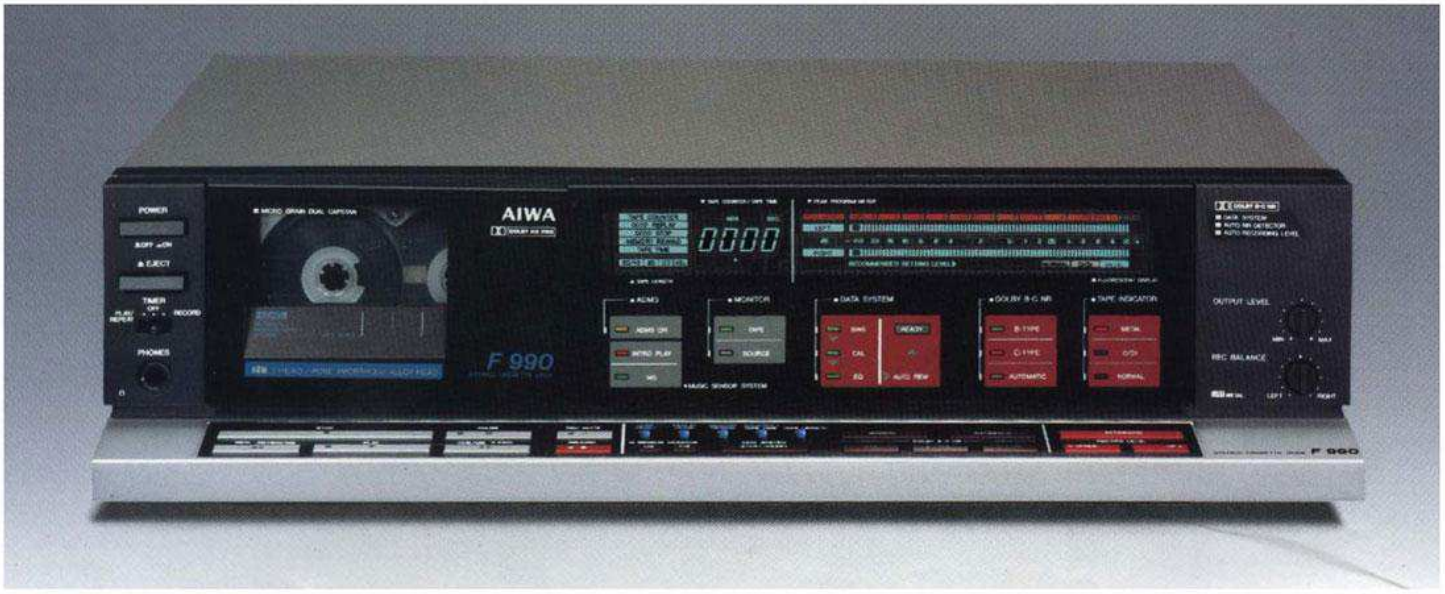


"Simply Super": More than a catchword, it's proof that perfect recordings can be made almost effortlessly!

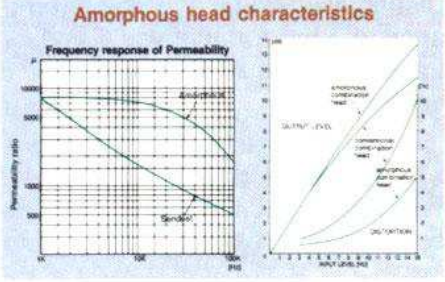
AD-F990

When working out the design for what was to become the most advanced AIWA deck ever produced, engineers began with a fundamental question: "What features", they asked, "can be built in to give users a deck not only with unmatched sound fidelity, but with genuinely automated, failproof operation?" The AD-F990 is the answer. Unquestionably the most superlative performance ever offered in a model of this type, it also features throughtful human engineering and unprecedented ease of operation.

Amorphous Combination Head

The AD-F990 introduces a newly developed head which promises to surpass almost every previous standard of top performance. Unlike most metals which have a uniform atomic configuration, amorphous alloy is a new non-crystalline material with non-specific, non-directional atomic configuration. When utilized as head material, it is able to display such ideal characteristics as a high maximum magnetic flux density, outstanding signal linearity (due to lower coercivity), and minimal generation of electromagnetic noise. Add to this a remarkable hardness for extra durability, and you can understand why AIWA engineers are so excited over the potential of this new material!

