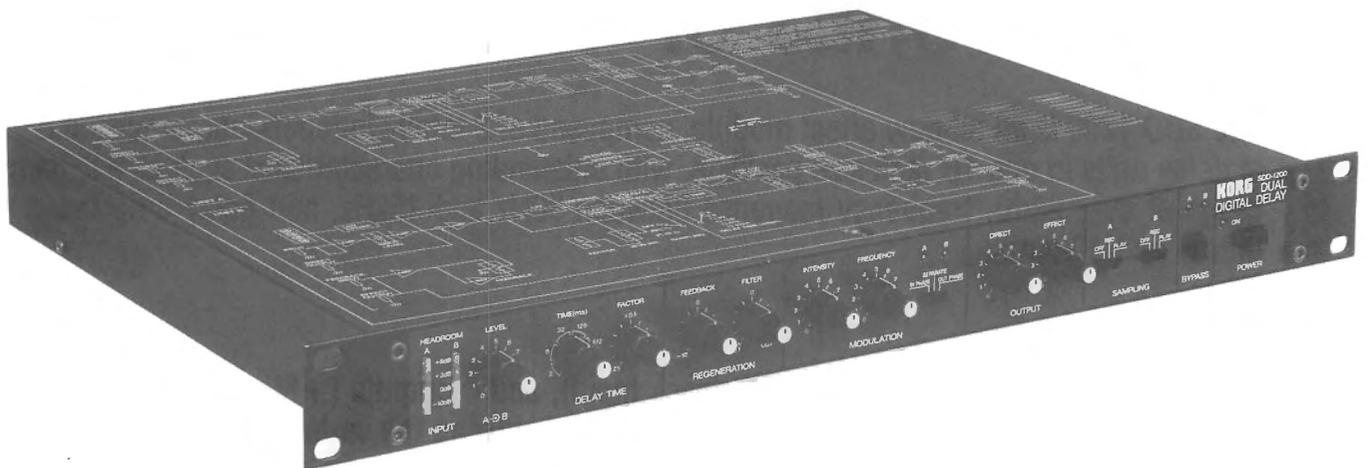


SDD-1200

DUAL DIGITAL DELAY OWNER'S MANUAL



KORG[®]

SDD-1200

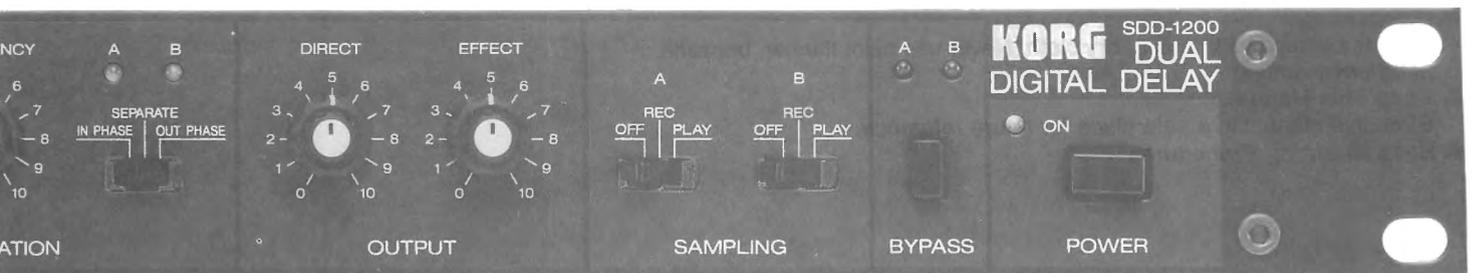


MAIN FEATURES OF THE SDD-1200

- 1** The SDD-1200 is an all-new effect module, composed of 2 totally independent, precision digital delay units in one 1U rack-size package, with outstanding characteristics such as a dynamic range of over 92dB, frequency response between 30Hz and 16kHz, and delay time range of 0.5ms and 1024ms.
- 2** Each unit features 2 inputs (Input, Feedback Input), and 4 outputs (+ Mix, - Mix, Direct, Effect). The units can be used as parallel delays, or by utilizing the variety of inputs and outputs they can be used in series, or connected for "cross-feedback", and other new effects never before possible with conventional delay units.
- 3** Each unit houses a separate modulation generator (LFO), so a wide range of stereo effects are possible. There's also modulation mode switching, so the units can be used in or out of phase with each other, by utilizing a single modulation generator.

Thank you and congratulations on your choice of the KORG SDD-1200 DUAL DIGITAL DELAY.

To obtain optimum performance and long service life from the Dual Digital Delay, please read this manual carefully before use.



- 4** Each unit houses a built-in independent Sampling/Hold function. Sound in one unit can be sampled while the other is used for delay effects, or a different phrase can be held in each unit. These features make the SDD-1200 useful as a one-point sound source.
- 5** Each unit features a high-cut/low-cut filter, which are useful in creating soft chorus effects, or sharp, strong flanging.
- 6** Bypass functions, absolute necessities in live performances, are built-in to each unit. They can be used simultaneously, or controlled totally independently.

IMPORTANT SAFETY PRECAUTIONS

■ Location

Do not use this unit for extended periods of time where it is exposed to:

- direct sunlight
- extremes of temperature or humidity
- sand or dust

■ Power Supply

- Use only with rated AC voltage. If you will be using this unit in a country having a different voltage, be sure to obtain the proper transformer to convert to rated voltage.
- To help prevent noise and poor sound quality, avoid using the same outlet as other equipment, or branching off extensions shared by other equipment.

■ Input/Output Jacks and Connection Cords

Be sure to use standard cables with phone plugs for input and output connections to the rear panel of the SDD-1200. Never insert any other kind of plug into these jacks.

■ Handle Gently

Knobs and switches are designed to provide positive operation with a gentle touch. Do not use force.

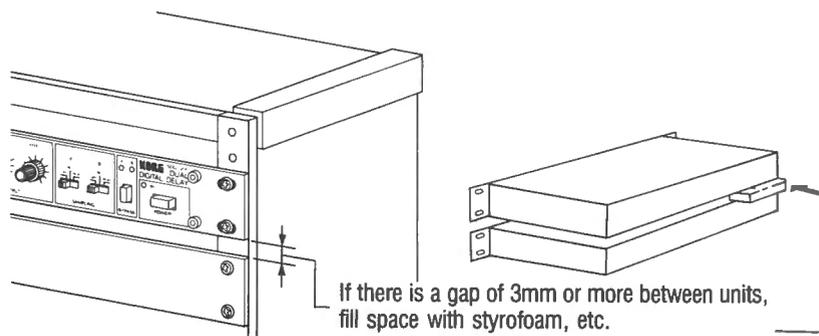
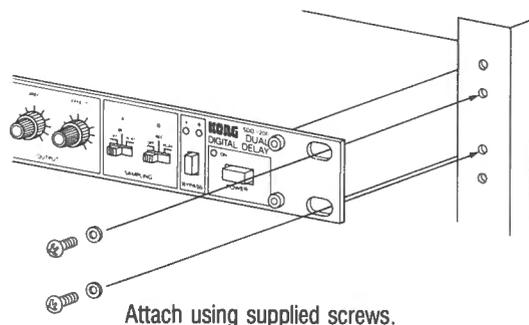
■ Maintenance

Wipe the exterior with a soft, dry cloth. Never use paint thinner, benzene or other solvents.

