

AMPEX

Professional
Audio Products
Catalog



ag-440b AG-440B SERIES RECORDER/REPRODUCER

Long the standard of the broadcast industry, the AG-440B series is a complete family of rack mounted, console and heavy-duty portable recorders for the most exacting applications. Offering versatility and performance unsurpassed, the AG-440B consists of a three-motor, pushbutton relay-solenoid-operated, dual-speed transport; separate solid-state electronics chassis for each channel with separate plug-in record, reproduce and bias amplifiers; built-in SEL-SYNC® system; automatic equalization change and a high-quality Ampex four-position head assembly.

FEATURES:

Die-cast aluminum top-plate, high speed conversion between 1/4-inch and 1/2-inch tape, low impedance heads, jewel bearing scrape flutter idlers, electronics modules plug-in from the front, set-up adjustments made from the front, plug-in equalizers, three edit modes, rapid maintenance, 10-1/2-inch reel capacity.

SPECIFICATIONS:

Signal/Noise Ratio:

Speed	Full Track	2 Track	4 Track
15 in/s	66 dB	63 dB	60 dB
7-1/2 in/s	66 dB	63 dB	60 dB
3-3/4 in/s	63 dB	56 dB	56 dB

Frequency Response—overall:

15 in/s:	±2 dB, 30 Hz—18 kHz
7-1/2 in/s:	±2 dB, 40 Hz—15 kHz
3-3/4 in/s:	±2 dB, -4 dB, 50 Hz—7.5 kHz

Flutter:

Speed	Percentage
15 in/s	below 0.08% rms
7-1/2 in/s	below 0.1% rms
3-3/4 in/s	below 0.15% rms

Playback Timing Accuracy:

±0.2% (±3.6 seconds in 30 minutes recording time).



ag-440-8 AG-440-8 MASTER RECORDER/REPRODUCER

The highly reliable AG-440 is available in an 8-track configuration using one-inch tape. This fine instrument features all the reliability and maintenance ease of the standard AG-440B. The ribbed, die-cast top plate provides rigidity essential to permanent tracking alignment. The new AG-440-8 has operating features of the 1- to 4-track units, plug-in high torque reeling motors and instrumentation type locking hold-down knobs for NAB 10-1/2-inch reels.

SPECIFICATIONS:

Signal/Noise Ratio:

7-1/2, 15 in/s: 60 dB

Frequency Response—overall:

15 in/s: ±2 dB, 30 Hz—18 kHz
7-1/2 in/s: ±2 dB, 40 Hz to 10 kHz; +2 dB -4 dB, 40 Hz to 15 kHz

Flutter:

15 in/s: below 0.08% rms
7-1/2 in/s: below 0.1% rms

Crosstalk:

Better than 65 dB at 500 Hz

AG-445B REPRODUCER

Reproducer-only version of the AG-440B series the AG-445B has the same features and specifications and the same high quality. The units are convertible between 1/4-inch and 1/2-inch tape and are available in console or unmounted versions. The same basic overbridge electronics chassis will accept from one to four channels of individual reproduce electronics. Applications include automated radio stations, commercial and industrial music systems and others where the highest quality playback of prerecorded information is needed.



ag-500 AG-500 SERIES RECORDER/REPRODUCER

A full studio quality solid-state professional recorder, the AG-500, is supplied in a rugged portable case or for rack mounting. It is available in single or two channels in a choice of dual speed arrangements. Designed for broadcast use, the AG-500 is also ideal for schools, motion picture studios, government operations and medical and industrial research.

FEATURES:

Precision milled die-cast top-plate, relay solenoid operated, remote controllable, eddy current clutches, front panel electronic adjustments, four position head assembly, two line inputs per channel.

SPECIFICATIONS:

Overall Frequency Response:

15 in/s: ±2 dB, 30 Hz—18 kHz
7-1/2 in/s: +2 dB -4 dB, 30 Hz—15 kHz
3-3/4 in/s: +2 dB -4 dB, 40 Hz—8 kHz

Signal/Noise Ratio:

55 dB at 15 and 7-1/2 in/s (half track or two track)
60 dB at 15 and 7-1/2 in/s (full track)
55 dB at 3-3/4 in/s (full track)

Flutter and Wow:

Less than 0.15% rms at 15 in/s
0.18% rms at 7-1/2 in/s
0.25% rms at 3-3/4 in/s

Weight & Dimensions:

1 channel portable—42 lb: 20 inches W x 9-1/4 inches D x 14-5/8 inches H
2 channel portable—52 lb: 20 inches W x 9-3/4 inches D x 18-1/8 inches H



ag-600b AG-600B SERIES RECORDER/REPRODUCER

The AG-600B features a switchable two-speed motor that replaces the mechanical speed-change linkages of earlier models. A single indexed switch changes speeds and automatically changes equalization as well. The AG-600B provides the versatility of a rugged field recorder with the reliability of a studio machine. It is available in single-channel (full or half-track mono) or two-channel (two or quarter-track stereo) and portable or rack-mounting versions. Ideal for broadcast, industrial, educational, religious, medical and government applications.

