



DIGITAL DELAY GEAR

DDG-X2

OWNER'S MANUAL

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CONGRATULATIONS!

Thank you for purchasing the VESTAX DDG-X2, DIGITAL DELAY.
Please read this owner's manual carefully before you start to use your DDG-X2 in order to fully understand all of the special features.

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CAUTION



RISK OF ELECTRIC SHOCK DO NOT OPEN

**CAUTION : 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 appliance.

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT
EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**CAUTION : TO PREVENT ELECTRIC SHOCK, MATCH BLADE OF
PLUG TO WIDE SLOT, FULLY INSERT**

**ATTENTION : POUR EVITER LES CHOCES ELECTRIQUES,
INTRODUIRE LA LAME LA PLUS LARGE DE LA
FICHE DANS LA BORNE CORRESPONDANTE DE LA
PRISE ET POUSSER JUSQU' AU FOND**

IMPORTANT SAFEGUARDS

READ BEFORE OPERATING EQUIPMENT

This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

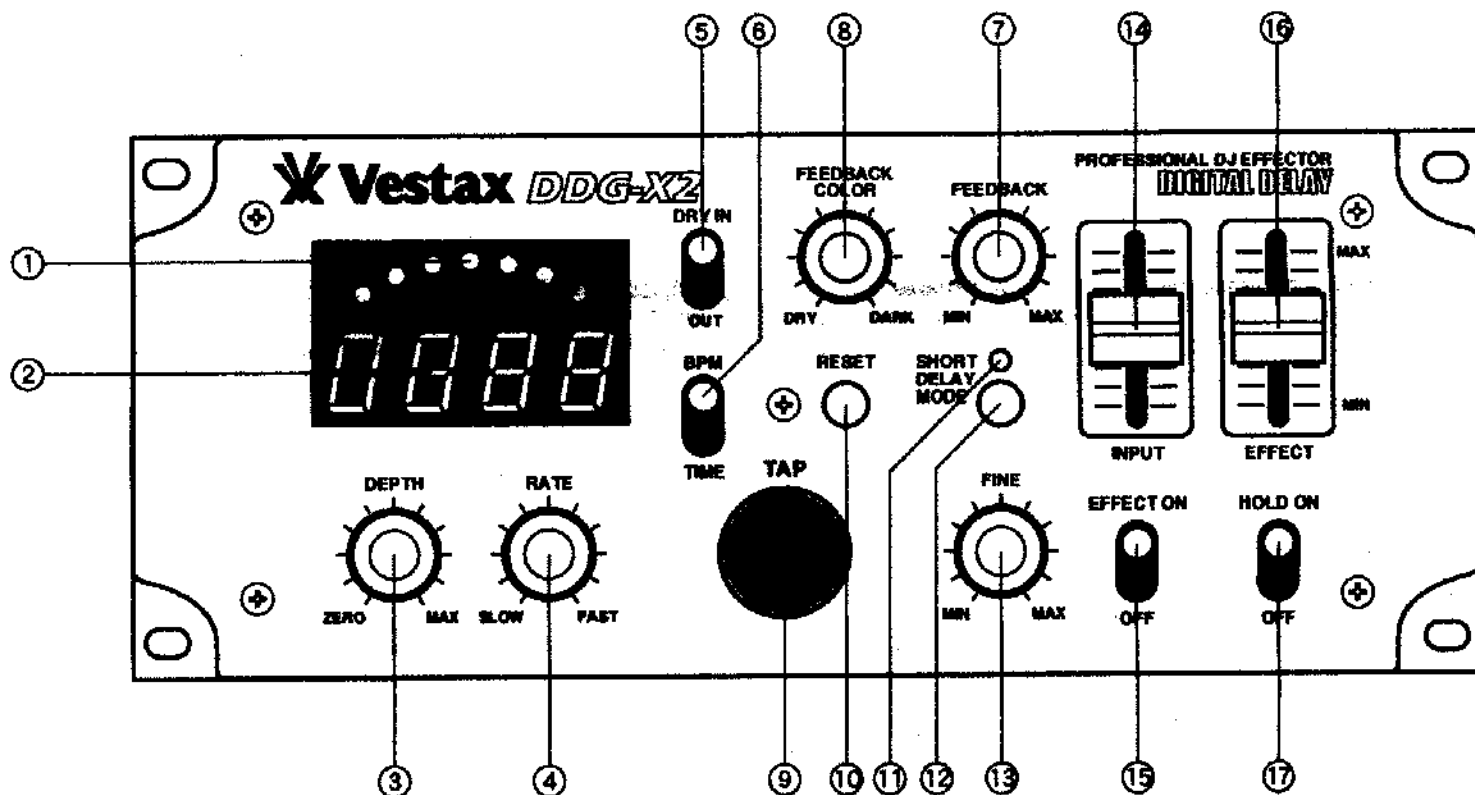
1. **Read Instructions**-All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions**-The safety and operating instructions should be retained for future reference.
3. **Heed Warnings**-All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions**-All operating and use instructions should be followed.
5. **Cleaning**-Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments**-Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. **Water and Moisture**-Do not use this product near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in wet basement, or near a swimming pool, and the like.
8. **Accessories**-Do not place this product on an unstable surface. The product may fall, causing serious injury to child or adult, and serious damage to the appliance. Use only with a surface, or table recommended by the manufacturer, or sold with product. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by manufacturer.
9. **Ventilation**-Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The unit should never be placed on an uneven surface (eg. bed) during operation. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **Power sources**-This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company.
11. **Grounding or Polarization**-This product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If this should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
12. **Power-Cord Protection**-Power supply cords should be routed so that they are not likely to be walked on or squashed by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Protective Attachment Plug**-The appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the original plug.
14. **Lightning**-For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.
15. **Overloading**-Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
16. **Object and Liquid Entry**-Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
17. **Servicing**-Do not attempt to service product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified personnel.
18. **Damage Requiring Service**-Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the product.
 - c. If the product has been exposed to rain or water.
 - d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other, controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - e. If the product has been dropped or cabinet has been damaged.
 - f. When the product exhibits a distinct change in performance-this indicates need for service.

