

SOUND REPEATER

S-20S

Please follow the instructions in this manual to obtain the optimum results from this unit. We also recommend that you keep this manual handy for future reference.

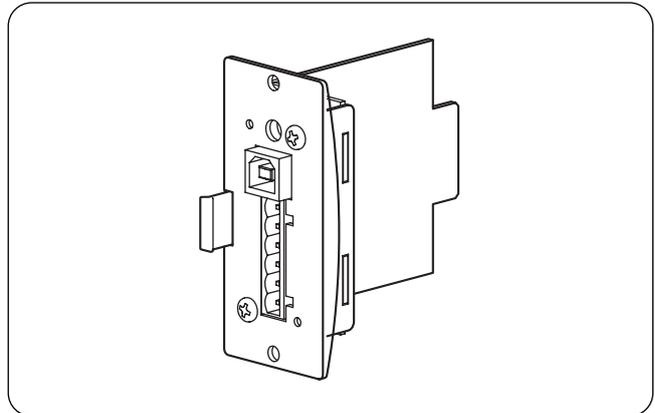


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1. GENERAL DESCRIPTION

The S-20S is an electronic Sound Repeater module to be used in conjunction with the A-900 series, BG-1000 series amplifiers, and VX-2000.

Four types of audio sources such as music and messages (6 minutes total time) can be recorded and played back.

The USB port facilitates recording by transferring audio sources from a PC to the module.

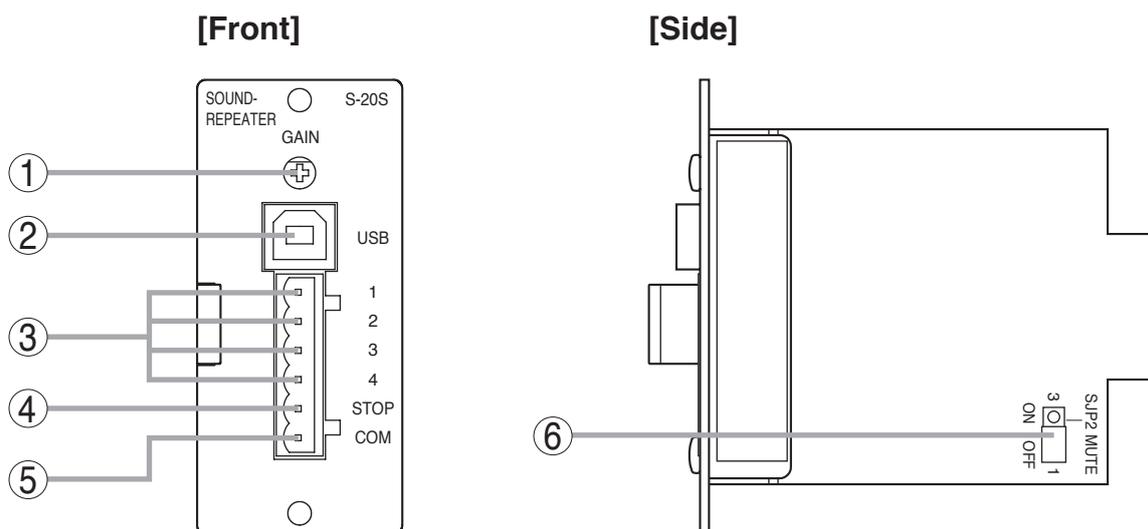
2. FEATURES

- Supplied software permits audio files to be easily transferred from a PC to the Sound Repeater over a USB connection.
- Provides high quality of sound because audio data is not compressed when recorded.
- Playback and stop operations can be remotely controlled from external equipment.
- Repeat playback is enabled when playback intervals are set with the supplied software program.

