

**SONY**

3-769-762-22 (1)

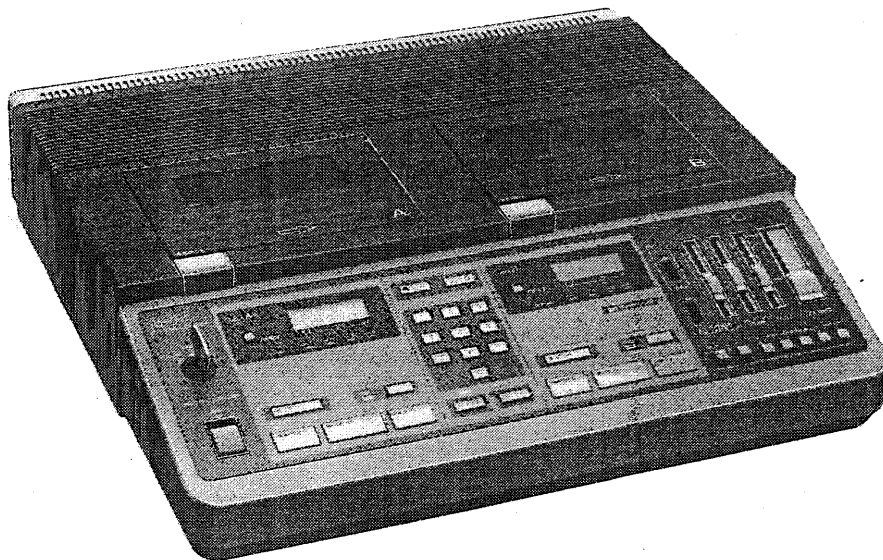
Confer-Corder

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# BM-246

## Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



# OWNER'S RECORD

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. BM-246      Serial No. \_\_\_\_\_

## WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

### WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

THIS APPARATUS COMPLIES WITH THE CLASS A LIMITS FOR RADIO NOISE EMISSIONS SET OUT IN RADIO INTERFERENCE REGULATIONS.

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# General Description of BM-246

Specially designed for recording courtroom proceedings, conferences or meetings.

## Dual-deck confer-corder

With the AUTO CHANGE switch ON, long uninterrupted recording is possible. Before the end of tape on deck A (B), recording on deck B (A) starts automatically.

With the AUTO CHANGE switch OFF, both decks A and B can be operated simultaneously or separately.

## 4-track, 4-channel recording system

Eight microphone inputs into four channels can be recorded simultaneously. (The sound input from two microphones is mixed and recorded on one channel.) Any channel or all can be selected for monitoring.

## Search functions

A particular recorded segment of the tape can be quickly located and the end of the last recorded segment on the tape can easily be located.

## Fail-safe warning system

Alarm sound and indication on the counter display prevent recording errors.

## Recorded cassette protection

Built-in circuitry makes it impossible to record over a recorded segment on the cassette.

## Digital tape counter and alarm indicator

The tape position (4-digit readout 0000 to 9999) and cassette number (1, 2, 3, etc.) during continuous recording and alarm indication appear for easy reference.

## Transcribing capability

With the use of the optional FS-75 foot control unit, deck B can be used for transcribing.

## Recording of telephone calls

With the use of the optional RDI-246 telephone interface, up to four telephone lines can be connected for long uninterrupted recording of calls.

## Public address and display jacks

A PA (public address) jack and DISPLAY connector (for optional remote display) are provided.

## Security key lock

A security key locks the cassette holders of both decks A and B.

# Precautions

- Operate the unit only on 120V AC, 60Hz.
- Unplug the unit from the wall outlet when it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull it by the cord.
- Two tape speeds can be selected for recording with the TAPE SPEED selector: 2.4 cm/sec. or 1.2 cm/sec. Match the playback speed to the recording speed.
- Do not install the unit in a location near heat sources such as radiators or airduct or in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit near materials (curtains, draperies) that may block the ventilation holes.
- Should any solid object or liquid fall into the unit, unplug the unit and have it checked by qualified personnel before operating it any further.

# Notes on Cassettes

## Sony DC-90 series cassettes

For conference recording, we recommend use of the Sony DC cassettes (leaderless tape).

This recorder does not record over a previously recorded segment on the tape.

To record on pre-recorded cassette, fully erase the cassette with the use of the optional BE-9H cassette eraser before recording.

## Recording time

Recording times are as follows.

Cassette	Position of TAPE SPEED selector	
	2.4cm	1.2cm
DC-60	60 min.	120 min.
DC-90	90 min.	180 min.

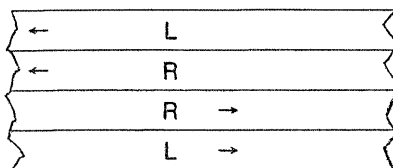
## Tape format

This system utilizes the full tape width for recording to permit simultaneous use of up to four channels with eight microphones. The tape is divided into four separate tracks, permitting 4-track, 4-channel operation with two microphone inputs recorded on each track. For this reason, only one side of the cassette can be used for recording.

BM-246

CH-4	Microphone input	7 and 8
CH-3	Microphone input	5 and 6
CH-2	Microphone input	3 and 4
CH-1	Microphone input	1 and 2

A conventional cassette deck



## Slack in the tape

Before inserting the cassette, take up any slack in the tape by using a pencil.

## To erase a cassette

For erasing a recorded cassette, use the optional BE-9H cassette eraser which provides a quick and easy erasure.