FEATURES

- Half rack 2U size
- Large LED Display that shows BPM & delay status
- Height designed to fit snugly between turntables
- Grounding Post for direct Turntable Connection
- Simple, but complete, control over the dry and effected signals.

FUNCTIONS

FRONT PANEL



① TEMPO METER

TEMPO METER function with visual indications.

② 7 SEGMENT LED DISPLAY

When you adjust the display time & BPM using the TAP Button, the 4 digit LED to correspond. The top row of LED lights flash in time with the selected tempo. (similar to a metronome function)

③ DEPTH(Modulation Depth)

Knob adjusts the sweep depth of the delay time. Turn completely to the right for maximum modulation. As an example, with delay time set at 2ms., possible seep range is from 1mSec. to 4mSec.. Turn back fully to the left for no sweep.

④ RATE(Modulation Speed)

Knob to adjust sweep speed of delay time from 0.1Hz to 10Hz.

⑤ DRY IN/OUT SWITCH

Select Dry sound or Delay sound. Set to OFF when connect to AUX LOOP of the mixer. Set to ON when connect to OUTPUT of the mixer.

⑥ BPM/TIME SELECT SWITCH

Turn the BPM/TIME SELECT SWITCH. The digital display will then change to indicate the beat time interval in milliseconds.

* Turn the BPM/TIME SELECT SWITCH. The digital display will then change to indicate the beat time interval in milliseconds.

⑦ FEEDBACK

Knob controls the number of echoes produced of a given sound. Single echo is obtained at the "0" position and rotation to the right increases the number of repetitions.

⑧ FEEDBACK COLOR

Turn it counterclockwise will make the feedback sound getting darker. Turning it clockwise will make it brighter.

⑨ TAP BUTTON

Start the BPM counting by tapping the TAP button in tempo with the music. 1 tap for each beat. The first 4 taps will initialize the count circuitry. Following 3 taps will always be averaged to obtain the correct BPM. This enables the DDG-X2 to give an accurate reading in the shortest possible time.

* Please refer P.6 about detail of TAP SWITCH function

⑩ RESET BUTTON

To create a new delay/BPM tempo, touch this button once to reset the current tempo, and use the TAP button for a new tempo.

⑪ SHORT DELAY LED

LED will light when switching this switch ON.

⑫ SHORT DELAY SWITCH (Less Than 90m Sec)

For very short delay time speeds, touch this button once, and then use the Fine Adjustment (⑬) to select the desired speed.

⑬ FINE

Knob used to vary delay time setting chosen variation of indicated time by multiplier factors ranging from $\times 0.5$ to $\times 2.0$. Allows a full and continuous range of available delay times.

example

less than 90mSec.

$\times 0.5 = 16\text{mSec.}$

$\times 1.0 = 45\text{mSec.}$

$\times 2.0 = 90\text{mSec.}$

Therefore, the minimum delay time is 1mSec., and the maximum is 4096mSec.

* To reset the Fine Adjustment (⑬) the rotary pot must first be moved to center "indent" position.

⑭ INPUT LEVEL FADER

Volume Control for input level.

⑮ EFFECT SWITCH

Switch selects normal effect or bypass mode, if the DRY IN/OUT SWITCH is out, no sound at all will be produced.

* When Effect Switch (⑮) is placed into the off position, feedback from the previous delay may remain in memory.

This will disappear after a small amount of time. To cut delay immediately, please use the Effect Fader.