3. HANDLING PRECAUTIONS

- Do not install 3 modules or more in the A-900 series or VX-2000 to prevent the amplifier from overcurrent supply.
- When the module is used with the VX-2000, sound loss may occur at the beginning of playback depending on the recorded audio sources. If this is noticeable, add a silent section of over 0.5 second to the beginning of audio source using the supplied software program.
- Install the module in the module receptacle of the designated amplifier.
- Recording into the module cannot be made internally through the amplifier's external input. Use the supplied software program to write audio sources into the module from a PC.
- Do not perform any modifications to the module, as this may result in its failure. Leave the inspection, adjustment and repair of the internal circuitry to your TOA dealer.
- The CD-ROM supplied with the module is not for audio applications, and should not be used in an ordinary audio CD player.
- Internal Copyright Acts prohibit the copy or use of commercially available music and audio data for commercial purposes without the approval of the copyright holder. It is strongly advised that a copyright lawyer be consulted when using such material.

4. NOMENCLATURE AND FUNCTIONS



1. Output volume control [GAIN]

Normally set at the maximum position (fully clockwise position). This position provides 0 dB output.

2. USB terminal [USB]

Connects to a PC using the supplied USB cable.

3. Playback activation terminal [1, 2, 3, 4]

To activate Playback, short this terminal to the COM terminal.

Input: No-voltage, pulse edge triggered, pulse length 200 ms

4. Stop input terminal [STOP]

To stop playback operation, short this terminal to the COM terminal. Playback operation is immediately stopped even in progress.

Input: No-voltage, pulse edge triggered, pulse length 200 ms

5. COM terminal [COM]

6. Mute-send ON/OFF jumper

Set the jumper to ON position when using the S-20S together with the A-900 series modules having mute-receive function such as M-11 or U-11.

(The jumper is factory-preset to OFF position.)

5. MODULE INSTALLATION

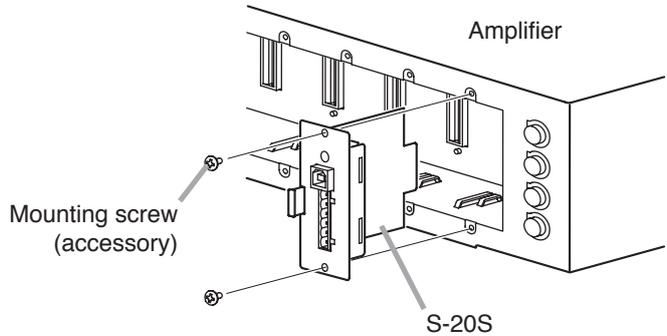
Notes

- To protect the mounted parts from damage caused by static electricity, touch equipment rack or other metal objects to discharge charged static on your body or clothes before installing the module.
- Do not touch the mounted parts or gold plated terminals.
- Switch the amplifier's power OFF before installing the module. Otherwise, the module or amplifier may fail.

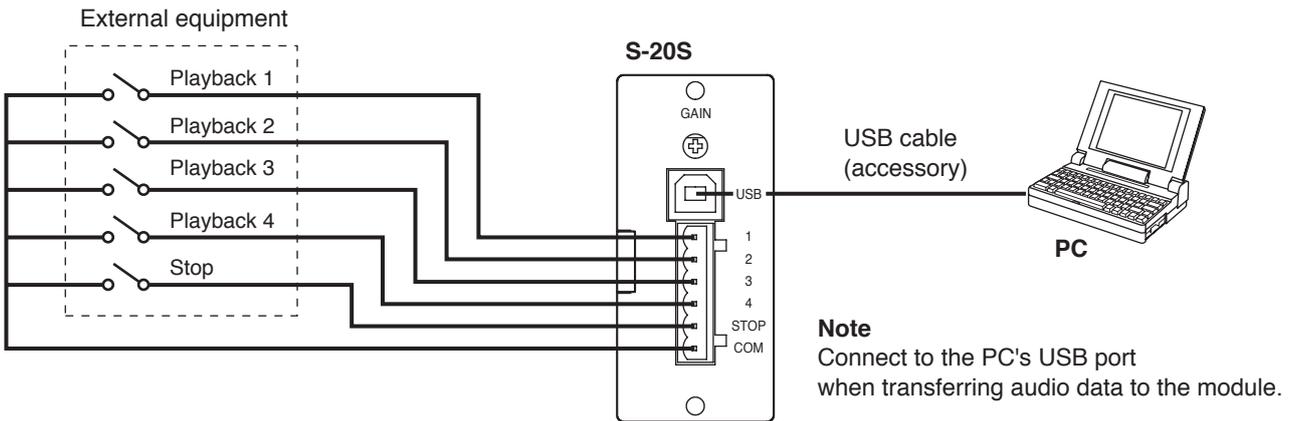
Step 1. Plug in the module firmly orienting it correctly.

