

CASIO  
DIGITAL HORN  
DH-200

PLAYER'S  
MANUAL



**CASIO®**

# Casio DH-200

## Digital Horn

### Player's Manual

Congratulations on your purchase of the Casio DH-200 Digital Horn. Your new DH-200 is a whole new type of musical instrument which can be enjoyed by virtually anyone, anytime and anywhere. To obtain optimum performance and ensure long-term reliability, be sure to read this manual carefully before playing your new Digital Horn.

## Main Features

### Preset Reed/Brass Tones

The DH-200 lets you choose from any of 6 ultra-realistic horn sounds, including saxophone, trumpet, synth-reed, oboe, clarinet and flute.

### High-quality Built-in Speaker

With a high-quality speaker built right into the DH-200 and battery power, you're free to perform or practice virtually anywhere! Pack it along for portable music fun, or make use of the AD-1 AC adaptor and save on batteries.

### Portamento Effect

Add even greater realism to your sound with the built-in portamento effect. This creates a "gliding" effect, for natural, "horn-like" transition between notes.

### 2-Octave Key Transpose

A built-in key transpose function lets you raise or lower the performance key for even greater sound variation. For example, choose a higher octave for soprano sax, then just move the octave down for baritone sax sound.

### Breath Modes and Two-way Fingering

Unlike a normal wind instrument, the DH-200 lets you choose whether or not you want to "blow" to perform. Turn the breath mode ON and you blow just like a normal horn, but turn it OFF and sounds can be produced just by fingering the note keys! What's more, there's two different fingering patterns - one's the same as a recorder and the other is a unique Casio original.

### MIDI Output

The DH-200 is equipped with MIDI - the Musical Instrument Digital Interface, that gives you DH-200 control of other MIDI instruments or sound sources. For example, connect the DH-200 to a Casio digital synthesizer and virtually limitless digital sounds are at your control.

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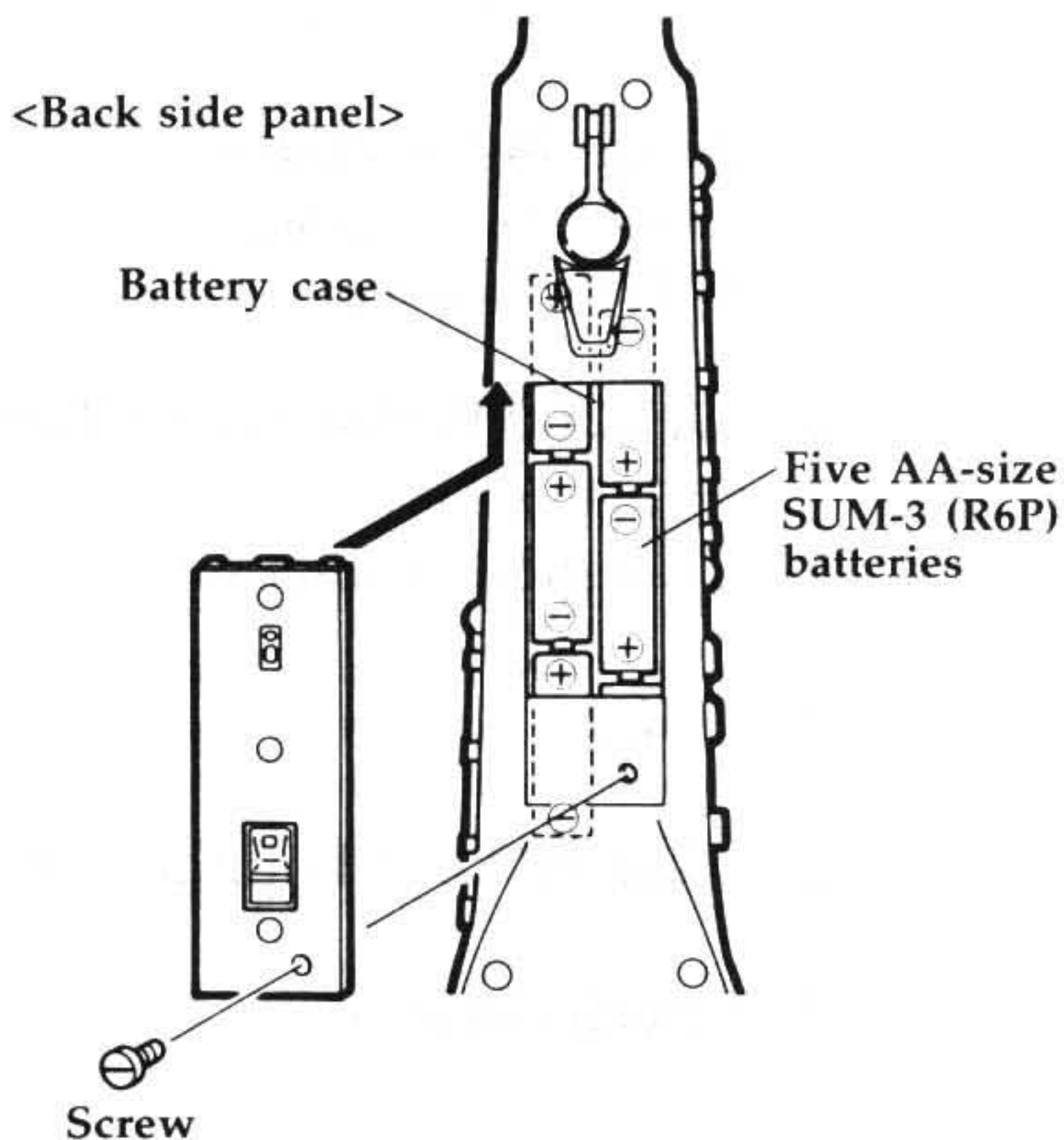
## Supplying Power to Your DH-200

For total portability, the DH-200 is designed so that you can power it by using 5 AA-size dry cell batteries, or by using standard household current through an optional AD-1 AC adaptor. You can also make use of car battery power by using CASIO's optional CA-1 car adaptor.

### Inserting and Replacing Batteries

Before inserting or replacing batteries, make sure that the DH-200 is turned OFF. Remove the battery compartment cover by removing the screw holding it in place and insert batteries, taking care the polarity (+/-) is correct. When replacing batteries, be sure to replace all five to ensure long battery life.

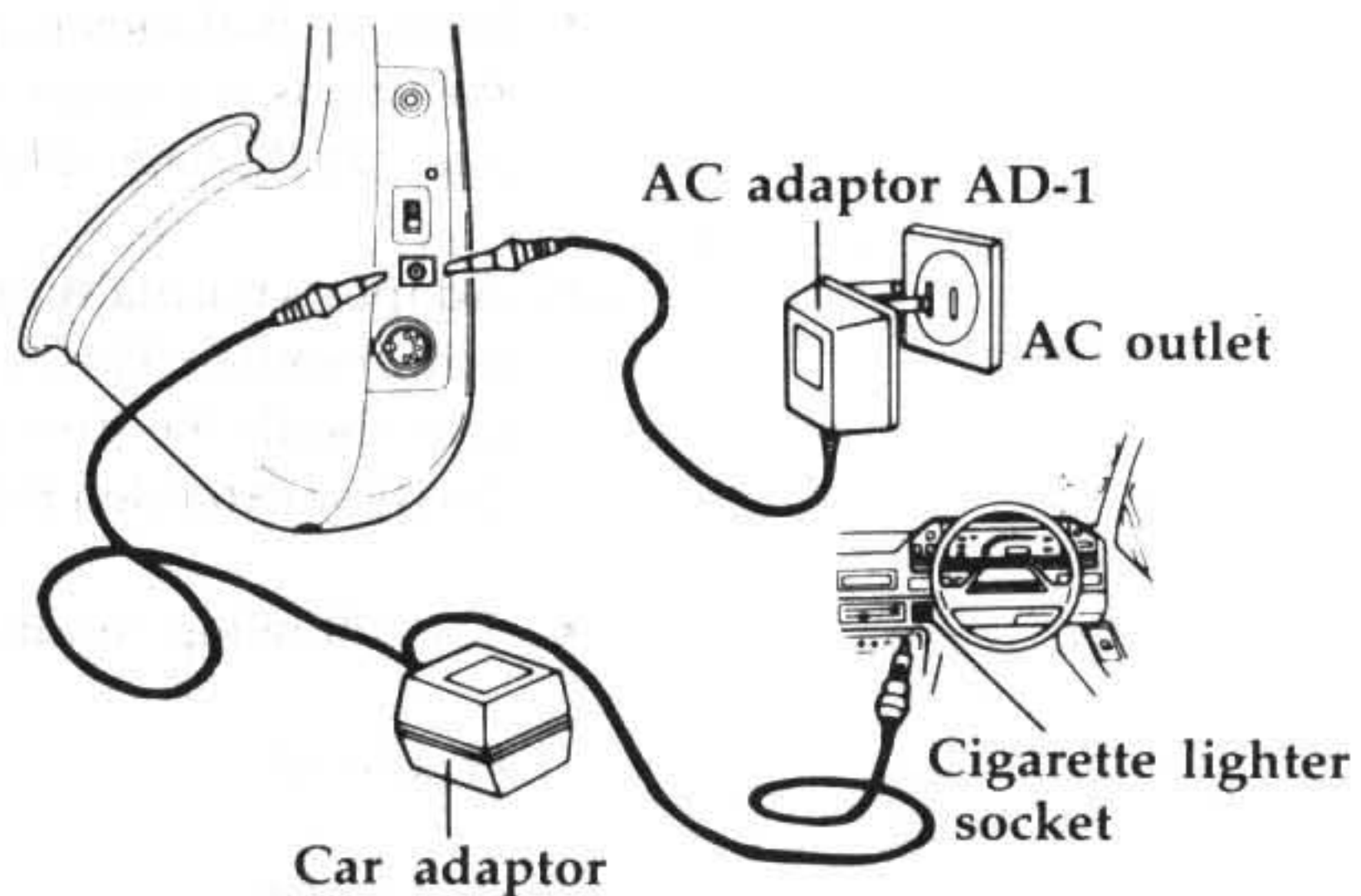
- *Battery life of high-performance AA dry cells is approximately 6 hours. Weakened batteries will cause the power indicator to lose its brightness and result in lower volume, poor tonal quality and eventually malfunction. If such symptoms occur, replace all five batteries with new ones as soon as possible.*



