

Roland®

VGA/MOUSE EXPANSION BOARD

# VS20-VGA

## Owner's Manual

Thank you for purchasing the Roland VS20-VGA (VGA/mouse expansion board).

The VS20-VGA is an expansion board that adds a VGA monitor out connector and a PS/2 mouse connector to the VS-2000. If the VS20-VGA is installed in the VS-2000, you can use an external VGA monitor connected to the VS-2000 to view large operating screens in color, and also use a mouse to operate the VS-2000.

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\* *In the interest of product improvement, the specifications and/or contents of this package are subject to change without prior notice.*

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 2; p. 3). 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, Owner's Manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.



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Roland International Web Site: <http://www.Roland.com>  
Roland US Web Site: <http://www.RolandUS.com>







# USING THE UNIT SAFELY

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

About  WARNING and  CAUTION Notices








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

About the Symbols



	The  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.
	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




#### WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual. 
- Do not open or perform any internal modifications on the unit. 
- 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 retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 
- 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
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 
- Protect the unit from strong impact. (Do not drop it!) 

#### WARNING

- Before installing the VS20-VGA, you must first always turn off the VS-2000 and unplug the AC adaptor. 
- DO NOT play a CD-ROM disc on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result. 

#### CAUTION

- Never climb on top of, nor place heavy objects on the unit. 
- Install the circuit board only into the specified unit (VS-2000). Remove only the specified screws during the installation. 
- Should you remove screws, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally. 

# IMPORTANT NOTES

In addition to the items listed under "USING THE UNIT SAFELY" on Page 2, please read and observe the following:

## Placement

- 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.

## 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.

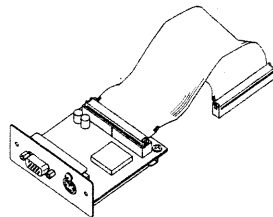
## Handling CD-ROMs

- Avoid touching or scratching the shiny underside (encoded surface) of the disc. Damaged or dirty CD-ROM discs may not be read properly. Keep your discs clean using a commercially available CD cleaner.

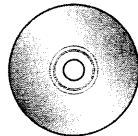
# Checking the included items

The VS20-VGA package contains the following items. Check to make sure that none are missing.

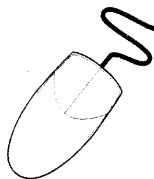
- VS20-VGA (VGA/mouse expansion board)



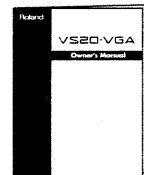
- System update disc



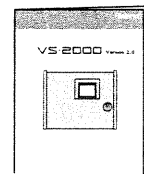
- PS/2 mouse



- Owner's Manual (the document you are reading)



- VS-2000 Owner's Manual Addendum Version Two



# Preparations before installation—Updating the VS-2000

In order to use the VS20-VGA in the VS-2000, the VS-2000's system program must be 2.00 or higher so that the VS20-VGA is supported.

Check the system program version of your VS-2000. If the current version of its system program does not support the VS20-VGA, update the system program using the system update disc included with the VS20-VGA.

## Step 1. Check the system version of the VS-2000

Start up your VS-2000 and check the system version. Proceed as follows.

- 1** Holding down HARMONY and press TRACK/STATUS 1, turn on the power. The version information screen will appear. Note the current system version.

```
Version Information
Boot
  Version   : 1.000
  Create Date : 12/08/2003
  Create Time : 12:13:12
System
  Version   : 1.000
  Create Date : 12/08/2003
  Create Time : 12:13:12
Check Sum
  Total    : C551h
  Boot     : D3ADh
  System   : 59DDh
  Parameter : 97C7h

[ENTER]
```

Current version

- *If the version number is earlier than 2.00*  
You must update your VS-2000's system program so that it will support the VS20-VGA.
- *If the version number is 2.00 or later*  
You do not need to perform steps 2 and following. Simply install the VS20-VGA into your VS-2000 as described in "Installing the VS20-VGA" on Page 9.