FEATURES:

Two switch-selectable speeds, automatic equalization, three-digit counter, die-cast aluminum top plate, solid-state electronics, two inputs per channel, setup controls at front panel.

SPECIFICATIONS:

Frequency Response:

7-1/2 in/s: +2 dB -4 dB from 40 Hz - 15 kHz
3-3/4 in/s: +2 dB -4 dB from 40 Hz - 8 kHz

Signal/Noise:

7-1/2 in/s: Full track 57 dB; half track 55 dB
3-3/4 in/s: Full track 52 dB; half track 50 dB

Crosstalk Rejection:

Better than 40 dB mid-frequency

Flutter:

7-1/2 in/s: below 0.17%
3-3/4 in/s: below 0.25%

Size & Weight: (In Portable Case)

Single channel—28 lb: 14-3/4 inches H x 13 inches W x 8-3/4 inches D

Dual channel—42 lb: 19-3/4 inches H x 13 inches W x 8-3/4 inches D



aa-620 AA-620 AMPLIFIER/SPEAKER

A portable amplifier/speaker designed primarily for remote or studio use where high-quality monitoring or sound reproduction in lightweight package is required. For use with professional portable recording equipment such as the AG-600B and AG-500, or as studio monitor. The AA-620 is ideal for broadcast, audio-visual applications in education and industry, medical and commercial sound applications.

FEATURES:

Two-speaker system in tuned enclosure, separate bass-treble equalizers, solid-state electronics, essentially flat from 65 Hz to 10 kHz, 15-watt output.

Speakers:

10-inch Woofer; 3-1/2-inch Tweeter

Power Output:

15 watts into an 8-ohm resistive load

Signal/Noise Ratio:

Amplifier noise (including hum), 80 dB below rated output.

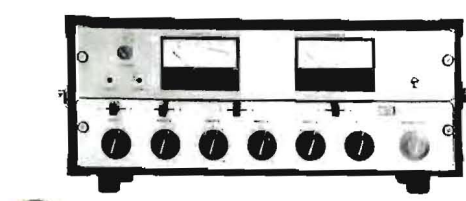
Size & Weight:

Portable—24-1/2 lb: 14-3/4 inches H, 20-1/8 inches W, 9 inches D

SPECIFICATIONS:

Overall Frequency Response (acoustical):

Essentially flat acoustically, range better than 65 Hz - 10 kHz



am-10 AM-10 STEREO/MONO MIXER

A professional quality, compact, six-position, two-channel mixer for studio or portable use, the AM-10 is ideal for broadcast studio, motion picture studio, schools, government, medicine, and industrial applications.

FEATURES:

All solid-state, regulated power supply, four mic and two line inputs feed A, B, or A and B output channels, separate gain controls, reset indicators, mixers can be coupled, rack or console overbridge mounting or case-mounted with an accessory meter panel.

Line Input:

+12 dBm output level, less than 0.5% from 50 Hz - 10 kHz

Crosstalk Rejection:

65 dB at 500 Hz. Greater than 40 dB from 20 Hz - 20 kHz

SPECIFICATIONS:

Frequency Response:

±1 dB, 30 Hz - 20 kHz

Distortion:

Microphone Input: +12 dBm output level, less than 0.5% THD from 100 Hz - 10 kHz



abr-10 RECORDER/REPRODUCER

A reliable bi-directional recorder of symmetrical design — all mechanical and electrical devices are duplicated to provide trouble-free bi-directional operation (unidirectional models are also available). The ABR-10 offers dependable, unattended operation at low cost for today's automated broadcast systems. It accepts from 5-inch to 10-1/2-inch reels, and can be ordered with your selection of adjacent speed pairs from a range from 15/16 in/s to 15 in/s. A completely separate servo-controlled tape tension system automatically adjusts reel motor torque to the correct tape tension. Quick tape start times permit more precise cue control.

