APL series SPECIFICATIONS

TAPE FORMAT: NAB AA size standard NAB track width or wide track format heads with 80 mils audio tracks and 21 mils cue track.

AUDIO FORMAT: NAB or CCIR equalisation. Discrete left/right channels or sum and difference matrix, dbx noise reduction cards may be mounted inside the machine to give automatic switching of noise reduction. dbx and sum and difference matrix are also possible simultaneously.

START TIME: Less than 50 m.sec. stop/start time.

WOW & FLUTTER: Less than 0.12% peak DIN weighted record to replay from electronically controlled DC Hall-Effect capstan motor.

DRIFT: Long term speed drift better than 0.1%; motor referenced to internal crystal oscillator.

FREQUENCY RESPONSE: Record to replay on AA3 cartridge 40Hz to 15kHz ±1dB.

SIGNAL TO NOISE RATIO: Record to replay standard NAB heads – tape running with bias recorded.
22Hz –22kHz better than –42dBm Quasi Peak (PPM).
CCIR weighted better than –38dBm.

DISTORTION: Record to replay at PEAK record level 405nWb/m.
1kHz less than 1.5%.
80Hz less than 1.5%.

CROSSTALK BETWEEN CHANNELS: 1kHz better than –45dBm.
15kHz better than –36dBm.

PHASE DIFFERENCE: Worst case phase difference between any two machines; 90° at 12kHz.

INPUT IMPEDANCE: 22k ohm electronically balanced. Transformer input optional. All audio connections on XLR.

OUTPUT IMPEDANCE: Less than 50 ohm balanced and floating via Jensen 123S output transformer.

AUDIO LINE LEVELS: Record/replay gain may be changed to allow line levels of –10dBm 0dBm +4dBm.

METERING: PPM or VU meters optional. Both conform to international standards. Overload LED's light at peak levels. Electronic selection of replay, input, bias, cue record and replay. When set to record, meters switch to input and return to replay with cartridge starting.

REMOTE CONTROL: Record and replay remote controls on 15-way D-type connector. Remote control of transport and cue tones record/defeat. Indicator output sink up to 500mA at 50v.

POWER: 117/240v AC selectable, 50/60Hz 40 watts.

DIMENSIONS: Single machine 140mm wide x 130mm high x 425mm long excluding space for rear XLR connectors. 19" Rack Mount for 3 machines is 3 units high. Front panel protrudes from rack by 25mm.

All measurements made on Capitol AA3 and APL 1000 NAB cartridges. Peak Flux level 405nWb/m. Standard NAB format. Wide track will improve noise figures.

Our policy of continual improvement may result in specification changes.

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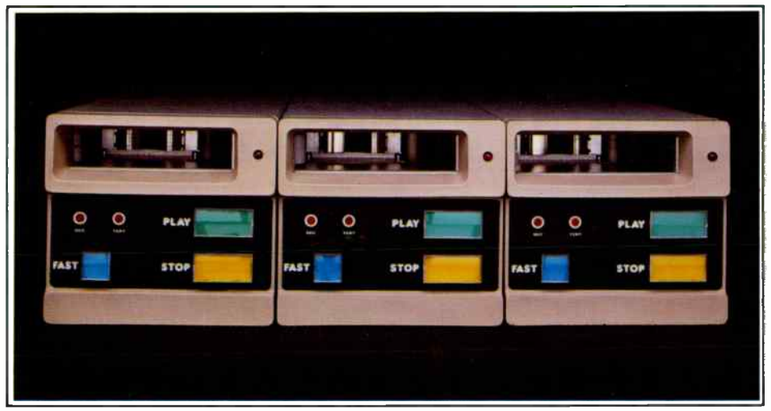
APL series

The APL series was designed for the discerning user who is aware of all the pitfalls and performance problems of conventional cartridge machines and wishes to extract the ultimate performance from the NAB cartridge.



This design is the result of extensive user feedback from operators and DJ's who wanted a machine that was small, quiet and easy to operate, and for engineers who required state-of-the-art specifications and drift-free calibration.