## Connecting an AC Adaptor

By connecting an optional AD-1 AC adaptor, you can power the DH-200 with standard household current. Be sure to use only a genuine Casio AD-1 adaptor with the same voltage rating as your local power supply, to prevent malfunction or damage to the DH-200.

<DH-200 terminals>



## Connecting a Car Adaptor

By connecting an optional CA-1 car adaptor to a car cigarette lighter, you can power the DH-200 with auto battery current. Be sure to use only a genuine Casio CA-1 adaptor.

## Important

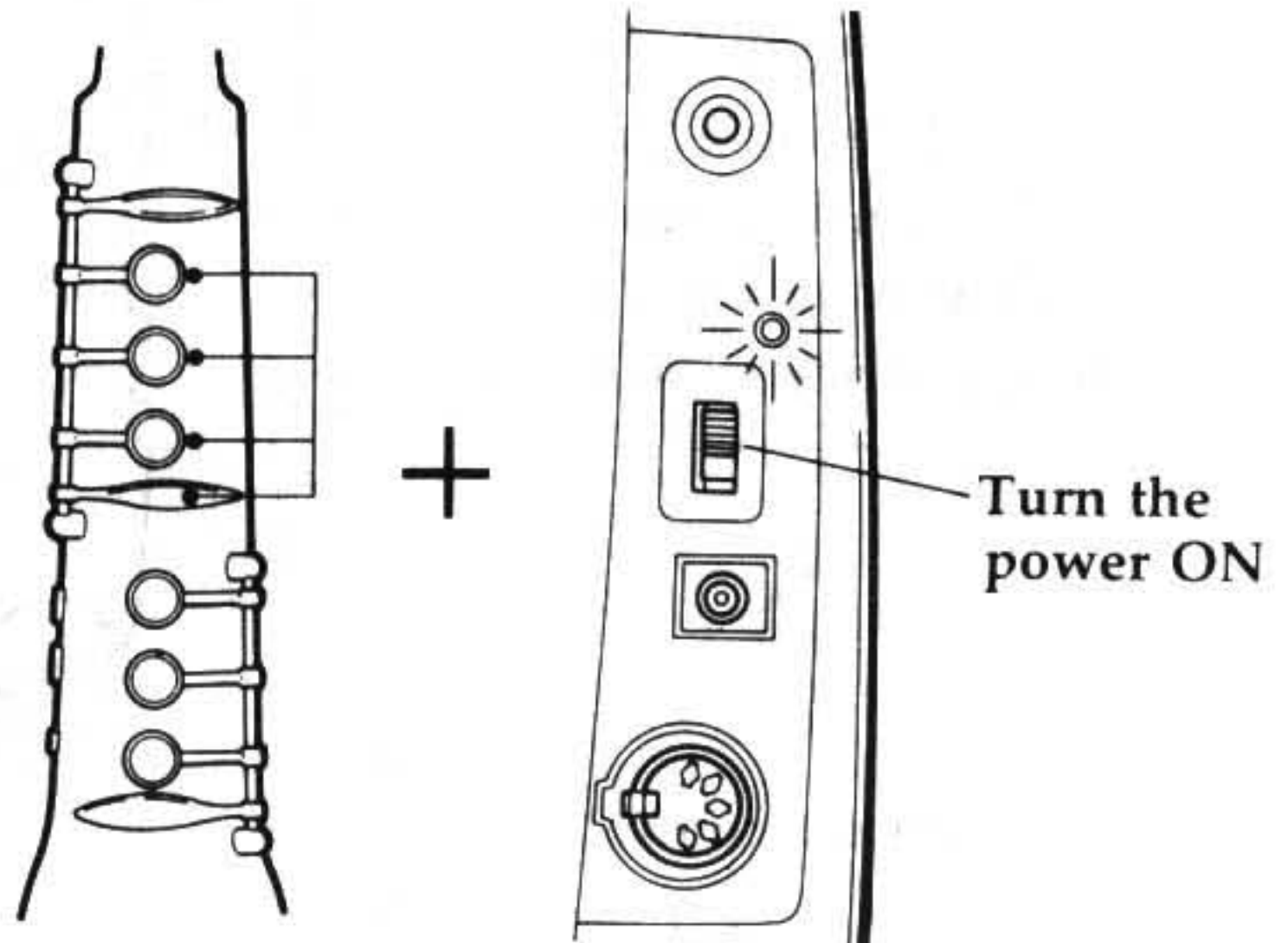
- Always make sure that the DH-200 is turned OFF before connecting or disconnecting adaptors.
- Remove batteries from the battery compartment when the unit is not in use for extended periods. Battery leakage can damage internal components.
- Adaptors normally become warm when connected to the power source. This is not cause for worry, however adaptors should be disconnected whenever the unit is not used for extended periods.
- The following conditions can cause batteries to burst:
  - ✗ Use of other than genuine CASIO adaptors.
  - ✗ Loading batteries with polarities reversed.
  - ✗ Use of batteries of different types.
  - ✗ Mixing old and new batteries.
  - ✗ Attempting to recharge non-rechargeable batteries.
  - ✗ Exposing batteries to extremely high temperatures.

## Auto Power OFF Function

To preserve power, the DH-200 will shut OFF automatically approximately 6 minutes after the last operation of the unit. Normal operation can be restored by first turning the power switch OFF and then ON again.

You can cancel this function by holding down the four keys shown below and turning power ON. The unit will then remain ON until you turn it OFF.

- *Note that if you press any other key along with the four shown at right, Auto Power OFF function will not be cancelled.*

