This recycle mark indicates that the packaging conforms to the environmental protection legislation in Germany.

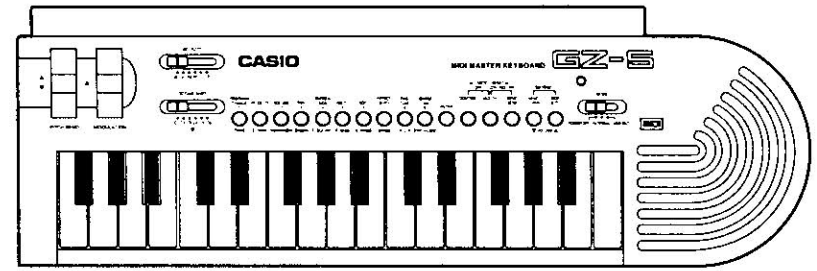
CASIO

CASIO COMPUTER CO.,LTD.
6-1, Nishi-Shinjuku 2-chome
Shinjuku-ku, Tokyo 163-02, Japan

MA9504-A Printed in Thailand
GZ5E-1
4144-920-0-02

MIDI MASTER KEYBOARD GZ-5

OPERATION MANUAL



GZ5E-1

CASIO

GZ-5
MIDI MASTER KEYBOARD

■Introduction

Congratulations on your selection of the CASIO GZ-5 MIDI Keyboard. In order to get the most out of the GZ-5, be sure to read this manual carefully, and keep it in a safe place for future reference.

Important!

- Be sure to use the AC adaptor for power if you plan to use the GZ-5 for long periods.
- Whenever you notice any of the following symptoms, it means that battery power is low, and that you should replace batteries as soon as possible.
  - Dim power indicator
  - Low sound output
  - Distorted sound output
  - Occasional loss of sound output during high sound volume output
  - Sudden power outage during high sound volume output
  - Sound output even though keys are released
  - Sounding of a tone different from the one you selected
  - Wrong MIDI data output in the MIDI OUT Mode

NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

■ Cautions Concerning Safety

Symbols

Various symbols are used in this operating manual and on the product itself to ensure that the product is used safely and correctly, and to prevent injury to the user and other persons as well as damage to property. Those symbols along with their meanings are shown below.

WARNING
This indication stipulates matters that have the risk of causing death or serious injury if the product is operated incorrectly while ignoring this indication.

CAUTION
This indication stipulates matters that have the risk of causing injury as well as matters for which there is the likelihood of occurrence of physical damage only if the product is operated incorrectly while ignoring this indication.

Symbol Examples

This triangle symbol (△) means that the user should be careful. (The example at left indicates electrical shock caution.)

This circle with a line through it (⃠) means that the indicated action must not be performed. Indications within or nearby this symbol are specifically prohibited. (The example at left indicates that disassembly is prohibited.)

The black dot (●) means that the indicated action must be performed. Indications within this symbol are actions that are specifically instructed to be performed. (The example at left indicates that the power plug must be unplugged from the electrical socket.)

⚠ WARNING

Please use caution regarding the handling of the AC adaptor.

- Do not use a voltage other than the indicated power supply voltage. Use of a voltage other than that indicated may cause fire or electrical shock.
- If the power cord should become damaged (exposed wires, disconnection, etc.), please purchase a new AC adaptor. Use of a damaged power cord may cause fire or electrical shock.
- Do not cut or damage the power cord. Also do not place heavy objects on top of it or subject it to excessive heat. Damage to the power cord may cause fire or electrical shock.
- Do not attempt to shape the power cord or subject it to excessive bending, twisting or pulling. This may cause fire or electrical shock.
- Please use the adaptor specified for this instrument. Use of an adaptor other than that which is specified may cause fire, electrical shock or malfunction.

Electrical Shock Caution

Do not place this instrument, its accessories in unstable locations.

- Do not place in unstable locations such as inclined places. This may cause the instrument to drop, tip over or cause injury to the user.

Do not place containers on the instrument containing water or other liquids.

- Do not place the following objects on the instrument. Placing such objects on the instrument may cause fire or electrical shock if they spill and enter the inside of the instrument.
  - Containers filled with water or other liquids (including vases, potted plants, cups, cosmetics and medicines)
  - Small metal objects (including hairpins, sewing needles and coins)
  - Flammable objects

  In the event a foreign object should happen to enter the inside of the instrument, please take the following actions:
  1. Turn off the power switch of the instrument.
  2. Unplug the AC adaptor from the electrical outlet (remove the batteries if the instrument contains batteries).
  3. Contact your dealer.


Electrical Shock Caution


Unplug Cord from Outlet

Do not disassemble or modify.

- Do not attempt to disassemble or modify the instrument, its accessories or separately sold products. This may cause fire, electrical shock or malfunction. Inspection, adjustment or repair of internal components should be requested to your dealer.


Disassembly Prohibited

Do not use if there is an abnormality or malfunction.

- Do not use the instrument if there appear to be abnormalities such as the presence of smoke or abnormal odor. Also do not use the instrument if there appear to be malfunctions such as the power not coming on or sound not being produced. Use under such conditions may cause fire or electrical shock. In such cases, take the following actions immediately. Never attempt to repair the instrument yourself as this is extremely dangerous.
  1. Turn off the power switch.
  2. Unplug the AC adaptor from the electrical outlet (remove the batteries if the instrument contains batteries).
  3. Request repairs to your dealer.


Electrical Shock Caution


Unplug Cord from Outlet

When the instrument has been dropped:

- In the case the instrument has been dropped or damaged, please take the following actions. Continued use may cause fire or electrical shock.
  1. Turn off the power switch of the instrument.
  2. Unplug the AC adaptor from the electrical outlet (remove the batteries if the instrument contains batteries).
  3. Contact your dealer.


Electrical Shock Caution


Unplug Cord from Outlet

Be careful of the bags around children.

- Do not put the bags of the instrument, its accessories and separately sold products over the head. Particular caution is required in homes having small children. This may cause suffocation.

⚠ CAUTION

AC Adaptor

- Do not place the power cord in close proximity to heaters or other heating appliances. This may cause the cord to melt leading to possible fire or electrical shock.
- When unplugging the AC adaptor from an electrical outlet, always make sure to pull on the adaptor itself and not the cord. Pulling excessively on the cord may cause it to be damaged or break leading to possible fire or electrical shock.
- Do not touch the AC adaptor with wet hands when it is plugged in. This may cause electrical shock.
- When not using the instrument for an extended period of time such as when traveling, always make sure to unplug the AC adaptor from the electrical outlet for safety reasons.
- After use turn off the power switch of the instrument and unplug the AC adaptor from the electrical outlet.


Electrical Shock Caution


Unplug Cord from Outlet

Batteries

- Improper battery use may cause the batteries to rupture and leak. This may cause injury, malfunction of the instrument or discoloration of furniture and other articles due to adherence of battery liquid. Please observe the following items:
  - Properly install the batteries so that the polarity (+,–) matches that indicated on the instrument.
  - Always make sure to remove the batteries from the instrument when not using for an extended period of time such as when traveling for safety reasons and to prevent leakage of battery liquid.
  - Always use the same type of batteries.
  - Do not combine new batteries with old batteries.
  - Do not dispose of batteries by incineration, short, disassemble or subject to excessive heating.
  - Relplace worn out batteries promptly.
  - Never attempt to recharge the batteries.