FEATURES:

Bi-directional drive, precise, automatic tape speed control, variable fast forward/reverse search control, easy calibration and operation, quick stop/start times.

SPECIFICATIONS:

Signal/Noise Ratio:

7-1/2, 15 in/s: 66 dB full, 63 dB half, and 57 dB quarter track

3-3/4 in/s: 63 dB full, 63 dB half, and 57 dB quarter track

1-7/8 in/s: 45 dB half, and 42 dB quarter track

15/16 in/s: 40 dB half, and 40 dB quarter track

Frequency Response:

15 in/s: ± 2 dB, 30 Hz — 18 kHz

7-1/2 in/s: ± 2 dB, 40 Hz — 15 kHz

3-3/4 in/s: ± 2 dB, 40 Hz — 10 kHz

1-7/8 in/s: ± 3 dB, 40 Hz — 10 kHz

15/16 in/s: ± 3 dB, 100 Hz — 5 kHz

Flutter:

0.1%

0.15%

0.18%

0.25%

0.4%

Start Time:

Operating speed attained in 0.1 second.



MINI-MIXER

The Mini-Mixer (Cat. No. 4020279) is an ABR Series accessory similar in size and shape to the recorders' Control and Electronics modules. Its purpose is to add a mixing capability to an ABR recorder if the need arises. The input to a Mini-Mixer may be either a microphone, phonograph pick-up, or balanced or unbalanced line input. Up to four inputs are accepted, and accessory plug-in amplifiers or transformers can be added as required.

The Mini-Mixer contains two dual-input amplifiers whose outputs may be separate or summed by means of a panel rocker switch, thus providing capability for four inputs to a single output or two inputs to each of two outputs. Active circuit mixing is used to minimize signal-to-noise degradation and power is obtained from the electronics chassis. To accommodate other than line level input signals, a microphone preamplifier or a phonograph preamplifier is required. Balanced line inputs may be accommodated with the use of 20,000 ohms bridging transformer or a 600-ohm matching transformer.

ACCESSORIES

Miscellaneous Accessories:

Portable cases, electronics modules, maintenance kits (head degaussers, cleaner, oil) and special accessories available. See components and accessories price sheet or price sheet for specific products.

Professional Microphones:

Model 802 omnidirectional dynamic mic, 50-20,000 Hz, high or low impedance. Model 803 cardioid mic, 45-15,000 Hz.

Remote Controls:

Available for most Ampex recorder/reproducers or reproducers. See price sheets for specific products.

Microphone Preamplifier:

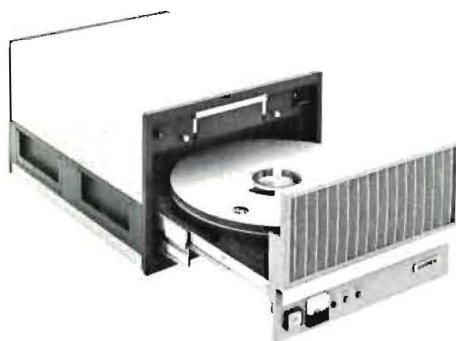
Plug-in type, variable gain, 600 ohms output, for high and low impedance mics. See price sheet for specific product.

Line Input Transformers:

Balanced bridge or matching 600-ohm types for all Ampex pro-audio equipment. See price sheet for specific product.

New and Rebuilt Heads:

For replacement or spare. See price sheet for specific products or head price sheet.

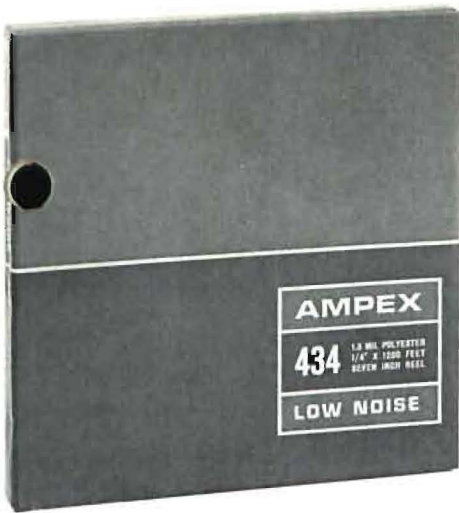


se-20 SE-20 AUTOMATIC TAPE DEGAUSSER

A fully automatic, heavy duty, bulk tape degausser. The SE-20 is simple to operate: place a reel on the spindle, close the drawer, and press the START button. In 30 seconds, a DEGAUSS COMPLETE indicator lights up. Exceeds government requirements to deliver 96 dB minimum erasure on tapes up to one inch wide, 86 dB on two-inch tapes. Accepts up to 16-inch reels with standard NAB hubs. The SE-10 has its own table-top enclosure with rack-mounting adapters; it can be moved easily to service recorders in different locations.