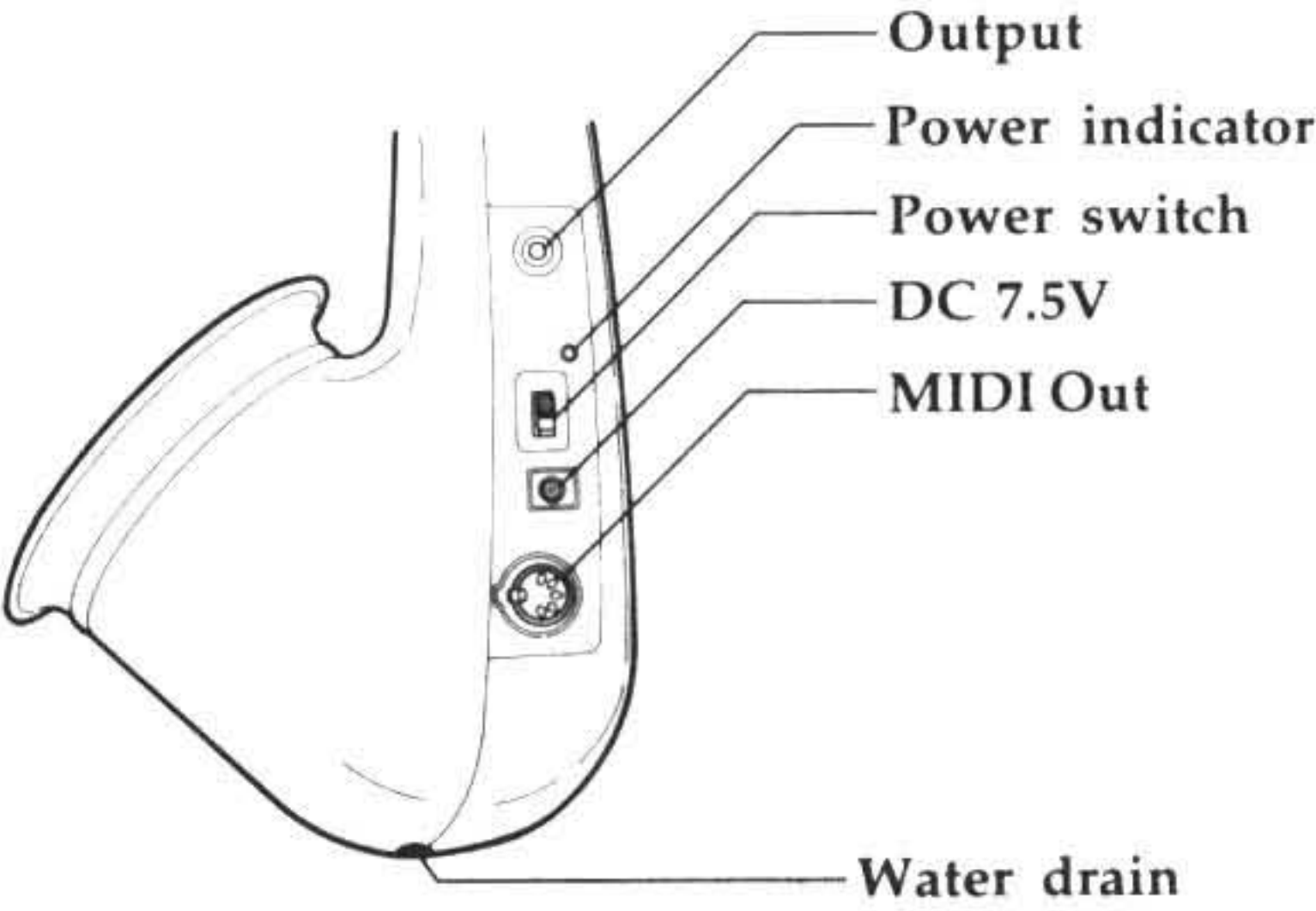
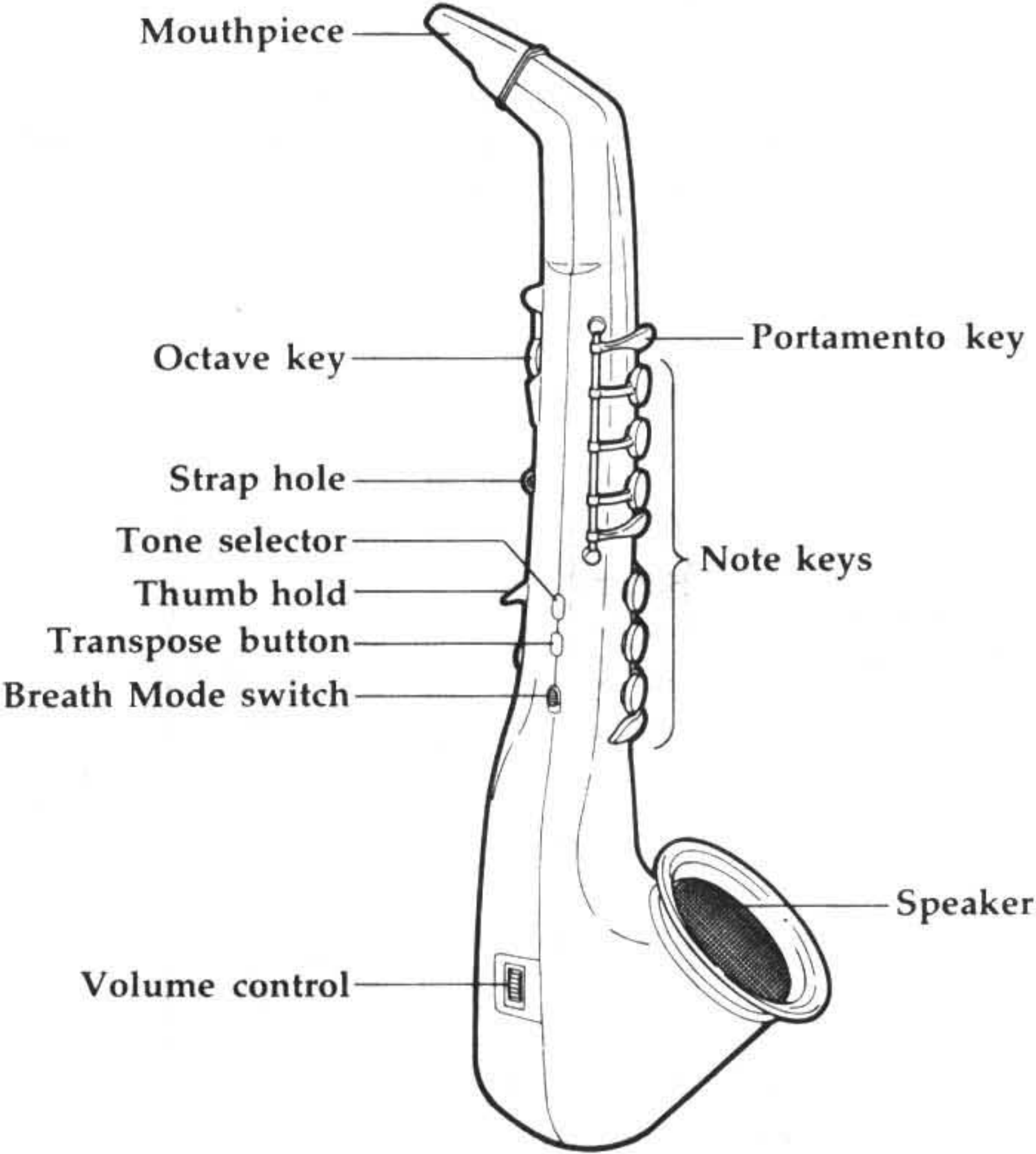


**Hold down the four  
keys simultaneously**

**Turn the  
power ON**



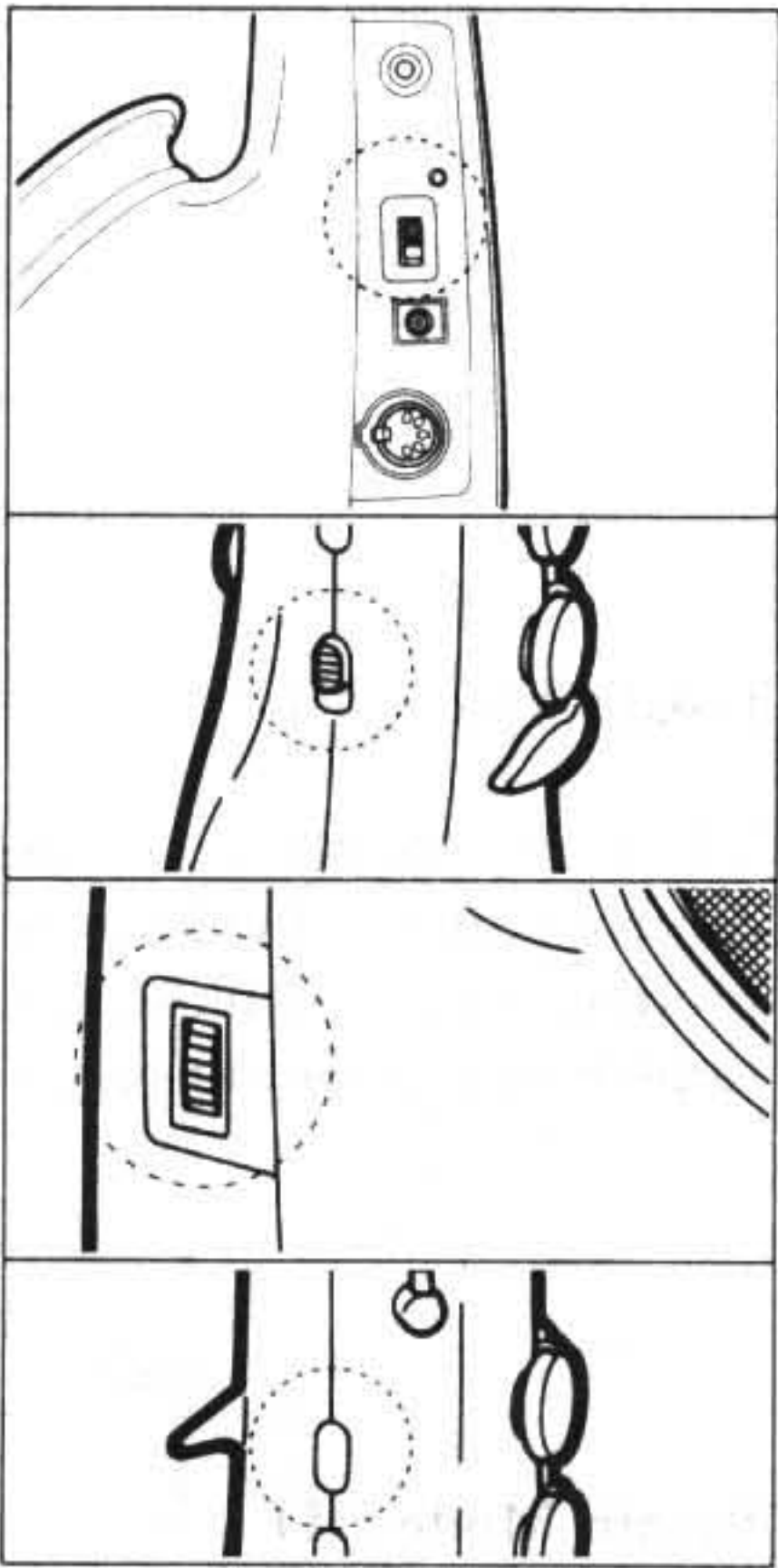
# General Guide





# The Basics: How to Make Music on the DH-200

1. Supply power to the DH-200.
2. Turn the DH-200 power switch ON.  
*An indicator above the switch lights.*
3. Select the "Breath Mode" you want to use.
  - To play the horn by actually blowing through the mouthpiece, set the Breath Mode switch to the ON position.
  - To play the horn without blowing, set the Breath Mode switch to the OFF position. (See page 8.)
4. Adjust to an appropriate volume level with the volume control.
5. Select a preset tone.  
*When DH-200 power is turned ON, the SAXOPHONE tone is selected automatically. To choose other tones, simply press the Tone Selector (see page 9).*
6. Play the DH-200 using either standard recorder fingering or Casio's original finger pattern (see page 11).



