

## GENERAL & RADIO CONTROLS

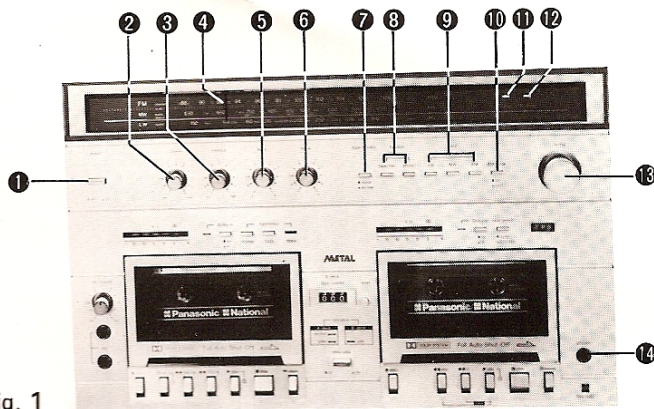


Fig. 1

## PHONO CONTROLS



Fig. 2

## CASSETTE CONTROLS

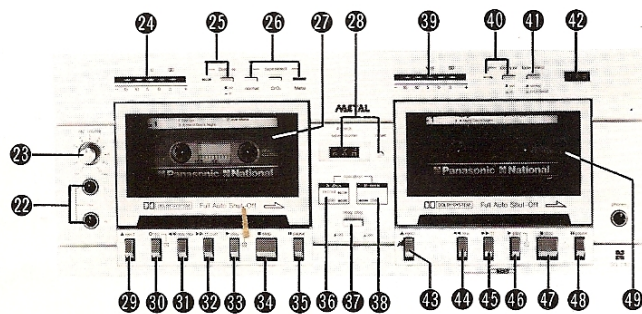


Fig. 3

## REAR PANEL TERMINALS

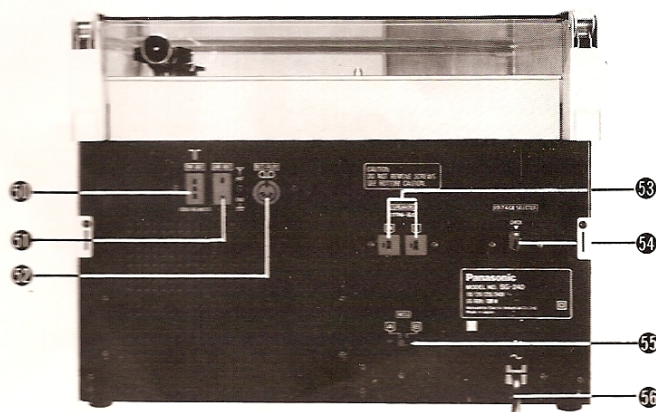
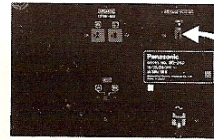


Fig. 4

## Power Supply

Before operating, ascertain the AC power line voltage selector **54**. Make sure it is adjusted for the voltage in your area.  
**CAUTION:** Disconnect the AC power cord **56** from the AC outlet, before setting the power line voltage selector.

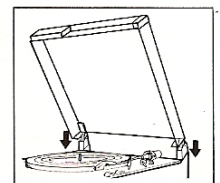
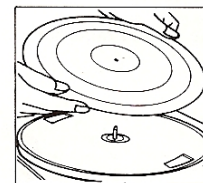
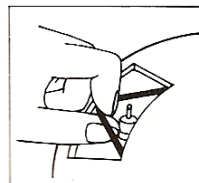
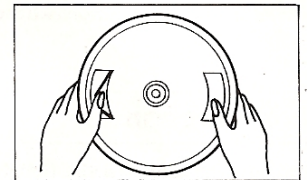
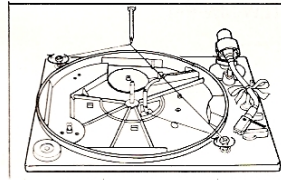
**WRONG VOLTAGE SETTING WILL CAUSE COSTLY DAMAGE TO THIS UNIT.**



