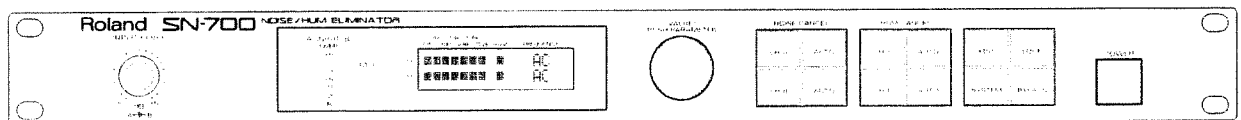




Roland®

# NOISE/HUM ELIMINATOR

# SN-700

Owner's Manual



	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<b>ATTENTION:</b> RISQUE DE CHOC ELECTRIQUE NE PAS OUVRI		
<b>CAUTION:</b> TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

## IMPORTANT SAFETY INSTRUCTIONS

### SAVE THESE INSTRUCTIONS

**WARNING** - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled onto the product; or
  - C. The product has been exposed to rain; or
  - D. The product does not appear to operate normally or exhibits a marked change in performance; or
  - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

**For the USA**

This product may be equipped with a polarized line plug (one blade wider than the other) . This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.

**For Canada**

For Polarized Line Plug

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.  
**ATTENTION:** POUR ÉVITER LES CHOCs ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU' AU FOND.

**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.  
 Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.







# 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 -----

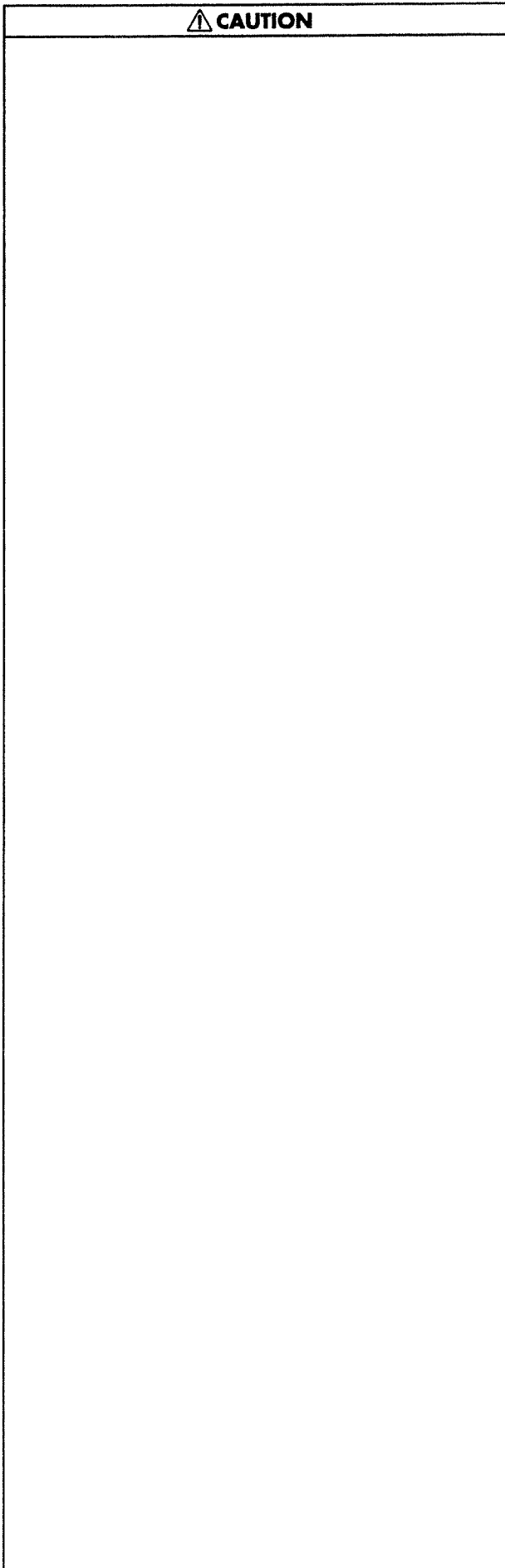
 <b>WARNING</b>	
• Before using this unit, make sure to read the instructions below, and the Owner's Manual.	
• Do not open or perform any internal modifications on the unit.	
• Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your dealer, or qualified Roland service personnel.	
• Never use or store the unit in places that are: <ul style="list-style-type: none"> <li>• Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are</li> <li>• Damp (e.g., baths, washrooms, on wet floors); or are</li> <li>• Humid; or are</li> <li>• Dusty; or are</li> <li>• Subject to high levels of vibration.</li> </ul>	
• This unit should be used only with a rack or stand that is recommended by Roland.	
• When using the unit with a rack or stand recommended by Roland, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand, you still need to make sure that any location you choose for placing the unit provides a level surface that will properly support the unit, and keep it from wobbling.	
• The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the unit.	
• 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.	

 <b>WARNING</b>	
• This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.	
• Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.	
• 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.	
• Before using the unit in a foreign country, consult with your dealer, or qualified Roland service personnel.	

**⚠ CAUTION**

- The unit should be located so that its location or position does not interfere with its proper ventilation. 
- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from an outlet. 
- 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 power cord or its plug with wet hands when plugging into, or unplugging from, an outlet. 
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices. 
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p. 9). 
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet. 

**⚠ CAUTION**



Thank you for purchasing the Roland SN-700 Noise/Hum Eliminator.

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3 - 4), and "IMPORTANT NOTES" (p. 6). 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.

---

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## Main features

- The combination of noise canceling and hum canceling effectively reduces unwanted interference such as the noise generated by instruments and lighting, hum induced by power supplies, hum picked up by microphones and guitars, and even hiss noise from cassette tapes. The SN-700 is a powerfully effective tool for live PA productions and studio recording.
- Since noise canceling divides the audible spectrum into seven bands and reduces noise in the way most suitable for each band, noise can be effectively eliminated with minimal adverse impact on the program material. A wide variety of musical sources can be handled by adjusting the attack and release settings.
- Hum canceling is performed over a wide bandwidth (20 Hz – 10 kHz) to eliminate hum with minimal effect on the program material. The automatic frequency detection function can detect the frequency of hum from the AC power supply or input signal, and remove the hum precisely.
- The Auto function provides a simple procedure which automatically makes the optimal settings for noise and hum removal.
- 20 bit AD/DA ensures a high S/N ratio.
- 20 dB of headroom is provided, allowing the SN-700 to be used on the main program of a PA/SR system.
- Both balanced phone jacks and XLR connectors are provided for input and output, allowing use with a variety of equipment including channel insertion.
- The SN-700 is equipped with a memory feature that allows settings geared to specific situations to be stored for later recall.
- The Lock function can be used to prevent accidental operation.
- MIDI is supported, allowing the SN-700 to be operated from an external MIDI device.

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# IMPORTANT NOTES

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3 - 4, 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).
- 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.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.

## Maintenance

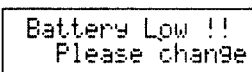
- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzene, thinners, alcohol or solvents of any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

## Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up in another MIDI device (e.g., a sequencer), or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

## Memory Backup

- This unit contains a battery which powers the unit's memory circuits while the main power is off. When this battery becomes weak, the message shown below will appear in the display. Once you see this message, have the battery replaced with a fresh one as soon as possible to avoid the loss of all data in memory. To have the battery replaced, consult with your dealer, or qualified Roland service personnel.



## Additional Precautions

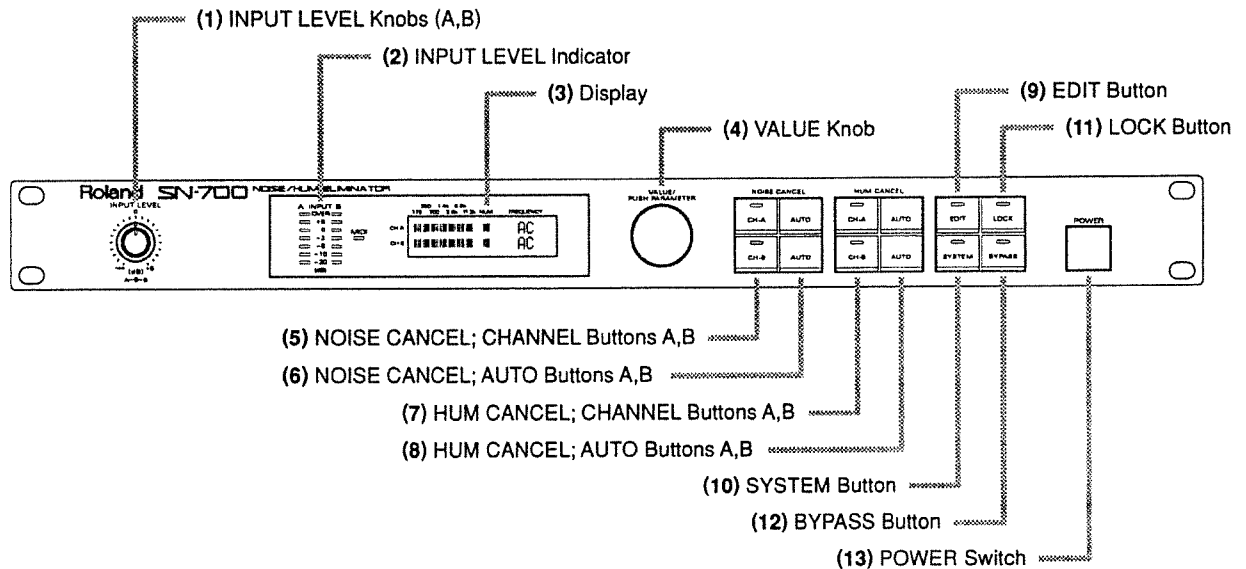
- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in another MIDI device (e.g., a sequencer).
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- 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.
- Never strike or apply strong pressure to the display.
- 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.
- A small amount of heat will radiate from the unit during normal operation.
- 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.

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# Front and rear panel

## < Front panel >



### (1) INPUT LEVEL Knobs (A, B)

This adjusts the input level. Normally this should be left at the "0" position. At the "0" position the gain will be unity, and the input and output levels will be identical.

\* *The input level can be adjusted independently for A and B.*

### (2) INPUT LEVEL Indicator

This indicates the input level.

### (3) Display

This indicates the operational status of the SN-700. During editing, this indicates the values of the various settings.

### (4) VALUE Knob

This knob is used during editing. On the SN-700, the value knob is operated by "rotating," "pressing," and "rotating while pressing" it.

### (5) NOISE CANCEL; CHANNEL Buttons A, B

These buttons turn noise canceling on/off.

### (6) NOISE CANCEL; AUTO Buttons A, B

Press these buttons to use the Auto function for noise canceling.

### (7) HUM CANCEL; CHANNEL Buttons A, B

These buttons turn hum canceling on/off.

### (8) HUM CANCEL; AUTO Buttons A, B

Press these buttons to use the Auto function for hum canceling.

### (9) EDIT Button

Use this button to edit the settings.

### (10) SYSTEM Button

Use this button to set System parameters (p.32).

### (11) LOCK Button

Use this button to operate the Lock function.

When the button indicator is lit, panel button operations will be ignored, allowing you to preserve settings from inadvertent modification. (Refer to p.31 for the procedure.)

### (12) BYPASS Button

This button controls the Bypass function that directly outputs the input signal.

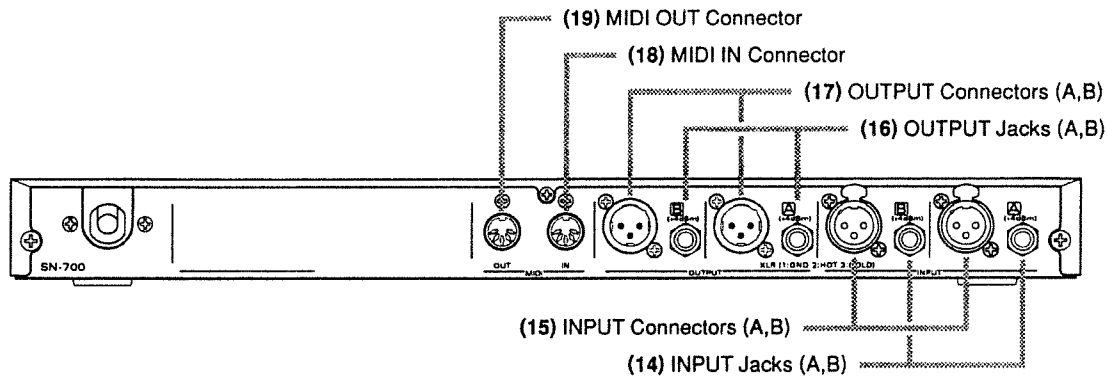
Each time you press the Bypass button, Bypass will be switched on/off. When Bypass is on, the button indicator will light. (Refer to p.31 for the procedure.)

### (13) POWER Switch

This turns the power on/off.

\* *When the power is off, the SN-700 will directly output the input signal.*

## < Rear panel >



### (14) INPUT Jacks (A, B)

These inputs are stereo phone jacks compatible with balanced input.

### (15) INPUT Connectors (A, B)

These inputs are XLR connectors compatible with balanced input.

### (16) OUTPUT Jacks (A, B)

These outputs are stereo phone jacks compatible with balanced output.

### (17) OUTPUT Connectors (A, B)

These outputs are XLR connectors compatible with balanced output.

### (18) MIDI IN Connector

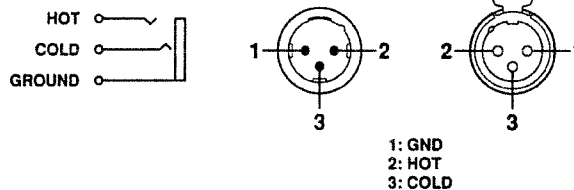
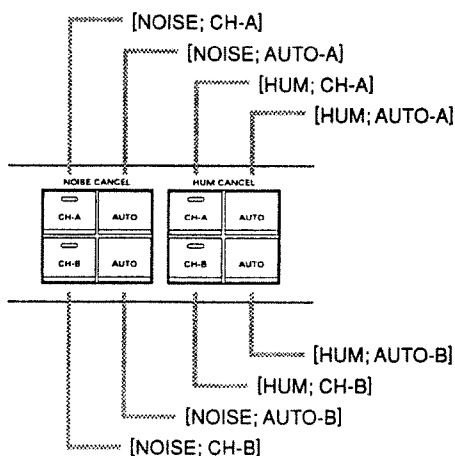
This connector receives MIDI messages.

### (19) MIDI OUT Connector

This connector transmits MIDI messages.

The SN-700 provides channel A and B buttons and Auto A and B buttons for both the noise cancel and the hum cancel sections. In this manual, these buttons are referred to as follows.

The pin configuration of the inputs and outputs is as follows. Before making connections, make sure of the pin configuration for the devices being connected.



\* The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., includes newer sounds), so what you actually see in the display may not always match what appears in the manual.