Amorphous head characteristics



Dolby HX Professional: A revolutionary new approach to the problems of recording bias

Not noise reduction but an entirely new way of processing signals, this newly-developed circuitry functions during all recordings but requires no processing during playback. For this reason, whether cassettes are recorded with or without Dolby noise reduction you'll have the advantage of full playback compatibility in any type of cassette equipment.

HX stands for "Headroom Extension", and it operates during recording by means of a special circuit which dynamically adjusts bias levels in response to the input signals. This contributes to significant improvements in dynamic range, while providing a naturally "flat" frequency response.

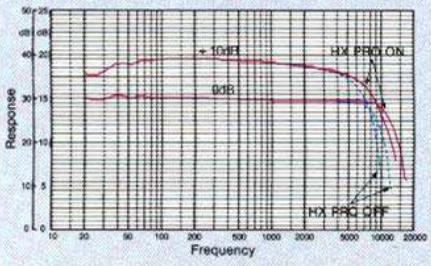
A discernible difference in sound quality

Because the bias level is fixed in conventional cassette decks, they are inevitably handicapped by the phenomena of "self bias" and "mutual bias", resulting in inability to accurately reproduce high frequency signals above a certain volume level. Dolby HX Professional has been specifically designed to deal with this problem. By use of a servo circuit which functions independently in right and left stereo channels during recording, AIWA's new decks can ensure that ideal bias levels are applied at all times. This aids in avoiding easily-incurred high frequency tape saturation, for amazing clarity and absence of distortion.

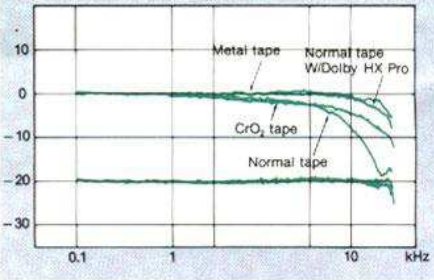
If you plan to make tapes from digital program sources, AIWA's decks are also designed to take optimum advantage of the increased recording headroom offered by Dolby C noise reduction. Results of recordings in this mode are truly superb: with metal tape, the AD-F990 boasts a frequency response of 20 to 21,000Hz (±3dB), with signal/noise an outstanding 80dB (above 5kHz).

Dolby HX Professional Block Diagram

Frequency response

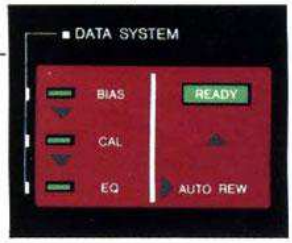


Dolby HX Professional characteristics

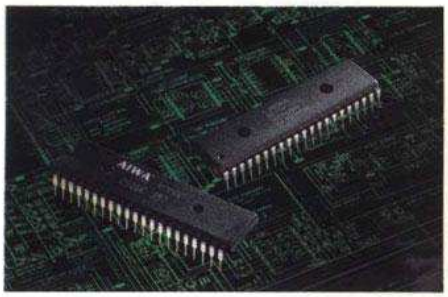


DATA (Digital Automatic Tape Adaptation) system

This sophisticated microcomputerized circuit automatically "tests" each tape prior to recording and adjusts the deck's bias, equalization and sensitivity to optimum levels. Performed automatically within 16 seconds, DATA ensures that virtually any brand of tape you select can deliver its best performance.



New Automated features

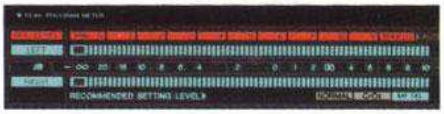


Auto Noise Reduction Detector

"Was that tape recorded by Dolby B or C?" "Did I use noise reduction when I made that recording?" Questions such as these are completely unnecessary with the AD-F990.
As long as you play a tape recorded by the same machine it will switch to the correct NR setting automatically!

Auto Recording Level Control

This feature completely does away with the need for time-consuming manual adjustment of recording input levels. When recording begins, level is set to the ideal point for the type of tape in use, ensuring optimum recording results.
(Manual override is available for fadeout, special effects, etc.)



New! Flat "Keyboard" control panel

A triumph of human engineering, AIWA's design combines the convenience of front loading with the concept of "user-friendly" operation now widely popularized by personal computers. Feather-touch IC logic controls and the record level adjustor are arranged on a flat keyboard panel at the base of the unit. New design ends awkward pushing and poking of inconveniently-angled controls to make operation a real pleasure.