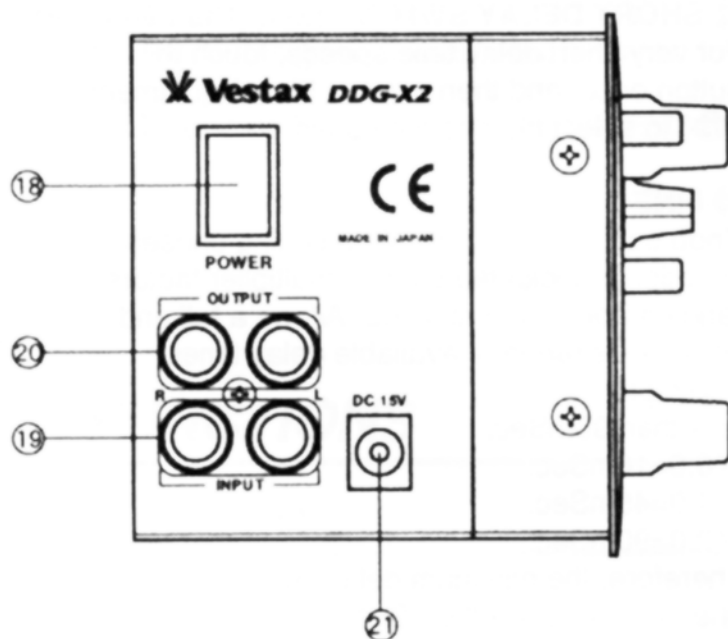
⑯ EFFECT FADER

Adjusts the output level of the effected signal.

⑰ HOLD(Hold function)

When this switch is ON, delay sound will be continued until the switch is OFF. In the HOLD mode, Delay Time Selector control(RANGE, #8) does not function so the HOLD time must be set using the Multiplier(TIME, #9) Control. RANGE must be set at 512mSec.

SIDE PANEL



18 POWER SWITCH

When power is on 7 SEGMENT LED DISPLAY lights up.

19 INPUT (INPUT JACK)

RCA pin jack

20 OUTPUT (OUTPUT JACK)

RCA pin jack

21 DC JACK

Use the Vestax adaptor DC-15, 500mA.

* DELAY TIME SETTING WITH TAP

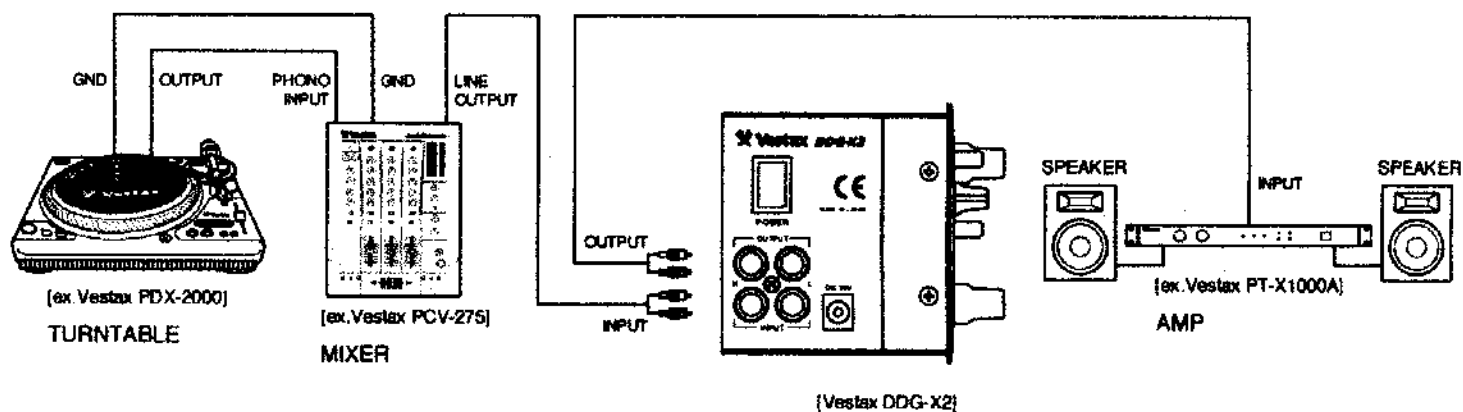
NOMVER of TAPS	TIME SETTING							
1	—	1						
2	Time between 1 and 2	1	2					
3	Average of 2nd and 3rd taps	1	2	3				
4	Average of 2nd, 3rd and 4th taps	1	2	3	4			
5	Average of 2nd, 3rd, 4th and 5th taps	1	2	3	4	5		
6	Average of 3rd, 4th, 5th and 6th taps	1	2	3	4	5	6	
7	Average of 4th, 5th, 6th and 7th taps	1	2	3	4	5	6	7

(数字は打数)