# Connections

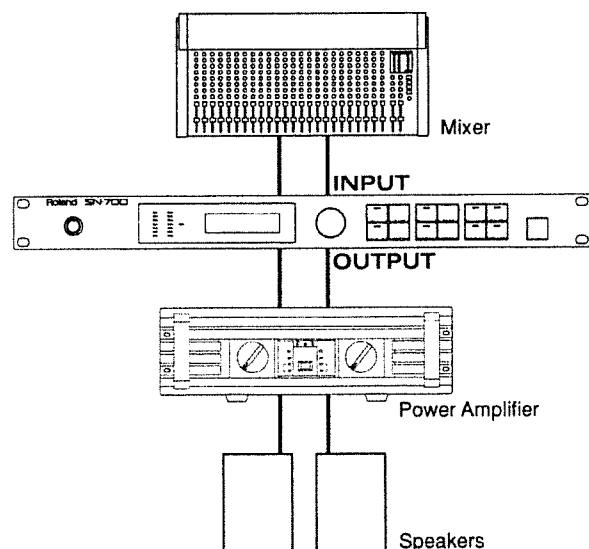
Depending on how you will be using the SN-700, make the appropriate connections as follows.

- \* 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.
- \* The input/output level of connected devices should be set to "+4 dBm".
- \* The phone input/output jacks take priority over the XLR connectors.
- \* Do not connect the SN-700 to the output of a power amp.

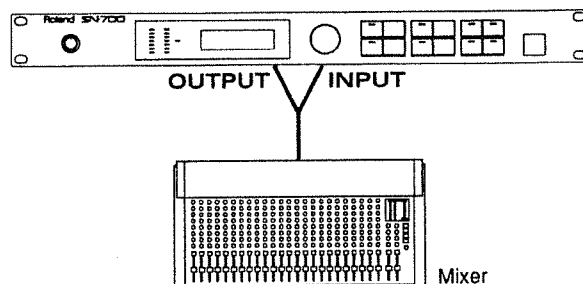
## ( Placement of connected devices )

The noise canceling and hum canceling functions of the SN-700 operate so as to minimize any effect on the sound of the program source, but some change is unavoidable. There will be correspondingly greater change as there is more noise or hum. If you attempt to first minimize noise and hum in the connected devices by re-orienting them and paying attention to their cabling, subsequent use of the SN-700 will result in minimal impact on program source sound quality.

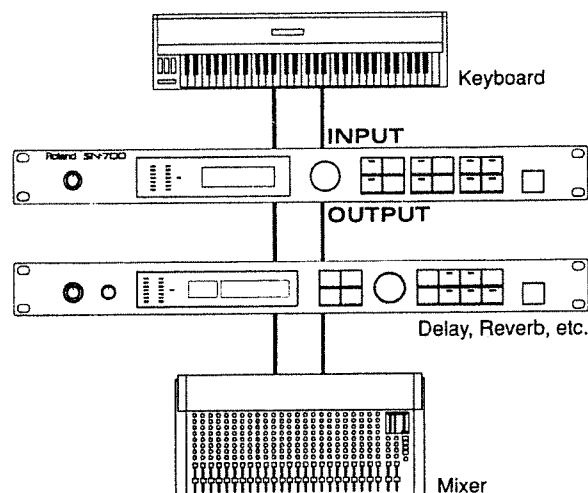
### Connection between the mixer and the power amp



### Connection using mixer channel insertion



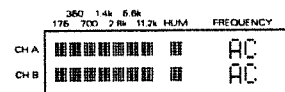
### Connection to an instrument



# Turning on the power

After checking connections with the external devices, turn on the SN-700's power.

The display will light, and the SN-700 will be in the status that it was in when the power was last turned off.



- \* Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

(Sound source) -> mixer -> SN-700 -> power amp

- \* 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 the power is not on, signals input to the SN-700 are output without change.
- \* Depending on the location where the SN-700 is placed, the display may be difficult to read. If so, adjust the display contrast (p.32).

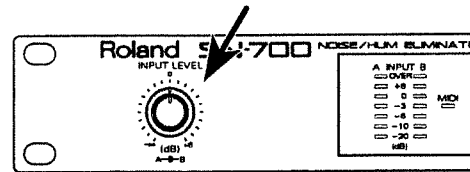
## Easy operation

This section explains the easy way to use noise canceling and hum canceling; by using the Auto function. For details on making parameter settings manually, or setting the configuration parameters for the Auto function, refer to Noise Canceling (p.22) or Hum Canceling (p.14).

## Adjusting the input levels

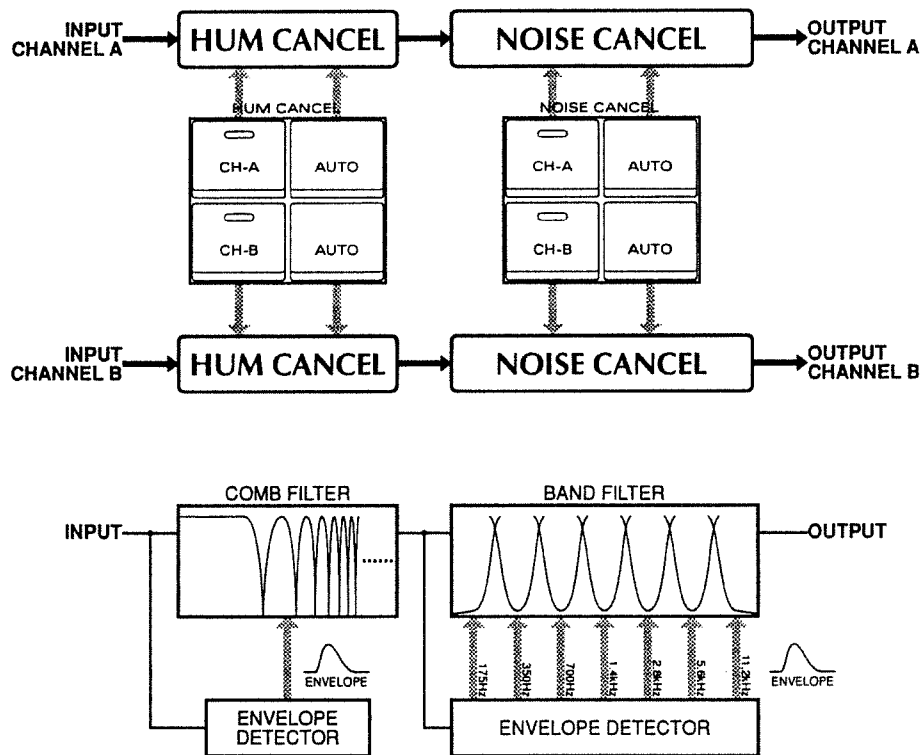
Use the input level knob to adjust the input level so that the "OVER" mark of the input level indicator does not light. Normally, the input level should be adjusted so that the "+6 dB" mark of the input level indicator lights occasionally.

When the input level knob is at the "0" position, the gain will be unity, and the input and output levels will be identical.



\* The left and right input levels can be adjusted independently.

## Block diagram of the SN-700's internal structure

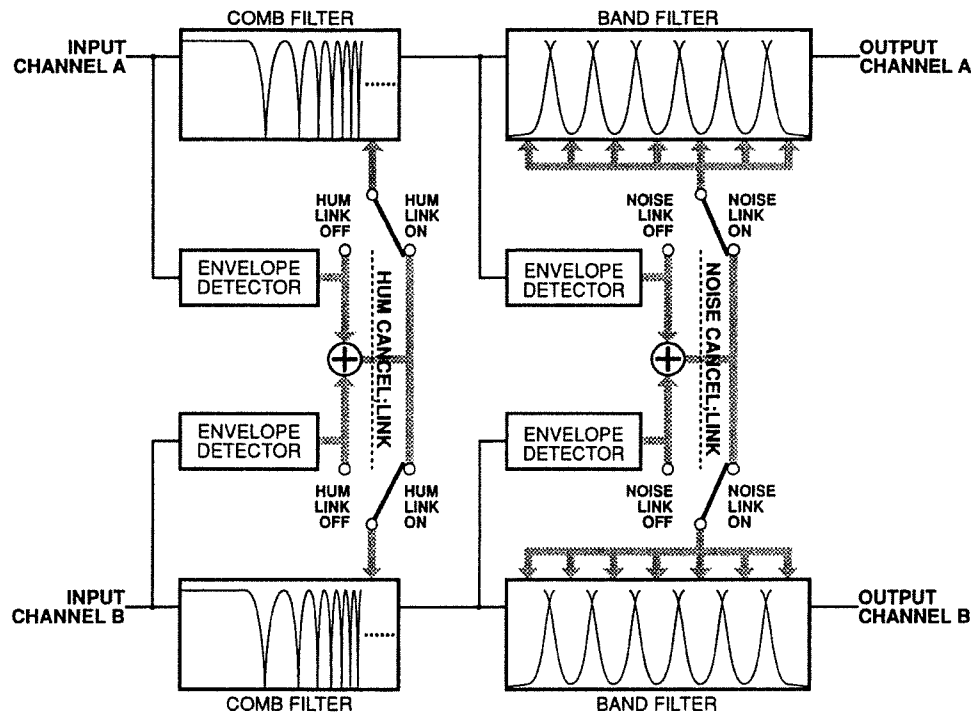


As shown in the diagram, the SN-700 has independent hum cancel and noise cancel functions for channels A and B. After the input signal is processed through the hum cancel block, it is processed through the noise cancel block. Thus if the input signal includes both hum and noise, you should first make hum cancel settings to remove the hum, and then make noise cancel settings to remove the noise.

The SN-700's Auto function detects the frequency and level of hum and noise, and automatically makes settings for a variety of parameters. This means that if signals other than hum and noise are input into the SN-700, the Auto function will not be able to accurately detect the appropriate frequency or level. When using the Auto function, temporarily halt the signal so that only the hum and noise is input, or use the Auto function during a silent portion between songs. This will ensure accurate detection.

---

## The Link function: using the SN-700 in stereo



The SN-700 processes channels A and B independently, but when a stereo sound source is connected, the location of the stereo sound source may become unstable if the two channels operate independently. In such cases, you can use the Link function to make channels A and B operate together. When Link is on, the input signal will be monitored for each channel, and the channel whose input level is greatest will be the basis of control for both channels. By linking the channels in this way, instabilities in the location of a stereo sound source can be avoided.

The Link function is set independently for hum cancel and for noise cancel.

For details on using the Link function, refer to "Link function settings for hum canceling" (p.21) and "Link function settings for noise canceling" (p.31).

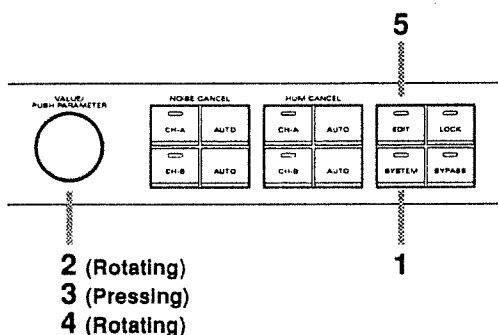
## Using the factory preset data

When using the SN-700's Auto function, you can set the configuration parameters as appropriate for your setup and for the type of noise, so that hum and noise are removed most effectively. However, in this section, we will explain how to remove hum and noise using factory preset settings for the configuration parameters.

## Loading from memory

Here's how to load a factory preset from memory.

### (Procedure)



#### 1. Press [SYSTEM].

The button indicator will light, and the display will change.

#### 2. Rotate the VALUE knob so that the following parameter (Load) appears in the display.

```
Select/ Push Knob
SYS:LOAD MEMORY
```

#### 3. Press the VALUE knob. The following display will appear, and you can now select the memory that you wish to load.

```
Load? Push[EDIT]
# 1:STANDARD
```

#### 4. Rotate the VALUE knob to select the desired Patch number.

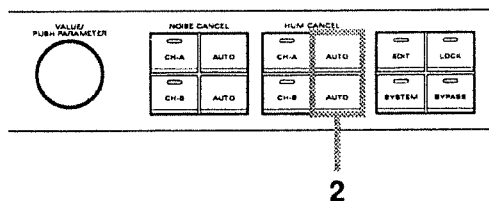
In this example, select patch number 1, "STANDARD."

#### 5. Press [EDIT], and the contents of Patch number 1 "STANDARD" will be loaded.

## Hum canceling

Here we will use the Auto function with the configuration parameter settings of the "STANDARD" factory preset to remove hum from the input signal.

The Auto function will detect the frequency of the power supply line, automatically detect the hum level, make parameter settings, and turn on hum canceling. To remove the hum, all you have to do is simply press the Auto button.



#### 1. Input hum and noise into the SN-700.

Since the frequency and level of the hum will be automatically detected, input just the hum and noise that occurs in a situation of normal use.

#### 2. Press the Auto button [HUM;AUTO-A] or [HUM;AUTO-B] for the channel to which you want to apply hum canceling.

When you press the Auto button, the frequency of the power supply line and hum level will be detected, and the parameter settings required for canceling the hum will be made automatically.

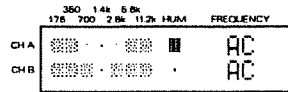
When the settings are complete, the indicator of the channel button that you pressed ([HUM;AUTO-A], [HUM;AUTO-B]) will light, and hum canceling will operate.

To switch hum canceling on/off, use the channel buttons ([HUM;CH-A], [HUM;CH-B]). The indicator of the channel button will be lit when that channel is on and dark when it is off.

The parameters which were set by the Auto function can be modified manually. (For parameter settings, refer to p.15.)

## About the display

While hum canceling is in operation, the operational status will be indicated in the display as follows.



“■” displayed:

Hum is being removed.

“.” displayed:

Hum canceling is in pass-through status.

In this example, the AC power supply line frequency (p.15) is displayed.

The Frequency Detect Source setting (p.19) of the Auto function will be displayed as follows.

**AC:**

The AC power supply line frequency will be detected, and hum canceling will always be performed based on the power supply frequency.

**Number displayed:**

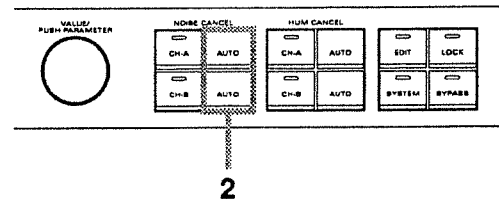
The fundamental frequency for hum cancellation will be displayed.

## Noise canceling

Here we will use the Auto function with the configuration parameter settings of the “STANDARD” factory preset to remove noise from the input signal.

The Auto function will automatically detect the noise level, make parameter settings, and turn on noise canceling. To remove the noise, all you have to do is simply press the Auto button.

If the signal includes both hum and noise, first use hum canceling to remove the hum, and then use noise canceling.



### 1. Input noise into the SN-700.

Since the level of the noise will be automatically detected, input just the noise that occurs in a situation of normal use.

### 2. Press the Auto button [NOISE;AUTO-A], [NOISE;AUTO-B] for the channel to which you want to apply noise canceling.

When you press the Auto button, the noise level of each band will be detected, and the parameter settings required for canceling the noise will be made automatically.

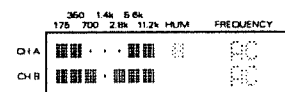
When the settings are complete, the indicator of the channel button that you pressed ([NOISE;AUTO-A], [NOISE;AUTO-B]) will light, and noise canceling will operate.

