

# Technics

## MONITOR 1

HONEYCOMB DISC  
SPEAKER SYSTEM

# SB-M1

### OPERATING INSTRUCTIONS



The model and serial number of this product may be found on the back of the unit.

You should note the model and serial number of this unit in the space provided and retain this booklet as a permanent record of your purchase to aid identification in the event of theft.

MODEL NUMBER \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

Before operating this speaker system, please read these instructions completely.

Thank you for selecting the **Technics MONITOR 1**. To obtain maximum satisfaction from all of its many features as well as the longest possible service, be sure to first read these instruction carefully.

### INSTALLATION OF YOUR SPEAKER SYSTEM

The sound reproduced by a speaker system is easily influenced by such factors as room acoustics and the place where it is placed in the room. Before finally deciding upon the place where the speaker systems are to be placed, please carefully read the following information.

- The left and right cabinets are symmetrical in shape.  
**Position the speakers so that the base reflex ports are on the outer edges of the cabinets.**
- **When vibration or oscillations occur on the floor, wall(s), ceiling, or window(s)**, secure that area firmly or use some material such as rubber or sponge to prevent oscillation.
- **If standing-waves are generated within the room**, use thick curtains and/or carpets, or rearrange the furniture.
- **When howling occurs**, set the turntable on top of a heavy, solid base where vibration is less likely to occur.
- **When the bass sound is lacking**, set the speakers directly on the floor and/or set them closer to the wall.
- **When the bass sound is too strong**, set the speakers on top of solid concrete blocks or set them away from the wall or floor.
- The principle of the bass tone adjustment is explained in "Locating position and acoustic characteristics."
- Levels above the mid-range can also be controlled by utilizing the sound absorbing effects of the curtains and carpets as well as by using the level controls.

### Locating position and acoustic characteristics

The floor and walls of a room in which the speakers are located reflect sounds, and therefore the frequency response heard in that room is different from that in the anechoic chamber of the speaker system.

In the heavy bass range where the wave length is long, the phase difference between the direct sound and the reflected sound is very small, so the increase in the sound pressure on one reflecting surface is about double (6 dB).

As the frequency becomes higher, the phase difference increases, and as the difference approaches 180° (opposite in phase) the sound pressure decreases. As a result, depending on the phase difference, the frequency that increases and the frequency that decreases the sound pressure appear periodically and repeatedly.

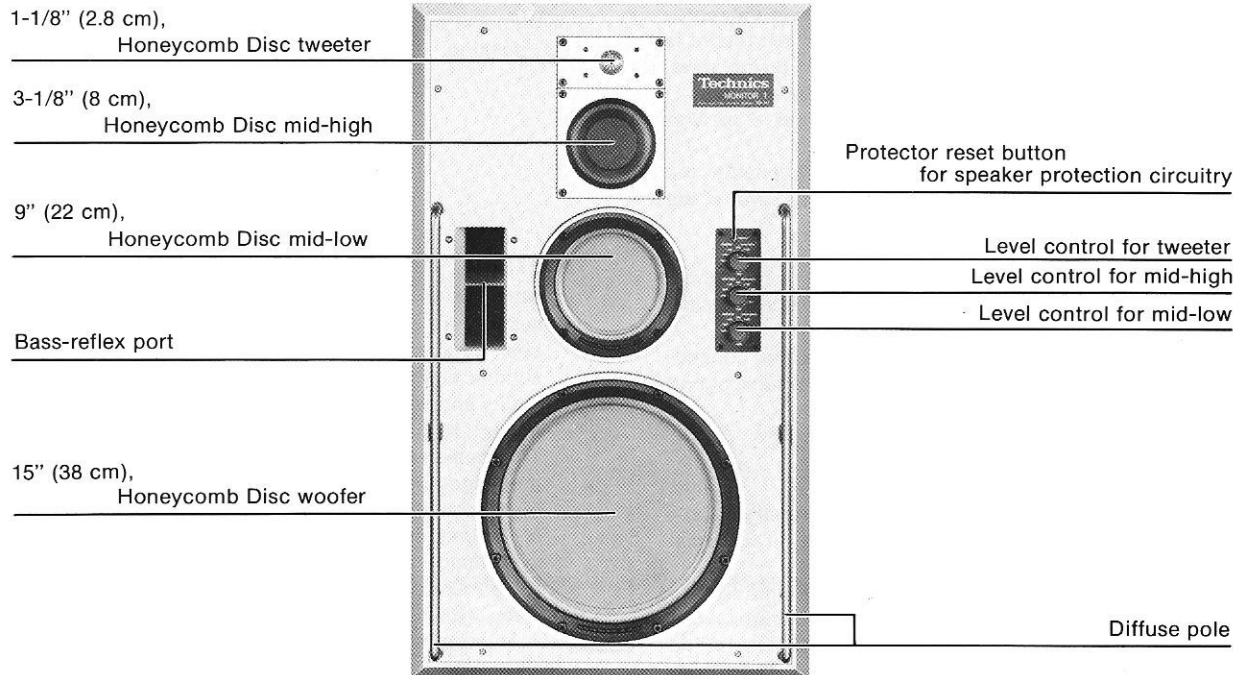
If the distance between the sound source and the reflecting surface changes, the phase difference changes, and therefore the frequency response also changes.

