

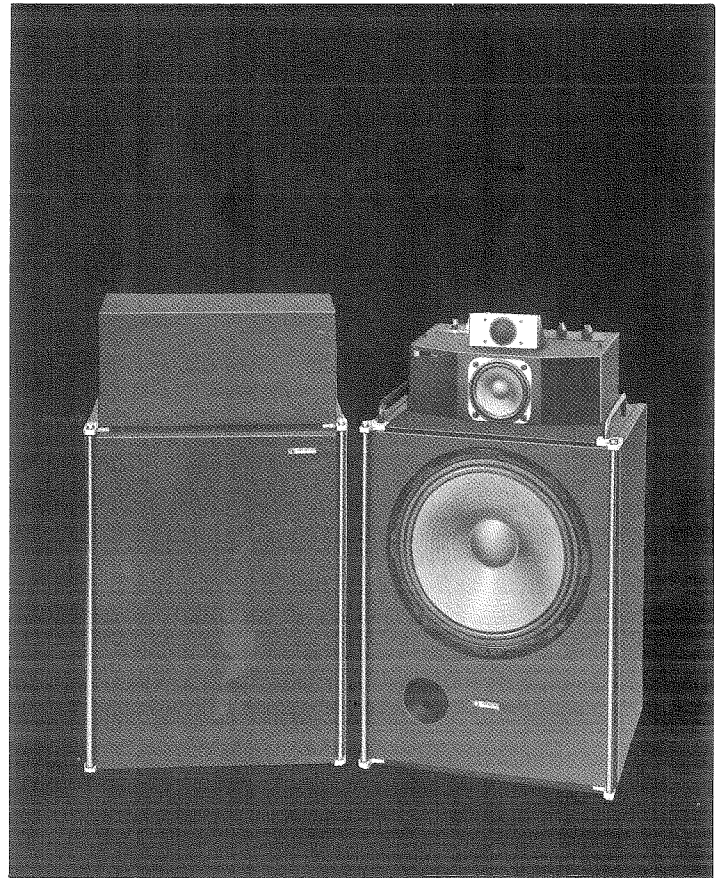
Technics

by Panasonic

LINEAR PHASE SPEAKER SYSTEM

SB-7000A

OPERATING INSTRUCTIONS



Thank you for selecting the "Technics SB-7000A" linear phase speaker system. To obtain maximum satisfaction from all of its many features as well as the longest possible service, be sure to first read these instructions carefully.

The model number of this product may be found on the top of the unit, and the serial number, on the label affixed to 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 SB HOWDY!

SERIAL NUMBER BAS

Even though musical wave forms are complex, they are merely a composition of various kinds of pitch components, each with its own individual amplitude and phase characteristic. Therefore, in order to have a faithful reproduction of the musical wave form applied to the speaker system, not only the amplitude (sound pressure level)/frequency response of the speaker system, but also the phase/frequency response, must be flat. Technics has developed a phase-measurement system which employs a delay unit using a "Bucket Brigade Device". This system permits accurate analysis of the speaker phase, and, as a result, a new crossover network and high performance wide-range drivers and their ideal positioning are used to flatten both the amplitude/frequency response and the phase/frequency response. The "Technics SB-7000A" speaker system has been designed to convert musical wave forms applied to the speaker to sound waves with extremely high fidelity, in other words, to make the transfer function of the speaker system is unity.

SPEAKER PLACEMENT

As with any fine speaker system the actual listening environment will affect the overall sound quality. A little care taken in placing the speakers will assure that the original sound quality can be realized in almost any listening room.

- The SB-7000A is designed as a floor standing system and should be placed on a hard (preferably concrete) floor. If other than a solid floor is used, then a small base or platform should be constructed of bricks or other similar material.
- Placing the speaker in a corner will tend to emphasize the low frequency range. Therefore, place the speaker to achieve the effect of your individual preference.
- The walls opposite the speakers should be covered in a soft, sound absorbing material such as drapes.
- To prevent unwanted acoustic feedback between the speaker and turntable, at high listening levels, it is advisable to provide a very solid mounting surface for the turntable. This is especially important when the listening room has wooden floors.

