# S4B-3 Bass Synthesizer

Owner's Manual







Thank you, and congratulations on your choice of BOSS SYB-3 Bass Synthesizer.

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p.24; p.4). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Copyright © 1996 BOSS CORPORATION All rights reserved. No part of this publication may be reproduced in any form without the written permission of BOSS CORPORATION.

## **FEATURES**

- This compact effect creates bass synthesizer sounds.
- Features two types of bass synthesizers, using two distinct methods of sound generation; along with a T wah that creates an auto wah effect.
- Simply by changing modes, you can produce 11 characteristic sounds.
- The Hold function allows you to output effect sounds (synthesizer sound) continuously while you keep the pedal down. (This applies only when the Mode is set to 1-7.)
- In the stereo output mode, the effect sound (synthesizer sound) and direct sound can be output separately.
- This unit not only can be used with a bass guitar, but can be used with an electric guitar as well. (The range for detecting pitch: B0 G4.)

# **IMPORTANT NOTES**

In addition to the items listed under "USING THE UNIT SAFELY" on page 24, please read and observe the following:

## **Power Supply**

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- The use of an AC adaptor is recommended as the unit's power consumption is relatively high. Should you prefer to use batteries, please use the alkaline type.
- Batteries should always be installed or replaced before connecting any other devices.
   This way, you can prevent malfunction and/or damage to speakers or other devices.

- A battery was installed in the unit before it left the factory. The life of this battery may be limited, however, since its primary purpose was to enable testing.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

#### **Placement**

 Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.

4

- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.

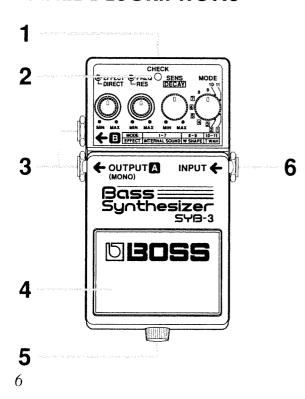
## Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzene, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

## **Additional Precautions**

- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

## PANEL DESCRIPTIONS



## 1. AC Adaptor Jack

Accepts connection of an AC Adaptor (optionally available BOSS PSA-Series). By using an AC Adaptor, you can play without being concerned about how much battery power you have left.

- \* As soon as you connect the AC adaptor, the unit is turned ON.
- \* If there are batteries in the unit while an AC adaptor is being used, normal operation will continue should the line voltage be interrupted (power blackout or power cord disconnection).
- \* If you are going to use an AC adaptor, be sure to use the specified unit (BOSS PSA-Series). Use of any other adaptor may result in damage, malfunction or electric shock. Also, if you are not going to be using it for an extended period of time, disconnect the AC adaptor from the AC outlet.

#### 2. CHECK Indicator

This indicator shows whether an effect is ON/OFF, and also doubles as the Battery Check indicator.

The indicator lights when an effect is ON. If this indicator goes dim or no longer lights while an effect is ON, the battery is near exhaustion and should be replaced immediately.

## 3. OUTPUT Jacks A(MONO)/B

The output jacks are used to connect the unit to amplifiers or other devices.

- \* For monaural output, use Output A.
- \* For stereo use:
  Output A: Only the processed signal is output.
  Output B: Only the dry signal is output.

#### 4. Pedal Switch

This switch turns the effects ON/OFF.

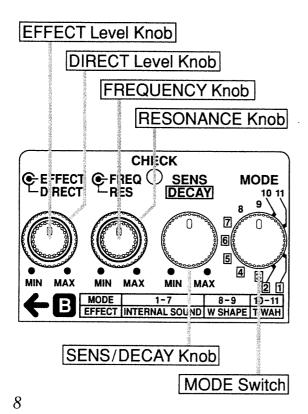
#### 5. Thumbscrew

This thumbscrew is loosened to open the pedal, allowing battery replacement. For instructions on how to replace the battery, please refer to "CHANGING THE BATTERY (p.18)."

#### 6. INPUT Jack

This jack accepts input signals (coming from a bass guitar, some other musical instrument, or another effects unit).

