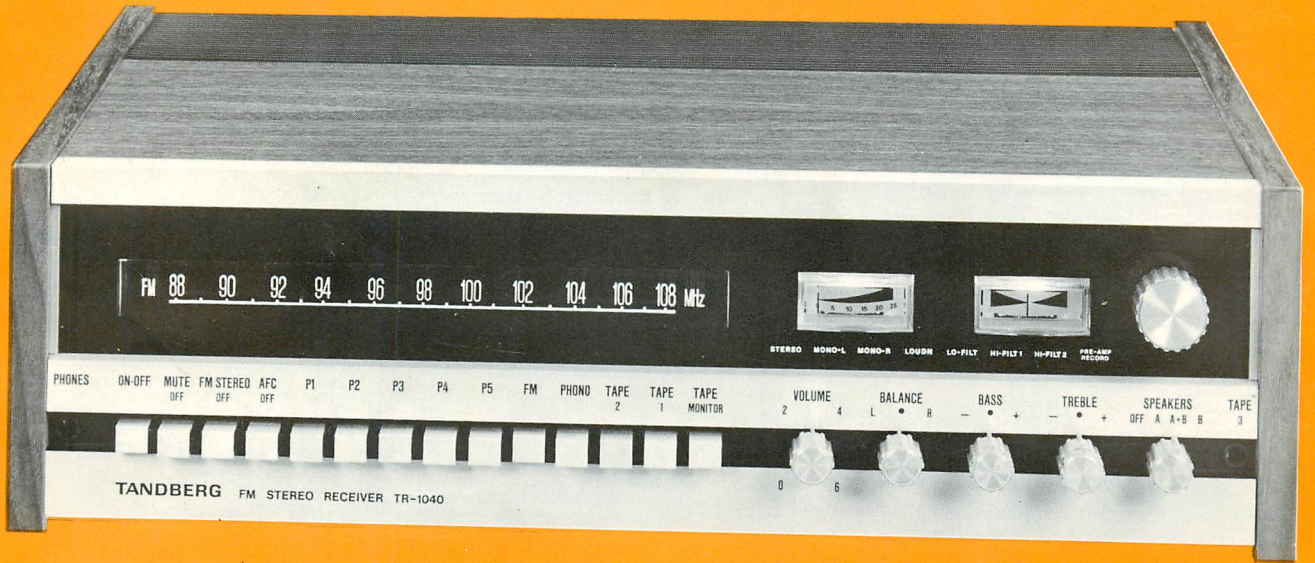


# TANDBERG



## TR-1040

### Operating instructions

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## TR-1040

This receiver has two main units: an FM-stereo-tuner and a stereo amplifier.

If the receiver is operating at high output power in too high ambient temperature (insufficient ventilation) an internal relay will temporarily disconnect the speakers. The amplifier will, however, resume normal operation as soon as the temperature inside the receiver has dropped sufficiently.

### WARNING

Do not let the TR-1040 demonstrate its output power capability with speakers that are not rated for it. They may easily be damaged.

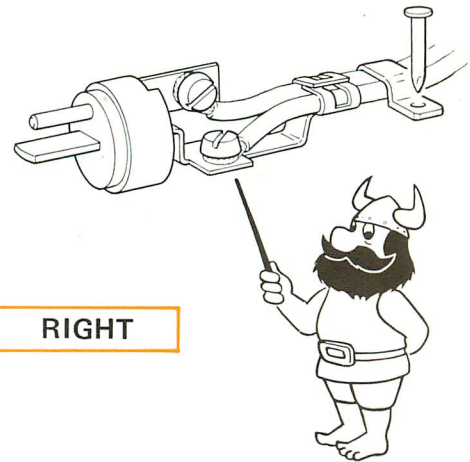
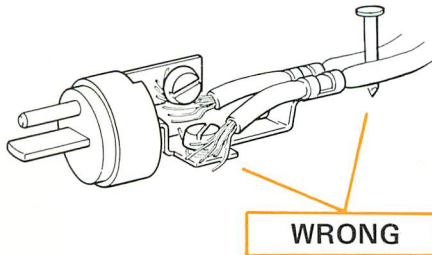
## WARNING

Should it be necessary for you to shorten or replace the leads supplied with your speakers, please be aware that your TR-1040 may be damaged if you are careless when fitting the plug to the leads.