**CHECK THE AC VOLTAGE SELECTOR BEFORE OPERATING!**

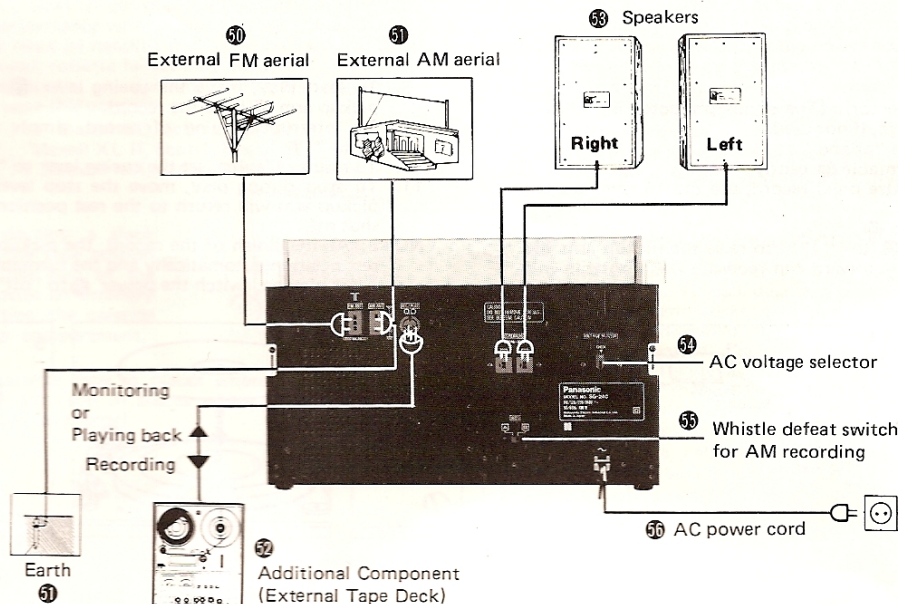
## Phono Unit Initial Setting Up

1. Tighten the two transit screws. (During transit, the two transit screws should be loosened to prevent damage.)
2. Install the turntable platter into the record player unit while stretching the driving belt with one of your fingers.
3. Place the driving belt properly to the capstan shaft of phonomotor.  
**NOTE:** Make sure the driving belt is not twisted.
4. Place the turntable mat over the turntable platter.
5. a) Rotate the turntable clockwise by hand, five times, to ensure that the mechanism is in neutral position.  
 b) Untie the yellow ribbon that secured the pickup arm during transit.
6. Install the "free-stop" inclining type dust cover so that its two hinges (located on the rear end) would be inserted first and proportionately toward the slots on the centre unit. Insert carefully but firmly.  
 To remove the dust cover, it should be lifted up in "open" position to prevent damage.  
**CAUTION:** Never apply lubricants on these hinges.



## Rear Panel Information (Fig. 4)

- 50** External FM aerial (FM ANT)  
 For FM reception in fringe areas, or where the built-in line aerial does not provide satisfactory reception, connect a commercially available external FM aerial to the FM aerial terminal.
- 51** External AM aerial (ANT) and Earth (GND) (AM ANT)  
 The built-in extra-sensitive ferrite core aerial assures excellent MW and LW receptions in most areas. However, to obtain satisfactory reception, connect an external AM aerial to this unit's AM external aerial terminal  $\Psi$ . To reduce noise, connect a wire between the earth terminal  $\text{///}$  and ground.
- 52** Record/Playback terminal (REC/PLAY)  
 You may record and play back any programme source to which you are listening by connecting an external tape deck to this unit's "REC/PLAY" terminal using appropriate connecting cable.  
**NOTE:** If your external stereo tape deck has true tape-monitor facilities (separate circuits and heads for recording and for playback), you will be able to monitor the recorded tape while making recording. This will allow you to compare the tape's sound quality with that of the original programme source.
- 53** Speaker terminals (SPEAKERS)  
 Both speakers should be positioned about ear level. Place them at an equal distance from you, no more than 3 to 5 m apart.
- 54** AC power line voltage selector (VOLTAGE SELECTOR)  
 See "Power Supply" on this page.
- 55** Whistle defeat switch (WDS)  
 When recording from MW or LW radio on the built-in cassette tape recorder, a "whistle sound" noise may heard from the speakers. When this occurs, simply move this switch either to "A" or "B" until the "whistle sound" noise disappears.  
**NOTE:** However, when the "whistle sound" or "interference" noise comes from other external electrical devices, (i.e. TV, fluorescent lamps, refrigerators, etc.) this switch is not effective.
- 56** AC power cord  
 Check the AC power line voltage selector **54**. Then plug the AC power cord into a convenient standard electrical AC outlet in your home.

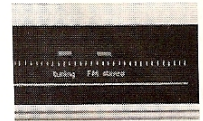


**NEVER OPERATE THIS UNIT WITHOUT BOTH SPEAKER SYSTEMS CONNECTED.**

## General & Radio Controls (Fig. 1)

- ❶ Power push-button switch (power)  
After operation, always switch to "off" (⏻) position.
- ❷ Volume control (volume)
- ❸ Balance control (balance)
- ❹ Dial pointer
- ❺ Bass control (bass)
- ❻ Treble control (treble)
- ❼ Tape monitor switch (tape monitor)  
Use this switch only while playing or monitoring an external tape deck through this unit. The source should be a tape deck (optional) connected to the "REC/PLAY" Ⓣ of this unit with a "DIN" type connecting cable (optional). This switch should be in "ext. tape" position when playing back. When an external tape deck is not used, this switch must be set to "source" position, otherwise, sounds from the speakers cannot be heard.
- ❽ Function selector push-button switches (function) (tape/mic-phono)
- ❾ Band selector push-button switches (band) (LW-MW-FM)

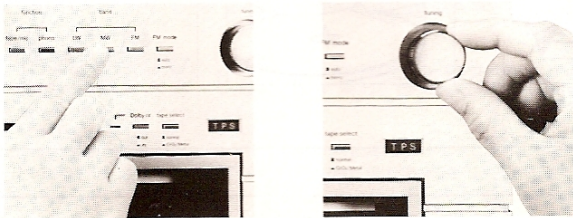
- ❿ FM mode selector switch (FM mode)
- ⓫ Tuning "green LED" indicator (tuning)  
The tuning indicator will illuminate when a radio station is properly tuned.
- ⓬ FM stereo "red" indicator (FM stereo)
- ⓭ Tuning control (tuning)
- ⓮ Headphones jack (phones)  
Use 8-ohm or higher impedance stereo headphones (optional). The speakers will be automatically disconnected. Keep the volume control at normal listening level to prevent damage to the headphones.