■ Keep This Manual

Store this manual in a safe place for future reference.

■ Rack Mounting Procedures



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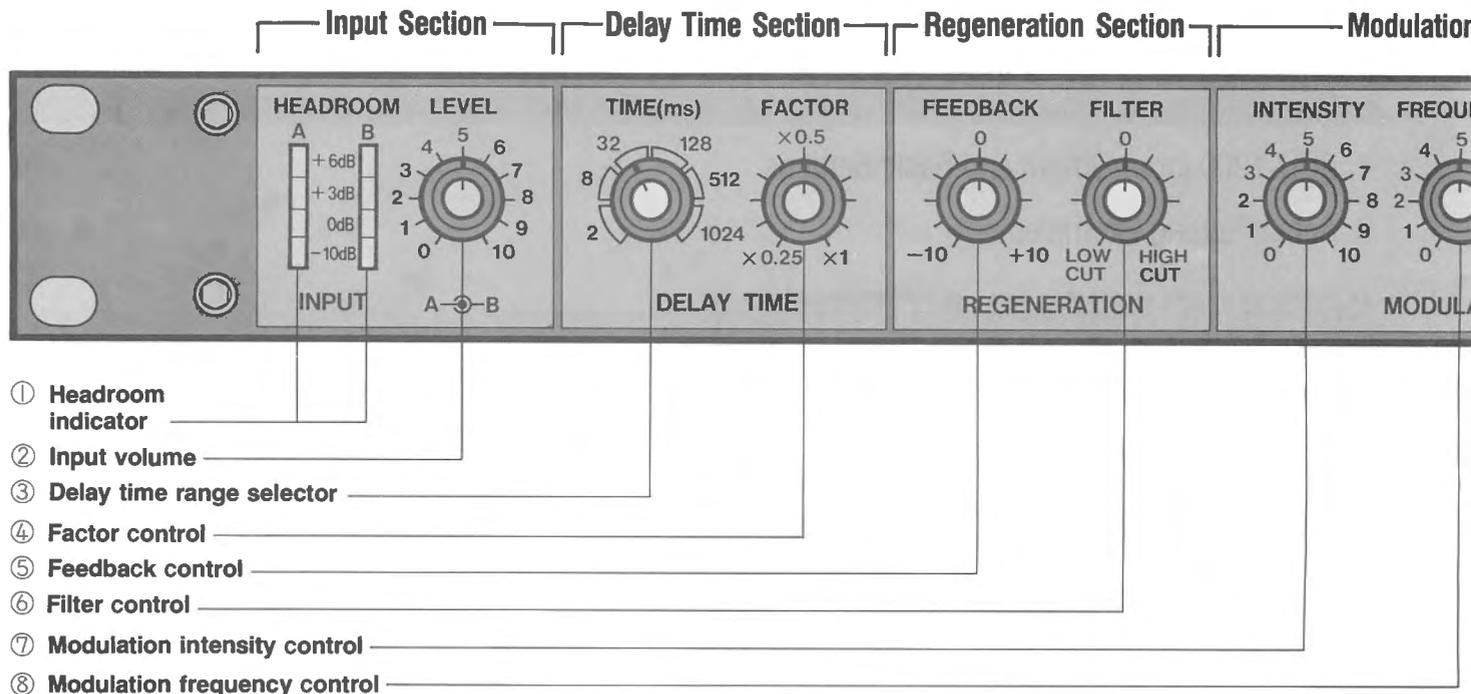
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SPECIFICATIONS & OPTIONS

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FEATURES AND FUNCTIONS

1. Front Panel



- ① Headroom indicator
- ② Input volume
- ③ Delay time range selector
- ④ Factor control
- ⑤ Feedback control
- ⑥ Filter control
- ⑦ Modulation intensity control
- ⑧ Modulation frequency control

■ About Control Knobs

All revolving pots feature dual concentric "stacked" knobs. The inner (front) knob controls Unit A, and the outer (back) knob controls Unit B.

■ Input Section

- ① **Headroom Indicator**
This LED meter shows input levels. It shows the level of the mixed signal composed of the input and feedback signals.
- ② **Input Volume**
Used to adjust the input signal level.

■ Delay Time Section

- ③ **Delay Time Range Selector**
Used to select delay time range for each unit. Control of delay time within the selected range is performed with the Factor Control ④.
1 of 6 ranges as shown below may be selected.

Position of Selector knob	Delay Time
1024	256ms ~ 1024ms
512	128ms ~ 512ms
128	32ms ~ 128ms
32	8ms ~ 32ms
8	2ms ~ 8ms
2	0.5ms ~ 2ms

[This control revolves successively, however ranges change step-by-step as shown.]