The figures on this side are intended to show you the wrong and the right ways of doing it.

These are the simple rules to be followed:

- do not strip off more insulation from the wire ends than necessary to ensure reliable contact with the plug.
- twist each wire end.
- use insulated clamps when fixing the cable to the wall.



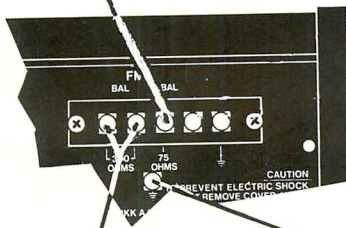
## FM ANTENNAS

### Balanced and unbalanced antenna

The balanced input marked 300 ohms is intended for connection of an FM-antenna with a balanced (twin-lead) feeder cable.

The unbalanced input marked 75 ohms is intended for an FM-antenna with a coaxial feeder cable.

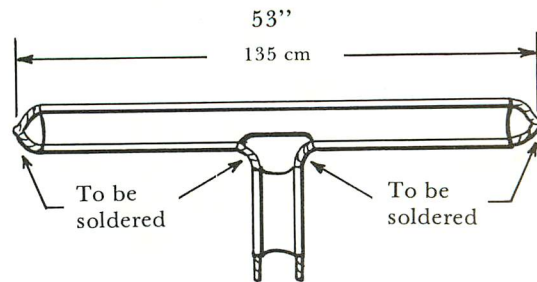
*FM antenna 75 ohms  
unbalanced antenna input*



*FM antenna 300 ohms  
balanced antenna input*

*Chassis terminal for  
75 ohms antenna.*

### Making a simple FM antenna.



A simple indoor antenna for connection to the balanced input can be easily made from flat twin-lead with an impedance of 240 to 300 ohms. A 53-inch piece of antenna lead should be used for the loop. Strip off approximately half an inch (1 cm) of insulation at each end and solder as shown. Cut one of the wires in the middle of the loop and connect another twin-lead to act as down lead to the input. Solder as shown. To avoid distortion and to obtain the best possible reception, the optimum antenna orientation may have to be found experimentally. Normally the antenna should be pointing at right angles to the direction of the transmitter.

In areas with bad receiving conditions, better results will be achieved by means of a more complex FM-antenna with several elements.

Reception of stereo broadcasts requires a stronger input signal to the receiver. A more careful setting and adjustment of the antenna may be necessary to avoid signal deterioration caused by reflections.

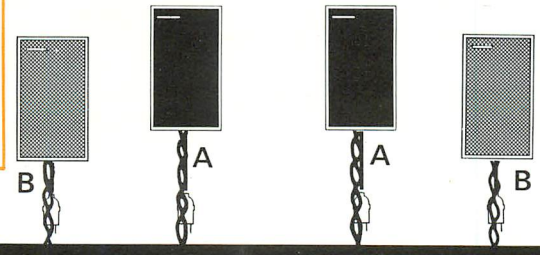
Coloured number boxes  
**15** indicate page numbers  
 bearing additional information.

**RIGHT CHANNEL**

**LEFT CHANNEL**

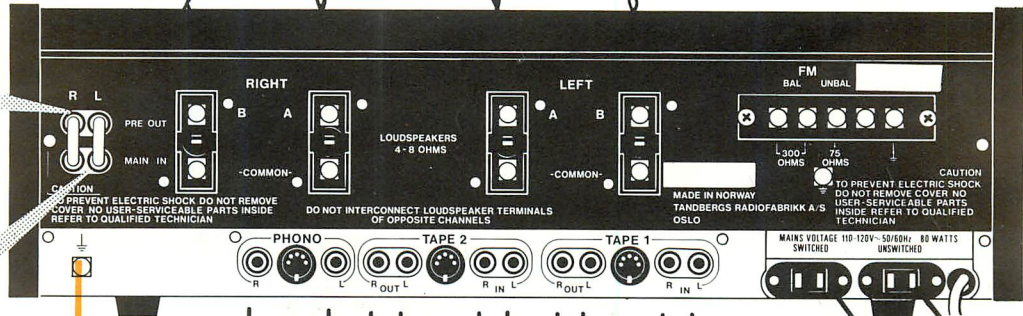
Each loudspeaker must have a minimum impedance of 4 ohms. Maximum output power is obtained in one pair of 4 ohms speakers or 2 pairs of 8 ohms speakers. Speakers of the same pair must be connected to the sockets identified by the same letters. Use insulated clamps for attachment of the speaker cables to the wall, and be careful not to shortcircuit the wires if plugs must be fitted.