Transport

- When transporting the instrument, always make sure to unplug the AC adaptor from the electrical outlet and confirm that all other external connections have been disconnected. Only then should the instrument be transported. If the above is not done, the cord may be damaged leading to possible fire or electrical shock.


Unplug Cord from Outlet

Care

- When caring for the instrument, always make sure to first unplug the AC adaptor from the electrical outlet for safety reasons. Also remove the batteries if the instrument contains batteries.


Unplug Cord from Outlet

Installation Site

- Do not install the instrument in locations of high humidity or heavy accumulation of dust. This may cause fire or electrical shock.
- Do not install the instrument in locations subject to greasy fumes or steam such as in kitchens or near humidifiers. This may cause fire or electrical shock.


Electrical Shock Caution

Do not get onto the instrument.

- Do not crawl on top of the instrument. Particular caution is required in homes having small children. This may cause the instrument to tip over and break resulting in injury.

Do not place heavy objects on the instrument.

- Do not place heavy objects on the instrument. This may cause the instrument to tip over or break resulting in injury.

Volume

- In the case of using the instrument by itself or combining the instrument with headphones, amplifier or speakers, the volume level produced may cause hearing loss depending on the volume setting. Do not use for an excessive period of time at high volume levels. Please consult a specialist if hearing impairment or ringing of the ears is detected.

Please use authorized Casio products for accessories and separately sold products.

■ Care of your keyboard

Avoid heat, humidity or direct sunlight.
Do not overexpose the unit to direct sunlight, or place near an air conditioner, or in any extremely hot place.

Take care not to drop the unit and avoid strong impact.
Strong impact may cause malfunctions. When carrying or transporting the unit, protect the keyboard and switches with soft cloth or other material.

Never attempt to modify any parts of the unit.
The unit is a precision instrument, made of electronic parts. Any modification of, or tampering with inner parts may cause malfunction.

Do not use lacquer, thinner or similar chemicals for cleaning.
Clean the keyboard with a soft cloth dampened in a weak solution of water and a neutral detergent. (Soak the cloth in the solution and squeeze until it is almost dry.)

■Main Features

■ Compact and lightweight design

A compact design lets you locate the GZ-5 just about anywhere. Place it right on your desk next to your computer or take it along with you wherever you go. A two-way power supply lets you select between either an AC adaptor or batteries.

■ Packed with versatile MIDI capabilities

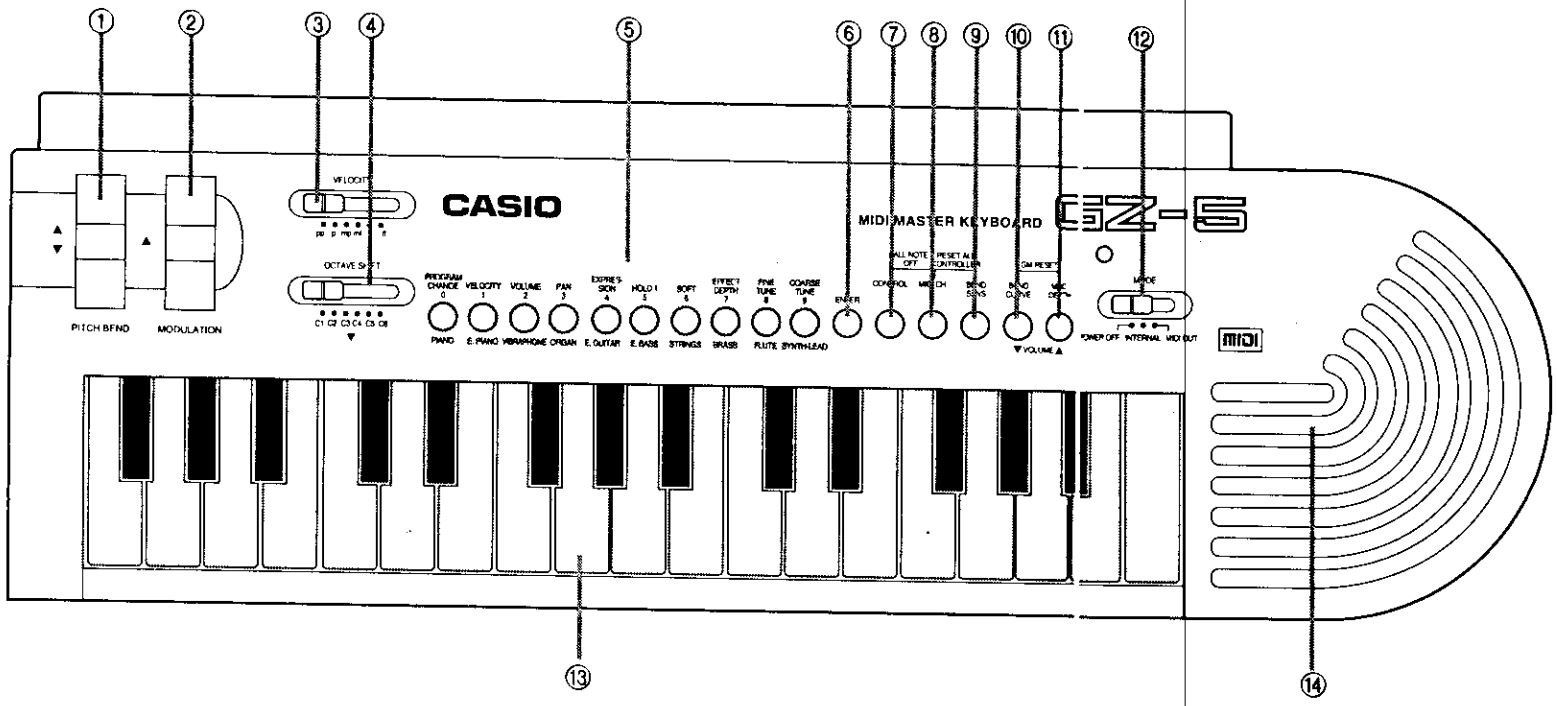
A wealth of features like octave shift, velocity, and much more give you versatile MIDI input capabilities in a compact configuration.

■ 10 built-in tones

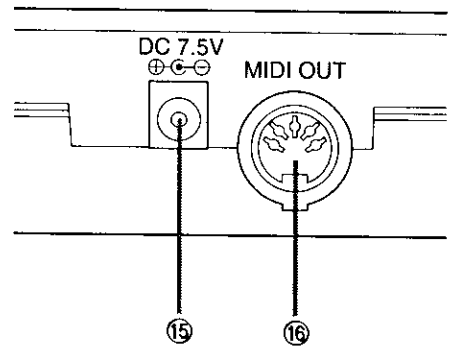
A selection of 10 exciting built-in tones (4-note polyphonic) provide the GZ-5 with plenty of stand-alone playability.