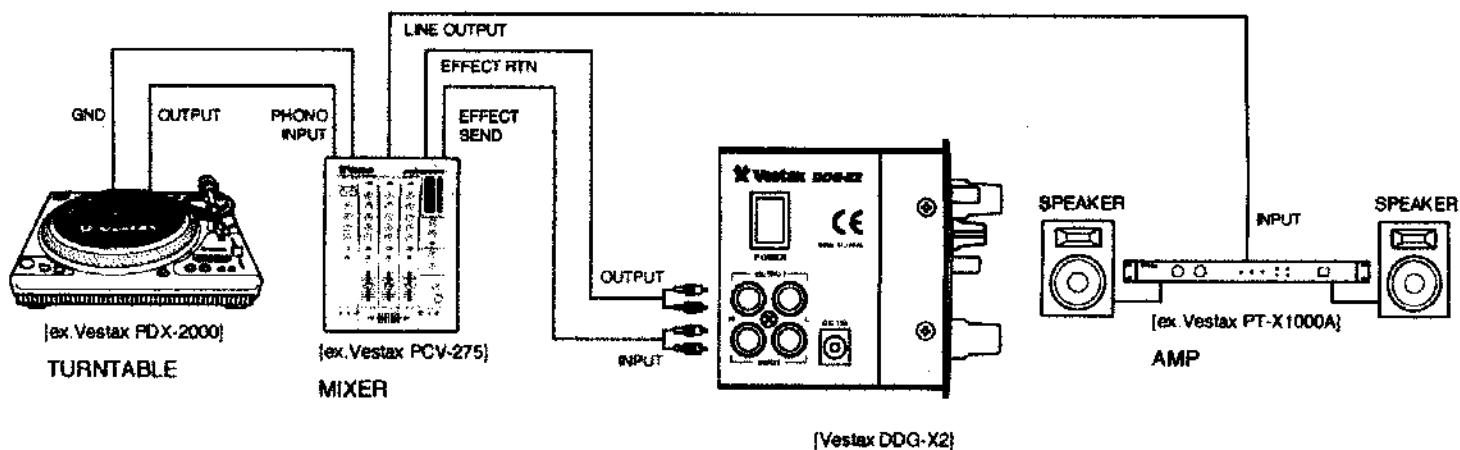
- When the tap button is not engaged more than 2 seconds, time-set mode is disengaged and tapping will be ignored until "RESET" button is pressed. The delay time can be adjusted with "FINE CONTROL VOLUME" any time.
- Minimum delay time is 50ms, even if tap button is hit less than 50ms interval.
- If the interval exceeds 2 seconds, the delay time is set to 2048ms. The delay time can be set up to 4096ms by using "FINE CONTROL".
- When "LESS THAN 90ms" button is engaged, the delay time is set very short for Chorus and Flanger effect. The delay time can be adjusted between 1ms by using "FINE CONTROL".

CONNECTION DIAGRAM

CONNECTION VIA MASTER OUTPUT OF YOUR MIXER



CONNECTION USING AN EFFECT SEND/RETURN FACILITY IN YOUR MIXER



SAMPLE SETTINGS

HOW TO BASIC USE (DELAY)

1. Input the music source

Adjust input level by INPUT LEVEL FADER. When you set the EFFECT SWITCH to "OFF" or EFFECT FADER to "MIN", only dry sound is played back. If you set the DRY-CUT SWITCH to "ON", dry-sound is not played back.

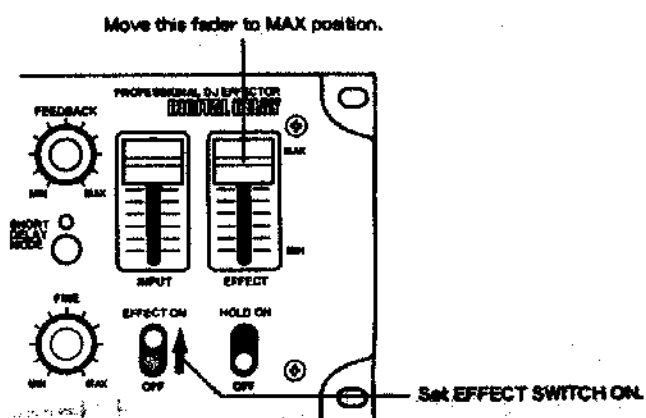
2. Set up BPM (or delay time) by TAP BUTTON

You set SHORT-DELAY SWITCH to "OFF", you push RESET BUTTON, and you hit TAP BUTTON.

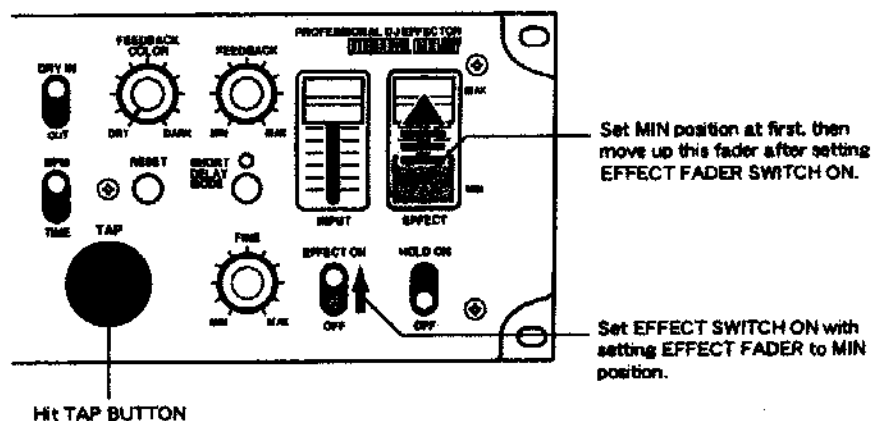
3. Effect is active!