**3**



Pre-amp output to external filter, echo box or similar equipment (normal operation with straps as shown).

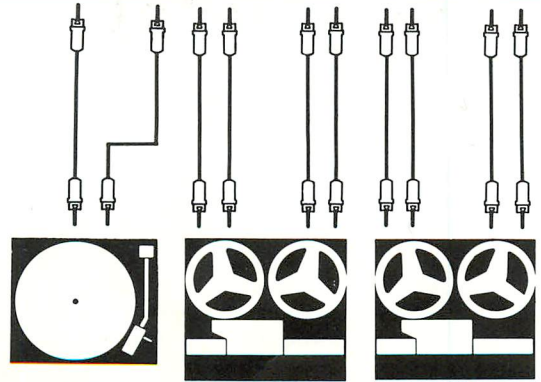
Main amp input from external filter, echo box or similar equipment (normal operation with straps as shown).



Terminal screw for connection to the record player chassis. **12**

110 - 120 V AC outlet unswitched

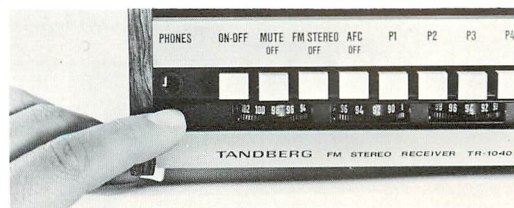
110 - 120 V AC outlet switched



**RECORD PLAYER**      **TAPE RECORDER 2**      **TAPE RECORDER 1**

**5**

**Operating controls** The operating controls are located at the front of the receiver. The primary controls are easily accessible, while the secondary controls are concealed behind a hinged flap in the lower section of the front panel to prevent unwanted operation. The flap can be easily flipped down with the finger tip as shown. Potentiometers for setting the input sensitivity are located underneath the receiver.



## Loudness and Filters

**Loudness:** At low volume the ear is less sensitive to high and low frequencies. To compensate for this, depress the button LOUDN (behind flap) whereby the bass and treble will be boosted as the volume is turned down. The sign LOUDN on the dial will light up.

**Low filter:** Rumble from the record player and acoustic feedback between speakers and the pick-up can be reduced by depressing the button LO-FILT behind the flap. A filter will then attenuate all frequencies below 70 Hz. The sign LO-FILT on the dial will light up.

**High-Filter 1:** If the program is accompanied by strong hiss or scratch noise from old and worn records or noise from a tape recorder or the receiver, depress the button HI-FILT 1 behind the front flap whereby tones above 8000 Hz will be attenuated. The sign HI-FILT 1 on the dial will light up.

**High-Filter 2:** Depressing the HI-FILT 2 button gives a similar, but not so heavy attenuation above 8000 Hz. The sign HI-FILT 2 on the dial will light up.



LOUDNESS

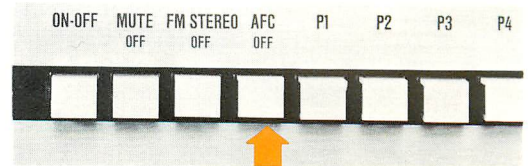
LOW FILTER  
-3 dB at 70 Hz  
(-12 dB pr. okt.).

HIGH FILTER 2  
-3 dB at 8000 Hz  
(-6 dB pr. okt.).

HIGH FILTER 1  
-3 dB at 8000 Hz  
(-12 dB pr. okt.).

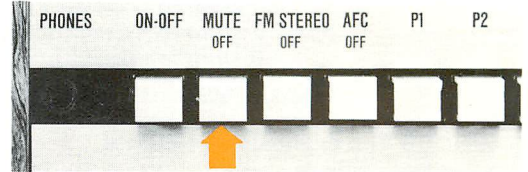
**High-filter 1 + High-filter 2:** To obtain greater attenuation above 8000 Hz than each one of the filters can give, depress both buttons simultaneously.

