

IN

OUT  
MIDI

THRU

DC IN

POWER

# Roland

## SCALE CONVERTER ASC-10

CANCEL

WRITE

MIDI

MODE

USER MEMORY

1	2	3	4	5	6	7	8				
1	2	3	4	5	6	7	8	MIDI			
9	10	11	12	13	14	15	16				
C	C#	D	D#	E	F	F#	G	G#	A	A#	B

## ***Congratulations!***

*You are now the owner of a device unique within the MIDI world — the Roland ASC-10 Scale Converter!*

*The ASC-10 allows you to create, store and instantly recall any one of up to eight **custom-tuned** scales which can allow you to play any type of music imaginable!*

*If your work requires the special tunings demanded by **Arabic, Malouf** (Egyptian) or **Bouzouki** (Greek) music, for example, the ASC-10 is for you. By creating (and storing) the special scales required by these types of music, you can instantly select the tuning you need — even while playing!*

## **The ASC-10 Concept**

*The vast majority of Western music forms — and instruments — are based on the twelve tone tuning system often referred to as **Equal Temperament**. In this tuning system, one octave is divided into twelve tones with adjacent tones being a semi-tone apart in pitch. This 'equal spacing' of tones is the basis for the name Equal Temperament (equal tuning).*

*Although this tuning system is used extensively, there are many forms of music in the world which use different tunings. Some types of music use semi-tones and **quarter-tones** within the same scale (Arabic music, for example). Still other types of music use **micro-tones**; intervals smaller than a quarter-tone.*

*By allowing you to raise or lower the pitch of individual notes within the equally tempered scale, the ASC-10 can create whatever tuning system your music requires.*

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# IMPORTANT NOTES

## Power Supply

- Use only a BOSS PSA AC Adaptor (sold separately).
- When making any connections with other devices, always turn off the power to all equipment first; this will help prevent damage or malfunction.
- Do not use this device on the same power circuit with any device that will generate line noise, such as a motor or variable lighting system.
- The power supply required by this unit is shown on its nameplate (rear panel). Be sure the line voltage in your installation meets this requirement.
- Avoid damaging the power cord; do not step on it, place heavy objects on it, etc.
- When disconnecting the AC adaptor from the wall outlet, grasp the plug itself; never pull on the cord.
- If the unit is to remain unused for an extended period of time, unplug the power cord from the wall outlet.

## Placement

- Do not subject the unit to temperature extremes (eg., direct sunlight in an enclosed vehicle). Avoid using or storing the unit in dusty or humid areas.
- This device may interfere with radio and television reception. Do not use the device in the vicinity of such receivers.