## Initialized Settings

When DH-200 power is turned ON, it is set up to operate a certain way. The settings that are selected automatically are known as *initialized* settings. These respective settings are shown in the chart below.

### Initialized Settings

TONE .....	Saxophone
TRANSPOSE .....	C4
FINGERING PATTERN .....	Recorder
AUTO POWER OFF FUNCTION .....	On

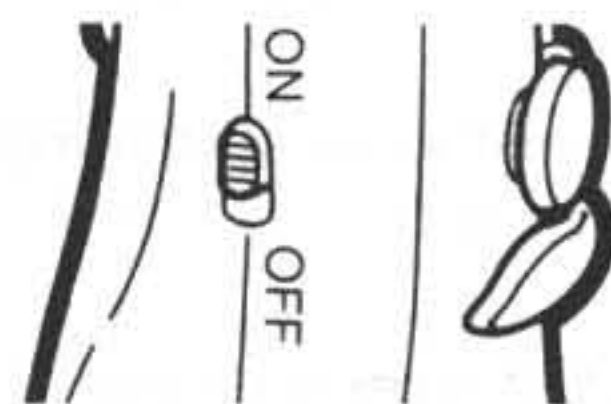
# DH-200

## Breath Modes

Unlike a conventional wind instrument, the DH-200 lets you choose whether or not you want to “blow” to produce sound.

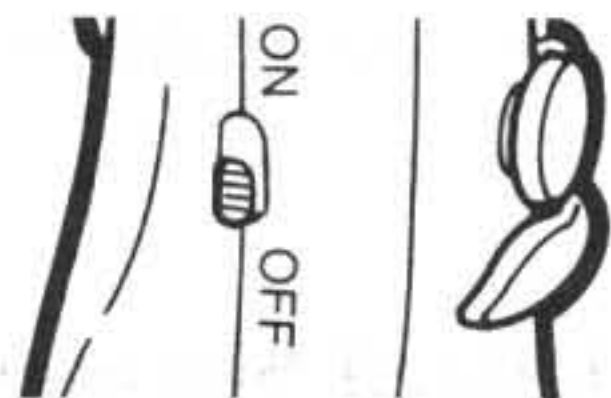
### Breath Mode ON

When the Breath Mode switch located on the right-side control panel of the horn is turned ON, no sound can be produced without blowing through the mouthpiece in the same way you would play a conventional horn.



### Breath Mode OFF

When the Breath Mode switch located on the right-side control panel of the horn is turned OFF, sound can be produced by simply fingering the keys in the same way you would a conventional horn. There is no need to blow through the mouthpiece in this mode. This mode can be extremely useful, especially when using the DH-200 to practice fingering patterns.



- *Note that when the breath mode is OFF, changes in dynamics cannot be made using the mouthpiece.*
- *When standard recorder fingering is selected and the Breath Mode switch is set to the ON position, note keys must be pressed to produce notes (see the Fingering Chart accompanying this manual).*

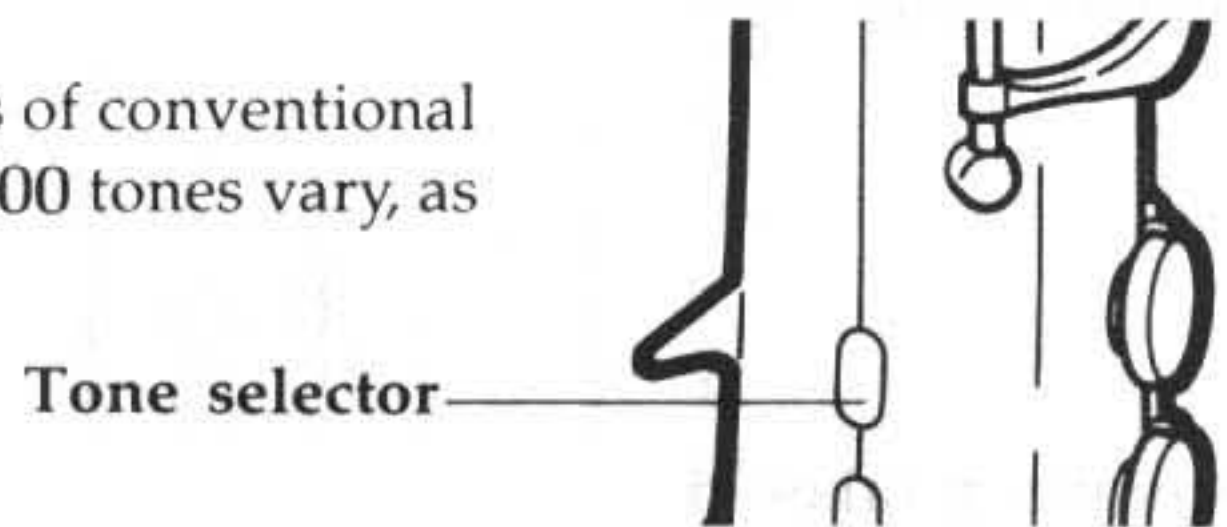
## Preset Tones

The DH-200 features 6 preset horn tones which can be selected by pressing the Tone Selector. Each of these horn sounds features a preset delayed vibrato effect.

When power is turned ON, the SAXOPHONE tone is selected. Succeeding sounds can be selected by pressing the Tone Selector; press once to select the TRUMPET tone, twice to select SYNTH-REED, etc.

## DH-200 Tone Ranges

In order to faithfully reproduce the sounds of conventional wind instruments, the pitch range of DH-200 tones vary, as shown in the chart below.



## <TONE RANGE>

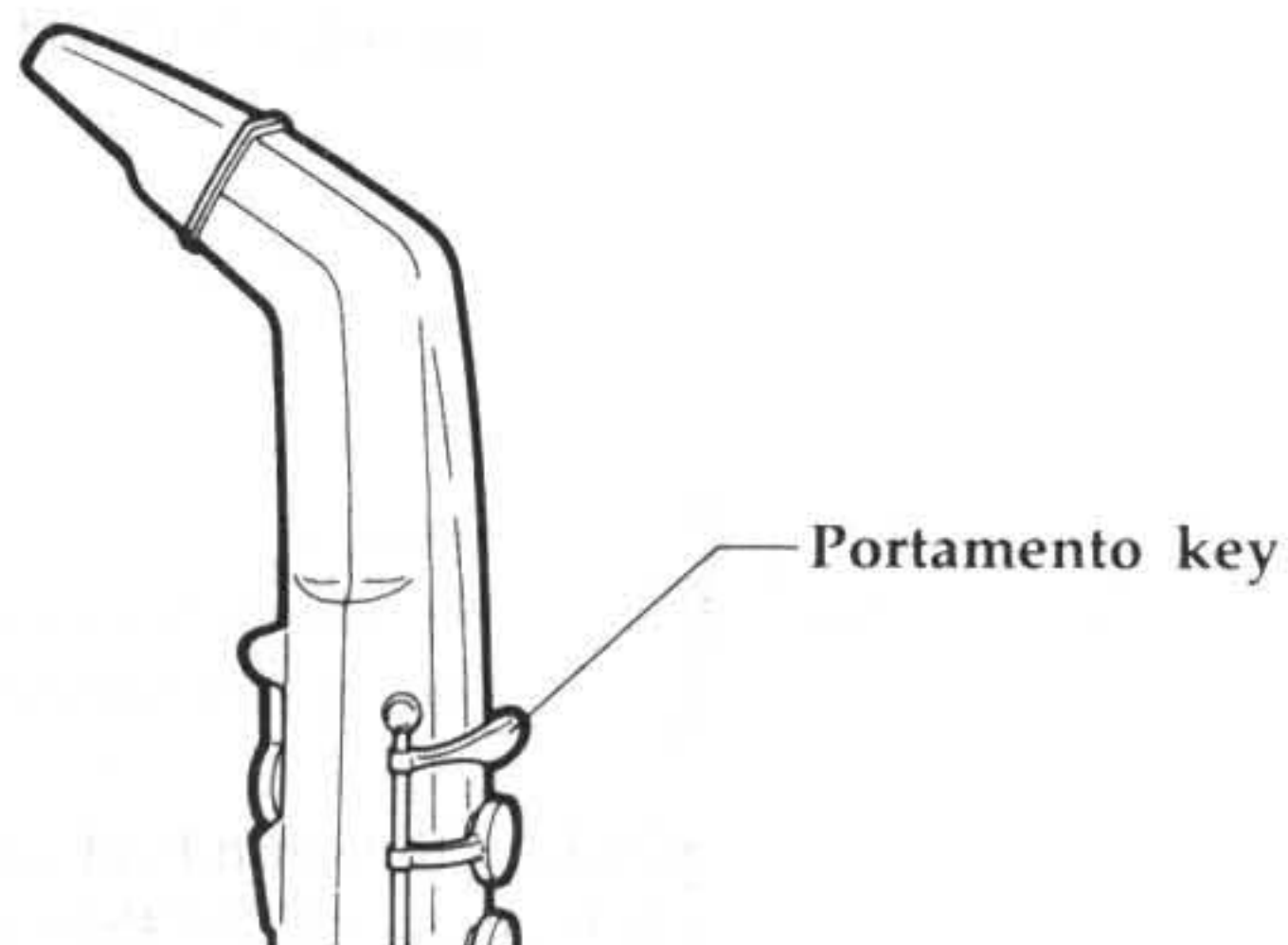
The image displays a musical score for the song "The Sound of Silence" by Simon & Garfunkel. The score is written for a piano and includes a list of instruments on the left: Saxophone, Trumpet, Synth-Reed, Oboe, Clarinet, and Flute. Each instrument is assigned a specific part of the melody, indicated by brackets. The score is written in treble and bass clefs. The key signature is one sharp (F#), and the time signature is 4/4. The tempo is marked "Moderato". The score includes a section labeled "A<sub>4</sub> = 442Hz" and a section labeled "8va.". The score is divided into measures by vertical dashed lines. The instruments are assigned as follows: Saxophone (Recorder, Casio original), Trumpet (Recorder, Casio original), Synth-Reed (Recorder, Casio original), Oboe (Recorder, Casio original), Clarinet (Recorder, Casio original), and Flute (Recorder, Casio original). The score is a transcription of the original recording, showing the specific parts played by each instrument.