\* The INPUT jack also serves as the power switch. Power is turned on whenever a plug is inserted into the INPUT jack, and is turned off when the plug is disconnected. When not using the unit, you should disconnect any cord connected to the INPUT jack.



#### **EFFECT Level Knob**

This adjusts the output level of the effect sound (synth sound).

\* Rotating this knob fully counterclockwise will eliminate the effect sound.

## **DIRECT Level Knob**

This adjusts the output level of the direct sound.

\* Rotating the knob fully counterclockwise will eliminate the direct sound.

#### FREQUENCY Knob

This adjusts the cutoff frequency of the filter. < MODE = 1 - 7 >

In the Internal Sound Mode, the cutoff frequency of the filter moves from the start point to the end point (fixed) using the attack information, to alter the synthesizer sound. The knob sets the start point of the filter.

#### < MODE = 8 - 11 >

It adjusts the frequency where the filter's cutoff frequency will ultimately stop as the input level decreases.

#### **RESONANCE Knob**

This adjusts the feedback amount of the filter. Rotating the knob clockwise will make the sound more unusual.

## SENS/DECAY Knob

This knob will produce a different effect depending on the position of the MODE switch. < When MODE = 1 - 7 >

The knob works as a decay knob that determines the period of time over which the filter should move. As you rotate the knob clockwise, this time is increased.

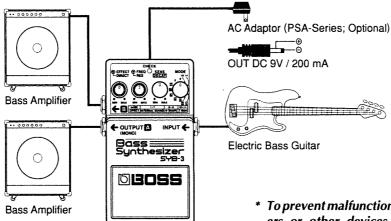
#### < When MODE = 8 - 11 >

This knob works as a sensitivity knob that adjusts the depth of the effect that acts upon on the input level. Rotating the knob clockwise will cause the filter to move increasingly more dramatically even with weak picking. While counterclockwise rotation results in the filter moving only slightly with normal strength—and quite a bit of force will be required to get the filter to move a great extent.

#### **MODE Switch**

This switch is used to select one of the SYB-3's 11 modes. For information on each mode, please refer to the "MODE CHART (p.11)".

## MAKING THE CONNECTIONS



- \* While using the unit on battery power, power is turned on when a plug is inserted into the INPUT jack.
- \* Before connecting or disconnecting any patch cords, be sure all the volume controls in your system are set to minimum. This will help prevent any damage to system components.

10

- \* To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- \* This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.
- \* When operating on battery power only, the unit's indicator will become dim when battery power gets too low. Replace the battery as soon as possible.

# **MODE CHART**

The Mode allows you to select two bass synthesizers, or T Wah mode. Each mode will work as follows.

## 1 - 7: < INTERNAL SOUND MODE >

This mode detects the pitch and attack from the input bass guitar sound and creates sound using the internal sound source. Depending on the number selected, the output sound of the internal sound source will differ as follows:

\* When using an electric guitar, be sure to play using notes lower than the 12th fret of the third string.

## 1: // (sawtooth wave)

A sound with a sharpened wave edge is output.

#### 2: \bigcup (square wave)

A sound softer than Wave "1" is output.

#### 3: Till (Pulse Width Modulation)

By modulating a square wave, the created sound will be fatter and broader.

#### 4: // (-1 oct)

A sawtooth wave one octave lower than "1" is output.

## 5: // + Noise

Noise is added to sound "1," creating a typical bass synthesizer sound.

## 6: ┌─── + Noise

Noise is added to sound "3," creating a typical bass synthesizer sound.

## 7: // + Noise (-1 oct)

Noise is added to sound "4," creating a typical bass synthesizer sound.

- \* The above function will not work properly if you play chords. So, have all the other strings muted, and play the bass guitar using single notes.
- \* To play the next note while the previous note is still sounding, be sure to mute the previous note completely, then play the note with a distinct attack. By applying your finger or pick forcefully to the string, it will be easier to detect the attack.
- \* When the unit cannot detect the attack, it may not sound correctly.

12

#### 8 – 9: < WAVE SHAPE MODE >

This mode directly transforms the audio input from the bass guitar into a synthesized bass sound. The direction of the movement of the cutoff frequency will differ depending on the number selected.