QUICK GUIDE / INSTANT EFFECT

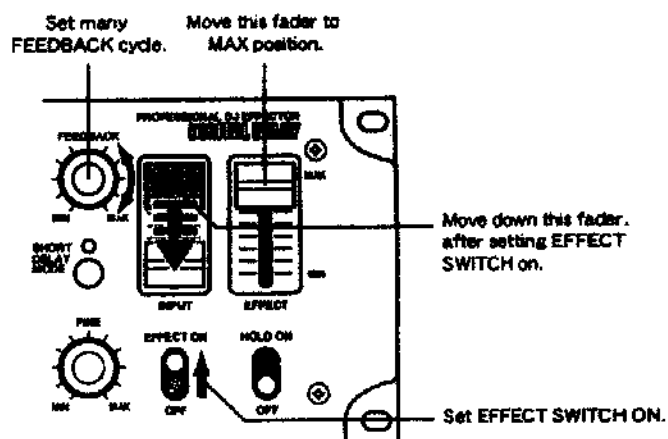
■ Move EFFECT FADER to MAX and turn EFFECT SWITCH ON.



■ Hit TAP BUTTON for desired delay time and move EFFECT FADER up or down to adjust EFFECT VOLUME.



■ Move FEEDBACK ROTARY POT and INPUT FADER and EFFECT ON/OFF SWITCH for creative original sounds.

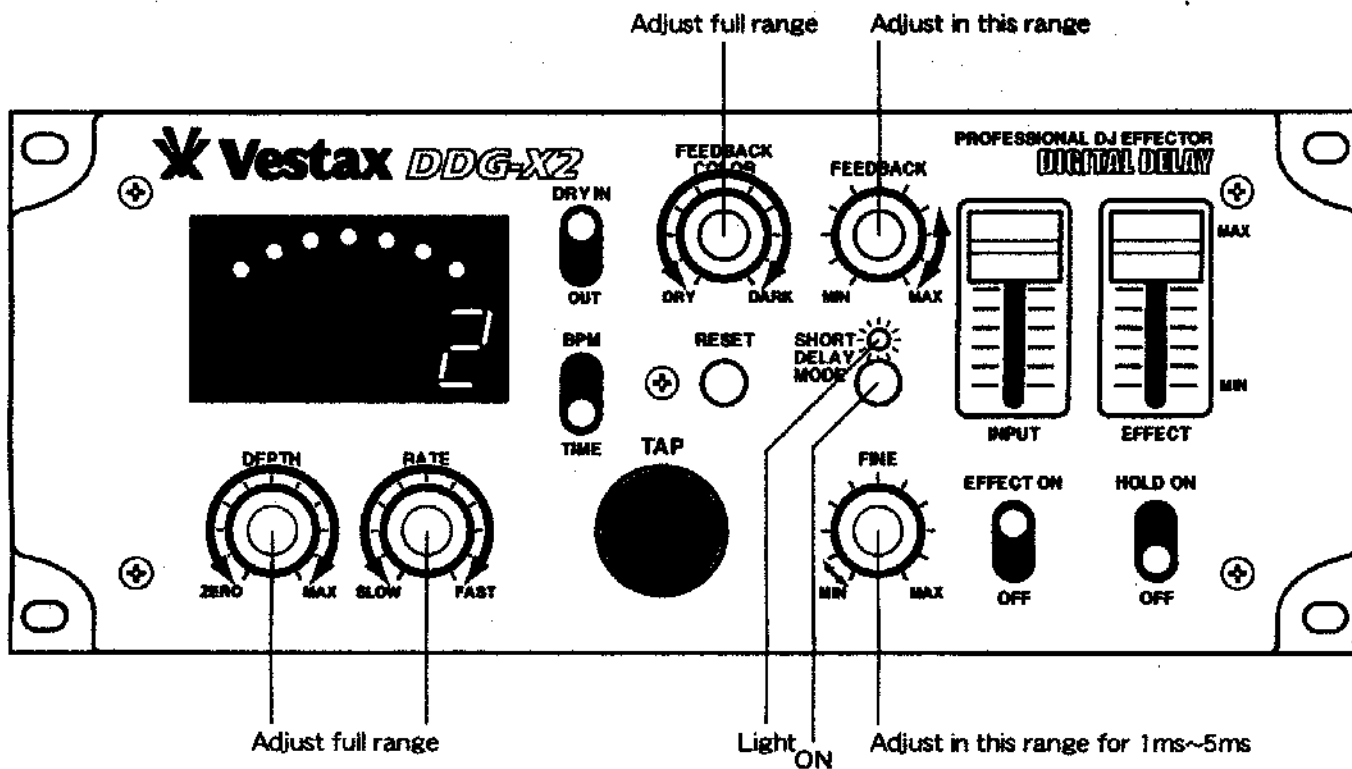


OTHER EFFECTS

Various other effects can be achieved by setting SHORT DELAY MODE or switching the HOLD SWITCH to ON.