STANDARD TEST AND ALIGNMENT TAPE

A line of standard reproducer alignment test tapes and flutter test tapes are available for NAB, CCIR, IEC, RIAA, EIA and DIN standards. Each is an original recording, not a dub. Complete information included in booklet entitled "Test Tape Applications."



PROFESSIONAL AUDIO RECORDING TAPE

Ampex professional audio tape is specially formulated and manufactured to meet the exacting requirements for performance and dependability specified for mastering, duplicating and broadcast applications. A wide variety of configurations is available to meet your exact requirements in 5- and 7-inch plastic reels (1/4-inch tape), 10-1/2-inch metal reels (all widths) and in bulk with plastic or metal hubs.

600 SERIES

General purpose professional recording tape for all professional recorders such as used in broadcasting, duplicating, education, industry and medicine.

FEATURES:

Uniform tape output for consistency of recording. Maximum dynamic range for fidelity at varying recording levels. Exclusive Ferro-Sheen* tape for clean running, long tape life, reduced head wear.

*Ferro-Sheen TM Ampex Corporation.

Type	Width (inches)	Base (mil)
611	1/2 and 3/4	1.5 Acetate

621	1/4	1.0 Acetate
631	1/2 and 3/4	1.5 Polyester
641	1/2 and 3/4	1.0 Polyester
651	1/4	0.5 Polyester
661	1/4	0.5 Polyester (Triple Play)
661	150 MIL	0.5 Polyester (Cassette)
681	1/4	1.0 Polyester

404 SERIES:

Low noise mastering tape for all mastering recording including endless loop and other applications requiring the ultimate in tape performance.

FEATURES:

High signal-to-noise ratio for freedom from tape "hiss" and purity of recorded signal. Excellent high-frequency response for true reproduction of short wavelengths. Wide, undistorted dynamic range for maximum fidelity at all recording levels. Exclusive Ferro-Sheen* tape for clean running, long tape life, reduced head wear.

Type	Width (inches)	Base (mil)
414	1/4, 1/2, 1	1.5 Acetate
434	1/4, 1/2, 1, 2	1.5 Polyester
444	1/4, 1/2, 1, 2	1.0 Polyester

cd-200 CD-200 AUTOMATIC CASSETTE COPIER

A high-speed, high-quality, automatic tabletop copier. Vacuum columns completely isolate tape from the cassette mechanism. Professional duplicator heads are used. The result is the highest-fidelity sound produced by any cassette copier, along with high copying speed. The CD-200 can turn out 375 C-30 cassette copies per hour; a loader option makes it fully automatic. CD-200 also rewinds cassettes to the start before copying, and senses and ejects defective cassettes. Two-track mono and four-track stereo/two-track mono versions available.

FEATURES:

Copies 375 C-30, 225 C-60, or 120 C-120 cassettes per hour. Automatic loader option holds 100 cassettes; can be loaded in 7 seconds. Duplicates all tracks at a single pass. Automatically rewinds to start before copying; senses defective cassettes and ejects them separately. One Master controls up to 5 slaves. Vacuum chambers and reel servos provide high quality at high speed.

SPECIFICATIONS:

Frequency Response:
(Referenced to 1.875 in/s playback speed).
System: ± 2 dB, 30 Hz to 12 kHz
Typical Copy: ± 2 dB, 50 Hz to 8 kHz, using Ampex 361 Cassette, biased for maximum long wavelength sensitivity.

Crosstalk Rejection:
20 dB (min) at 1000 Hz playback between adjacent tracks of stereo pair. 50 dB (min) between programs.

Overall Signal-to-Noise Ratio:
3 dB maximum degradation in 30 Hz to 10 kHz band.

Flutter:
Less than 0.05% RMS NAB weighted.

Tape Speed:
75 ($\pm 0.2\%$) in/s throughout length of C 60 cassette

Rewind Speed:
Internally adjustable from 100 to 300 in/s.