Step 2. Fix it with the supplied screws.

[Installation example]



6. CONNECTION



6.1. Connection to the Playback Activation and Stop Input Terminals

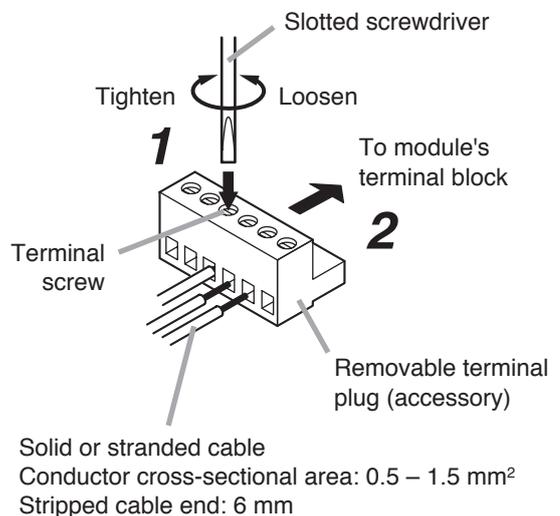
After wiring the supplied removable terminal plug, insert it into the external activation terminal block.

Step 1. Loosen the terminal screw to insert the cable into the connector, then retighten the screw.

Note

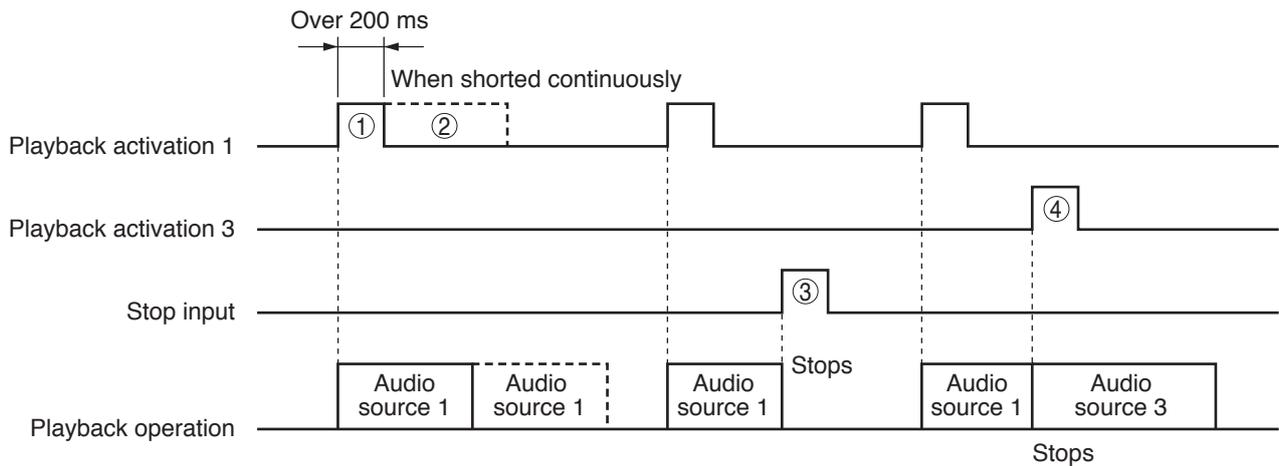
Tug lightly on the cable to be sure that it does not pull free.
If the cable pulls free, loosen the terminal screw again and reconnect from the beginning.