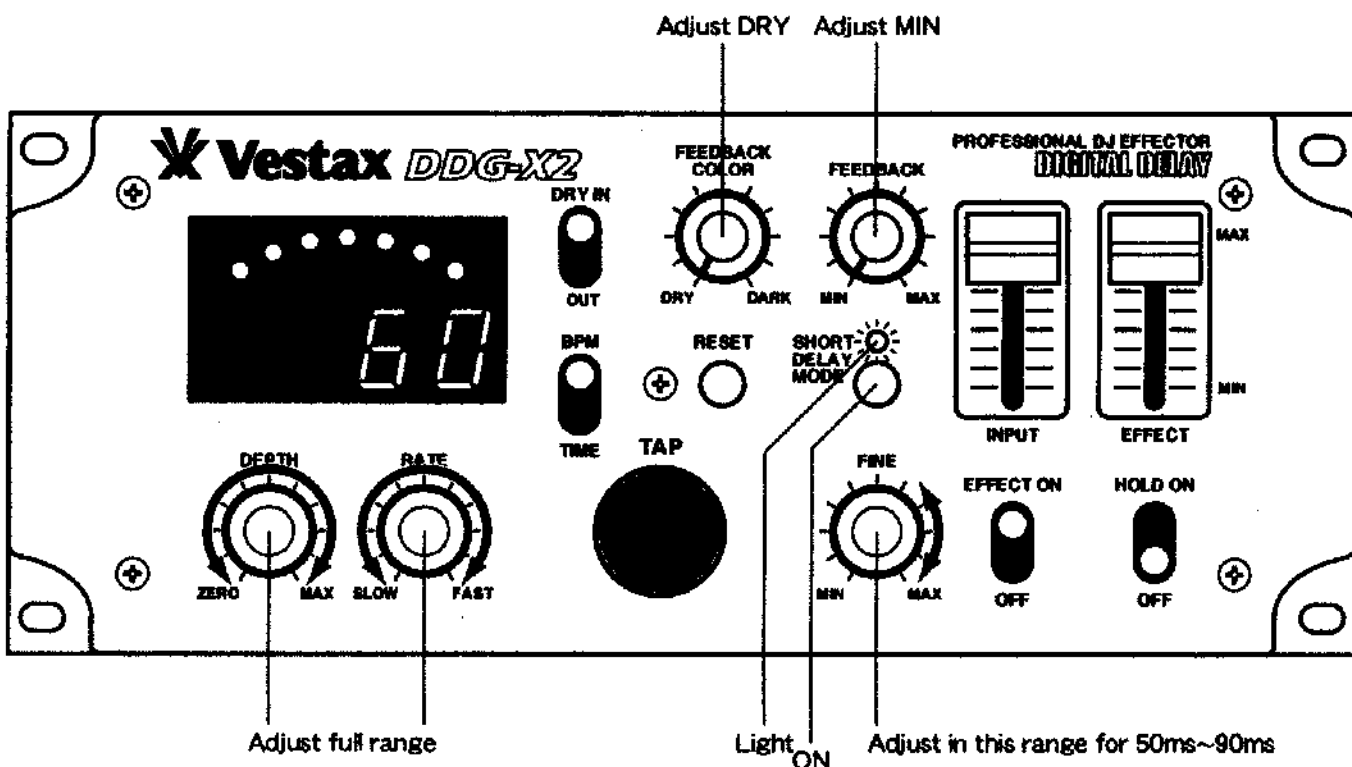
■ FLANGER

Phase shifting roller jet sounds.