Size and Weight (Master or Slave):
22 inches wide x 21 inches deep x 10 1/2 inches high; 35 pounds.

ad-15 AD-15 DUPLICATOR SYSTEM

The AD-15 offers outstanding performance in a wide range of formats. Additional heads and guides permit changes from reel-to-reel formats to 8-track cartridge formats to cassette formats. Each slave can be equipped with a tailoring device to deliver a completed product. All transports accept reels as small as five inches and reels or pancakes as large as 15 inches. Each master drives up to three slaves; with three slaves, a system produces 168 1200-foot copies in one 8-hour shift. An internal reference oscillator protects tape speed from line power shifts.

FEATURES:

The industry's best through-the-reel timing accuracy for any duplicator: $\pm 0.08\%$. Copies all major 150-mil and quarter-inch formats. Automatic system stop/master rewind. Accepts reels or pancakes from 5 to 15 inches diameter. Cassette/cartridge tailoring available. Servo-controlled tape tension. Internal reference oscillator for accurate tape speed. One master drives up to 3 slaves. Attractive console design; convenient control bridge.

SPECIFICATIONS:

Frequency Response:
Maximum deviation from master tape: +2.4 dB at following speeds and frequency ranges:

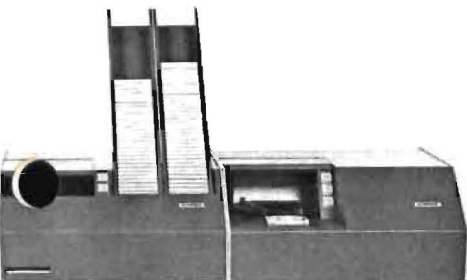
	Frequency Range	Master Speed	Slave Speed
7 1/2 in/s	50 Hz - 15 kHz	30 in/s	30 in/s
3 in/s	50 Hz - 12 kHz	15 in/s	15 in/s
3 in/s	50 Hz - 7.5 kHz	30 in/s	30 in/s
Cassette	50 Hz - 10 kHz	7 1/2 in/s	7 1/2 in/s
Cassette	50 Hz - 7.5 kHz	15 in/s	15 in/s
3 in/s*	50 Hz - 12 kHz	30 in/s	15 in/s
Cassette*	50 Hz - 10 kHz	30 in/s	7 1/2 in/s

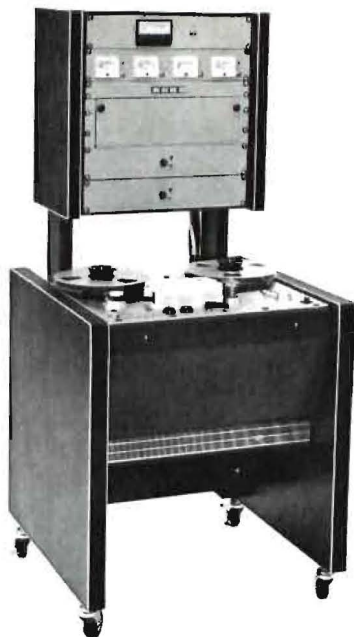
*7 1/2 in/s NAB master.

Crosstalk Rejection:
50 dB or better except between stereo pairs.

Signal-to-Noise Ratio:
Will not introduce more than 3 dB noise on duplicate.

Flutter and Wow:
30 in/s: 0.05%
15 in/s: 0.07%
7 1/2 in/s: 0.1%





rr-200 RR-200 DUPLICATOR SYSTEM

A highly versatile system consisting of an RR-200 Master Reproducer and up to ten 3400 Slaves. The RR-200-8 plays back eight-track, one-inch masters to produce high-quality 8-track cartridge tapes. One version of the RR-200-4 uses half-inch masters to duplicate 4-track stereo or 4-channel-stereo formats; a change of plug-in head assemblies and turn-around tape guides, and it becomes a quarter-inch machine in either 2-channel or 4-channel format, depending upon the head assembly used. The RR-200 can be converted from 60/120 in/s to 30/60 in/s by a quick change of capstan idlers (provided) and removal of a capstan sleeve. Five different plug-in head assemblies are available for the 3400 Slave, each with its own bias and record level adjustments; tape tensioning adjusts automatically with each head change. Uses quarter-inch and 150-mil tape.

FEATURES:

All units accept up to 14-inch reels. RR-200-8 accepts one-inch masters; RR-200-4 accepts half-inch or quarter-inch masters (with head and mechanical changes) in all formats. Speeds: 60/120 in/s, changeable by user to 60/30 in/s. 3400 Slave uses quarter-inch and 150-mil tape, five plug-in head assemblies to produce all formats.

