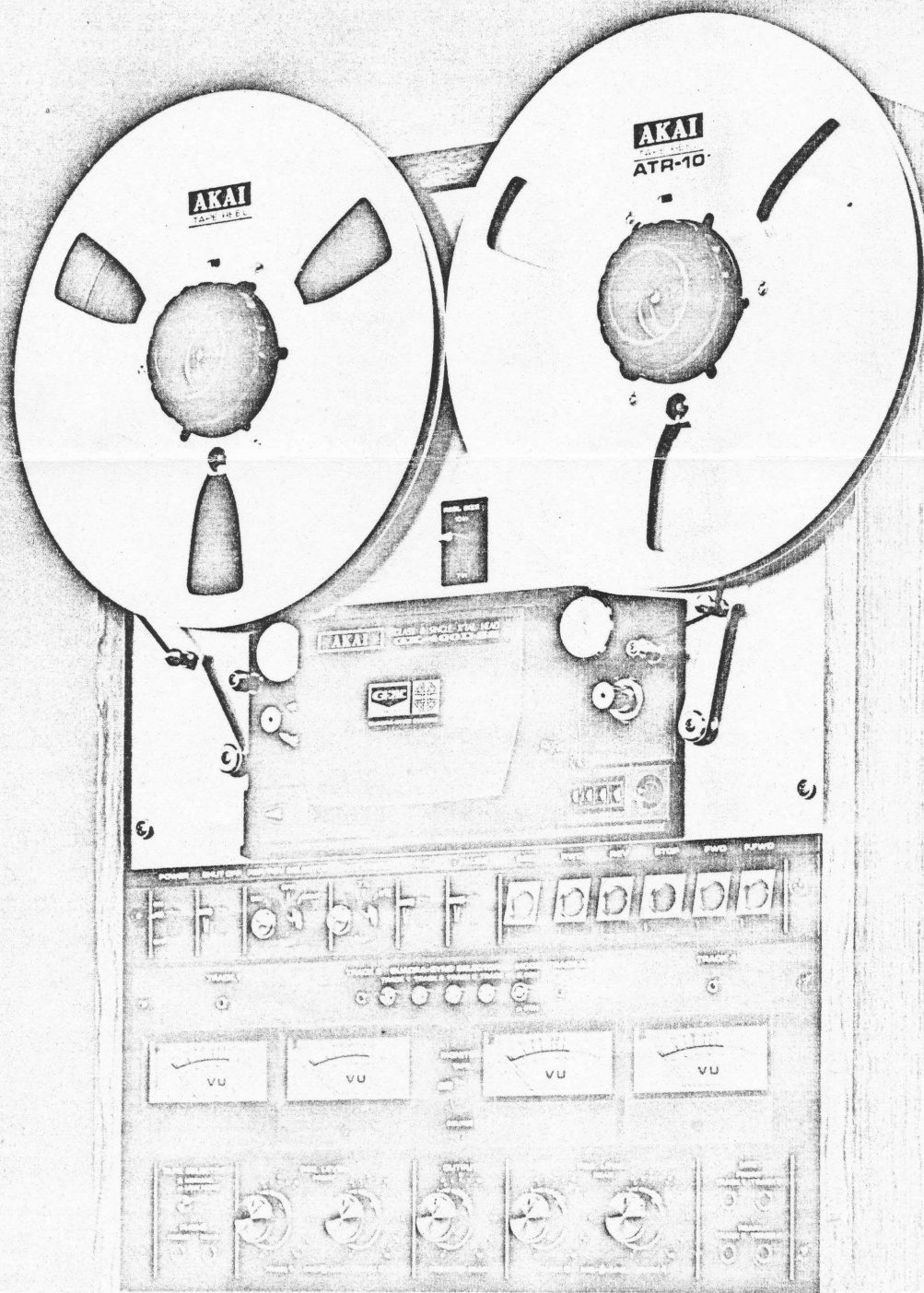