Contents

Control Locations



< Rear panel >



① Pitch Bend Switch (PITCH BEND)
② Modulation Switch (MODULATION)
③ Velocity Switch (VELOCITY)
④ Octave Shift Switch (OCTAVE SHIFT)
⑤ 10-key pad
⑥ Enter Button (ENTER)
⑦ Control Button (CONTROL)
⑧ MIDI Channel Button (MIDI)
⑨ Bend Sense Button (BEND SENSE)
⑩ Bend Curve/Volume ▼ Button (BEND CURVE/VOLUME ▼)
⑪ Modulation Depth/Volume ▲ Button (MOD.DEPTH/VOLUME▲)
⑫ Mode Switch (MODE)
⑬ Keyboard
⑭ Speaker

⑮ **Power Terminal (DC7.5V)**
Connect the optional AD-1 AC adaptor here.
⑯ **MIDI OUT Terminal (MIDI OUT)**
Connect a commercially available MIDI cable here to output MIDI data to a connected device.

Choosing a Power Supply

You can power your keyboard with 4 AA-size batteries, standard AC power (with an optional AC adaptor).

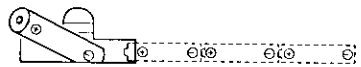
Installing the batteries

This keyboard can be powered by 4 AA-size (SUM-3/R6P) dry cell batteries. Make sure that the MODE selector is set to the POWER OFF position when installing batteries.

Important!

- Use of the AC adaptor to power the unit is recommended whenever you are connected to external equipment.

1. Open the battery compartment cover on the bottom of the unit.
2. Load new batteries as illustrared, taking care that the plus (+) and minus (–) poles are facing in the correct directions.



3. Replace the battery compartment cover.

- Standard battery life is approximately 6 hours (SUM-3).

Important!

Whenever you notice any of the following symptoms, it means that battery power is low, and that you should replace batteries as soon as possible.

- Dim power indicator
- Low sound output
- Distorted sound output
- Occasional loss of sound during high sound volume output
- Sudden power outage during high sound volume output
- Sound output even though keys are released
- Sounding of a tone different from the one you selected
- Wrong MIDI data output in the MIDI OUT Mode

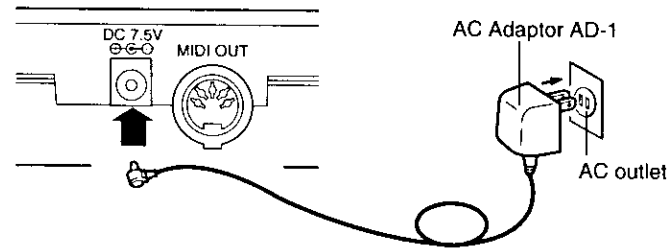
Precautions

Incorrectly using batteries can cause them to leak or burst, and may damage your unit. Note the following precautions:

- Be sure that the plus (+) and minus (–) poles are facing in the correct directions.
- Do not mix battery types.
- Do not mix new batteries with old ones.
- Never leave dead batteries in the battery compartment.
- Remove batteries when not using the unit for long periods.
- Never try to recharge the batteries that are specified for the power supply of this unit.
- Do not expose batteries to direct heat, let them become shorted or try to take them apart. (If a battery leaks, clean out the battery compartment of the unit immediately, taking care to avoid letting the battery fluid come into direct contact with your skin.)

Using AC power

An AC adaptor (AD-1, optional) is required when using household current. Use only genuine CASIO adaptor with the same voltage rating (100, 120, 220, 230 or 240V) as the power supply in your area to prevent damage to internal components. Be sure to turn the power of the unit off before you connect the adaptor to the unit. Plug the AC adaptor into the AC outlet and the cord into the unit. This will automatically cut off the battery power supply.



Important!

- The adaptor may become warm when it is being used. This is normal and does not indicate any problem.
- Be sure to unplug the adaptor from the AC outlet when you are not using the unit.
- Whenever connecting or disconnecting the adaptor, be sure that the power of the unit is switched off.
- Never use a power supply that does not match that specified for the unit. Doing so can damage the adaptor or your unit.

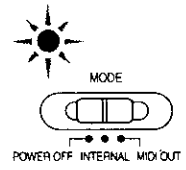
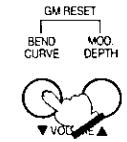
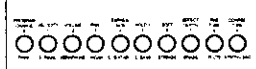
Changing Modes

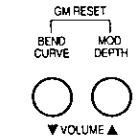
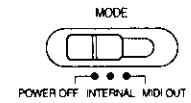
The GZ-5 has two modes: an Internal Mode that lets you use the GZ-5 as a stand-alone keyboard, and a MIDI OUT Mode for outputting data to a connected MIDI device. Use the Mode Switch to switch between modes.

Internal Mode

Switch to the Internal Mode when you want to play the GZ-5 as a stand-alone keyboard.

To select a tone and play notes

1. Set the Mode Switch INTERNAL.	
2. Use the Volume ▼ button to lower the sound output • It's probably better to use a relatively low setting at first. • There are five levels of sound output volume. Whenever you turn the GZ-5 on, the volume level is automatically set to the highest (loudest) level. • Even at the lowest setting, you will still be able to hear sound being output through the speaker.	
3. Use the 10-key pad to select the tone you want. • The names of the available tones are marked on the GZ-5's panel. Press the 10-key pad button that corresponds to the tone you want. **Important!** • The PIANO tone is automatically selected whenever you turn the GZ-5 on. • Whenever you enter the Internal Mode from the MIDI OUT Mode, the tone that you selected when you were last in the Internal Mode remains selected (unless you switched power off in the meantime).	

4. Play notes on the GZ-5. • Use the Volume ▲ / ▼ buttons to adjust the sound output volume to the level you want.	
5. After you are through playing, set the Mode Switch to POWER OFF to turn the GZ-5 off.	

Important!

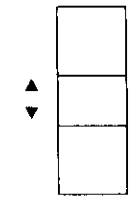
- The keyboard's built-in tones will not sound while it is the MIDI OUT Mode.
- After you press the Bend Sense button, the keyboard will not be able to produce any sound until you enter a value using the 10-key pad and register it by pressing the Enter button.

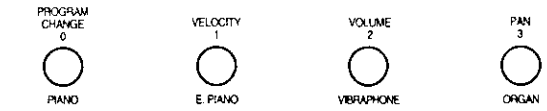
Changing the Pitch of Notes

You can change the pitch of notes while you play the GZ-5 by moving the Pitch Bend Switch up (to raise the pitch) and down (to lower the pitch). The Pitch Bend Switch returns to its normal position when you release it.

Change the Pitch Bend Amount

The amount that the pitch changes when you operate the Pitch Bend Switch is called the *bend sense*. Bend sense is expressed as value. A bend sense of 2, for example, means that the pitch changes a total of four semitones (2 half-note up, 2 half-note down).

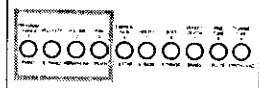




No change 1 half-tone 2 half-tone 3 half-tone

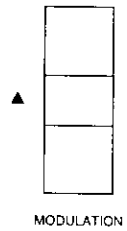
The bend sense is automatically set to 2 whenever you turn on the GZ-5. The following procedure makes it possible to specify a bend sense value of 0, 1, 2, or 3.