## Radio Section

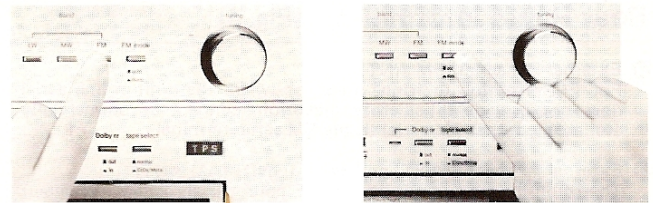
### Listening to AM Radio (MW or LW)

1. Band selector ❾ → select the desired AM radio band, either "MW" or "LW".
2. Tuning control ⓭ → to the desired radio station. The dial pointer ❹ indicates the radio station.



### Listening to FM Radio

1. Band selector ❾ → select the "FM".
2. Set the FM mode selector ❿ as follows;
  - auto : This position automatically switches the radio to "stereo" when the programme is being broadcast in FM stereo. Thus, the FM stereo indicator ⓬ lights up.
  - mono : Set to this position if the FM stereo reception is troubled by annoying static noise (weak signal). In this case, however, the FM stereo indicator goes out.
3. Tune in to the desired FM radio station with the tuning control ⓭.



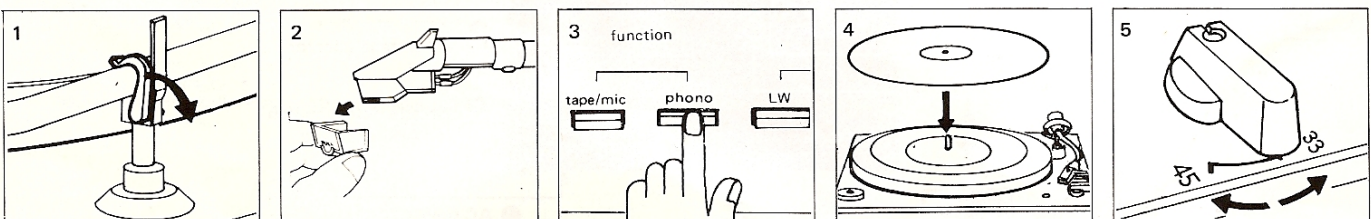
## Phono Section

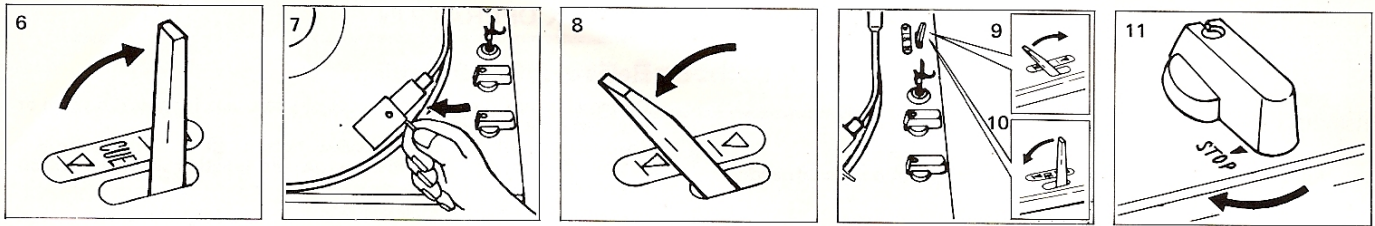
### Controls (Fig. 2)

- ❶ 45 rpm adaptor
- ❷ Turntable
- ❸ Pickup arm
- ❹ Clamp
- ❺ Cueing lever (CUE)
- ❻ Speed select knob
- ❼ Stop lever (STOP)

### To Play Record:

1. Release the clamp ❹.
  2. Remove the stylus protector. (The stylus protector is to guard the stylus tip from damage, if not used.)
  3. Function selector ❸ → to "phono".  
\* For 45 rpm (large centre hole) record, use the 45 rpm adaptor ❶.
  5. Set the speed select knob ❻.
  6. Move the cueing lever ❺ to "▼" to raise the pickup arm ❸.
  7. Move the pickup arm ❸ toward the record. The turntable will rotate.
  8. To start play, move the cueing lever ❺ to "▼" to lower the pickup arm ❸ onto the record.
  9. To interrupt playing of record, simply move the cueing lever ❺ to "▼".
  10. To resume playing, set the cueing lever to "▼".
  11. To stop during play, move the stop lever ❼ to "STOP". The pickup arm will return to the rest position and the turntable will shut off.
- NOTE: At the finish of the record, the pickup arm will return to the rest position automatically and the turntable will shut off. After playing, switch the power ❶ to "off" (⏻).





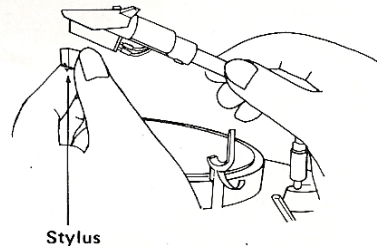
### Stylus Replacement

Replace the stylus at the first sign of wear to assure pleasant sound at all times and to prevent damage to records.

NOTE: Switch the power **1** to "off" ( **■** ) before replacing the stylus to avoid damage to the unit due to noise pulses caused by touching stylus of cartridge wires.

1. Lift the pickup arm to a position that will make the stylus accessible.
2. Remove worn stylus and gently replace new stylus into correct position.

