Three MIDI Controllable Digital Delays
Reveal New Sonic Dimensions.
All in a Double Rack Space Package.

Programmable six-channel input/output mixing facilities let you independently adjust the wet/dry mix, blending direct and effect sounds with complete freedom for each delay. Each of the three units also boasts two LFO delay-time modulators, a high-cut filter and low-cut filter. Link the three units any way you like, to generate 3-phase chorusing/flanging, independent left and right stereo chorus with delay, and other complex effects outside the range of conventional equipment. All parameters are programmable and 64 effect programs are accessible instantly from memory. Each gets its own 17-character name for positive reference on the LCD readout. LFOs for delays B and C can each be set out of phase by 0, 60, 90, 120, 180, 210, or 240 degrees in relation to the LFOs for delay unit A, producing extra-thick chorusing. These and other parameter settings are made crystal clear since the positions of the editing sliders correspond with the backlight LCD display readout. You can also use each unit for digital sampling to obtain three digital recordings of up to one second each in length. (Noise reduction is applied automatically to maintain studio sound quality.)

These three sampled sound sources can be triggered or put on infinite repeat under control of a footswitch, MIDI synth or other MIDI device. You can freely assign the MIDI note number for each of the MIDI delays, and then play the sampled sounds from a keyboard or rhythm machine. Program change data can be sent and received, allowing delay effects to be changed automatically with your synth patches and vice versa. Program numbers are independently assignable to any incoming MIDI program number command. The MIDI interface is complete with IN, OUT, and THRU jacks, with programmable send/receive channel numbers to support sophisticated MIDI system configurations. System exclusive messages allow data exchange with a computer or other device such as the MEX-8000 memory expander. The MEX-8000 stores up to three complete sets of programs for the SDD-3300 while offering ultra-fast, reliable saving and loading of all 64 programs in each set.

SPECIFICATIONS

- **Input (20kHz):** Input level (-20dBm), Impedance (1MΩ), Max clip level (+15dBm)
- **Output (20kHz):** Direct (Output level (-20dBm), Impedance (1Ω), Max clip level +15dBm), Effect (Output level (-20dBm), Impedance (1Ω), Max clip level +30dBm)
- **Frequency Response:** Direct (20kHz - 20kHz, ±90dB), Effect (20kHz - 16kHz, ±3dB, ±3dB)
- **Dynamic Range:** Effect Over 95dB (HF-A) ~ 5% Ratio ~ Effect Over 80dB (HF-A)
- **Distortion (20kHz):** Direct (Under 0.01%), Effect (Under 1.0%, 0.3% Typ)
- **Delay Time:** 0.5ms to 600ms (128 positions)
- **Filters:** High-Cut (Variable cutoff frequency, 8kHz and over: 8 positions), Low-Cut (Variable cutoff frequency 2kHz and under: 8 positions)
- **Modulation:** Waveform (sine, square, triangle) Frequency (0.05 - 10Hz), Delay Mod Range: (4:1)
- **Signal Processing:** Sampling Frequency (88kHz, non-modulated in DELAY mode), Method (12-bit digital/digital, analog/4-bit compression)
- **MIDI Terminals:** IN, OUT, THRU
- **Dimensions:** 88 (H) x 429.5 (W) x 290.7 (D) mm
- **Weight:** 5.7kg
- **Power Supply:** Local voltage
- **Power Consumption:** 15W
- **Accessories:** AC power cord, Rack mount adapter, Mounting screws, MIDI cable (1m) (* are uniform for Units A, B, and C)
Examples of Actual Operation

**3-Phase Chorusing**
A single mono input is sent in parallel to the three delay modules, each using a different delay time and modulation. The three outputs are mixed into stereo. Especially effective with strings and guitar sounds.

```
INPUT A
  A
  B
  C
  OUTPUT A

INPUT B
  A
  B
  C
  OUTPUT B
```

**Early Reflections**
Two inputs are mixed and passed in series from delay unit A to B to C. Independent and mutual feedback are applied to units A and B. Appropriate for handclaps and percussion.

```
INPUT A
  A
  B
  C
  OUTPUT A

INPUT B
  A
  B
  C
  OUTPUT B
```

**Delayed Stereo Chorusing**
Two inputs are mixed and delayed by unit A, the output of which is sent in parallel to units B and C, each of which applies different modulation and feedback. The output is mixed into stereo. Popular with cia and harpsichord sounds.

```
INPUT A
  A
  B
  C
  OUTPUT A

INPUT B
  A
  B
  C
  OUTPUT B
```

Rear Panel

```
INPUT: Accepts signal from guitar, synth, mixer, etc.
DIRECT: Direct, dry output.
MIX: Provides a mixed output signal (and sampled sounds).
LEVEL: Final adjustment for mixed output level.
HOLD/TRIG: For control of sampling and hold functions by footswitch (or other device).
BYPASS: A footswitch or other controller can be used to switch output to direct sound only.
MIDI connection facilities: complete with IN, OUT, and THRU.
CONTRAST: Adjusts the LCD readout for optimum legibility.
AC cord socket.
* Facilities through are duplicated for all three delay units (A, B, C).
```

Options

- MEMORY EXPANDER MEX-8000
- PEDAL SWITCH PS-1
- PEDAL SWITCH PS-2
- TWIN CABLE TWC-030 (3m)
- MIDI CABLE 7m/10m/12m
- SYNC MIDI CABLE 15m/20m/5m
- 2U RACK CASE HC-2U