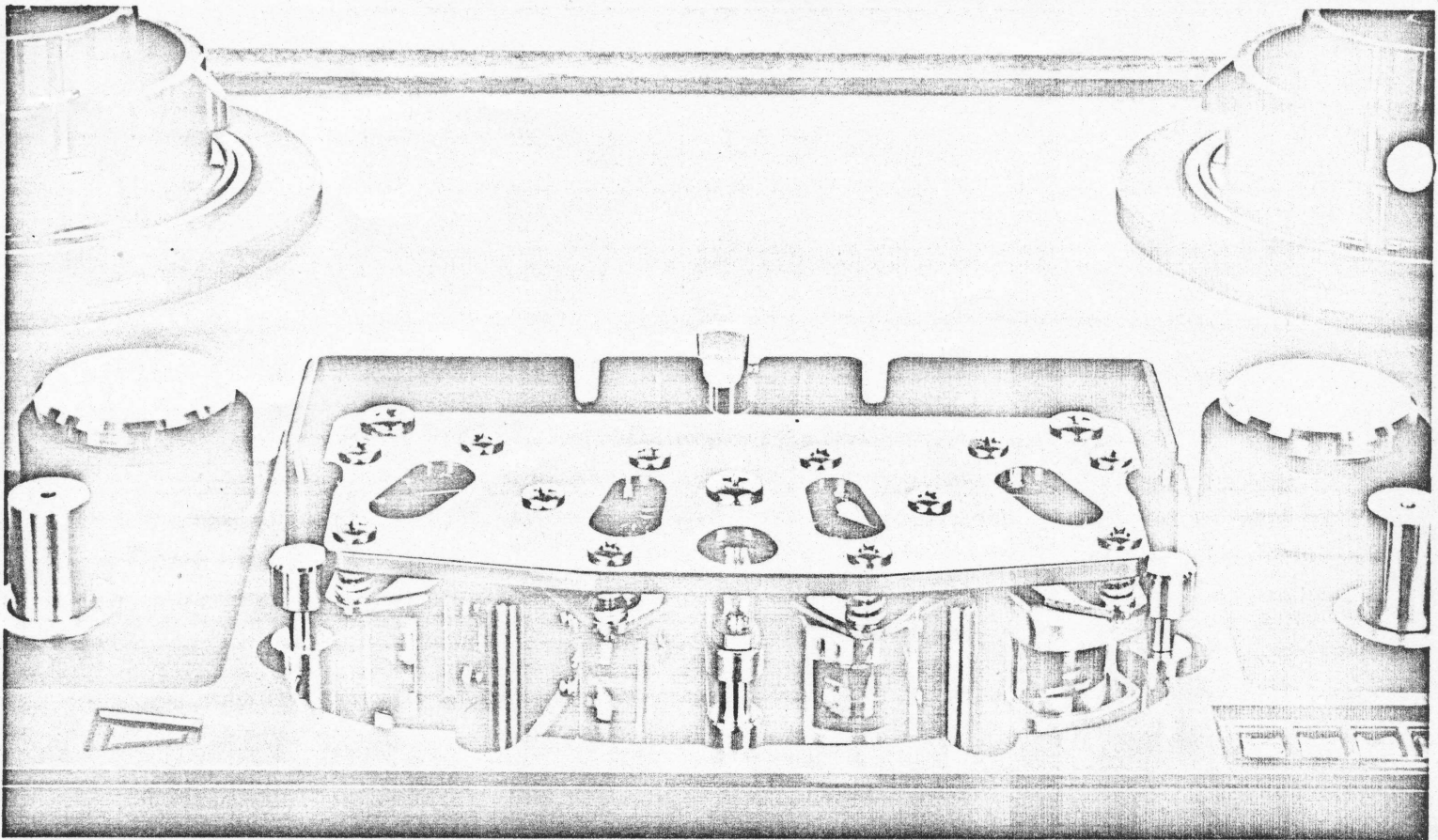


