

CT-F1000

MONITOR-CAPABLE UNI-CRYSTAL 3-HEAD, 2-MOTOR STEREO CASSETTE DECK WITH PITCH CONTROL,
DOLBY NR WITH CALIBRATION CONTROL, MPX FILTER SWITCH & MEMORY STOP/PLAY/REC

 **PIONEER®**



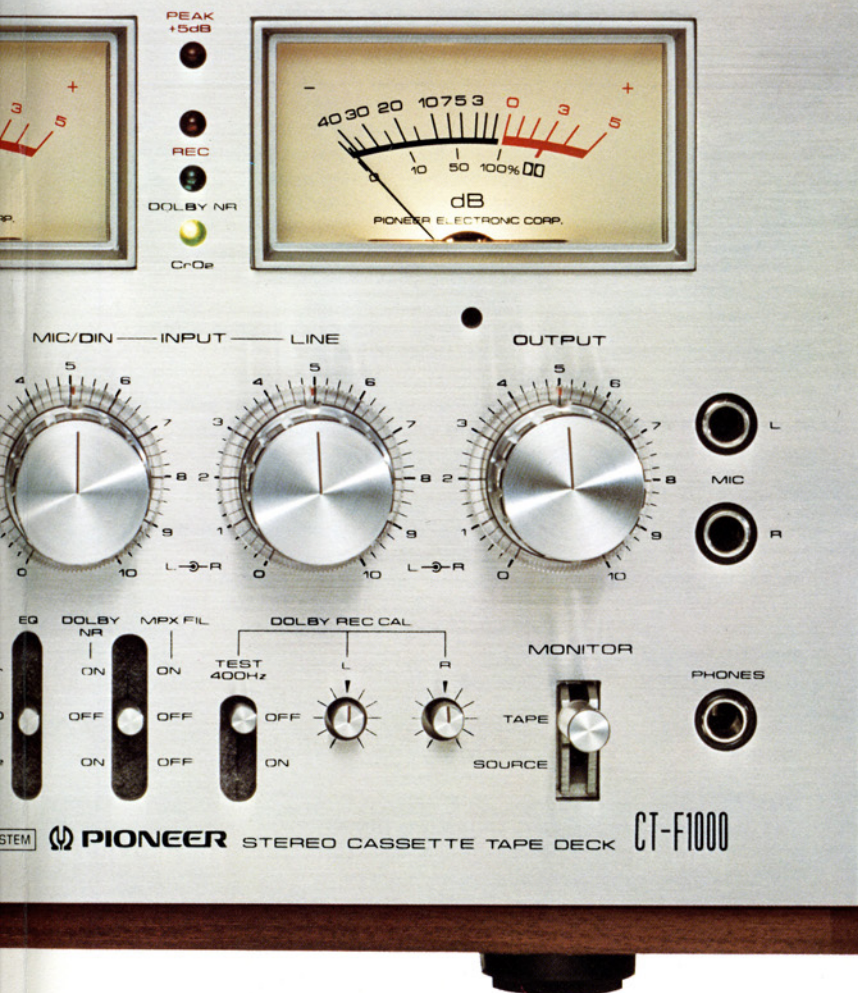
NOTE: (1) A Wooden case is optional. (2) Walnut veneered top and side panels are used in the construction of this cabinet.

Pioneer's CT-F1000—Finally A Cassette Deck That Includes Everything Except Noise and Distortion

Pioneer leads the swift switch-over to cassettes by staying ahead in cassette hi-fi technology. We've had a part in every major advance in the field since the days when cassettes were first recognized as the 'miracle musical medium' they have since become. This means that we've contributed to the development of better heads, more certain circuitry and faultless mechanics. We pioneered the front-load design, memory stop and 2-motor drive. And in the CT-F1000 we provide the professional and semi-professional user with the first 3-head *monitor-capable* deck which combines all of the above features plus a lot more.

Finally a deck that has everything. The following pages explain the advantages of the 3-head system, the 2-motor Closed Loop Dual Capstan tape transport, the Dolby* NR system and Dolby calibration features, the $\pm 6\%$ Pitch Control, MPX Filter and Bias/EQ switches, Automatic chrome sensing, Full-Stop shut-off and other special features of the CT-F1000. You'll agree that we've left nothing out, except the noise and distortion and tape-handling difficulties found in decks less carefully crafted. Stay ahead in hi-fi with Pioneer.

