nation's No. 1 Best-Selling Stereo Album

Enoch Light and His Orchestra, 60 of America's Finest Musicians performing at Carnegie Hall, recorded on 35 mm magnetic film.

LIFE MAGAZINE: "For sparkling sound, STEREO 35/MM, VOLUME 1, with Enoch Light playing pop standards, is the season's biggest ear-opener."

HIGH FIDELITY MAGAZINE: "With this spectacular recording Enoch Light's COMMAND label has crossed one more threshold to the ultimate in sound-on-disc. Mr. Light has given us stereo sound of remarkable transparency, tremendously wide dynamic range, and wide transient response — and this with almost complete freedom from distortion or background noise. Happily, the music appeal of this sonic spectacular is well up to the level of the aural excitement. In short, this recording is a triumph of the recording engineer's art."

McCALL'S MAGAZINE: "There's no question that the music reaches the listener with breath-taking clarity and cleanness, and if you know someone who likes his music presented with this degree of excellence, you won't go wrong giving him this record."

AND JUST RELEASED...

STEREO 35/MM VOLUME 2

Enoch Light and His Orchestra

COMMAND, producer of STEREO 35/MM, VOLUME 1, presents its latest advance in the realization of "greater range in dynamics, frequency and dimension," now possible in the reproduction of sound through their brilliant new recording process. STEREO 35/MM, VOLUME 2 is a "must" for anyone who appreciates excitingly beautiful, superbly recorded music.

BOTH ALBUMS AVAILABLE AS:

STEREO { #RS 826 SD "Stereo 35/MM, VOLUME 1"
 { #RS 831 SD "Stereo 35/MM, VOLUME 2"
MONAURAL { #RS 33-826 "Sound 35/MM, VOLUME 1"
 { #RS 33-831 "Sound 35/MM, VOLUME 2"

FEBRUARY 1962

BRAHMS Symphony No. 2 in D, Op. 73



Chosen the Best Classical Orchestral Album of 1961

William Steinberg and the Pittsburgh Symphony Orchestra, Original COMMAND master recorded on 35mm magnetic film.

THE NEW YORK HERALD TRIBUNE: "This is the finest Brahms Second in stereo, and one of the finest ever recorded."

AMERICAN RECORD GUIDE: "The result is the loveliest-sounding performance of the Brahms Second you ever heard from a record... beyond question the most lifelike sound any of us has ever heard."

THE REPORTER MAGAZINE: "The performance is as effective as the engineering. His [Steinberg's] lithe, delicately accented reading of the Brahms Second combined with COMMAND'S cleanly defined recording makes this the most desirable version of the work now available."

COMMAND'S COMPLETE CLASSICAL SERIES ... all master-recorded on 35mm magnetic film.

CC 11002 SD (stereo) BRAHMS/Symphony No. 2 in D, Op. 73.
CC 33-11002 (monaural) WILLIAM STEINBERG and the Pittsburgh Symphony Orchestra

CC 11003 SD (stereo) MUSSORGSKY-RAVEL/Pictures At An Exhibition — ANDRE VANDERNOOT/L'Orchestre de la Societe Des Concerts du Conservatoire

CC 33-11003 (monaural) RIMSKY-KORSAKOV/Capriccio Espagnol — ANDRE VANDERNOOT/L'Orchestre de la Societe Des Concerts du Conservatoire

CC 11004 SD (stereo) ANDRE VANDERNOOT/L'Orchestre de la Societe Des Concerts du Conservatoire

CC 33-11004 (monaural) TCHAIKOVSKY/Capriccio Italien—Pierre Dervaux/L'Orchestre Des Concerts Colonne

CC 11005 SD (stereo) RAVEL/Daphnis et Chloe, Suite No. 2 — La Valse/Alborada del Gracioso—PIERRE DERVAUX/L'Orchestre Des Concerts Colonne