To change the bend sense setting

1. Press the Bend Sense Button.	
2. Press the 10-key pad button (0, 1, 2, 3) that corresponds to the bend sense setting you want to specify.	
3. Press the Enter Button to register the value. • The bend sense setting you make remains in effect until you change it or turn off the GZ-5. If you change the bend sense setting in the MIDI OUT Mode (page 15) and then return to the Internal Mode, the bend sense reverts to the setting that was last in effect in the Internal Mode.	

Adding Vibrato to Notes

Moving the Modulation Switch up while playing a note adds vibrato to the note. The vibrato effect stops as soon as you release the Modulation Switch.



Important!

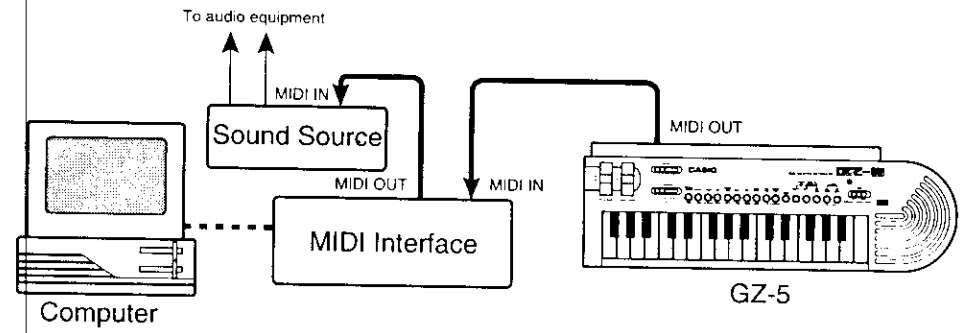
- The depth of the vibrato applied in the Internal Mode is fixed. The depth cannot be changed.
- The GZ-5's internal sound source is disabled whenever you select the MIDI OUT mode.
- The polyphony of the internal mode is 4.
- The octaves of built-in tones are fixed, and cannot be changed.
- Octave shift (page 17) is not applied to built-in tones.
- The tuning of built-in tones is fixed at A4 = 442Hz.
- Operation of the following switches and buttons is disabled in the Internal Mode: Velocity Switch, Octave Shift Switch, MIDI Channel Button, and Control Button.
- With certain tones (such as FLUTE), you may not be able to hear the modulation effect.

MIDI OUT Mode

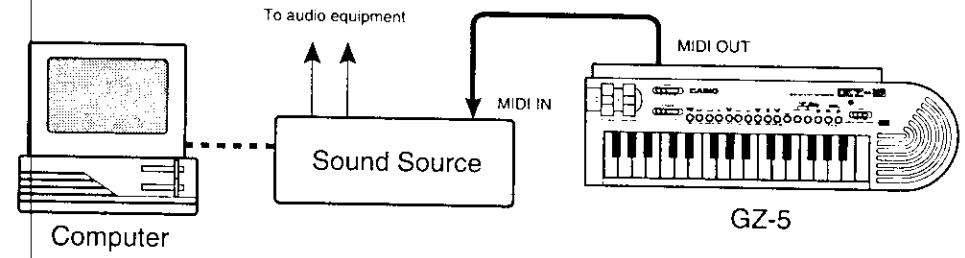
The MIDI OUT Mode lets you output data from the GZ-5 to a connected MIDI device.

Example Connections

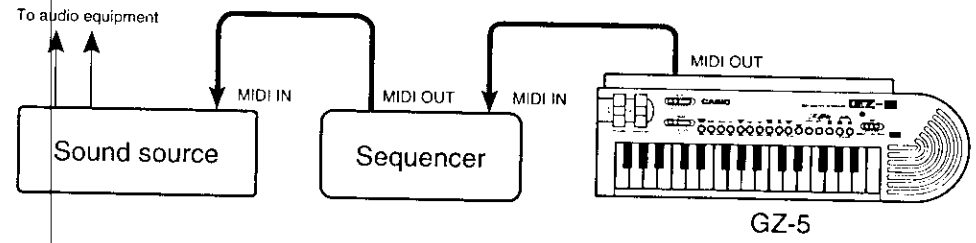
Connecting to a MIDI Interface



Connecting to a Sound Module with a MIDI Interface



Connecting to a Sequencer (Hardware Sequencer)



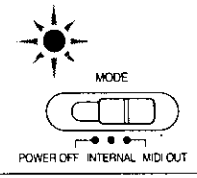
Important!

- The dotted lines in the above illustrations indicate applicable cables for each of the devices being connected to. See the documentation that comes with the device you are connecting to for details.
- Be sure that the GZ-5 is in the MIDI OUT Mode whenever you are trying to output data to a connected device. You cannot output data in the Internal Mode.
- The above illustrations show a few representative examples of the different connection configurations that are possible. If you want to connect to another type of device not shown above, see the documentation that comes with the device you are connecting to.

Outputting MIDI Data

To switch to the MIDI OUT mode.

1. Set the Mode Switch to the MIDI OUT position.

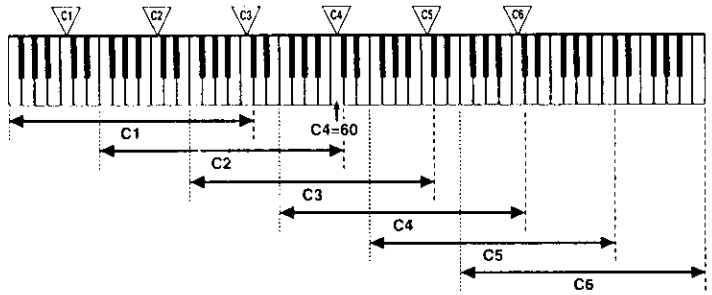


Note Data

When you press a keyboard key on the GZ-5, the corresponding note data for that key is output through the MIDI OUT terminal. You can output note data for any of the keys on the GZ-5 keyboard.

Octave Shift

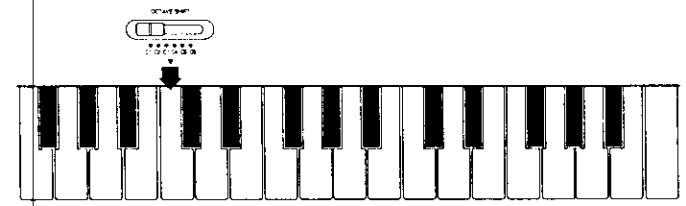
The GZ-5's Octave Shift Switch lets you change the octave of any of the notes played on its 32-key keyboard. The following illustration shows how operation of the Octave Shift Switch affects notes played by each keyboard key.



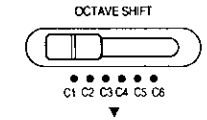
Positions indicated by in the illustration (C1 through C6) indicated middle C marked by ▼ on the GZ-5 for each of the Octave Shift Switch Settings (C1 through C6).

To shift the octave

1. Change the position of the Octave Shift Switch to the setting you want.



- The key indicated by ▼ in the illustration above is assigned the setting you make with the Octave Shift Switch (C1 to C6).



