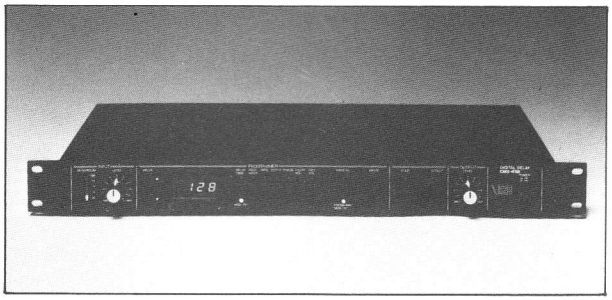
VESTA KOZO DIGITAL DELAY

DIG-412



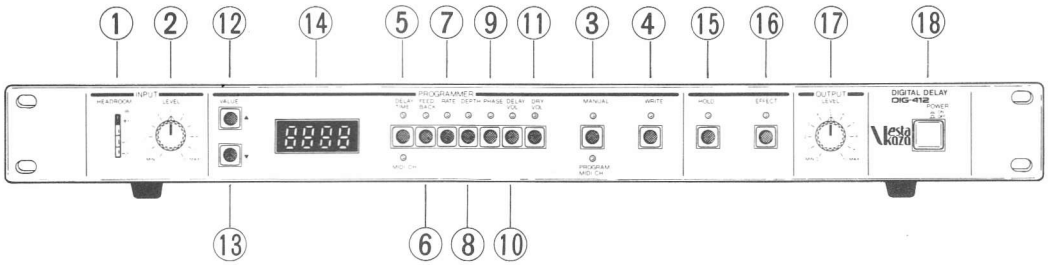
OWNER'S MANUAL

Vesta® FIRE

Introduction

- The VESTA KOZO DIG-412 is a high-spec digital delay capable of programming not only delay times and modulation but phases and output volume as well.
- The VESTA KOZO DIG-412 can be hooked up to a MIDI unit through use of the MIDI IN and THRU terminals, allowing program changes to be made on the MIDI keyboard.
- There are 128 programs - more than enough digital effect programs to match the programs of the keyboard.
- The delay time can be set to a maximum of 1024 msec. Now you can create all types of effects, from doubling and choruses to long delays.

Control and Functions
Front Panel



① INPUT-HEADROOM
Displays the input level in 4 segment LEDS.

② INPUT-LEVEL
This is the input volume control. Adjust so that the HEADROOM indicator ① occasionally hits +5 dB for optimum performance.

③ MANUAL/PROGRAM
With MANUAL (upper LED on), settings ⑤ through ⑪ can be changed at will.
With PROGRAM (lower LED on), the program number can be selected.
The settings called up by the program number can be changed by reverting to MANUAL, and can also be entered in the memory at any program number by means of the WRITE and the VALUE UP▲ /DOWN▼ switches.

④ WRITE
Use this control to enter the set parameter values in the memory. The WRITE function works only when the unit is on PROGRAM.
The following 7 parameters (⑤ through ⑪) work only when the unit is on MANUAL. Setting values can be changed for the one function for which one (out of the 7)switches has been pressed by operation of the VALUE UP/DOWN switches (⑫ and ⑬). All parameter values are indicated on the display. Values may be changed by operating the VALUE UP/DOWN switches.
All these parameters become ineffective when the Effect is turned off.

⑤ DELAY TIME/MIDI CH
Controls the delay time. When the unit is on PROGRAM,use this control to change the MIDI channel. Display readout is from 1-1024 msec.

⑥ FEEDBACK
Control the delay repetition (0 – 31).

⑦ RATE
Controls the modulation frequency. The speed increases as the value increases (0 – 31).

⑧ DEPTH
Controls the width of the change in delay time when the modulation is used (0 – 31).

⑨ PHASE
This is the output delay phase switch. "0" for normal phase and "1" for reverse phase.

⑩ DELAY VOL
Controls the output delay level (it also controls the DELAY OUT output level) (0 – 31).

⑪ **DRY VOL**

Controls the dry audio level (it also controls the DRY OUT output level) (0 – 31).

⑫ **▲ VALUE UP**

⑬ **▼ VALUE DOWN**

These switches operate the program number when the unit is on PROGRAM. Pressing the MIDI channel (same as the DELAY TIME ⑤) and one of these switches shows the MIDI channel number on the display, allowing you to change the channel.