SPECIFICATIONS:

RR-200 MASTER REPRODUCER

Typical Frequency Response of Copies: (tape limited)

1-7/8 in/s cassette: ± 2 dB, 50 Hz - 8 kHz

3-3/4 in/s cartridge or open reel: ± 2 dB, 50 Hz - 10 kHz

7-1/2 in/s open reel: ± 2 dB, 50 Hz - 15 kHz

System Noise:

(System set up for 7-1/2 in/s master at 120 in/s) dB below blank, biased Ampex 404 Series tape ASA "A" weighted: at least 10 dB

2100 Hz Bandwidth, 16 kHz (1 kHz at real speed): at least 5 dB

2100 Hz Bandwidth, 64 kHz (4 kHz at real speed): at least 12 dB

2100 Hz Bandwidth, 160 kHz (10 kHz at real speed): at least 8 dB

Flutter and Wow:

Less than 1% peak-to-peak from 0.5 Hz to 10 kHz (unweighted). Will not introduce more than 0.15% rms (ASA "A" weighted) in copy.

Size and Weight:

RR-200-4: 28 inches W x 30 inches D x 60 inches H

RR-200-8: 28 inches W x 30 inches D x 70 inches H

3400 SERIES SLAVE ASSEMBLY

Flutter and Wow:

Less than 1% peak-to-peak from 0.5 Hz to 10 kHz (unweighted).

Will introduce less than 0.1% rms (NAB weighted) in copy.

Power Requirements:

115 volts ($\pm 10\%$) AC single phase, 50 or 60 Hz, 2 amperes per slave assembly.

Size & Weight:

31 inches H x 26 inches W x 26 inches D, 150 lb. (approx.) with metal cabinet.

ag-440/445 AG-440/445 CAPSTAN SERVO KIT

The Capstan Servo Kit provides a high precision tape drive for all Ampex AG-440/445, AG-350, and older 350 series machines, and direct drive Scully machines. A precise crystal oscillator provides low flutter and maintains speed accuracy regardless of power line voltage and frequency variations. An external reference frequency input permits variable speed operation. Any two of the four available tape speeds can be selected by jumper plugs. The kit is available as an easily installed field conversion kit or as a factory installed accessory on new machines.

SPECIFICATIONS:

Speeds:

3-3/4, 7-1/2, 15, 30 in/s

Capstan Speed Accuracy:

$\pm 1\%$ for line voltage of 105-130 volts, 50/60 Hz

Wow and Flutter:

.06% DIN weighted @ 15 in/s

External Reference Frequency:

Accepts sine and square wave inputs 5V-50V p-p. 9600 Hz produces nominal speed

TRAINING

Owners and operators of Ampex professional audio equipment can attend specialized training courses on the care and use of their Ampex equipment. Training is conducted several times each year throughout the United States and at various world-wide locations. The courses are designed to ensure that users of Ampex professional audio equipment realize the best possible results. Owners need only contact their nearest franchised distributor or the nearest Ampex District Office for dates and enrollment to take advantage of this service.

GENERAL

Specifications shown in this catalog are not intended to be complete but to indicate general performance characteristics. These specifications are measured by professional standards and are guaranteed minimum to be expected in long term operation with proper use and normal maintenance. Complete specifications and prices are detailed on individual product sheets.

All Ampex professional audio products are warranted against defects in workmanship and material for one year. Defects will be corrected at no cost to end user for up to 90 days, and at cost of labor up to one year, in accordance with the terms of the warranty. A copy of such warranty will be provided upon request.

CUSTOM PRODUCTS

Products and systems shown in this catalog can be modified to meet special requirements. Your requests for quotations should be directed to your nearest franchised Ampex Professional Audio Products Distributor, or to the nearest Ampex District Office.

SERVICE

Ampex franchised Professional Audio Products Distributors are equipped to provide warranty service, maintenance contract service, and all normal service requirements. In addition, Ampex Service Company maintains service centers in principal cities and is equipped to provide complete maintenance and repair service, emergency service, and modification and updating of Ampex equipment. See yellow pages under: Recorders-Sound Equipment and Supplies.

FINANCING PLANS

Ampex also offers pay-as-you-use, purchase or lease plans on professional audio equipment. They allow you to buy equipment now without the necessity of diverting working capital from other needs, at rates not always available from local sources. Your distributor has complete information.

Ampex Corporation reserves the right to change prices and specifications without notice and without obligation.

PRICES

Price schedules for all products are available upon request. Contact your nearest Ampex Professional Audio Distributor or District Office.

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