## Maintenance

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

## Additional Precautions

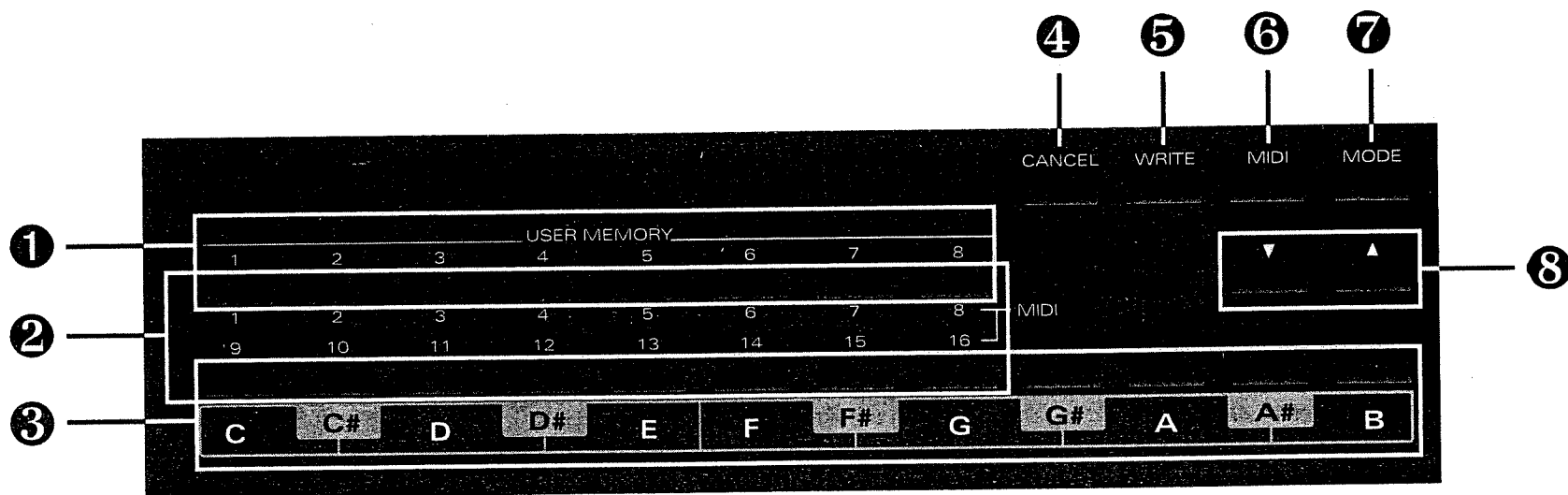
- Protect the unit from strong impact.
- Do not allow objects or liquids of any kind to penetrate the unit. In the event of such an occurrence, discontinue use immediately. Contact qualified service personnel as soon as possible.
- Should a malfunction occur, or if you suspect there is a problem, discontinue use immediately. Contact qualified service personnel as soon as possible.
- To prevent the risk of electric shock, never attempt to open the unit or the AC adaptor.

## Memory Backup

- This unit contains a battery which maintains the contents of memory while the main power is off. The expected life of this battery is 5 years or more. However, to avoid the unexpected loss of memory data, it is strongly recommended that you change the battery every 5 years. Please be aware that the actual life of the battery will depend on the physical environment (especially temperature) in which the unit is used. When it is time to change the battery, consult with qualified service personnel.

ROLAND ASC-10

Front Panel



## SCALE CONVERTER

### Panel Description

#### ① [USER MEMORY] Buttons

Each of these buttons ([1] — [8]) corresponds to a memory position where you'll store your custom-tuned scales. Once a scale (tuning) has been stored, pressing the corresponding button will instantly implement that scale. These buttons are also used in selecting the Part(s) / MIDI channel.

#### ② Number (MIDI) Buttons

These buttons ([1] — [16]) are used when selecting Parts in the GS mode, or the MIDI channel in the Bender mode.

#### ③ Note Buttons

These twelve buttons correspond to the twelve tones of an equally tempered scale: C — B. To create a custom scale, simply select the note(s) you wish to change by pressing the corresponding button(s). Then raise or lower the pitch of the note(s) you have selected. Buttons [9] — [16] are also used in selecting the Part(s) / MIDI channel.

#### ④ [CANCEL] Button

This button cancels the custom tuning (scale) currently in effect; the tuning instantly returns to equal temperament. If you press and hold a Note button (whose assigned pitch has been detuned) and then press [CANCEL], that note will be returned to standard pitch.

#### ⑤ [WRITE] Button

This button (in conjunction with the [USER MEMORY] buttons) is used to store the custom scales you create.

#### ⑥ [MIDI] Button

This button (in conjunction with the Number buttons) is used to set the Part(s) (GS mode) or the MIDI channel (Bender mode). This setting determines which Part(s) tuning data is sent to, or over which MIDI channel tuning data will be sent.

#### ⑦ [MODE] Button

This button selects one of the unit's two modes: GS or Bender.

#### GS Mode (button LED off):

Select the GS mode whenever you are using a GS compatible keyboard or sound module (eg., Roland's JV-30 or SC-55). The GS mode is the default setting.

#### Bender Mode (button LED on):

Use the Bender mode whenever you are using a non-GS keyboard or sound module that can respond to Pitch Bend (Bender) messages.