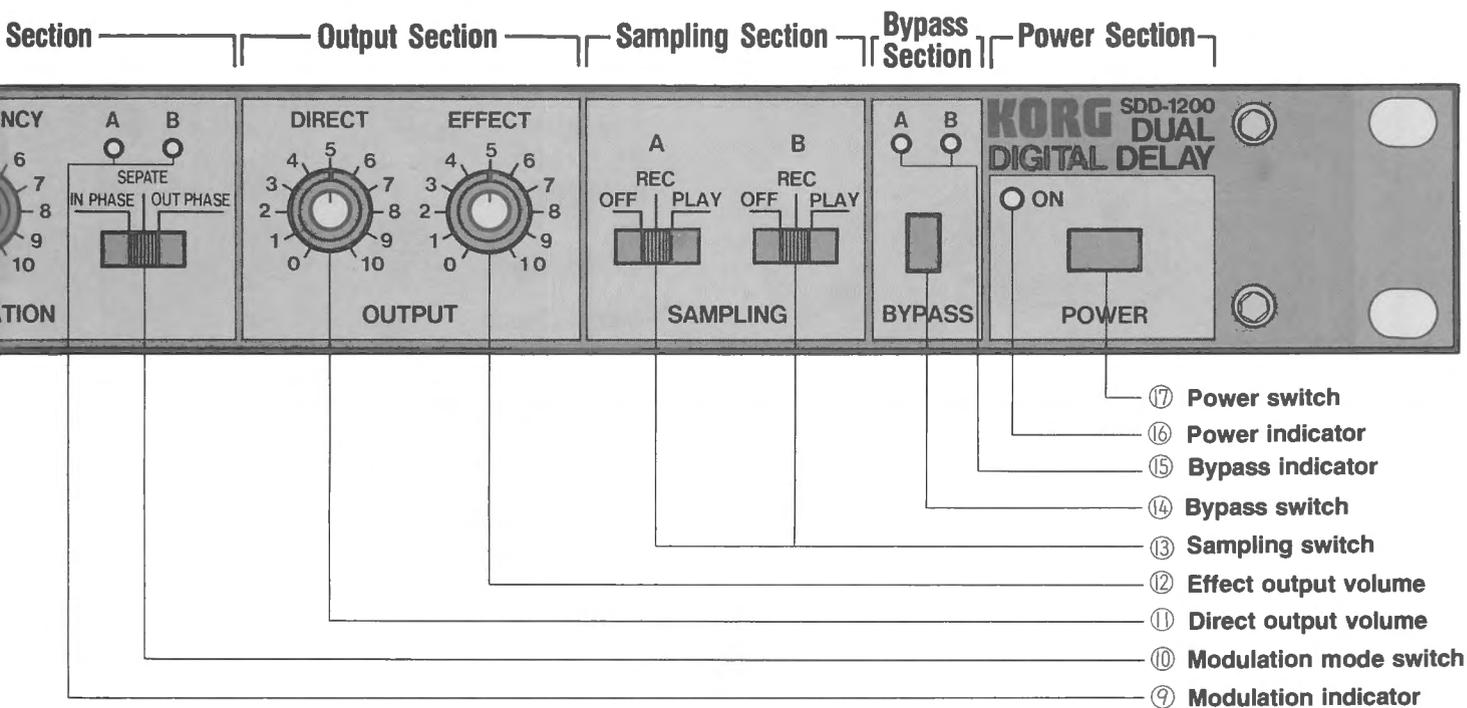
- ④ **Factor Control**
Used to select delay time within range selected via Delay Time Range Indicator ③

■ Regeneration Section

- ⑤ **Feedback Control**
Used to control feedback level and phase. When external signals are input via the Feedback input on the rear panel, the input level and phase are set via this control. (See page 8, Feedback Input ②.)
- ⑥ **Filter Control**
Used to controls the timbre of effect sounds. Turning the knob to the right brings on the high-cut filter cutting high frequencies for a "warmer" sound, while turning it to the left brings on the low-cut filter cutting low frequencies for a thinner, sharper sound.

■ Modulation Section

- ⑦ **Modulation Intensity Control**
Used to adjust the intensity of modulation. (Each Unit is controlled independently, regardless of Modulation Mode Switch position.)
- ⑧ **Modulation Frequency Control**
Speed of delay time modulation is set via this control. (However, if the Modulation Mode Switch ④ is set to IN PHASE or OUT PHASE, then Unit A's control knob is used to control both Units' modulation frequency, with Unit B's control having no effect on either Unit.)
- ⑨ **Modulation Indicator**
Flashes to indicate modulation speed and phase.



⑩ Modulation Mode Switch

This switch is used to select the relationship of modulation signals between Units A and B. (Changes modulation added to Unit B.)

One of 3 positions may be selected as shown below.

Switch Position	Units A, B modulation
SEPARATE	Modulation of each unit is controlled totally independently.
IN PHASE	Modulation for both units is controlled by using Unit A's LFO. LFO's are In Phase.
OUT PHASE	Modulation for both units is controlled by using Unit A's LFO. LFO's are Out of Phase.

■ Output Section

⑪ Direct Output Volume

Used to adjust direct signal level in + Mix and, - Mix outputs.

⑫ Effect Output Volume

Used to adjust effect signal levels in + Mix and, - Mix outputs.

■ Sampling Section

⑬ Sampling Switch

Each unit may be used as a sampling unit by setting this switch to either REC or PLAY. (See page 9, "Using Units as Sampling Machines" for information on recording and playback.)

This should be set to OFF for normal use as a delay unit.

■ Bypass Section

⑭ Bypass Switch

Both units use this single bypass switch. Note that when the footswitch is connected to the back panel, and only one unit is set to Bypass On, Bypass will be set Off when the bypass switch is pressed.

When set to Bypass On, it becomes impossible to output Effect sounds from the rear panel + Mix, - Mix and Effect outputs. Direct sounds may be output.

⑮ Bypass Indicator

Lights when bypass is set to ON.

