

**Plessey
Components
Australia**

**Cartridge
Recorders
CT 80
Series**

Rola Division

The Boulevard Richmond E1 Victoria

Play unit rack mounted

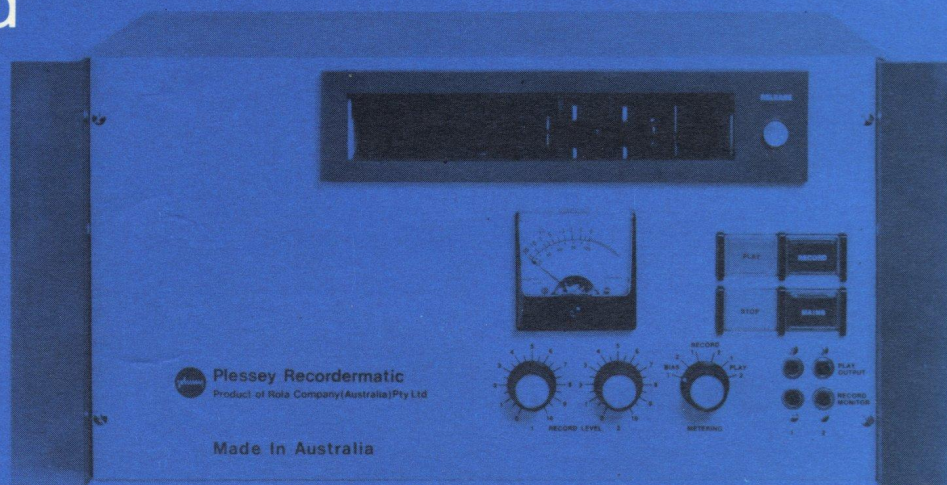


This completely new range of Plessey Cartridge Recorders, the CT80 Series, has been evolved by Australian designers and engineers to meet the demands of the broadcasting industry.

Truly professional in character the CT80 Series incorporates many notable features in their design. Operating flexibility and long term reliability have been tested under the most stringent conditions. Units have withstood drop tests on concrete, a temperature range of -20°C to $+60^{\circ}\text{C}$, vibration tests on all planes and acceleration tests to a peak level of 2G. The puck wheel actuating arm and solenoid have performed 4,000,000 individual operations under test without fault. In addition the cartridge was inserted, run, stopped and withdrawn 2,000,000 times resulting in no significant wear to any of the mechanical parts.



Record unit rack mounted



Operation

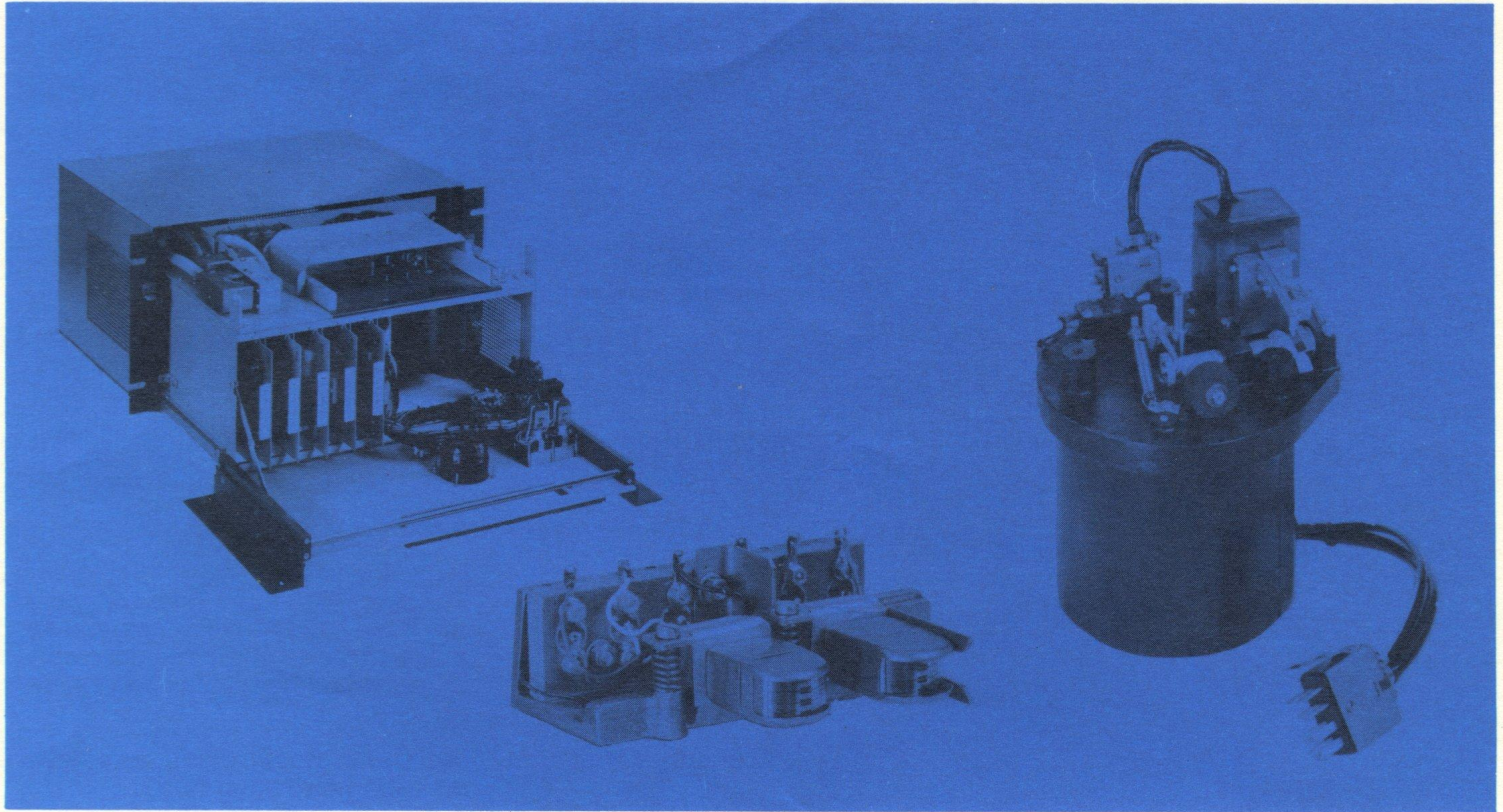
The equipment is designed to permit snap-in cartridge loading — a split-second, one hand operation.