The parameter values selected through operation of feature switches ⑤ through ⑪ can be changed when the unit is on MANUAL. When these UP▲ /Down▼ switches are pressed and held down, the values can be changed continuously.

⑭ **DISPLAY**

The 7-segment display shows the parameter values of features ⑤ through ⑪ when the unit is on MANUAL and the program number or MIDI channel number when the unit is on PROGRAM. (The DISPLAY also acts as a Power Indicator LED, lighting up when the power is turned on.)

⑮ **HOLD**

When the HOLD function is activated, the input signal is cancelled and the audio signals recorded at the delay is repeated and output. However, this function works only when the delay time is more than 257 msec.

⑯ **EFFECT**

When the EFFECT function is activated, delay audio is output.

⑰ **OUTPUT LEVEL**

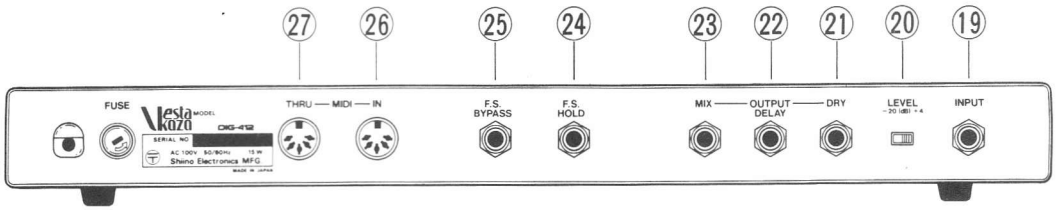
Controls the level of the signal output to the MIX OUT ㉓ . The DELAY OUT ㉑ and DRY OUT ㉒ cannot be controlled by this control.

⑱ **POWER**

Power is supplied to the unit when this switch is turned on. Also, the DISPLAY lights up showing the power on.

Controls and Functions

Rear Panel



⑲ **INPUT**
Used for connecting guitars and synthesizers, etc.

⑳ **LEVEL SW**
Used to adjust the output level and is effective only for MIX OUT.

㉑ **OUTPUT-DRY**
This is the dry audio output jack

㉒ **OUTPUT-DELAY**
This is the delay audio output jack.

㉓ **OUTPUT-MIX**
Mixes dry and delay audio and outputs the result. Output is normally controlled by the OUTPUT LEVEL control ⑰ .

㉔ **F. S. HOLD**
Connect to this jack when controlling the HOLD function via a Foot Switch.

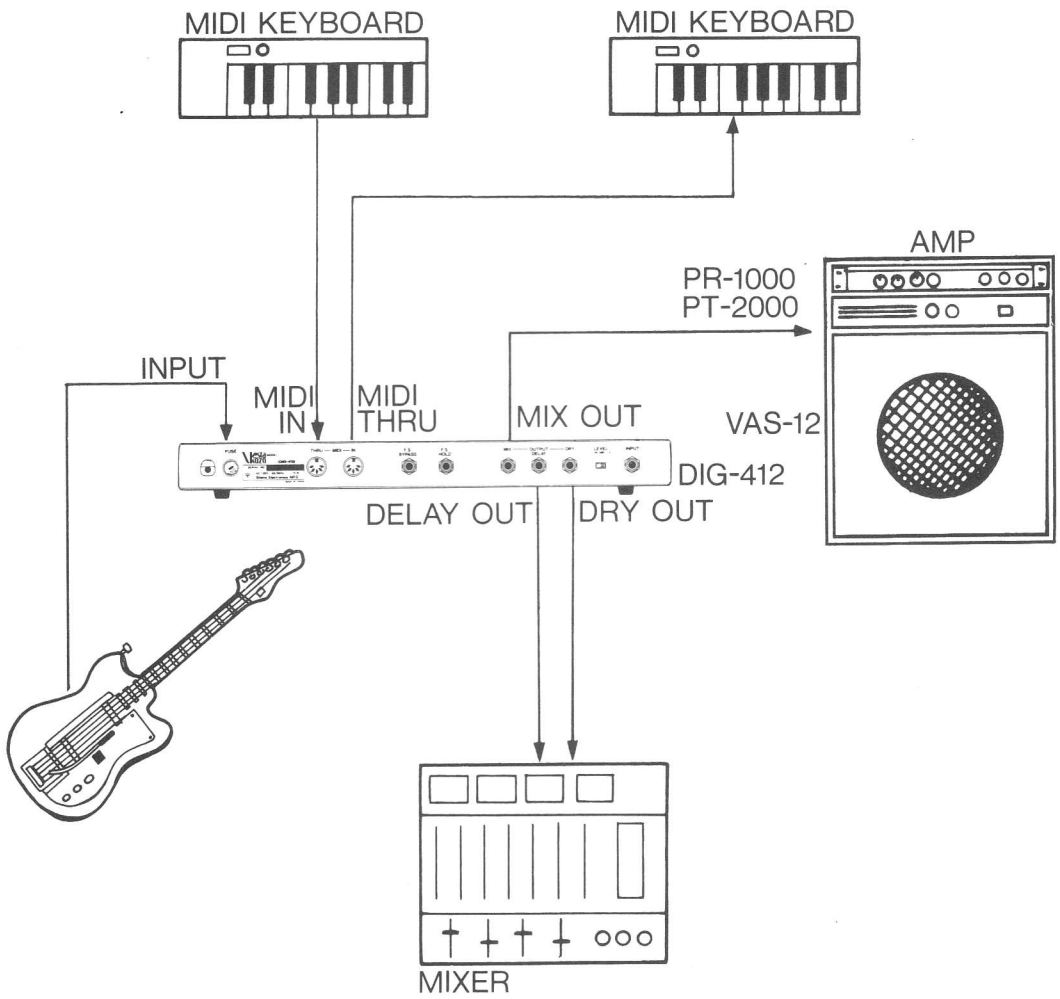
㉕ **F. S. BYPASS**
Connect to this jack when controlling the EFFECT function via a Foot Switch.