# Location and Function of

Cassette holder (deck A)

▲ Eject button (deck A)

Counter/alarm indicator (deck A)

Shows the tape position, cassette number and alarm indications. The displayed information is retained even when the STANDBY switch is set to STANDBY or retained for approx. two hours if the AC power cord is disconnected.

RESET button (deck A)

Returns the counter readout to 0 or sets it to the desired value when the numeric buttons are pressed while keeping the RESET button pressed.

SIGNAL indicators for CH1, CH2, CH3 and CH4

Flash when sound is input or during playback.

■ STOP button (deck A)

Stops tape motion (playback and fast winding). To stop recording, press both the STOP and REC buttons simultaneously.

◀◀ REW (rewind) button (deck A)

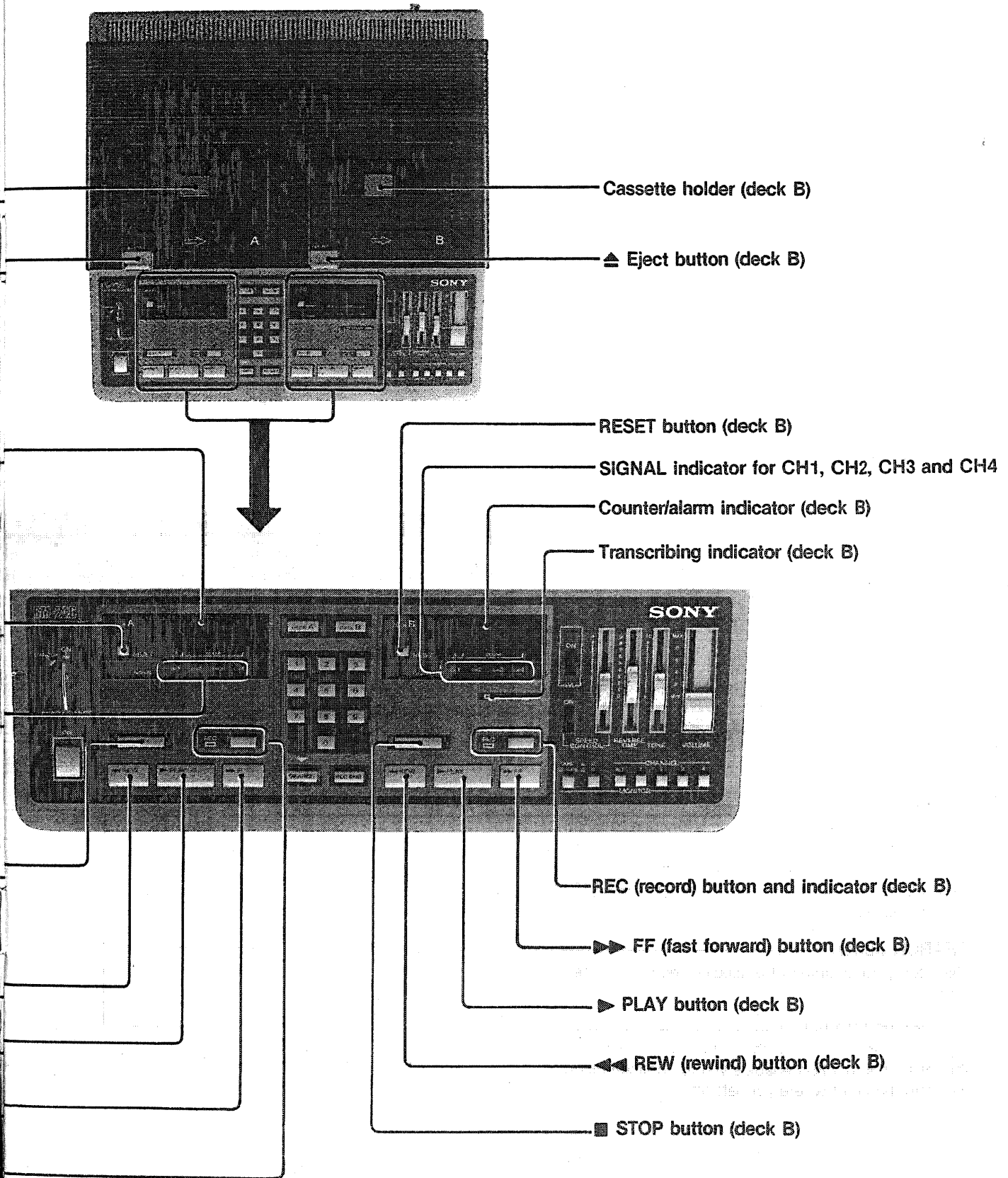
▶ PLAY button (deck A)

▶▶ FF (fast forward) button (deck A)

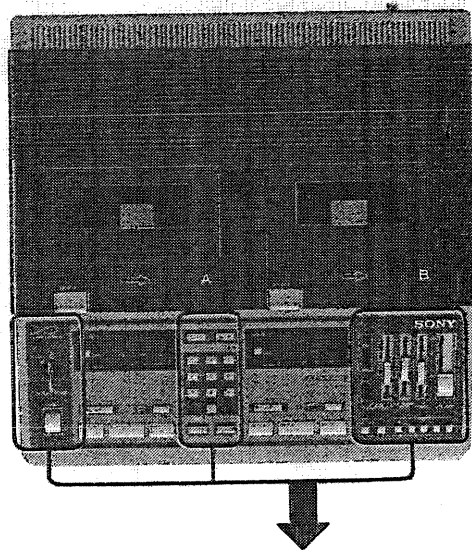
REC (record) button and indicator (deck A)