- 2** Press ENTER/YES to start up the VS-2000 as usual.

## Step 2. Prepare to upgrade the system (backing up)

Before you upgrade the system, we recommend that you perform the following two steps to ensure that the VS-2000 will operate as stably as possible.

- Back up the projects (musical data), user rhythm arrangements, and user patterns from the hard disk. Later, you can use the Recover operation to restore the backed up projects and user rhythm arrangements/patterns back into the VS-2000's hard disk.
- Initialize the hard disk (Format Drive)

### 1 Back up the projects (musical data), and user rhythm arrangements/patterns to a CD-R/RW disc or to a computer.



Back up the projects and user rhythm arrangements/patterns that you saved not only on the current drive, but also on other partitions.



Note that the method for backing up projects is different than the method for backing up user rhythm arrangements/patterns.

- *Backing up projects*  
See *VS-2000 Owner's Manual* Page 110.  
See *VS-2000 Owner's Manual Addendum* Page 13.
- *Backing up user rhythm arrangements/patterns*  
See *VS-2000 Owner's Manual* Page 322.  
See *VS-2000 Owner's Manual Addendum* Page 14.

### 2 Initialize the hard disk (Format Drive).

This operation will erase all data saved on the hard disk. See *VS-2000 Owner's Manual* Page 115.



When you execute the Format Drive operation, all data saved on the hard disk will be erased.



The erased data cannot be recovered by the Undo function.



There is no way to recover important data (projects or user rhythm arrangement/pattern data) that has been accidentally erased. Roland Corporation accepts no responsibility for recovery of lost data or for any damages resulting from such loss. Any data you want to keep must be backed up before you execute the Format Drive operation.

### 3 Shut down the VS-2000, and power-off all devices connected to it.

### Step 3. Update the system program

You must update the system program of your VS-2000 so that it will support the VS20-VGA. To perform the system update, use the system update disk included with the VS20-VGA.



If you have already updated your system (for VS20-VGA compatibility) by downloading version 2.00 or later of the system program from the Roland website or using the system update disc, you don't need to perform the update again.



You can obtain the most recent version of the system program from the Roland website <http://www.Roland.com/>

- 1** Power-on the VS-2000.
- 2** When the home screen appears, insert the system update disc (included with the VS20-VGA) into the VS-2000's internal CD-RW drive.
- 3** Shut down the VS-2000.
- 4** Power-on the VS-2000.  
The opening title screen and the "Setup Drive" message will appear, and the VS-2000 will search for connected disk drives. Please wait.  
When searching is completed, a message will ask "Update Main System Program?"
- 5** If you want to update the system to the version shown, press ENTER/YES.  
A message will ask "Keep User Setting?"
- 6** Decide whether you want to keep the System, User Routing, and User Effect Patch settings when performing the update, or whether you want to initialize all of these settings.



**Never turn off the power while the update is being performed. Doing so will destroy the VS-2000's system program and render it unable to start up.**

- *If you want to keep the settings during the update: ENTER/YES*
  - 6-1)** Press ENTER/YES. The display will indicate "Main Update" and the update will begin.
- *If you want to initialize these settings during the update: EXIT/NO*
  - 6-1)** Press EXIT/NO.  
The display will ask "Init User Setting Sure?"
  - 6-2)** If you are sure you want to initialize your settings, press ENTER/YES. The display will indicate "Main Update" and the update will begin. If you decide not to initialize your settings, press EXIT/NO. The update will be cancelled, and you will return to step 6.

- 7** When the update is completed, the disc tray will open. Remove the setup disc.

**8** Verify that the display indicates “Please Reboot OK,” and power-off the VS-2000.

**9** Power-on the VS-2000 as described in “Step 1. Check the system version of the VS-2000” on Page 4.

Note the version number displayed in the System Information screen. Press ENTER/YES to start up the VS-2000 as usual.

## Step 4. Recover your projects



Projects and backup data you created before updating the system can be used without change after updating the system (i.e., compatibility is maintained).