㉖ **MIDI IN**
When connected to the MIDI OUT of a Keyboard MIDI, etc., you can change the DIG-412's program number to match changes in the timbre program. (Data other than program select from the MIDI is not received.)

㉗ **MIDI THROUGH**
Outputs directly the signal input at MIDI IN.

- We recommend use of the VESTA FIRE FP-1 Foot Switch.

Connection Diagram



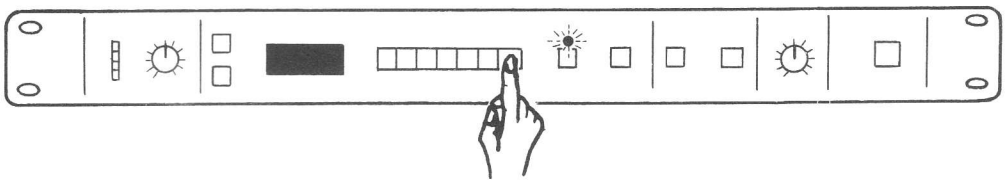
Basic Operation

① Connect an electric guitar to the DIG-412's Input using a 6φ (1/4" standard phone) plug guitar cable and an audio amplifier from the MIX OUT.

② Turn on the power to the DIG-412 and the amplifier.

③ With the BYPASS·on (i.e., the EFFECT ⑯ off), adjust the input level and the output level.

④ Make sure the MANUAL/PROGRAM switch ③ upper LED is on. If it is not on, (i.e., if the lower LED is on), press the MANUAL/PROGRAM switch once. The upper LED should now light up.



⑤ Select the parameter you wish to change from among the seven features (⑤ through ⑪) and press that button. The LED above the button will light up and the value will be indicated on the display.

⑥ Pressing either the VALUE UP▲ or DOWN ▼ switch will change the value of the VALUE. Halt operation when you have reached the desired value.

⑦ Carry out the same procedure for all parameters you wish to change.

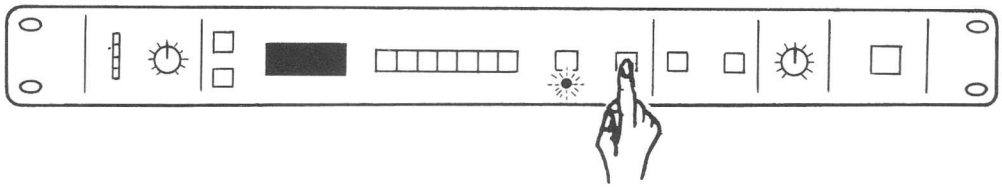
Parameter values are as follows.

DELAY TIME	1 – 1024 (msec)
FEEDBACK	0 – 31
RATE	0 – 31
DEPTH	0 – 31
PHASE	0 / 1 (reverse phase)
DELAY VOL	0 – 31
DRY VOL.	0 – 31

Programming

① Using the basic operations, carry out the following parameter settings.

② Set the unit to PROGRAM.