#### 8: Up

The cutoff frequency of the filter moves to the higher direction, in correlation with the level of the input sound.

#### 9: Down

The cutoff frequency of the filter moves to the lower direction, in correlation with the level of the input sound.

#### 10 - 11: < T WAH >

T wah is an effect whereby the cutoff frequencies of the filter change automatically as the volume of the bass guitar changes. The direction of the movement of the cutoff frequency of the filter will differ depending on the number selected.

#### 10: Up

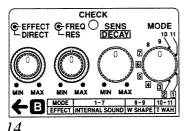
The cutoff frequency of the filter moves to the higher direction, in correlation with the level of the input sound.

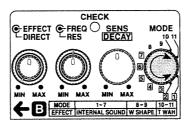
#### 11: Down

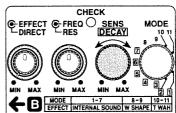
The cutoff frequency of the filter moves to the lower direction, in correlation with the level of the input sound.

## **OPERATING THE UNIT**

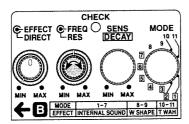
- 1 When you have made the necessary connections, set the knobs as shown in the illustration.
- 2 Depress the pedal switch to turn the effect on. (Make sure that the CHECK indicator lights.)
- 3 Select the mode with the MODE switch
- 4 Set the SENS/DECAY knob to your taste, depending on the selected mode.
  - < When MODE 1 7>
    Use the knob as a decay controlling knob to set the time for the filter to move.
  - <When MODE = 8-11>
    Use the knob as a sensitivity control knob to set the depth of the effect respective to the input level.

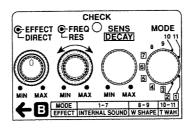


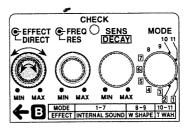




- 5 Adjust the cutoff frequency of the filter using the FREQUENCY knob.
- 6 Adjust the feedback amount of the filter using the RESONANCE knob.
- 7 Adjust the volume of the effect and direct sounds using the EFFECT Level and DIRECT Level knobs.







## **USING THE HOLD FUNCTION**

In the Internal Sound Mode, you can use the Hold function that allows you to output the effect sound (synthesizer sound) continuously while holding the pedal down. It is also possible to mix the direct sound to the effect sound continuously being output by playing the bass guitar to it.

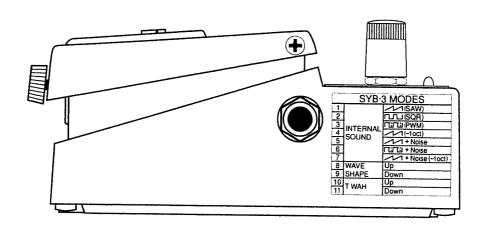
## (OPERATING THE UNIT)

- 1 Turn the Effect On by pressing the Pedal Switch.
- 2 Select the Internal Sound Mode (MODE = 1 7) using the Mode switch. Set the other knobs to your taste.
- 3 Play the bass guitar using single notes.
- 4 Press the Pedal Switch once again while the effect sound you wish to output continuously is being played, to hold it. While you are pressing the Pedal Switch, the Check indicator will flash and the effect sound will be continuously output.
- 5 Release the Pedal Switch, and the indicator will stop flashing and instead light constantly, showing that the unit is returned to the normal Effect On status.

16

# **USING THE MODE LABEL**

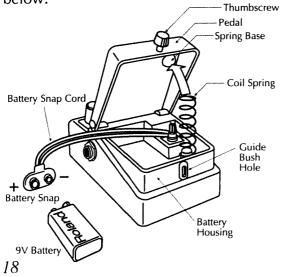
The SYB-3 is supplied with a Mode Label which shows the effect obtained with each of the modes. The Label (which serves as a quick reference) can be attached as shown in the illustration.



# CHANGING THE BATTERY

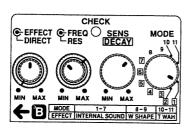
When the indicator goes dim or no longer lights while an effect is on, it means that the battery is nearly dead and must be replaced.