**AFC (automatic frequency control)** The tuner has automatic frequency control ensuring accurate tuning. When tuning in to a weak station it may be necessary to depress the ACF OFF button to switch off the automatic frequency control and thus prevent the tuner from automatically locking to a strong station lying near to the weak station.



**Muting** The muting circuit which is active when the MUTE OFF button is released, automatically blocks the receiver to FM signals that are too weak to give satisfactory noise suppression. The muting is also effective between stations to ensure pleasant, noise-free tuning.

To receive a station that is not strong enough to cancel the blocking effect of the muting circuit, depress the MUTE OFF button.



**Tuning meters** Correct tuning is important, particularly for stereo reception, because distortion might otherwise occur. These receivers are therefore equipped with two tuning meters, one indicating signal strength, the other indicating midscale for exact tuning. When tuning in to a station on FM, adjust to maximum deflection on the left-hand meter, then carry out the fine tuning to obtain midscale indication on the right-hand meter.

When the tuning is complete, release the AFC OFF button to re-activate the automatic frequency control which will keep the tuning correct.



**NOTE:** When listening to radio the TAPE MONITOR button must be in the released position.

FM DIAL.

FM-STEREO. Lights up for FM-stereo reception.

BALANCE CONTROL, for adjusting the ratio of sound levels in left and right speakers.

POWER ON/OFF SWITCH.

VOLUME CONTROL.

STEREO HEADPHONES. 3 pole stereo jack. Adjust the listening level with the volume and tone controls. If required switch off the speakers by setting the speaker selector to OFF.

HINGED FLAP. Flip down to reveal secondary controls.

MUTE/OFF. Depress for weak stations.

FM STEREO/OFF depress for mono reception.

AFC/OFF. Switches off the automatic fine tuning when depressed.

P1 - P2 - P3 - P4 - P5. Depress to select pretuned stations.

FM. Depress for tuning with the FM tuning knob.

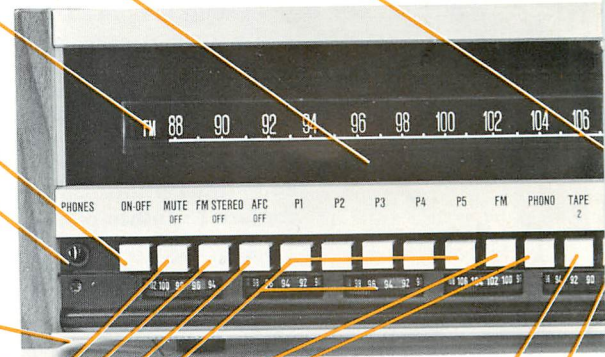
PHONO. Depress when playing records.

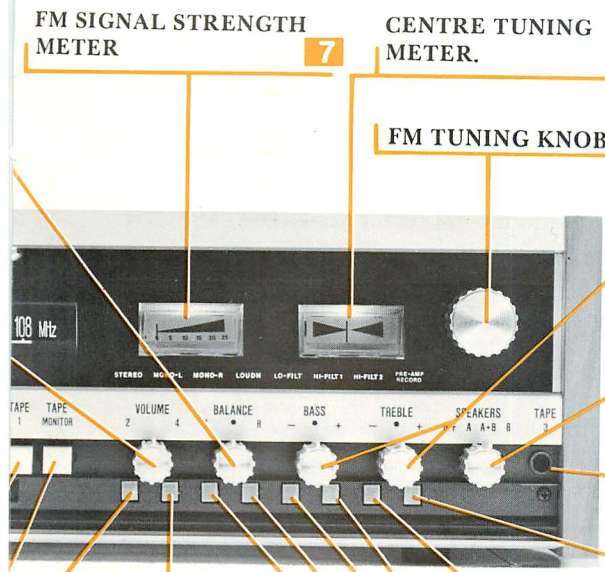
TAPE 2. Depress when playing from tape recorder 2.

TAPE 1. Depress when playing from tape recorder 1.

TAPE-MONITOR. Depress for monitoring program being recorded on tape.

STEREO. Depress for stereo reproduction.





**FM SIGNAL STRENGTH METER** 7

**CENTRE TUNING METER.** 7

**FM TUNING KNOB.**

**BASS – TREBLE.** Separate tone controls for left and right channels (outer and inner knobs).

**SPEAKER SELECTOR.**  
**OFF:** All speakers off.  
**A:** Program to speaker outputs A.  
**A + B:** Program to speaker outputs A and B.  
**B:** Program to speaker outputs B.