To switch noise canceling on/off, use the channel buttons ([NOISE;CH-A], [NOISE;CH-B]). The indicator of the channel button will be lit when that channel is on and dark when it is off.

The parameters which were set by the Auto function can be modified manually. (For parameter settings, refer to p.24.)

## About the display

While noise canceling is in operation, the operational status will be indicated in the display as follows.



**Bands for which “■” is displayed:**

Noise in the indicated band is being removed.

**Bands for which “.” is displayed:**

This band is in a pass-through state.

# Hum canceling

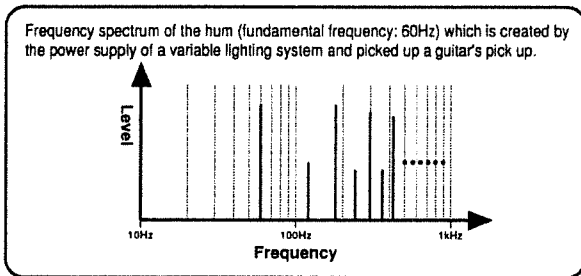
## How hum canceling works

The frequency components of hum contain signals at a fundamental frequency and at integer multiples of that frequency. For example in the case of power supply line hum, the fundamental frequency will be the power supply frequency, and the hum will include components at integer multiples of that frequency.

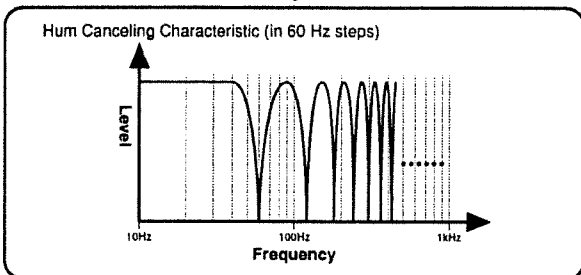
Hum canceling uses a special type of filter called a comb filter to remove the components of the hum. Although the comb filter removes the hum, it will also remove those frequencies from the program material as well.

Thus, in order to minimize the effect that hum canceling has on the sound of the program material, the comb filter operates to remove the hum only when the input signal falls below the threshold level. When the input signal is above the threshold level, the input signal will be output without change.

Since hum canceling adjusts the depth of the comb filter according to the level of the input signal, hum can be removed when it is most objectionable.



+



↓  
The hum is removed.

## The Auto function

The SN-700 provides an Auto function that automatically sets the hum cancel parameters.

The Auto function detects the frequency and level of the hum according to the configuration parameters, and sets the hum cancel parameters.

The configuration parameters predetermine the way in which the Auto function sets the hum cancel parameters. For example, once you have specified the way in which the comb filter frequency is to be set and the relation between the hum level and the threshold setting, any change in the hum level can be dealt with by simply pressing the Auto button so that the optimal settings are made automatically. By setting the configuration parameters as appropriate for your operating environment and the type of hum, you can remove hum effectively.

You can also call up factory preset settings. It is also possible to manually make fine adjustments to the parameters that were automatically set by the Auto function.

The configuration parameters used by the Auto function are explained in detail in "Configuration parameter list" (p.19), but here we will provide a brief explanation of each parameter.

### (FREQUENCY DETECT SOURCE)

Select the source from which the frequency of the hum will be detected; the AC power line or the audio signal—or use a manually specified value instead of automatic detection.

### (HUM NOISE RATIO)

Specify the amount of attenuation that will remove the hum. If hum is obtrusive during periods of silence in the program material, set this to a higher value.

### (THRESHOLD MARGIN)

Specify the level difference between the detected hum level and the threshold level.

If hum is obtrusive during program material playback, set this to a higher value. If tonal changes in the program material become objectionable, set this to a lower value.

### (DETECTING TIME)

Specify the time during which the Auto function will analyze the fundamental frequency and the hum level. The longer this time is, the more accurately hum can be analyzed. However, if it is not possible to input just the hum portion of the input signal, set this to the length of silence between songs.

# Hum Cancel parameter list

This section explains the function of each hum cancel parameter.

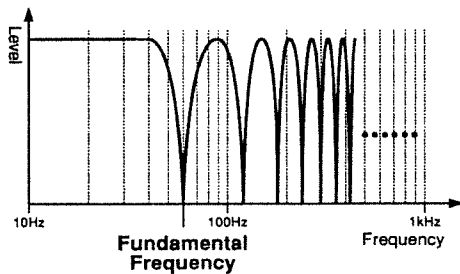
## Parameter list

### [FREQUENCY]

(AC, 20.00 Hz – 10.00 kHz)

Specify the fundamental frequency (the lowest of the harmonic partials) for hum canceling. If you select "AC" the fundamental frequency will be automatically locked to the power line frequency.

HC-A: Freq= 60.00



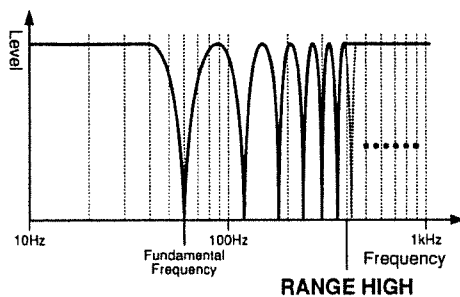
### [RANGE HIGH]

(100 Hz – 20.0 kHz, UNLIMIT)

Specify the upper frequency limit that hum canceling will affect.

If you select "UNLIMIT" the highest frequency reproducible by the SN-700 will be the upper limit.

HC-A: RngH=UNLIMIT



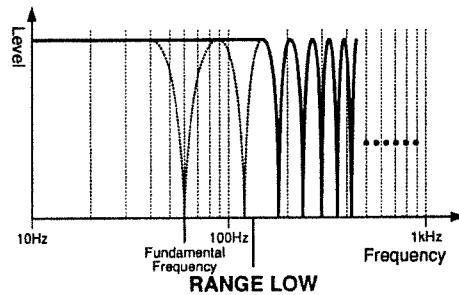
### [RANGE LOW]

(UNLIMIT, 20 Hz – 20.0 kHz)

Specify the lower frequency limit that hum canceling will affect.

If you select "UNLIMIT" the lowest frequency reproducible by the SN-700 will be the lower limit.

HC-A: RngL=UNLIMIT

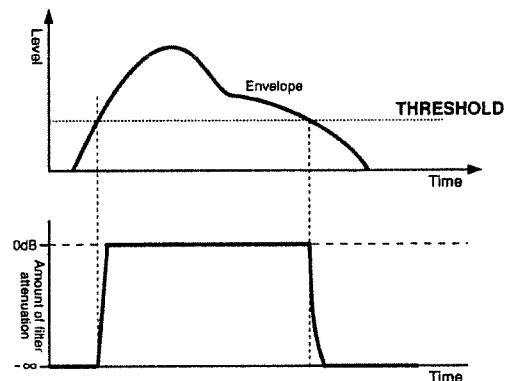


### [THRESHOLD]

(-60.0 – 0.0 dB)

Specify the threshold level at which the hum canceling attenuation will begin to change when the input signal rises and when it falls.

HC-A: Thrs=-40.0dB



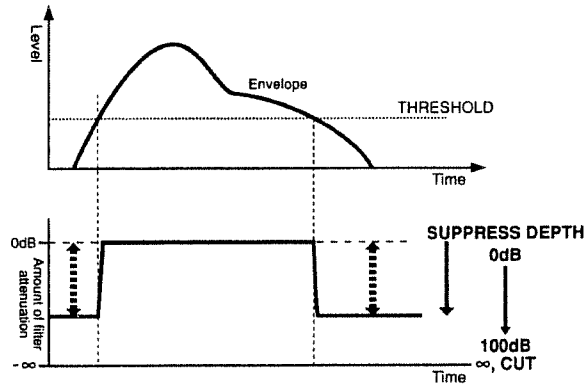
## [SUPPRESS DEPTH]

(0 – 100 dB, CUT)

Specify the amount of attenuation with which hum canceling will remove the hum when the input signal is below the threshold level.

A setting of "CUT" will produce infinite attenuation.

```
HC-A:Depth= CUT
```

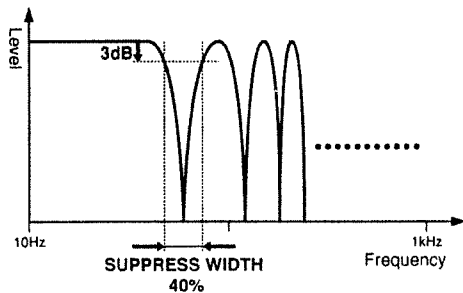
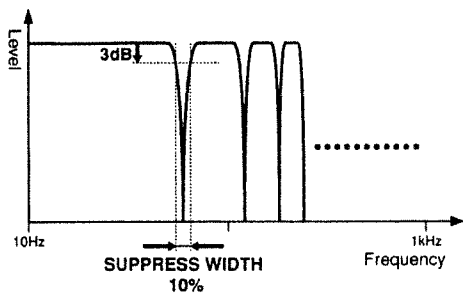


## [SUPPRESS WIDTH]

(10 – 40%)

Specify the width of the filter that will remove the hum.

```
HC-A:Wdth= 25%
```



## [OPEN GAIN]

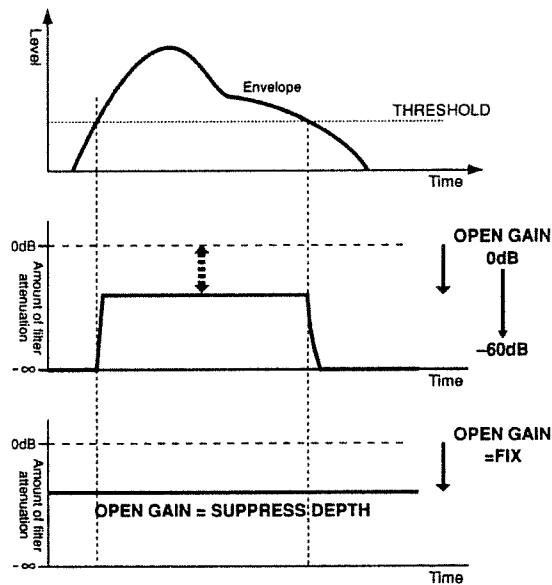
(-60 – 0 dB, FIX)

Adjust the amount of filter attenuation that will occur when the input signal is above the threshold level.

If hum is objectionable when the input signal is above the threshold level, you can adjust Open Gain to decrease the hum.

With a setting of "FIX" the filter attenuation will be fixed at the Suppress Depth setting regardless of the level of the input signal. Use a setting of "FIX" when there is an obtrusively high level of hum.

```
HC-A:Gain= 0dB
```



When "Open Gain = FIX" the filter will not be affected by the envelope, so "Open Gain = Suppress Depth" is maintained.



---

---

## [ATTACK TIME]

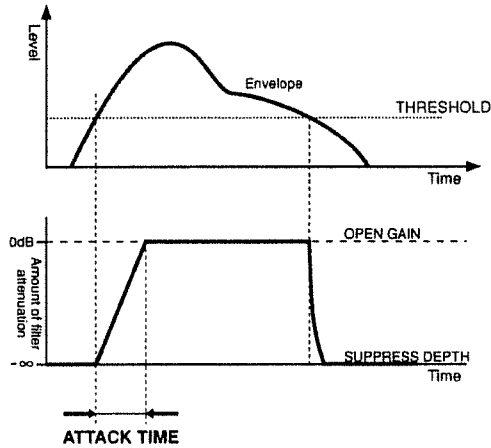
(0.1 – 100 ms)

---

---

Specify the time over which the filter attenuation will change from the Suppress Depth to the Open Gain setting when the input signal rises to exceed the threshold level.

```
HC-A:Atck= 4.0ms
```



---

---

## [HOLDING TIME]

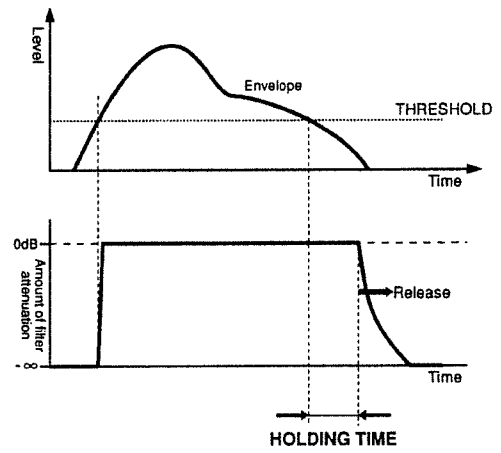
(0 – 1000 ms)

---

---

Specify the minimum time from when the input signal falls below the threshold level until the release is begun. By adjusting the Holding Time, you can minimize "breathing" effects caused by frequent changes in filter attenuation, such as could occur when the input signal changes level in the region of the Threshold Level, or when the input signal changes continuously.

```
HC-A:Hold= 100ms
```



---

---

## [RELEASE TIME]

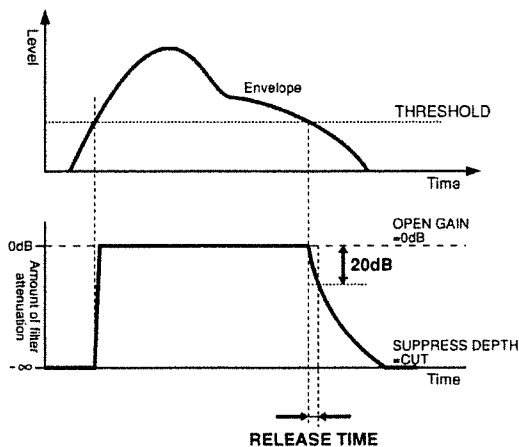
(10 – 2000 ms)

---

---

Specify the time over which the filter attenuation will reach -20 dB when the input signal falls below the threshold level, initiating the release. Since this time value is displayed based on an Open Gain of "0 dB" and a Suppress Depth of "CUT," the actual time may be different depending on the parameter settings.

```
HC-A:Rel= 500ms
```



---

---

## [CHANNEL LINK]

(ON, OFF)

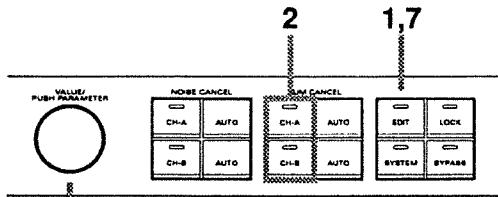
---

---

Turn the Link function on/off for hum canceling.

```
HC-A:Link= OFF
```

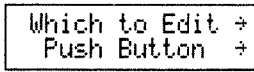
# Parameter editing



**3 (Rotating while pressing)**  
**4 (Rotating)**

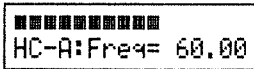
**1. Press [EDIT].**

The button indicator will light, and the following display will appear.



**2. Press [HUM;CH-A] or [HUM;CH-B] to specify the channel that you wish to edit.**

The display will show the parameters of the selected channel.