Replace the battery following the steps below.

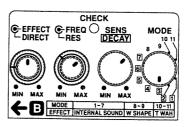


- 1 Loosen the thumbscrew at the front of the pedal, then lift the pedal upwards to open the unit.
  - \* The thumbscrew can be left in the pedal while changing the battery.
- 2 Remove the old battery from the battery housing, and remove the snap cord connected to it.
- 3 Connect the snap cord to the new battery, and place the battery inside the battery housing.
  - \* Be sure to carefully observe the battery's polarity (+ versus -).
- 4 Slip the coil spring onto the spring base on the back of the pedal, then close the pedal.
  - \* Carefully avoid getting the snap cord caught in the coil spring.
- 5 Finally, insert the thumbscrew into the guide bush hole and fasten it securely.

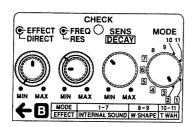
# SAMPLE SETTINGS SAWTOOTH SOUND



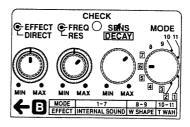
#### PWM SOUND



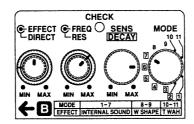
#### **SQUARE SOUND**



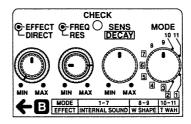
## **HOLD + SOLO**



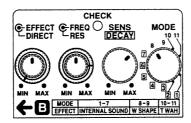
#### -1 OCT SE



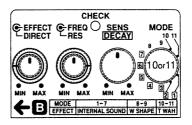
## **WAVE SHAPE (DOWN)**



## **WAVE SHAPE (UP)**

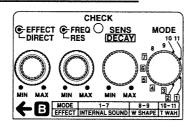


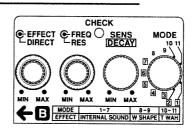
## **TWAH**

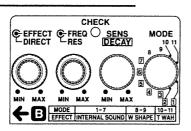


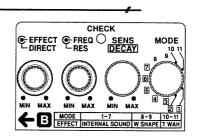
20

# **SETTING MEMO**









# **SPECIFICATIONS**

SYB-3: Bass Synthesizer

| A/D Conversion  |  |  |
|---|--|--|
| Input Impedance1 M $\Omega$   |  |  |
| Nominal output Level20 dBm  |  |  |
| Output Impedance $1 \text{ k}\Omega$  |  |  |
| Dynamic Range102 dB (Direct) (IHF-A, Typ. at 100 Hz)                          |  |  |
| 95 dB (Effect) (IHF-A, Typ. at 100 Hz)  |  |  |
| ControlsPedal Switch, EFFECT Level Knob, DIRECT Level Knob,                   |  |  |
| FREQUENCY Knob, RESONANCE Knob, SENS/DECAY Knob, MODE Switch                  |  |  |
| IndicatorCHECK Indicator (Serves also as battery check indicator)             |  |  |
| ConnectorsINPUT Jack, OUTPUT Jacks A(MONO)/B, AC Adaptor Jack (DC 9 V)        |  |  |
| Power Supply DC 9 V: Dry battery (6AM6/9V), AC Adaptor (PSA Series: Optional) |  |  |
| Current Draw80 mA (DC 9V)   |  |  |
| * Expected battery life under continuous use:                                 |  |  |
| Alkaline : 4 hours  |  |  |
| These figures will vary depending on the actual conditions of use.            |  |  |
| 22  |  |  |

| Dimensions  | .70(W) x 125(D) x 55(H) mm                                  |
|-------------|---|
|             | 2-3/4(W) x 4-15/16(D) x 2-3/16(H) inches                    |
| Weight      | .430 g / 1 lb (including battery)                           |
| Accessories | Owner's Manual, MODE Label, Dry Battery; 6AM6/9V (alkaline) |
| Options     | AC Adaptor PSA-Series                                       |

<sup>\*</sup>  $0 \, dBm = 0.775 \, Vrms$ 

# About the AF Method (Adaptive Focus Method)

This new method dramatically reduces quantization noise by carrying out the digitization (A/D) in a manner that is optimum for the input signal.