The program is fed to the PHONES socket unaffected by the speaker selector.

**TAPE 3.** Stereo jack for connection of tape recorder. 14

**MONO-L selector.** Left channel program fed to both speakers when depressed. 11

**MONO-R selector.** Right channel program fed to both speakers when depressed. 11

Combination at use by **MONO-R**, **MONO-L**, and **STEREO.** 11

**HIGH-FILT 2.** Moderate cutting of high frequencies. 6

**HIGH-FILT 1.** Heavy cutting of high frequencies. 6

**LO-FILT.** Cuts low frequencies. 6

**LOUDN.** Bass and treble boost at low volume. 6

**PRE-AMP RECORD** 14  
 controls volume and tone of program to TAPE 3 jack.

The coloured number boxes 15 indicate pages where additional information can be found.

## Pretuning of FM-stations

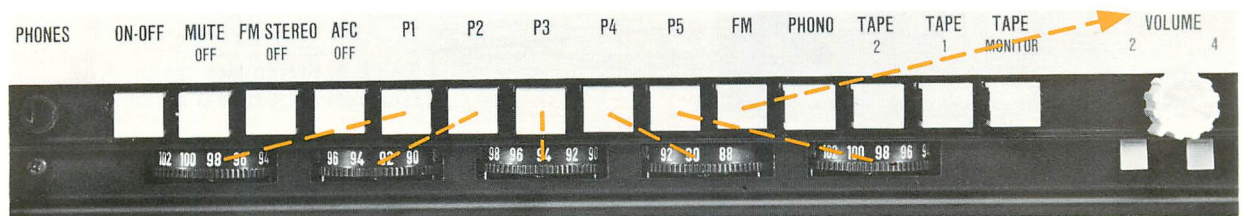
Each one of the graduated tuning wheels (P1 to P5) behind the front flap can tune in any station in the FM range.

The pretuning can be carried out as explained below for the pre-select button P1.

- Depress the button P1.
- Depress the AFC OFF button.
- Turn the tuning wheel corresponding to the P1 knob (extreme left) until the desired station is heard and the left-hand meter indicates maximum. When the tuning is exact the right-hand meter should then indicate in the middle of the dial.

The pretuning for P1 is now complete and the station can later be received just by pressing the P1 button.

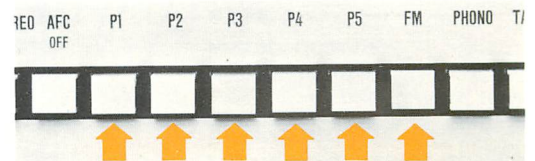
Each of the buttons P2, P3, P4 and P5 can be pretuned in the same manner with the corresponding tuning wheel. When the FM button is depressed the pointer on the FM dial will light up and tuning can be carried out with the FM tuning knob. The FM tuning knob can thus be used for pretuning of a 6th. station which can later be selected by pushing the FM button.



## Selection of FM stations

When the receiver has been pretuned as explained in the preceding paragraph, any one of these stations can be selected by pressing the corresponding select button P1 to P5.

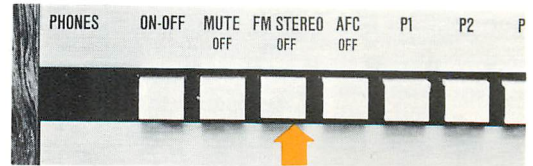
The FM tuning knob can be used to search for stations on the FM dial.



## FM stereo

The receiver is fully equipped for reception of FM stereo broadcasts.

FM stereo broadcasting is based on the pilot tone system which allows the program to be received in mono on mono receivers without impairment of program quality. It is an inherent property of this system that a stronger signal is needed in stereo to obtain the same noise suppression as in mono. The FM stereo decoder automatically switches to stereo operation when a stereo signal of sufficient strength is received. If the signal level falls below a preset threshold, the program will be reproduced in mono.



If the stereo reception is disturbed by noise and distortion, the stereo decoder can be disabled by depressing the button marked FM STEREO OFF whereby the program is reproduced in mono with better noise suppression.