RECOMMENDED STYLUS: EPS-75STCSD  
CARTRIDGE: EPC-77SMAD



Stylus

### Cassette Section

#### Controls (Fig. 3)

- 22 Microphone jacks "left" & "right" (mic)
- 23 Recording level control (rec volume)
- 24 VU LEDs bar-graph metre (VU)
- 25 Dolby nr push-button switch/"green LED" indicator (Dolby nr)
- 26 Tape selector push-button switches (tape select) (normal-CrO<sub>2</sub>/Metal)
- 27 Cassette compartment
- 28 Tape counter/reset button (tape counter/reset)  
Push the reset button to set the tape counter to "000" before the start of any playback or recording. This will help you determine where to re-play or re-record.
- 29 Eject button ( **▲** eject)
- 30 Record button ( **○** rec)
- 31 Rewind/review button ( **◀◀** rew/rev)
- 32 Fast forward/cue button ( **▶▶** ff/cue)
- 33 Play button ( **▶** play)
- 34 Stop button ( **■** stop)
- 35 Pause button ( **■** pause)
- 36 Operation indicator (A-deck)  
Indicates the tape operation mode. Red during recording; and green during playback.

A deck

- 37 Relay play on - off switch (relay play)  
In "off" ( **■** ) position, both A and B decks can be operated simultaneously, while in "on" ( **▲** ) position, only one deck will function at a time.
- 38 Operation indicator (B-deck)  
Lights up in green during playback mode.
- 39 VU LEDs bar-graph metre (VU)
- 40 Dolby nr push-button switch/"green LED" indicator (Dolby nr)
- 41 Tape selector push-button switch (tape select) (normal-CrO<sub>2</sub>/Metal)
- 42 TPS (Tape Programme Sensor) indicator
- 43 Eject button ( **▲** eject)
- 44 Rewind button ( **◀◀** rew)
- 45 Fast forward button ( **▶▶** ff)
- 46 Play button ( **▶** play)
- 47 Stop button ( **■** stop)
- 48 Pause button ( **■** pause)
- 49 Cassette compartment

B deck

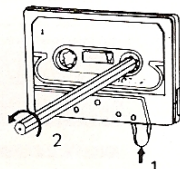
#### Selection of Cassette Tapes

We recommend not using tapes longer than necessary. 90-minute tape will provide optimum performance with this unit. Tapes longer than 90 minutes are thinner and must be handled with extreme care and since the playing time is increased, cassette failure may occur. To obtain best recording results, we recommend the following brands of cassette tapes for use with this unit;

- Normal . . . . . Maxell UD, Scotch Master I
- CrO<sub>2</sub> . . . . . Maxell XL II, Scotch Master II
- Metal . . . . . Maxell MX, Scotch Metafine

#### NOTES:

- Should the tape develop a slack (arrow 1), tighten the tape tension by lightly turning the hub of the cassette (arrow 2) with an ordinary pencil before inserting the cassette tape into the cassette compartment.
- Avoid storing the cassette tape in places where the temperature and/or humidity is high, and in places where there is a strong magnetic field (i.e. speaker, motor).



#### Full-Automatic-Stop/Soft-Touch Controls

**Full-Auto-Stop System:** When the tape reaches its end during playback, recording, fast forward or rewind mode of operation, it automatically stops. However, if the power supply is switched off while any cassette button is in operation, the full-auto-stop system will not operate. In this case, release the cassette button from the tape head mechanism by pushing the stop button. To remove the cassette tape, push the eject button.

**Soft-Touch Controls:** The cassette deck is equipped with soft-touch controls and can be operated simply by pushing them lightly.

#### The Dolby Noise-Reduction System

This unit includes the Dolby noise-reduction system which reduces tape noise to a remarkable degree.

Briefly, the system works as follows: At low sound levels (where tape noise is most noticeable), the level of the higher frequency portion of the sound is boosted during recording. The lower the sound level the greater the high frequency boost.

During playback the low level high frequency sounds are attenuated by the same amount by which they were boosted during recording to restore them to the original level.

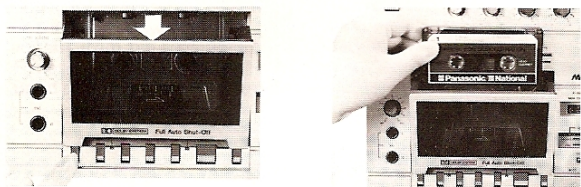
As the tape noise is also attenuated during playback a significant reduction of tape noise can be achieved, thereby improving the signal to noise ratio. When making recordings using the Dolby system, it is especially important to use only high quality tapes and to match the tape selector to the tape being used (Normal, CrO<sub>2</sub> or Metal).

NOTE: When making a "Dolby" recording we recommend that you note this fact on the cassette for latter playback reference.

## GENERAL OPERATION (common with both decks A & B)

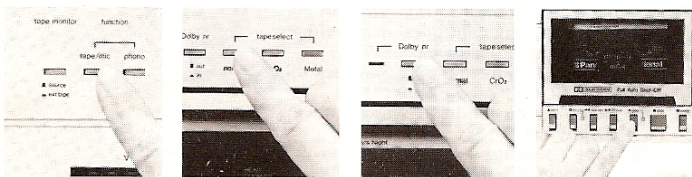
### Inserting the Cassette Tape

1. Push the eject button to open the cassette compartment.
2. Insert the cassette tape firmly with the full spool on the left and the tape exposed side facing down.
3. Close the cassette compartment gently.



