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SEGA™

SEGA SATURN
Sound Box
User's Manual

Doc. # ST-193-091394

SEGA

REFERENCES

In translating/creating this document, certain technical words and/or phrases were interpreted with the assistance of the technical literature listed below.

1. *KenKyusha New Japanese-English Dictionary*
    1974 Edition

2. *Nelson's Japanese-English Character Dictionary*
    2nd revised version

3. *Microsoft Computer Dictionary*

4. *Japanese-English Computer Terms Dictionary*
    Nichigai Associates
    4th version

History

Version 1:   (September 7, 1994)
  • New version to be used with the Sound Box

Preface

This manual describes the functions and uses of the SEGA SATURN Sound Box made by SEGA Enterprises, Ltd. This manual has been adapted to the SEGA SATURN Sound Box. The Sound Box product and product specifications may change without notification. For more information about specifications, inquiries can be made to the Support Centers listed in section 4.1

Terminology

Some of the terms used in this manual are explained below.

Sound Box

The abbreviated term for the SEGA SATURN sound box. It is the device or mechanism for the SEGA SATURN Game Machine sound development. In addition to having functions equal to those of the sound custom chip used in the SEGA SATURN, sound development environment function has been added to enable more efficient development.

Sound Development Environment

The environment for developing game sounds is loaded on to a sound board. The functions below can be used in developing sounds.

• SCSP function
• Sound board control CPU MC68EC000
• On-board emulator function
• Sound development environment function

Sound Board

This board is for providing a sound development environment. A circuit for realizing a sound development environment function is loaded on the board.

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Table of Contents

List of Figures

List of Tables

Chapter 1   Appearance

Chapter 1 Appearance

1.1 Appearance and Names of Each Part

The appearance of the Sound Box is shown in Figures 1.1 and 1.2. More information about each part can be found in chapter 3.
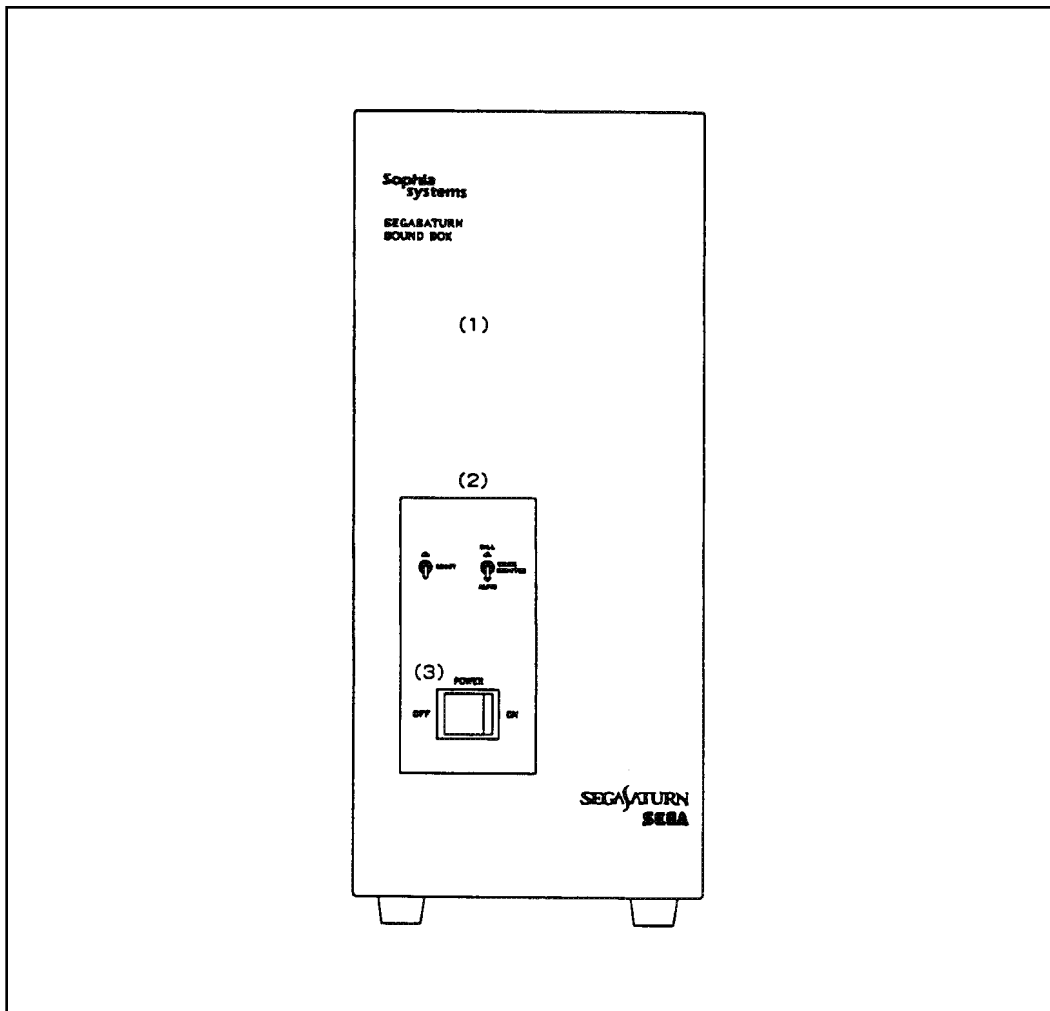
Front View

