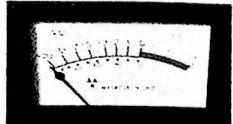
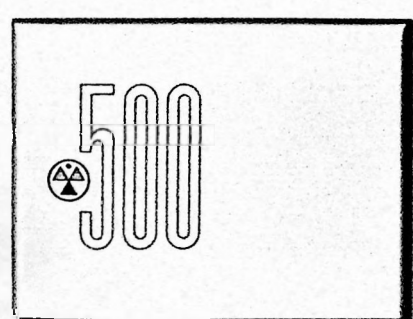
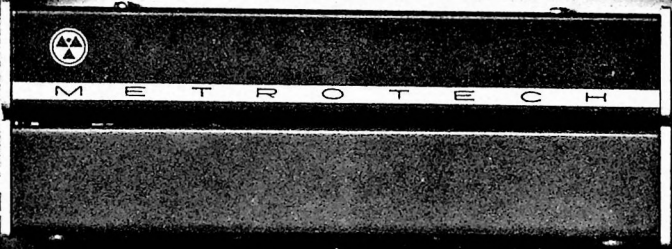




# METROTECH

## 500-A SERIES

RECORDERS  
REPRODUCERS  
LOGGERS



## OUTSTANDING FEATURES OF THE 500-A SERIES

### Recorders, Reproducers and Loggers

**Straight-Line Tape Threading** — so easy it can be done with one hand.

**Automatic Tape Lifters** — raise tape into head contact only in Record, Playback, and Edit and Cue modes. Release action frees tape of all contact, including lifters, in Fast Forward and Rewind. Reduces wear, improves performance.

**Professional Performance On Quarter-Inch Tape** — uses either 10½" NAB or 7" (or smaller) EIA reels, with 1½ to ½ mil quarter-inch tape.

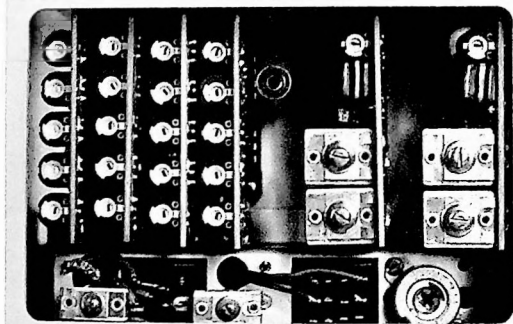
**Operate Horizontally Or Vertically** — or at any angle in between. Ideal for console mounting.

**Multiple Track / Channel Configurations** — available in full, half and quarter track formats, with 1, 2 or 4 channel electronics.

**Single Or Bi-Directional Operation** — new design geometry contributes to higher performance standards, and permits bi-directional operation to full specifications.

**Automatic Reversing** — bi-directional models automatically reverse, providing from two to four times the unattended recording or playback capability.

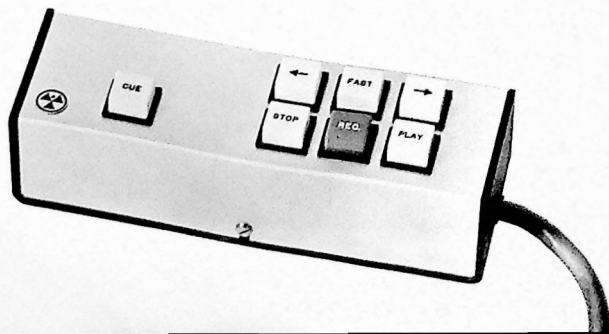
**Three Motor Drive System** — hysteresis synchronous motor powers the capstan, precision torque motors power each reel.



**Solid State Accessible Electronics** — PC board electronics are modular, and are conveniently located behind a removable front panel for quick, easy adjustment of equalization or bias.

**Mechanical Accessibility** — all mechanical components are easily reached, and all adjustments are independent of each other.