CC 33-11005 (monaural) RACHMANINOFF/Symphony No. 2 in E, Op. 27

CC 11006 SD (stereo) WILLIAM STEINBERG and the Pittsburgh Symphony Orchestra

CC 33-11006 (monaural) RAVEL/Bolero — Rhapsodie Espagnol — PIERRE DERVAUX/L'Orchestre Des Concerts Colonne

CC 11007 SD (stereo) DEBUSSY/La Mer — Fetes/Iberia — PIERRE DERVAUX/L'Orchestre Des Concerts Colonne

CC 33-11007 (monaural) BERLIOZ/Symphonie Fantastique, Op. 14

CC 11008 SD (stereo) ANDRE VANDERNOOT/L'Orchestre National

CC 33-11008 (monaural) MOZART, Piano Sonata in F for Four Hands, K. 497—SHUBERT/Fantasy in F Minor, Op. 103/MENDEL-SSOHN/Allegro, Brilliant in A. Played by LEONID HAMBRO and JASCHA ZAYD

CC 11009 SD (stereo) BRAHMS/Symphony No. 1 in C Minor, Op. 68

CC 33-11009 (monaural) WILLIAM STEINBERG and the Pittsburgh Symphony Orchestra

Send for free descriptive brochure of all COMMAND releases.

Command RECORDS

1501 Broadway
New York, N. Y.

CIRCLE 24 ON READER-SERVICE CARD

1



At right, seated: conductor Steinberg (with pipe); composer Bennett; Command producer Byrne. Below, Mr. Bennett chats with "Music Makers" man Roland Gelatt.

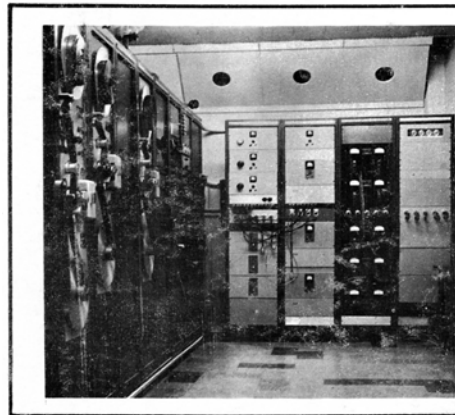




Other 35mm Players

- **Cameo/Parkway released a series of 35mm records, made at Fine Recording Bayside and on-location by Fine Recording.**
- **After leaving Command Records in 1967, Enoch Light launched Project 3. Initial recordings on the new label were 35mm. One of the early sessions, at Fine Recording in Manhattan, was detailed in a Popular Science article. Project 3 later moved most recording to A&R Studios and continued to record on 35mm until the late 1960's.**
- **Reprise Records, at the time owned by Frank Sinatra, issued some "Dual 120CMPS 35MM" albums, made by Bill Putnam at United Recording in Hollywood.**
- **Still others??? Who? Where? When?**

Cameo/Parkway



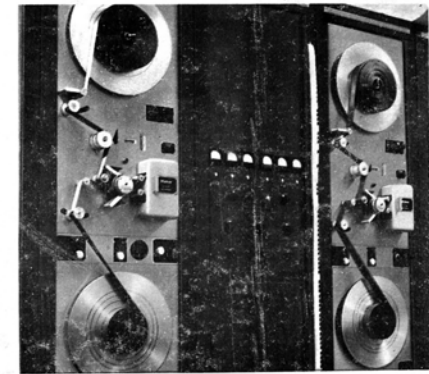
TECHNICAL DATA

The use of 4-channel, 35-millimeter film instead of conventional magnetic tape is responsible for the radical improvement in sound quality that can be heard on this record. Because of the greater film width, each recording track is 2½ times the track width on conventional tape. This extra-wide track results in a greatly improved signal-to-noise ratio and a consequent reduction of hiss to the point where it is virtually inaudible.

Like movie film, 35-millimeter film is sprocket-driven. It moves across the recording heads in a "closed loop" which permits a very fine control of film speed. As a result, disturbances due to speed fluctuation—"wow" and "flutter"—are reduced to a level that even the most sensitive ear cannot detect.