**3. While pressing the VALUE knob, rotate it to select the parameter that you wish to edit. Parameters will appear in the following order.**

- FREQUENCY
- ↕
- RANGE HIGH
- ↕
- RANGE LOW
- ↕
- THRESHOLD
- ↕
- SUPPRESS DEPTH
- ↕
- SUPPRESS WIDTH
- ↕
- OPEN GAIN
- ↕
- ATTACK TIME
- ↕
- RELEASE TIME
- ↕
- HOLDING TIME
- ↕
- CHANNEL LINK

4. Rotate the VALUE knob to modify the value.

5. Repeat steps 3 – 4 to make parameter settings.

6. If you wish to edit the other channel, continue the procedure from step 2.

7. Press [EDIT] to end parameter editing.

The modified settings can be named and stored using the Memory function. For the data saving procedure, refer to "Memory operations" (p.32).

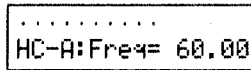
## About the display

While editing parameters, you can monitor the operational status of hum canceling for the channel that you are editing.

**Hum canceling is at maximum effect**



**Hum canceling is in pass-through status**



When "■" are displayed all the way to the right edge, hum canceling is at maximum effect. When "." are displayed all the way to the left edge, hum canceling is in pass-through status.

---

---

## Auto function parameter list

When the Auto function is used, the fundamental frequency and hum level will be detected, and the parameters will be set automatically.

The Auto function will make parameter settings in accordance with the settings of the configuration parameters.

Simply editing the configuration parameters will not affect the settings of the hum cancel parameters. The hum cancel parameters will be set only when you press the Auto button to use the Auto function.

---

## Parameters set by the Auto function, and Parameters not set by the Auto function

The following parameters are set by the Auto function without regard to the configuration parameter settings or the hum being input. If necessary, these parameters can be edited manually after you use the Auto function.

Range Low (p.15) "UNLIMIT"

Range High (p.15) "UNLIMIT"

*\* Parameters which are set automatically when the Auto function is used are explained in the following section, "Configuration parameter list."*

There are also parameters such as the following which will not be set by the Auto function, but for which the manually-made settings will be used. After using the Auto function, make settings for these parameters as appropriate for the musical source that you are processing.

Open Gain (p.16)

Attack Time (p.17)

Release Time (p.17)

Holding Time (p.17)

---

---

## Configuration parameter list

Here are the names and functions of each configuration parameter.

---

---

### [FREQUENCY DETECT SOURCE] (AC, AUDIO, MANUAL)

---

---

Select one of the following as the source from which the Auto function will detect the frequency.

When the Auto function is used, the frequency of the source you specify here will be set as the "Frequency" parameter setting (p.15). If you select "AC" or "AUDIO," the "Suppress Width" parameter (p.16) will be set to the frequency detected here.

**AC:** The "Frequency" parameter will be set to "AC" and the fundamental frequency will remain locked to the power supply frequency.

**AUDIO:** The frequency of the input signal (hum) will be analyzed and set as the "Frequency" parameter.

**MANUAL:** The Auto function will not modify the frequency, and the frequency which was set manually will be used.

```
HC-A: AUTO
Freq Src= AC
```

---

---

**[HUM NOISE RATIO]**

---

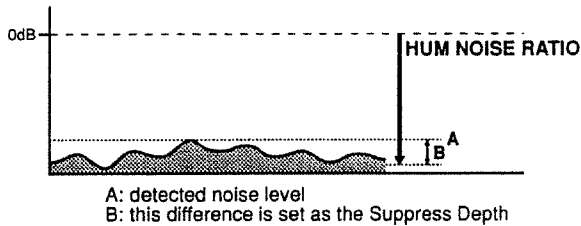
---

(0 – 100 dB, ∞)

Specify the amount of attenuation that will remove the hum. When the Auto function is used, the "Suppress Depth" parameter (p.16) will be set so as to maintain the S/N ratio (proportion of signal to noise) that was specified here.

If the Hum Noise Ratio is increased, the hum will be less obtrusive during periods of silence. However since excessively high settings may affect the tone for attack portions of the musical source (such as vocal consonants, etc.), you should set this as appropriate for the hum level included in the program material, so as to minimize any adverse impact on the tone of the musical source.

```
HC-A:AUTO
HN.Ratio= 00dB
```



---

---

**[THRESHOLD MARGIN]**

---

---

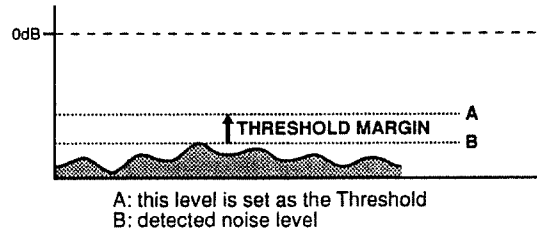
(0.0 – +30.0 dB)

Specify the level difference between the detected hum level and the threshold level.

When the Auto function is used, the hum level will be detected automatically, and the sum of the "Hum Level" and "Threshold Margin" will be set as the value of the "Threshold" parameter (p.15).

By making an appropriate Threshold Margin setting, you can make good use of the masking effect of the signal on the hum so that the hum is not noticeable. However, excessively high settings may affect the playback quality of the musical source, so you should set this parameter as appropriate to the level of the hum included in the signal, so as to minimize any adverse impact on the playback quality.

```
HC-A:AUTO
ThrsMargin= 6.0dB
```



---

---

**[DETECTING TIME]**

---

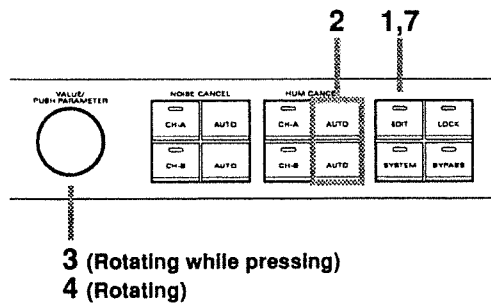
---

(0.1 – 10.0 sec)

Specify the time over which the Auto function will analyze the fundamental frequency and hum level. The longer this time is, the more accurately the hum can be analyzed. However, if it is not possible to input just the hum portion of the input signal separately, set this to the length of a silent portion between songs.

```
HC-A:AUTO
DtctTime= 1.0sec
```

## Configuration parameter editing



### 1. Press [EDIT].

The button indicator will light, and the following display will appear.

```
Which to Edit →
Push Button →
```

### 2. Press the [HUM;AUTO-A] or [HUM;AUTO-B] button for the channel that you wish to edit.

The display will show the configuration parameters for the selected channel.

```
HC-A: AUTO
Freq Src= AC
```

### 3. While pressing the VALUE knob, rotate it to select the configuration parameter that you wish to edit.

Parameters will appear in the following sequence.

```
FREQUENCY DETECT SOURCE
↕
HUM NOISE RATIO
↕
THRESHOLD MARGIN
↕
DETECTING TIME
```

### 4. Rotate the VALUE knob to modify the parameter value.

### 5. Repeat steps 3 – 4 to set the configuration parameters.

### 6. If you wish to edit the other channel, repeat the procedure from step 2.

### 7. When you are finished setting the configuration parameters, press [EDIT].

The settings you make can be given a name and stored as a Patch. For the procedure, refer to "Memory operations" (p.32).

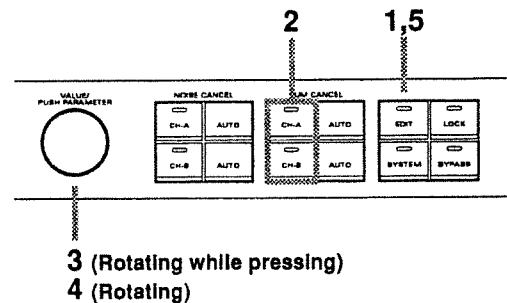
## Link function settings for hum canceling

Here's how to use the Link function for hum canceling.

\* The Link on/off parameter can be set from either channel A or B of hum canceling. Changing the setting in either channel is sufficient; there is no need to change the setting for the other channel as well.

\* When Link is on, the filter attenuation will be regulated so as to maintain the location of the stereo sound source, even if the parameter settings for channels A and B are different.

### (Procedure)



### 1. Press [EDIT].

The button indicator will light, and the following display will appear.

```
Which to Edit →
Push Button →
```

### 2. Press the [HUM;CH-] button for either channel A or B.

\* When switching Link on/off, it does not matter whether you select channel A or B.

```
HC-A:Freq= 60.00
```

### 3. While pressing the VALUE knob, rotate it to select the following parameter (Link).

```
HC-A:Link= OFF
```

### 4. Rotate the VALUE knob to change the setting.

### 5. Press [EDIT] to store the setting and return to normal operation.

## Noise canceling

### How noise canceling works

The way that we perceive noise is affected by the volume difference between the signal and noise, and by the frequency characteristics of the noise. For example noise that is not noticeable when the program source is loud can be quite obtrusive when the program source is soft. Also, noise can be obtrusive even if the noise level is low if the frequency characteristics of the noise are different than those of the program source.

Noise canceling divides the audible frequency range into seven bands. A noise canceling gate is provided for each band, and when the input signal falls below the threshold level the gate is closed to remove the noise. When the input signal rises above the threshold level so that the noise is masked by the program source material and is no longer noticeable, the gate is opened to let the signal pass through.

In this way, noise canceling monitors the input signal in each band, and operates the gates to reduce many types of audible noise across the entire bandwidth.

### The Auto function

The SN-700 provides an Auto function that automatically sets the noise cancel parameters.

The Auto function detects the frequency range and level of the noise, and sets the noise cancel parameters in accordance with the configuration parameters.

The settings of the configuration parameters determine the way in which the Auto function will set the noise cancel parameters. For example the configuration parameters specify the threshold level that should be set in relation to the noise level, or the frequency band from which noise should be removed most. This means that if the noise level changes and new settings are required, all you have to do is press the Auto button, and the optimal parameter settings will be made automatically. Noise can be removed most effectively if you make configuration parameter settings appropriate to your operating environment or the type of noise. However, you can also select a factory preset from memory and use its settings.

The parameters that are automatically set by the Auto function can be manually edited in detail.

Details on the configuration parameters used by the Auto function are given in "Configuration parameter list" (p.29), but here we will give a list and brief explanation of each parameter.

Each parameter can be adjusted as a Total parameter (affecting all bands) and also as a Band parameter, to make independent adjustments for each frequency band.

#### (NOISE RATIO)

Specify the amount of attenuation that will remove noise. Use higher values if there is obtrusive noise during silent periods of the source program material.

#### (THRESHOLD MARGIN)

Specify the level difference between the detected noise level and the threshold level.

#### (DETECTING TIME)

Specify the time during which the Auto function will analyze the noise level. The longer this time is, the more accurately the noise can be analyzed. However, if it is not possible to input only the noise component of the input signal, set this to the length of the silent portions between songs.

---

---

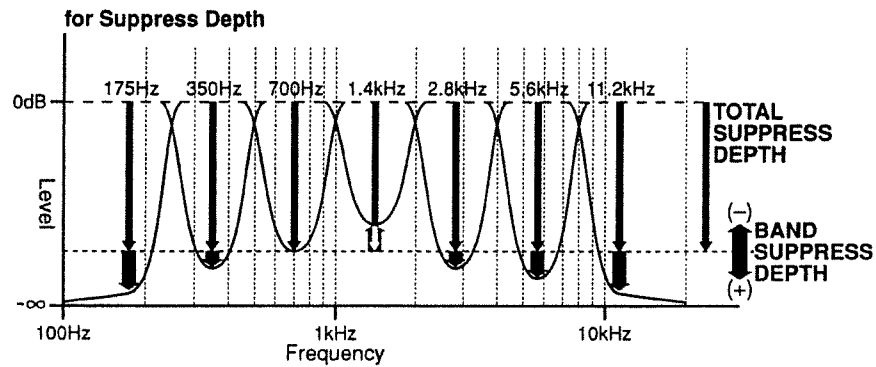
# Noise Cancel parameter list

Here are the noise cancel parameters and explanations of their function.

---

## How Total parameters and Band parameters are related

Each parameter can be adjusted as a Total parameter (affecting all bands) and also as a Band parameter, to make a detailed adjustment for each band. Total parameter settings simultaneously edit all bands. Band parameter settings allow the values set by the Total parameter setting to be adjusted independently for each frequency band.



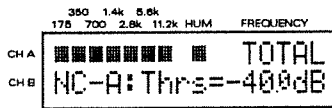
# Parameter list

## [THRESHOLD]

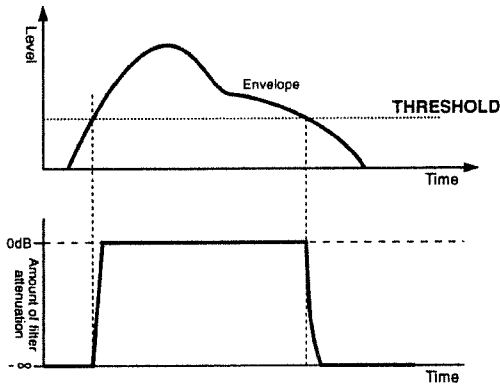
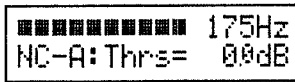
(Total Threshold + Band Threshold)

Specify the threshold level at which the noise canceling gate will begin to open or close when the input signal rises or falls past the specified level.

(Total Threshold) (-60.0 – +20.0 dB)



(Band Threshold) (-30.0 – +30.0 dB)



## [SUPPRESS DEPTH]

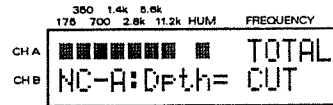
(Total Suppress Depth + Band Suppress Depth)

Specify the attenuation that is applied when the gate is completely closed because of the input signal being below the threshold level.

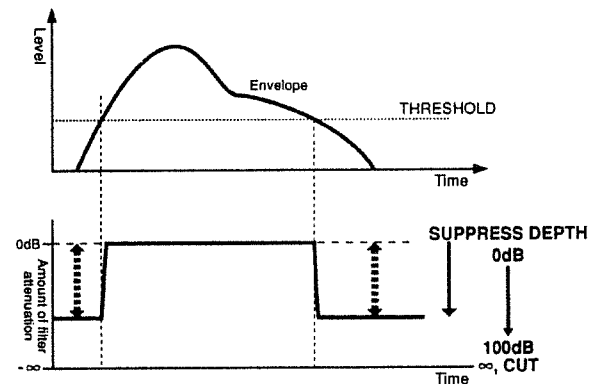
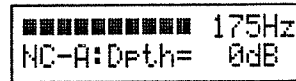
If the Total Depth is "CUT," infinite attenuation will be used regardless of the Band Depth setting.

(Total Suppress Depth) (0 – 100 dB, CUT)

A setting of CUT produces infinite attenuation.



(Band Suppress Depth) (-30 – +30 dB)





## [OPEN GAIN]

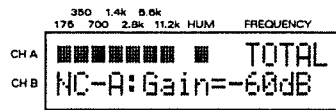
(Total Open Gain + Band Open Gain)

Adjust the attenuation that is applied when the gate is in a pass-through status because of the input signal being above the threshold level.