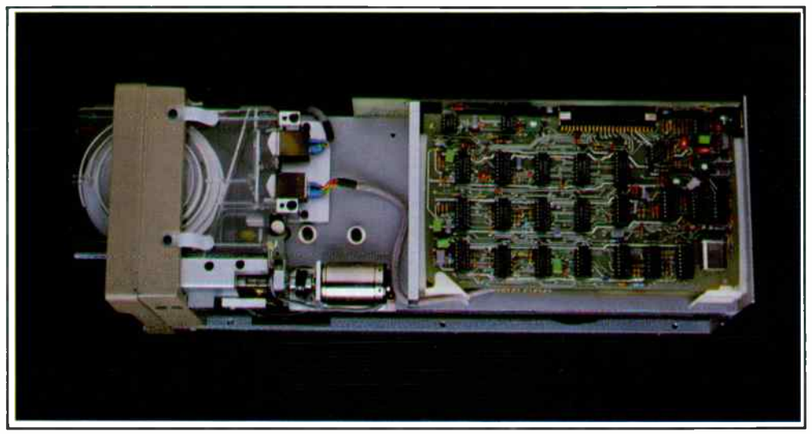
Cartridge machine performance has improved dramatically in recent years yet on top performance machines so has complexity and cost. The philosophy behind the APL series has been to incorporate the best of recent developments in circuitry and techniques yet avoiding all unnecessary complexity and keeping the electronics to only three PCB's.

Three machines take up no more space than a three-stack but offer improved performance and phase stability plus the improved reliability of separate transports.

The moulded front panel helps locate the cartridge and has large illuminated control switches that are silent yet DJ proof.

Cartridge-in detection is by an opto-coupler and requires no adjustment or maintenance.

Precision cartridge location against the headblock is achieved by dowel pins so the cartridge body never touches the headblock and nylon springs that will not distort or scratch the cartridge, make location repeatable.



The deckplate is ½" thick aluminium providing a solid mounting reference for all the mechanics. The pinch roller is driven by a servo motor for precise control of the position and pressure, eliminating solenoids that can clunk or stick.

The pinch servo drives a worm gear that provides a mechanical lock. Once the pinch roller is against the capstan at the correct pressure, the servo motor is turned off.

Audio equalisation may be CCIR or NAB 1975 standard. Audio output is muted except when in play or fast switch is held down. dbx noise reduction modules can be fitted inside the machine and are automatically switched. Matrix sum and difference is available, multi-turn presets are used for level, HF and LF. The cue tone detectors have double tuned filters for extra selectivity and allow simultaneous detection of any combination of cue tones.

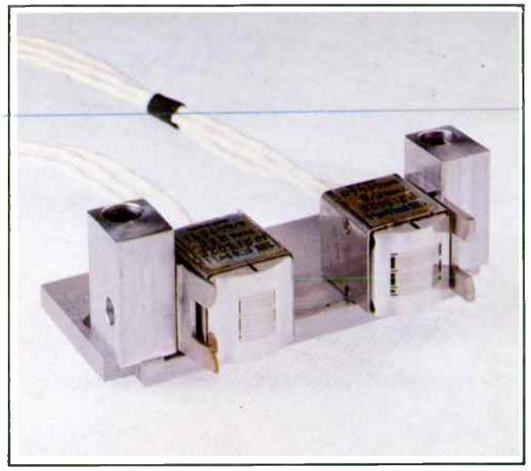
FSK can be recorded on the cue track.

All CMOS logic is mounted in IC sockets and all PCB's are plated through.

The crystal controlled capstan motor has exceptionally low Wow and Flutter, rapid start and fast speed change. Fast forward is three times playing speed and can be initiated by trailing edge of secondary cue.

The record module is linked by a single screened cable. The record switch may be momentary or latching. A digital tape timer is fed from the motor drive enabling it to be used for fast search. Primary, secondary and tertiary cue tones can be recorded whenever the tape is playing. The primary cue record can be defeated and cue erase allows erasure of the cue track. An internal alignment oscillator will record 1kHz, 10kHz, 15kHz and 63Hz at −10dBm. When noise reduction modules are fitted NR switch allows selection and will automatically record 8kHz and 1kHz at the beginning of the cartridge to switch in replay noise reduction.

The set-up switch will run a line-up check by recording 1kHz and 10kHz on the cartridge. The replay heads feed a phase comparator which will electronically adjust the record azimuth for zero error, a much quicker and more stable method than continually moving the record head.



The headblock is referenced against two precision dowel pins in the deck plate, so headblocks may be changed without azimuth alignment. Three options are available to suit your requirements. The standard headblock has precision ground fixed azimuth heads giving the optimum repeatability of azimuth between all machines. These heads can be standard NAB format, or wide track 80 mils audio and a 21 mils cue track for improved noise figures.

A conventional headblock with adjustable azimuth and zenith is also available. The tape guides are precision ground non-magnetic stainless steel.