Long term reliability is assured with a heavy duty encapsulated solenoid actuated starting and stopping, in conjunction with the automatic cartridge lock-in. When the cartridge is locked-in the capstan drive motor starts and the pinch wheel is automatically brought into the "ready position". External switching electronics, such as a manual switch, fader switch or tone pulse from the tape head of another deck, actuates the starting solenoid and instantaneously sets the tape in motion with uniform and constant capstan roller pressure.

The heart of the Plessey CT80 Series is an exclusive integral direct drive capstan motor, solenoid and puck wheel assembly, featuring a high torque synchronous motor with an internal flywheel. The motor bearings are machined phosphor-bronze with sealed oil reservoirs. The rotor and flywheel are dynamically balanced to better than 20 milligrams inch and the tape driving shaft, which is hard chromed, is ground with the motor in the normal running mode to a tolerance of better than $\pm 0.0001''$. This offers precise alignment with a speed accuracy to 99.75% comparable to the finest reel to reel machines. Tape driving shaft ovality is held to better than 0.00002" making transport wow and flutter less than .2% r.m.s.

The puck wheel actuating arm and solenoid are mounted on a precision machined casting and both the puck wheel and actuating arm are fitted with self-lubricated bearings. In this separate assembly, the puck wheel capstan pressure can be preset prior to fitting to the main component and puck wheel pressure problems are virtually eliminated. The new direct drive capstan motor means no belts and pulleys, and no bearing alignment problems, hence a minimum amount of maintenance is necessary and great reliability with long operating life is assured.

The units are constructed in a heavy duty modular form. Electronic reliability is assured with 100% solid state silicon circuitry and associated components on epoxy glass printed circuit boards.



A rack mounted unit showing accessibility for maintenance.

The dual head assembly with convenient azimuth adjustment.

The drive motor, puck wheel and solenoid assembly.

The regulated 24V DC power supply, with overload and short-circuit protection by triggered control rectifier, assures correct operating parameters at all times for peak efficiency and long component life.

By the use of extremely stable circuitry incorporating heavy DC feedback loops and diode stabilisation, where necessary, uniform performance from -20°F to $+60^{\circ}\text{F}$ is obtained.

Service

Quick change modular construction of all electronic circuits, individually mounted in sturdy metal frames gives shielding and strength with ease of maintenance and quick changeover for servicing. Circuit boards may be tested and preset controls adjusted with the use of a board extension unit. All units are readily accessible by the use of a hinged front panel and slide track mounting designed for easy roll-out maintenance.

An important feature of the Plessey CT80 Series is the advanced design head assembly. It consists of a precision machined casting mounted on the main deck plate by three screws. This rugged unit allows precision adjustment of track height and head face to tape path parallelism during manufacture. These factors will remain error free throughout the life of the heads.

The fully shielded, professional quality metal faced laminated heads have been specially contoured to provide minimum oxide build-up. Independent lockable azimuth adjustment can be reset using a small vernier control.

For ease of maintenance replacement heads or complete head assemblies can be provided as spare parts, pre-aligned for immediate replacement.

Specifications

the CT80 Series

operating method	Press button, electro-mechanical interlock. Separate 'stop', 'play', 'record' and 'mains' buttons.
tape speed	7½" per second.
maximum playing time	31 minutes.
tape drive	Capstan directly driven by a high torque synchronous motor with integral flywheel.
starting and stopping time	less than 0.1 second.
timing accuracy	—0 +0.25% of nominal speed.
flutter and wow	less than 0.2% R.M.S.
heads	Separate 'Record' and 'Play' heads. For simplified head interchange the head assembly is designed so that either the complete assembly or individual heads can be readily removed.
azimuth adjustment	Individual, positive vernier screw on each head mounting.
cue signals	NAB standard cue signals.
distortion	Less than 3% including tape distortion — Input +18dbm to output level of +21dbm.
overall frequency response	50-12000 cps \pm 2db.
equalisation	Standard NAB controls are provided for correcting the frequency response of both record and replay channels independently to compensate for varying tape characteristics.
signal to noise ratio	Not less than 55db below the 3% T.H.D. level of a signal recorded on the tape and replayed at an output of +8 dbm.
inputs	1. Balanced 600 ohms. 2. Balanced 'Bridge-In'. Microphone optional.
input connectors	600 ohm and Bridge-In — standard Jacks.
outputs	Balanced 600 ohms.
circuit metering	Standard 3" V.U. Meter. Switched to read (a) Record Level (b) Replay Level
remote control	Press-button control of all functions.
recorder interlock	Both 'Record' and 'Play' buttons must be pressed for record mode.
mounting	Table top cabinet or standard 19 inch rack.
weight	Approx. 35 lbs.



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