Important!

- When the Octave Shift Switch setting is C4, note number 60 is output from the MIDI OUT terminal when the key indicated by ▼ in the illustration is pressed.
- If you perform the above operation to change the octave while a keyboard key is depressed, the change does not take effect until you release the keyboard key.

When using a General MIDI Sound Source

The following points apply when you connect the GZ-5 for output to a General MIDI sound source.

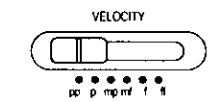
- When the Octave Shift Switch setting is C4, the pitch of the note produced when the key indicated by ▼ in the illustration is pressed is equivalent to a piano's middle C.
- When you are sending over Channel 10 and the Octave Shift Switch setting is C2, the key indicated by ▼ is the bass drum position.

Velocity

Velocity data (data on the relative strength of a note) is output together with note data when a keyboard key is pressed. There are two methods that you can use to specify a velocity value.

To specify the velocity using the Velocity Switch

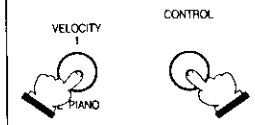
1. Change the position of the Velocity Switch to the setting you want.
   - Now when you press a keyboard key, the velocity value that corresponds to the switch setting is output along with the note data.



The following illustration shows the relationship between the Velocity Switch position and the velocity value.

Switch Position	pp	p	mp	mf	f	ff
Value	50	70	85	95	110	127

To specify the velocity using as velocity value

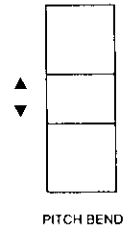
1. While holding down the Control Button, press the [1] button (VELOCITY) in the 10-key pad.	
2. Use the 10-key pad to input a velocity value within the range of 1 to 127.	
3. Press the Enter Button to register the value. Now when you press a keyboard key, the velocity value you specified is output along with the note data.	

Important!

- Any value outside the range of 1 to 127 is ignored.
- No matter which method you use to specify the velocity, the setting you make remains in effect until you change it.

Pitch Bend

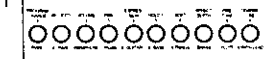
You can change the pitch of notes while you play by moving the Pitch Bend Switch up (to raise the pitch) and down (to lower the pitch). The Pitch Bend Switch returns to its normal position when you release it.



Bend Sense

The amount that the pitch of the notes is changed by operation of the Pitch Bend Switch is generally controlled by the externally connected sound source. The GZ-5, however, lets you output bend sense data to the external sound source to control the amount of pitch bend. The bend sense value can be specified within a range of 0 to 127.

To specify the bend sense value

1. Press the Bend Sense Button.	
2. Use the 10-key pad to input a bend sense value within the range of 0 to 127.	
3. Press the Enter Button to register the value and output it through the MIDI OUT terminal.	

When using a General MIDI Sound Source

The following points apply when you connect the GZ-5 for output to a General MIDI sound source.

- When the bend sense value is 2, moving the Pitch Bend Switch up raises the pitch by two semitones, while moving the switch down lowers the pitch by two semitones.
- When the bend sense value is 12, moving the Pitch Bend Switch up raises the pitch by 12 semitones, while moving the switch down lowers the pitch by 12 semitones.

Important!

- Some sound modules and sequencers do not allow external change of their pitch bend sense value. In such a case, you must make changes in the bend sense on the sound module or sequencer you are using. For details, see the documentation that comes with the device you are connecting to.
- The maximum bend sense value that you can specify differs according to the type of sound module or synthesizer you are connecting to.

Bend Curve

The bend curve is the speed at which the note reaches its maximum or minimum pitch after you operate the Pitch Bend Switch. You can specify one of five speeds for the bend curve.

To specify the bend curve

1. Press the Bend Curve Button.	

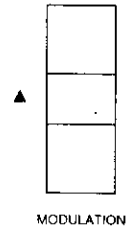
2. Use the 10-key pad to input a bend curve value within the range of 0 to 4. • The higher the value, the longer it takes for the note to reach its maximum or minimum pitch.	
3. Press the Enter Button to register the value and set the bend curve.	

Important!

- The bend curve is set to 1 whenever you turn on the GZ-5.
- When you enter to the MIDI OUT Mode from the Internal Mode, the bend curve value that you specified when you were last in the MIDI OUT Mode remains in effect (unless you switched power off in the meantime).

Modulation

Moving the Modulation Switch up while playing a note outputs modulation data through the MIDI OUT terminal. The vibrato effect stops as soon as you release the Modulation Switch. Use the procedure described under "Modulation Depth" below to control the depth of the vibrato.



Modulation Depth

The depth of the vibrator that is applied when the Modulation Switch is pressed can be specified within the range of 0 to 127.

To specify the modulation depth

1. Press the Modulation Depth button.	
2. Use the 10-key pad to input a three-digit modulation depth value within the range of 0 to 127.	
3. Press the Enter Button to register the value and set the modulation depth. • Now when you press the Modulation Switch, the data that corresponds to the modulation depth value you specified is output through the MIDI OUT terminal.	

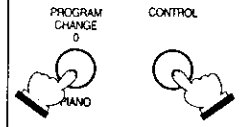
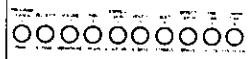
Important!

- The modulation depth value is set to 127 whenever you turn on the GZ-5.
- Any value greater than 127 is ignored.
- When you enter to the MIDI OUT Mode from the Internal Mode, the modulation depth value that you specified when you were last in the MIDI OUT Mode remains in effect (unless you switched power off in the meantime).

Program Change

Program change data is used for tone selection. The GZ-5 lets you output program change data within the range of 0 to 127.

To output program change data

1. While holding down the Control Button, press the [0] button (PROGRAM) in the 10-key pad.	
2. Use the 10-key pad to input a three-digit program change data value within the range of 0 to 127.	
3. Press the Enter Button to register the value and output it through the MIDI OUT terminal as program change data.	

Important!

- Any value greater than 127 is ignored.

Control Change

Control change data lets you add a variety of effects to tones. With the GZ-5, you can output 12 different types of control change data using the button operations noted below, Bend sens and Modulation.

Control Change	Button Operation	Range	Function
Volume	CONTROL + VOLUME	0 - 127	Volume control
PAN	CONTROL + PAN	0 - 127	Stereo balance control
EXPRESSION	CONTROL + EXPRESSION	0 - 127	Volume control
HOLD 1	CONTROL + HOLD 1	0 - 127	Sustain pedal function on/off

Control Change	Button Operation	Range	Function
SOFT PEDAL	CONTROL + SOFT PEDAL	0 - 127	Soft pedal function on/off
EFFECT DEPTH	CONTROL + EFFECT DEPTH	0 - 127	Depth control for reverb and other built-in effects
FINE TUNE	CONTROL + FINE TUNE	0 - 127	Cent unit tuning
COARSE TUNE	CONTROL + COARSE TUNE	0 - 127	Semi-tone unit tuning
ALL NOTES OFF	CONTROL + MIDI CH	—	Turns off all notes that are on. Notes being produced with sustain and sostenuto turn off at the end of the normal decay period. They do not turn off immediately.
RESET ALL CONTROLLER	MIDI CH. + BEND SENSE	—	Initializes the following.*1 Pitch bend, Modulation, Expression, Hold 1, (Sostenuto)*2, Soft, (Ch. Pressure)*2, RPN

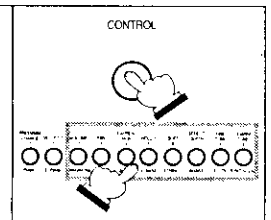
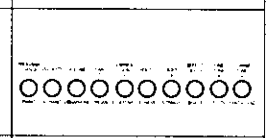
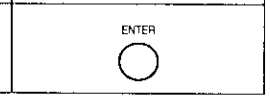
*1 Setting that are initialized differ according to unit model. For details, see the owner's manual for your unit.