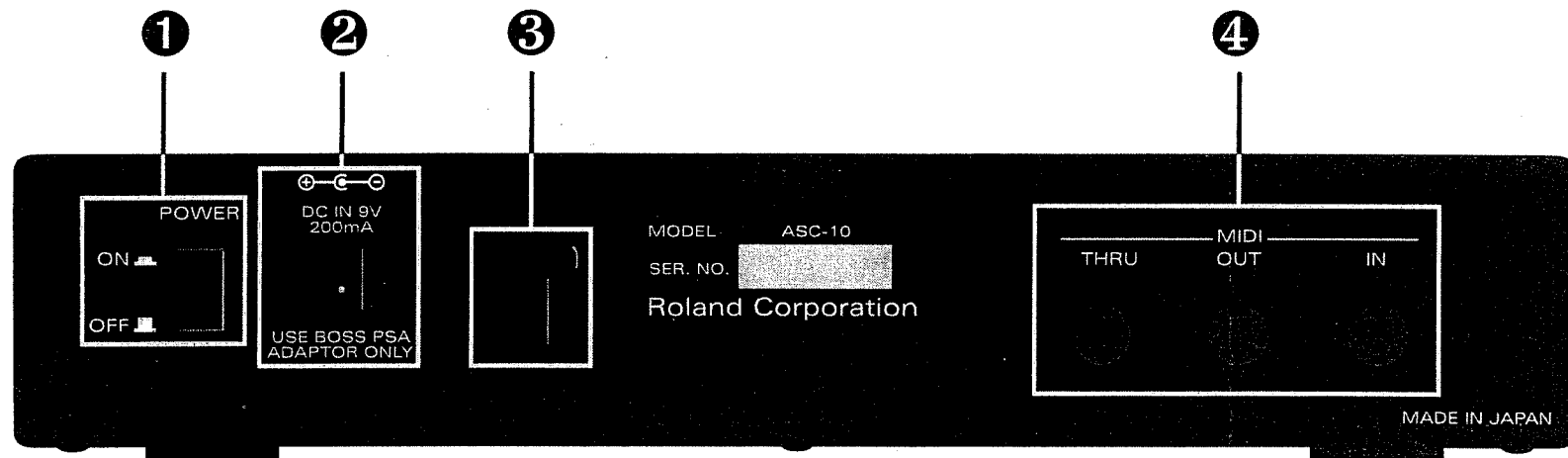
#### ⑧ [▼]/[▲] Buttons

These buttons are used to lower ([▼]) and raise ([▲]) the pitch of the selected note. When you press the [▼]/[▲] button initially, the pitch is lowered/raised by a quarter-tone (50 cents). Each time the [▼]/[▲] button is pressed after that, the pitch of that note drops/rises by one cent. You can raise or lower the pitch of any note by a maximum of 60 cents.

*[A cent is a unit of pitch; a semi-tone is equal to 100 cents and a quarter-tone is equal to 50 cents.]*

ROLAND ASC-10

Rear Panel



## Panel Description

### ❶ [POWER] Switch

This switch turns the unit on and off.

### ❷ DC Inlet

Connect the power adaptor (sold separately) to this inlet. [Use only a BOSS PSA AC adaptor. Use of any other adaptor may cause damage, malfunction or electric shock.]

### ❸ Cord Hook

Loop the power cord around the hook to prevent the adaptor from accidental disconnection during use.