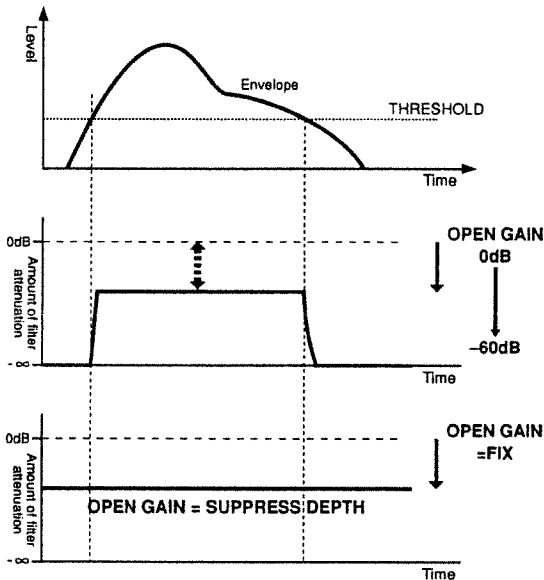
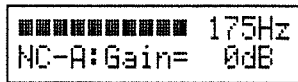
If noise is obtrusive when the input signal is above the threshold level, you can reduce the noise by adjusting the Open Gain for the band in which the noise is most evident.

For bands whose Band Open Gain is set to "FIX," the gate attenuation will always be fixed at the Suppress Depth, regardless of the input signal level. If the frequency components of the noise are concentrated in a specific band, you can use a setting of "FIX" for that band to remove it all the time.

### (Total Open Gain) (-60 – 0 dB)



### (Band Open Gain) (-30 – +30 dB, FIX)



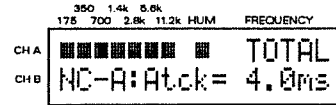
When "Open Gain = FIX" the filter will not be affected by the envelope, so "Open Gain = Suppress Depth" is maintained.

## [ATTACK TIME]

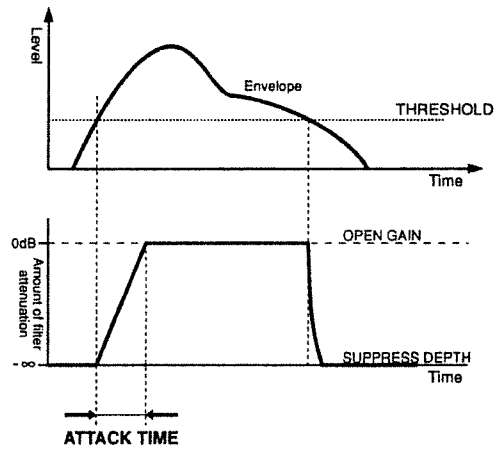
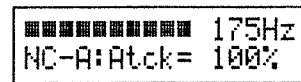
(Total Attack Time x Band Attack Time)

Specify the time over which the gate attenuation will change from the Suppress Depth to the Open Gain when the input signal rises to exceed the threshold level.

### (Total Attack Time) (0.1 – 100 ms)



### (Band Attack Time) (10 – 200%)



---

---

**[RELEASE TIME]**

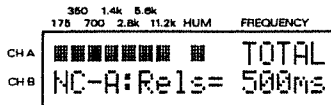
(Total Release Time x Band Release Time)

---

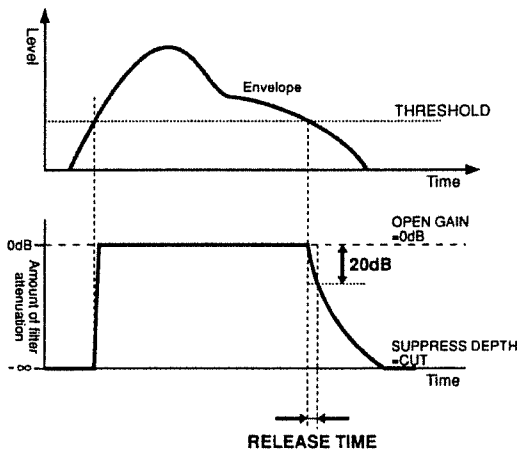
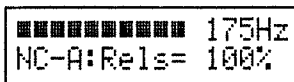
---

Specify the time over which the gate attenuation will reach -20 dB when the input signal falls below the threshold level. Since this setting is displayed based on an Open Gain of "0 dB" and a Suppress Depth setting of "CUT," the actual time may differ depending on the parameter values.

(Total Release Time) (10 – 2000 ms)



(Band Release Time) (10 – 200%)



---

---

**[HOLDING TIME]**

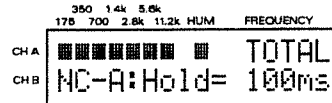
(Total Holding Time x Band Holding Time)

---

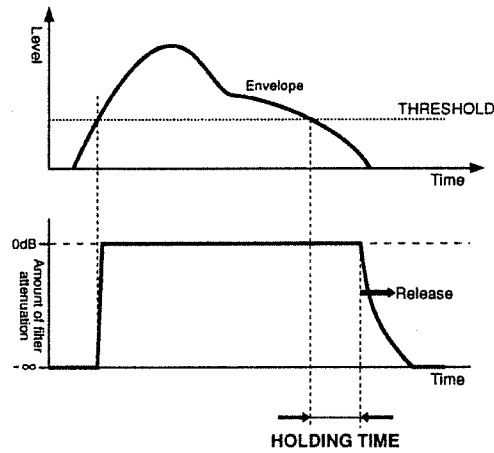
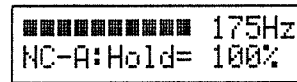
---

Specify the minimum time until the release is begun from when the input signal falls below the threshold level. By adjusting the Holding Time, you can prevent the "breathing" effect that is caused by frequent opening and closing of the gate when the input signal fluctuates around the threshold level or when the input signal level is fluctuating constantly.

(Total Holding Time) (0 – 1000 ms)



(Band Holding Time) (10 – 200%)



---

---

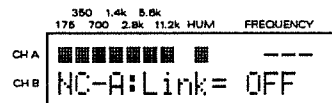
**[CHANNEL LINK]**

(ON, OFF)

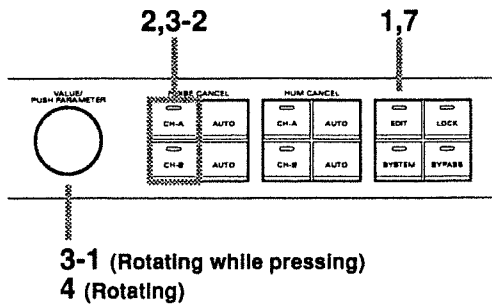
---

---

Turn the Link function on/off for noise canceling.



# Parameter editing



## 1. Press [EDIT].

The button indicator will light, and the following display will appear.

```
Which to Edit +
Push Button +
```

## 2. Press [NOISE;CH-A] or [NOISE;CH-B] to select the channel that you wish to edit.

The display will show the manual parameters of the selected channel.

```

360 14k 5.6k
178 700 2.8k 11.2k HUM FREQ
CHA [|||||] TOTAL
CHB NC-A: Thrs=-40dB

```

## 3. Select the parameter that you wish to edit.

### 3-1. < To select parameters >

While pressing the VALUE knob, rotate it to select parameters in the following sequence.

```

THRESHOLD
↑↓
SUPPRESS DEPTH
↑↓
OPEN GAIN
↑↓
ATTACK TIME
↑↓
RELEASE TIME
↑↓
HOLDING TIME
↑↓
CHANNEL LINK

```

### 3-2. < To select Band >

To cycle through the Band in the following sequence, repeatedly press the button that you pressed in step 2.

```

TOTAL
↓
175Hz
↓
350Hz
↓
700Hz
↓
1.4kHz
↓
2.8kHz
↓
5.6kHz
↓
11.2kHz

```

## 4. Rotate the VALUE knob to modify the value.

## 5. Repeat steps 3 – 4 to set the parameters.

## 6. To edit the other channel, repeat the procedure from step 2.

## 7. When you finish setting the noise cancel parameters, press [EDIT].

The settings you make can be assigned a name and saved as a Patch. For details refer to "Memory operations" (p.32).

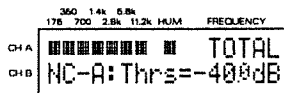
## About the display

While editing parameters, you can monitor the operational status of noise canceling and hum canceling for the channel that you are editing.

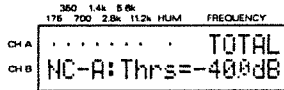
### < While editing a Total parameter >

The operational status of noise canceling and hum canceling will be displayed for the channel that you are editing.

#### Noise/hum being removed



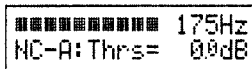
#### Noise canceling and hum canceling are both in "pass-through" status



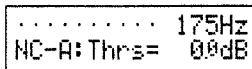
### < While editing a Band parameter >

The operational status of noise canceling will be displayed for the band that you are editing.

#### Noise canceling is at maximum effect



#### Noise canceling is in pass-through status



When "█" are displayed all the way to the right edge, noise canceling is at maximum effect. When "." are displayed all the way to the left edge, noise canceling is in pass-through status.

## Auto function parameter list

When the Auto function is used, the noise level will be analyzed and parameter settings made automatically.

The Auto function sets parameters in accordance with the settings of the configuration parameters.

Simply editing the configuration parameters does not directly set the noise cancel parameters.

The noise cancel parameters are set only when you press the Auto button to use the Auto function.

## Parameters not set by the Auto function

The following parameters are not set by the Auto function; the manually-set values are used without change. After using the Auto function, you will need to set these parameters as appropriate for the musical source material that is being processed.

Open Gain (p.25)

Attack Time (p.25)

Release Time (p.26)

Holding Time (p.26)

\* *The parameters which are set automatically when you use the Auto function are explained in the following section, "Configuration parameter list."*

## Configuration parameter list

Here are the configuration parameters and their functions.

### [NOISE RATIO]

(Total Noise Ratio + Band Noise Ratio)

Specify the amount of attenuation that is used to remove the noise (i.e., when the gate is closed). When the Auto function is used, the "Suppress Depth" parameter (p.24) will be set so as to maintain the S/N ratio (the proportion of signal to noise) that you specify here.

If Total Noise Ratio is set to " $\infty$ ," the "Suppress Depth" parameter will be set to "CUT" and there will be infinite attenuation for all bands.

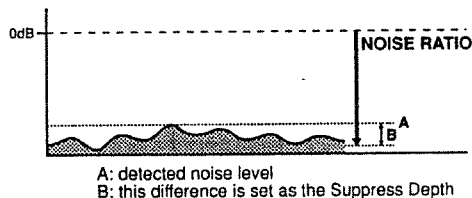
For higher settings of Noise Ratio, noise will not be noticeable during silent periods. However, excessively high settings may affect the tone quality of attacks (such as vocal consonants etc.) in the musical source material. By adjusting this parameter as appropriate for the level of the noise that is included in the signal, you can minimize the adverse effect on the musical source material.

(Total Noise Ratio) (0 – 100 dB,  $\infty$ )

```
NC-A:AUTO TOTAL
N.Ratio= 100dB
```

(Band Noise Ratio) (-30 – +30 dB)

```
NC-A:AUTO 175Hz
N.Ratio= 0dB
```



### [THRESHOLD MARGIN]

(Total Threshold Margin + Band Threshold Margin)

Specify the level difference between the detected noise level and the Threshold Level.

When the Auto function is used, the noise level will be detected automatically, and the sum of the noise level and the Threshold Margin will be set as the "Threshold" parameter (p.24).

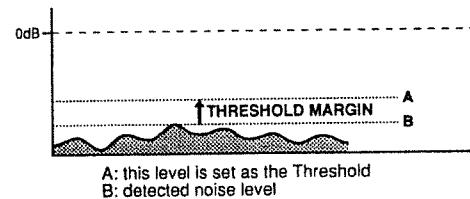
Higher settings of Threshold Margin will allow you to utilize the masking effect that the signal has on the noise to make the noise less noticeable. However, this may also adversely affect the sound quality of the musical source material. By setting a relatively high Threshold Margin for bands which contain more noise, and setting a lower Threshold margin for bands which contain less noise, you can minimize adverse effects on the musical source material.

(Total Threshold Margin) (0.0 – +30.0 dB)

```
NC-A:AUTO TOTAL
ThrsMrgn= 0.0dB
```

(Band Threshold Margin) (-30.0 – +30.0 dB)

```
NC-A:AUTO 175Hz
ThrsMrgn= 0.0dB
```



### [DETECTING TIME]

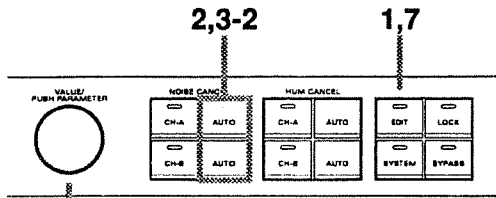
(0.1 – 10.0 sec)

Specify the time during which the Auto function will analyze the noise level of each band. The longer this time is, the more accurately noise can be analyzed. However, if it is not possible to input just the noise portion of the input signal, set this to the length of silence between songs.

\* There are no band parameters for this setting.

```
NC-A:AUTO ---
DtctTime= 1.0sec
```

# Configuration parameter editing



**3-1** (Rotating while pressing)  
**4** (Rotating)

## 1. Press [EDIT].

The button indicator will light, and the following display will appear.

```
Which to Edit +
Push Button +
```

## 2. Press [NOISE;AUTO-A] or [NOISE;AUTO-B] to select the channel that you wish to edit.

The display will show the configuration parameters for the selected channel.

```
NC-A:AUTO TOTAL
N.Ratio= 100dB
```

## 3. Select the parameter that you wish to edit.

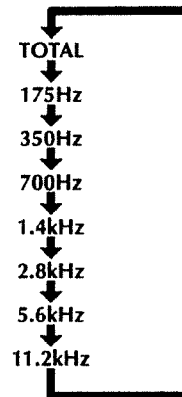
### 3-1. < To select parameters >

While pressing the VALUE knob, rotate it to select parameters in the following sequence.

```
NOISE RATIO
↑↓
THRESHOLD MARGIN
↑↓
DETECTING TIME
```

### 3-2. < To select Band >

To cycle through the Band in the following sequence, repeatedly press the button that you pressed in step 2.



## 4. Rotate the VALUE knob to modify the setting.

## 5. Repeat steps 3 – 4 to set the configuration parameters.

## 6. If you wish to edit the other channel, repeat the procedure from step 2.

## 7. When you have finished setting the configuration parameters, press [EDIT].

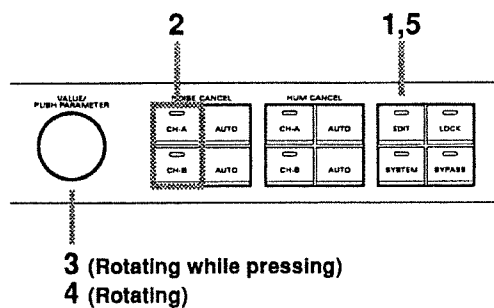
The settings you have made can be assigned a name and saved as a Patch. For the procedure, refer to "Memory operations" (p.32).

# Link function settings for noise canceling

Here's how to use the Link function for noise canceling.

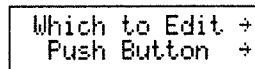
- The Link on/off parameter can be set from either channel A or B of noise canceling. Changing the setting in either channel is sufficient; there is no need to change the setting for the other channel as well.
- When Link is on, the gate attenuation for each band will be controlled so as to maintain the location of the stereo sound source, even if the parameter settings for channels A and B are different.