*Dolby is a trademark of Dolby Laboratories, Inc.

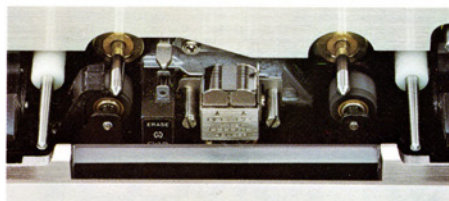


MONITOR YOUR TAPES AS YOU RECORD THEM

The 3-head design in cassette decks has been possible since the beginning. Why aren't more 3-head decks available? Cost, for one thing. And quality for another. But Pioneer thinks the convenience and other advantages of being able to check the actual post-recording quality of your cassettes as you record them is worth it. The CT-F1000 lets you do what could only be done on open reel decks till now—adjust your levels, your Dolby, your bias and equalization and hear the results on tape almost simultaneously. Since CT-F1000 possesses a pair of stereo Dolby circuitry (one for recording and one for playback), it is possible to monitor Dolby-decoded recording, a feat not possible with decks equipped with only one Dolby circuit. The quality problem is solved by Pioneer's development of a 3-head system which avoids azimuth non-alignment. Our playback head and recording head are combined: no alignment miseries each time you change or turn the cassette over. And cost? As often happens, we discovered that the technology which improved the quality also cut down the expense of designing unnecessary elaborate means of maintaining it. Our new head system is simple and sure.

UNI-CRYSTAL FERRITE HEADS

In contrast to the poly-crystal ferrite types, our record and playback heads are constructed of uni-crystal ferrite. Higher linearity gap construction potential, unity, and excellent anti-abrasion characteristics are among the advantages. Then, each head is manufactured separately before it is fitted in the combination-head case. The distance between the record and playback heads is much reduced in the combination 3-head design of the CT-F1000, thus time-lapse as you switch from SOURCE to MONITOR as you record is less annoying.



TWO-MOTOR TAPE TRANSPORT

One for fast-forward/rewind and one for record/play capstan drive. The latter is a DC servomotor with excellent rotational stability driving

a Closed-Loop Dual Capstan system (see below) for certain accuracy in speed. Tape jamming and wow/flutter problems are a thing of the past. A specially designed hex shaft for the cassette reel hubs eliminates hub play. Capstan shaft roundness, verticality and smoothness, along with the flywheel's regularity and dynamic balance, are within the closest tolerances technically possible. A special low abrasion socket for the capstan axle reduces friction, friction noise and eccentricity. In the cassette well a further touch is found in the double-link case retainers which simplify and stabilize tape handling and holding

CLOSED-LOOP DUAL CAPSTAN TRANSPORT

Single belt, closed-loop dual capstan drive system utilizes two separate sets of capstans/pinch rollers on either side of the heads. Stable head contact, reduced dropout and level variation, constant tape movement, slacking reduction and other improvements have been achieved. The results are heard in better high fidelity sound reproduction with lowered intermodulation distortion and superb stability.

AUTOMATIC TAPE SLACK CANCELER:

The closed loop method is advantageous to others but it is very sensitive to loose tape. Pioneer CT-F1000 has an exclusive device which eliminates this difficulty by momentary rewinding. This responds instantly when a cassette is loaded in the equipment.

PITCH CONTROL (PLAYBACK ONLY): ITS USES

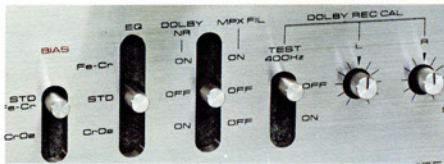
First of all, the Pitch Control with its plus/minus 6% (half-tone) range will let you play tapes made on inaccurate decks at their recorded speed/pitch; you'll be surprised how far off pitch your old deck just might be. Or, tune your piano, voice or other musical performances on tape to the pitch you want for accompaniment or for record/tape comparison or for any other reason. Few decks in this price range have this feature.

AUTOMATIC "CHROME" TAPE SENSING/SWITCHING

Take advantage of the better high fidelity sound of the CT-F1000 by using the wide-dynamic-range/ wide-frequency-response CrO₂ ("Chrome") tapes now available. A Pioneer-perfected system used in this and other top-class Pioneer decks automatically switches the Bias and EQ circuits to the correct values for "Chrome" as you insert a tape. Almost all CrO₂ cassettes have special detection recesses in their plastic shells. With the cassette in place, a sensor in the CT-F1000's tape compartment detects the recess and switches the proper circuits, also lighting the front-panel CrO₂ indicator, making manual switching unnecessary.