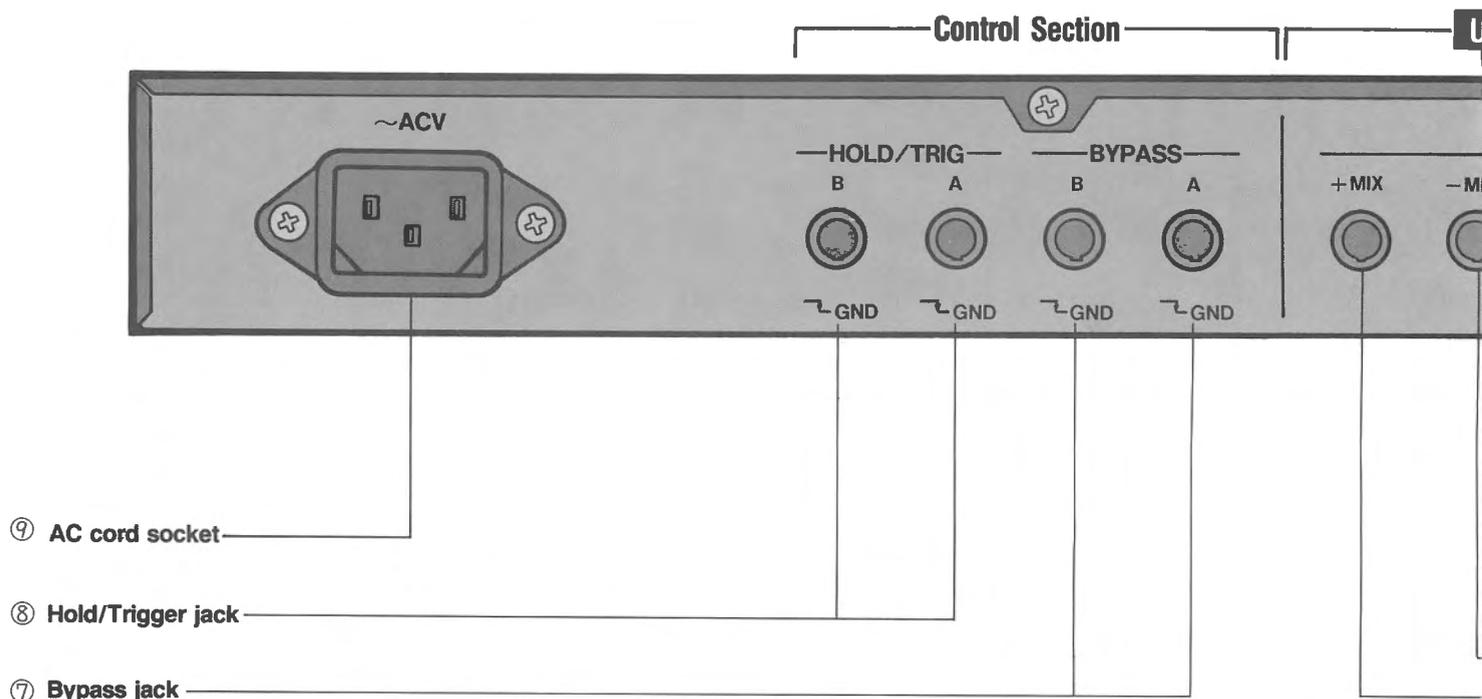
■ Power Section

⑯ Power Indicator

Lights when power is turned ON.

⑰ Power Switch

2. Rear Panel

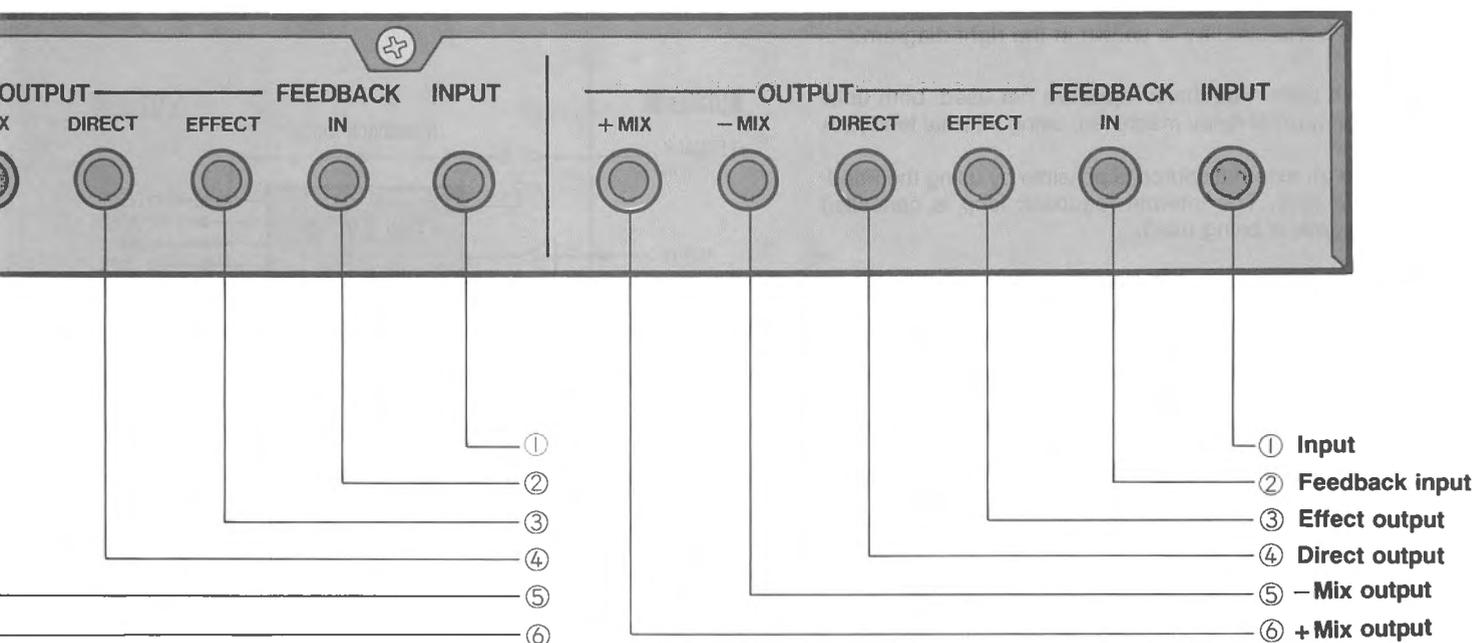


Input/Output Section

- ① **Input**
When nothing is connected to Input jack B, the signal input of Unit A is also connected to Unit B. Also, when low level signals such as some microphones, are input directly, it may be impossible to raise volume to appropriate levels. (In such cases it is necessary to use a preamp.)
- ② **Feedback Input**
Used for patching. The internal feedback loop is canceled when this input is used. Volume and phase of signals connected to this input jack are controlled via the Feedback Control ⑤ on the front panel.
- ③ **Effect Output**
Effect sounds are output via this jack. The output level is fixed, and is not controlled by the Effect Output Control ⑫ on the front panel.
- ④ **Direct Output**
Direct sounds are output via this jack. The output level is fixed, and is not controlled by the Direct Output Control ⑪ on the front panel.
- ⑤ **- Mix Output**
This provides a mixed output of direct and reversed phase effect sounds. Mixing level is controlled by the Direct Output Control and the Effect Output Control ⑪ & ⑫ on the front panel.
- ⑥ **+ Mix Output**
This provides a mixed output of direct and in phase effect sounds. Mixing level is controlled by the Direct Output Control and the Effect Output Control ⑪ & ⑫ on the front panel.

Control Section

- ⑦ **Bypass Jack**
For control of the BYPASS function. Independent for each unit. Refer to page 7, "Bypass Switch" ⑭ and "Bypass Indicator" ⑮
- ⑧ **Hold/Trigger Jack**
Used as Hold control when units are used as normal/delay machines. Phrase is held via footswitch control. Input phrase is repeated as long as footswitch is held down, according to preset delay time. Used as Trigger Control when units are used for sampling. Recording/Playback is controlled via drum machine or footswitch (⌋GND). Normally open type footswitches, such as the PS-1 or PS-2 must be used.
- ⑨ **AC Cord Socket**
Supplied AC cord is connected here.