### ❹ MIDI Connectors

**MIDI IN:** receives incoming MIDI data from external devices.

**MIDI OUT:** transmits MIDI data (Exclusive or Pitch Bend messages) originating within the ASC-10.

**MIDI THRU:** re-transmits the data received via MIDI IN.

## ROLAND ASC-10

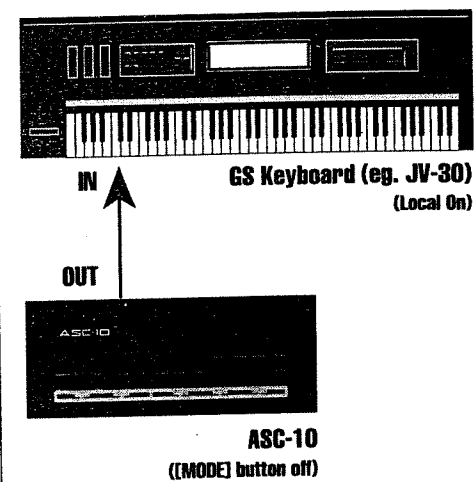
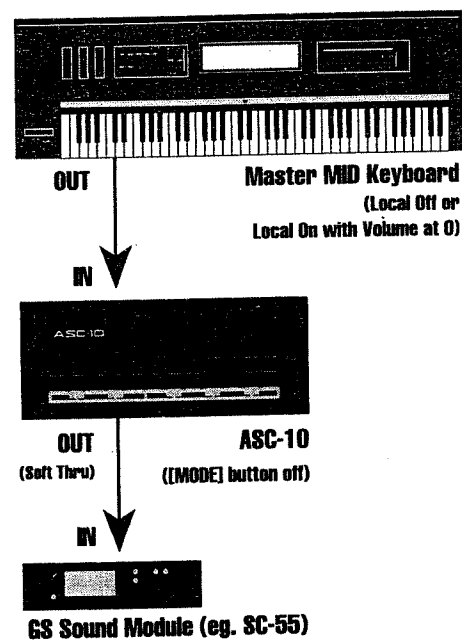
### Connections / GS Mode

The GS mode should be selected whenever you are using a GS compatible\* keyboard or sound module. In this mode, Exclusive messages from the ASC-10 control the pitch of the sound module or the tone generator in the keyboard. Follow one of these *basic* connection examples when using a GS device.

*Note that a sequencer can be added to the setup between the keyboard and the ASC-10; turn the sequencer's "Soft Thru" function on. Observe the keyboard's "Local" control setting and be sure data is transmitted and received by the same Part(s).*

The GS mode is the *default* setting of the ASC-10, that is, it is automatically selected at power up. The unit is in the GS mode when the LED on the [MODE] button is dark.

\* The GS Format is Roland's universal set of specifications which was formulated in the interest of standardizing the way in which sound generating devices will operate when MIDI is used for the performance of music. If you use a sound generating unit which carries the GS logo, you will be able to faithfully reproduce any commercially available song data which also carries the GS logo.



**In any setup, connect the audio output to a mixer, power amplifier, keyboard amplifier or to powered monitor speakers. Headphones can also be used.**



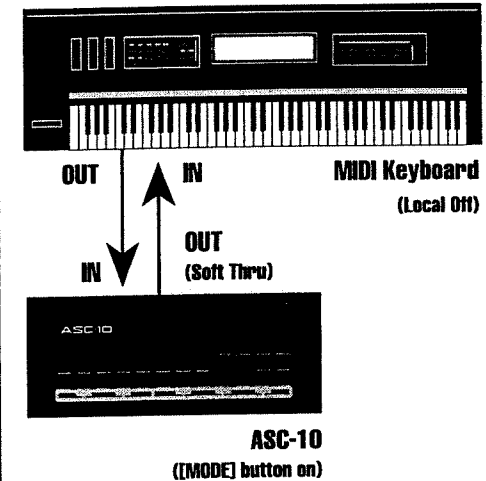
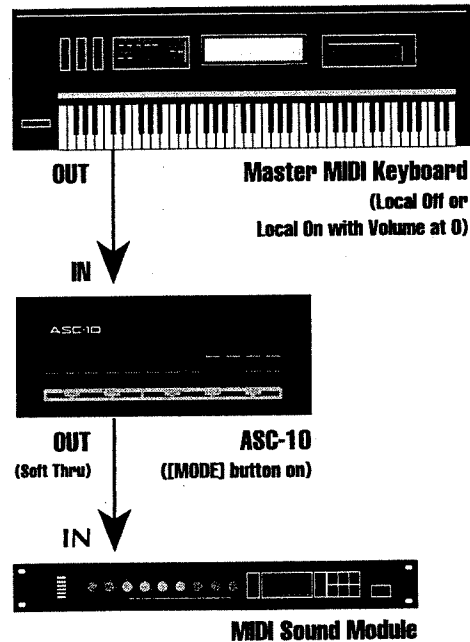
## Connections / Bender Mode