AKAI

4-CH/2-CH COMPATIBLE STEREO TAPE DECK GX-400D-SS

This GX Head Quadra-Sync 4-Channel Stereo Tape Deck marks the beginning of a new era in Tape Recording and Playback performance! A 4-Channel/2-Channel Mode Selector Switch instantly converts the unit for 4-Channel Surround Stereo or 2-Channel Stereo. To 15 ips tape speed.





GX HEAD FOCUSED FIELD RECORDING SYSTEM ASSURES LASTING NEW MACHINE PERFORMANCE

The GX-400D-SS employs GX 4-CH and 2-CH recording/playback heads for incomparable performance. The cores of these GX (glass and crystal ferrite) Heads are made of low noise crystal ferrite which has proven far superior to conventional head core materials. Unlike composite materials, this single crystallized element is non-porous and, thus, there can be no material separation to eventually cause cracking or chipping of material

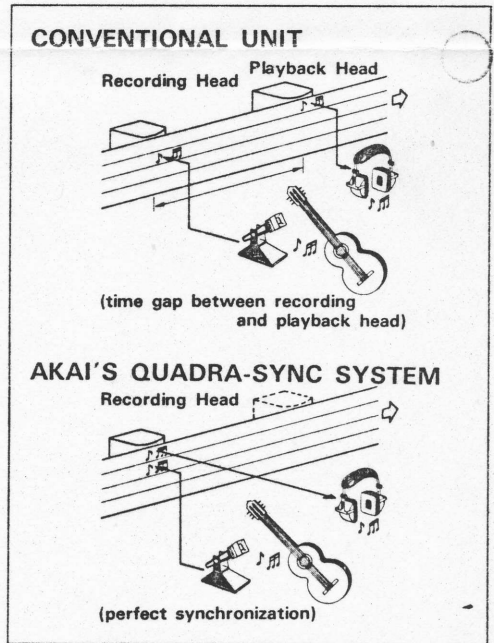
from the head surface. This also means that the magnetic properties peculiar to ferrite can be utilized for high electronic conversion capabilities resulting in better high range frequency characteristics.

The nature of this material enabled Akai engineers to construct a perfectly lineal shallow head gap and an acute angle head surface contour for perfect head-to-tape contact wherein the tape is exposed only to the part of the head's sharply focused magnetic field for improved head sensitivity and the elimination of sound drop-out. The core of the GX Head is mounted and set in pure glass of the same extraordinary hardness so that the head surface is always kept free of dust and magnetic particles, thus assuring wear-free characteristics for lasting new machine performance.

NEW QUADRA-SYNC RECORDING TECHNIQUES FOR PERFECT SOUND SYNCHRONIZATION

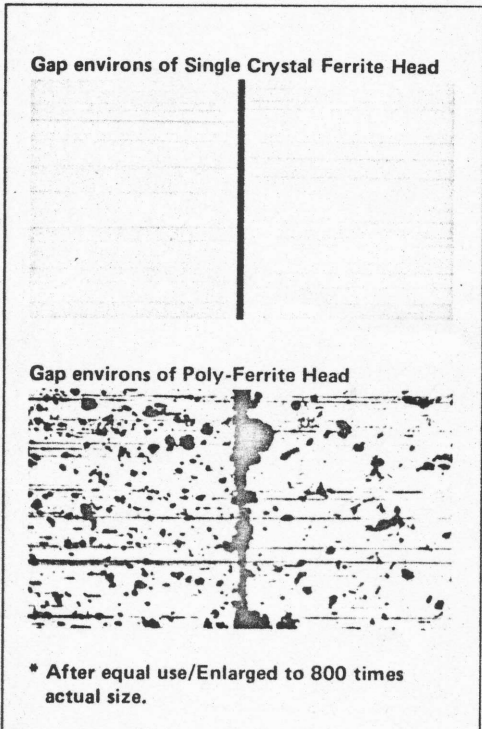
This model incorporates Akai's new and unique Quadra-Sync recording system. As shown in the figure, on conventional units, sound monitored through headphones comes from the playback head. Therefore, to date, eventhough there were several kinds of multiple recording systems, because of the short time necessary for the tape to travel from the recording head to the playback head, sound synchronization was impossible.