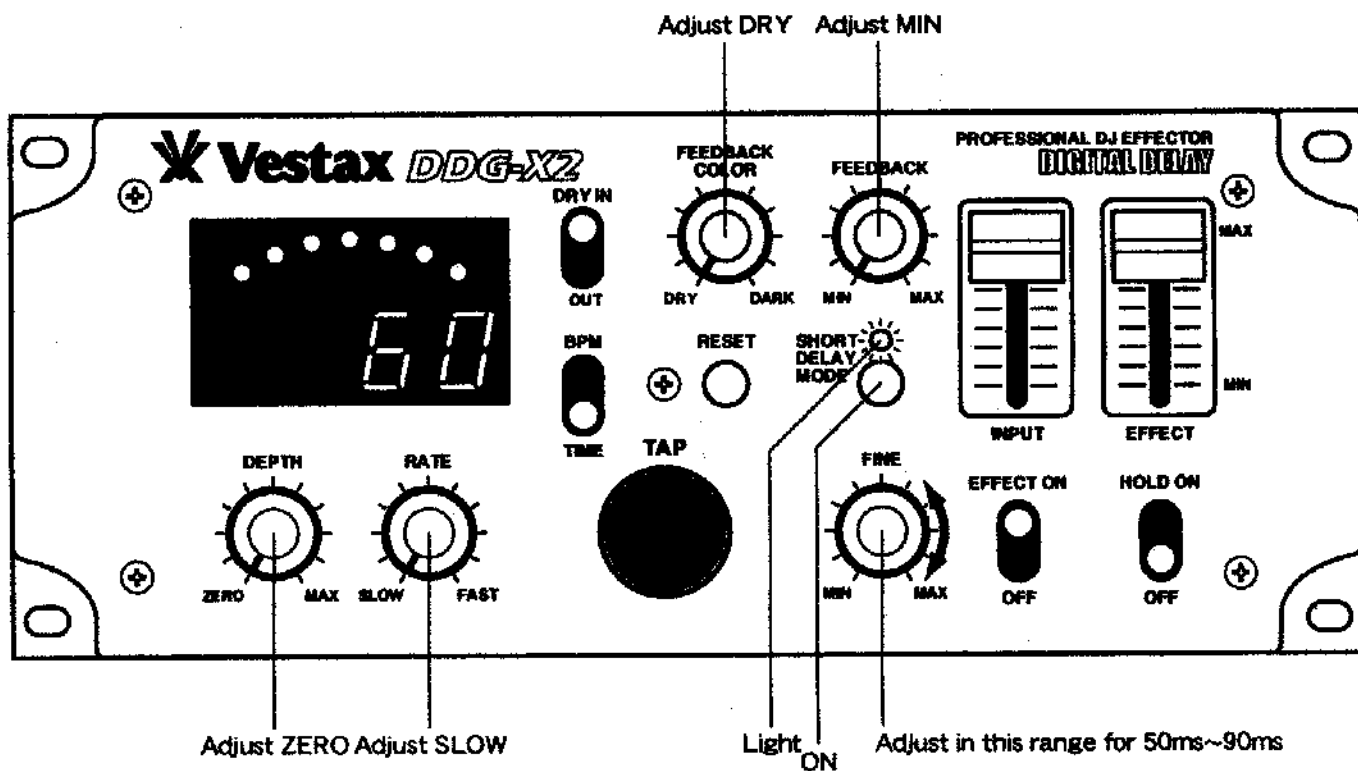
■ CHORUS

Full bodied, and sweep. It is better for vocal, guitar or piano sounds etc..



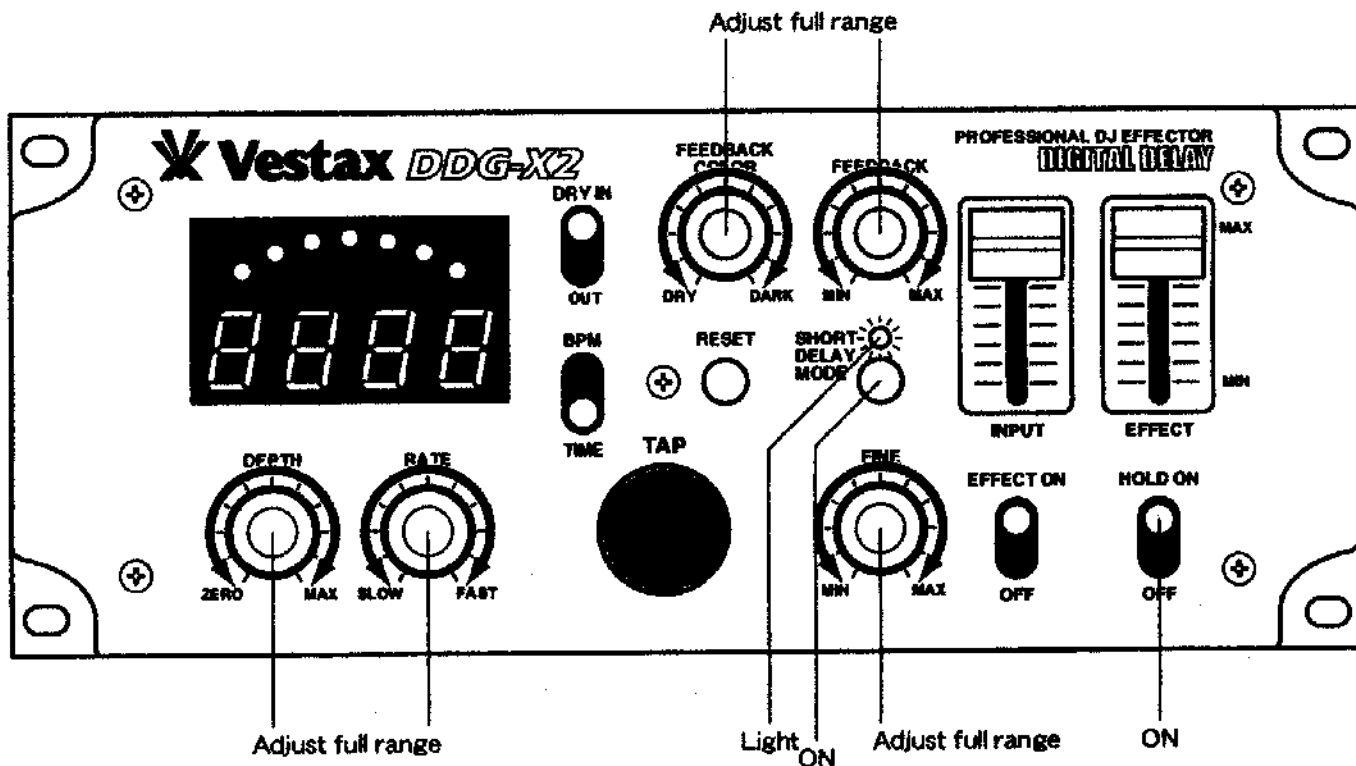
■ DOUBLING

Get the thick sounds by stacking the sounds.