The indicator illuminates during recording

# Controls



## Location and Function of Controls



**DECK A and DECK B buttons** —  
Used for search and record end operations.

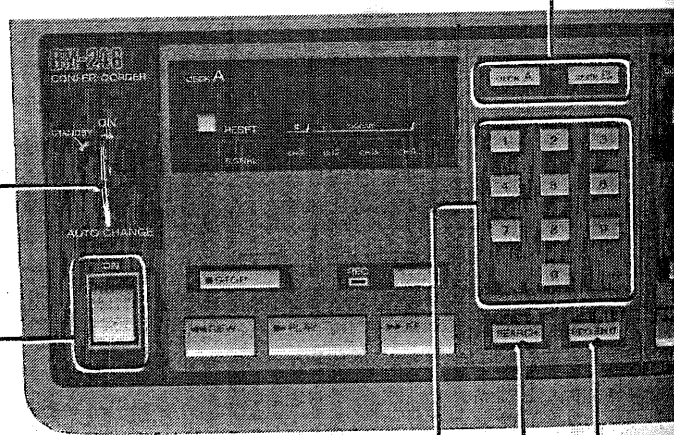
**STANDBY switch** —

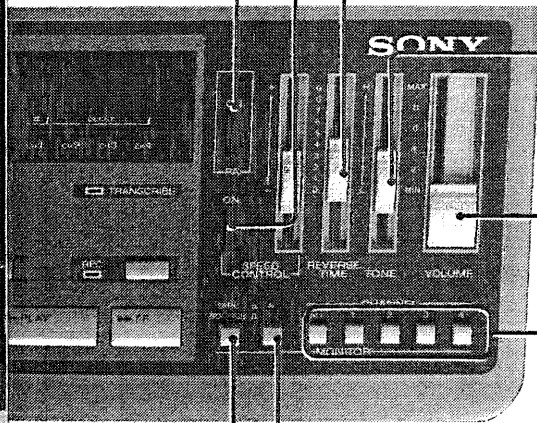
**AUTO CHANGE switch and indicator** —  
The indicator lights up when the switch is turned ON or the connected RDI-246 (optional) is operated.

**Numeric buttons** —  
Used in conjunction with the search function to input the 4-digit count to locate a specific tape segment. Cassette number or tape position can be located by pressing the numeric button while keeping the RESET button pressed.

**SEARCH button** —  
Used for quick location of a specific segment of the tape.

**REC (record) END button** —  
Used to locate the end of the last recorded segment on the tape. This function enables you to continue recording from the point where you left off.





**PA (public address) ON switch and indicator**  
 The indicator lights up when the switch is turned on.

**SPEED CONTROL switch and control (for transcribing only)**  
 The control operates when the switch is turned on.

**REVERSE TIME control (for transcribing only)**  
 Permits review of the last few words each time you stop the tape when transcribing using the optional FS-75 foot control unit.

**TONE control**  
 Adjusts tone quality in playback. For more treble, move the control towards H.

**VOLUME control**  
 Adjusts the sound level during playback or monitoring.

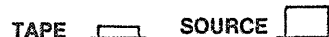
**MONITOR CHANNEL select buttons**  
**ALL:** For monitoring all channels simultaneously.  
**1, 2, 3, 4:** For monitoring the designated channel.

**MONITOR A (deck A)/B (deck B) selector**



**MONITOR TAPE/SOURCE selector (for recording only)**

Selects the sound to be monitored.  
**TAPE:** For monitoring the recorded sound.  
**SOURCE:** For monitoring the signal being recorded on the tape.

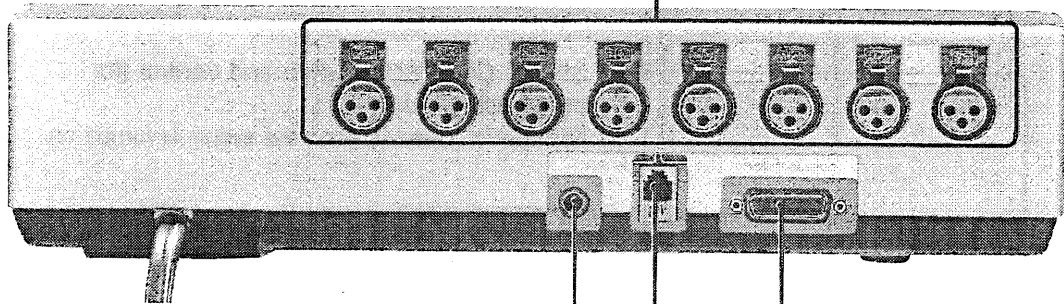


While playing back the cassette, playback sound can be monitored regardless of this selector setting.

## Location and Function of Controls

### Rear panel

**Microphone connectors** (Cannon XLR-3-31 type)  
Accept microphones with XLR-3-12C type connector.



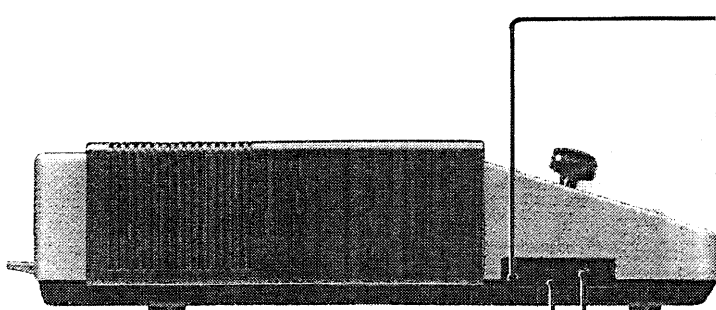
**PA (public address) jack** (phone jack)  
Accepts the system to be connected to a public address system.