Finally, 35-millimeter film is more than three times as thick as ordinary magnetic tape. For this reason, "tape print-thru," which is the undesirable transfer of sound from one turn to another in the tape roll, is eliminated along with other spurious noises.

The original 35-millimeter film "takes" were made with a custom-built Westrex console and Westrex RA 1552 film recorders. To cut the record masters, the tape was played back on a Westrex RA 1551 film transport. The signal was fed through Pultec equalizers and 200-watt McIntosh amplifiers into a Westrex 3A stereo cutter mounted on a Scully lathe for the stereo version, and a similarly mounted Miller cutter for the monaural version.



STEREO SC 400B

4 CHANNELS **35 MM FILM**

THE NEWEST ADVANCEMENTS IN RECORDED MUSIC... AT NO PREMIUM COST

Exotica

CAMEO

4:35 **STEREO** SC 400B CAN BE PLAYED ON ANY STEREO SET

EXOTICA

TED AULETTA AND HIS ORCHESTRA

Exotica captures the glitzy 4:35 lifestyle that dominated the late 1940s and early 1950s. The album is a collection of 12 tracks, including "The Exotica Suite" and "Exotica Suite (Part 2)".

SIDE 1		SIDE 2	
01. Exotica Suite (Part 1)	2:30	01. Exotica Suite (Part 2)	2:30
02. Exotica Suite (Part 2)	2:30	02. Exotica Suite (Part 3)	2:30
03. Exotica Suite (Part 3)	2:30	03. Exotica Suite (Part 4)	2:30
04. Exotica Suite (Part 4)	2:30	04. Exotica Suite (Part 5)	2:30
05. Exotica Suite (Part 5)	2:30	05. Exotica Suite (Part 6)	2:30
06. Exotica Suite (Part 6)	2:30	06. Exotica Suite (Part 7)	2:30
07. Exotica Suite (Part 7)	2:30	07. Exotica Suite (Part 8)	2:30
08. Exotica Suite (Part 8)	2:30	08. Exotica Suite (Part 9)	2:30
09. Exotica Suite (Part 9)	2:30	09. Exotica Suite (Part 10)	2:30
10. Exotica Suite (Part 10)	2:30	10. Exotica Suite (Part 11)	2:30
11. Exotica Suite (Part 11)	2:30	11. Exotica Suite (Part 12)	2:30
12. Exotica Suite (Part 12)	2:30		

PERSONNEL: Ted Auletta - Piano, Organ, Conductor; His Orchestra - Musicians.

TECHNICAL DATA

The use of 4-channel, 35-millimeter film instead of conventional magnetic tape is responsible for the radical improvement in sound quality that can be heard on this record. Because of the greater film width, each recording track is 2½ times the track width on conventional tape. This extra-wide track results in a greatly improved signal-to-noise ratio and a consequent reduction of hiss to the point where it is virtually inaudible.

CAMEO

Cameo/Parkway

4:35 *
NEWEST SOUND ON RECORDS

*The GREATEST ADVANCE
 in RECORDED MUSIC
 since the invention of the
 phonograph record*

MONO or STEREO Only \$3.98
NPG'S SUGG. LIST PRICE

NO RECORD LIBRARY CAN BE CONSIDERED COMPLETE WITHOUT THIS FABULOUSLY NEW 4:35 SERIES. This is the cleanest, widest range of "laboratory-pure" sound ever devised, recording the wonderful music you have loved for years. Anyone can hear the difference! (You shouldn't be satisfied with less.)



AN EXCITING EVENING AT HOME WITH THE INTERNATIONAL POP ORCHESTRA. IF THE BIG BANDS WERE HERE TODAY VOLUME 1. THE ACADEMY OF MUSIC OF PHILADELPHIA ORGAN. IF THE BIG BANDS WERE HERE TODAY VOLUME 2.



BROADWAY ORIGINALS. SOUL OF ITALY. SOUL OF HAWAII. EXOTICA.

* **4 CHANNELS** = MAXIMUM SEPARATION OF SOUND
35 MILLIMETER = MAXIMUM CLARITY OF RECORDED SOUND

CAN BE PLAYED ON ANY LONG PLAYING RECORD PLAYER.