## (Procedure)



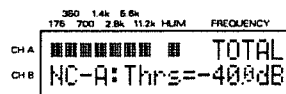
### 1. Press [EDIT].

The button indicator will light, and the following display will appear.

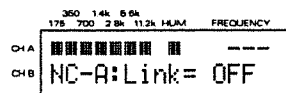


### 2. Press the [NOISE;CH-] button for either channel A or B.

• When switching Link on/off, it does not matter whether you select channel A or B.



### 3. While pressing the VALUE knob, rotate it to select the following parameter (Link).



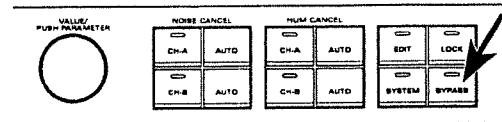
### 4. Rotate the VALUE knob to change the setting.

### 5. Press [EDIT] to store the setting and return to normal operation.

# Other functions

## Bypass

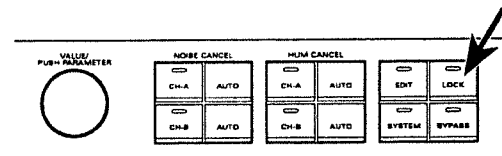
Turn Bypass on when you want the input sound to be output directly.



Bypass will be switched on/off each time you press [BYPASS]. When Bypass is on, the button indicator will light, and the input sound will be output directly.

## Lock

This function provides protection against accidental changes in the settings that could be caused by inadvertently touching the buttons.



### To turn Lock on:

Press and hold [LOCK] for 2 seconds or longer. The button indicator will change from blinking to lit, and Lock will be on.

### To turn Lock off:

Press and hold [LOCK] for 2 seconds or longer. The button indicator will change from blinking to dark, and Lock will be off.

# Editing system parameters

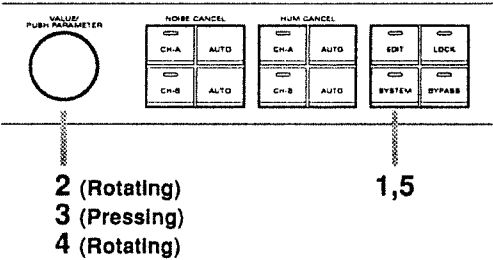
## Display contrast adjustment

Depending on the location where the SN-700 is placed, the display may be difficult to read. In this case, adjust the contrast (brightness) of the display.

### [CONTRAST] (1 - 100)

Adjust the display contrast.

**(Procedure)**



1. Press [SYSTEM].  
The button indicator will light, and the display will change.
2. Rotate the VALUE knob to select the following parameter (LCD contrast).  

```
Select/Push Knob  
SYS:LCD CONTRAST
```
3. Press the VALUE knob.
4. Rotate the VALUE knob to adjust the contrast.
5. Press [SYSTEM] to store the adjusted value and return to step 2.  
Press [SYSTEM] once again to return to normal operation.

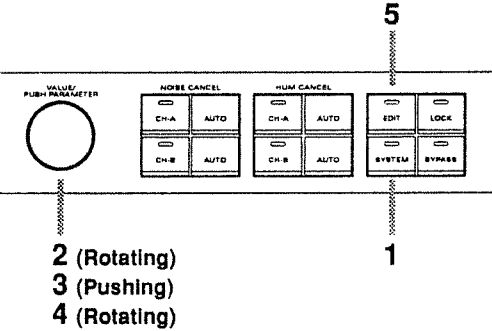
# Memory operations

The memory functions of the SN-700 allow you to assign a name (Patch name) to your settings and save them as one of 16 different Patches. A Patch can be recalled for use at any time. You can also modify the recalled settings and save them as a new Patch.

## Loading (recalling) a Patch

Here's how to load (recall) a Patch from memory.

\* To halt the procedure, press [SYSTEM]. You will return to the previous step.



1. Press [SYSTEM].  
The button indicator will light, and the display will change.
2. Rotate the VALUE knob to select the following parameter (Load).  

```
Select/Push Knob  
SYS:LOAD MEMORY
```
3. Press the VALUE knob.  
The following display will appear, allowing you to select the desired Patch.  

```
LOAD? Push[EDIT]  
# 1:STANDARD
```

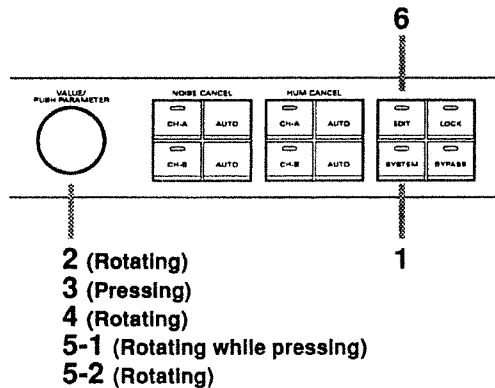
Patch Number      Patch Name
4. Rotate the VALUE knob to select the Patch number that you wish to recall.
5. Press [EDIT] and the contents of the Patch number selected in step 4 will be recalled. You will then return to normal operation.



## Saving your settings

Here's how to save the current settings into memory.

\* To halt the procedure, press [SYSTEM]. You will return to the previous step.



### 1. Press [SYSTEM].

The button indicator will light, and the display will change.

### 2. Rotate the VALUE knob to select the following parameter (Save).

```
Select/ Push Knob
SYS:SAVE MEMORY
```

### 3. Press the VALUE knob.

The following display will appear, allowing you to save the current settings.

```
Save? Push[EDIT]
# 1:STANDARD
```

### 4. Rotate the VALUE knob to select the Patch number into which the settings will be saved.

### 5. If you wish to modify the Patch name;

5-1. While pressing the VALUE knob, rotate it to move the cursor to the character that you wish to change.

```
Save? Push[EDIT]
# 1:STANDARD
      |
      v
    Cursor
```

5-2. Rotate the VALUE knob to change the character.

5-3. Repeat steps 5-1 and 5-2 to complete the Patch name.

### 6. Press [EDIT] and the settings will be saved into the Patch number you selected in step 4. You will then return to normal operation.

## Audio IN/OUT (input/output)

These settings adjust the input/output levels of the SN-700.

### [INPUT A Gain]

(-∞ – +12.0 dB)

Adjust the input level of channel A.

```
SYS:AUDIO IN/OUT
CH-A:IN = 0.0dB
```

### [INPUT B Gain]

(-∞ – +12.0 dB)

Adjust the input level of channel B.

```
SYS:AUDIO IN/OUT
CH-B:IN = 0.0dB
```

### [OUTPUT A Gain]

(-∞ – 0.0 dB)

Adjust the output level of channel A.

```
SYS:AUDIO IN/OUT
CH-A:OUT = 0.0dB
```

### [OUTPUT B Gain]

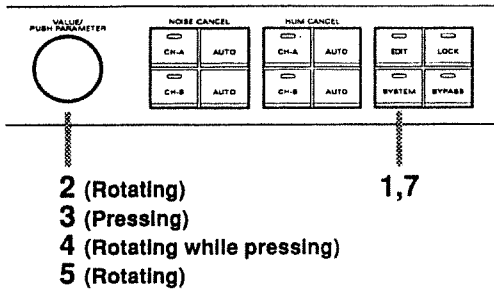
(-∞ – 0.0 dB)

Adjust the output level of channel B.

```
SYS:AUDIO IN/OUT
CH-B:OUT = 0.0dB
```

\* The maximum output level of the SN-700 is +24 dBm. Setting the input gain above "0 dB" may cause distortion. If this happens, lower either the input level or the output level.

## (Procedure)



### 1. Press [SYSTEM].

The button indicator will light, and the display will change.

### 2. Rotate the VALUE knob to select the following parameter (Audio IN/OUT).

```
Select/Push Knob
SYS:AUDIO IN/OUT
```

### 3. Press the VALUE knob.

The following display will appear, allowing you to make Audio IN/OUT settings.

```
SYS:AUDIO IN/OUT
CH-A:IN = 0.0dB
```

### 4. While pressing the VALUE knob, rotate it to select the parameter whose setting you wish to modify.

### 5. Rotate the VALUE knob to modify the setting.

### 6. Repeat steps 4 – 5 to adjust the setting of each parameter.

### 7. Press [SYSTEM] to store the settings and return to step 2.

Press [SYSTEM] once again to return to normal operation.

## Using MIDI

This section explains the MIDI functionality of the SN-700. Make these settings as necessary.

## What can be done using MIDI?

On the SN-700, MIDI can be used in the following ways.

### Select Patch numbers

Program Change messages from an external MIDI device can select Patches on the SN-700. The Program Change Map allows you to specify the SN-700 Patch that will be selected by each incoming Program Change number.

### External control of functions

A variety of functions can be switched on/off, or controlled in other ways by means of Control Change messages sent from an external MIDI device.

### Transmit data

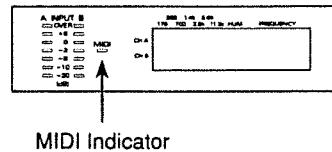
The settings in the SN-700's memory can be transmitted as Exclusive messages to another MIDI device. This allows you to transmit the same settings to another SN-700, or to store settings on a sequencer etc.

### Thru output of received MIDI messages

MIDI messages received at MIDI IN can be re-transmitted without change from MIDI OUT.

### MIDI Indicator

The SN-700 comes with a MIDI indicator. The MIDI indicator lights up only while receiving MIDI information from another MIDI device.



## MIDI settings

Here's how to make settings for the SN-700's MIDI functionality.

### [OMNI Mode]

(ON, OFF)

When Omni Mode is on, messages of all MIDI channels will be received, regardless of the MIDI Channel setting.

\* *Exclusive messages will be received only if they match the "Device ID" setting of the SN-700, even if Omni Mode is on.*

```
SYS:MIDI PROPRTY
OMNI = OFF
```

### [MIDI CH: MIDI channel]

(1 – 16)

Select the MIDI channel. The SN-700 will transmit and receive MIDI messages on the MIDI channel you specify here.

```
SYS:MIDI PROPRTY
MIDI CH = 1
```

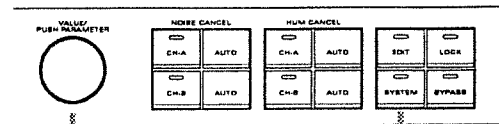
### [DEVICE ID]

(1 – 127)

Specify the Device ID used for transmitting and receiving exclusive messages.

```
SYS:MIDI PROPRTY
DEVICE ID = 1
```

### (Procedure)



- 2 (Rotating)
  - 3 (Pressing)
  - 4 (Rotating while pressing)
  - 5 (Rotating)
- 1,7

#### 1. Press [SYSTEM].

The button indicator will light, and the display will change.

#### 2. Rotate the VALUE knob to select the following parameter (MIDI functions).

```
Select/Push Knob
SYS:MIDI PROPRTY
```

#### 3. Press the VALUE knob.

The following display will appear, allowing you to make settings for the MIDI functions.

```
SYS:MIDI PROPRTY
OMNI = OFF
```

#### 4. While pressing the VALUE knob, rotate it to select the parameter whose setting you wish to modify.

#### 5. Rotate the VALUE knob to modify the setting.

#### 6. Repeat steps 4 – 5 to modify the setting of each parameter.

#### 7. Press [SYSTEM] to store the modifications and return to step 2.

Press [SYSTEM] once again to return to normal operation.

## Control Change Map settings

Control Change messages transmitted from an external MIDI device can be used to turn the following functions on/off. Here's how to specify the controller number that will control each SN-700 function.

\* For each controller number, data values above the median (64 – 127) will turn the function on, and data values below the median (0 – 63) will turn the function off. For functions which adjust a level, the data value will change the level.

## Control Change Map parameters

---

---

### [NC-A:ON/OFF: Noise cancel A on/off]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will turn Noise Cancel channel A on/off.

```
SYS:CTRL CHG MAP
OFF +NC-A:ON/OFF
```

---

---

### [NC-A:AUTO: Noise cancel A Auto]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will initiate the Auto function for Noise Cancel channel A. The Auto function will operate when the received data value is higher than the median.

```
SYS:CTRL CHG MAP
OFF +NC-A:AUTO
```

---

---

### [HC-A:ON/OFF: Hum cancel A on/off]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will turn Hum Cancel channel A on/off.

```
SYS:CTRL CHG MAP
OFF +HC-A:ON/OFF
```

---

---

### [HC-A:AUTO: Hum cancel A Auto]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will initiate the Auto function for Hum Cancel channel A. The Auto function will operate when the received data value is higher than the median.

```
SYS:CTRL CHG MAP
OFF +HC-A:AUTO
```

---

---

### [NC-B:ON/OFF: Noise cancel B on/off]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will turn Noise Cancel channel B on/off.

```
SYS:CTRL CHG MAP
OFF +NC-B:ON/OFF
```

---

---

### [NC-B:AUTO: Noise cancel B Auto]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will initiate the Auto function for Noise Cancel channel B. The Auto function will operate when the received data value is higher than the median.

```
SYS:CTRL CHG MAP
OFF +NC-B:AUTO
```

---

---

### [HC-B:ON/OFF: Hum cancel B on/off]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will turn Hum Cancel channel B on/off.

```
SYS:CTRL CHG MAP
OFF +HC-B:ON/OFF
```

---

---

### [HC-B:AUTO: Hum cancel B Auto]

(OFF, 1 – 31, 64 – 95)

---

---

Specify the controller number that will initiate the Auto function for Hum Cancel channel B. The Auto function will operate when the received data value is higher than the median.

```
SYS:CTRL CHG MAP
OFF +HC-B:AUTO
```

## [LOCK]

(OFF, 1 – 31, 64 – 95)

Specify the controller number that will turn Lock on/off.

```
SYS:CTRL CHG MAP
OFF → LOCK
```

## [BYPASS]

(OFF, 1 – 31, 64 – 95)

Specify the controller number that will turn Bypass on/off.

```
SYS:CTRL CHG MAP
OFF → BYPASS
```

## [INPUT A]

(OFF, 1 – 31, 64 – 95)

Specify the controller number that will control the channel A input level.

```
SYS:CTRL CHG MAP
OFF → CH-A:IN
```

## [INPUT B]

(OFF, 1 – 31, 64 – 95)

Specify the controller number that will control the channel B input level.

```
SYS:CTRL CHG MAP
OFF → CH-B:IN
```

## [OUTPUT A]

(OFF, 1 – 31, 64 – 95)

Specify the controller number that will control the channel A output level.

```
SYS:CTRL CHG MAP
OFF → CH-A:OUT
```

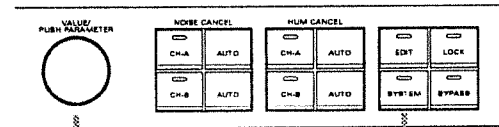
## [OUTPUT B]

(OFF, 1 – 31, 64 – 95)

Specify the controller number that will control the channel B output level.

```
SYS:CTRL CHG MAP
OFF → CH-B:OUT
```

## (Procedure)



- 2 (Rotating)
  - 3 (Pressing)
  - 4 (Rotating while pressing)
  - 5 (Rotating)
- 1,7

### 1. Press [SYSTEM].

The button indicator will light, and the display will change.