However, with Akai's new Quadra-Sync system, the sound monitored is produced from the recording head, i.e., any of the recording head tracks can be switched to playback mode at will by means of the Track 1, 2, 3, & 4 QUADRA-SYNC SELECTOR SWITCHES for monitoring during recording on another track. Thus, program material on one track can be perfectly synchronized with any or all of the 3 remaining tracks. Use for professional split rehearsals or recording sessions, or to form a one man combo or a quartet with a single voice, etc. The uses to which Quadra-Sync can be applied are as unlimited at the imagination of the operator.

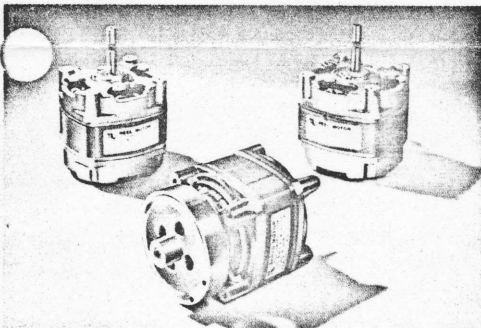
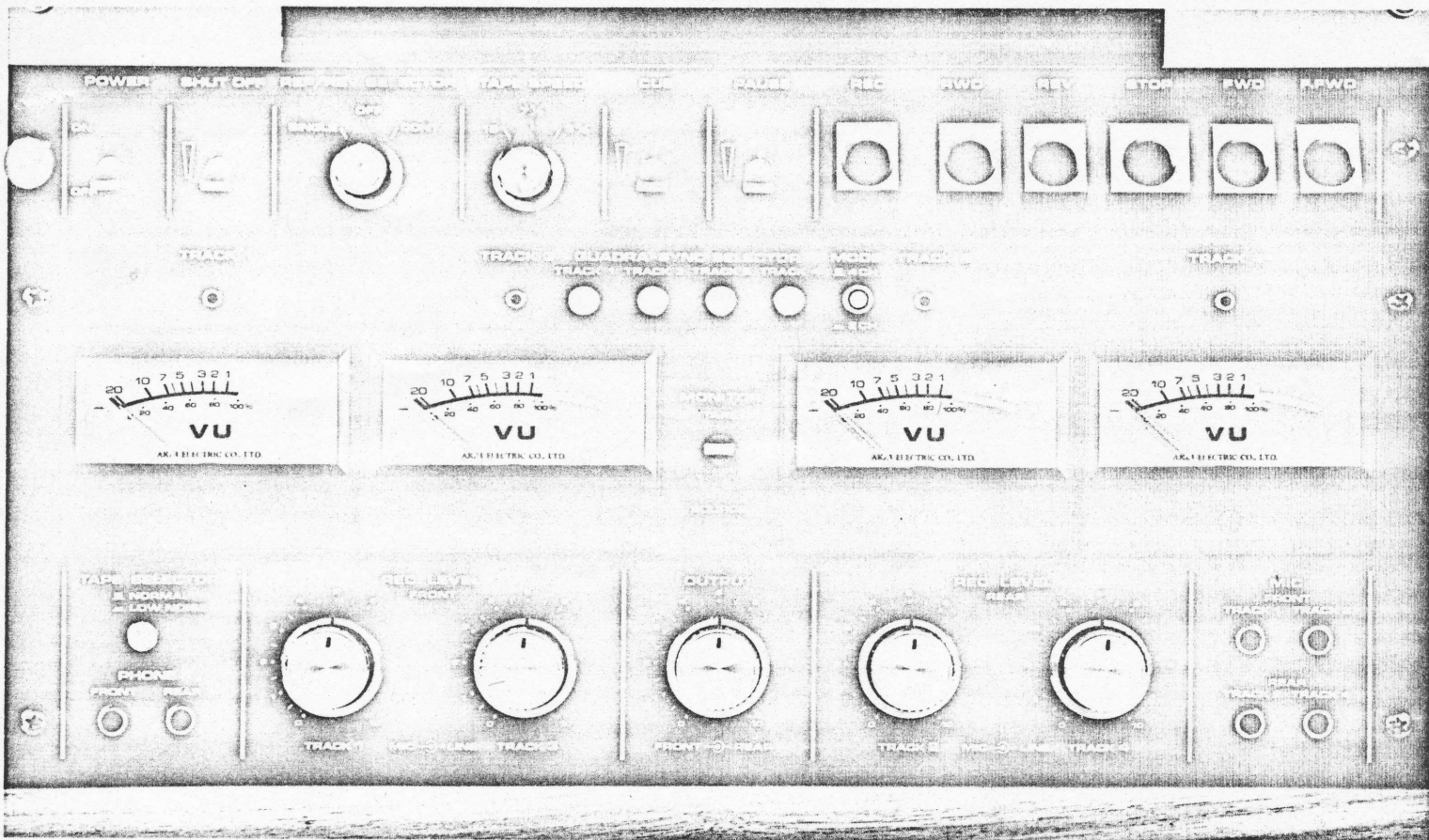