Use one of these basic configurations if your system includes a *non-GS* keyboard or sound module which can respond to Pitch Bend messages.

In the Bender mode, data from the keyboard is received by the ASC-10 wherein the appropriate Pitch Bend messages are added in real time. The resulting data is sent on to the sound module or back to the tone generator in the keyboard.

*Observe the settings for the keyboard's "Local" control and be sure transmission and reception of MIDI messages occurs on the same MIDI channel.*

The Bender mode has the limitation of providing only monophonic capability (last note / lowest note priority). To select the Bender mode, press the [MODE] button so the LED lights.



**In any setup, connect the audio output to a mixer, power amplifier, keyboard amplifier or to powered monitor speakers. Headphones can also be used.**

## Powering Up

Check that all connections are correct and secure. Turn on your equipment in the following sequence:

- ❶ Keyboard
- ❷ Sequencer (if you're using one)
- ❸ ASC-10 (the unit will perform a system check and will be ready to work in a few seconds.)
- ❹ Sound module (if you're using one)
- ❺ Amp / mixer / powered monitor speakers

•Power down the system in reverse order.

### The GS Mode ([MODE] button off):

This is the unit's default setting (automatically selected at power up). Select this mode when you are using GS compatible devices.

In this mode, the ASC-10 sends MIDI Exclusive messages to your keyboard or sound module. These messages create the pitch changes you have specified in your custom-tuned scales.

### The Bender Mode ([MODE] button on):

Use this mode with non-GS keyboards or sound modules that respond to Pitch Bend messages.

In the Bender mode, Pitch Bend messages are added to the data received from your keyboard and/or sequencer. This MIDI data — MONO assign; last note / lowest note priority — is then sent back to your keyboard or to your sound module.

## Creating and Saving Custom Scales

Creating custom-tuned scales is a very simple matter with the ASC-10. The simplest way to illustrate is with an example. In this example, the designations "E" and "B" refer to notes on your keyboard, and [E] and [B] to Note buttons on the ASC-10.

To create a scale in which the notes "E" and "B" are lowered in pitch by 52 cents ...

### ❶ Press [E] in the Note button section.

The button LED will begin to flash.

### ❷ Press [▼].

The pitch of the note "E" will be lowered by a quarter-tone (i.e. by 50 cents). Play the first few notes of the scale to hear the drop in pitch. To return the note "E" to its original pitch, press and hold [E] and then press [CANCEL].

## SCALE CONVERTER

### ③ Press [▼] two more times.

Each press of [▼] will lower the pitch of the note "E" by one cent. Keep in mind that a one cent change in pitch is virtually imperceptible. These one cent changes are for very fine tuning. You can lower the pitch by a maximum of 60 cents.

*To create a **micro-tone** (an interval smaller than a quarter-tone), play the note "E" on your keyboard repeatedly while you hold [▲]. The pitch will slowly rise allowing you to create unusual pitch intervals.*

### ④ Now press [B] in the Note button section.

The LED on the button will begin to flash. Note that the LED on [E] lights continuously. This is to indicate that the note "E" in the scale has been altered in pitch.

### ⑤ Press [▼].

The pitch of the note "B" will be lowered by a quarter-tone. Play the note on your keyboard to confirm the pitch change. To return the note "B" to its original pitch, press and hold [B] and then press [CANCEL].