Figure 1.1 Sound Box Front View

<Name of Parts>
1) Sound Box
2) Panel Switch
3) Power Switch

2

Rear View

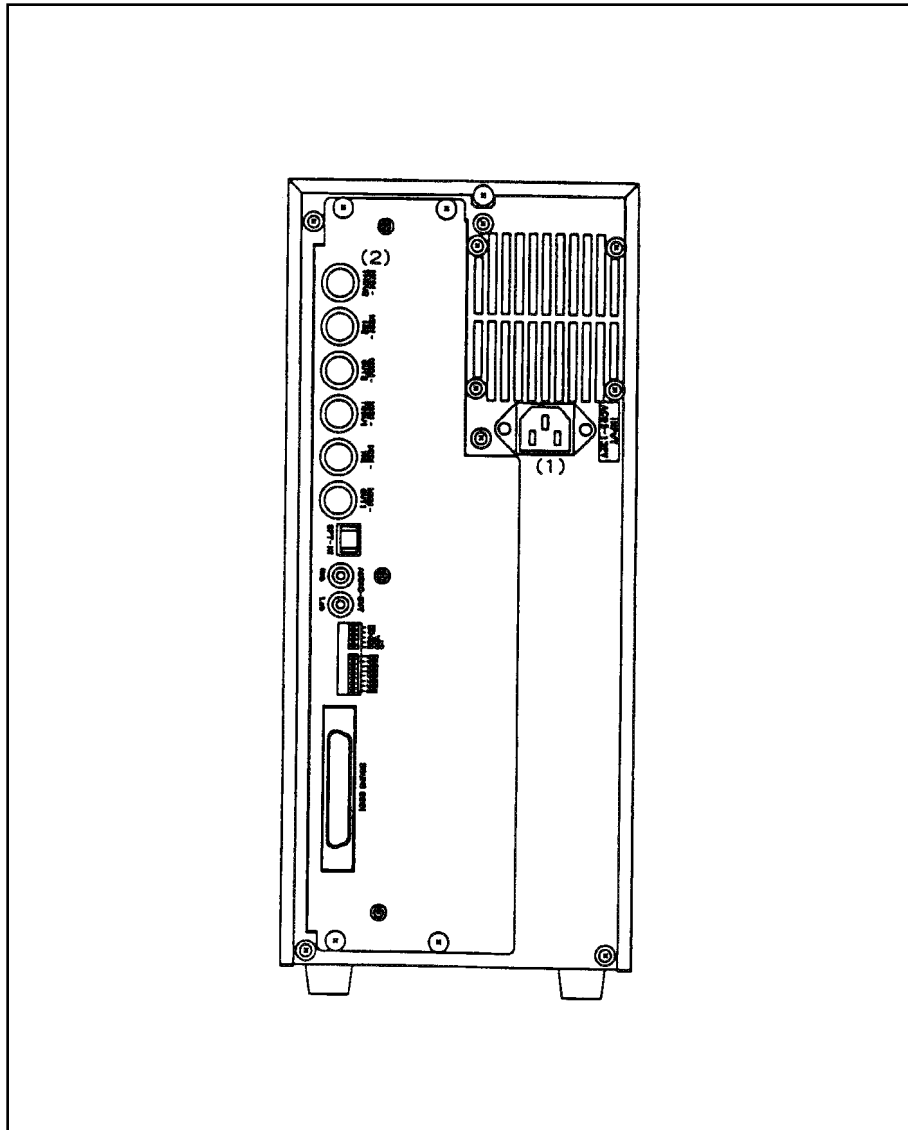**Figure 1.2 Sound Box Rear View**

Figure 1.2 shows the name of each part. Details of each part are given in chapter 3.