**DISPLAY connector**  
Used for connection of an external counter unit.

**CONTROL UNIT connector**  
Accepts the optional RDI-246 telephone interface.



**Left side**



**REMOTE jack**

For connecting the optional RM-45A remote control unit. This enables remote start and stop of the tape on the deck which is in the record mode. For details, refer to the instruction manual of the RM-45A.

**EARPHONE jack**

Used for monitoring or listening in private.

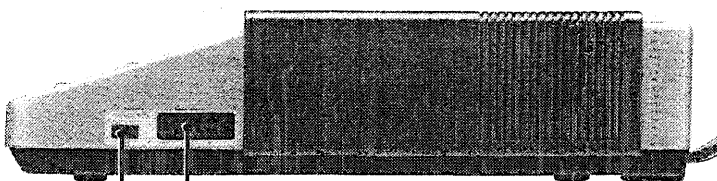
**TAPE SPEED selector**

**1.2 cm:** 180 minutes of recording is possible with a DC-90 cassette.

**2.4 cm:** 90 minutes of recording is possible with a DC-90 cassette.

For playback, set this selector to the same position as was used when the cassette was recorded.

**Right side**



**Connector for FS-75 foot control unit**

Accepts the optional FS-75 foot control unit for transcribing.

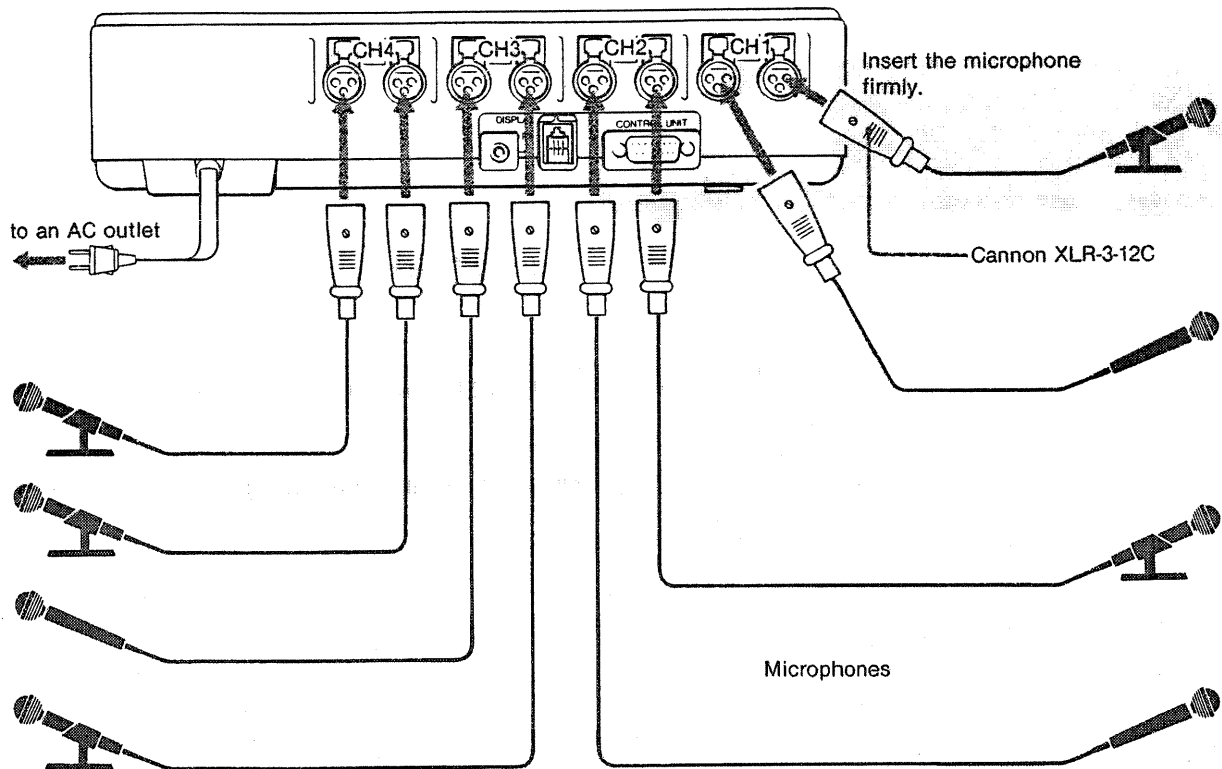
**TRANSCRIBE switch (for deck B only)**

Activates the transcribing mode when the optional FS-75 foot control unit is connected.

# Recording

## Connection

Up to eight microphones can be connected.