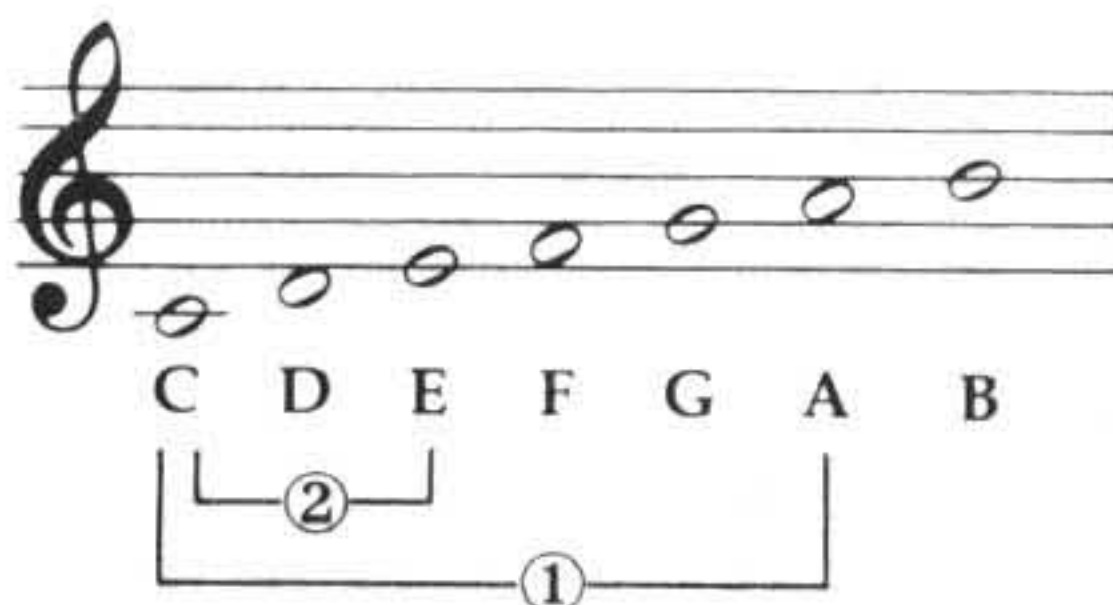
# Portamento Effect

The DH-200's built-in portamento effect adds realism to your sound by creating a "gliding" effect between notes, for natural, "horn-like" transition.

To add portamento, simply hold down the Portamento key at the upper end of the horn. Naturally, portamento glide time will depend on note intervals.



For example, it takes longer to glide from C up to A (FIG-1) than to glide from C up to E (FIG-2), as the interval between C and A is greater.





## Fingering Patterns

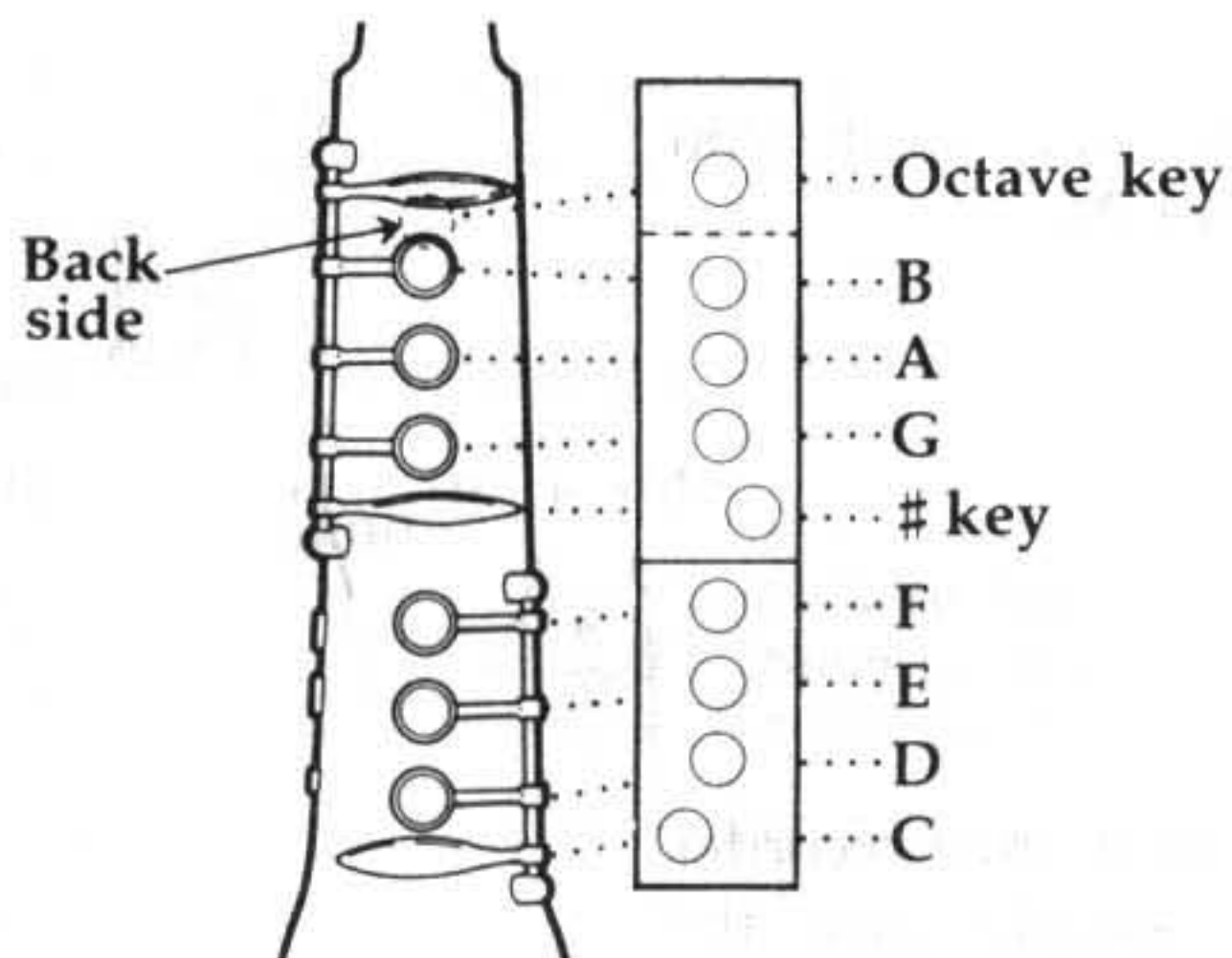
Unlike a conventional wind instrument, the DH-200 lets you choose between two different fingering patterns. The standard pattern is the same as that used to play a recorder, while the second is a Casio original.

For details on how to produce notes using these patterns, refer to the Fingering Chart which accompanies this manual.

### Recorder Fingering

This system is based on standard recorder fingering, however a sharp (#) key is provided to raise natural tones chromatically (see figure to right).