Step 2. Insert the removable terminal plug into the terminal block.



7. PLAYBACK

[Playback activation/Stop control vs Playback operation]



[Operation]

- ① Shorting the Playback activation terminal activates playback operation. Playback continues till it ends even if the terminal is opened during playback.
- ② Keeping the Playback activation terminal shorted repeats playback of the same audio source.
- ③ Shorting the Stop input terminal ends the current playback halfway.
- ④ Shorting another Playback activation terminal ends the current playback halfway, activating another playback instead.

8. USING THE SUPPLIED SOFTWARE PROGRAM

The S-20S is so designed to record content data for playback through a PC. Create audio sources and set playback intervals on a PC, then transfer these set data to the S-20S as content data. For this purpose, install the software program contained in the supplied CD-ROM and use the supplied USB cable for data transfer.

For instructions regarding use of the supplied software, read the "EV20 Software Instruction Manual.pdf" file on the CD-ROM.

Tip: To install the USB driver or to transfer data, simply connect the PC to the S-20S using the USB cable. The S-20S need not be installed in the amplifier.

8.1. System Requirements

The following PC specifications are highly recommended for correct operation of the software.

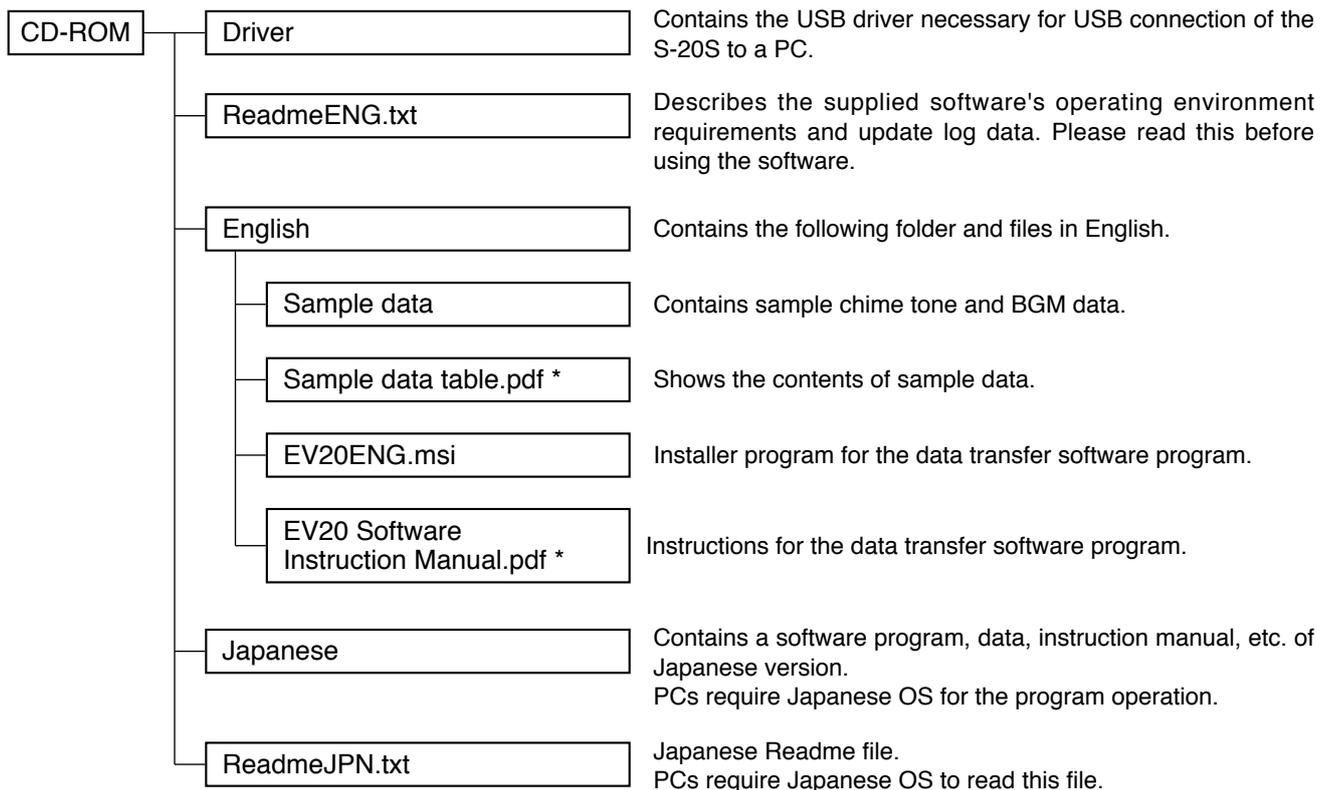
Personal Computer	IBM-AT compatible type (equipped with the USB terminal)
Main Specifications	CPU: Pentium compatible CPU of 133 MHz or more Memory: Over 64 MB (recommended: 128 MB or more) Free disk space: Over 10 MB (space for audio data storage excluded)
OS	Windows 2000/XP