*2 Cannot be sent by GZ-5.

Important!

- Except for the 10 types of data shown above, plus modulation and pitch bend sense, the GZ-5 cannot be used to output any other type of control change data.

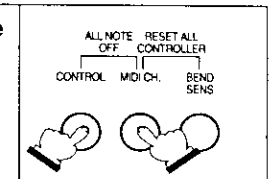
To output VOLUME, PAN, EXPRESSION, HOLD 1, SOFT PEDAL, EFFECT DEPTH, FINE TUNE, and COARSE TUNE data

1. While holding down the Control Button, press the button in the 10-key pad ([2] to [9])that corresponds to the control change data you want to output.	
2. Release both buttons and then use the 10-key pad to input a three-digit control change data value within the range of 0 to 127.	
3. Press the Enter Button to register the value and output it through the MIDI OUT terminal as control change data.	

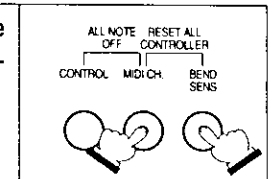
Important!

- Any setting greater than 127 is ignored.
- With most sound sources, VOLUME and EXPRESSION are both used for volume control. EXPRESSION is used for changes in strength or volume within a piece, while VOLUME is used for overall balance at the beginning of the piece.
- HOLD 1 and SOFT PEDAL data is generally output as 127 for on or 0 for off.

To output ALL NOTES OFF message

1. Press the Control Button and MIDI Channel Button at the same time to output the ALL NOTES OFF message.	

To output RESET ALL CONTROLLER message

1. Press the MIDI Channel Button and the Bend Sense Button at the same time to output the RESET ALL CONTROLLER message.	

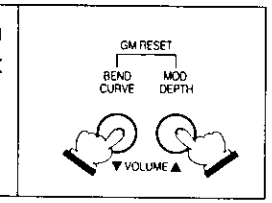
Important!

- When RESET ALL CONTROLLER is sent, Hold, Expression, Soft Pedal and so on are reset and the keyboard enters the setting mode. For details, see page 22.

General MIDI Reset

The GZ-5 can output the universal exclusive message required for General MIDI reset, which is can be used to initialize a connected General MIDI sound source.

To perform General MIDI reset

1. Press the Bend Curve Button and Modulation Depth Button at the same time to output the General MIDI reset message.	

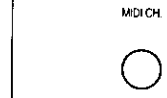
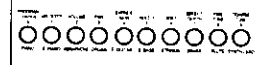
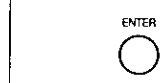
Important!

- After General MIDI Reset is sent, Tone, Effect Depth, Pan, Expression, Hold, Bend Sense and so on change to their reset status.

MIDI Channel

Channel 1 is set as the MIDI send channel whenever you turn on the GZ-5. You can use the following procedure to change the MIDI send channel within the range of 1 to 16.

To change the MIDI send channel

1. Press the MIDI Channel Button.	
2. Use the 10-key pad to input a channel number within the range of 1 to 16.	
3. Press the Enter Button to register the value and change the MIDI send channel.	

Important!

- Any value outside the range of 1 to 16 is ignored.

Troubleshooting

Symptom	Probable Cause	Action
No sound produced by the GZ-5 when its keyboard keys are pressed.	1. Batteries are not loaded correctly or are dead. 2. The GZ-5 is in the MIDI OUT Mode.	1. Load batteries making sure that their positive (+) and negative (–) ends are facing correctly, or switch to an AC adaptor. 2. Change to the Internal Mode (page 12).
No sound produced by the external sound source when GZ-5 keyboard keys are pressed.	1. Batteries are not loaded correctly or are dead. 2. The GZ-5 is in the Internal Mode. 3. No MIDI cable is connected to the MIDI OUT terminal. The MIDI send channel is specified incorrectly. 4. Velocity, Volume and Expression settings are too low.	1. Load batteries making sure that their positive (+) and negative (–) ends are facing correctly, or switch to an AC adaptor. 2. Change to the MIDI OUT Mode (page 15). 3. Use a MIDI cable to correctly connect the GZ-5 to the external device. Correctly specify the MIDI send channel (page 24). 4. Corrrectly set these settings (page 17, 21).
The selected tone does not sound when sending MIDI data.	The value input is outside the range of the GZ-5 or connected equipment.	Check the allowable ranges of the GZ-5 and the connected equipment, and make necessary adjustments.
Cannot change the tone while in the Internal Mode.	You press the Bend Sense button and did not finish entering a value yet.	Turn power off and then back on again to return to the Internal Mode.
Any one of the following symptoms occur when using battery power. • Dim power indicator • Low sound output • Distorted sound output • Occasional loss of sound output during high sound volume output • Sudden power outage during high sound volume output • Sound output even though keys are released • Sounding of a tone different from the one you selected • Wrong MIDI data output in the MIDI OUT Mode	Dead batteries	Replace batteries to switch to an AC adaptor.

Specifications

Model: GZ-5

Number of Keys: 32 (Micro mini-size)

Built-in Tones: 10 (disabled in MIDI OUT Mode)

Polyphony: 4 notes maximum (Internal Mode only)

Controls: Pitch Bend Switch; Modulation Switch; Velocity Switch; Octave Shift Switch; 10-key buttons (Program Change, Velocity, Pan, Expression, Hold 1, Soft, Effect Depth, Fine Tune, Coarse Tune); Enter Button; Control Button; MIDI Channel Button; Bend Sense Button; Bend Curve Button; Modulation Depth Button

Tuning: A4 = 442Hz (fixed)

Speaker: 6.5cm (0.5W output)

Input Terminals: DC7.5V (power input)

Output Terminals: MIDI OUT

Power Supply (2-way)

Batteries: Four AA-size (SUM-3) batteries

Battery Life: Approximately 6 hours on R6P (SUM-3 batteries)

AC Power: Requires optional AD-1 AC Adaptor

Power Consumption: 0.7W (When using the batteries : 6.0V)

1.0W (When using the AC adaptor : 7.5V)

Dimensions: 399 x 132 x 50 mm (15 $^{11}/_{16}$" x 5 $^{3}/_{16}$" x 1 $^{15}/_{16}$")

Weight: Approximately 0.64 Kg (1.4 lbs) (including batteries)

Specifications are subject to change without notice.