RECORDS AVAILABLE AT YOUR RECORD DEALER OR WRITE
PARKWAY
 1405 LOCUST ST.
 PHILADELPHIA 2, PA.

THE BIG ONES ARE ON CAMEO/PARKWAY

RECOMMENDED FOR YOUR RECORD LIBRARY

This high-fidelity album is just one in a series of outstanding releases featuring the exclusive Cameo/Parkway 4:35 recording technique. Listed below, with their catalog numbers, are a few others presently available through your local dealer. See him for more details. . . .

- "An Exciting Evening At Home With The International 'Pop' Orchestra" C-4001
- "Soul of Hawaii" C-4002
- "Soul of Italy" C-4004
- "If The Big Bands Were Here Today—Volume I" C-4005
- "If The Big Bands Were Here Today—Volume II" C-4007
- "Broadway Originals" C-4006
- "120 Cadence Marches" C-4011
- "39 All-Time German Favorites" C-4012
- "12 Years of Academy Award Winners"—Hammond Organ C-4014
- "Exotica" C-4008
- "Spanish Inferno" C-4015
- "Musical Moods of Italy" C-4016
- "Bobby Rydell Sings With The Big Bands" C-4017

4:35 MILLI METER FILM
CHANNELS
 THE NEWEST ADVANCEMENTS IN RECORDED MUSIC... AT NO PREMIUM COST



RECORDS AVAILABLE AT YOUR RECORD DEALER OR WRITE

PARKWAY

1405 LOCUST ST.
 PHILADELPHIA 2, PA.

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Project 3



STEREO HAS COME OF AGE
PROJECT 3 RECORDS SURPASS
THE STATE OF THE ART
PROJECT 3 RECORDS HAVE
ACHIEVED TOTAL SOUND!

Total Sound is the full impact . . . distortion-free sound. You can play a Project 3 record or tape or cartridge at full volume or at lowest volume, and you will consistently enjoy the pleasure of complete musical definition of instruments, natural presence, and perfect musical balance.

In preparing for a Project 3 recording session, selection of microphones is one of the important decisions. The microphone most complimentary to the particular instrument being recorded is chosen; these microphones are matched to our console equipment, incorporating the latest technological advances, which passes the musical information to the 35 mm. magnetic film recording equipment. This insures a distortion-free, natural-presence sound.

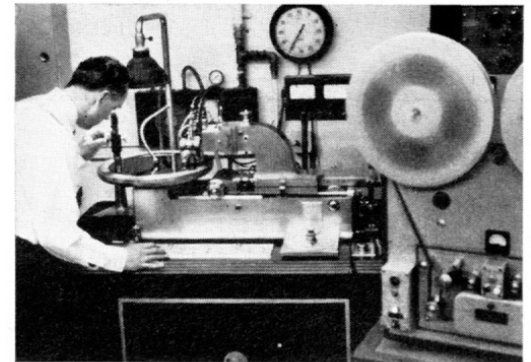
Project 3 albums are master recorded on 35 mm. magnetic film. In spite of the fact that the film is fifteen times more expensive than most studio tape, the advantages of recording on film are irrefutable. The use of 35 mm. magnetic film recording equipment, because of its sprocket-driven, closed-loop recording, insures extremely stable, flutter-free sound. The film, with its wider tracks, allows for improved signal to noise ratio; and the substance and solidity of the magnetic film completely eliminate print-through, a form of distortion.

The master disc is cut directly from the film, rather than from any intermediary mix-down step, using specially designed recording amplifiers, capable of delivering two hundred watts of power per channel, in connection with a Westrex type cutter. The master is cut and re-cut until it meets the rigid quality of our engineers.

All of the above-mentioned characteristics are important and represent a significant advance and improvement in recording; but the ultimate test of any record is in the listening. Hearing is believing; and we believe that Project 3 records have achieved Total Sound.



Performers are recorded on dual 35mm magnetic film recorders (above). Magnetic film, although superior to conventional magnetic recording tape in most respects, is not used universally in the recording industry because of its high cost: roughly 15 times the price of magnetic tape.