**Remote Control** — all tape motion controls, including the solenoid operated capstan assembly, can be remotely operated by the use of a Metrotech accessory — or in an automation system.



## RECORDERS

The 500-A Series Recorders meet or exceed all NAB specifications. They have all of the features described at the left, and in addition offer the following:

**Choice of Six Tape Formats** — full track mono; half and quarter track mono and stereo; quarter track fully sequenced mono.

**Dual Speed Operation** — can be ordered to operate at any two adjacent speeds — 15, 7½, 3¾ and 1⅞ ips.

**Selectable Motor Torque** — front panel controlled to provide the proper tension for either 10½" or 7" reels.

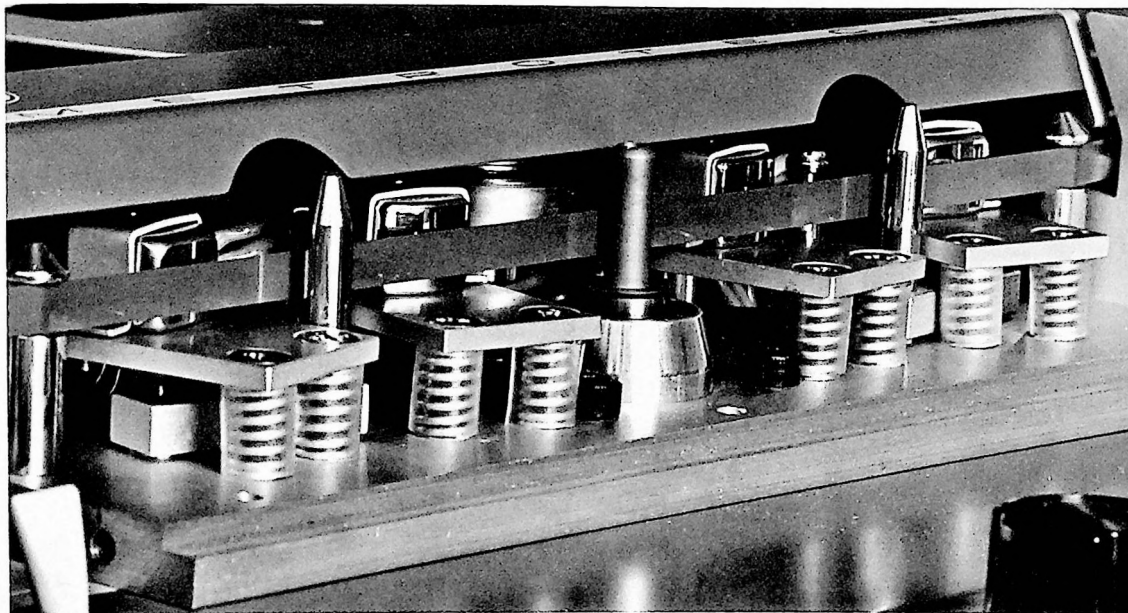
**Automatic Equalization Switching** — whenever tape speed is changed.

**Interlocked Controls** — solid state logic and *Optac*\* speed sensor make operation fool-proof. It's impossible to accidentally throw or spill tape.

**Edit And Cue Control**—makes it easy to add, delete and locate material. Hinged cover provides full access to tape. Spacing between playback heads and capstan permits use of standard editing blocks.

**Rack Or Console Mounting** — 19" rack mounting is standard; console is an optional extra.

\*TM Metrotech



## REPRODUCERS

The 500-A Series Reproducers meet or exceed all NAB specifications, and are designed especially for the playback of tapes in broadcast automation and background music systems. And their outstanding reliability makes them ideally suited to these applications, where day-in and day-out trouble-free operation is essential.

These Reproducers have all of the 500-A Series features such as remote control capability, interlocked controls, automatic reversing on bi-directional models, and others described at the left. In addition they offer three manually selectable speeds, and greater compactness with all electronics built into the transport.