DUAL CAPSTAN DRIVE SYSTEM AND NEW SELF-LUBRICATING AC SERVO MOTOR GUARANTEES FRICTION FREE TAPE TRAVEL AND DRASTICALLY REDUCES WOW AND FLUTTER

symmetrical head block layout . . .
 A completely symmetrical head block layout dual capstan system provides smooth, friction free tape travel and identical 2-channel forward and reverse playback characteristics.
electronic governing circuit . . .
 Akai's exclusive inner-rotor AC Servo Motor is employed in this model for capstan drive. With this system, the voltage supplied to the stator winding



* After equal use/Enlarged to 800 times actual size.



is pulse detected and precisely controlled for maintaining completely stabilized motor revolutions. The use of this powerful electronic governing circuit not only means that proper revolutions unaffected by external load conditions as well as ideal torque is attained, but also that perfect protection from superfluous hum is realized and tape speed fluctuation is practically non-existent. **self-lubricating . . .**

Further, this outstanding motor is completely self-lubricating. Two oil circulating mechanisms with cellulose fibers are installed within the interior of the motor. While the oil is circulating, shaft revolutions are always smooth and stable. Oil circulating speed is naturally adjusted according to motor revolutions and temperature. Therefore, trouble resulting from oil circulation suspension does not occur.

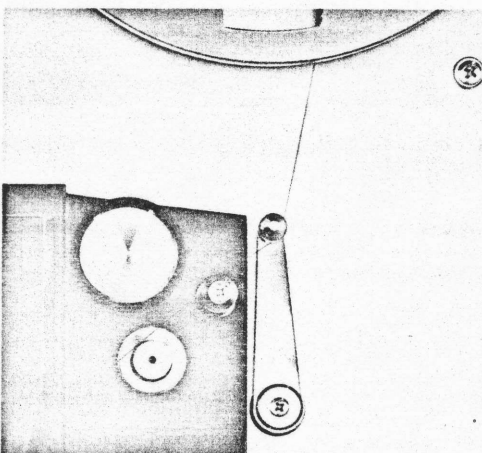
oil purified in cleaning process . . .

The cellulose fibers also act as filters to keep the oil clean during the circulating process, adding to the revolutionary long lasting new machine performance.

Two 6-pole eddy current inner rotor reel drive motors prevent vibration to complete the perfect motor drive system.