Notes

- Pentium is a trademark of Intel Corporation.
- Windows is a trademark of Microsoft Corporation.

8.2. CD-ROM File Configuration

The supplied CD-ROM is configured as follows:



* Acrobat Reader is required to view this file. If Acrobat Reader is not installed in the PC to be used, download it from the Adobe web site.

Note: Both Adobe and Acrobat are trademarks of Adobe Systems Incorporated.

8.3. Notes on Use of Software

When the S-20S is in the following operating status, do not insert or remove the USB cable. PC operation may stop.

- While the driver software program is being installed.
- While the OS is being activated or terminated.
- During the course of being suspended or resumed.
- While data is being transferred between the module and the PC.

Because PC operations could also freeze, avoid performing the following:

- Frequent USB cable insertion and detachment

8.4. Software Program Installation

To use the USB function, correctly install the software programs in the PC.

Two software programs need to be installed: The USB driver and data transfer software programs.

Notes

- You need not install the USB driver program if the different version of the data transfer software program has already been installed in the PC.
- Install the module into the amplifier in advance.
- Before operating, confirm the CD-ROM drive letter (such as E or F) of the PC to be used. The drive letter is displayed near the CD-ROM icon in "My Computer."
- To install the USB driver, simply connect the PC to the S-20S using the USB cable. The S-20S need not be installed in the amplifier.

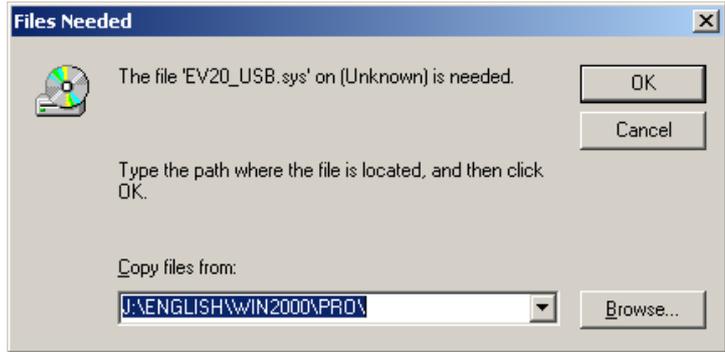
8.4.1. USB driver installation

Step 1. Start the PC.

Step 2. Insert the supplied CD-ROM into the PC's CD-ROM drive.

Step 3. Using the supplied USB cable, connect the module's USB terminal to the USB terminal of the PC or USB Hub.