### Playback Operation

1. Function selector **8** → to "tape/mic".
2. Tape selector push-button switch: Set to the required position depending on the type of cassette tape to be used, normal, CrO<sub>2</sub> or Metal.
3. Dolby nr push-button switch: Set to the "out" ( ) position for playback of tape not recorded using the Dolby system, or to the "in" ( ) position for tape recorded by the Dolby noise-reduction system.
4. To start playback, depress the play button.



### Rewind or Fast Forward Operation

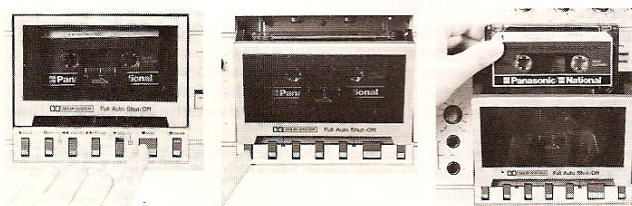
- To rewind the tape to the left reel, depress the rewind/review button **31** (or rewind button **44**).
- To advance the tape to the right reel, depress the fast forward/cue button **32** (or fast forward button **45**).

### Pause Operation

To stop the tape temporarily (during playback or recording), depress the pause button. To re-start, simply push lightly the pause button again.

### Stop and Removal of the Cassette Tape

1. To stop the tape, push the stop button. The stop button releases any previously depressed mode button (record, rewind, fast forward or play).
2. To open the cassette compartment, push the eject button.
3. Remove the cassette tape gently.
4. Close the cassette compartment gently.



## A DECK OPERATION

### Review or Cue Operation

During playback, you can review or cue the tape for quick location of your favourite programme.

To operate, push the rewind/review button **31** or fast forward/cue button **32** half-way. The review or cue will function while the button is pushed.

### Rewind and Auto-Replay

When the play **33** and rewind/review **31** buttons are both depressed, the "auto-replay" system will function after the tape is rewound.

### Recording Operation

This unit has provisions for monitoring all sources (including microphones), through its speakers when making recordings. Volume, balance, bass and treble control settings do not affect recording level and tone quality when making recordings.

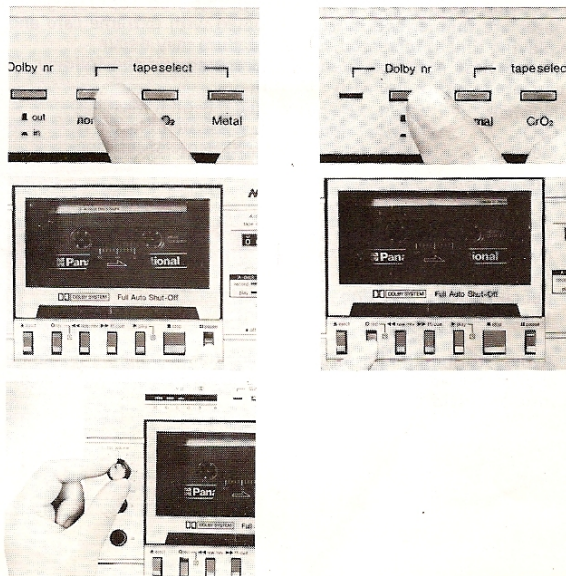
### Recording from the built-in Radio or Phono

1. Operate as for radio or phono operation and choose the programme you wish to record.
2. Tape selector push-button switch **26**: Set to the required position depending on the type of tape to be used, either "normal", "CrO<sub>2</sub>" or "Metal".
3. Dolby nr push-button switch **25**: Set to the "in" ( ) position unless you want to make a recording without the Dolby system.
4. Pause button **35**: Depress the pause button. If the pause button is not depressed, recording will immediately start once the record button **30** is depressed (one-touch recording system).
5. Record button **30**: Depress the record button. The operation indicator **36** will light in "red".

NOTE: If the record button cannot be depressed easily, do not force it, but check the erase-protection device on your cassette tape. See "Erase and Erase-Protection" on Page 7.

6. Recording level control **23**: Set the recording level by adjusting the recording volume level control until the LEDs VU bar-graph metre **24** illuminates between the farthest left area and "0" area. (The correct bar-graph metre reading is when the light just reaches the 0 area even during the loudest passages of speech or music. For metal tape set the recording level between 0 and +3 area to obtain best recording results.)
7. To start the recording: Simply release the pause button **35** by pushing it once again.
8. To stop the recording: Push the stop button **34**.

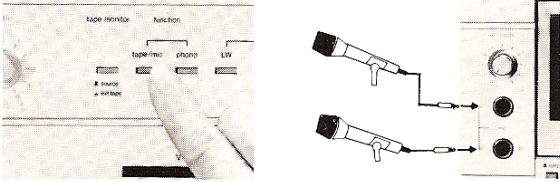
NOTE: For maximum recording fidelity, it is advisable not to alter the recording volume level control after the start of a recording, unless the metre consistently read too high or too low.