Appendix

Initial Value/Setting Range

Internal Mode	Initial Setting	Setting Range
Tone	Piano	Piano, E. Piano, Vibraphone, Organ, E.Guitar, E.Bass, Strings, Brass, Flute, Synth-Lead
Bend Sens	2	0 - 3
Volume	Max.	5 levels

MIDI Out Mode	Initial Setting	Setting Range
Control		
Program Change	—	0 - 127
Velocity	—	1 - 127
Volume	—	0 - 127
Pan	—	0 - 127
Expression	—	0 - 127
Hold 1	—	0 - 127
Soft	—	0 - 127
Effect Depth	—	0 - 127
Fine Tune	—	0 - 127
Coarse Tune	—	0 - 127
Velocity	mf (95)	pp (50), p (70), mp (85), mf (95), f (110), ff (127)
Octave Shift	C4	C1, C2, C3, C4, C5, C6
Vend Sense	—	0 - 127
Bend Curve	1 (Approx. 0.096 sec)	0 (approx. 0.048 sec.), 1 (approx. 0.096 sec) 2 (approx. 0.192 sec.), 3 (approx. 0.384 sec.) 4 (approx. 0.768 sec.)
Modulation Depth	127	0 - 127
MIDI Channel	1	1 - 16

MIDI Transmission

Program Change 0 - 127

Note ON/OFF
Note No.: F0 - C8 (17 - 108)
Velocity: 1 - 127 Note ON
0 Note OFF

Pitch Bend: 0 - 16383 (14 bits)

Control Change
Modulation Controller No.: 1
Controller Value: 0 - 127
Volume Controller No.: 7
Controller Value: 0 - 127
PAN Controller No.: 10
Controller Value: 0 - 127
Expression Controller No.: 11
Controller Value: 0 - 127
HOLD 1 Controller No.: 64
Controller Value: 0 - 127
Soft Pedal Controller No.: 67
Controller Value: 0 - 127
External Effect Depth
Controller No.: 91
Controller Value: 0 - 127

RPN
Pitch Bend Sensitivity
RPN LSB (100): 0
RPN MSB (101): 0
Data Entry MSB (6): 0 - 127
Data Entry LSB (38): 0
Fine Tune
RPN LSB (100): 1
RPN MSB (101): 0
Data Entry MSB (6): 0 -127
Data Entry LSB (38): 0
Coarse Tune
RPN LSB (100): 2
RPN MSB (101): 0
Data Entry MSB (6): 0 - 127
Data Entry LSB (38): 0

Channel Mode Message
Reset All Controller
Controller No.: 121
Controller Value: 0
All Note Off Controller No.: 123
Controller Value: 0

System Exclusive Message
GM ON
[F0] [7E] [7F] [09] [01] [F7]

Note Range of Keyboard Play

Tone	Range
PIANO	F3 - C6
E.PIANO	F3 - C6
VIBRAPHONE	F3 - C6
ORGAN	F3 - C6
E.GUITAR	F4 - C7

Tone	Range
E.BASS	F2 - C5
STRINGS	F3 - C6
BRASS	F3 - C6
FLUTE	F3 - C6
SYNTH-LEAD	F3 - C6

Modo MIDI OUT / MIDI OUT-Modus / Modo MIDI OUT / Mode MIDI OUT / MIDI OUT funktie / Modo di uscita MIDI

El modo MIDI OUT le permite generar datos desde el GZ-5 a un dispositivo MIDI conectado.

Der MIDI OUT-Modus läßt Sie Daten von dem Modell GZ-5 an ein angeschlossenes MIDI-Gerät ausgeben.

O modo MIDI OUT permite-lhe gerar dados do GZ-5 a um dispositivo MIDI conectado.

Le mode MIDI OUT permet de transmettre des données du GZ-5 à un appareil MIDI raccordé.

Met de MIDI OUT funktie is het mogelijk data van de GZ-5 te zenden naar een aangesloten MIDI toestel.

Il modo di uscita MIDI consonte di emettere i dati dal GZ-5 per inviarli ad un apparecchio MIDI collegato.

Ejemplo de conexiones
Conectando a una interfaz MIDI

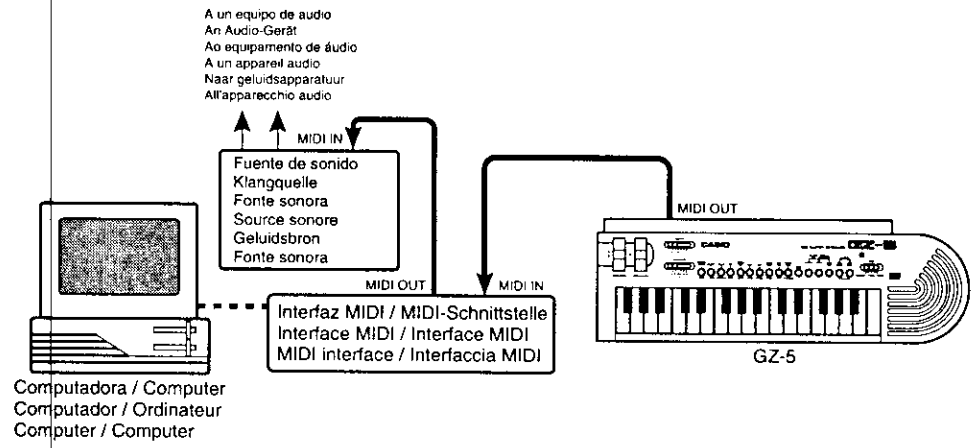
Anschlußbeispiele
Anschluß an eine MIDI-Schnittstelle

Exemplos de conexão
Conexão a uma interface MIDI

Exemples de raccordement
Raccordement à une interface MIDI

Voorbeeld van aansluitingen
Aansluiting op een MIDI interface

Esempi di collegamento
Collegamento ad un'interfaccia MIDI



Conectando a un módulo de sonido con una interfaz MIDI

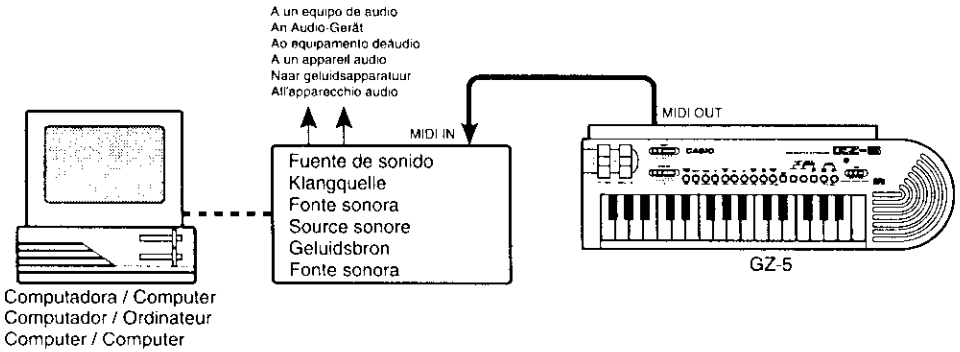
Anschluß an ein Sound-Modul mit einer MIDI-Schnittstelle