Unit B input/output section**Unit A input/output section****Using Units as Sampling Machines****Recording/Playback Procedures**

- 1) Connect a footswitch (PS-1 or similar type) to the Hold/Trigger jack of the unit to be used for sampling/recording.
- 2) Set Delay Time Range Selector and Factor control according to desired recording time and range of pitch change after recording. Set input level at this time also.
- 3) Set Sampling Switch on front panel to "REC".
- 4) Press footswitch to begin recording. Recording ends automatically at the end of set recording time limit.
- 5) At the end of recording, set front panel Sampling Switch to "PLAY".
- 6) Playback may be controlled by connecting a drum machine or footswitch to the Hold/Trigger jack on the rear panel.

Note:

- 1 When recording, set Modulation Intensity Control to "0". Failure to do so will result in recorded sound being modulated. This cannot be controlled at playback.
- 2 There is an interval of approximately one sec. from the time Sampling Switch is set to "Play" wherein playback cannot be performed, even when a trigger source is input.
- 3 Recorded sounds are erased when power is turned OFF.

Other Recording/Playback Information

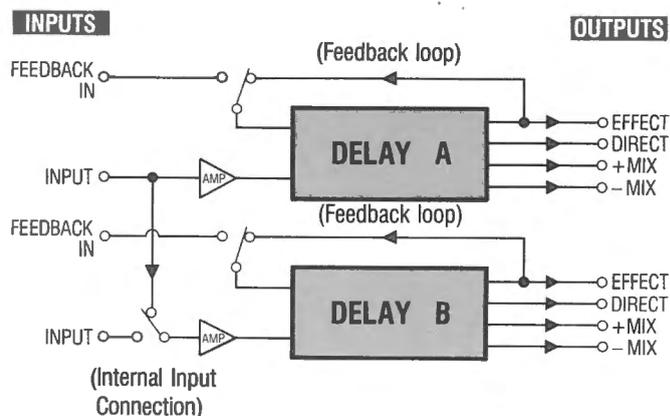
- 1) Sounds remaining in memory are played-back at the time that new sounds are recorded. By controlling feedback via the front panel control, a mix of both old and new sounds can be recorded. This is called over-dubbing. Volume and phase of recorded sound can be controlled via the Feedback Control, and timbre may be adjusted via the Filter Control. When over-dubbing is not desired, turn sampling switch to OFF and wait approximately 1 second Memory will be erased.
- 2) Pitch can be controlled via the Factor Control, and timbre via the Filter Control. Vibrato may be induced by using the Modulation Frequency Control, and Modulation Intensity Control.
- 3) After recording, playback time may be selected in steps, without changing pitch, by using the Delay Time Range Selector. However, do not set to 2ms, as recorded data will be destroyed.

CONNECTION AND BASIC OPERATION

1. SDD-1200 Input/Output and Basic Settings

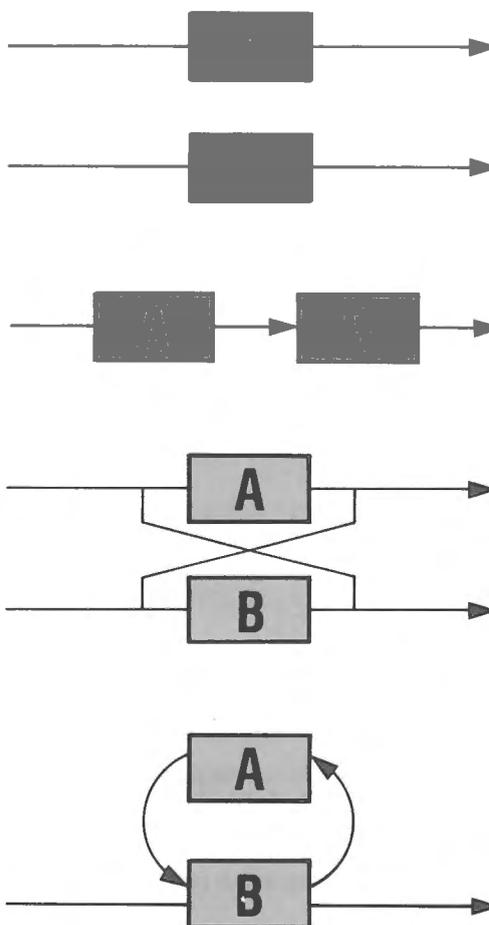
■ SDD-1200 basic circuitry is shown in the right diagram.

- ① When both units' Feedback Input are not used, both units function as normal delay machines, using internal feedback loops. Input from an external source is possible by using the Feedback Input jack. The internal feedback loop is cancelled when this jack is being used.
- ② When only Unit A's delay input is used (Unit B's is not used), the signal to Unit A is also sent to Unit B. When Unit B's input is used in addition to Unit A's, each unit's signal is input entirely independently.



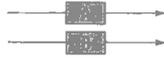
■ For effective use of the SDD-1200, four major types of settings are possible;

- ① **Parallel**
Each unit is independent.
- ② **Serial**
Output from one unit is input into the other unit.
- ③ **Cross-feedback**
Allows feedback of each unit to be input into the other.
- ④ **Open feedback loop**
Allows input of one unit into the other's feedback loop.

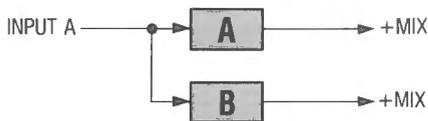
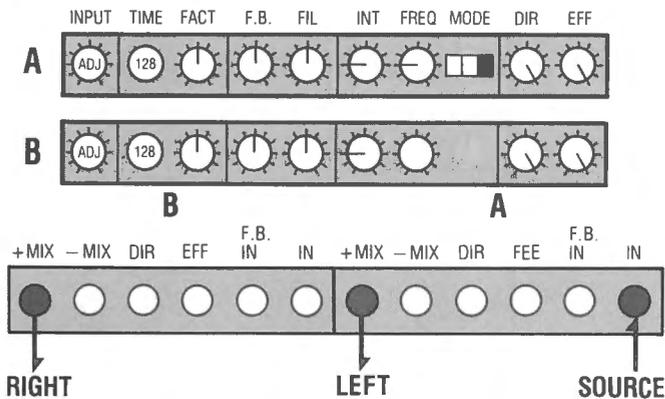