Metrotech Reproducers are available in the same track and channel configurations as the Recorder, including full track mono, half and quarter track mono and stereo, and quarter track fully sequenced mono.

Logger compatible models are also available.

## LOGGERS

The Loggers are essentially low speed Recorders with frequency responses covering the voice spectrum. They are designed for long-term unattended logging applications in broadcasting and telecasting (audio portion), and in public safety, industrial, military/space, airport control and other installations where records of audio transmissions are a necessity.

The Loggers offer all the basic features of the 500-A Series, including the fine design, rugged components and careful workmanship that assure dependable, trouble-free long-term operation so vital to logging applications.

These are single speed units, and may be ordered to operate at ⅙, 1⅓, 1⅝ or 1⅞ ips. At the ⅙ ips speed, for example, using 10½" reels of ½ mil tape, and recording automatically sequenced mono, the Logger will record over 300 hours, unattended!

All Loggers have quarter track formats, and three models are available: 1 channel with automatic triple reverse; 2 channel with automatic reverse; 4 channel, one direction. Metrotech also offers complete logging systems that incorporate such accessories as voice operated relays, automatic transfer panels, and others.

500-A SERIES SPECIFICATIONS

	RECORDER	REPRODUCER	LOGGER
<b>FREQUENCY RESPONSE</b>	3M203 tape used as reference 15 ips: ± 2 db, 30 Hz to 18 KHz; 7½ ips: ± 2 db, 40 Hz to 12 KHz; +2 -4 db, 30 Hz to 15 KHz 3¾ ips: ± 2 db, 40 Hz to 8 KHz; +2 -6 db, 30 Hz to 10 KHz (12 KHz with "HF" heads) 1½ ips: ± 3 db, 30 Hz to 8 KHz (10 KHz with "HF" heads) (Note: all parameters adjustable)	7½ ips: ± 1 db, 40 Hz to 12 KHz; +1 -3 db, 30 Hz to 15 KHz 3¾ ips: +1 -2 db, 40 Hz to 8 KHz; +1 -3 db, 30 Hz to 10 KHz (12 KHz with "HF" heads) 1½ ips: ± 2 db, 30 Hz to 8 KHz (10 KHz with "HF" heads) (Note: all parameters adjustable)	3M290 tape used as reference 1½ ips: ± 3 db, 30 Hz to 10 KHz ¾ ips: ± 3 db, 50 Hz to 8 KHz ½ ips: ± 3 db, 200 Hz to 4 KHz ¼ ips: ± 3 db, 200 Hz to 2.7 KHz (Note: all parameters adjustable)
<b>SIGNAL-TO-NOISE RATIO</b> (Minimum figures, NAB standards)	3M203 tape used as reference 15 ips: 65 db, full track 7½ ips: 65 db, full track 3¾ ips: 55 db, half track; 51 db, quarter track 1½ ips: 53 db, half track; 50 db, quarter track	7½ ips: 65 db, full track 3¾ ips: 55 db, half track; 51 db, quarter track 1½ ips: 53 db, half track; 50 db, quarter track	3M290 tape used as reference 43 db minimum
<b>FLUTTER AND WOV</b> (RMS max. ASA Z57.1, 1954 standard, measuring all frequencies between .5 and 250 Hz)	15 ips: .06% 7½ ips: .08% 3¾ ips: .12% 1½ ips: .22%	7½ ips: .08% 3¾ ips: .12% 1½ ips: .22%	¾ ips and up: .5% ½ ips and below: 1%
<b>DISTORTION</b> (Circuit induced)	Less than .25% THD at +8 dbm	Less than .25% THD at +8 dbm	Less than .25% THD at +8 dbm
<b>HEAD AND TRACK CONFIGURATIONS</b>	Full track mono; half and quarter track mono and stereo; quarter track fully sequenced mono.	Full track mono; half and quarter track mono and stereo; quarter track fully sequenced mono.	All quarter track: 1 channel automatic triple reverse; 2 channel automatic reverse; 4 channel, one direction. Erase on special order.