CONNECTING THE SPEAKER SYSTEM

The impedance of this speaker system is 6 ohms. Be sure that the load impedance of the amplifier, to which this unit is connected, is rated from 4 to 16 ohms.

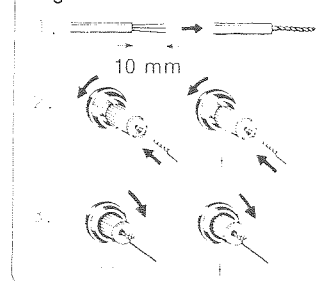
The speaker terminals are color coded and marked "+" (orange) and "-" (black), and are especially designed to make positive contact with the speaker wire. When connecting to the amplifier, make sure the "+" of the amp

is connected to the "+" of the speaker and the "-" of the amp is connected to the "-" of the speaker to assure that the speakers are working in phase.

Make the connections as shown in figure 1.

1. After stripping about 10 mm ($\frac{1}{2}$ inch) of the insulation from the speaker cord, twist the core of the wire.
2. Loosen the terminal by turning it counterclockwise 2 or 3 turns and insert the wire into the opening of the terminal as far as it will go.
3. Tighten it completely, turning it clockwise.

Figure 1.



PARTS IDENTIFICATION

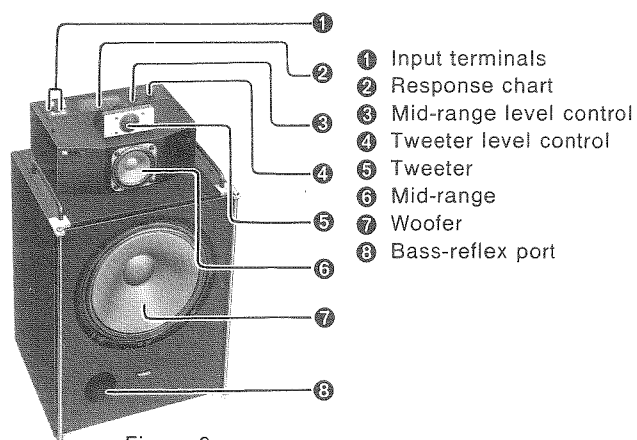


Figure 2.

GRILLE INSTALLATION AND REMOVAL

The grilles can be installed and removed as shown in figure 3. Installation: For the upper grille, align the two holes of the rubber "feet" on the frame with the projections on the cabinet, and then push down-ward gently. For the lower grille, align the four rubber projections of the frame with the pipes on both sides of the cabinet, and then push gently. Removal: Grasp the grille frame and gently pull it toward you.

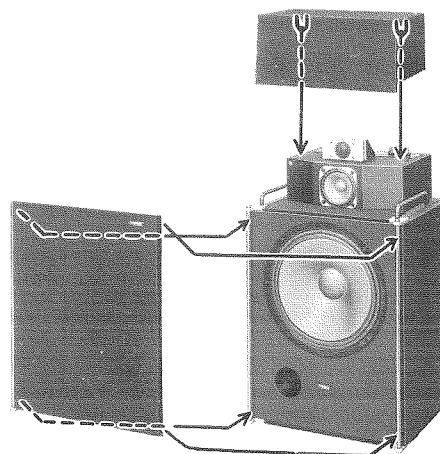


Figure 3.

INSTANTANEOUS OF MAXIMUM INPUT POWER

The instantaneous maximum input of this speaker system is 150 watts (peak). If excessive input is applied to the speaker system, the temperature of the voice coil will increase, and, if such a condition is continued, the voice coil will eventually burn out. Therefore, with the temperature increase of the voice coil fixed at a specified limit of 80°C, the instantaneous maximum input has been determined by measurements of the temperature increase of each voice coil with sinewaves, tone-burst waves, music etc.

The allowable input power differs depending upon the wave shape and the Frequency of the input signal, and the various aspect of these factors is shown in figure 4. As you can see from the graph in figure 4, a tone-burst of four cycles ON and thirty-two cycles OFF at about 150 watts (peak), no problem in temperature increase of the voice coil.