2. Actual Setting Examples

1 Parallel Setting

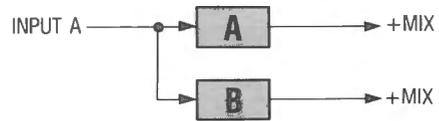
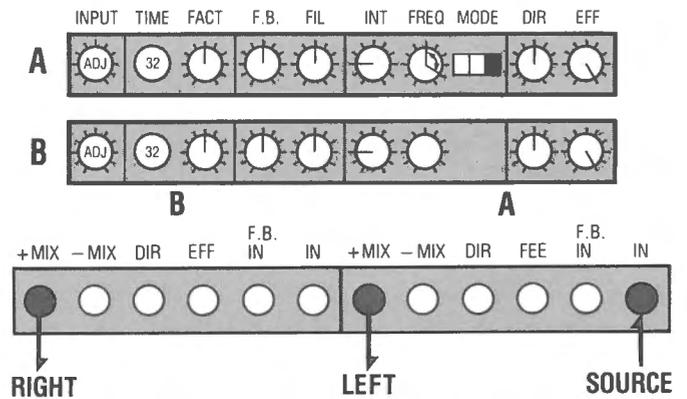


2-phase Stereo Chorus



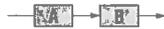
★ This setting provides a very wide, smooth chorus sound. Useful for strings, brass and other orchestra sounds.

Rotating Speaker Effect

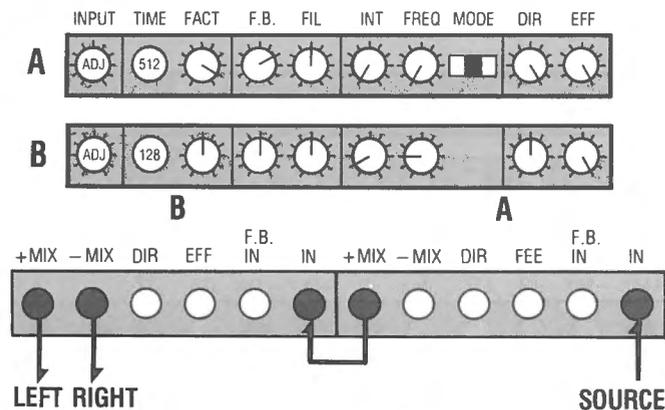


★ Speaker Rotation speed is controlled via the Modulation Frequency control. Useful for organ sounds.

2 Serial Setting

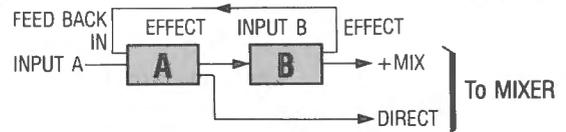
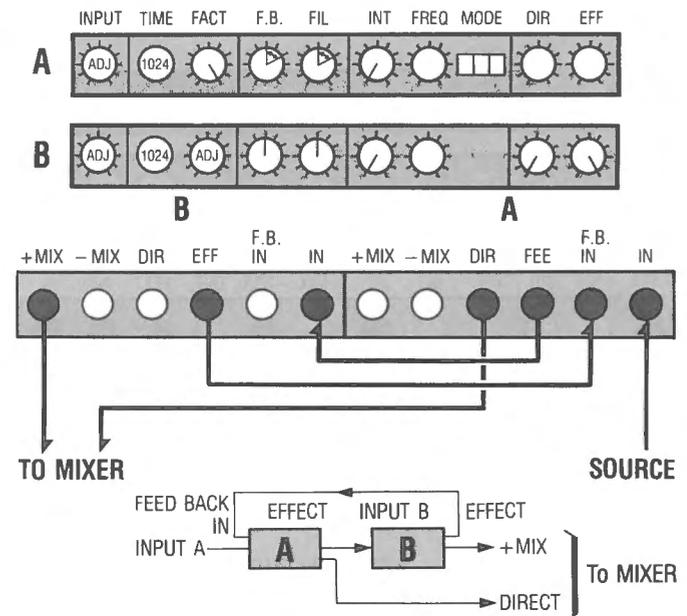


Chorus Delay



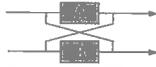
★ In this setting Delay A is used as a long delay, and Delay B is used as a chorus. Useful for percussive instruments, guitar and piano sounds.

Long Delay

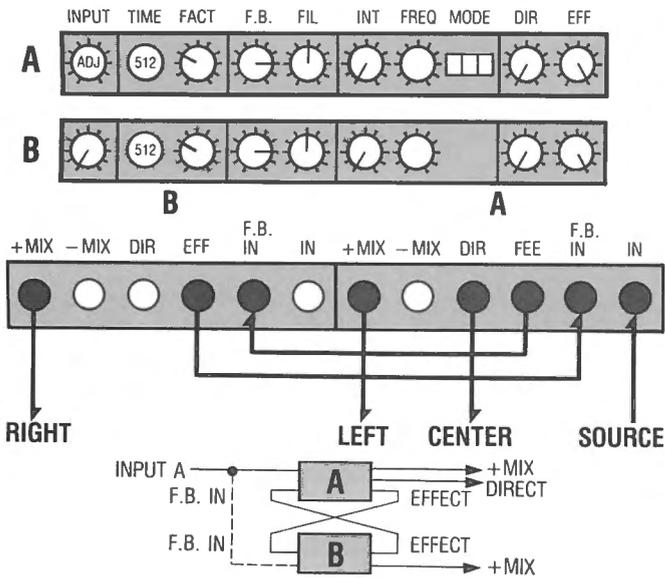


★ When delay times of over 1024ms are necessary. Allows delay time of up to 2048ms, via Unit B's Factor Control.

3 Cross Feedback Setting

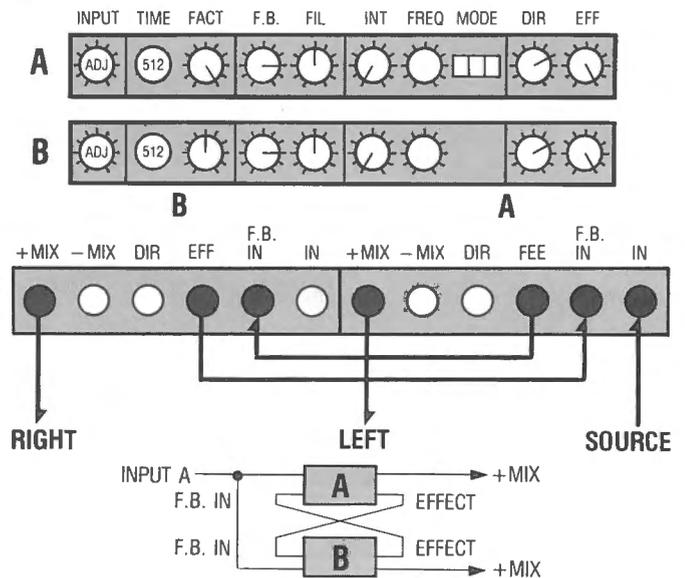


■ Stereo Delay



★ Direct sound is output from center, 150ms later from the left, and another 150ms later from the right. Continues in cycles, gradually decaying.