Block Diagram

```
INPUT
  A
  B
  C
  OUTPUT
```

*Specifications and features are subject to change without notice for further improvement*
SDD-3300

Pro Quality—Three Times Over

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Programmable six-channel input/output mixing facilities let you independently adjust the wet/dry mix, blending direct and effect sounds with complete freedom for each delay. Each of the three units also boasts two LFO delay-time modulators, a high-cut filter and low-cut filter. Link the three units any way you like, to generate 3-phase chorusing/flanging, independent left and right stereo chorus with delay, and other complex effects outside the range of conventional equipment. All parameters are programmable and 64 effect programs are accessible instantly from memory. Each gets its own 17-character name for positive reference on the LCD readout. LFOs for delays B and C can each be set out of phase by 0, 60, 90, 120, 180, 210, or 240 degrees in relation to the LFOs for delay unit A, producing extra-thick chorusing. These and other parameter settings are made crystal clear since the positions of the editing sliders correspond with the backlit LCD display readout. You can also use each unit for digital sampling to obtain three digital recordings of up to one second each in length. (Noise reduction is applied automatically to maintain studio sound quality.) These three sampled sound sources can be triggered or put on infinite repeat under control of a footswitch, MIDI synth or other MIDI device. You can freely assign the MIDI note number for each of the MIDI delays, and then play the sampled sounds from a keyboard or rhythm machine. Program change data can be sent and received, allowing delay effects to be changed automatically with your synths patches and vice versa. Program numbers are independently assignable to any incoming MIDI program number command. The MIDI interface is complete with IN, OUT, and THRU jacks; with programmable send/receive channel numbers to support sophisticated MIDI system configurations. System exclusive messages allow data exchange with a computer or other device such as the MEX-8000 memory expander. The MEX-8000 stores up to three complete sets of programs for the SDD-3300 while offering ultra-fast, reliable saving and loading of all 64 programs in each set.

Specifications

- **Input (200Hz, input level: -20dBm), Impedance (1MΩ)**, Max. clip level (+15dBm)
- **Output (200Hz, DIRECT)**
  - (Output level: -12dBm), Impedance (10kΩ), Max. clip level (+20dBm), EFFECT (Output level: -12dBm), Impedance (10kΩ), Max. clip level (+20dBm)
- **Frequency Response (Direct, 20Hz to 20kHz ±1dB, EFFECT, 10kHz to 18kHz, ±3dB)**
- **Dynamic Range, EFFECT Over 95dB (IHFA)**
- **SN Ratio, EFFECT Over 80dB (IHFA)**
- **Delay Time, 0.5msec to 600msec (128 positions), FILTERS, HIGH-CUT (Variable cutoff frequency: 800Hz and over; 8 positions), LOW-CUT (Variable cutoff frequency: 700Hz and under; 8 positions)**

- **Modulation, Waveform (sine wave), Frequency (0.05-10Hz), Delay Mod Range (4-1)**
- **Signal Processing, Sampling Frequency (88kHz, non-modulated in Delays), Effect (12-bit digitalized ± analog logarithm compression)**
- **MIDI Terminals, IN, OUT, THRU, DIMENSIONS: 48 (H) × 429.5 (W) × 298.7 (D) mm, WEIGHT: 5.7kg, POWER SUPPLY, Local voltage, POWER CONSUMPTION: 12W, ACCESSORIES: AC power cord, Rack mount adaptor, Mounting screws, MIDI cable (3m)**

*are uniform for Units A, B, and C.*
Examples of Actual Operation

■ 3-Phase Chorusing
A single mono input is sent in parallel to the three delay modules, each using a different delay time and modulation. The three outputs are mixed into stereo. Especially effective with strings and guitar sounds.

![Diagram of 3-Phase Chorusing]

■ Early Reflections
Two inputs are mixed and passed in series from delay unit A to B to C. Independent and mutual feedback are applied to units A and B. Appropriate for handclaps and percussion.

![Diagram of Early Reflections]

■ Delayed Stereo Chorusing
Two inputs are mixed and delayed by unit A, the output of which is sent in parallel to units B and C, each of which applies different modulation and feedback. The output is mixed into stereo. Popular with clay and harpsichord sounds.

![Diagram of Delayed Stereo Chorusing]

Rear Panel

■ INPUT: Accepts signal from guitar, synth, mixer, etc.
■ DIRECT: Direct, dry output.
■ MIX: Provides a mixed output signal (and sampled sounds).
■ LEVEL: Final adjustment for mixed output level.
■ HOLD/TRIG: For control of sampling and hold functions by footswitch (or other device).
■ BYPASS: A footswitch or other controller can be used to switch output to direct sound only.
■ MIDI connection facilities: complete with IN, OUT, and THRU.
■ CONTRAST: Adjusts the LCD readout for optimum legibility.
■ AC cord socket.
* Facilities 1 through 6 are duplicated for all three delay units (A, B, C).

Options

■ MEMORY EXPANDER MEX-8000
■ PEDAL SWITCH PS-1
■ PEDAL SWITCH PS-2
■ TWIN CABLE TWC-030 (3m)
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Block Diagram

![Block Diagram]

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