<b>SPEED AND PLAY-BACK TIMING ACCURACY</b>	Within .2% at all speeds	Within .2% at all speeds	Within 1%
<b>START AND STOP TIMES</b>	Less than ¼ second	Less than ¼ second	Less than ¼ second
<b>FAST FORWARD AND REVERSE</b>	3600 feet in less than 90 seconds	3600 feet in less than 90 seconds	3600 feet in less than 90 seconds
<b>REEL SIZES</b>	10½" NAB or 7" (or smaller) EIA	10½" NAB or 7" (or smaller) EIA	10½" NAB or 7" (or smaller) EIA
<b>INPUTS</b> (“XL” connectors)	One per channel, -15 dbm sensitivity, 100K unbalanced. Provision for various plug-in units such as 200 ohm adjustable 30-60 db microphone preamplifier, balanced line bridging or matching transformers, and others.	_____	One per channel, -15 dbm sensitivity, 100K unbalanced. Provision for various plug-in units such as 200 ohm adjustable 30-60 db microphone preamplifier, balanced line bridging or matching transformers, and others.
<b>OUTPUTS</b> (“XL” connectors)	0, +4 or +8 dbm into 600 ohms balanced or unbalanced line (per strapping). +25 dbm undistorted capability. Monitoring jacks front and rear.	0 to +8 dbm (adjustable) into 600 ohms grounded. +20 dbm undistorted capability. Balanced line output transformer available with +25 dbm capability.	0, +4 or +8 dbm into 600 ohms balanced or unbalanced line (per strapping). +25 dbm undistorted capability. Monitoring jacks front and rear.
<b>POWER SUPPLY</b> (60 Hz standard; 50 Hz optional)	117 volts AC, 60 Hz, approximately 130 watts. Regulator stabilizes bias and signal levels against power line fluctuations.	117 volts AC, 60 Hz, 95 watts.	117 volts AC, 60 Hz, approximately 130 watts. Regulator stabilizes bias and signal levels against power line fluctuations.
<b>TAPE COUNTER</b>	Optional extra	Optional extra	Standard, 4 digit resettable. Returns toward zero on reverse travel to reference measurements to supply reel.
<b>TAPE WIDTH AND TAPE GUIDES</b>	Quarter-inch tape, ½ to 1½ mil acetate or Mylar. Non-magnetic precision guides.		
<b>MOTORS</b>	Capstan powered by hysteresis synchronous motor, reels by precision ball bearing torque motors.		
<b>BRAKES</b>	Fail-safe, solenoid actuated, <i>Permagand</i> ® design for smooth, positive action.		
<b>AUTOMATIC REVERSING</b>	Available on all multi-track units. Low current, conductive tape actuated.		
<b>REMOTE CONTROL</b>	All tape motion controls, including solenoid actuated capstan, can be remotely operated with a Metrotech accessory, or by any automation system		
<b>SIZE AND WEIGHT</b> (Net, unmounted)	Transport: 19" W, 15¾" H, 9" D; 38 lbs. Electronics: 19" W, 5¼" H, 9¼" D; 10 lbs.	Transport (includes electronics): 19" W, 15¾" H, 8¾" D; 38 lbs.	Transport: 19" W, 15¾" H, 9" D; 38 lbs. Electronics: 19" W, 5¼" H, 9¼" D; 10 lbs. (Note: 4 channel model requires two electronic chassis)

OPTIONS Remote control units, consoles, carrying cases, voice operated relays, tape counters, 50 Hz power supply conversion, input accessories, and others.

WARRANTY Metrotech warrants that all products manufactured by them are free from defects in material and workmanship for a period of one year from date of shipment (see full warranty).

Metrotech reserves the right to change specifications without notice or obligation.



**METROTECH**

670 National Avenue  
Mountain View, California 94040  
Phone: (415) 968-8389

A DIVISION OF DICTAPHONE CORPORATION