1) AC inlet
2) Sound Development Environment Relational Connector
    • MIDI Connector
    • Audio Signal Output Connector
    • Optical Digital Audio Signal Input Connector
    • Sound Board Status Display LEDs
    • Sound SCSI Connector

3

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Chapter 2   Unpacking and Installation (Setup)

(RDJ, 9/27/94)

2.1 Unpacking and Checking Accessories

First, remove all of the contents inside the box and check the list package contents in Figure 2.1 to make sure that nothing is missing. Contact our Customer Support Group if anything is damaged or missing. See chapter 4 "Customer Support Service" for more information.

(1) Sound Box   (2) AC Cable   (3) Sound Box
                                                              User's Manual
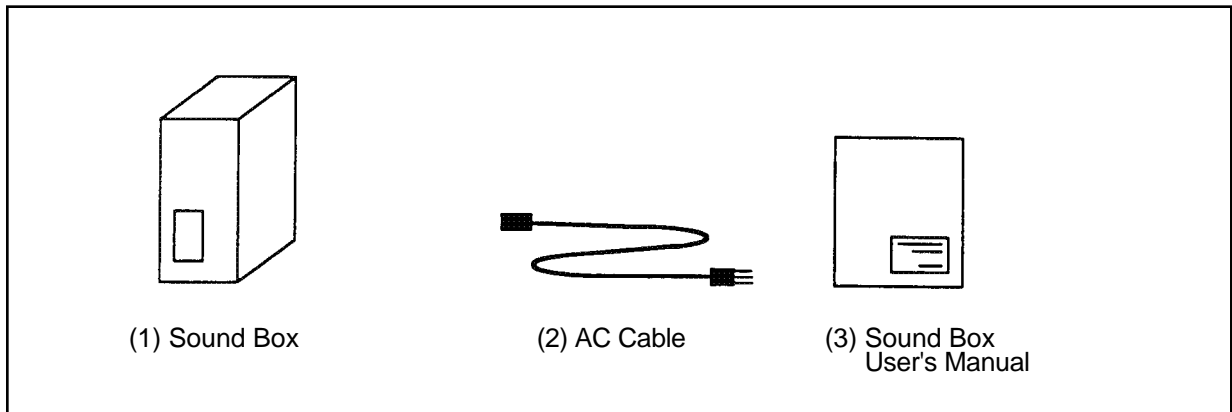
Figure 2.1   List of Package Contents

Item	Qnty
1) Sound Box	1
2) AC Cable	1
3) SEGA SATURN Sound Box User's Manual (this manual)	1

6

2.2 Sound Box Installation (Setup) Method

Installation (Setup) Environment

Observe the following items when installing the Sound Box.

- Do not place in direct sunlight or near a heater.
- Do not install in an area of extremely high or low temperatures, and avoid use in areas subject to violent vibration.
- To avoid external signal noise, do not plug the Sound Box into the same AC outlet that is being used by other devices.
- Because the Sound Box generates a large amount of heat, a 5 cm space around the Sound Box must be maintained.
- Never place anything on top of the Sound Box.

2.3 Power On / OFF

Connecting the AC Cable

Observe the following items when connecting the AC cable.

1) Turn off the Sound Box power switch.
2) Plug the female side (end) of the AC cable into the Sound Box AC inlet.
3) Plug the AC grounded cable plug into an AC outlet.

Sound Box Input Specification are:
- AC85 V ~ 132 V
- 47 Hz ~ 63 Hz
- Maximum power consumption: 50 W

Power ON

1) Turn on the power by turning the Sound Box power switch to ON.
   The power switch is a light which flashes whenever the power is
   turned on.

2) This turns on the power of the host (such as a Mac) as well as peripheral
devices connected to the sound box.

Note: If the light does not flash, turn off the power, recheck the connections of the AC cable
as well as other cables, then turn the power on again. If it still does not flash contact a
Support Centers.