### ⑥ Press [▼] two more times.

As before, each press of [▼] will lower the pitch of the note by one cent. The pitch can be lowered by a maximum of 60 cents.

Now that the desired pitch changes have been made, it is time to store this scale setting in one of the memory positions...

### ① Press [WRITE].

The LED on the [WRITE] button and all the LEDs on the [USER MEMORY] buttons will begin to flash. If you wish to cancel the Write operation, simply press [WRITE] again.

### ② Press the [USER MEMORY] button ([1]—[8]) where you wish to store your custom scale.

When you press a [USER MEMORY] button, its LED and the [WRITE] button's LED will light momentarily and then go out. All the other LEDs will go out as well.

•An internal battery maintains your settings even while the main power is off.

Your custom-tuned scale has now been stored at the memory position you selected and can be instantly recalled at any time by pressing the corresponding [USER MEMORY] button. Press [CANCEL] to return to standard equal temperament.

If you wish to replace the scale stored at a particular memory position with another ...

① Press the corresponding [USER MEMORY] button to select the scale you wish to replace.

② Reset the detuned pitches to equal temperament: in turn, press each lit Note button and [CANCEL] simultaneously.

③ Create your new scale using the method as previously described.

④ Store the new scale at the same memory position using the Write operation.

## Parts and MIDI Channels

### GS Mode

In this mode you select which 'Part(s)' on your keyboard or sound module will receive tuning data (in the form of Exclusive messages) from the ASC-10.

**1 Press [MIDI].**

The LED on the [MIDI] button will begin to flash and one or more of the 16 Number buttons (one for each Part) will light. [The button(s) which light(s) will reflect the previous setting(s).] The Number button(s) which light(s) corresponds to the Part(s) receiving tuning data. [Part number 1 is selected by default each time the unit is turned on.]

**2 Press the Number button(s) which correspond(s) to the desired Part number(s).**

The LED(s) on the selected button(s) will light(s). To prevent a Part from receiving tuning data, press the corresponding Number button so that its LED is dark.

**3 Press [MIDI] again.**

The LED on the [MIDI] button will light momentarily and then go out. All the Number buttons will go out at the same time, as the tuning data is transmitted to the selected Part(s).

### Bender Mode

In the Bender mode, you select the MIDI channel over which tuning data (Pitch Bend messages) will be transmitted to your keyboard or sound module.

**1 Press [MIDI].**

The LED on the [MIDI] button will begin to flash and one of the 16 Number buttons (one for each MIDI channel) will light. The Number button which lights corresponds to the selected MIDI channel. [MIDI channel 1 is selected by default each time the unit is turned on.]

**2 Press the Number button which corresponds to the desired MIDI channel number.**

The LED on the selected Number button and on the [MIDI] button will light momentarily and then go out.

### Send 'Local On/Off' Message

If your keyboard features 'Local' control, you can easily turn it on or off from the ASC-10. Set your keyboard to 'Local Off' when using the ASC-10 in the Bender mode:

**Press and hold [MIDI] and then press [A#].**

A 'Local Off' message is transmitted to your keyboard.

To return to 'Local On'...

**Press and hold [MIDI] and then press [A].**

A 'Local On' message is transmitted to your keyboard.

### Send 'Bend Range +2' Message

If you intend to use the ASC-10 in the Bender mode, the bend range of your keyboard must be set to +2 (semitones). A '+2' bend range message is automatically sent whenever you select the Bender mode. If, however, you wish to make the setting manually...

**Press and hold [MIDI] and then press [B].**

A 'Bend Range +2' message is transmitted to your keyboard.