In other words, by changing the distance between the speaker system and the wall and floor, fine tone adjustments become possible.

### CONNECTING THE SPEAKER SYSTEM

- Be sure to **turn off the power** of the amplifier before connecting the speaker systems to it.
- The impedance of this speaker system is **6 ohms**. Be sure that the load impedance of the amplifier to be used is 4 ~ 16 ohms.
- The input terminals of this unit are on the rear surface of the enclosure. The polarity (+ and -) of each input terminal is indicated. When connecting speaker wires from the amplifier, **be sure that the left and right connections and the plus and minus connections are made correctly.**
- When speaker connection wires are connected to the terminals, make the connections as shown in figure 2.

### PARTS IDENTIFICATION



This is a picture of the SB-M1 left cabinet.

Fig. 1.

- Speaker cords ranging from standard size to extra large size can be connected to the input terminals of this unit, and can be connected from the top or bottom. Tighten the terminals firmly before use.

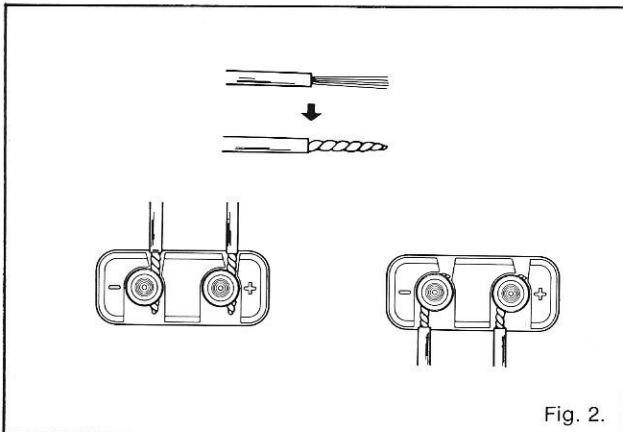


Fig. 2.

Be sure that the core wires don't touch each other.

### POWER-HANDLING CAPACITY

The power-handling capacity of this unit is indicated in the specifications, and is determined according to the temperature increase of the voice coils.

- If the amplifier to be used has an output power which exceeds the power-handling capacity of this unit, be sure that the **amplifier's volume control** is set so that **excessive input** is not applied to the speaker system.
- Even if the amplifier to be used has an output power which is less than the power-handling capacity of this unit, the output of the amplifier will become distorted and excessive input will be applied to the speaker units, especially for the middle and high frequencies, if the **input signals to the amplifier are too large or the amplifier volume level is too high**. Also note that higher-than-normal power is applied to the speaker systems if the tone controls of an amplifier or a frequency equalizer are **used to raise the level of bass and/or treble sounds**. When adjusting the volume level, therefore, **do so with great care: confirming that amplifier output is not distorted**.
- The power-handling capacity of this unit is set for reproduction of ordinary music. If an oscillator or test record is used to **produce a continuous signal such as a sine wave, etc., a signal exceeding 5 watts must never be applied**. Usually, 1 watt of sine wave is enough to test a speaker system when an oscillator or test disc is used.
- If the following **special types of signals** are applied to the speaker system, be sure to **reduce the volume level of the amplifier**.
  1. Interstation hiss on the FM broadcast band.
  2. Output from a tape deck during fast forward or rewind.
  3. Acoustic feedback from a microphone or an electric musical instrument.
  4. "Shock" noise which occurs when input or output connection cords are connected or disconnected or when a phono cartridge is replaced.

### SPEAKER-PROTECTION CIRCUITRY

This unit includes built-in **speaker-protection circuitry** to protect the tweeter from damage by excessive input or an abnormal signal.

- This unit is designed so that the protection circuitry will automatically function if excessive input or an abnormal signal is applied to the speaker system, thus cutting off the input to the tweeter.
- To operate the speaker protection circuitry, please **note the following instructions**:
  1. **Before making connection to the amplifier**, be sure to **push the protector reset button** located above the level controls.