**NOTE:** Because stereo reception requires a stronger antenna signal and is more sensitive to multipath distortion, better antennas are needed under difficult conditions and in fringe areas.

## Stereo-mono (radio, disc or tape)

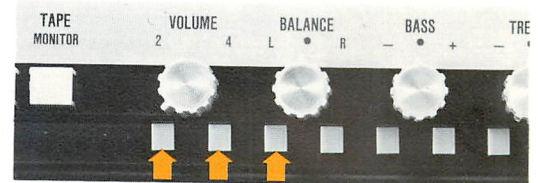
Stereo-mono switching in the audio amplifiers may be performed with the buttons STEREO, MONO-L and MONO-R behind the flap.

STEREO button depressed – the two channels are separated for stereo reproduction.

MONO-L button depressed – the left program is fed to both speakers.

MONO-R button depressed – the right channel program is fed to both speakers.

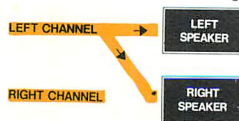
MONO-L and MONO-R and STEREO simultaneously depressed – the two channels are separated for stereo reproduction with the channels interchanged.



MONO-L and MONO-R simultaneously depressed – Mono program to both speakers.



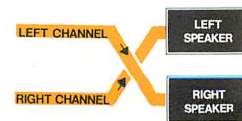
STEREO



MONO-L



MONO-R



STEREO, MONO-L and MONO-R



MONO-L and MONO-R

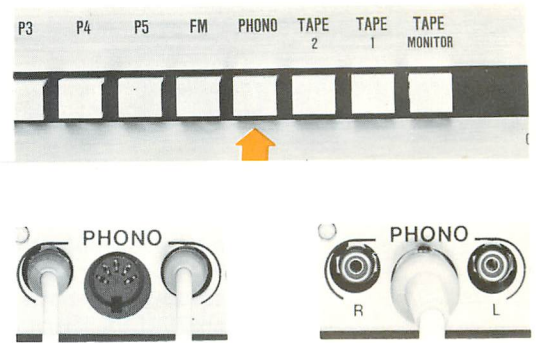
## Connection of record player

The sockets marked PHONO at the back are intended for connection of a record player with magnetic pick-up. Whether you use a DIN socket or PHONO sockets will depend on the type of plug on your record player. If the phono sockets are used, connect a separate wire from the chassis terminal on the back panel of the TR-1040 (left side, see page 5) to the record player chassis.

It may be desirable to adjust the input sensitivity of the PHONO input, if so, see page 15.

The various possibilities for mono/stereo reproduction are explained on page 11.

To play from the record player, depress the PHONO button.



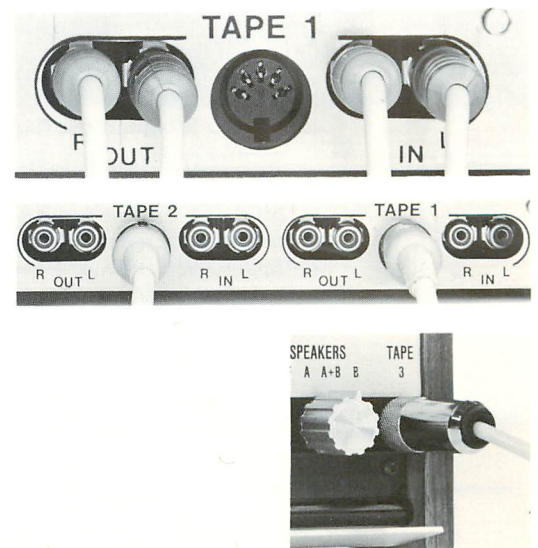
## Connection of tape recorders

Three tape recorders can be connected to the TR-1040.

TAPE 1 should be used for normal recording and playback because it makes monitoring from tape possible during the recording.

TAPE 2 is the same as TAPE 1 except that the tape monitoring during recording is not possible. TAPE 2 is therefore suitable for connection of the playback recorder when copying tapes.

TAPE 3 stereojack to third tape recorder for recording with or without tone/volume controls. These functions are further explained in the following paragraphs.