**1** If you initialized the hard disk (Format Drive), restore the data you backed up in “Step 2. Prepare to upgrade the system” on Page 5 back into the hard disk.



Note that the method for recovering projects is different than the method for recovering user rhythm arrangements/patterns.

- *Recovering projects*

See *VS-2000 Owner's Manual* Page 111.

See *VS-2000 Owner's Manual Addendum* Page 14.

- *Recovering user rhythm arrangements/patterns*

See *VS-2000 Owner's Manual* Page 322.

See *VS-2000 Owner's Manual Addendum* Page 14.

This completes preparations for installing the VS20-VGA. Now you can install the VS20-VGA into your VS-2000 as described in “Installing the VS20-VGA” on Page 9.

# Installing a VS20-VGA Expansion Board

## Installation Precautions



Before installing the VS20-VGA, you must first always turn off the VS-2000 and unplug the AC adaptor.

- To avoid damaging internal components as a result of static electricity, please carefully observe the following precautions whenever you handle a VS20-VGA.
  - Before you touch the board, always first touch a metal object—such as a water pipe—so you're sure any static electricity you may have been carrying is discharged before you touch the VS20-VGA.
  - Save the bag in which the VS20-VGA was shipped, and put the board back into the bag should you need to store or transport the board.
- Use the correct Phillips screwdriver—a Number 2 screwdriver—for the size of the VS-2000's screws. The head of the screw may become stripped if you use the wrong screwdriver.
- To remove a screw, turn the screwdriver counter-clockwise. To tighten a screw, turn the screwdriver clockwise.



- When installing a VS20-VGA effect expansion board, remove only the specified screws.
- Be careful that the screws you remove do not drop into the interior of the VS-2000.
- Re-attach the VS-2000's bottom cover after the installation—do not leave its internal components exposed.
- Do not touch any printed circuit pathways or connection terminals.
- Be careful not to cut your hand on the edge of the installation bay.
- Never use excessive force when installing a VS20-VGA. If it doesn't fit properly on the first attempt, remove the board, re-position it and try again.
- When the VS20-VGA installation is complete, double-check your work before replacing the VS-2000's bottom cover.
- When turning the unit upside-down, take care to avoid dropping it or allowing it to fall over.



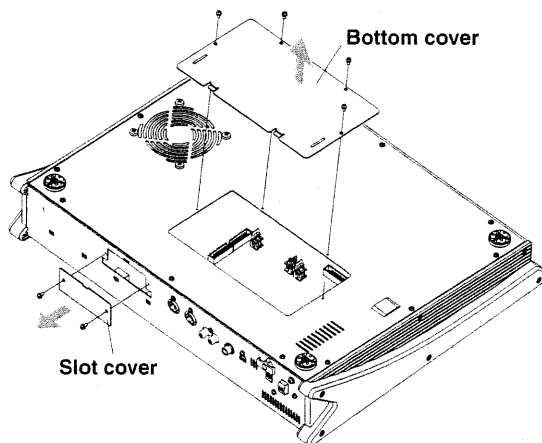
Before turning the VS-2000 upside-down to install a VS20-VGA, obtain some newspapers or magazines and place them under the four corners of the VS-2000—or at both ends—to prevent damage to the buttons and controls. Position the VS-2000 carefully to avoid scratching or damaging it.



## Installing the VS20-VGA

Before you install the VS20-VGA, you must update the system program of the VS-2000 to version 2.00 or later so that it will support the VS20-VGA. Refer to "Preparations before installation—Updating the VS-2000" on Page 4, and update the VS-2000 system program as described.

- 1** Power-off the VS-2000 and all connected devices, and disconnect all cables from the VS-2000.
- 2** Turn the VS-2000 upside down, Remove the covers.