2. **If sounds are interrupted** suddenly while using your speaker system:
  1. **Reduce the amplifier volume.**
  2. **Check to be sure all equipment in your reproduction system is functioning properly.**
  3. **Wait for about 20 seconds.**
  4. **Push the protector reset button.**
  5. Be careful not to increase the volume of the amplifier too much.



Fig. 3

### LEVEL CONTROLS

The level controls are installed on the front surface of this unit. As shown in the level control characteristics diagram, these level controls are capable of varying the tweeter, mid-high, and mid-low sound levels independently and continuously. Set to the desired levels according to the room acoustics, the program source, or the characteristics of the phono cartridge and amplifier which are used with this speaker system. The standard setting of the level controls is the "0 dB" position.

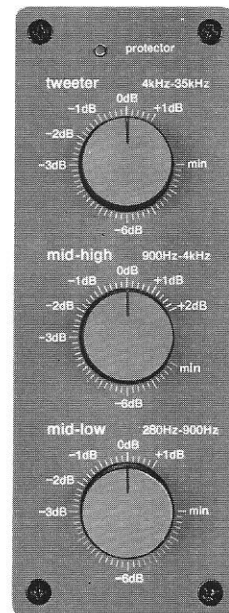


Fig. 4

### NOTES

- Although the enclosure and the speaker units of this speaker system are made of carefully selected material and have been produced by the finest manufacturing techniques, sudden changes in surrounding temperatures and/or humidity should be avoided. **Keep this unit away from sources of heat, high humidity and direct sunlight.**
- The speaker system **should not be placed near a TV**, because the magnet may cause a disturbance in the TV picture. Also be careful not to place a clock or a magnetic tape on top of the unit, because the magnetism may cause the clock to malfunction and increase the distortion level in the tape.
- If the enclosure becomes dirty, use a soft, dry cloth to wipe it clean. If the dirt is excessive, soak a soft cloth in a weak solution of soap and water, wring it thoroughly, and then clean the enclosure. A soft dry cloth should then be used to wipe it dry.
- **Never use alcohol, paint thinner, benzine nor other volatile chemicals** to clean this unit because they may damage the finish, causing it to lose its luster. Also **never use a wet cloth or a chemically-impregnated cloth.**



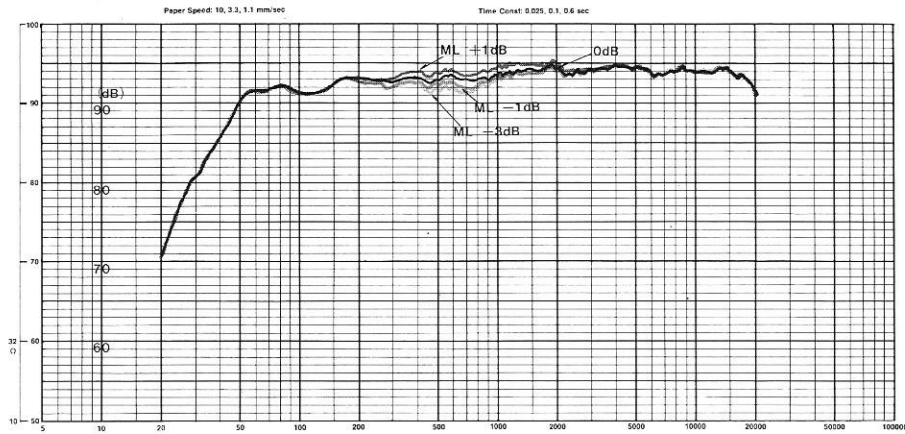
# SPECIFICATIONS

Type: 4 way 4 speaker system  
 Speakers: Woofer: 15" (38 cm),  
 Honeycomb Disc  
 Mid-low: 9" (22 cm),  
 Honeycomb Disc  
 Mid-high: 3-1/8" (8 cm),  
 Honeycomb Disc  
 Tweeter: 1-1/8" (2.8 cm),  
 Honeycomb Disc  
 Impedance: 6 ohms  
 Input Power: 350 W, Music  
 150 W, DIN