TWO-POSITION BIAS, THREE-POSITION EQ

Tape selector switches may also be set by hand for ideal results from normal, chrome and improved ferri-chrome tape compositions as well. Both the bias circuit and the tape equalizer amplifier are switched on the front panel: two bias signal choices and three EQ curves. Click noise during recording and playback is eliminated by transistorized EQ switching. While we're on the subject, there's also a relay operated electronic muting circuit in the Pioneer CT-F1000 to further reduce output switching noise.



DOLBY NOISE REDUCTION CALIBRATION

Because the sensitivity characteristics of tapes vary from one to the next, Dolby recording levels should be adjusted for each individually when using Dolby noise reduction to eliminate "hiss" and high frequency noise. Most Dolby packs are factory adjusted to a "representative" sensitivity, and that suits most uses. But the CT-F1000 includes a Dolby Calibration facility. A built-in oscillator generates a test tone against which you adjust the front-panel CAL controls until source and monitor levels are matched. It's simple to get the best from the deck and the tapes in use.

PIONEER PERFECTED SYSTEM IC AMP CIRCUITRY

Pioneer has concentrated technical knowhow on reducing noise, widening dynamic range and providing better electronic reliability in the amplifier circuits of the CT-F1000. An effective, ultra-low noise System IC perfected by our engineers combines the mic, flat, rec and headphone amp circuits in one faultless integrated circuit. Discrete amp formats can't equal its advantages.

MEMORY STOP/MEMORY PLAY

This is the "frill" which has become a necessity even on "no-frill" decks because, without it, cassette taping is a lot less fun. Push the index counter reset for "000" at the beginning, during or at the end of recording; later, when you push the rewind button, the tape will return to that point and stop, turning off the deck — or push the rewind button and while the tape returns, push either the PLAY or REC button; the tape will stop at "999" and will begin to playback or record automatically.



LOGARITHMIC AMP FOR LARGE VU METERS

Outstanding transient response characteristics over the wide range of $-40\text{dB}/+5\text{dB}$ are clearly indicated in these large VUs. Built-in lighting, a separate logarithmic amp for each and their positioning on the deck make reading easier and more accurate.



DIRECT LOGICAL CONTROLS

Ease in use is also enhanced with the positioning and construction of the tape direction/mode controls. Built-in logic control circuits automatically allow time for tape direction and speed change as you switch from one mode to the next. Mechanical stability is helped by feeding the solenoids sufficient drive voltage when they need

it; a supply voltage allotment system does this while avoiding heat buildup under normal operating conditions by needing lower voltage than others.

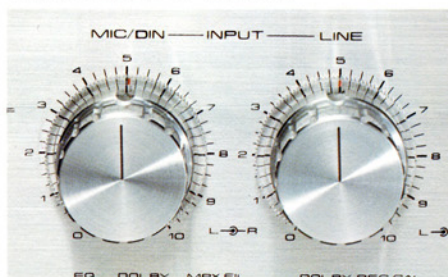


MPX FILTER TAKES THE WHINE OUT OF FM

If you tape off the air you'll appreciate the FM MULTIPLEX filter in the Pioneer CT-F1000. If you tape non-FM sources such as records, other tapes and so on, you'll appreciate the fact that the MPX filter can be switched OUT also, giving you a broader frequency response.

MIC/LINE MIXING AND RECORDING

The CT-F1000 has separate input level controls for MIC/DIN inputs, permitting you to mix them with line sources for recording.



TIMER RECORDING OK

Special designing care has been taken to assure that no mechanical or electronic parts are put under undue stress when the deck is operated through an electric timer. Set the recording levels and switches on the deck, set your timer, then forget it. The full auto-stop mechanism gives you double protection.

TAPE-END WARNING AND FULL AUTO-STOP

The CT-F1000 has a bright tape-end indicator lamp, a helpful device. Also helpful, and your assurance of damage-free operation, is the effective full auto-stop mechanism, which works in all modes.