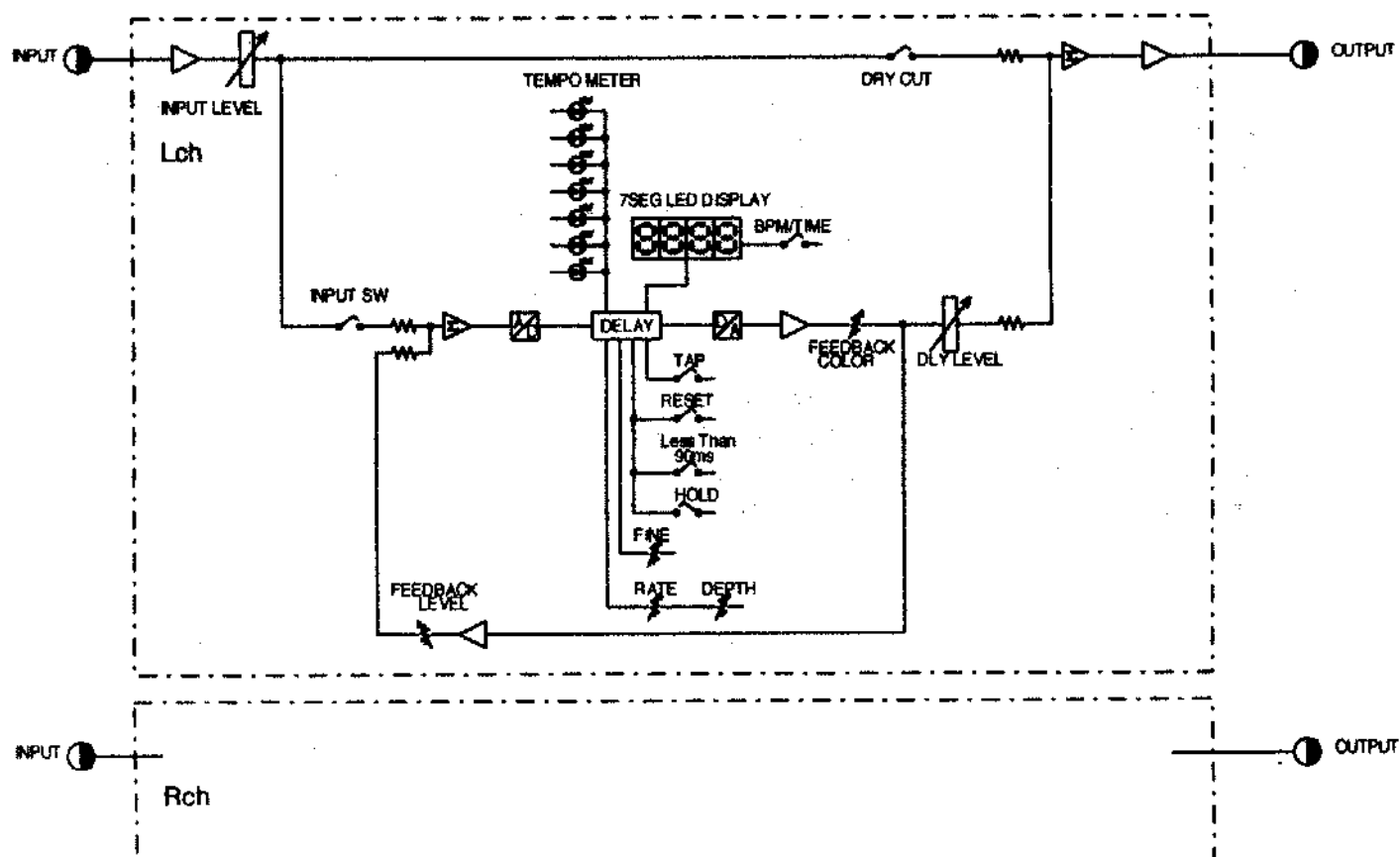


■ EFFECTIVE USES

When you set Short-Delay mode, switching the HOLD SWITCH to "ON", it is possible to get unusual and original sound. Experiment changing the sounds by moving each volume.



BLOCK DIAGRAM



WARRANTY

The warranty might vary from country to country. Each distributor has their own warranty system in accordance with the country or state regulations or laws. VESTAX observes the manufacturing country's regulation.

SPECIFICATIONS

●TYPE :	DIGITAL DELAY
●NOMINAL INPUT LEVEL :	-10dBm, Impedance470k Ω max+21dBm
●NOMINAL OUTPUT LEVEL :	-10dBm, Impedance1k Ω max+4dBm (direct) -10dBm, Impedance1k Ω max+4dBm (delay)
●FREQUENCY RESPONCE :	20Hz~20kHz \pm 0.5dB (deirect) 20Hz~15kHz \pm 0.5dB (delay)
●DELAY TIME :	1~4096ms
●DYNAMIC RANGE :	100dB(IHF) (direct) 88dB(IHF) (delay)
●MODULATION RATE :	0.1Hz~10kHz
●DISTORTION :	0.005(TYP) (direct) 0.1% (delay)
●POWER SUPPLY :	DC-15V 500mA
●DIMENSIONS :	218(W) \times 88(H) \times 103(D)mm
●WEIGHT :	1.1kg