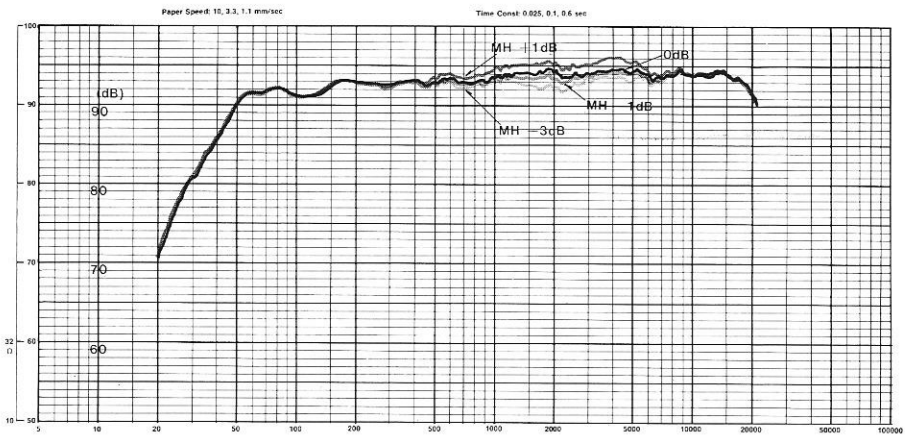
Output Sound Pressure Level: 94 dB/W (1.0 m)  
 Crossover Frequency: 280 Hz, 900 Hz, 4,000 Hz  
 Frequency Range: 25 Hz ~ 38 kHz (-16 dB)  
 35 Hz ~ 35 kHz (-10 dB)  
 Dimensions: 24-13/16"(W) × 41-11/32"(H) ×  
 17-9/32"(D)  
 63.0(W) × 105.0(H) × 43.9(D) cm  
 Weight: 188.5 lbs. (85.5 kg)

## RESPONSE CHARTS

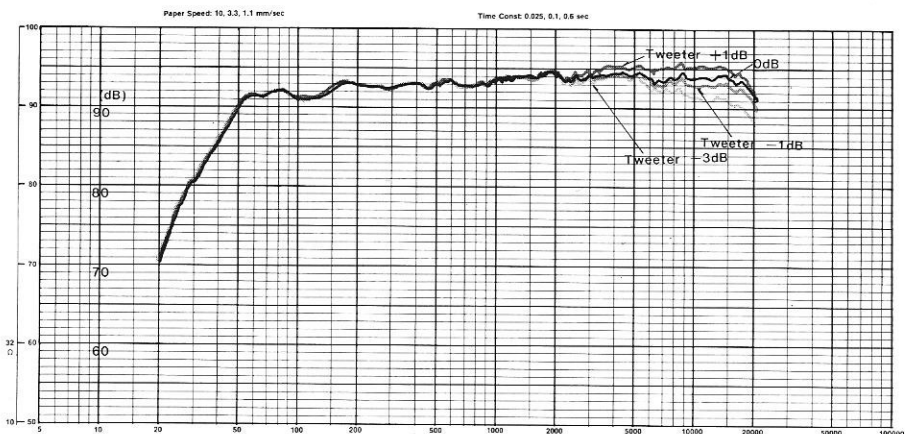
### Mid-low: Level Control Characteristics



### Mid-high: Level Control Characteristics



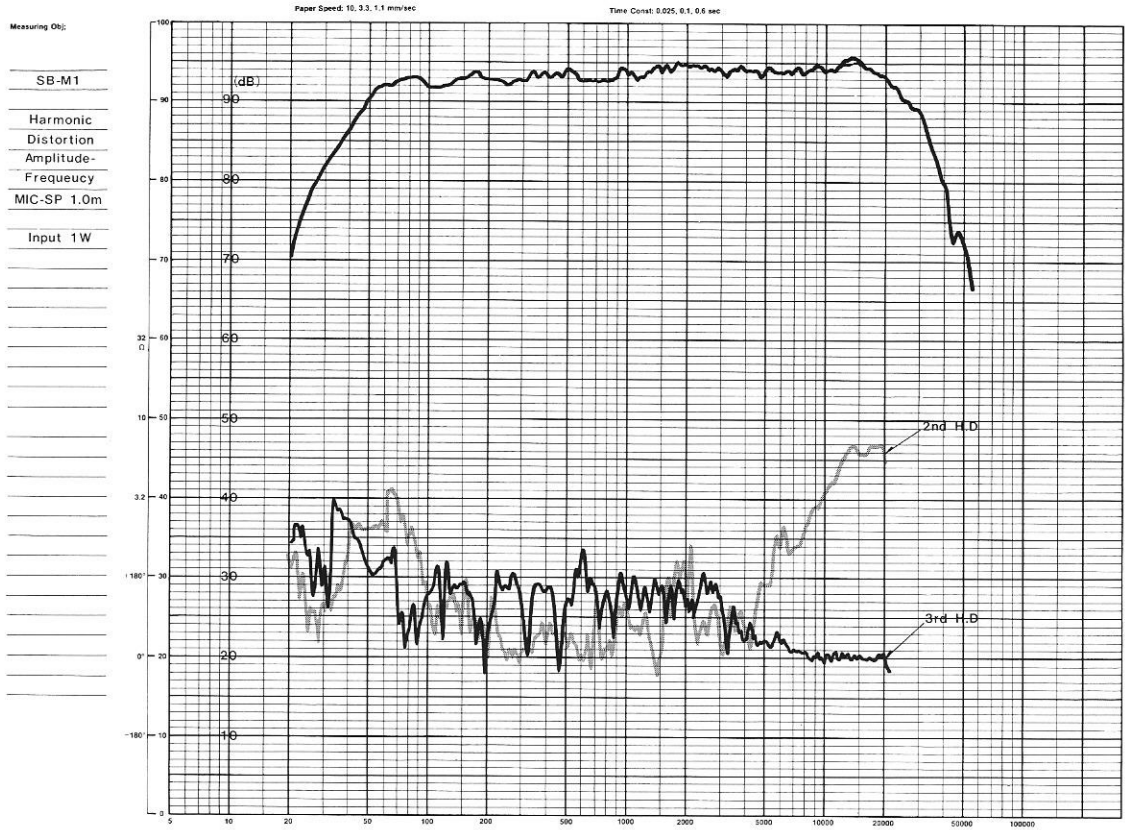
### Tweeter: Level Control Characteristics