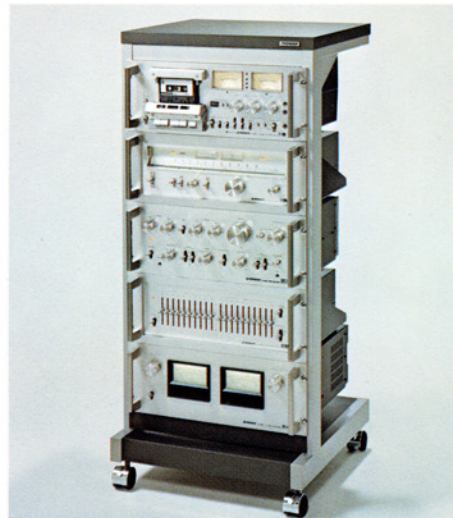
ADD-ON RECORD KEY

If you push the REC Key firmly at any time during playback, the deck goes into the record mode. Erasure and re-recording are made as in normal recording situations. This convenience is usually found only on professional decks for studio use.

THERE'S MORE THAN MEETS THE EYE



You can see in a quick glance that the Pioneer CT-F1000 is a front-loaded deck with everything in the right place, not sideways or backwards or upside down. Direct cassette viewing, simple insertion/ejection, a safeguard dust protector lid with plenty of room for head maintenance. What you might not notice at first glance is that its panel width and height are machined to EIA (Electronic Industries Association) standards for professional-type rack mounting. Our EIA handle adaptors (Pioneer JA-R102) are available at option. Finally, with a look at this has-everything deck in actual operation, you can see that the cassette well is self-illuminated for still more convenience. We haven't forgotten a thing in the 3-head, 2-motor CT-F1000.



The above PIONEER EIA audio rack (JA-R2S) is optional.

The above Spacing Panel (JA-R301) is included in JA-R2S.

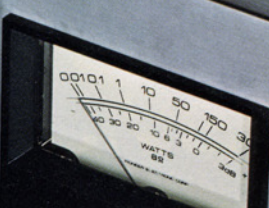
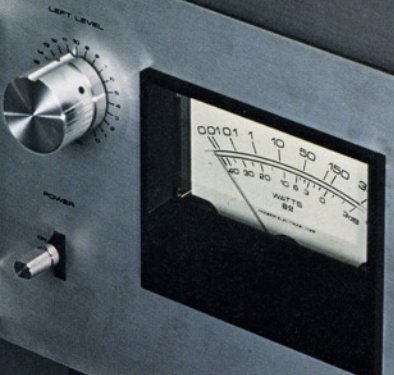
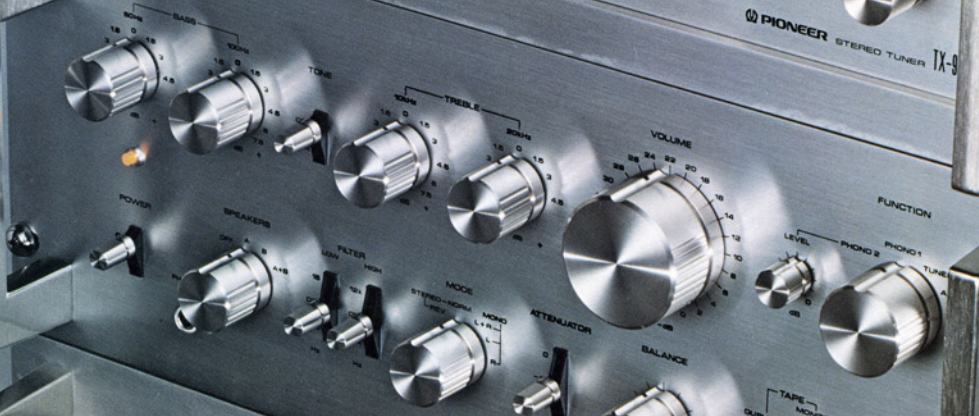
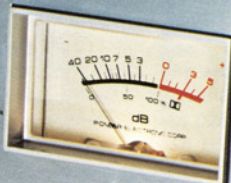
The TX-9500II and SG-9500 shown are rack mounted with the use of an adaptor, Model JA-R101, available at option for mounting audio equipment not sized on EIA standards.



The above rack mounting adaptors (JA-R102) for CT-F1000 are optional.