Power OFF

Following the steps above in the reverse order shuts off the power.

Chapter 3   Description of Parts

Chapter 3 Description of Parts

3.1 Panel Switches

The panel switches have the following functions.
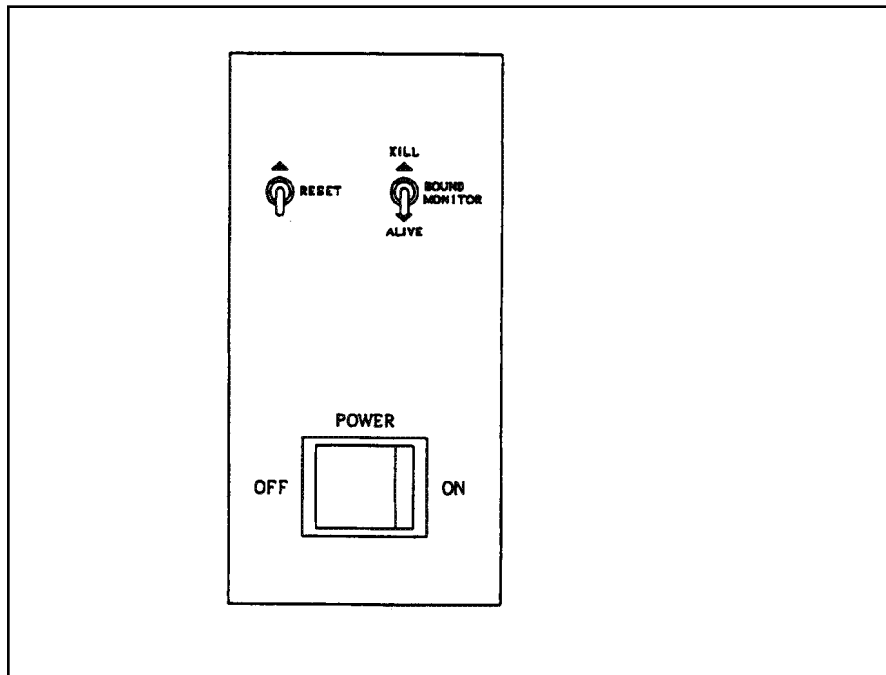- Resets the sound board
- Sound debug mode setting

Figure 3.1 Panel Switch Names

Reset Switch

This switch resets the entire sound board.

Sound Monitor Switch

This switch determines whether the monitor program on the sound board is used or not. The setting for using the monitor program is normally used.

Alive

This status allows the sound monitor program to be used. Pressing the reset switch or turning on the power of the Sound Box with the sound monitor switch set to *Alive* begins the operation of the sound board monitor program and allows control of the sound board from the host machine (Macintosh, for example) through the SCSI. This is the setting normally used.

Kill

This status prevents the sound monitor program from being used. Be aware that in this status the Sound Box unit is not operational.

11

3.2 Sound Development Environment Issues

Connector Names

Figure 3.2 explains names and simple functions of the sound development relational connector (called sound connector below).
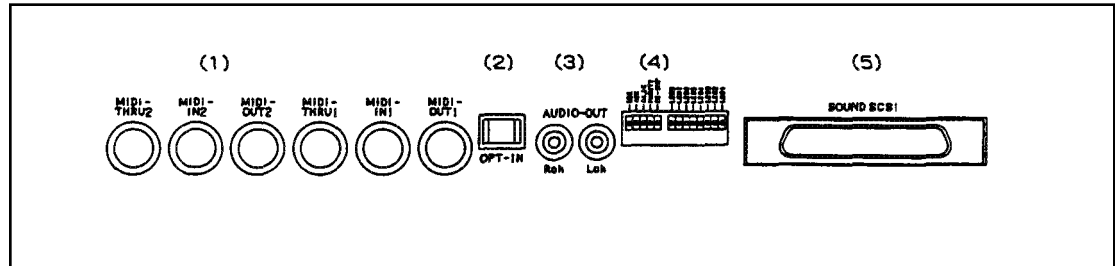For connector positions, see rear view in chapter 1.

Figure 3.2   Sound Connector Names

1) MIDI Connector
    A dual system, each with an IN, OUT, and THRU connectors.