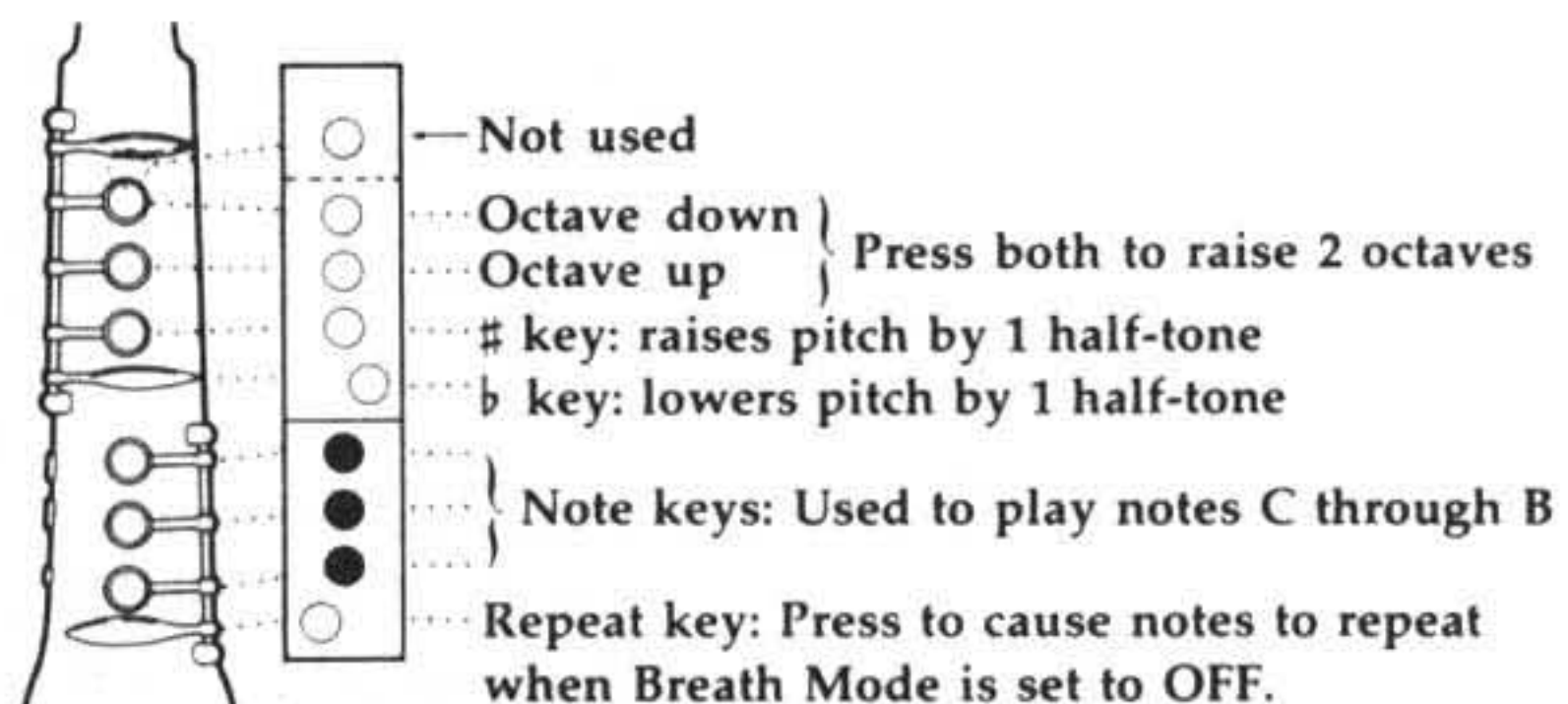
To raise the octave, simply press the octave key on the back side of the horn. The range of this fingering system is 2.5 octaves and is illustrated in detail in the Fingering Chart which accompanies this manual.



### Casio Fingering

This original fingering system is organized so that even total wind-instrument beginners can master the DH-200 with ease. An entire scale - from C to B - can be played by using only 3 keys. With the use of other keys, you can also raise or lower octaves and add sharps and flats.

The range of this fingering system is 4 octaves, as shown in the Fingering Chart which accompanies this manual.

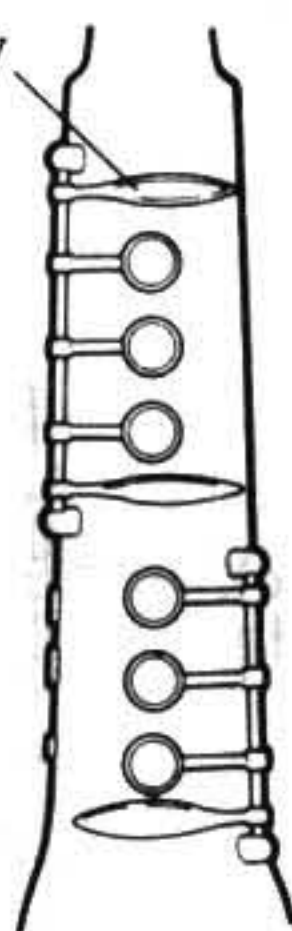


## To change fingering

When the DH-200 is turned ON, normal fingering is automatically selected.

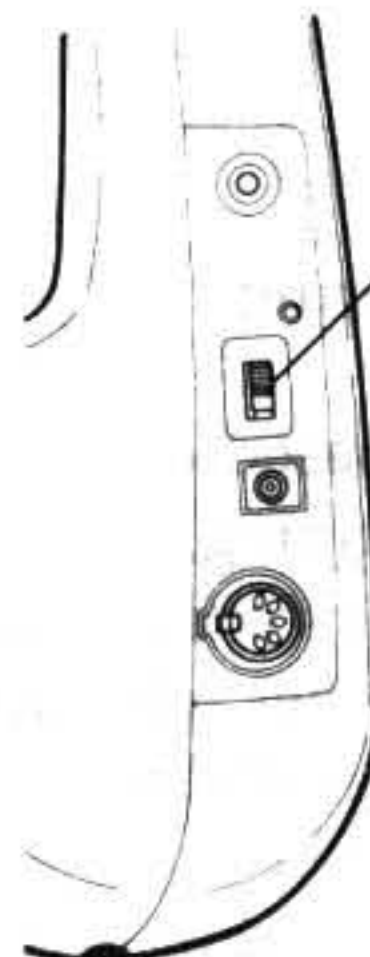
- To select Casio original fingering, hold down the PORTAMENTO key when you turn power ON.

Portamento key



+

Power switch



- To return to normal recorder fingering, simply turn the power OFF and then ON again, without holding down the PORTAMENTO key.

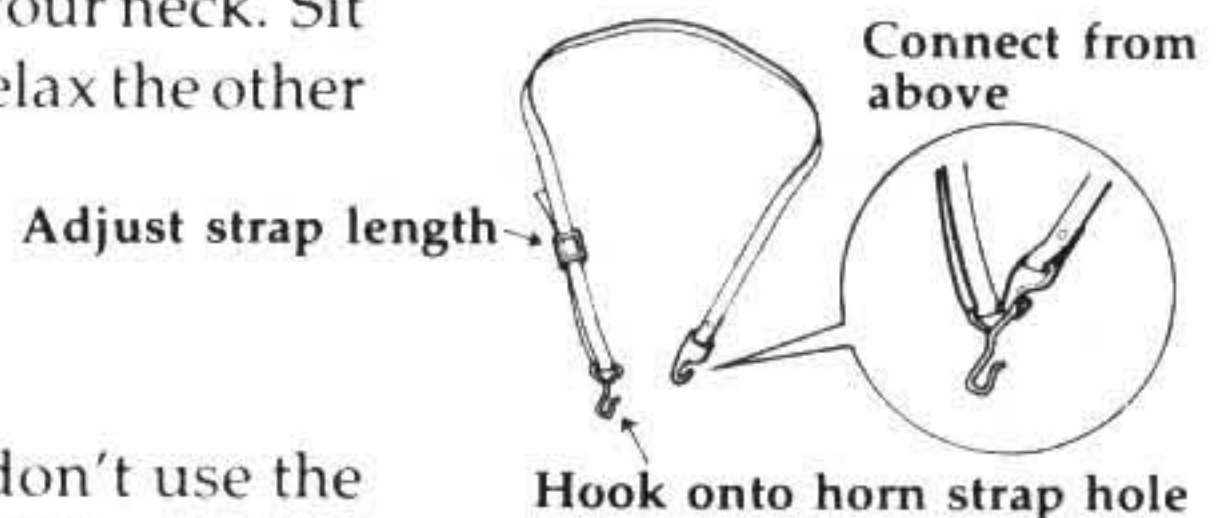
# DH-200

## Performance Tips

Your DH-200 is a wind instrument with built-in digital sounds. By using correct playing techniques, you can play true horn sounds that rival acoustic wind instruments for beauty and clarity. Be sure to study and observe the following tips on performance to improve your playing technique.