## Recording from the Microphones

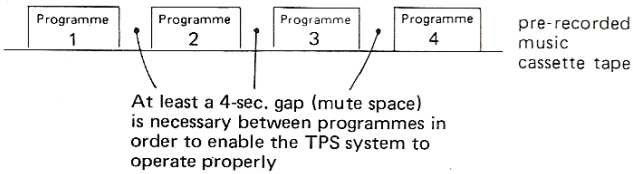
- Function selector ⑧ → to "tape/mic".
- Connect the microphones (optional) to the microphone jacks ⑫.   
NOTE: To prevent howling (feedback from the speakers) when monitoring microphone recording; turn the volume control ② counterclockwise to reduce the sound level, or place the microphones away from the speakers, or use headphones (optional).
- Follow steps 2 to 8 of the "Recording from the built-in Radio or Phono".

CAUTION: When not recording from the microphone(s), disconnect the microphone(s) from the microphone jack(s) ⑫.



## TPS (Tape Programme Sensor) SYSTEM (B deck only)

TPS is a system that finds the start of each programme in a prerecorded music tape. The quiet space between programmes (must have at least a 4-sec. gap) can be sensed by the tape programme sensor (TPS) circuit.



NOTE: Most commercially available music cassette tapes are suitable for TPS system.

### Tapes not suitable for TPS operation:

The built-in TPS circuitry may not function properly for tapes described below, causing tapes to stop midway of a programme or to overrun the space between programmes.

- Tapes which contain intermittent sound programmes, such as conversations, lectures, news, pianissimo-featured classical music, or music that includes many silent or mute passages.
- Tapes which have a very short time interval between recorded programmes.
- Tapes which have a high level of noise or hum between programmes.

### How to Operate the TPS:

#### 1. FORWARD TPS OPERATION:

To find the start of the next programme during playback operation, push the fast forward button ④⑤. The tape will be in "fast forward" mode. Fast forward stops and playback resumes automatically at the start of the next programme.

Lights up during forward TPS operation and will go out at the start of the next programme



#### 2. REVERSE TPS OPERATION:

To find the start of the programme you are now listening to, push the rewind button ④④. The tape will be in "rewind" mode. Rewind stops and playback resumes automatically at the start of the programme to which you are now listening.

Lights up during reverse TPS operation and will go out at the start of the programme to which you are now listening.



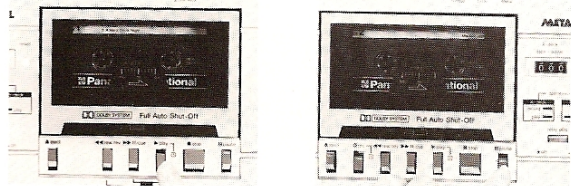
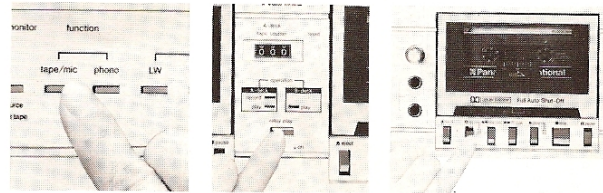
## TWIN-CASSETTE OPERATION

### Editing

When dubbing the tape from the cassette deck B to A, it is possible to choose or add your desired programmes.

- Function selector ⑧ → to "tape/mic".
- Relay play on - off switch ④⑦ → to "off" (■).
- Depress the pause button ④⑥, then push the record button ④⑩ of deck A.
- Push the play button ④⑥ (deck B) to start playback.
- To record selected programmes into the tape, simply depress again the pause button ④⑥ (released position).

NOTE: The mode of relay play switch ④⑦ cannot be changed after the cassette button(s) is depressed.

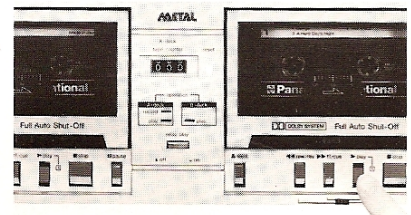
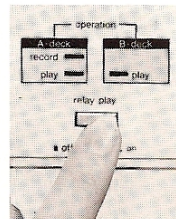


### Relay Play

You can continue playback through two cassette decks without interruption.

ex., playback from the deck A to deck B (or vice-versa):

- Set the relay play switch ④⑦ to "on" (—).
- To start playback of deck A, depress the play button ④⑥. Playback will start. Then depress the play button ④⑥ of deck B. (deck B remains silent during deck A is playing back)
- When the tape reaches its end, auto-stop of deck A will operate and playback of deck B will start automatically.



### Simultaneous Play

You can play cassette decks A and B simultaneously. (Relay play switch ④⑦ should be set to the "off" (■) position.)

For example, play background music by deck A, while deck B is playing back narrations. Both sounds will be mixed and can be heard from the speakers.

### Rewinding

While rewinding one deck, you can listen to another deck. This feature saves your time to wait before playback.

First, set the relay play switch ④⑦ to "off" (■) position, then push the rewind/review ④③ (or rewind ④④) button.

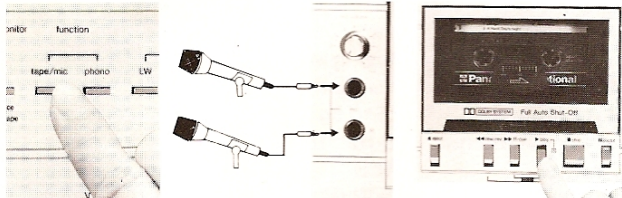
## Mix Recording with Microphone

You can record the mixing sound of the tape sound played back from deck B and your voice through the microphones.