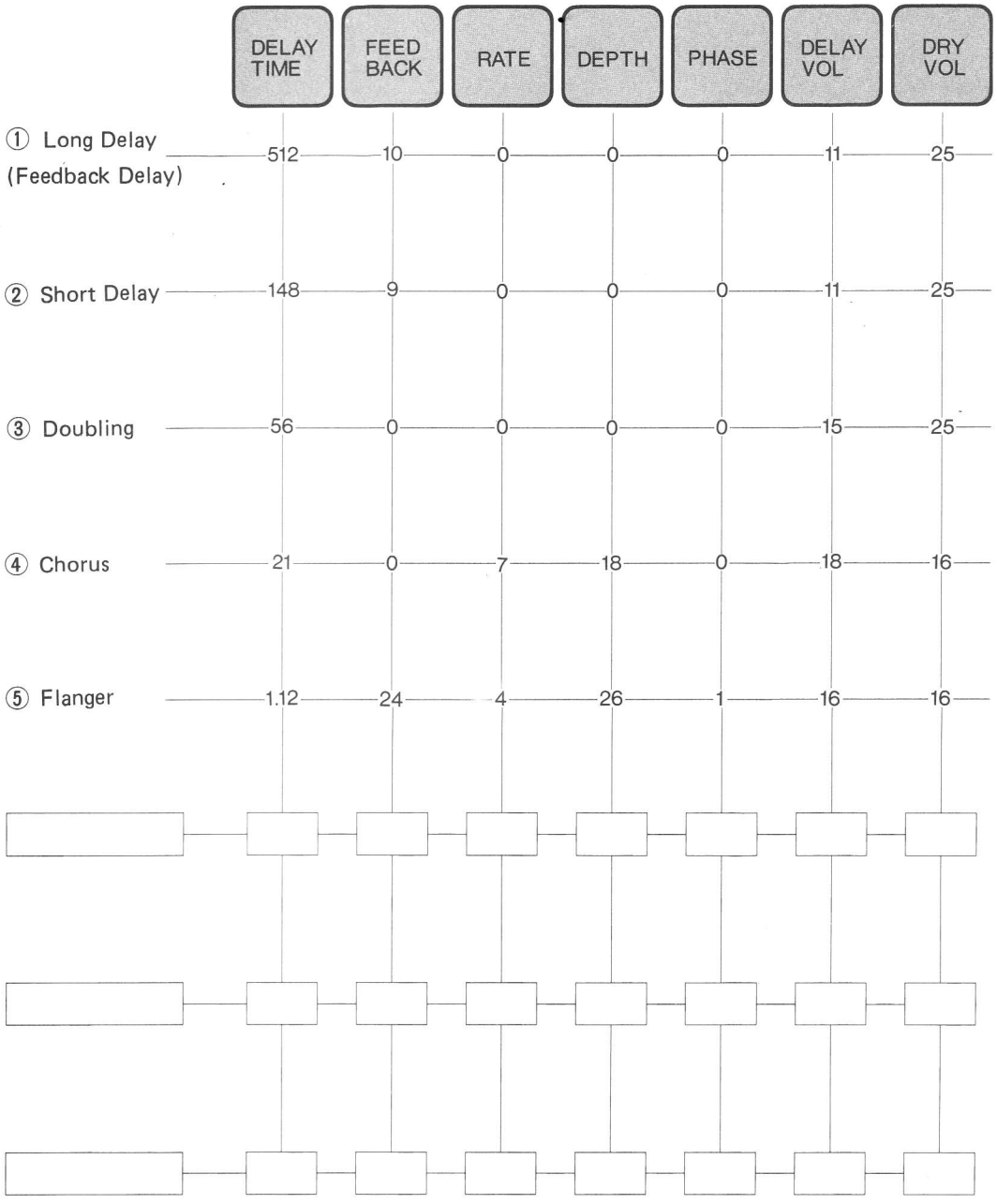
③ Press and hold down the WRITE switch ④ .

④ Using the VALUE UP/DOWN switches (⑫ and ⑬), select the program number to be entered in the memory.

⑤ When the DISPLAY ⑭ lights up, release the WRITE switch ④ . Programming is now completed.

If the WRITE switch ④ is released before the DISPLAY ⑭ has flashed, the value will not be entered in the memory.