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CT-F1000 SPECIFICATIONS

Type:	Compact cassette tape deck		(4) Mixing control used for MIC and LINE input
	2-channel stereo/mono		(5) Tape counter with rewind Memory switch (ON/OFF) for starting point (REW-STOP/PLAY (REC))
Motors:	Electronically-controlled DC motor with a built-in generator for capstan drive, DC high torque motor for fast forward and rewind		(6) Recording limiter (ON/OFF)
Heads:	"Uni-Crystal Ferrite Solid" recording head/ playback head (combination type), Ferrite erasing head x 1		(7) Wide scale level meters (-40 to +5dB)
Operation:	Solenoid drive direct switchable and timer play presettable		(8) Recording peak level indicator (lightable level: +5dB)
Fast Winding Time:	Within 65 seconds (C-60)		(9) Dolby noise reduction calibration control (400Hz Generator Build in)
Wow and Flutter:	No more than 0.05% (WRMS)		(10) Pitch control ($\pm 6\%$)
Frequency Response:	Standard, LH tape: 20 to 17,000Hz (30 to 15,000Hz ± 3 dB) Chromium dioxide tape: 20 to 19,000Hz (30 to 17,000Hz ± 3 dB) Ferrichromium dioxide tape: 20 to 19,000Hz (30 to 17,000Hz ± 3 dB)		(11) Level memory marker for inputs and outputs
Signal-to-Noise Ratio:	Dolby Off: more than 54dB Dolby On: more than 64dB (over 5kHz) When a chromium dioxide tape is used, S/N is further improved by 4.5dB over 5kHz.	Power Requirements:	(12) Cassette compartment illumination
Harmonic Distortion:	No more than 1.3% (0dB)	Power Consumption:	(13) Input & output level controls with 41 click stop
Inputs (Sensitivity/Maximum allowable input/Impedance):	MIC x 2: 0.316mV/100mV/30 Kohms, 6mm ϕ jack (Reference MIC impedance: 250 ohms to 30 Kohms) LINE x 4: 60mV/25V/100 Kohms, pin jack (2-channel stereo, Parallel connection system) DIN x 1: 35.5mV/11V/820 ohms, 5P jack (DIN standard)	Dimensions:	(14) AC outlet (Unswitched, 300W max.)
Outputs (Reference level/Maximum level/Load impedance):	LINE x 4: 450mV/680mV/50 Kohms, pin jack (2-channel stereo, Parallel connection system) DIN x 1: 450mV/680mV/50 Kohms, 5P jack (DIN standard) HEADPHONES x 1: 62mV/93mV/8 ohms, 6mm ϕ stereo jack with output level controls	Weight:	(15) 2-channel stereo, Parallel connection for LINE input & output.
Semiconductors:	Amplifier Section: ICs; 4 Transistors; 98 including 4 FETs Diodes; 96 including 7 zener diodes, 4 LEDs Motor Control Section: Transistors; 3 IC; 1 Diodes; 2		
Other Features:	(1) Dolby system (ON/OFF) with indicator lamp (2) MPX Filter (ON/OFF) (3) Automatic tape selector for CrO ₂ tape and Manual tape selector of independently BIAS (x2)/EQ (x3) switch. (STD/FeCr/CrO ₂) (CrO ₂ indicator lamp)		

NOTES:

- (1) Reference tape: Standard, LH tape are DIN 45513. Chrome tape is DIN 45513 (Cr).
- (2) Reference recording level is meter 0dB level. (160 nwb/m magnetic level=Philip's cassette reference level.)
- (3) Reference signal is 333Hz.
- (4) Wow and Flutter: at 3kHz, WRMS (JIS), at 3,150Hz weighted PEAK (DIN 45507)
- (5) Frequency Response is measured at -20dB level for reference recording level, Dolby off. Level deviation is ± 6 dB (where not indicated). (DIN 45500)
- (6) S/N is measured at +4dB level for reference recording level (250 nwb/m magnetic level=reference level of DIN 45513) with IEC A curve when weighted. (DIN 45500)
- (7) Sensitivity: Input level (mV) for reference recording level measured with input (recording) level control set at maximum position.
- (8) Maximum allowable input level (mV) is measured at the point where the output signal wave is clipped while gradually turning the input level control.
- (9) Reference output level is meter 0dB level.
- (10) Maximum output (Playback) level: Output level to reference recording level, measured with an output (Playback) level control set at maximum position.

NOTE: Specifications and design subject to possible modification without notice.



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