### 1. Correct Posture

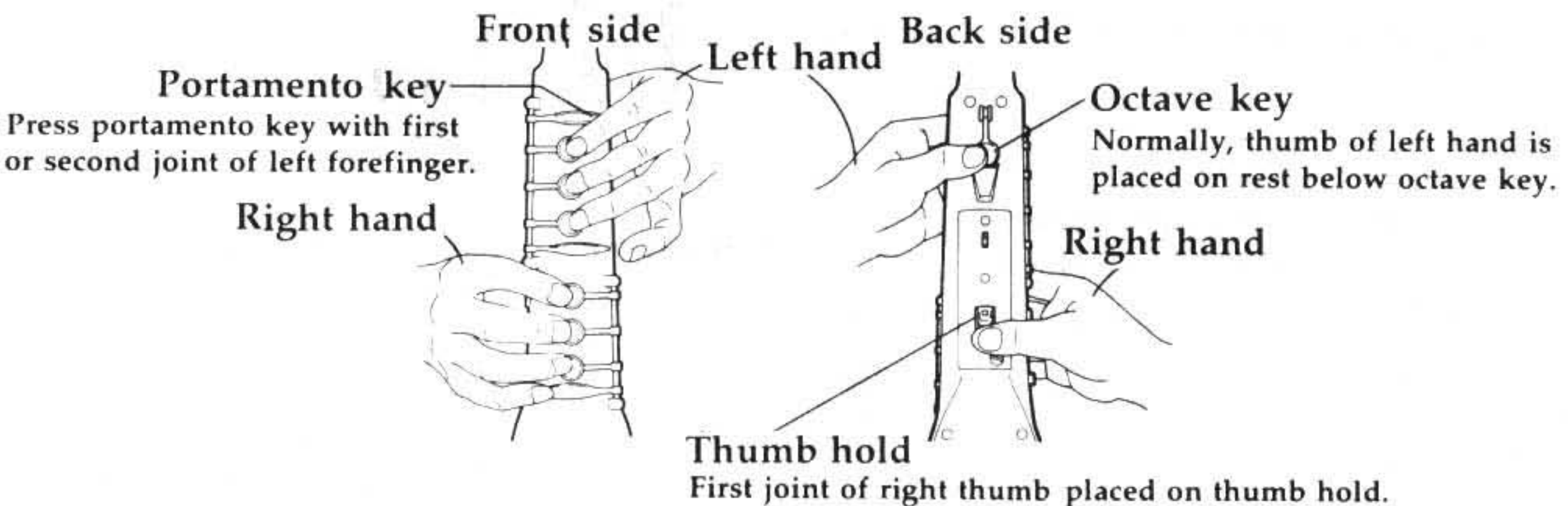
Adjust the length of the strap and put it around your neck. Sit or stand with your back straight, but be sure to relax the other parts of your body.



### 2. Correct Finger Positioning

You'll find it hard to play the DH-200 if you don't use the correct finger positions. Bend your fingers slightly, and be sure to keep them relaxed so they can move freely.

#### <Correct finger positioning>



### 3. Vary Air Flow Strength

The characteristics of DH-200 sound will vary with the strength with which you blow on the mouthpiece (when breath mode switch is ON). Blow relatively softly for normal play, blowing harder to add emphasis.

### 4. Staccato Play Using Your Tongue

You can sharpen your sound by adding staccato sounds with your tongue (when the breath mode switch is ON). Try placing your tongue at the roof of your mouth against your teeth and imagine you are saying "to" or "do" as you play.

For a quick staccato effect try forming the sounds "to" and "coo" (as in "cool") in rapid succession, as shown to the right. This is commonly known as "double-tonguing."





# Transpose Function

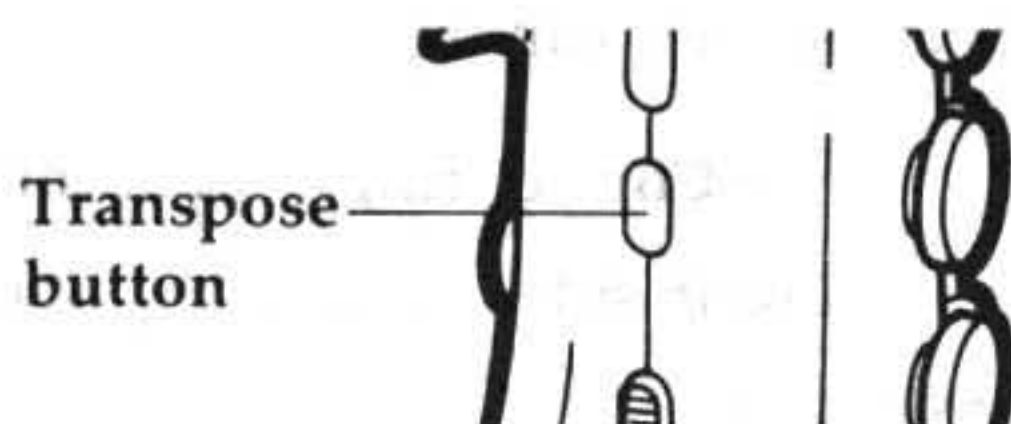
The DH-200 features a "transpose" function that lets you raise or lower the key of performance chromatically.

When DH-200 power is turned ON, the performance key is set with "C" equal to center C on a piano (C4).

Each time the transpose button is pressed the key is raised in half-step increments up to C5.

If the button is pressed once again after it reaches C5, the key reverts to C3. Subsequently pressing the Transpose button will once again raise the key in half-step increments.

- *If you have transposed the DH-200 into another key, lost track of what key you are in and want to get back to "home base" (C4) quickly, simply turn the DH-200 off and then back on again to initialize.*



<Recorder>

<Casio original>

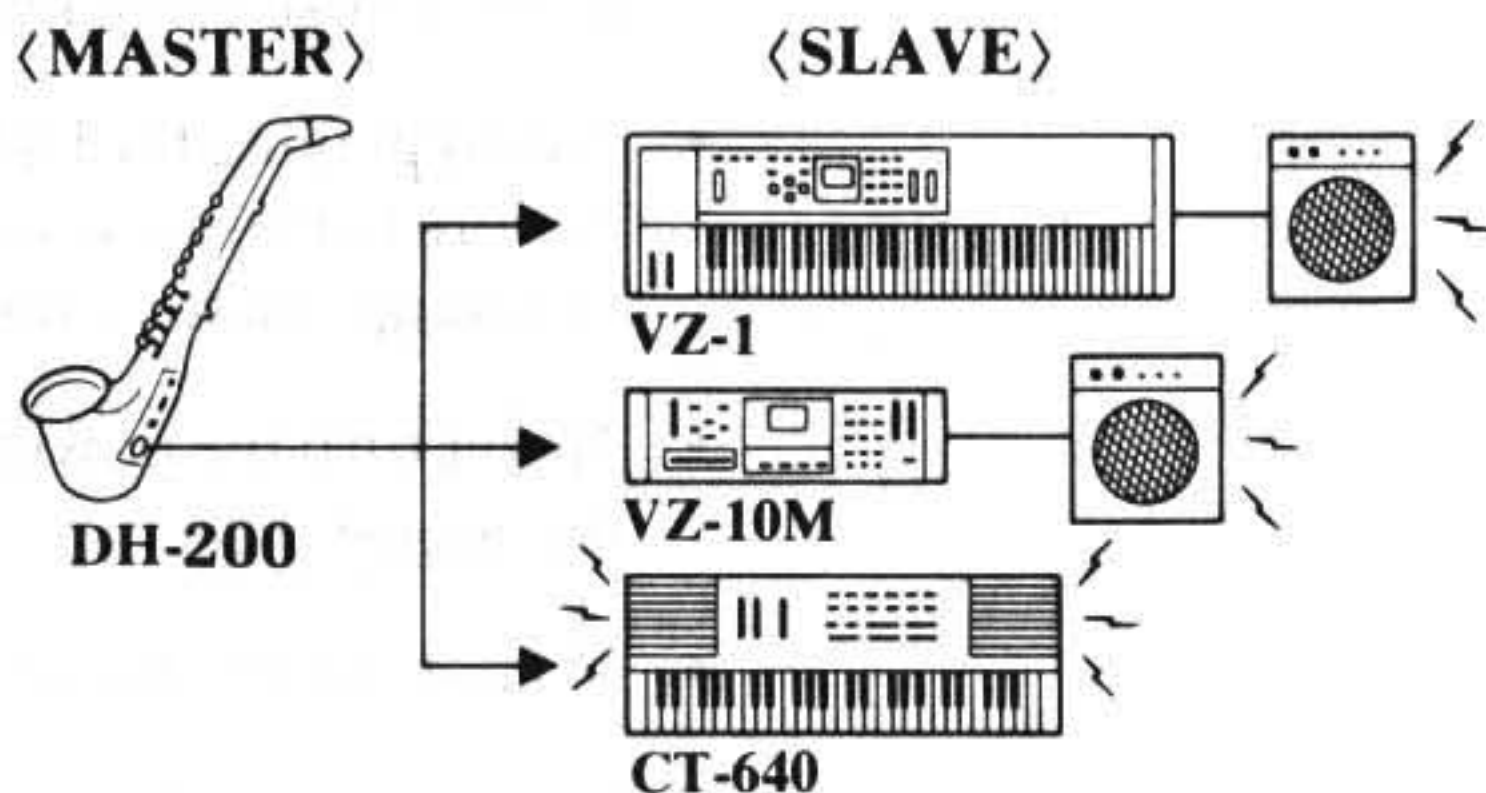
Key...C<sub>3</sub> ~ C<sub>4</sub> ~ (E<sub>4</sub>)C<sub>5</sub>