Conexão a um Módulo de Som com uma interface MIDI

Raccordement d'un module sonore à une interface MIDI

Aansluiten op een geluidsmodule met een MIDI interface

Collegamento ad un modulo di fonte sonora con un'interfaccia MIDI



Conectando a un secuenciador (Secuenciador de equipo)

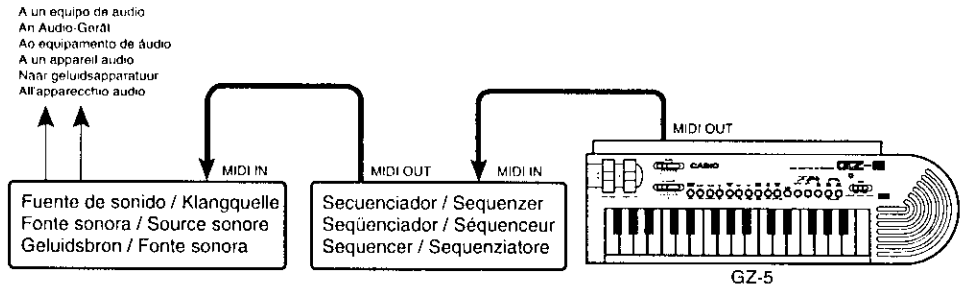
Anschluß an einen Sequenzer (Hardware-Sequenzer)

Conexão a um Seqüenciador (Seqüenciador Tipo Hardware)

Raccordement à un séquenceur (Appareil)

Aansluiten op een sequencer (Hardware sequencer)

Collegamento ad un sequenziatore (Sequenziatore hardware)



Modo MIDI OUT / MIDI OUT-Modus / Modo MIDI OUT / Mode MIDI OUT / MIDI OUT funktie / Modo di uscita MIDI

¡Importante!

- Las líneas de puntos en las ilustraciones anteriores indican los cables aplicables para cada uno de los dispositivos a ser conectados. Vea la documentación que viene con el dispositivo que está conectando.
- Siempre que intente generar datos a un dispositivo conectado, asegúrese de que el GZ-5 se encuentra en el modo MIDI OUT. No puede generar datos en el modo interno.
- Las ilustraciones anteriores muestran unos pocos ejemplos representando las diferentes configuraciones de conexión que son posibles. Si desea conectar a otro tipo de dispositivo que no se muestra en la figura, vea la documentación que viene con el dispositivo que desea conectar.

Wichtig!

- Die gestrichten Linien in den obigen Abbildungen zeigen die einschlägigen Kabel für jedes der anzuschließenden Geräte. Für Einzelheiten siehe die mit dem anzuschließenden Gerät mitgelieferte Dokumentation.
- Unbedingt darauf achten, daß sich das Modell GZ-5 in dem MIDI OUT-Modus befindet, wenn Sie die Ausgabe von Daten an ein angeschlossenes Gerät versuchen. In dem internen Modus können keine Daten ausgegeben werden.
- Die obigen Abbildungen zeigen einige repräsentative Beispiele der verschiedenen möglichen Anschlußkonfigurationen. Falls Sie den Anschluß an ein nicht oben gezeigtes Gerät wünschen, siehe die mit dem anzuschließenden Gerät mitgelieferte Dokumentation.

Importante!

- As linhas pontilhadas nas ilustrações acima indicam os cabos aplicáveis para cada um dos dispositivos a serem conectados. Consulte a documentação que vem com o dispositivo que você estiver conectando para maiores detalhes.
- Certifique-se de que o GZ-5 esteja no modo MIDI OUT toda vez que tentar gerar dados a um dispositivo conectado. Não é possível gerar dados no modo interno.
- As ilustrações acima mostram somente alguns exemplos representativos das várias configurações de conexão possíveis. Se você quiser conectar a um outro tipo de dispositivo não mostrado acima, consulte a documentação que vem com o dispositivo que deseja conectar.

Important!

- Les pointillés sur les illustrations précédentes indiquent les câbles applicables pour chacun des appareils raccordés. Voir la documentation fournie avec les appareils que vous raccordez pour les détails au sujet de ces câbles.
- Veillez à mettre le GZ-5 en mode MIDI OUT quand vous essayez de transmettre des données à un appareil raccordé. Il est impossible de transmettre des données en mode Interne.
- Les illustrations précédentes indiquent quelques exemples représentatifs de différents types de raccordement. Si vous voulez établir une liaison à un type d'appareil non mentionné ci-dessus, voir la documentation fournie avec l'appareil qui doit être raccordé.

Belangrijk!

- De gestippelde lijnen in de bovenstaande afbeeldingen geven toepasbare kabels aan voor elk van de toestellen waarop aangesloten wordt. Zie de documentatie van het aan te sluiten toestel zelf voor details.
- Zorg ervoor dat de MIDI OUT funktie van de GZ-5 ingeschakeld is wanneer u data naar een aangesloten toestel probeert de zenden. Tijdens de interne funktie kan geen data worden verzonden.
- De bovenstaande afbeelding toont een paar representatieve voorbeelden van verschillende mogelijke aansluitopstellingen. Mocht u op een andere type toestel aan willen sluiten dat hierboven niet vermeld is, zie dan de documentatie van het toestel waarop u gaat aansluiten.

Importante!

- Le linee punteggiato nelle illustrazioni qui sopra indicano i cavi applicabili per ciascuno degli apparecchi da collegare. Per i dettagli, fare riferimento alla documentazione in dotazione all'apparecchio da collegare.
- Accertarsi che il GZ-5 sia nel modo di uscita MIDI ogni volta che si tenta di emettere dati per inviarli ad un apparecchio collegato. Non è possibile emettere i dati nel mode interno.
- Le illustrazioni qui sopra indicano qualche esempio rappresentativo delle diverse configurazioni di collegamento possibili. Se si desidera collegare lo strumento ad un altro tipo di apparecchio non mostrato qui sopra, fare riferimento alla documentazione in dotazione all'apparecchio da collegare.

Model **GZ-5**

MIDI Implementation Chart

Version: 1.0

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default	1 channel	X	
	Changed	1-16 channel	X	
Mode	Default	—	X	
	Messages	X	X	
	Altered	**********	**********	
Note Number:	True voice	17 ~ 108	X	
		**********	**********	
Velocity	Note ON	O 9nH v = 1~127	X	
	Note OFF	X 9nH v = 0, 8nH v = **	X	** = No relation
After Touch	Key's	X	X	
	Ch's	X	X	
Pitch Bender		O	X	
Control Change	01	O	X	Modulation
	06, 38	O *1	X	Data entry
	07	O	X	Volume
	10	O	X	PAN
	11	O	X	Expression
	64	O	X	Hold 1
	67	O	X	Soft
	91	O	X	External effect depth
	100. 101	O *1	X	RPN LSB • MSB
	121	O	X	Reset all controller
Program Change:	True #	O 0 ~ 127	X	
		**********	**********	
System Exclusive		O *2	X	*2 : GM On
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Messages	: Local ON/OFF	X	X	
	: All notes OFF	O	X	
	: Active Sense	X	X	
	: Reset	X	X	
Remarks		*1 : Pitch Bend Sens Fine Tune Coarse Tune		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No