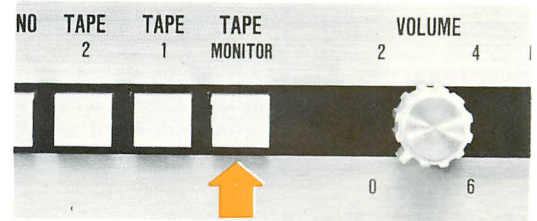
## Recording

Connect the tape recorder to TAPE 1. Any programme that is reproduced in the speakers will now be fed to the tape recorder. The volume, bass, and treble controls will have no effect on the recording.

## Recording on TAPE 1 with tape monitoring

If the tape recorder has separate heads for recording and playback you can listen to the program played back from tape a fraction of a second after it has been recorded while the recording is going on. To obtain this, set the tape recorder for tape monitoring and depress the TAPE MONITOR button on TR-1040.

To listen to the program before recording, set the tape recorder for source monitoring or release the TAPE MONITOR button on the TR-1040.

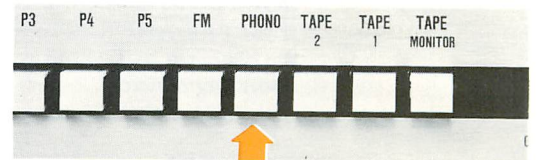


**NOTE:** Tape monitoring can also be carried out when recording on TAPE 2 by pressing the TAPE 2 button instead of the TAPE MONITOR button. Hold the button for the program source depressed to avoid the TAPE 2 button releasing the program button.

## Recording from record player

Connect the record player and the tape recorder to the sockets PHONO and TAPE 1 respectively. Set the tape recorder for recording, depress the PHONO button and start the record player. The recording is unaffected by speaker selector, volume, bass and treble controls.

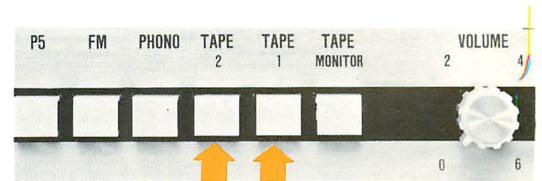
Tape monitoring of the recording can be obtained by depressing the TAPE MONITOR button (see preceding paragraph).



**Playback from tape recorders**

Depress button TAPE 1 or TAPE 2 for playback from tape recorders connected to the sockets TAPE 1 or TAPE 2 respectively.

Depress PRE AMP RECORD for playback from a tape recorder connected to TAPE 3 connector. The signal will be fed direct to the power amplifier, and consequently the volum and tone controls will have no influence on the program being played back. The output volume will be attenuated approximately 30 dB.



**Recording on more than one tape recorder**

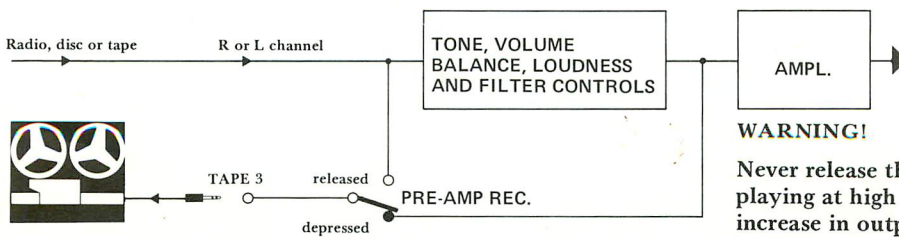
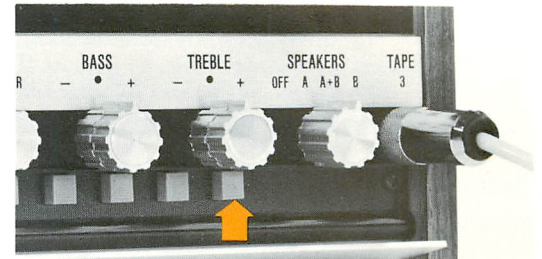
Simultaneous recording can be accomplished on a tape recorder connected to TAPE 1 and a second tape recorder connected to TAPE 2. The same program can also be recorded on a third tape recorder connected

to TAPE 3 provided that the TAPE MONITOR button is not depressed. Read more about TAPE 3 in the next paragraph.