■ 3-Point Auto-pan

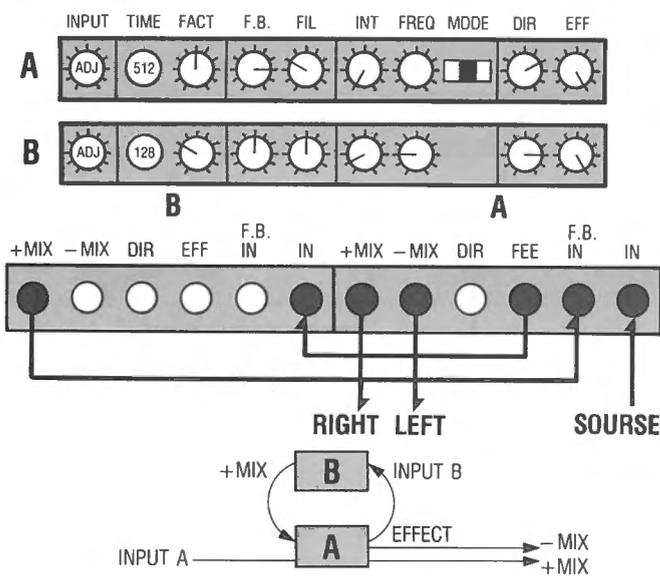


★ Sound output alternates from center-left-center-right-center-left, etc. Set Unit B delay time to 1/2 of Unit A's, and Feedback to equal levels.

4 Open Feedback Loop

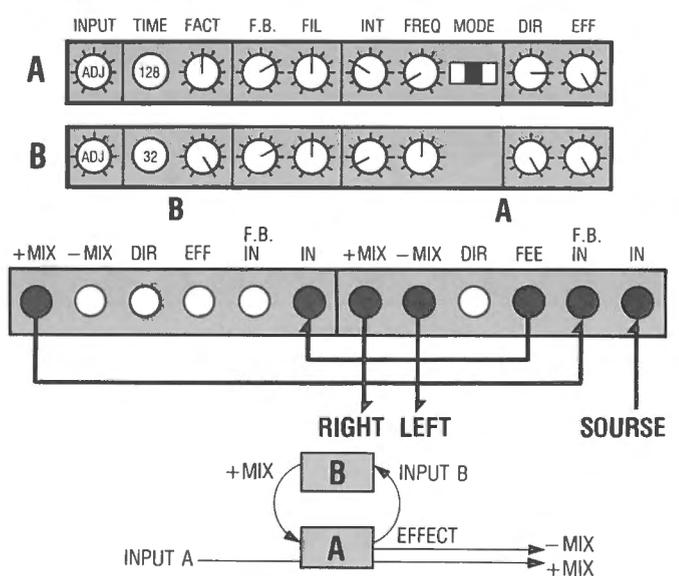


■ Feedback Chorus



★ Chorus is input into delay feedback loop. As echo is repeated, chorus effect becomes stronger. Low-cut filter in Unit A is used, so sound "rings" as it decays.

■ Ensemble Effect



★ Chorus is input into a very short delay feedback loop. Useful for brass, strings, etc., in creating an extremely full sound.

SPECIFICATIONS & OPTIONS

1. Specifications & Options

1 Input

	INPUT LEVEL	IMPEDANCE	MAX CLIP LEVEL
INPUT A	-20dBm	1M Ω (INPUT B when in use) 500k Ω (INPUT B when not in use)	+16dBm +16dBm
INPUT B	-20dBm	1M Ω	+16dBm
FEEDBACK IN A,B	-10dBm	1M Ω	+16dBm

2 Output

	OUTPUT LEVEL	IMPEDANCE	MAX CLIP LEVEL
+ MIX A,B	-10dBm	1k Ω	+4dBm
- MIX A,B	-10dBm	1k Ω	+4dBm
EFFECT A,B	-10dBm	1k Ω	+4dBm
DIRECT A,B	-10dBm	1k Ω	+4dBm

3 Frequency response

DIRECT	20Hz ~ 20kHz \pm 1dB
EFFECT	30Hz ~ 16kHz + 1dB, -3dB (when FACTOR \times 0.25)

4 Dynamic range

EFFECT	92dB and above (IHF A)
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5 S/N ratio

EFFECT	72dB and above (IHF A)
--------	------------------------

6 Distortion

DIRECT	below 0.05%
EFFECT	below 0.2%

7 Delay time

0.5ms ~ 1024ms	2, 8, 32, 128, 512, 1024ms (6-position), \times 0.25 ~ \times 1 (changes in succession)
----------------	---

8 Feedback

0 ~ +110%	(positive phase)
0 ~ -110%	(negative phase)

9 Filter (EFFECT sound)

HIGH-CUT	10kHz 0 ~ -18dB, changes in succession
LOW-CUT	100kHz 0 ~ -18dB, changes in succession

10 Modulation

MODULATION WAVEFORM	triangle waveform
MODULATION FREQUENCY	0.05 ~ 8Hz
DELAY TIME MOD. RANGE	4 : 1

11 Signal processing

SAMPLING FREQUENCY	42kHz (FACTOR = \times 1) ~ 170kHz (FACTOR = \times 0.25)
METHOD	12bit quantized + analog logarithm compression