Film-recorded "takes" are transferred to two master disks—one for each side of the finished record—by a complex electromechanical, lathe-driven cutting head. The two cut masters are playable one-sided phonograph records, complete with lead-in and lead-out grooves and blank bands between tunes.

Reprise "Dual 120CMPS 35MM"

esquivel his piano and his orchestra
more of other worlds, other sounds

STEREO
DUAL 120 CMPS 35M

esquivel his piano and his orchestra
more of other worlds, other sounds

In last week's feature, I told you that the new Esquivel, under the leadership of "mushrooms," "affirmations," and any one of these words might be true. As a matter of fact, when we speak about Esquivel's music, we are not at all in the particular, traditional, or in the conventional perspective as a musician. Instead, people, musicians, singers, recording engineers, bring from across only from the vivid and vivid imagination of nature of most of us, and in the end, we are not at all in the conventional perspective as a musician. Instead, people, musicians, singers, recording engineers, bring from across only from the vivid and vivid imagination of nature of most of us, and in the end, we are not at all in the conventional perspective as a musician. Instead, people, musicians, singers, recording engineers, bring from across only from the vivid and vivid imagination of nature of most of us, and in the end, we are not at all in the conventional perspective as a musician.

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33 RPM STEREO SAMPLE (NOT FOR SALE)

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esquivel

WORK OF OTHER WORLDS, OTHER SOUNDS

SPLATNIK ON THE BEACH

EXPLOSIVE FRIGATE LES HALTER

THE PRODIGAL AND THE PRODIGAL



35 MM TAPE RECORDING

Many distracting noises and sounds, which are familiar to the critical listener, are eliminated or reduced to an imperceptible level when the original recording is made on 35 mm film instead of conventional tape.

The annoying sound of hearing a repeated echo when a soft passage follows a loud crescendo, which is due to "print thru" on tape, is eliminated by the use of 35 mm film.

The "masking" of soft, high frequency sounds, pianissimo violins, a soft finger cymbal, a harp glissando, is no longer possible when 35 mag is used in the original recording.

The delicate high frequency sounds have a transparency and "clean" sound which is so obvious to the listener that the impression of realism is greatly enhanced.

THE "120" SYSTEM

The mastering technique of the "120" system (*120 centimeters per second*) means that the final record quality is improved beyond that which conventional mastering methods will allow.

One of the weak links in the chain of operation which is necessary to produce the final record is the electro mechanical system which actually engraves the grooves on the master record. This device is called the recording head or cutter head and is driven by a high power audio amplifier, anywhere from 75 to 400 watts depending on the power required to properly actuate the particular cutter head.

With the evolution of the "120" system of mastering the power required of the recording driver amplifier and the cutting head is less than one-fourth that used by conventional systems. Therefore the distortion is reduced to a level unobtainable by conventional methods.

Since more power is normally required to handle loud instantaneous peaks at high frequencies this reserve power of the "120" system results in better high frequency response and improved quality as well.



The End of An Era

- 35mm fad seems to have completely died out by 1970. First-hand participants often cited the high cost of magnetic film and somewhat more costly and complex production techniques as the main reasons.
- Also, Dolby NR and quieter tape formulations came along. And professional tape machine designs improved through the 1960's.
- Plus, recording of pop and rock music moves to many tracks with overdubbing, remixing, etc. Fast-winding, pick-up recording, auto-locate, etc, became mandatory.