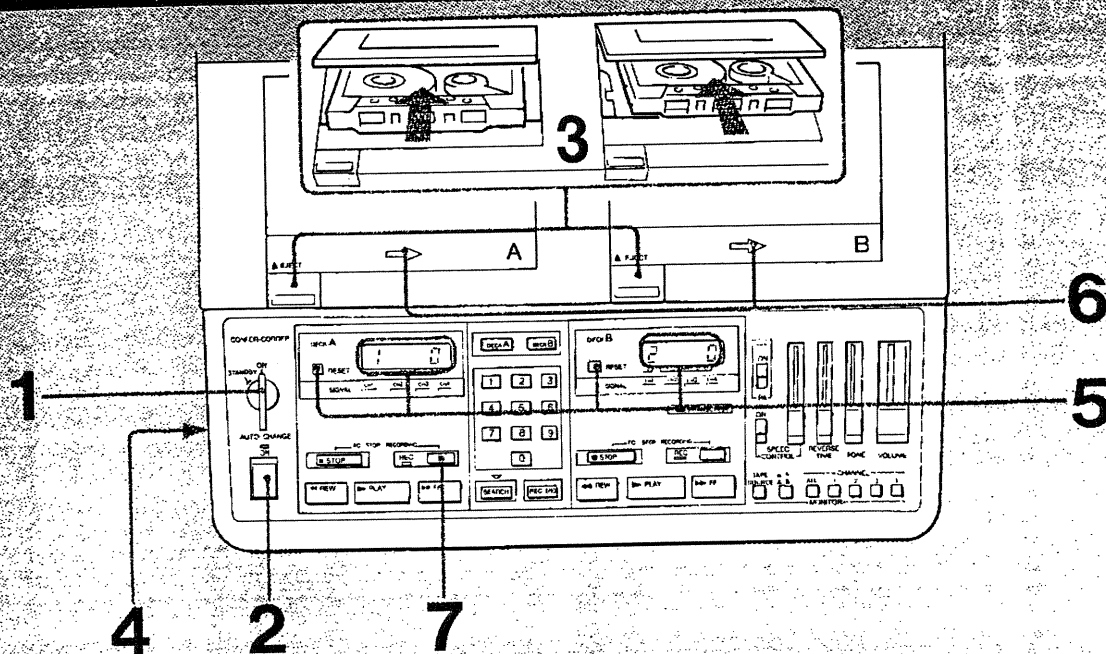


**Note on continuous recording (See next page.)**  
The AUTO CHANGE indicator lights up when the AUTO CHANGE switch is turned ON or the connected RDI-246 (optional) is operated.

The indicator flickers rapidly to indicate that continuous recording is impossible even though the AUTO CHANGE switch is turned ON while recording both decks A and B or the TRANSCRIBE switch is turned ON.

The indicator flickers slowly to indicate that no cassette is in the cassette compartment of the deck for recording or that the deck is in the playback, fast forward or rewind mode.

## To Continuously Record from Deck A to B or Vice Versa—Continuous Recording



- 1** Insert the supplied security key and set it to ON.
- 2** Turn AUTO CHANGE ON.
- 3** Press  $\blacktriangle$  EJECT of both decks A and B and insert blank cassettes into the cassette holders.
- 4** Set TAPE SPEED.
- 5** Press RESET of both decks A and B. Cassette number and 0 (zero) for tape position appear on the counter.
- 6** Close the lid of both decks.
- 7** Press REC of deck A. Recording starts.

Approx. three minutes before the end of tape (when the tape approaches the end of tape)  
The other deck starts recording automatically.

### To stop recording

Press  $\blacksquare$  STOP and REC simultaneously.

### For relay recording of more than three cassettes successively

Change the cassette in one deck while recording with the other. Endless recording can be done in this way.

### Deck A and B can independently be operated

Tape playback and fast winding tape operations can be performed on one deck while recording on the other.

### Cassette number is displayed

The leftmost digit of the counter indicates the cassette number when the AUTO CHANGE switch is turned ON. Cassette number increases each time the  $\blacktriangle$  EJECT button is pressed.

### A Long time recording is possible

Recording time is prolonged corresponding to the setting of the TAPE SPEED selector and the cassette to be used. See page 4.

### Resetting of cassette number

When the RESET button is pressed and no cassette is in the cassette compartment, both the cassette number and tape segment can be reset.

### Monitoring while recording

Insert an earphone into the EARPHONE jack.

MONITOR TAPE/SOURCE selector	Sound to be monitored.
TAPE	Recorded sound
SOURCE	Sound being recorded

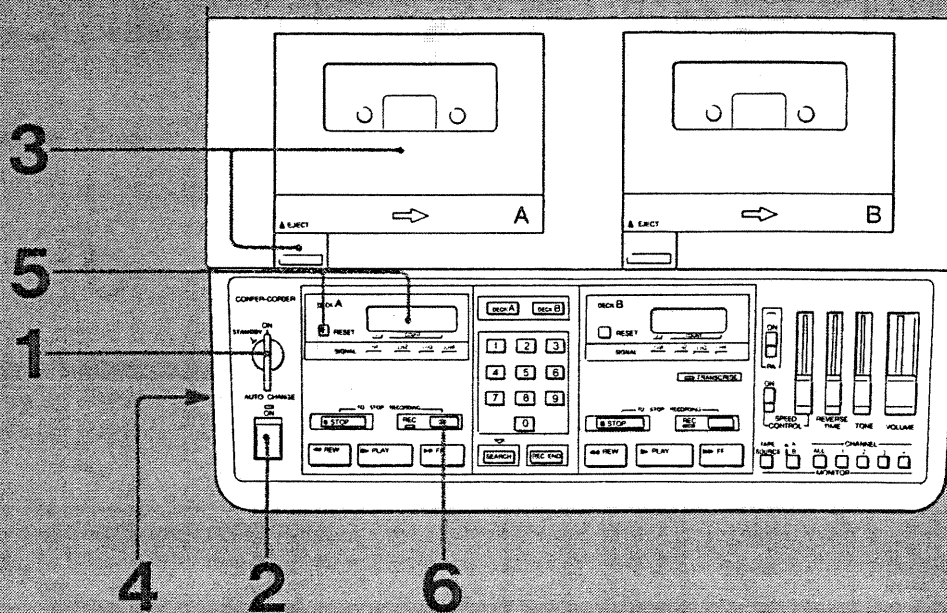
Microphone input sound can also be monitored through the connected PA (public address) system if one is connected to this unit.

