

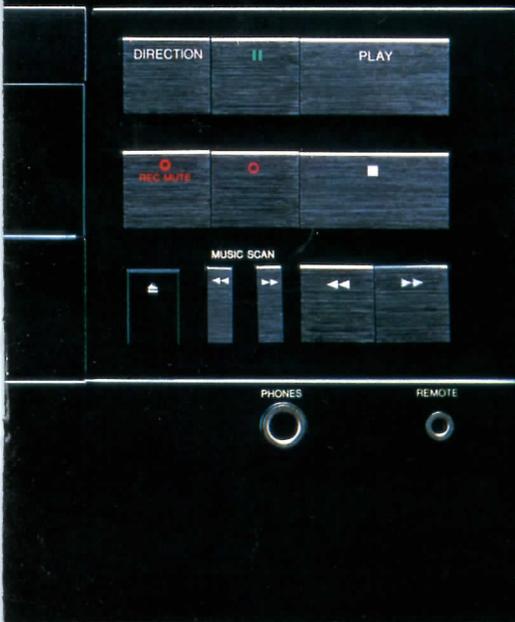
# JVC Re-engineers Cassette Decks for the Digital Age

The recent emergence of digital audio is having a profound effect on the fundamental design of cassette decks.

First, it has made it imperative that the deck be re-engineered so that its basic performance specifications are comparable to those offered by digital sources. True, today's cassette recordings cannot match (as yet) the wide dynamic range and flat response of digital audio formats. But at JVC, we are making surprising progress in this direction.

Second, cassette decks must be made more convenient to operate. This is being done with the help of tiny microcomputers. Many automatic operations featured in our decks — notably the B.E.S.T. tuning system and the U-Turn auto-reverse system — wouldn't be possible without tiny microcomputer "brains." With their help, we are getting closer than ever to developing a deck with totally foolproof operation.

To realize our goal, our research teams are examining every aspect of cassette deck technology — nothing is being left to chance. Read over some of our more important achievements, and you'll understand why JVC decks are fast becoming the first choice of knowledgeable audiophiles.



## TAPE TRANSPORT



### Silent quick reverse mechanism

In our U-Turn auto-reverse models, a sensor consisting of a light emitter and a receptor is placed in the cassette-shell guidepin. Since reverse action occurs the moment the sensor detects the leader tape, music is interrupted for only a fraction of a second. Our top auto-reverse models use no plungers, so operation is smoother and quieter.

### JVC direct-drive tape transport

During forward play and record, capstans in our best decks are driven directly by compact Pulse Servo motors. There are no cams, pulleys, belts or gears to affect speed accuracy. By simplifying the transport, accuracy has improved significantly.

### Pulse Servo motor

The JVC Pulse Servo motor incorporates a significant amount of advanced technology. In it, polarity switching is performed by electronic Hall-effect elements. Since no mechanical contact occurs, noise is not generated. This motor is also coreless and slotless; cogging is avoided completely. Assisting the motor is an integral FG (Frequency Generator) servo system, a high-precision electronic speed-monitoring device which instantly compensates for any speed error. Abuse or slight mechanical error (if any) will not affect the servo's accuracy. Nor will changes in temperature, because of a new "Multiplied Bridge Drive" (MBD) circuit.

### Other features

- Two-motor full-logic control.
- Logic control mechanism.

## CONTROL



### Computer controlled operation

Tiny microcomputers ("microchips") are put to a number of uses in our cassette decks to make transport operations simpler and more reliable. They also make possible several completely automatic features such as setting of optimum record levels and determining correct recording parameters for any tape.

### B.E.S.T. tuning system

The JVC computerized B.E.S.T. (Bias, Equalization, Sensitivity of Tape) tuning system analyzes the electromagnetic properties of a tape, and adjusts the deck's electronics for a perfect match. A one-chip microcomputer first determines the optimum bias and equalization levels, and then finds the proper level (sensitivity) — all in about 15 seconds. Bias is set with the MOL (Maximum Output Level) of the tape weighted. All in all, the B.E.S.T. tuning system

yields flat response combined with lowest possible distortion — all with computer accuracy and one-touch convenience.

### Digital Counter

- (1) Minute and second display of remaining tape time — Operates during both play and record.
- (2) 4-digit display of tape expended — Keeps track of amount of tape used.
- (3) Minute and second display of elapsed tape time — Elapsed time is continuously counted during play and recording.
- (4) Music Scan program display — The display acts as a countdown counter for the Multi Music Scan system that lets you zero in on any song ahead or behind.

### Other features

- Index Scan and Blank Search\*.
- Memory with block repeat\*.
- Auto rec mute\*.

\*Convenience features that also operate in the auto-reverse mode.

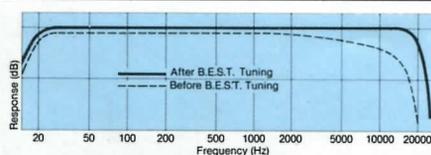


Silent Auto-Reverse Mechanism



Pulse Servo Motor

JVC B.E.S.T. Tuning System: Before and After Responses



4-Way Digital Counter