<sup>\*</sup> In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

## **USING THE UNIT SAFELY**

#### INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

#### About AWARNING and ACAUTION Notices

| <b><b><b>≜WARNING</b></b></b> | Used for instructions intended to alert<br>the user to the risk of death or severe<br>injury should the unit be used<br>improperly.                                   |
|-------------------------------|---|
| <b>⚠ CAUTION</b>              | Used for instructions intended to alert<br>the user to the risk of injury or material<br>damage should the unit be used<br>improperly.                                |
|                               | * Material damage refers to damage or<br>other adverse effects caused with<br>respect to the home and all its<br>furnishings, as well to domestic<br>animals or pets. |

#### About the Symbols

| $\triangle$ | The $\Delta$ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger. |
|-------------|---|
| 3           | The Symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.  |

The symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

..... ALWAYS OBSERVE THE FOLLOWING .....

24

# **WARNING**

 Before using this unit, make sure to read the instructions below, and the Owner's Manual.



 Do not open (or modify in any way) the unit or its AC adaptor.



 Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your dealer, or qualified Roland service personnel.  Never use or store the unit in places that are:

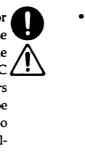


- Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
- Damp (e.g., baths, washrooms, on wet floors); or are
- Humid; or are
- · Dusty; or are
- Subject to high levels of vibration.

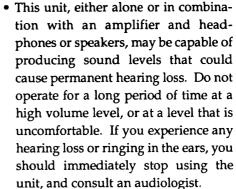
 Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

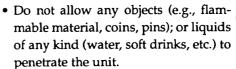


• Use only the specified AC adaptor (PSA-Series), and make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.



 Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged.

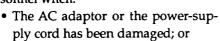




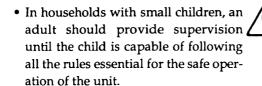


26

 Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your dealer or qualified Roland service personnel when:



- Objects have fallen into, or liquid has been spilled onto the unit; or
- The unit has been exposed to rain (or otherwise has become wet); or
- The unit does not appear to operate normally or exhibits a marked change in performance.

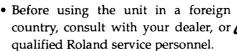




Protect the unit from strong impact.
 (Do not drop it!)



• Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.





• Batteries must never be recharged, heated, taken apart, or thrown into fire or water.

# **A** CAUTION

• The unit and the AC adaptor should be located so their location or position, does not interfere with their proper ventilation.



 Always grasp only the plug or the body of the AC adaptor when plugging into, or unplugging from, an outlet or this unit.



• Whenever the unit is to remain unused for an extended period of time, disconnect the AC adaptor.



28

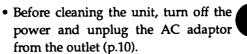
• Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.



• Never climb on top of, nor place heavy objects on the unit.



• Never handle the AC adaptor body, or its plugs, with wet hands when plugging into, or unplugging from, an outlet or this unit.







 Before moving the unit, disconnect the AC adaptor and all cords coming from external devices.



 Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet.



• If used improperly, batteries may explode or leak and cause damage or injury. In the interest of safety, please read and observe the following precautions (p.18).





 Carefully follow the installation instructions for batteries, and make sure you observe the correct polari-

 Remove the batteries whenever the unit is to remain unused for an extended period of time.

· If a battery has leaked, use a soft piece of cloth or paper towel to wipe all remnants of the discharge from the battery compartment. Then install new batteries. If any of the discharge from the battery has gotten onto your hands or skin, make sure to wash the area thoroughly with water.

· Never keep batteries together with metallic objects such as ballpoint pens, necklaces, hairpins, etc.

• Used batteries must be disposed of in compliance with whatever regulations for their safe disposal that may be observed in the region in which you live.



30



This product complies with the requirements of European Directive 89/336/EEC.

For the USA -

For Europe

# FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

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.

Unauthorized changes or modification to this system can void the users authority to operate this equipment. This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

## **CLASS B**

#### NOTICE

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

## **CLASSE B**

#### **AVIS**

Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Règlement des signaux parasites par le ministère canadien des Communications.



# **Roland® G6017253**

UPC

96017253