Auto Tape-Source Selector

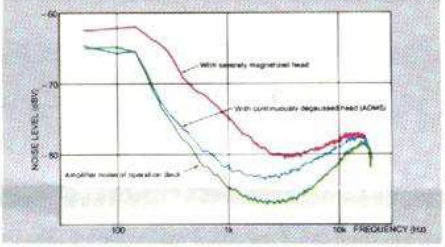
Three-head cassette decks ordinarily require manual switching between TAPE (to hear the recording while in progress), or SOURCE (to monitor the sound from turntable, tuner, etc. being recorded by the deck). But if, for example, a conventional 3-head deck is set to the TAPE setting while in the RECORD/PAUSE mode, no sound will be audible from the system's loudspeakers. AIWA has equipped the AD-F990 with a new circuit which automatically switches the TAPE/SOURCE selector to the user-preferred position (manual override is of course possible).

Mode	Switching
PLAY	Tape
REC	Tape
REC/PAUSE	Source

ADMS (Auto De-magnetizing System)

This fully automatic system eliminates the need for awkward de-magnetizer tools or accessories forever. Each time the unit's power is turned on, a special oscillator circuit "sweeps" the record/playback heads clean of residual magnetization in less than two seconds.
By keeping the heads in a continually degaussed condition, low noise, low distortion and optimum frequency response are ensured at all times.

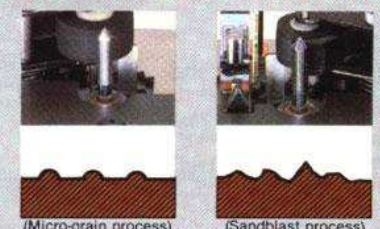
Effect of ADMS operation (Playback noise analysis)



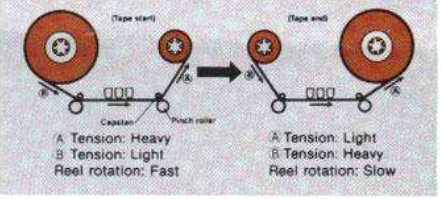
Micro-grain dual capstan transport

An exclusive process which coats the capstan surface with millions of uniform hemispheric domes, AIWA's micro-grain design ensures ideal cohesion between tape, capstans and pinch roller. This virtually eliminates the effects of changes in tape load, reducing modulation noise and resulting in exceptionally low levels of wow & flutter.

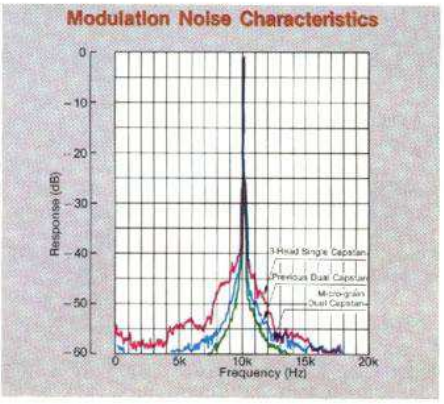
Simulated magnification of capstan surface



Micro-grain surface eliminates effects of constantly-changing tape load during play.



Modulation Noise Characteristics



Intro-play facility

Intro-play is an automatic system which searches out the start of each successive recorded tune; it then gives the listener an 8-second sampling of the contents and continues by fast forward to the next. To hear the entire tune, simply touch the PLAY mode at any time during the eight seconds and normal playback will continue.
Intro-play functions in both forward and reverse directions.

All-mode tape remaining time display

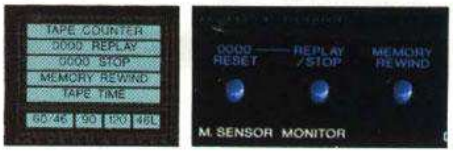
Unlike previous time display counters which functioned only in the normal tape speed modes (PLAY/REC), AIWA deck counters retain precise location of the tape even during Fast Forward and Rewind.
This means that remaining tape time countdown will be displayed accurately regardless of tape length or changes in transport mode.

Fluorescent Multi-function Display

In addition to eye-catching peak meter display with a wide −20 to +10dB range, the integrated panel includes easy-to-read indicators for length of tape in use, remaining tape time/tape counter function, memory rewind and recommended maximum peak level for each type of tape.

Memory Rewind and Repeat System

This allows repeat playback of any preselected tape segment you designate.



Plus:

- Feather-touch electronic volume control with position indicator
- Intro-play track preview
- ADMS (Auto De-magnetizing System)
- Micro-grain dual capstan tape transport
- All-mode tape remaining time display
- Auto Rec-mute
- Auto tape selector
- 1-program music sensor
- Remote control connection jack
- Switchable MPX filter