## Setup Chart

MODEL	MODE		NOTES
	GS	BENDER	
JD-800	X (no)	O (yes)	Set MIDI Local Off. Bender Range parameter in PATCH COMMON must be set as "D:02, U:02"
JV-80	X	O	Set MIDI Local Off.
JV-30	O	O	In the Bender mode, set MIDI Local Off.
JW-50	O	X	Cannot set MIDI Local Off.
SC-55	O	O	Leave as is.
KR-5500/4500/ 3500/650	X	O	Set MIDI Local Off. Set MIDI Sync mode to Internal. Set Keyboard mode to Split.
E-15/35/70	X	X	GS: Does not recognize System Exclusive messages. BENDER: Cannot set MIDI Local Off.
HP Series	X	X	Does not respond to Pitch Bend messages.
FP-8	X	X	Does not respond to Pitch Bend messages.

## Specifications

Internal Memory	8 User Memory positions
Connectors	MIDI IN / OUT / THRU DC IN
Power Supply	DC 9V: AC adaptor (PSA series)
Dimensions	250(W) x 120(D) x 45(H) mm (9-7/8" x 4-3/4" x 1-13/16")
Weight	820g (1.8lbs)

*In the interest of product development, the design and specifications of this unit are subject to change without prior notice.*

## MIDI Implementation Chart

Function***	Transmitted	Recognized	Remarks
<b>Basic Channel</b> Default Changed	X X	X X	
<b>Mode</b> Default Messages Altered	X X *****	X X	
<b>Note Number</b> True Voice	* *****	X X	
<b>Velocity</b> Note ON Note OFF	* *	X X	
<b>After Touch</b> Key's Ch's	* *	X X	
<b>Pitch Bend</b>	*	X	
<b>Control Change</b> 6 100, 101 other	O O *	X X X	Data Entry RPN LSB, MSB
<b>Prog Change</b> True #	* *****	X X	
<b>System Exclusive</b>	O	X	
<b>System Common</b> Song Pos Song Sel True	* * *	X X X	
<b>System Real Time</b> Clock Commands	* *	X X	
<b>AUX Messages</b> Local ON/OFF All Notes OFF Active Sense Reset	O * O X	X X X X	
<b>Notes</b>	* This unit transmits all received MIDI messages except Active Sense.		

## MIDI Implementation Chart

Function***	Transmitted	Recognized	Remarks
<b>Basic Channel</b> Default Changed	1 1-16	X X	
<b>Mode</b> Default Messages Altered	X X *****	X X	
<b>Note Number</b> True Voice	* *****	X X	
<b>Velocity</b> Note ON Note OFF	* *	X X	
<b>After Touch</b> Key's Ch's	* *	X X	
<b>Pitch Bend</b>	0	X	
<b>Control Change</b>	6 100, 101 other	X X X	Data Entry RPN LSB, MSB
<b>Prog Change</b> True #	* *****	X X	
<b>System Exclusive</b>	*	X	
<b>System Common</b> Song Pos Song Sel True	* * *	X X X	
<b>System Real Time</b> Clock Commands	* *	X X	
<b>AUX Messages</b> Local ON/OFF All Notes OFF Active Sense Reset	0 * 0 X	X X X X	
<b>Notes</b>	* This unit transmits all received MIDI messages except Active Sense.		

For the USA

## RADIO AND TELEVISION INTERFERENCE

**WARNING** — This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or non-verified equipment is likely to result in interference to radio and TV reception.

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such a interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measure:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable. These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.

If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures.

- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV. If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

"How to Identify and Resolve Radio — TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

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.



For the U.K.

**IMPORTANT:** THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE : NEUTRAL  
BROWN : LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.  
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

For Germany

## Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

**Roland Scale Converter ASC-10**

(Gerät. Typ. Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

**Amtsbl. Vfg 1046/1984**

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

**Roland Corporation Osaka/Japan**

Name des Herstellers/Importeurs

## Apparatus containing Lithium batteries

### ADVARSEL!

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandøren.

### ADVARSEL!

Lithiumbatteri – Eksplosjonsfare.  
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.  
Brukt batteri returneres apparatleverandøren.

### VARNING!

Explosionsfara vid felaktigt batteribyte.  
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparatillverkaren.  
Kassera använt batteri enligt fabrikantens instruktion.

### VAROITUS!

Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

 Roland®  
**26055637**

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