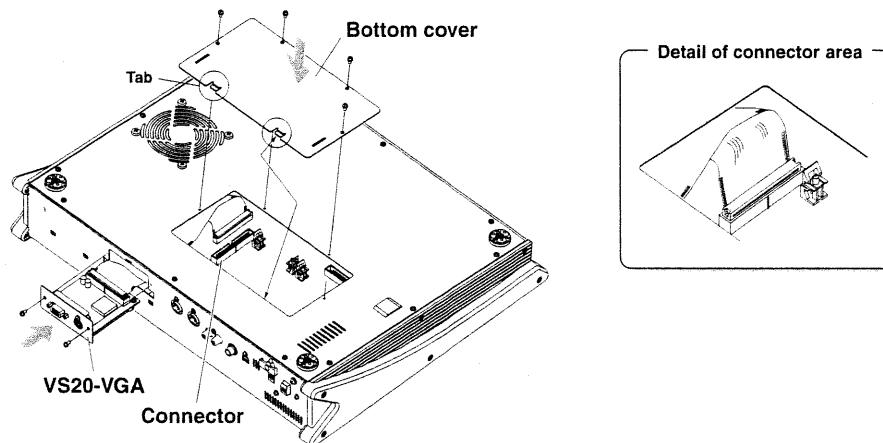


**Before turning the VS-2000 upside-down to install a VS20-VGA, obtain some newspapers or magazines and place them under the four corners of the VS-2000-or at both ends-to prevent damage to the buttons and controls. Position the VS-2000 carefully to avoid scratching or damaging it.**

**When turning the unit upside-down, take care to avoid dropping it or allowing it to fall over.**

- 2-1)** As shown in the diagram, remove the two screws that fasten the VS20-VGA installation slot cover, and remove the slot cover.
- 2-2)** As shown in diagram, remove the four screws that fasten the bottom cover, and remove the bottom cover.

### 3 Install the VS20-VGA.



- 3-1)** Insert the VS20-VGA in the orientation shown in the diagram, and fasten it in place using the two screws you removed in step 2-1.
- 3-2)** Plug the cable of the VS20-VGA into the connector of the VS-2000.
  - \* *Arrange the VS20-VGA cable so that it is positioned away from the VS-2000's internal circuit board.*
- 3-3)** Fit the two tabs of the bottom cover into the VS-2000's bottom panel, and fasten the bottom cover as it was originally, using the screws you removed in step 2-2.



For details on connecting and setting up a VGA display and/or mouse, see to Page 64 and 66 of the *VS-2000 Owner's Manual*.



For EU Countries

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

For the USA

## 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Tested To Comply With FCC Standards

### FOR HOME OR OFFICE USE

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

## NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

## AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For the USA

## DECLARATION OF CONFORMITY Compliance Information Statement

Model Name :	VS20-VGA
Type of Equipment :	VGA/Mouse Expansion Board
Responsible Party :	Roland Corporation U.S.
Address :	5100 S. Eastern Avenue, Los Angeles, CA 90040-2938, U. S. A.
Telephone :	(323) 890-3700

## Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

### AFRICA

#### EGYPT

**Al Fanny Trading Office**  
9, EBN Hagar Al Askalany Street,  
ARD El Golf, Heliopolis,  
Cairo 11341, EGYPT  
TEL: 20-2-417-1828

#### REUNION

**Maison FO - YAM Marcel**  
25 Rue Jules Hermann,  
Chaudron - BP79 97 491  
Ste Clotilde Cedex,  
REUNION ISLAND  
TEL: (0262) 218-429

#### SOUTH AFRICA

**That Other Music Shop  
(PTY) Ltd.**  
11 Melle St., Braamfontein,  
Johannesburg, SOUTH AFRICA  
P.O.Box 32918, Braamfontein 2017  
Johannesburg, SOUTH AFRICA  
TEL: (011) 403 4105

#### Paul Bothner (PTY) Ltd.

17 Werdmuller Centre,  
Main Road, Claremont 7708  
SOUTH AFRICA  
P.O. BOX 23032, Claremont 7735,  
SOUTH AFRICA  
TEL: (021) 674 4030