### SIGNAL indicators

Blink when sound from a microphone is input.

## Recording

### To Record on a Deck—Single Recording



**1** Insert the supplied security key and set the key to ON.

**2** Turn AUTO CHANGE off.

**3** Press **EJECT** of either deck A or B and insert a blank cassette into the cassette holder. Close the lid.

**4** Set TAPE SPEED.

**5** Press RESET to set the counter to 0.

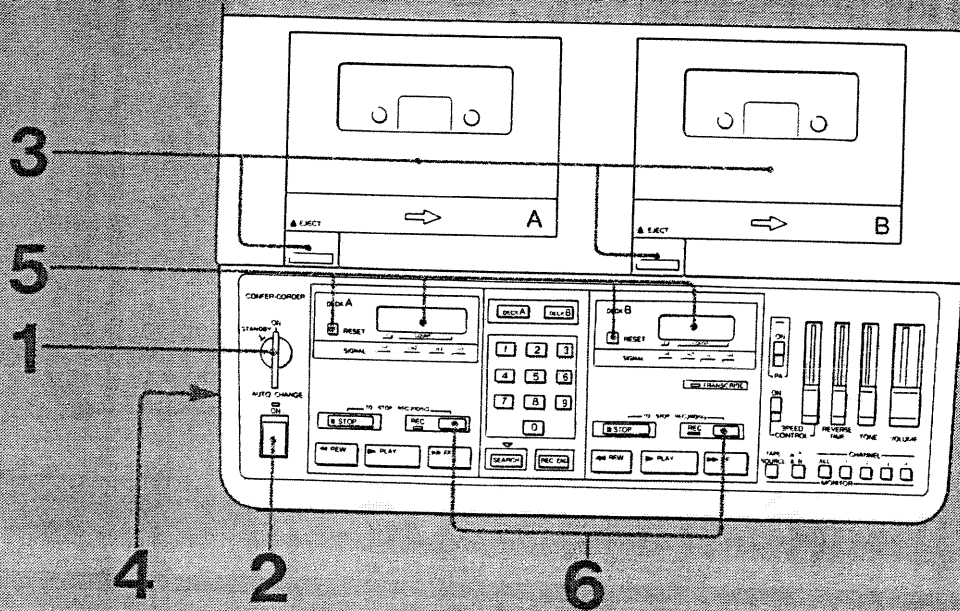
**6** Press REC.

#### To stop recording

Press **STOP** and **REC** simultaneously.

## To Record on Both Decks A and B Simultaneously—Dual Recording

Deck A and B can record the same input source simultaneously.



**1** Insert the supplied security key and set the key to ON.

**2** Turn AUTO CHANGE off.

**3** Press **EJECT** of both decks A and B and insert blank cassettes into the cassette holders. Close the lids.

**4** Set TAPE SPEED.

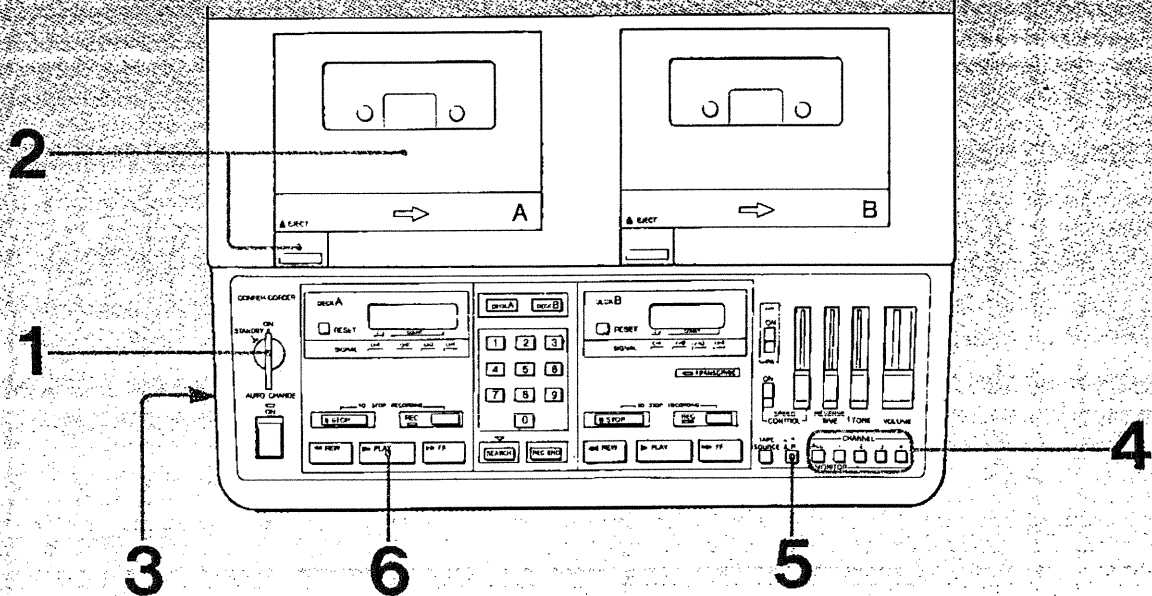
**5** Press RESET of both decks to set the counters to 0.