### 2. Rotate the VALUE knob to select the following parameter (Control Change Map).

```
Select/Push Knob
SYS:CTRL CHG MAP
```

### 3. Press the VALUE knob.

The following display will appear, allowing you to make Control Change Map settings.

```
SYS:CTRL CHG MAP
OFF → NC-A:ON/OFF
```

Controller Number      Function

### 4. While pressing the VALUE knob, rotate it to select the parameter whose setting you wish to modify.

### 5. Rotate the VALUE knob to specify the controller number.

### 6. Repeat steps 4–5 to specify the controller number for each parameter.

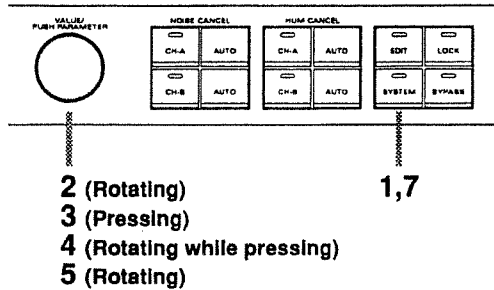
### 7. Press [SYSTEM] to store the settings and return to the condition of step 2.

Press [SYSTEM] once again to return to normal operation.

## Program Change Map settings

When using Program Change messages transmitted from an external MIDI device to select SN-700 Patches, you can freely specify the SN-700 Patch that will be selected by each incoming program number.

### (Procedure)



#### 1. Press [SYSTEM].

The button indicator will light, and the display will change.

#### 2. Rotate the VALUE knob to select the following parameter (Program Change Map).

```
Select/Push Knob
SYS:PROG CHG MAP
```

#### 3. Press the VALUE knob.

The following display will appear, allowing you to make Program Change Map settings.

```
SYS:PROG CHG MAP
1→# 1:STANDARD
```

Program Change Number      Patch Number, Patch Name

#### 4. While pressing the VALUE knob, rotate it to select the incoming Program Change number.

#### 5. Rotate the VALUE knob to specify the SN-700 Patch number that will be selected by the incoming Program Change number.

#### 6. Repeat steps 4 – 5 to specify the Patch number that will be selected by each Program Change number.

#### 7. Press [SYSTEM] to store the settings and return to the condition of step 2.

Press [SYSTEM] once again to return to normal operation.

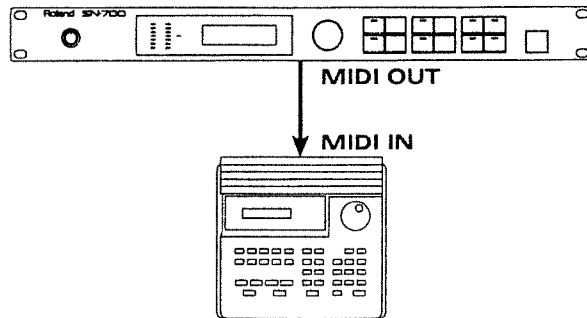
## Transmitting data (Bulk Dump)

The SN-700 can use Exclusive messages to transmit (copy) its settings to another SN-700, or to a sequencer for storage. The action of transmitting data as an Exclusive message is referred to as Bulk Dump. You can specify the type of data that will be transmitted, so that only the specified type of data is sent.

### < Connections >

#### Saving data on a sequencer

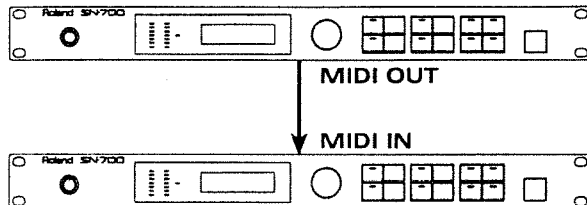
Make connections as follows, and prepare the sequencer to receive Exclusive messages.



\* For details on sequencer operations, refer to the owner's manual for your sequencer.

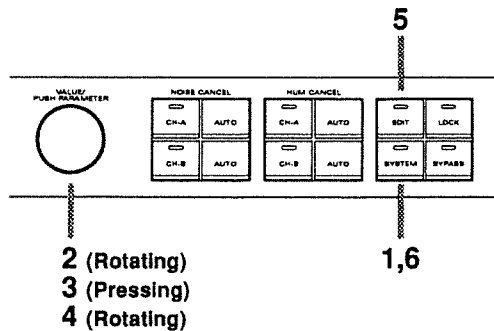
#### Copying data to another SN-700

Make connections as follows, and set the Device ID of both the SN-700 units to match.



## < Transmission >

\* To halt the procedure, press [SYSTEM]. You will return to the previous step.



1. Press [SYSTEM].  
The button indicator will light, and the display will change.
2. Rotate the VALUE knob to select the following parameter (Bulk Dump).

```
Select/ Push Knob
SYS: BULK DUMP
```

3. Press the VALUE knob.  
The following display will appear, allowing you to select the data that will be transmitted.

```
BULK? Push[EDIT]
Dump: ALL MEMORY
```

4. Rotate the VALUE knob to select the data that will be transmitted.

### ALL MEMORY:

Transmit all settings.

### SYSTEM, MIDI:

Transmit system parameter and MIDI parameter settings.

### TEMP MEMORY:

Transmit the settings currently being used.

### MEMORY #1 – #16:

Transmit the settings of all Patches.

### MEMORY #1, ..., MEMORY #16:

Transmit the settings of the specified Patch.

5. Press [EDIT] to transmit the data that was selected in step 4.

When the transmission has been completed, the previous display will reappear.

6. Press [SYSTEM] to return to step 2.

Press [SYSTEM] once again to return to normal operation.

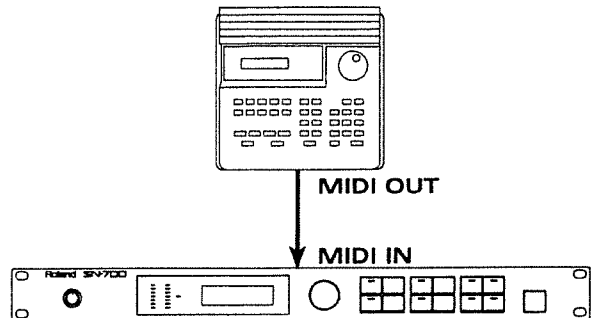
## Receiving data (Bulk Load)

Here's how to receive data transmitted from another SN-700, or receive SN-700 data that was saved on a sequencer. The operation of receiving data is referred to as Bulk Load.

## < Connections >

### Receiving data that was saved on a sequencer

Make connections as follows. Set the SN-700 to the same Device ID number as when it transmitted the data to the sequencer.



\* For details on sequencer operations, refer to the owner's manual for your sequencer.

## < Reception >

Exclusive data transmitted from an external MIDI device can be received at any time. While bulk data is being received, the following display will appear.

Receiving MIDI Bulk Data

---

---

# Initialization

Here's how to initialize the settings of the SN-700.

1. Turn off the power.
2. While pressing [EDIT] and [SYSTEM], turn the power on.
3. Press [EDIT]. The data will be initialized, and the SN-700 will be in the same condition as usual when first powered-on.

---

---

# Parameter Table

## HUM CANCEL

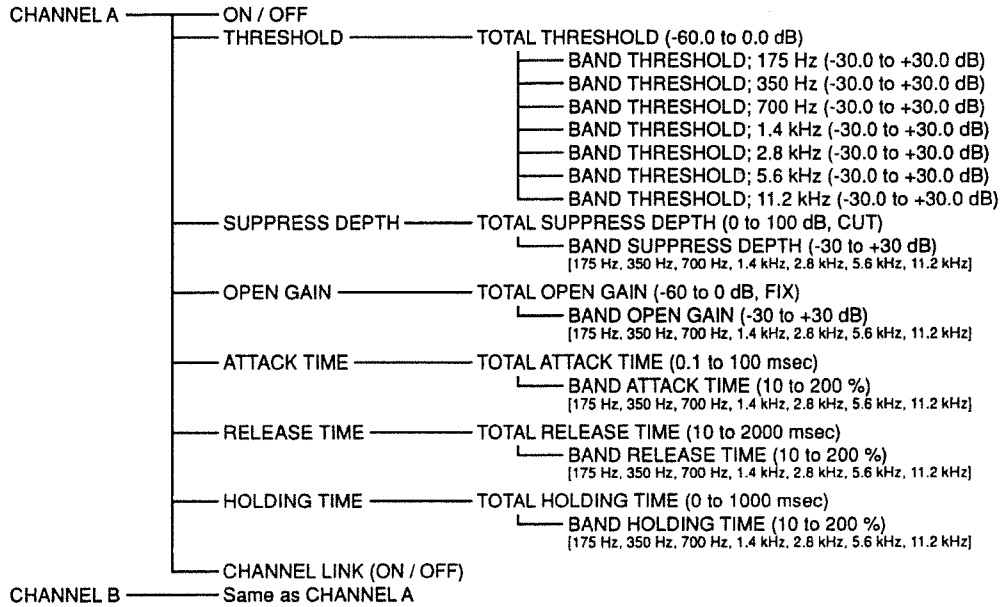
CHANNEL A	ON / OFF
	FREQUENCY (AC, 20.00 Hz to 10.00 kHz)
	RANGE HIGH (100 Hz to 20.0 kHz, UNLIMIT)
	RANGE LOW (UNLIMIT, 20 Hz to 20.0 kHz)
	THRESHOLD (-60.0 to 0.0 dB)
	SUPPRESS DEPTH (0 to 100 dB, CUT)
	SUPPRESS WIDTH (10 to 40 %)
	OPEN GAIN (-60 to 0 dB, FIX)
	ATTACK TIME (0.1 to 100 msec)
	RELEASE TIME (10 to 2000 msec)
	HOLDING TIME (0 to 1000 msec)
	CHANNEL LINK (ON / OFF)
CHANNEL B	Same as CHANNEL A

## HUM CANCEL AUTO Configuration

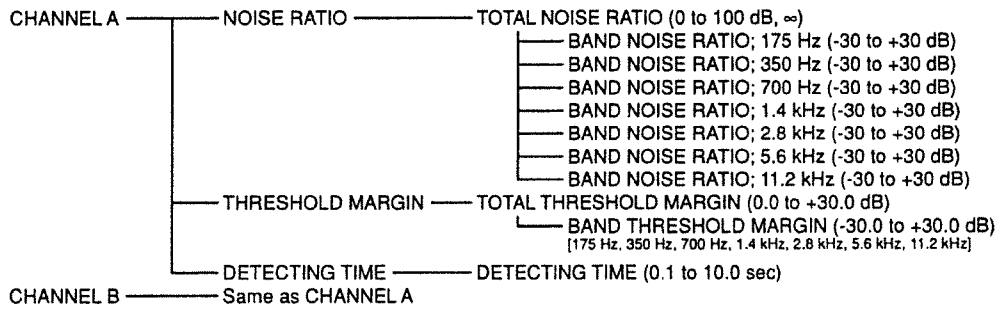
CHANNEL A	FREQUENCY DETECT SOURCE (AC, AUDIO, MANUAL)
	HUM NOISE RATIO (0 to 100 dB, ∞)
	THRESHOLD MARGIN (0.0 to +30.0 dB)
	DETECTING TIME (0.1 to 10.0 sec)
CHANNEL B	Same as CHANNEL A



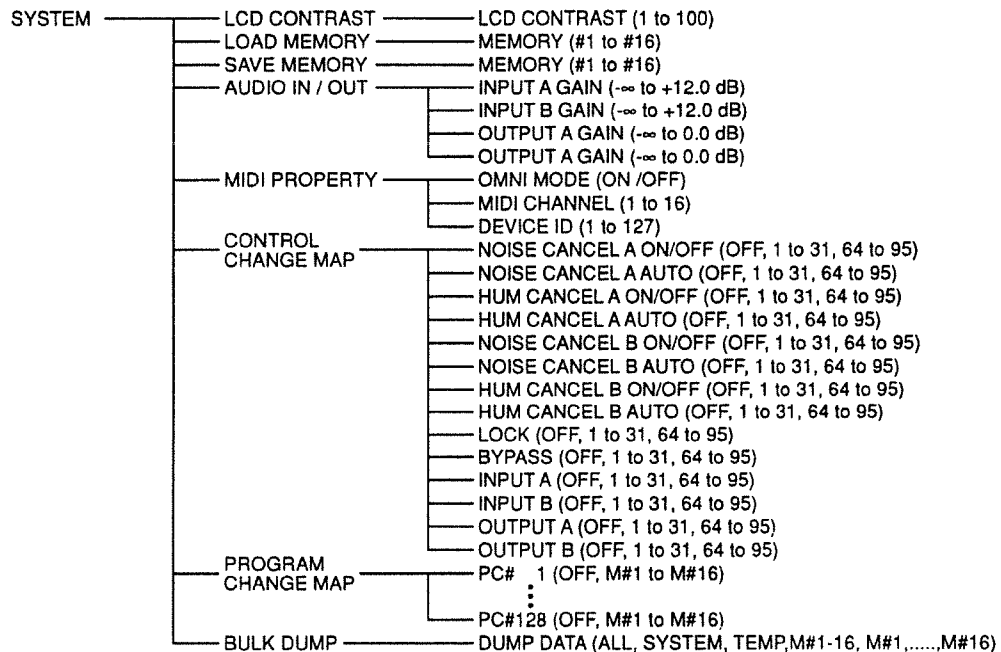
## NOISE CANCEL



## NOISE CANCEL AUTO Configuration



## SYSTEM



MIDI Implementation Chart

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 - 16 1 - 16	1 - 16 1 - 16	Memorized
Mode	Default Messages Altered	X X *****	OMNI ON/OFF X X	Memorized
Note Number :	True Voice	X *****	X X	
Velocity	Note ON Note OFF	X X	X X	
After Touch	Key's Ch's	X X	X X	
Pitch Bend		X	X	
Control Change	0 - 31	X	O *1	*2
	64 - 95	X	O *1	*2
Prog Change	: True #	X *****	O *1 0 - 127	1 - 128
System Exclusive		O	O	
System Common	: Song Pos : Song Sel : Tune	X X X	X X X	
System Real Time	: Clock : Commands	X X	X X	
Aux Message	: Local ON/OFF : All Notes OFF : Active Sense : Reset	X X X X	X X X X	
Notes	* 1 Can be set manually to O/X, and permanently memorized. * 2 Made controllable by specifying one particular parameter. MIDI messages input from the MIDI IN connector are output from the MIDI OUT connector. For detained information on MIDI data of the SN-700, a separate "MIDI Implementation document" is available at any Roland Service Station.			