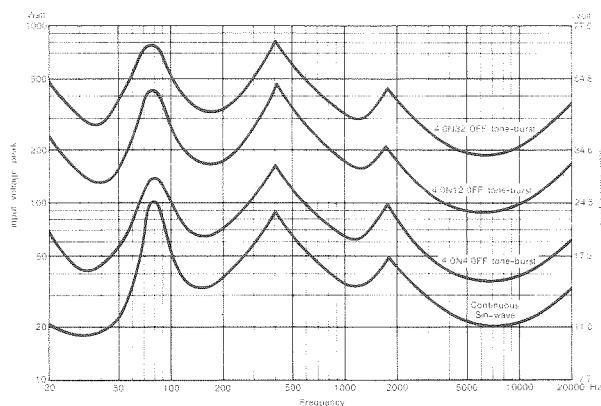


Figure 4. Allowable input signal according to input wave form (voice coil temperature increase is 80°C)
Note: Input power is calculated by the rated impedance.

Thus, based on the given temperature increase of the voice coil, the instantaneous maximum input of the SB-7000A of 150 watts (peak) was determined.

To protect your speaker from damage and to preserve its delicate sound character, we suggest that you do not subject your speaker to any of the following conditions:

1. Interstation hiss on FM.
2. Output from a tape deck during fast forward or rewind.
3. Acoustic feedback from either a microphone or turntable.
4. Hum when plugging in an external source to your amplifier.
5. Initial turn-on thump caused by poorly designed amplifiers.
6. Continuous tones from oscillators or demonstration records.

Any of the above conditions can put undue stress on the speaker system at high volume levels.

LEVEL CONTROLS

Two level controls are located on top of the mid-range enclosure, one each for mid-range and for treble. Any of 3 levels can be selected for each driver, depending upon the conditions of the listening room and your own personal taste. The normal (flat) position for both mid-range and treble controls is "1".

Level control for mid-range
(centre frequency: 2.5 kHz)

1... 0 dB
2... -2 dB
3... -4 dB

Level control for tweeter
(centre frequency: 10 kHz)

1... 0 dB
2... -2 dB
3... -4 dB

NOTES

- The cabinet of this speaker system has been made of material subjected to the closest examination for high quality, and the most modern production techniques have been used for its manufacture. Despite its high quality however, it may be damaged if subjected to sudden temperature changes, or to high humidity. Keep the speaker system away from heating appliances or other sources of heat, and do not expose it to direct sunlight or excessive moisture.
- Do not place the speaker system near a TV set, because the TV image may be disturbed by the magnets used in this speaker system.
- The tweeter (located on the top of the cabinet) has a very strong magnet. Be sure to keep items which might become magnetized, such as metal items, clocks, watches or magnetic tape, away from the magnet. Be especially careful with watches, clocks and magnetic recording tape.
- Clean the cabinet, if necessary with a soft dry cloth. If the cabinet surface is extremely dirty, dampen a soft cloth in a mild soap and water solution and then squeeze out all excess water before wiping the cabinet surface. After doing so, wipe once again with a soft dry cloth. Use a vacuum cleaner to clean the grilles and the urethane foam in front of the mid-range driver.
- Never use alcohol, thinner, benzene, or other chemicals to clean the cabinet because to do so may damage its fine finish. Never use a wet cloth or a chemically treated cloth for cleaning.
- Do not pull on the stems at either side of the cabinet, nor use them to move the speaker from place to place. To move the speaker system, be sure to use the two handles on the top of the cabinet.

SPECIFICATIONS

Type:	3-way, 3-speaker bass-reflex system
Speakers:	Woofer: 35 cm (14") cone type Mid-range: 12 cm (4¾") cone type Tweeter: 3.2 cm (1¼") dome type
Impedance:	6 ohms
Input Power	150 watts, peak; 100 watts, DIN (RMS)
Output sound	
pressure level:	90.5 dB/w (at 1.0 m)
Crossover Frequency:	700 Hz, 6 kHz
Frequency range:	37 Hz-22 kHz (-10 dB)
Dimensions:	48.0(W)×84.5(H)×41.0(D) cm 18⅞"(W)×33¼"(H)×16⅞"(D)
Weight:	33.0 kg (72.8 lbs)

Note 1: This frequency range was determined by measuring, in an anechoic chamber, the low-range frequency and the high-range frequency at a point 10 dB lower than the average sound-pressure level of the measured frequency response.

Note 2: Weight and dimensions shown are approximate.

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