2) OPT - IN
    Enables the input of an optical digital audio signal.

3) Audio - OUT
    Has two channels: Rch and Lch.
    An amplifier is required to boost the output.

4) Sound Status Display LEDs
    Various types of information are displayed via LEDs. See the sound software manual for the display content.

5) Sound SCSI
    This is a SCSI connector. This is used when connecting with a SCSI interface of the host machine such as a Macintosh. This SCSI supports SCSI-I. Because this is a terminal process, make sure that it is the final connector in the SCSI daisy chain cable.

SCSI ID Setting

When a host machine (PC/AT, Mac, etc.) is connected to the SCSI, the SCSI ID must be set. The SCSI ID can use the numbers 1 through 6. The ID is changed by the switch on the sound board to a setting not used by another SCSI device, such as a hard disk drive, already connected. The switch is set to an ID of 6 at the time of shipment. To change switches, first remove the Sound Box cover, then make the desired setting.
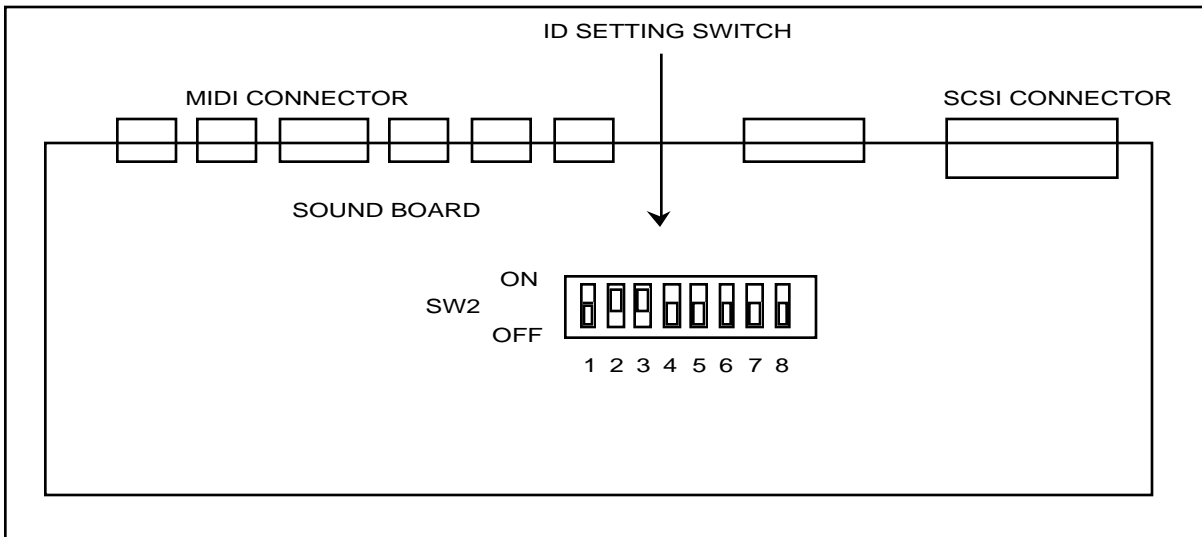

Figure 3.3 Sound SCSI ID set Switch Position

Table 3.1 Sound SCSI ID Settings

Switch No. ID No.	1	2	3	4	5	6	7	8
0	OFF	OFF	OFF					
1	ON	OFF	OFF					
2	OFF	ON	OFF					
3	ON	ON	OFF					
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON					
6	OFF	ON	ON					
7	ON	ON	ON					

Note: Settings at the time of shipment are shown within the double lines

13

How to Set the SCSI ID

Follow the steps below when changing the SCSI ID. You do not need to follow these steps if using ID=6 setting.