### ASIA

#### CHINA

**Roland Shanghai Electronics  
Co., Ltd.**  
5F, No.1500 Pingliang Road  
Shanghai 200090, CHINA  
TEL: (021) 5580-0800

**Roland Shanghai Electronics  
Co., Ltd.  
(BEIJING OFFICE)**  
10F, No.18 Anhuaxili  
Chaoyang District, Beijing 100011  
CHINA  
TEL: (010) 6426-5050

**Roland Shanghai Electronics  
Co., Ltd.  
(GUANGZHOU OFFICE)**  
2/F., No.30 Si You Nan Er Jie Yi  
Xiang, Wu Yang Xin Cheng,  
Guangzhou 510600, CHINA  
TEL: (020) 8736-0428

#### HONG KONG

**Tom Lee Music Co., Ltd.  
Service Division**  
22-32 Pun Shan Street, Tsuen  
Wan, New Territories,  
HONG KONG  
TEL: 2415 0911

#### Parsons Music Ltd.

8th Floor, Railway Plaza, 39  
Chatham Road South, T.S.T.,  
Kowloon, HONG KONG  
TEL: 2333 1863

#### INDIA

**Rivera Digitec (India) Pvt. Ltd.**  
409, Nirman Kendra Mahalaxmi  
Flats Compound Off. Dr. Edwin  
Moses Road, Mumbai-400011,  
INDIA  
TEL: (022) 2493 9051

#### INDONESIA

**PT Citra IntiRama**  
Jl. Cideng Timur No.151-150  
Jakarta Pusat  
INDONESIA  
TEL: (021) 6324170

#### KOREA

**Cosmos Corporation**  
1461-9, Seocho-Dong,  
Seocho Ku, Seoul, KOREA  
TEL: (02) 5486-8855

#### MALAYSIA

**BENTLEY MUSIC SDN BHD**  
140 & 142, Jalan Bukit Bintang  
55100 Kuala Lumpur, MALAYSIA  
TEL: (03) 2144-3333

#### PHILIPPINES

**G.A. Yupangco & Co. Inc.**  
339 Gilj. Puyat Avenue  
Makati, Metro Manila 1200,  
PHILIPPINES  
TEL: (02) 899 9801

#### SINGAPORE

**Swee Lee Company**  
150 Sims Drive,  
SINGAPORE 387381  
TEL: 6846-3676

#### CRISTOFORI MUSIC PTE LTD

Blk 3014, Bedok Industrial Park E,  
#02-2148, SINGAPORE 489980  
TEL: 6243-9555

#### TAIWAN

**ROLAND TAIWAN  
ENTERPRISE CO., LTD.**  
Room 5, 9fl. No. 112 Chung Shan  
N.Road Sec.2, Taipei, TAIWAN,  
R.O.C.  
TEL: (02) 2561 3339

#### THAILAND

**Theera Music Co., Ltd.**  
330 Verng NakomKasem, Soi 2,  
Bangkok 10100, THAILAND  
TEL: (02) 2248821

#### VIETNAM

**Saigon Music**  
Suite DP-8  
40 Ba Huyen Thanh Quan Street  
Hochiminh City, VIETNAM  
Tel: (08) 930-1969

### AUSTRALIA/ NEW ZEALAND

#### AUSTRALIA

**Roland Corporation  
Australia Pty., Ltd.**  
38 Campbell Avenue  
Dee Why West, NSW 2099  
AUSTRALIA  
TEL: (02) 9982 8266

#### NEW ZEALAND

**Roland Corporation Ltd.**  
32 Shaddock Street, Mount Eden,  
Auckland, NEW ZEALAND  
TEL: (09) 3098 715

### CENTRAL/LATIN AMERICA

#### ARGENTINA

**Instrumentos Musicales S.A.**  
Av. Santa Fe 2055  
(1123) Buenos Aires  
ARGENTINA  
TEL: (011) 4508-2700

#### BRAZIL

**Roland Brasil Ltda**  
Rua San Jose, 780 Sala B  
Parque Industrial San Jose  
Cotia - Sao Paulo - SP, BRAZIL  
TEL: (011) 4615 5666