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

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

O : Yes  
X : No

---

---

# Specifications

## SN-700: NOISE/HUM ELIMINATOR

### A/D Conversion

20 bit 64 times oversampling  $\Delta \Sigma$  Conversion

### D/A Conversion

20 bit 8 times oversampling PDM Conversion

### Sampling Frequency

48 kHz

### Program Memory

16

### Frequency Response

8 Hz to 22.5 kHz (+0/-3 dB)

### Nominal Input Level

+4 dBm (Balanced)

### Input Impedance

30 k $\Omega$ : 2 pin(HOT) – 3 pin(COLD)

10 k $\Omega$ : 2 pin(HOT) – 1 pin(GND) / 3 pin(COLD) – 1 pin(GND)

### Head Room

20 dB

### Nominal Output Level

+4 dBm (Balanced) into 600  $\Omega$

### Output Impedance

350  $\Omega$ : 2 pin(HOT) – 3 pin(COLD)

100  $\Omega$ : 2 pin(HOT) – 1 pin(GND) / 3 pin(COLD) – 1 pin(GND)

### Maximum Output Level

+24 dBm into 600  $\Omega$

### Total Harmonic Distortion

0.03 % or Less at 1 kHz; +4 dBm into 600  $\Omega$

### Dynamic Range

102 dB or greater (IHF-A)

### Controls

INPUT LEVEL Knobs (A, B)

VALUE Knob

NOISE CANCEL; CHANNEL Buttons A, B

NOISE CANCEL; AUTO Buttons A, B

HUM CANCEL; CHANNEL Buttons A, B

HUM CANCEL; AUTO Buttons A, B

EDIT Button

SYSTEM Button

LOCK Button

BYPASS Button

POWER Switch

### Display

16 Characters, 2 lines (backlit LCD)

### Indicators

INPUT LEVEL Indicator (7 points Stereo)

MIDI Indicator

Button Indicators x 8

### Connectors

INPUT Jacks (A, B); Stereo 1/4 inch phone type

INPUT Connectors (A, B); XLR type

OUTPUT Jacks (A, B); Stereo 1/4 inch phone type

OUTPUT Connectors (A, B); XLR type

MIDI Connectors (IN, OUT)

### Power Supply

AC117 V, AC230 V or AC240 V

### Power Consumption

17 W

### Dimensions

482 (W) x 359 (D) x 44 (H) mm

19 (W) x 14-3/16 (D) x 1-3/4 (H) inches

(EIA-1U rack mount type)

### Weight

4.2 kg / 9 lbs 15 oz

### Accessories

Owner's Manual

\* 0 dBm = 0.775 Vrms

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

---

---

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# Memo

## Information

When you need repair service, call your local Roland Service Station or the authorized Roland distributor in your country as shown below.

### ARGENTINA

Instrumentos Musicales  
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(1005) Buenos Aires  
ARGENTINA  
TEL: (01) 394 4029

### BRAZIL

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R. Coronel Octaviano da Silveira  
203 05522-010  
Sao Paulo BRAZIL  
TEL: (011) 843 9377

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Roland Canada Music Ltd.  
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B. C., V6V 2M4 CANADA  
TEL: (0604) 270 6626

Roland Canada Music Ltd.  
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Unit 2, 109 Woodbine Downs  
Blvd, Etobicoke, ON  
M9W 6Y1 CANADA  
TEL: (0416) 213 9707

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los Padres 01780 Mexico D.F.  
MEXICO  
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Guadalajara, Jalisco Mexico  
C.P. 44100 MEXICO  
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Los Angeles, CA. 90040-3696,  
U. S. A.  
TEL: (0213) 685 5141

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Centro Parque de Cristal, Nivel  
C2 Local 20 Caracas  
VENEZUELA  
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38 Campbell Avenue  
Dee Why West. NSW 2099  
AUSTRALIA  
TEL: (02) 982 8266

### NEW ZEALAND

Roland Corporation (NZ)  
Ltd.  
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Auckland 3, NEW ZEALAND  
TEL: (09) 3098 715

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Service Division  
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KONG  
TEL: 2415 0911

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Kompleks Perkantoran Duta  
Merlin Blok E No.6-7  
Jl. Gajah Mada No.3-5, Jakarta  
10130,  
INDONESIA  
TEL: (021) 3850073

### KOREA

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Service Station  
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TEL: (03) 2443333

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Makati, Metro Manila 1200,  
PHILIPPINES  
TEL: (02) 899 9801

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Bras Basah Complex,  
SINGAPORE 0718  
TEL: 3367886

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1542  
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R.O.C.  
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KUWAIT  
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SAUDIARABIA  
TEL: (03) 898 3311

### Abdul Latif S. Al-Ghamdi

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Residential Center Al-Khobar  
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31952 SAUDI ARABIA  
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Khaled Ebn Al Walid St.  
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TEL: (011) 2235 384

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Instruments Co.  
Zabeel Road, Al Sherooq Bldg.,  
No. 14, Grand Floor DUBAI  
U.A.E  
P.O. Box 8050 DUBAI, U.A.E  
TEL: (04) 360715

### EGYPT

Al Fanny Trading Office  
9, Ebn Hagar Al Askalany Street,  
Ard El Golf, Heliopolis, Cairo,  
11341 EGYPT  
TEL: (02) 4171828  
(02) 4185531

### MAURITIUS

Philanne Music Center  
4th, Floor Noll, Happy World  
House Sir William Newton Street  
Port Luis MAURITIUS  
TEL: 242 2986

### REUNION

FO - YAM Marcel  
25 Rue Jules Merman ZL  
Chaudron - BP 79 97491  
Ste Clotilde REUNION  
TEL: 28 29 16

### SOUTH AFRICA

That Other Music Shop  
(PTY) Ltd.  
11 Melle Street (Cnr Melle and  
Juta Street)  
Braamfontein 2001  
Republic of SOUTH AFRICA  
TEL: (011) 403 4105

Paul Bothner (PTY) Ltd.  
17 Werdmuller Centre Claremont  
7700  
Republic of SOUTH AFRICA  
TEL: (021) 64 4030

### AUSTRIA

E. Dematte & Co.  
Neu-Rum Siemens-Strasse 4  
A-6040 Innsbruck P.O.Box 83  
AUSTRIA  
TEL: (0512) 26 44 260

### BELGIUM/HOLLAND/ LUXEMBOURG

Roland Benelux N. V.  
Houtstraat 1 B-2260 Oevel-  
Westerlo BELGIUM  
TEL: (014) 575811

### CYPRUS

Radex Sound Equipment  
Ltd.  
17 Diagorou St., P.O.Box 2046,  
Nicosia CYPRUS  
TEL: (02) 453 426  
(02) 466 423

### DENMARK

Roland Scandinavia A/S  
Langebrogade 6 Post Box 1937  
DK-1023 Copenhagen K.  
DENMARK  
TEL: 32 95 3111

### FRANCE

Guillard Musiques Roland  
ZAC de Rosarge Les Echets 01700  
MIRIBEL FRANCE  
TEL: 7226 5060

### Guillard Musiques Roland

(Paris Office)  
1923 rue Léon Geoffroy 94400  
VITRY-SUR-SEINE FRANCE  
TEL: (1) 4680 86 62

### FINLAND

Roland Scandinavia As,  
Filial Finland  
Lauttasareentie 54 B  
Fin-00201 Helsinki, FINLAND  
P. O. Box No. 109  
TEL: (0) 682 4020

### GERMANY

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

### GREECE

V. Dimitriadis & Co. Ltd.  
20, Alexandras St. & Bouboulinas  
54 St. 106 82 Athens, GREECE  
TEL: (01) 8232415

### HUNGARY

Intermusica Ltd.  
Warehouse Area 'DEFO' Pf.83  
H-2046 Torokbalint, HUNGARY  
TEL: (01) 1868905

### IRELAND

The Dublin Service Centre  
Audio Maintenance  
Limited  
11 Brunswick Place Dublin 2  
Republic of IRELAND  
TEL: (01) 677322

### ITALY

Roland Italy S. p. a.  
Viale delle Industrie, 8  
20020 Arese Milano, ITALY  
TEL: (02) 93581311

### NORWAY

Roland Scandinavia Avd.  
Kontor Norge  
Lilleakerveien 2 Postboks 95  
Lilleaker N-0216 Oslo  
NORWAY  
TEL: 273 0074

### POLAND

P. P. H. Brzostowicz Marian  
61-502 Poznan, ul. Filarecka 11,  
TEL: (061) 332 665  
03-624 Warszawa, ul. Biokowa32,  
TEL: (02) 679 44 19

### PORTUGAL

Caius - Tecnologias Audio e  
Musica , Lda.  
Rue de Catarina 131  
4000 Porto, PORTUGAL  
TEL: (02) 38 4456

### RUSSIA

PETROSHOP  
Vershavskoe, Shosse, 27-1  
Moscow, RUSSIA  
TEL: 095 901 0892

### INVASK Limited

Lenina Str. 13-342  
Krasnogorsk 143400  
Moscow Region, RUSSIA  
TEL: 095 564 61 44

### SPAIN

Roland Electronics  
de España, S. A.  
Calle Bolivia 239 08020 Barcelona,  
SPAIN  
TEL: (93) 308 1000

### SWEDEN

Roland Scandinavia A/S  
Danvik Center 28 A, 2 tr.  
S-131 30 Nacka SWEDEN  
TEL: (08) 702 0020

### SWITZERLAND

Roland (Switzerland) AG  
Musitronic AG  
Gerberstrasse 5, CH-4410 Liestal,  
SWITZERLAND  
TEL: (061) 921 1615

### UNITED KINGDOM

Roland (U.K.) Ltd., Swansea  
Office  
Atlantic Close, Swansea  
Enterprise Park SWANSEA  
West Glamorgan SA7 9FJ,  
UNITED KINGDOM  
TEL: (01792) 702701

# Apologies and Corrections

We apologize for the following mistakes and omissions in the SN-700 Owner's Manual. Please make corrections as follows:

## P.16 (OPEN GAIN)

(Error) Omitted

(Correction) **Add** the following note

\* If Open Gain is set to a level lower than Suppress Depth, the amount of filter attenuation will always be determined solely by Open Gain—the Suppress Depth setting will be ignored.

## P.18 About the display

(Error) When "■" are displayed all the way to the right edge, hum canceling is at maximum effect. When "·" are displayed all the way to the left edge, hum canceling is in pass-through status.

(Correction) When "■" are displayed all the way to the **left** edge, hum canceling is at maximum effect. When "·" are displayed all the way to the **right** edge, hum canceling is in pass-through status.

## P.19 (FREQUENCY DETECT SOURCE)

(Error) Omitted

(Correction) **Add** the following note

AUDIO: The frequency of the input signal (hum) will be analyzed and set as the "Frequency" parameter.

\* If the noise is extremely low-level, or if its frequency is changing, there will be cases in which the hum cancel parameters will not be set by the Auto function.

## P.20 (DETECTING TIME)

(Error) [DETECTING TIME] (0.1 – 10.0 sec)

(Correction) [DETECTING TIME] (0.5 – 10.0 sec)

## P.20 (DETECTING TIME)

(Error) Omitted

(Correction) **Add** the following note

\* If the Frequency Detect Source is set to "AUDIO," a certain amount of time may be required for detection, depending on the type of hum.

## P.24 (THRESHOLD)

(Error) [Total Threshold] (-60.0 – +20.0 dB)

(Correction) [Total Threshold] (-60.0 – 0.0 dB)

## P.25 (OPEN GAIN)

(Error) Omitted

(Correction) **Add** the following note

\* For bands in which Open Gain is set to a level lower than Suppress Depth, the amount of filter attenuation will always be determined by Open Gain, while the Suppress Depth setting will have no effect.

## P.28 About the display

(Error) When "■" are displayed all the way to the right edge, noise canceling is at maximum effect. When "·" are displayed all the way to the left edge, noise canceling is in pass-through status.

(Correction) When "■" are displayed all the way to the **left** edge, noise canceling is at maximum effect. When "·" are displayed all the way to the **right** edge, noise canceling is in pass-through status.

## P.29 (DETECTING TIME)

(Error) [DETECTING TIME] (0.1 – 10.0 sec)

(Correction) [DETECTING TIME] (0.5 – 10.0 sec)

## P.38 Program Change Map settings

(Error) Omitted

(Correction) **Add** the following note

5. Rotate the VALUE knob to specify the SN-700 Patch number that will be selected by the incoming Program Change number.

\* When the SN-700 receives a Program Change number for which the Patch number was set to "- : - -", it will not switch Patches.

## P.42 MIDI Implementation Chart

(Error) Control Change 0 – 31

(Correction) Control Change 1 – 31

## P.42 MIDI Implementation Chart

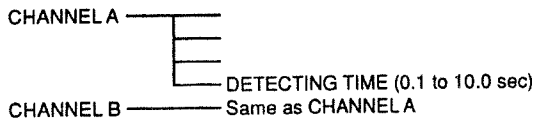
(Error) Program Change 1 – 128

(Correction) Program Change Program Number 1 – 128

**P.40 Parameter Table**

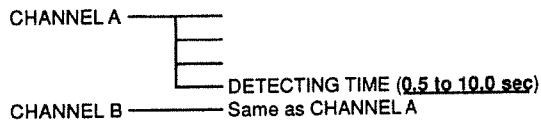
(Error)

**HUM CANCEL AUTO Configuration**



(Correction) Corrections to the parameter table.

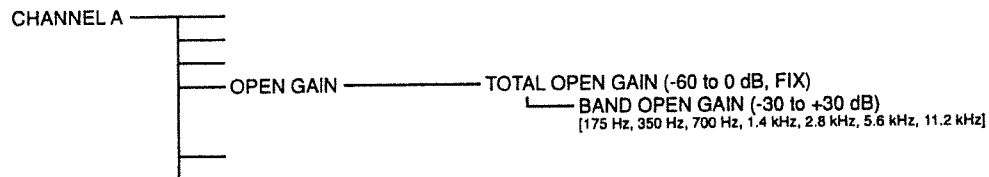
**HUM CANCEL AUTO Configuration**



**P.41 Parameter Table**

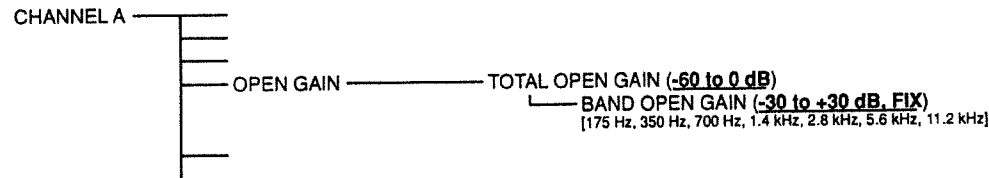
(Error)

**NOISE CANCEL**



(Correction) Corrections to the parameter table.

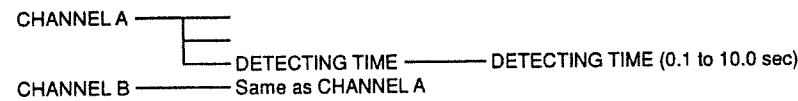
**NOISE CANCEL**



**P.41 Parameter Table**

(Error)

**NOISE CANCEL AUTO Configuration**



(Correction) Corrections to the parameter table.

**NOISE CANCEL AUTO Configuration**





For Nordic Countries

## Apparatus containing Lithium batteries

### ADVARSEL!

Lithiumbatteri - Eksplosjonsfare ved feilagtig håndtering.  
Udskiftning må kun ske med batteri af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandøren.

### VARNING!

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

### ADVARSEL!

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

### VAROITUS!

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

For Europe



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.

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®**

**70890990**

UPC 70890990



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