1. Remove the Sound Box cover.
    • Make sure the power of all peripheral devices connected to the Sound Box is off.
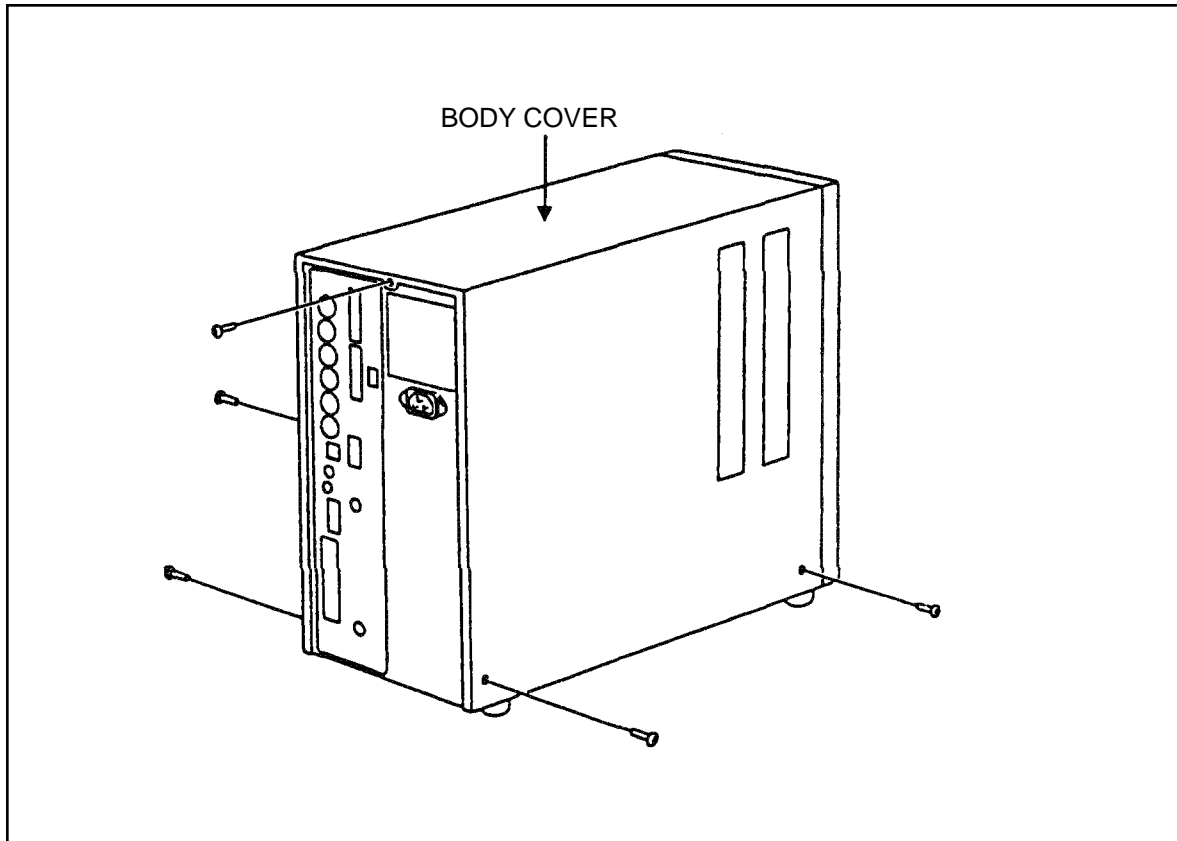   • Remove the Sound Box cover. There are five screws. See Figure 3.4.

Figure 3.4   Removing the Sound Box Cover

2. Set the SCSI ID.
    • Set the ID switch on the sound board according to Figure 3.4 and Table 3.1.

3. Install the Sound Box cover.
    • Cover the casing with the main cover and secure with five screws. See Figure 3.4. Refer to "Remove the Sound Box cover."

14

Chapter 4   Customer Support Service

Chapter 4 Customer Support Service

4.1 Customer Support Service Information

Inquiries about the SEGA SATURN Sound Box can be made to the following centers.

1) SEGA Technical Inquiries

      Company: SEGA Enterprises, Ltd.
      Department: Technical Support
      Address: 275 Shoreline Dr./Redwood City/CA/94065
      Fax: 415-802-3963
      Hours: 10:00 am ~ 11:45 am, 12:45 pm ~ 7:00 pm
                                   (Open Monday through Friday except on holidays.)

2) Sophia System Technical Inquiries

      Company: Sophia Systems, Ltd.
      Department: Technical Support Center
      Address: 6 - 2 Minami Kurogawa, Asabu-Ku
                                   Kawasaki-Shi, Kanagawa-Ken, 215
      Tel: 044-989-7239 (direct)
      Fax: 044-989-7005
      Hours: 10:00 am ~ 12:00 pm, 1:00 pm ~ 5:00 pm
                                     (Open Monday through Friday except on holidays.)

16

INDEX