#### COSTA RICA

**JUAN BANSBACH  
Instrumentos Musicales**  
Ave.1, Calle 11, Apartado 10237,  
San Jose, COSTA RICA  
TEL: 258-0211

#### CHILE

**Comercial Fancy II S.A.**  
Rut: 96.919.420-1  
Nataliel Cox #739, 4th Floor  
Santiago - Centro, CHILE  
TEL: (02) 688-9540

#### EL SALVADOR

**OMNI MUSIC**  
75 Avenida Norte v Final  
Alameda Juan Pablo II,  
Edificio No.4010 San Salvador,  
EL SALVADOR  
TEL: 262-0788

#### MEXICO

**Casa Veerkamp, s.a. de c.v.**  
Av. Toluca No. 323, Col. Olivar  
de los Padres 01780 Mexico D.F.  
MEXICO  
TEL: (55) 5668-6699

#### PANAMA

**SUPRO MUNDIAL, S.A.**  
Boulevard Andrews, Albrook,  
Panama City, REP. DE PANAMA  
TEL: 315-0101

#### PARAGUAY

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Instrumentos Musicales**  
J.E. Olear y ESQ. Manduvira  
Asuncion PARAGUAY  
TEL: (021) 492-124

#### URUGUAY

**Todo Musica S.A.**  
Francisco Acuna de Figueroa 1771  
C.P.: 11.800  
Montevideo, URUGUAY  
TEL: (02) 924-2335

#### VENEZUELA

**Musicaland Digital C.A.**  
Av. Francisco de Miranda,  
Centro Parque de Cristal, Nivel  
C2 Local 20 Caracas  
VENEZUELA  
TEL: (212) 285-8586

### EUROPE

#### AUSTRIA

**Roland Elektronische  
Musikinstrumente HmbH.  
Austrian Office**  
Eduard-Bodem-Gasse 8,  
A-6020 Innsbruck, AUSTRIA  
TEL: (0512) 26 44 260

#### BELGIUM/HOLLAND/ LUXEMBOURG

**Roland Benelux N. V.**  
Houtstraat 3, B-2260, Oevel  
(Westerlo) BELGIUM  
TEL: (014) 575811

#### CZECH REP.

**K-AUDIO**  
Kardasovska 626,  
CZ-198 00 Praha 9,  
CZECH REP.  
TEL: (2) 666 10529

#### DENMARK

**Roland Scandinavia A/S**  
Nordhavnsvej 7, Postbox 880,  
DK-2100 Copenhagen  
DENMARK  
TEL: 3916 6200

#### FRANCE

**Roland France SA**  
4, Rue Paul Henri SPAAK,  
Parc de l'Esplanade, F 77 462 St.  
Thibault, Lagny Cedex FRANCE  
TEL: 01 600 73 500

#### FINLAND

**Roland Scandinavia As,  
Filial Finland**  
Elannontie 5  
FIN-01510 Vantaa, FINLAND  
TEL: (09) 68 24 020

#### GERMANY

**Roland Elektronische  
Musikinstrumente HmbH.**  
Oststrasse 96, 22844 Norderstedt,  
GERMANY  
TEL: (040) 52 60090

#### GREECE

**STOLLAS S.A.**  
Music Sound Light  
155, New National Road  
Patras 26442, GREECE  
TEL: 2610 435400

#### HUNGARY

**Roland East Europe Ltd.**  
Warehouse Area DEFO Pf.83  
H-2046 Torokbalint, HUNGARY  
TEL: (23) 511011

#### IRELAND

**Roland Ireland**  
G2 Calmount Park, Calmount  
Avenue, Dublin 12  
Republic of IRELAND  
TEL: (01) 4294444

#### ITALY

**Roland Italy S. p. A.**  
Viale delle Industrie 8,  
20020 Arese, Milano, ITALY  
TEL: (02) 937-78300

#### NORWAY

**Roland Scandinavia Avd.  
Kontor Norge**  
Lilleakerveien 2 Postboks 95  
Lilleaker N-0216 Oslo  
NORWAY  
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