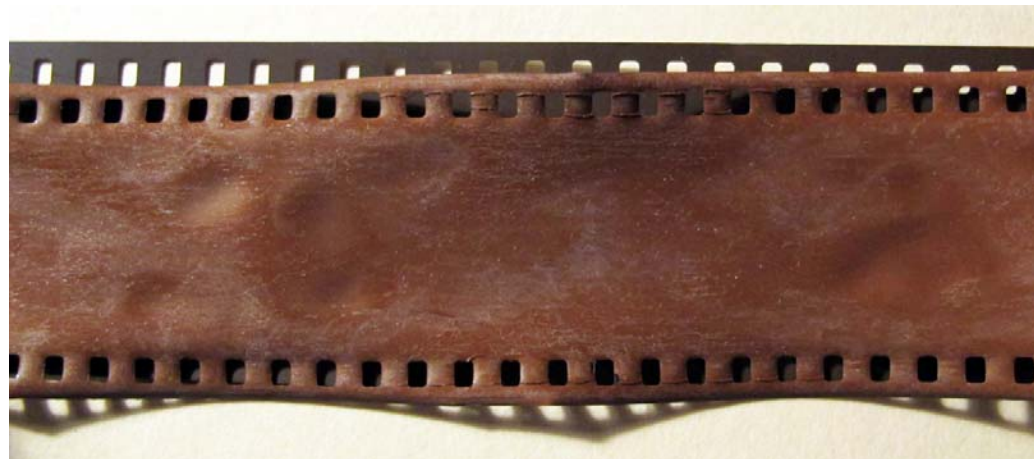


35mm Preservation Issues

- Time has not been kind to the master films from the 35mm Fad.
- 35mm mag-film from that era was acetate-base and tends to suffer from “vinegar syndrome” and other deterioration/shrinkage.
- Record companies were not vigilant in their vaults. Many 35mm masters are now lost. Some were ordered destroyed.
- Those masters that survive tend to be in very poor condition.
- Some Mercury 35mm masters survived and were reissued on CD in the 1990’s. Ditto for some Everest masters. A few Command Classics 35mm masters were reissued on CD by MCA Classics.

35mm Preservation Issues

- Below is an example of early 1960's magnetic film damaged by time.
- Nick Bergh: “A mix of all sorts of problems. The dimples are caused by uneven shrinkage and breaking of the acetate polymer chains. The white is hardened plasticizer crystals that must be cleaned off. Under the old (film) is a new piece of (film) so you can see the amount of shrinkage. The width is about 33mm.”





Further Reading

- AES Convention Preprint #114 (1959-October): “The Use of 35mm Sprocket Type Magnetic Film In Recording Phonograph Masters” by John G. Frayne, Westrex Corp.
- JAES Vol. 8, Issue 3 (1960-June): “The Use of 35mm Sprocket-Type Magnetic Film in Recording Phonograph Masters” by John G. Frayne and J. W. Stafford, Westrex Corp.
- Popular Science Magazine, 1967-August: “Today’s Stereo Sound – How They Capture It On Records” by Ronald M. Benry.
- High Fidelity Magazine, 1968-July: “Music Makers – Bruckner and a Loewe-Bennett Fair Lady from Pittsburgh” by Roland Gelatt.
- Classic Record Collector, Spring 2007: “The Ascent and Descent of Everest” by Lonn Henrichsen and David Patmore.
- Preservation Sound blog entry: “Fine Recording Inc: Pioneers in High-Fidelity Studio Recording.” <http://www.preservationsound.com/?p=3939>



Available Recordings (as of 2013)

- Many Everest 35mm recordings were reissued as Amazon disc-on-demand CDR's and in various download formats by the current Everest owner, Countdown Media, a unit of BMG.
- All of the Mercury Living Presence 35mm masters that survived in 1990 were remastered for CD. Although most of the single-CD albums are now out of print, all of the 35mm remasters were included in the two recent Living Presence box sets, available through Amazon and Amazon.uk.
- The Richter/Liszt 35mm recording made for Philips was remastered in the 1990's. The single-CD album is now out of print, but the disc was included in Decca Classics' Philips classical box set, available through Amazon and other retailers.
- No Command or Command Classics recordings are currently in print from the current owner, Universal Music Group/Decca Classics. Various gray-market and pirate "reissues" are sold in various countries, none remastered directly from the 35mm magnetic films. Original LPs are common at vinyl resellers.
- Cameo/Parkway, Project 3 and Reprise 35mm recordings have been out of print for decades and were never remastered for CD. Original LPs are available at many vinyl resellers.

Thank You