1. Function selector ⑧ → to "tape/mic".
2. Relay play on - off switch ⑦ → to "off" (■).
3. Connect the microphone(s) to the microphone jack(s) ②.
4. Depress the play button ④ of deck B to start playback.
5. Sing a song together with the tape sound. Your voice mixed with the tape sound will be heard from the speakers.

**NOTE:** To prevent howling (feedback from the speakers) when monitoring microphone recording; turn the volume control ② counterclockwise to reduce the sound level, or place the microphones away from the speakers, or use headphones (optional).

6. To record the mixing sound onto deck A, follow steps 2 to 8 of the "Recording from the built-in Radio or Phono" section on page 5.



## TIMER STAND-BY MECHANISM

This unit can be connected to an optional audio timer device. Refer to the wiring connection shown here, and carefully read the timer device's operating instructions for more details.

### A. Recording Timer (for deck A only):

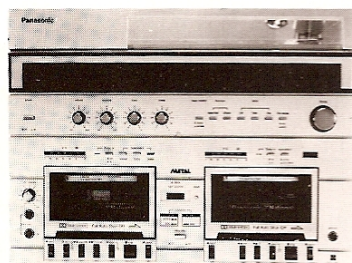
1. Switch the power to the unit "on" (■).
2. Set the unit according to the "Recording from the built-in Radio or Phono" (except items 7 and 8) section on page 5.
3. Push the stop button ③ and release the pause button ③.
4. Set the required time on the audio timer device. (The electric current to this unit turns off when the timer device is set.)
5. Make sure that the power to this unit is turned off by the timer device. Then depress the record button ⑩.
6. When the preset time comes, the timer will function and at the same time this unit is turned on and recording will automatically start.

### B. Playback Timer (for both decks A and B):

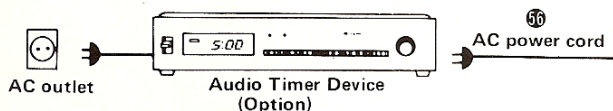
1. Function selector ⑧ → to "tape/mic".
2. Set the unit to the desired listening levels (i.e. volume, balance, bass, treble).
3. Make sure to push the stop button.
4. After setting the required preset time, and once the electric current to this unit has been turned off by the timer device, depress the play button.
5. When the preset time comes, the timer will function, thus playback will start automatically.

**NOTE:** The radio can also be timed. Set the unit as for radio operation in order to obtain the above system.

When setting the timer device, please take care so that the timer function will not be over before the tape reaches its end. If power supply is switched off during playback or recording mode, full-auto-stop system will not function and the depressed cassette buttons will not return to their original positions. It may cause damage to the tape head mechanism.



Timer Stand-By Mechanism



\* Timer Stand-By mechanism is also effective for twin-cassette operation.

**NOTE:** Deck A will function first when timer device is "on" and the relay play switch ⑦ is in "on" position.

## ERASE AND ERASE-PROTECTION

### Erasing

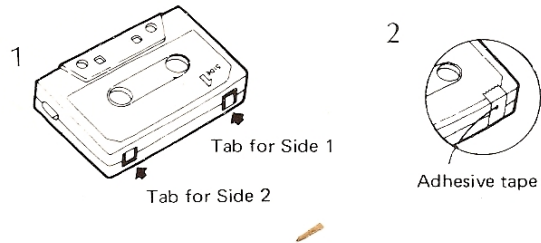
Any previously recorded material on a tape is automatically erased when the tape is again used for recording and only the newly recorded sound will remain. To erase the tape without adding a new recording, proceed as follows;

- 1) Disconnect (unplug) the microphones from the microphone jack(s) ②.
- 2) Function selector ⑧ → to "tape/mic".
- 3) Set the tape selector switch ④ to the required position depending on the type of cassette tape to be erased, normal, CrO<sub>2</sub> or Metal.
- 4) Set the recording volume level control ③ fully to its left (min) position.
- 5) Let the tape run as if recording. All previous recordings will be erased.

**NOTE:** If microphone(s) is not unplugged, unwanted room and outside noise will be recorded during erasing.

### Erase-Protection

1. Cassettes incorporate a convenient erase-protection device to prevent accidental erasure. When the small "tabs" at the rear of a cassette are broken out, the erase-protection device will be activated, preventing accidental erasure of pre-recorded tapes. To protect side 1 recording, break out the tab for side 1. For protection of side 2, break out the tab for side 2.
2. If, for some reason, you want to record on a track for which the "tab" has already been removed, simply cover the slot with a small piece of cellophane or vinyl or adhesive tape.



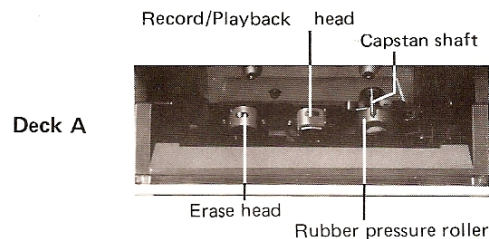
## HEAD CLEANING

The record/playback head, erase head and dummy head in the cassette deck may accumulate dust and tape residue, causing poor and wavering sound. This residue should be cleaned periodically (about every 10 hours of playing and recording time).