C<sub>3</sub> ~ C<sub>4</sub> ~ C<sub>5</sub>

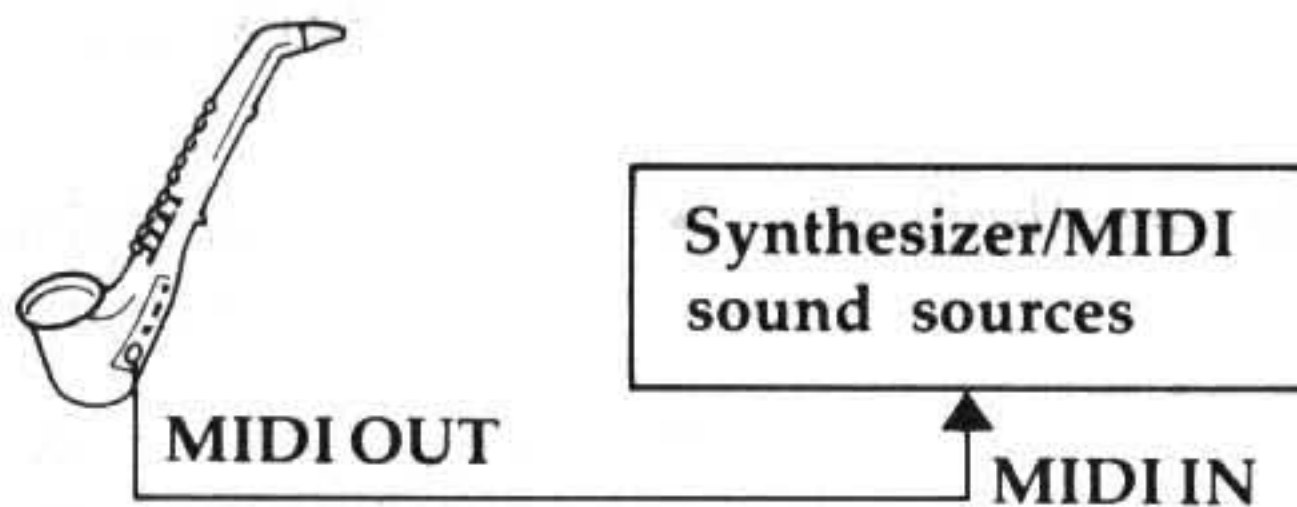


# MIDI

The DH-200 is equipped with MIDI - the Musical Instrument Digital Interface. This industry-standard interface lets you connect the DH-200 with other MIDI-equipped electronic instruments and devices, allowing remote control.



More specifically, the DH-200 features a MIDI OUT terminal, which lets you use the DH-200 to control other sound sources, such as synthesizers.



## Notes on MIDI Performance

The DH-200 outputs basic MIDI messages, as listed in the MIDI implementation chart which accompanies this manual.

- MIDI note numbers shift up or down in accordance with setting of key transpose function.

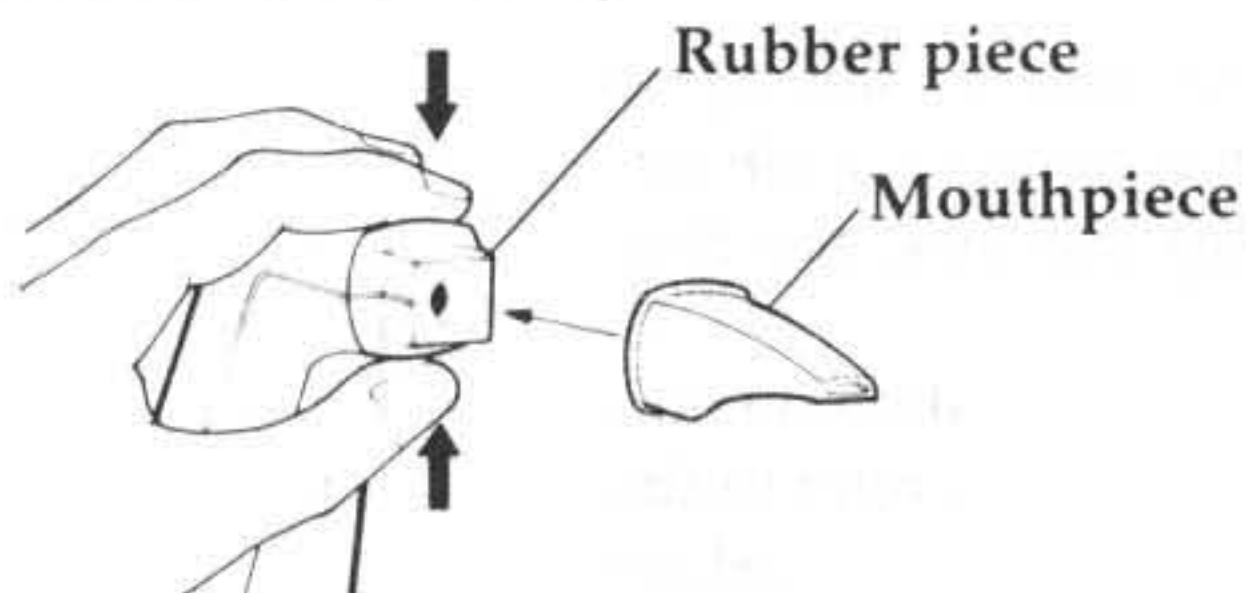
For further information on output MIDI messages, refer to the MIDI implementation chart accompanying this manual.

## Care of Your Digital Horn

- Avoid exposing the DH-200 to extremes of temperature, excessive humidity and direct sunlight.
- Your DH-200 features precision electronic components. Any modification of, or tampering with internal parts can be the cause of malfunctions or damage.
- Avoid playing the DH-200 immediately after eating. First be sure to rinse out your mouth to prevent the possibility of foreign matter entering the horn.
- Never turn the power switch ON while blowing through the mouthpiece.
- Do not use excessive force on the keys.
- Do not use alcohol, thinner or similar chemicals for cleaning.
- Be sure that the screws holding the battery case cover are secured tight before connecting the strap.
- Never use excessive force on the strap.

### To clean the mouthpiece

- When the mouthpiece becomes dirty, remove it and soak it in a neutral cleaner.
- The rubber piece which holds the mouthpiece in place cannot be removed, but you can clean it with a cotton swab. Do not insert the swab too far into the horn. Doing so may damage internal components.
- Before replacing the mouthpiece, be sure to wipe it thoroughly dry. When replacing it, take care not to remove the rubber piece which holds it in place. Make sure that the mouthpiece is firmly in place. Gaps may cause the horn to sound abnormally.



#### *Attaching the Mouthpiece*

*Making sure that the white rubber piece is straight, attach the mouthpiece by pressing it at the top first, and then at the bottom.*

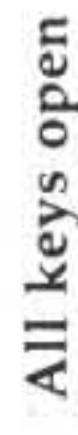
# Specifications

Preset tones	Saxophone, Trumpet, Synth-Reed, Oboe, Clarinet, Flute
Polyphony	Monophonic
Effects	Delayed vibrato (preset), Portamento
Fingering	Recorder fingering (2.5-octave range) Casio original fingering (4-octave range)
Transpose	$\pm 1$ octave, chromatic
Breath modes	ON / OFF
MIDI OUT	Note ON/OFF, Program change, Basic channel (1), Velocity (1-127), After touch
Tuning	A4 = 442Hz
Terminals	MIDI out, DC7.5V, Output
Power	AC: 100, 117, 220 or 240V (+/-10V), 50/60HZ, with optional Casio AD-1 AC adaptor DC: 5 AA-size (SUM-3/R6P) manganese dry batteries Battery life: approx. 6 hrs. Car battery: Powered by car battery using optional Casio CA-1 car adaptor <i>(Not available in United States)</i>
Output	Output impedance = 70 $\Omega$ Output voltage = 0.16V (RMS) max.
Power consumption	2.7W
Built-in speaker	9.0 $\times$ 5.0cm (oval) $\times$ 1 Output = 2.0W
Auto Power OFF	After 6 minutes, ON/OFF
Dimensions	100(W) $\times$ 517(H) $\times$ 155(D)mm (4''(W) $\times$ 20 3/8''(H) $\times$ 6 1/8''(D))
Weight	0.8 kg (1.8 lbs) including batteries
Standard accessories	Strap, mouthpiece $\times$ 2, batteries

\* Design and specifications are subject to change without notice



Pitch of flute sound is 1 octave higher

$$A_4 = 442 \text{ Hz}$$


Pitch of flute sound is 1 octave higher

Pitch of saxophone sound is 1 octave lower



Unnatural fingering marked in parentheses



[illegible]

○ = Released  
● = Depressed

**Although there are many possible fingering variations, this chart shows only the standard fingering patterns.**

[illegible]



# CASIO DIGITAL HORN

Model **DH-200**

## MIDI Implementation Chart

Version: 1.1

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 ×		
Mode	Default Messages Altered	Mode 3 × *****		
Note Number:	True voice	36-96 *****		Recorder fingering: 48-96
Velocity	Note ON Note OFF	○ 9n v = 1-127 × 9n v = 0		
After Touch	Key's Ch's	× ○		
Pitch Bender		×		
Control Change	65	○		PORTAMENTO ON/OFF
Prog Change:	True #	○ 0-5 *****		
System Exclusive		×		
System Common	: Song Pos : Song Sel : Tune	× × ×		
System Real Time	: Clock : Commands	× ×		
Aux Mes-sages	: Local ON/OFF : All notes OFF : Active Sense : Reset	× × × ×		
Remarks				

Mode 1 : OMNI ON, POLY  
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO  
Mode 4 : OMNI OFF, MONO

○ : Yes  
× : No