# RESPONSE CHARTS

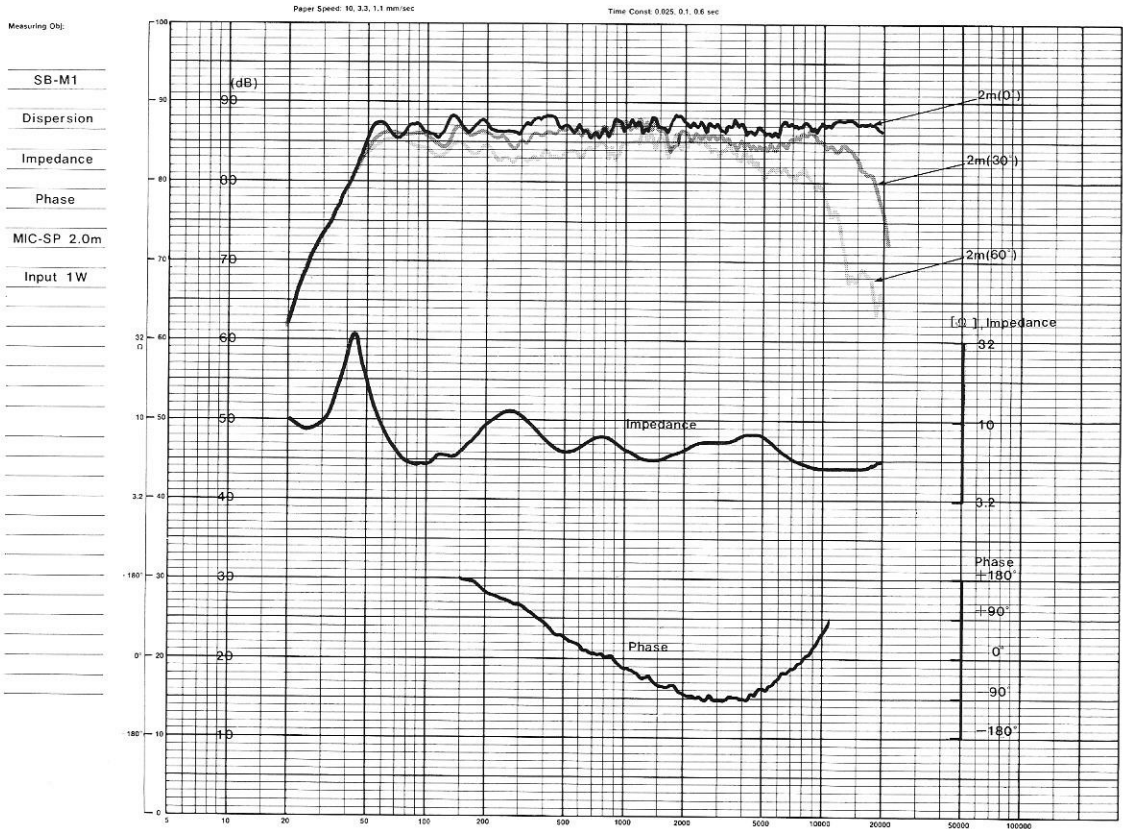
## Amplitude-Frequency Response and Harmonic Distortion Characteristics

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## Directional Characteristics, Impedance Response and Phase Response

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