The combination of this AC Servo Motor and dual capstan drive system also drastically reduces wow and flutter.

AKAI'S EXCLUSIVE ONE-WAY AIR DAMPED TENSION LEVERS PROTECT TAPE



10-1/2" reels are often used for professional 15 ips recording and playback. However, to date, sufficient care had to be exercised in handling the tape to prevent tape damage on the take-up reel side, and even then, there was concern when it came to the possibility of an accident during tape travel. To prevent this, the GX-400D-SS is equipped with two of Akai's One-Way Air Damped Tension Levers. When these levers drop, they are lowered with ordinary pressure, but when tension is applied, the air-damping mechanism is activated to protect the tape from sudden tension. This air-damping works only in the case of suddenly applied tension and is not applied when the tension arm is lifted with normal pressure. Consequently, even when the tape is slack and an operating key is depressed, there is no danger of the tape being broken, or wound around the flange, etc. Further, this system prevents the tape from slanting, assuring even tape take-up.

DIVERSIFIED AUTOMATIC REPEAT AND REVERSE

This model is equipped with a REPEAT/REVERSE SELECTOR which by a simple setting provides 4-CH single or continuous playback/rewind, single record/rewind, or record/rewind/continuous repeat playback as well as 2-CH single or continuous forward and reverse playback, single record/reverse play, or record/continuous playback.

DIRECT FUNCTION CHANGE CONTROL SYSTEM FOR SPEEDY MODE SELECTION

The control system of this unit is a one-touch direct function change system of superior engineering design for smooth and speedy mode selection. The necessity of depressing the Stop Key before changing modes is eliminated and because of the one-way air-damped tension levers, the tape is not damaged.

SOUND MIXING

Four each separate line and microphone input jacks and controls facilitate varied line and microphone mixing techniques. Professional type input level controls can be varied during regular or Quadra-Sync recording for special sound effects as desired.

TAPE SELECTOR SWITCH FACILITATES USE OF LOW NOISE TAPE

This circuit varies the equalizer peaking volume at recording time according to the tape being used. The use of low noise tape will improve high range frequency response.

CUE SWITCH AND PAUSE CONTROL FOR PRECISION CUEING AND TAPE EDITING

When the Cue Switch is depressed during fast forward or rewind mode, the tape is positioned to touch the playback head surface. Thus, recordings on the tape are easily located for faster and easier editing. The GX-400D-SS is also equipped with Pause Control facilitating momentary tape travel suspension during recording or playback.

AUTOMATIC STOP AND SHUT-OFF

Perfect operating safety is assured with the automatic stop and automatic shut-off functions of this model. At the end of the tape, an automatic stop circuit is activated to stop reel movement. To effect automatic shut-off (to cut the power of the entire unit), simply set the Automatic Shut-Off Switch to ON position.

REMOTE CONTROL

All operating functions of this model can be remote controlled by using Akai Remote Control unit RC-17. Plugs into remote control socket on rear panel.

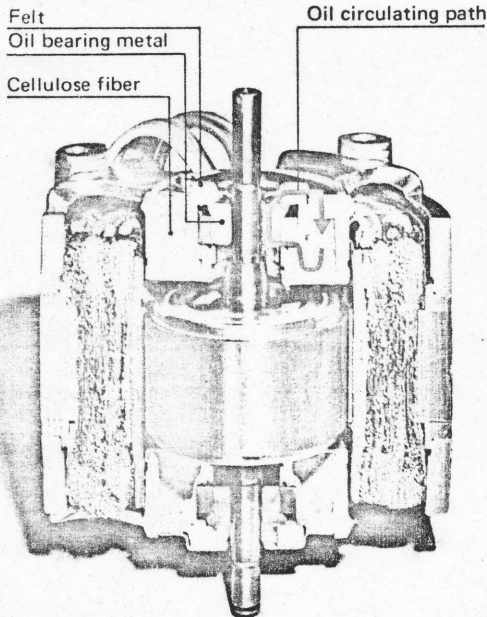
OTHER FEATURES INCLUDE

- * Individual large and precise VU Meters, Controls, Inputs, and Indicator Lamps
- * Front and Rear Channel Headphone Jacks
- * Reel Size Selector and standard accessory 15 ips Reel Hub Adapters
- * Din Jacks with High/Low Input Selector