**6** Press REC of both decks.

### To stop recording

Press **STOP** and **REC** simultaneously.

# Tape Playback



- 1** Insert the supplied security key and set the key to ON.
- 2** Press **EJECT** and insert a recorded cassette into the cassette holder (deck A or B). Close the lid.
- 3** Set **TAPE SPEED** to the same position as that used for recording.
- 4** Depress the desired **MONITOR CHANNEL**.
- 5** Set **MONITOR A/B** to the desired position.
- 6** Press **PLAY**.

**To stop playback**  
Press **STOP**.

**For personal listening**  
Connect an earphone to the **EARPHONE** jack.

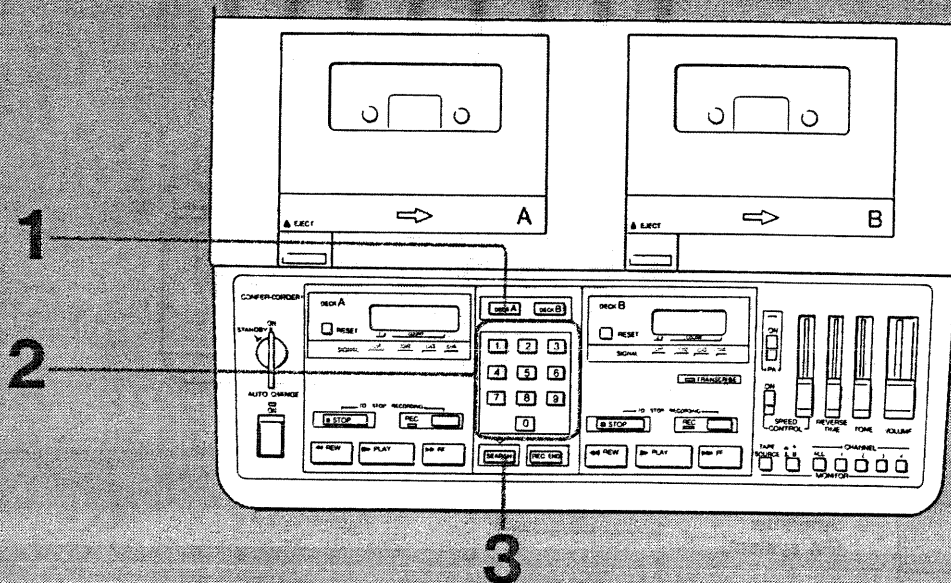
**For public address**  
See page 15.

**Sound adjustment**  
Adjust volume and tone with the **VOLUME** and **TONE** controls.

# Search Function

## To Quickly Locate a Specific Segment of Tape

You can quickly locate a specific segment of the tape when the counter readout has been memorized.



**1** Press **DECK A** (or **DECK B**).  
The counter readout flickers.

**2** Press the **numeric buttons** to set the counter readout to the specific tape segment you wish to find.

**3** Press **SEARCH**.  
Tape is wound quickly to locate the specific tape segment.

### The counter readout flickers

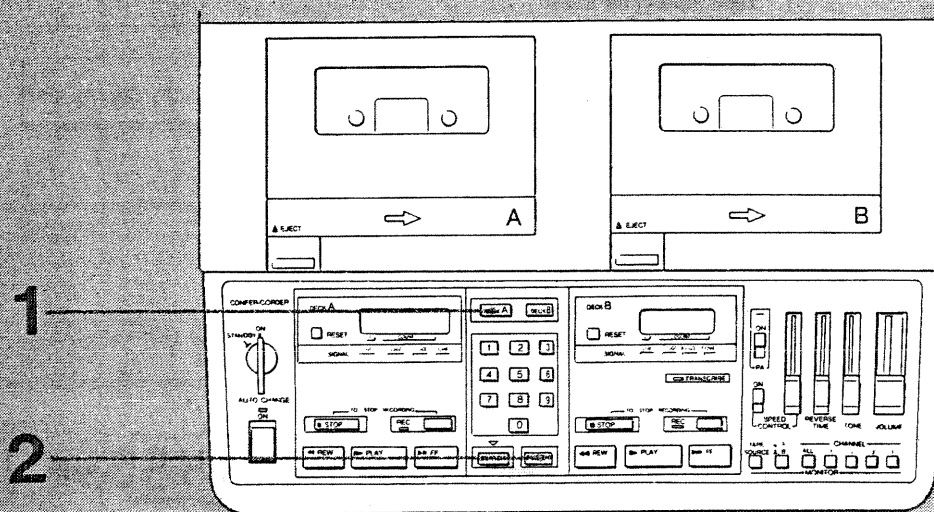
While searching for the specific segment.

To stop the search operation, press the **DECK** button again.

Flickering stops.

## To Quickly Find the Recording End

You can easily find the end of the last recorded segment on the tape.



**1** Press DECK A (or DECK B).  
The counter readout flickers.

**2** Press REC END.  
The tape will stop automatically at the count number which corresponds to the end of the recording.