**Recording via tone and volume controls on TAPE 3**

If it is desirable to control the tonal balance and the volume of a program to be recorded, connect the tape recorder to the TAPE 3 jack and depress the PRE-AMP REC button. The speaker volume will then be reduced to a suitable monitoring level, and the volume, tone, balance, loudness and filter controls will be active as shown in the adjacent diagram.

If the PRE-AMP REC button is in the released position, the program to TAPE 3 will be unaffected by all operating controls.



**WARNING!**

Never release the PRE-AMP REC button while playing at high volume because the 30 dB increase in output level may be more than enough to damage your speakers.

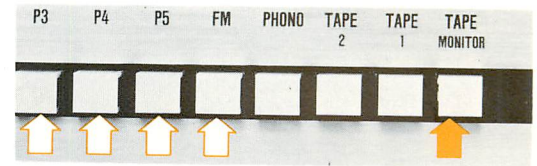
## Copying tape

**Copying from TAPE 1 to TAPE 2 and vice versa.**  
If tape recorders are connected to the sockets, copying from either one to the other can be performed. Depress the function selector (TAPE 1 or TAPE 2) corresponding to the tape recorder used for playback. Use the TAPE MONITOR button for source/tape monitoring (see page 13).

**Copying from TAPE 1/TAPE 2 to TAPE 3.**  
Copying may be performed from a tape recorder connected to either TAPE 1 or TAPE 2, to a tape recorder connected to TAPE 3. Depress the function selector TAPE 1 or TAPE 2 corresponding to the tape recorder used for playback. Tape monitoring is not possible. The program can be tone-controlled if the button PRE-AMP REC is depressed as explained on page 14.

## Simultaneous recording of a radio program and playback of another program from tape.

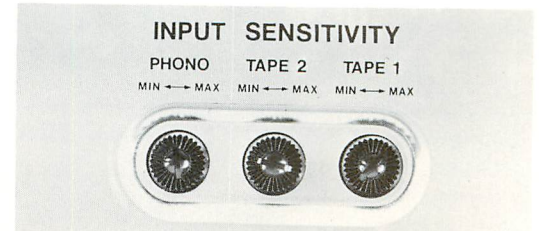
Recording of a radio program on a tape recorder connected to TAPE 2 can take place while a second program from another tape recorder connected to TAPE 1 is played through the speakers. The radio program can only be monitored in headphones connected to the tape recorder. The tape program that is played back and reproduced through the speakers can be adjusted with the volume and tone controls.



**Procedure:** Select the radio program. Depress the TAPE MONITOR button. Make sure that TAPE 1 and TAPE 2 buttons are released (out). Start the recorder.

## Adjustment of input sensitivity for PHONO, TAPE 1 and TAPE 2 sockets

To match the output signal from the program sources connected to these sockets and to ensure the same output level when switching from one program source to another, adjust as follows. Tune the receiver to a strong station and feed programs from the record player and the tape recorder to the appropriate sockets on the receiver. Without operating the volume control, adjust the corresponding input level controls underneath the receiver until all program sources are reproduced at approximately equal sound levels.



**STEREO HEADPHONES.** 3 pole stereo jack. Adjust the listening level with the volume and tone controls. If required switch off the speakers by setting the speaker selector to OFF.

**HINGED FLAP.** Flip down to reveal secondary controls.

**MUTE/OFF.** Depress for weak stations.

**FM STEREO/OFF** depress for mono reception.

**AFC/OFF.** Switches off the automatic fine tuning when depressed.

**FM DIAL.**

**POWER ON/OFF SWITCH.**

**FM-STEREO.** Lights up for FM-stereo reception.

**BALANCE CONTROL,** for adjusting the ratio of sound levels in left and right speakers.

**VOLUME CONTROL.**

**FM SIGNAL STRENGTH METER**

**CENTRE TUNING METER.**

**FM TUNING KNOB.**

**BASS - TREBLE.** Separate tone controls for left and right channels (outer and inner knobs).

**SPEAKER SELECTOR.**

OFF: All speakers off.  
A: Program to speaker outputs A.  
A + B: Program to speaker outputs A and B.  
B: Program to speaker outputs B.

The program is fed to the PHONES socket unaffected by the speaker selector.

**TAPE 3.** Stereo jack for connection of tape recorder.

**PRE-AMP RECORD** controls volume and tone of program to TAPE 3 jack.

The coloured number boxes indicate pages where additional information can be found.