STANDARD ACCESSORIES

Empty Reel	1
15 ips Reel Hub Adapters	2
Connection cords	2
Spare Fuses	1 set
Operator's Manual	1

OIL CIRCULATING SELF-LUBRICATING MOTOR . . . complements GX Head performance.



Akai's policy of consistent quality is evident even in a single Motor Shaft.

The general performance of a Tape Deck is greatly influenced by motor capability and especially by the motor shaft. Smooth revolutions and endurance depend greatly upon the quality of the motor shaft.

Thus, as is the case of all Akai parts, carefully selected materials were used and our vast experience and newest engineering techniques as well as strict quality control and precise processing were not spared in the design and development of this outstanding motor.

Such skill, aside from the features outlined on the inside page, resulted in a motor shaft structure with a 60° hardness (Rockwell C Scale) and a 0.10μ (10/100,000 mm) degree of roundness. Further, an ultra precise polishing process resulted in a surface roughness of less than 0.05μ for the smoothest ever in motor revolutions and enduring performance.

TECHNICAL DATA

Track System	4 track 4 channel stereo system	One GX 4ch/2ch Playback Head,
Reel Capacity	Up to 10-1/2" reel	One each rear ch and front ch Erase Heads
Tape Speed	15, 7-1/2 and 3-3/4 ips	Motors
Wow & Flutter	Less than 0.035% RMS at 15 ips. Less than 0.05% RMS at 7-1/2 ips. Less than 0.08% RMS at 3-3/4 ips	(3): AC Servo Motor for Capstan drive, 2-eddy current motors for reel drive.
Equalization	Correct equalization for playback of tapes recorded to NAB curve.	Fast Forward & Rewind Time
Frequency Response	20 Hz to 27,000 Hz (±3 dB) (Low Noise Tape), 20 Hz to 26,000 Hz (±3 dB) (Low Noise Tape), 30 Hz to 18,000 Hz (±3 dB) (Low Noise Tape), 20 Hz to 26,000 Hz (±3 dB) (Regular Tape), 20 Hz to 24,000 Hz (±3 dB) (Regular Tape), 30 Hz to 16,000 Hz (±3 dB) (Regular Tape)	75/90 secs. using a 1200 ft. Tape at 60/50 Hz
Distortion	Less than 1% (1000 Hz "0" VU)	Output Jacks
Signal to Noise Ratio	Better than 52 dB, 55 dB using Low Noise Tape	Line(2): 1.23 V ("0" VU) (Required load impedance more than 20 kΩ), Phone(1): 50 mV/8 Ω
Erase Ratio	Better than 70 dB	Input Jack
Cross-Talk	Better than 40 dB	Microphone(4): 0.5 mV/4.7 kΩ, Line(4): 100 mV/50 kΩ
Bias Frequency	100 kHz	Din Jack
Heads	(4): One GX 4ch/2ch Recording Head,	0.6 V/60 mV (high)/10 mV (low)
		Semi-Conductors
		Transistors: 95, Diodes: 88
		Integrated Circuits
		Linear IC: 4
		Power Requirements
		100 V to 240 V A.C., 50/60 Hz
		Power Consumption
		160 W
		Dimensions
		457(W) x 590(H) x 240(D) mm (18 x 23.2 x 9.5")
		Weight
		31.2 kg (68.7 lbs)

- * For improvement purposes, specifications and design subject to change without notice.
- * "Surround Stereo" used with permission of Vanguard Records.

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