### Note on record end function


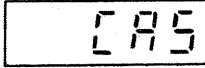
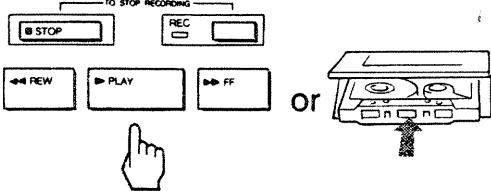

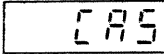
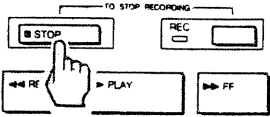

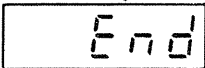
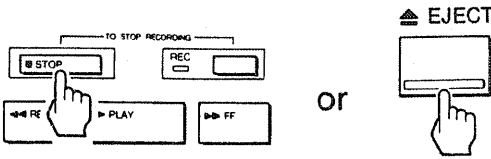
If the count number on the counter is reset or a cassette is ejected once, the record-end memory is cleared and the record-end function does not operate.

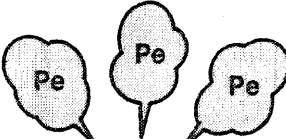
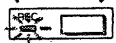

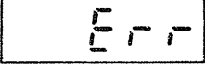




# Alarm System

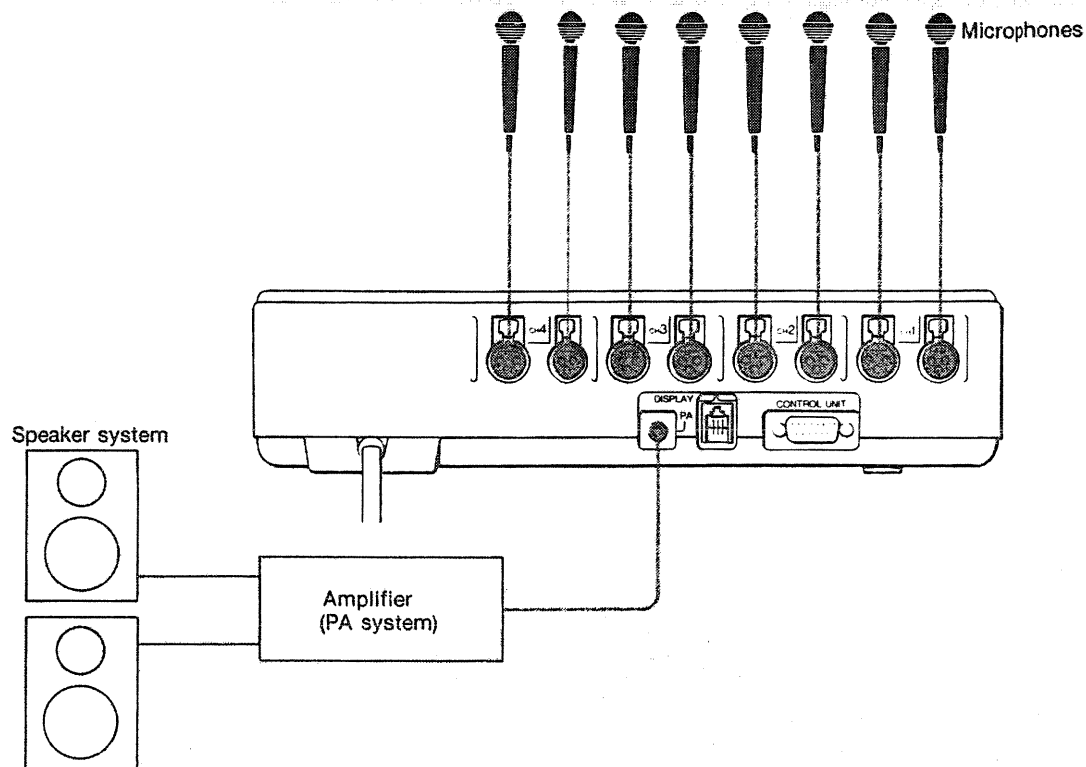
An alarm sounds and indication appears on the display.

Alarm system	Situation	To release alarm system
 	<p>A tape operation button is pressed when no cassette is placed in the cassette compartment.</p>	<ul style="list-style-type: none"> <li>• Release the tape operation button.</li> <li>• Insert a cassette.</li> </ul> 
 	<p>A deck starts recording automatically when no cassette is in the cassette compartment (during continuous recording).</p>	<ul style="list-style-type: none"> <li>• Press ■ STOP.</li> </ul> 
 	<p>Broken tape End of tape</p>	<ul style="list-style-type: none"> <li>• Press ■ STOP or ▲ EJECT.</li> </ul> 

Alarm system	Situation	To release alarm system
 <p>Flickers slowly</p> 	<p>Approx. three minutes before the end of tape (while recording)</p>	<ul style="list-style-type: none"> <li>• Recording is stopped.</li> </ul>
 	<p>Record on the pre-recorded portion. A deck starts recording automatically when the other deck is set in the playback, fast forward or rewind mode.</p>	<ul style="list-style-type: none"> <li>• Press ■ STOP or ▲ EJECT.</li> </ul>

# Public Address

## Connection



## Operation

- 1 Turn ON PA.
- 2 Turn on the connected PA system.
- 3 Proceed with the operation steps described in "Tape Playback" to monitor during playback.  
Proceed with the operation steps described in "Recording" to monitor during recording.

### Sound adjustment

Adjust the volume and tone on the PA system.

### While recording

Input to a microphone in a courtroom, conference or meeting can be amplified.

### Microphone testing

It can be performed through the connected PA system while stopping the tape motion.