12 Dimensions

482 (W) \times 44 (H) \times 340 (D) mm

13 Weight

4.2 kg

14 Power supply

100V 50/60Hz

15 Power consumption

11W

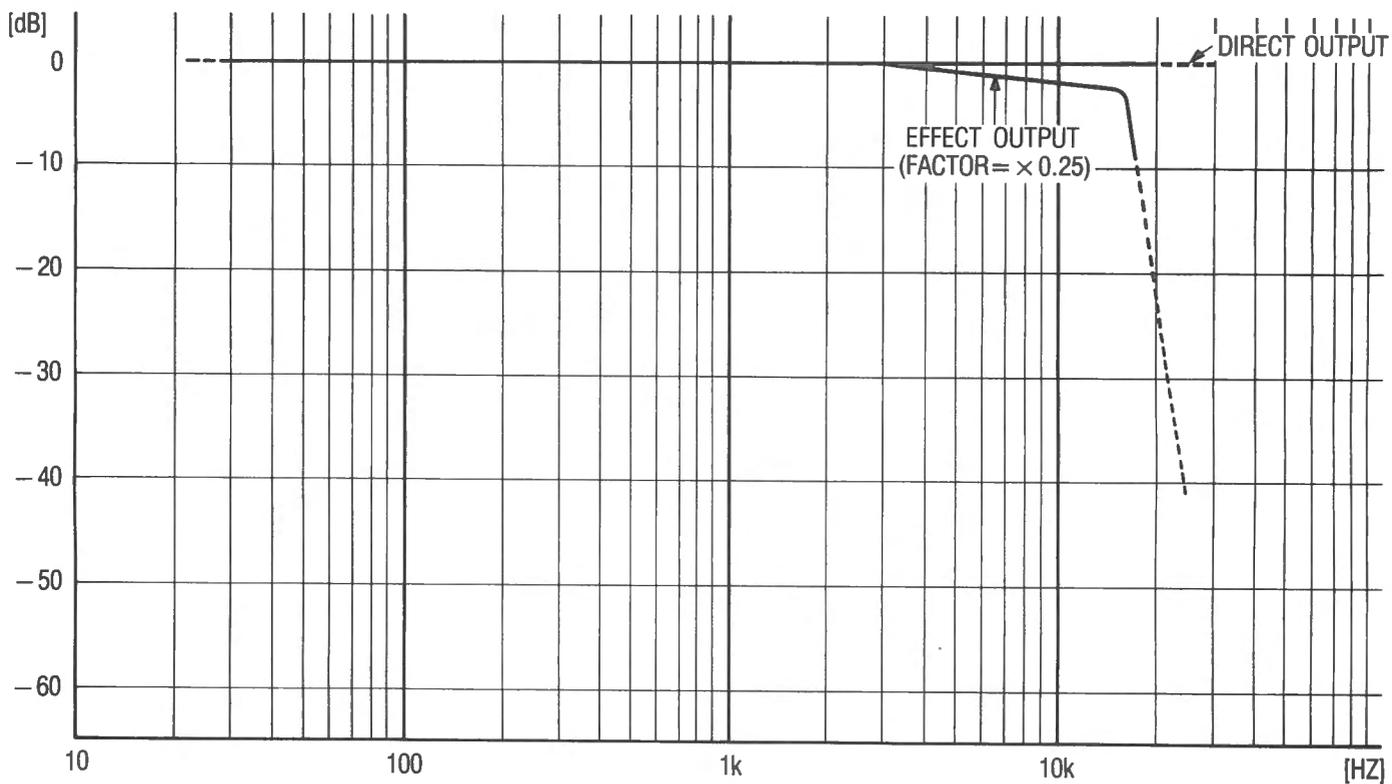
16 Supplied accessories

AC cord. Rack mounting screws.

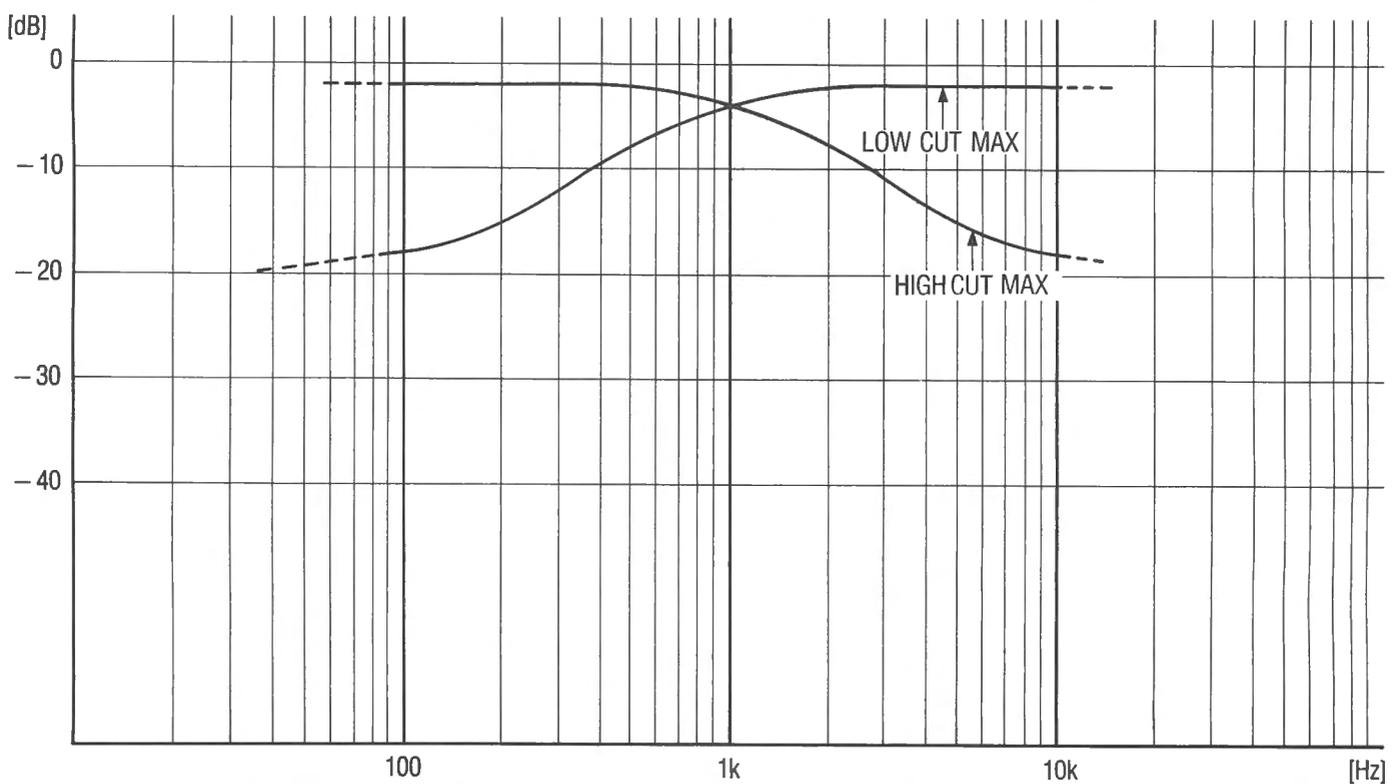
17 Optional accessories

pedal switches (PS-1, PS-2), patch cord sets (A, B, C), IU rack case (HC-IU)
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2. Modulation Characteristics



3. HIGH CUT/LOW CUT Filter Characteristics



N O T I C E

Korg products are manufactured under strict specifications and voltages required by each country. These products are warranted by the Korg distributor only in each country. Any Korg product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.

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