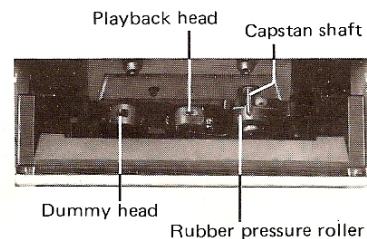
**CAUTION:** Do not use any solution other than alcohol for head cleaning. Never touch the record/playback, erase and dummy heads with metal objects such as screwdrivers and never bring a magnet close to the tape mechanism to prevent costly damage to the tape recorder.

### Using cotton swab:

- 1) Push the eject button. Remove the cassette tape from the cassette compartment.
- 2) Clean the record/playback, erase and dummy head, rubber pressure roller and the capstan shaft with a cotton swab (or with a soft, lint-free cloth) slightly moistened with alcohol.



Deck A



Deck B

## SG-240 Specifications

### AMPLIFIER SECTION

**Power Output:** MPO 30W x 2 (THD 5%, 4 ohms)  
 RMS 21W x 2 (THD 5%, 4 ohms)  
 One channel driven  
 RMS 17W x 2 (THD 5%, 4 ohms)  
 Both channel driven

**Frequency Response:** 30Hz ~ 40kHz, ± 1.5dB (DIN)

**Power Band Width:** 30Hz ~ 20kHz, -3dB (DIN)

**Input Sensitivity & Impedance:**  
 Mic; 1mV, 3k ohms  
 Aux; 250mV, 47k ohms

**Rec Out & Impedance:** 40mV, 82k ohms

**Tone Controls:**  
 Bass; ± 10dB at 50Hz  
 Treble; ± 10dB at 10kHz

### FM TUNER SECTION

**Frequency Range:** 87.5MHz ~ 108MHz

**Intermediate Frequency (IF):** 10.7MHz

**Sensitivity:** 2.5µV (S/N 26dB, mod. 40kHz) (DIN)

**Image Ratio:** 38dB (98MHz)

**Signal/Noise Ratio:** 62dB (at 1kHz, 60dB, 40kHz)

**Distortion:** MONO; 0.5% (at 1kHz, 60dB, 40kHz)  
 STEREO; 0.6% (at 1kHz, 60dB, 40kHz)

**Stereo Separation:** 45dB (at 1kHz, 60dB, 40kHz)

**Selectivity:** 55dB (at 1kHz, 60dB, 40kHz)

### AM TUNER SECTION

**Frequency Range:** MW; 525kHz ~ 1605kHz  
 (571m ~ 187m)  
 LW; 150kHz ~ 350kHz  
 (2000m ~ 857m)

**Intermediate Frequency (IF):** 468kHz

**Sensitivity:** MW; 150µV/m (1MHz)  
 LW; 250µV/m (240kHz)

**Image Ratio:** MW; 45dB (1MHz)  
 LW; 37dB (240kHz)

### RECORD PLAYER SECTION

**Player System:** Belt-Drive, Automatic-Return

**Turntable:** 28cm (11")

**Turntable Speeds:** 33-1/3 and 45rpm, 2-speed

**Wow & Flutter:** 0.1% (WRMS)  
 ±0.15% (DIN)

**Phonomotor:** Electronic Governor DC Motor

**Cartridge:** Moving-Magnet type (EPC-77SMAD)

**Stylus:** Diamond (EPS-75STCSD)

**Stylus Pressure:** 3.5±0.5g

**Frequency Response:** 20 Hz~18kHz (DIN)

**Separation:** 15dB

**Signal/Noise Ratio:** 55dB (DIN-B)

### TAPE DECK SECTION

	Deck A	Deck B
<b>Deck System:</b>	Full Auto Shut Off Cassette System	
<b>Track System:</b>	4-Track, 2-Channel	
<b>Recording System:</b>	AC Bias (50kHz) with Dolby NR System	_____
<b>Erasing System:</b>	AC Erase (50kHz)	_____
<b>Tape Speed:</b>	4.75cm/sec. (1-7/8 i.p.s.)	4.75cm/sec. (1-7/8 i.p.s.)
<b>Frequency Response:</b>	20Hz ~ 15kHz (Normal)	20Hz ~ 15kHz (Normal)
	20Hz ~ 16kHz (CrO <sub>2</sub> )	20Hz ~ 16kHz (CrO <sub>2</sub> )
	20Hz ~ 17kHz (Metal)	20Hz ~ 17kHz (Metal)
<b>Signal/Noise Ratio:</b>	DOLBY NR-OUT; 53dB (Normal) 55dB (CrO <sub>2</sub> ) } (DIN) 56dB (Metal) }	DOLBY NR-OUT; 53dB (Normal) 55dB (CrO <sub>2</sub> ) } (DIN) 56dB (Metal) }
	DOLBY NR-IN; 60dB (Normal) 63dB (CrO <sub>2</sub> ) } * 64dB (Metal) }	DOLBY NR-IN; 60dB (Normal) 63dB (CrO <sub>2</sub> ) } * 64dB (Metal) }
	* (10dB or more improved at more than 5kHz.) (DIN)	
<b>Wow &amp; Flutter:</b>	0.05% (WRMS) ± 0.15% (DIN-WTD)	_____

**POWER CONSUMPTION:** 130W

**POWER SUPPLY:** AC 110V, 120V, 220V, 240V,  
50/60Hz

**DIMENSIONS (W x H x D):**

375mm x 285mm x 388mm

**WEIGHT:** 11.5kg.

Specifications and external appearance are subject to change without notice due to product improvement.

This apparatus was produced to BS800. 1977.