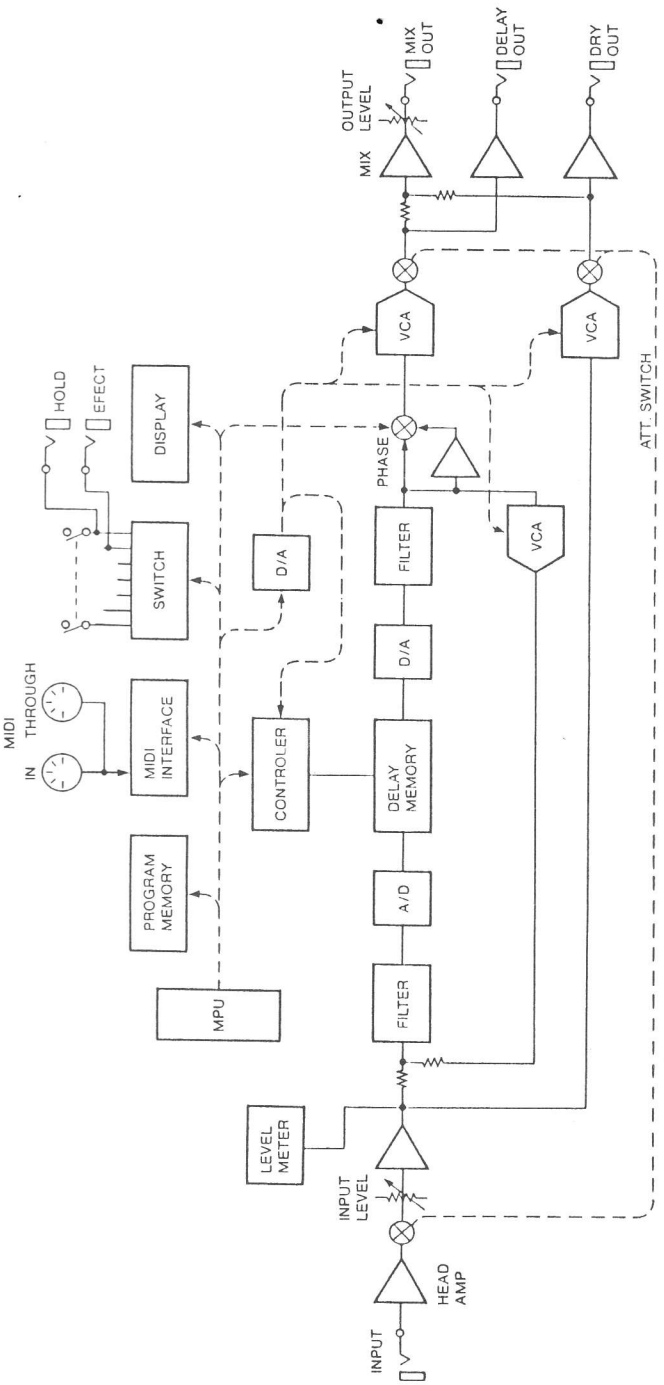
Some Example Settings



Specifications

Type	: 12 bit compounding PCM
Rated Input Level	: 100 mVrms (1KHz/level switch -20 dB) 1.5 Vrms (1 KHz/+4 dB)
Input Impedance	: 470 kΩ
Output Impedance	: 500Ω (DELAY/DRY) 600 – 5 kΩ (MIX)
Delay Time Range	: 1 ms ~ 1.024 ms (1 ms steps over 20 ms)
Frequency Response	: 20 Hz ~ 20 KHz (Dry) 20 Hz ~ 15 KHz (Delay)
Program Memory	: 128 programs (with back-ups)
Program Parameters	: Delay Time, Feedback Level, Delay Level, Dry Level, Modulation Rate, Modulation Depth, Delay Phase
Control (Volume)	: Input Level/Output Level (for MIX only)
Control (Switches)	: Level (rear), Effect, Hold (effective at delay times of greater than 257 ms), Up/Down, Program/ Manual
Display	: 31/2 digits (for all parameters), On/Off (for all switches)
Connection Terminals	: Input, Mix Out, Delay Out, Dry Out, Effect/ Footswitch, Hold/ Footswitch, MIDI In, MIDI Thru, MIDI Implementation
Mode	: 1, 3 (Channel 0 Display 1)
Channel	: 1 – 16 Program
Change	: 0 – 127 (Display 1 – 128), all others ignored
Rated Power Supply	: 100 V, 50/60 Hz 10 W
Dimensions	: 190 (W) x 52 (H) x 150 (D) mm
Weight	:1.5 kg

Block Diagram



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