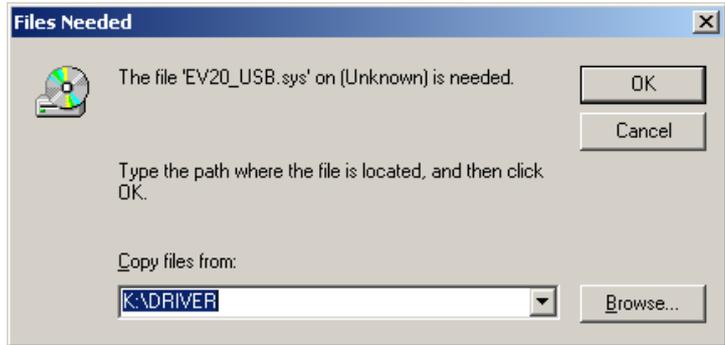
The screen at right is displayed.



Step 4. Select the source to copy. Pull down the "Copy files from:" menu to select "\Driver" in the CD drive.

Note

The drive letter depends on the type of PC to be used.



Step 5. Click the OK button to start driver installation.

The screen disappears in several seconds and the driver installation is completed.

[Troubleshooting when the driver cannot be installed]

Cause	Remedy
USB cable is not correctly connected.	Unplug the USB cable, then reinsert it.
PC's USB disabled.	<p>When connecting the S-20S to the PC, if the Step 5 screen for the USB driver installation is not displayed, the PC may be set to disable USB. Check PC settings with the following procedure:</p> <p>Step 1. Select "My Computer" – "Control Panel" – "System."</p> <p>Step 2. Click "Device Manager" in "Hardware."</p> <p>Step 3. Check to be sure that there is no "!" or "X" symbol in "USB Controller" and "USB Root Hub." When "!" or "X" symbols are displayed, perform settings so that USB can be used. For the setting procedure, refer to PC instruction manual.</p>
Unknown device programmed.	<p>When the driver cannot be correctly installed, the S-20S may be recognized as an "Unknown Device," making installation impossible thereafter. Delete "Unknown Device" with the following procedure:</p> <p>Step 1. Select "My Computer" – "Control Panel" – "System."</p> <p>Step 2. Click "Device Manager" in "Hardware."</p> <p>Step 3. Click "Display" to select "Device (classified by type) (E)."</p> <p>Step 4. Ensure there is no "Other Device."</p> <p>Step 5. When there is "Other Device," click that tab. If there is "Unknown File" under the tab, select and delete it.</p> <p>Step 6. Remove the USB cable and after reinserting it, reinstall the driver.</p>

8.4.2. Installing the data transfer software program

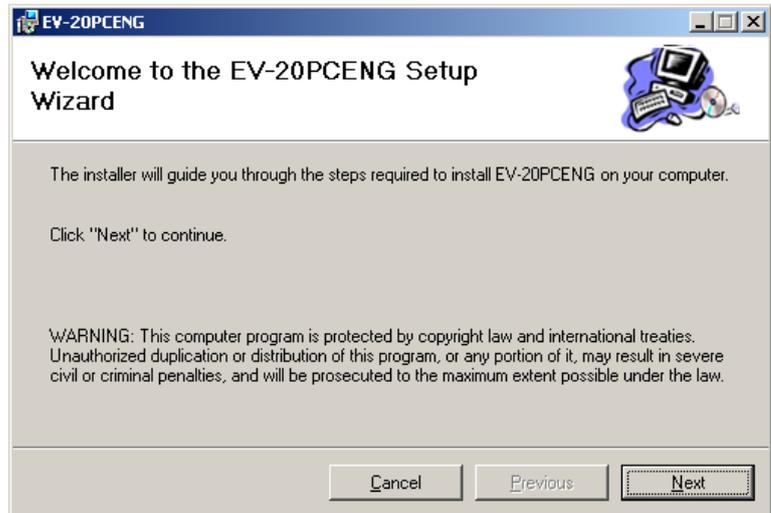
Step 1. Start the PC.

