• Master speeds up to 240 ips
• Automatic high-speed duplication of multichannel cartridges and cassettes.
• Endless loop master tape eliminates rewinding, stopping, and rethreading.
• Field convertible between cartridge and cassette formats.
Automatic high-speed duplication of multichannel cassette and cartridge tapes is now offered by the Ampex BLM-200 Duplicator System. Rewinding, stopping, and retreading of the tape is eliminated by use of an endless loop tape in the master transport. All solid-state electronics are used throughout. The system consists of the BLM-200 Bin Loop Master and up to 20 slave units of the 3400 series. Constructed on a flexible building block principle to provide for future expansion, the basic BLM-200 master will drive up to ten slaves and an optional configuration is offered to drive twenty slaves.

BLM Masters are available in two models, the BLM-200-8 and the BLM-200-4. The BLM-200-8 is an eight-channel version for cartridge duplication. However, the eight-channel BLM-200-8 System will also duplicate four-channel cassette tapes by simply rotating the slave tape guides and replacing the plug-in slave head assemblies. The BLM-200-4 is a four-channel version for cassette duplication. If a four-channel cassette master unit is purchased first, it can be field converted to an eight-channel cartridge version by adding a bias amplifier, a power supply, and four more channels of electronics. Conversion of the slave units is also easily done in the field because all 3400 Series slave units are already equipped with dual-width guides and use plug-in head assemblies. Installing the eight-track head assemblies automatically programs the correct tape tension.

Working master tapes for both formats are recorded on one-inch wide tape with 1.5-mil polyester backing, recorded at 7.5 ips, NAB equalization. Recordings are made in four- to eight-track formats on eight-track recorders such as Ampex Model MM-1000-8 or Model AG-440-8. A working master tape for the eight-track duplicator system follows the same track configuration.
tion as that of the eight-track cartridge format: Tracks 1 and 5, Tracks 2 and 6, etc., as stereo pairs, all in forward direction. For the 4-track duplicator system, Tracks 3 and 7 make up the stereo pair in the forward direction, and Tracks 6 and 2 in the reverse direc-

tion. (When making the master tape, recording is done on Tracks 3 and 7 in both directions.)

BLM-200 MASTER REPRODUCER
The BLM-200 Master Reproducer is a self-contained bin-loop system. It consists of a bin-loop tape transport, a reproduce head and preamplifier assembly, reproduce amplifiers, record amplifiers and a bias oscillator/amplifier. The BLM-200 drives up to ten slave assemblies at up to 32 times the speed of the original recording. Provisions in the master assembly allow increasing the number of slaves to twenty by adding bias amplifiers.

Easy loading and automatic self-cueing are advanced features of the bin-loop transport. All transport elements are mounted on a precision-milled casting frame. The transport is equipped with its own loading/unloading motor assembly to transfer tape directly from a reel to the storage bin. The tape storage bin design assures the smoothest possible tape motion.

A photocell assembly mounted in the tape path automatically counts the number of master passes and injects a 120 Hz or 320 Hz tone on the copies for cutting points.

A newly designed head produces a higher output at mid-frequencies and greater efficiency at high frequencies. Preamplifiers are mounted on the head assembly. This unique arrangement avoids RF interference, and optimizes signal-to-noise ratio by reducing capacitive shunting of the head cables.

3400 SERIES SLAVE ASSEMBLY
The 3400 Series slave assemblies are newly adapted versions of the proven Ampex Model 3200 Slave Assemblies — the most successful and widely used units available in the tape duplicating industry. The 3400 Series slave transports feature turn-around guides with 150-mil and ¼-inch guides for ease of tape width conversion. Automatic tape tension programming is also provided to reduce the possibility of tape stretch or breakage.

Plug-in head assemblies for both 4-track cassette and 8-track cartridge systems are ferrite-core type for long life, and are equipped with their own individual bias and record level controls for each track. The controls are on top of each head assembly, insuring interchangeability without resetting controls. No wiring changes are required when changing from 4-track cassette to 8-track cartridge head assemblies.

The 3400 Series Slave head assemblies for all standard open-reel formats are also available.
BML-200 duplicator system specifications

BML-200 MASTER ASSEMBLY
Tape Speeds: 60/120 ips or 120/240 ips
Master Tape Format: 8 tracks on 1-inch-wide tape, 1.5 mil polyester
Recorded at 7.5 ips, NAB equalized
Maximum Tape Capacity: 1800 ft. (about 45 minutes of playing time per program track at 7.5 ips)
Flutter & Wow: Less than 1% peak-to-peak from 0.5 Hz to 10 kHz (unweighted)
Will not introduce more than 0.1% r.m.s. (NAB weighted) in final copy.
Frequency Response: Reproduce chain from a 7.5 ips NAB equalized master: ±1 dB 50 Hz to 18 kHz at 1.875 ips (cassette)
Tailoring Tone: Switchable 120 Hz or 320 Hz, actuated by photocell, applied at saturation level to input of record amplifiers
Crosstalk Ratio: Between the tracks or between the adjacent even or odd track pairs; greater than 50 db from 30 Hz to 10 kHz (all final copy speed)
System Noise: Better than 10 dB below a blank, biased, Ampex 404 series low noise tape; 30 Hz to 5 kHz at final copy speed; Better than 6 dB up to 10 kHz.
Total Harmonic Distortion: System, exclusive of tape; 0.3% at Ampex operating level.

Your investment in Ampex equipment yields maximum returns when it is operated and maintained by Ampex-trained people. Seminar and videotape training courses available worldwide. For brochure, write Ampex Technical Institute, M.S. 2-11A, 2885 Bay Road, Redwood City, Ca. 94063, U.S.A.