Step 2. Insert the supplied CD-ROM into the PC's CD-ROM drive.

Step 3. Double-click "CD-ROM Drive" from "My Computer" on the desktop screen.

Step 4. Select "English" folder and double-click "EV20ENG.msi."

The screen at right is displayed on the PC screen.



Note

If any version of the data transfer software program has already been installed in the PC, the window shown at right appears.

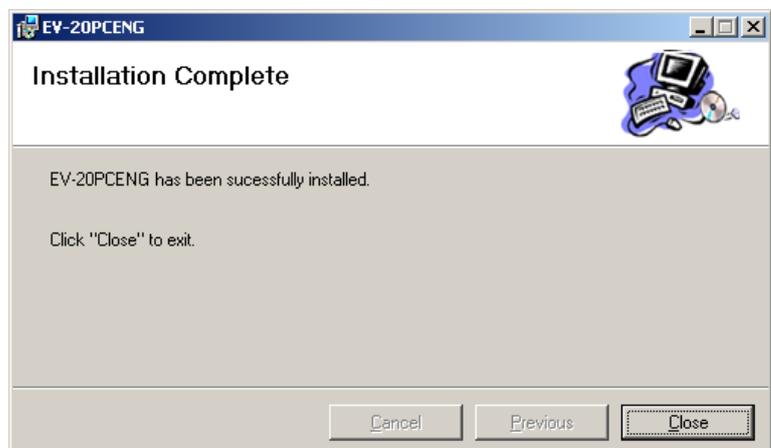
Select "Remove EV-20PCENG," click the Finish button, and follow the on-screen instructions to delete the installed program.

Then, reinstall the program following **Step 4** again from the beginning.



Step 5. Click the Next button according to the instructions on the screen until the installation is completed.

The Data Transfer Program "EV20man.exe" file has been installed in the designated folder (c:\ProgramFiles\EV-20PCENG\ by default).



Step 6. Click the Close button.

The screen disappears, completing the software program installation. Ensure that the "EV20man.exe" file has been correctly installed.

9. SPECIFICATIONS

Power Source	24 V DC
Current Consumption	Under 40 mA
Output	0 dB*
Wave Format	44.1 kHz sampling frequency, 16-bit PCM (monaural)
Frequency Response	50 – 20,000 Hz ± 3 dB (1 kHz)
Distortion	Under 1% (1 kHz)
Recording System	USB data transfer
Control Input	Playback 1 – 4, stop: No-voltage make contact input, pulse make length: 200 ms, open voltage: 24 V DC, short-circuit current: 2 mA, removable terminal block (6 pins)
Maximum No. of Messages	4
Maximum Recording Time	6 minutes
Playback Interval Time	∞ , 0 s, 5 s, 10 s, 30 s, 1 min, 5 min, 10 min, 30 min, or 1 h (selectable)
Operating Temperature	0 – 50°C
Finish	Panel: Aluminum, hairline
Dimensions	35 (w) x 78 (h) x 88 (d) mm
Weight	65 g
Applicable Model (option)	A-900 series, BG-1000 series, VX-2000

*0 dB = 1 V

[USB Data Transfer Software Operation Environment]

Personal Computer	IBM-AT compatible type (equipped with the USB terminal)
Main Specifications	CPU: Pentium compatible CPU of 133 MHz or more Memory: Over 64 MB (recommended: 128 MB or more) Free disk space: Over 10 MB (space for message storage excluded)
OS	Windows 2000/XP

Notes

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- Windows is a trademark of Microsoft Corporation.
- Regarding other company names and products, they are also trademarks of individual companies.

• Accessories

CD-ROM (USB driver, data transfer software, sample audio data, etc.)	1
USB cable (1 m)	1
Removable terminal plug (6 pins)	1
Mounting screw	2