

# PAIA MV-8

## MIDI CONTROL VOLTAGE PROCESSOR PRELIMINARY OPERATION MANUAL

Complete details of the operation of the PAIA MIDI Control Voltage Interface card (MCVI) and Master Muxitplexer/Demultiplexer card (MUX) which comprise the MV-8 are provided in the Operation Manuals for these cards which accompany this preliminary MV-8 information. Here we will give a short summary of the use of input and output connectors and how the various operating modes are selected from the front panel of the MV-8. The prudent user will review the MCVI and MUX operation manuals in order to gain complete understanding of the equipment and realize the maximum utility from this extraordinarily adaptable system.

### THE FRONT PANEL

From right to left the controls and connectors of the MV-8 are as follows:

**PWR** - The first slide switch on the right hand side of the front panel is the power switch. Sliding this switch bat up turns the MV-8 on.

**MODE AUX** - This slide switch simply parallels position number 4 of the MODE/CHAN DIP switch and is useful in selecting between input and output configurations of some Modes. When not being used to select between alternate input and output Modes, this switch must be set with its bat down so as not to interfere with the MODE selected by the DIP switches.

**(RS-232 cutout)** This unoccupied cut-out provides access to a DB-9 connector which may be optionally installed on the MV-8's MCVI card.

**MIDI OUT** - This 5 pin DIN connector provides the MIDI output data in modes which convert Control Voltage or Gate inputs to MIDI.

**MIDI IN** - This 5 pin DIN connector provides MIDI input in modes which convert MIDI to Control Voltage and Gate outputs.

**CV TRIM IN** - The trimmer potentiometer accessed through this hole sets the scale of Control Voltage to MIDI conversion. The MV-8 is supplied in a configuration which allows 0-5v range of inputs and has been calibrated for 1v/octave response.

**CV TRIM OUT** - This trimmer sets the scale of MIDI to Control Voltage conversion. The unit has been calibrated for a

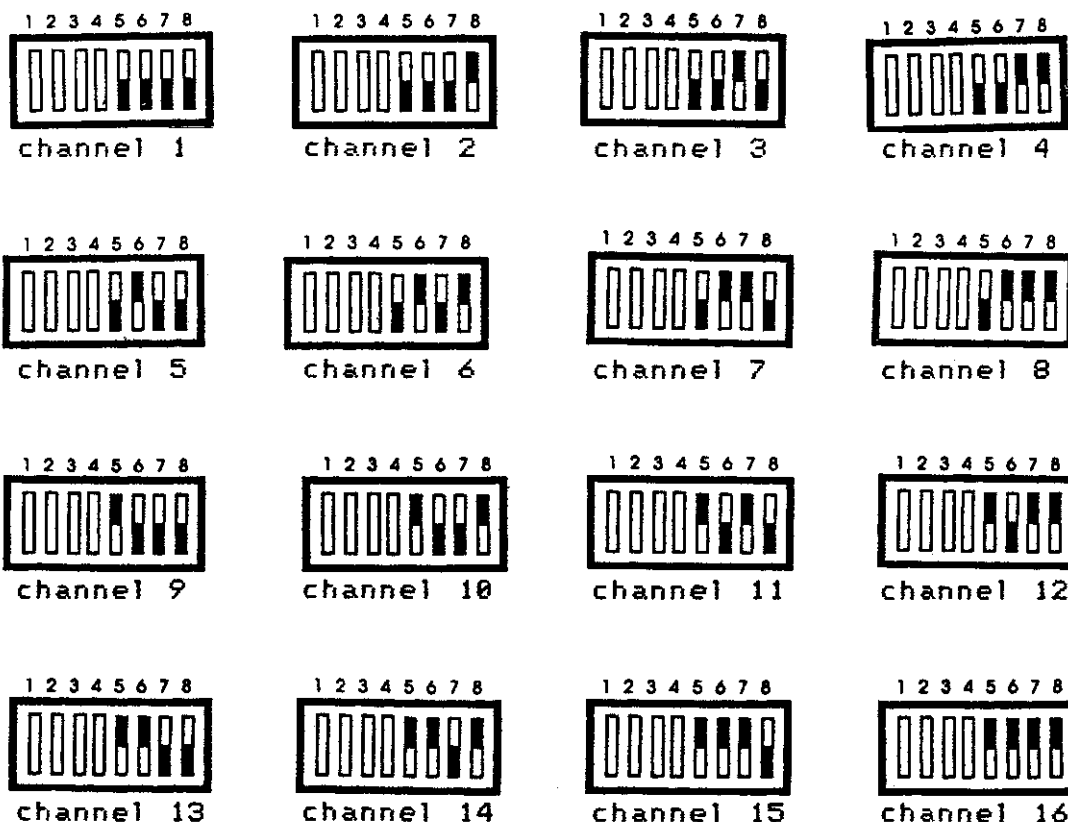
lv/octave response. (see page 7 of the MCVI operation manual for further details on CV In and Out trim.)

MODE/CHAN - The right-most 4 positions of the 8 position DIP Switch sets the system's Basic Channel and the left-most 4 positions set the Operating Mode.

GATE & CV In/Out - The 32 position Jackfield at the left edge of the panel provides access to the Control Voltage and Gate inputs and outputs. Correspondence of these inputs and outputs to MIDI data will depend on the MODE selected as outlined below. CAUTION - the Gate inputs are intended for 0-5v logic levels and while some protection has been provided for levels outside this range you should read the section on MUX TO REAL WORLD INTERFACING which begins on page 22 of the MUX Operation Manual.

#### BASIC CHANNEL SETTING

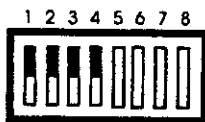
The illustration below show the setting of the 4 right-most DIP switches for Basic Channels 1-16.



## MV-8 MODE SELECTION

The left-most 4 DIP switches should be set to select the desired Operating Mode as outlined below.

### MUX CARD OPERATING MODES



(M1)

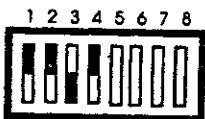
- M1) CSIM - Controller/Switch Input Mode
- M2) CSOM - Controller/Switch Output Mode

These two modes will find their greatest application in retro-fitting equipment such as signal processors and mixing consoles to MIDI compatibility. They access and convert the Control Change data provided for in MIDI. See page 10 of the MUX Operation Manual for complete details.



(M2)

When Mode M2 is selected, the AUX MODE slide switch to the left of the front panel PWR switch may be used to select between M1 (when AUX MODE bat is up) or M2 (when AUX MODE bat is down)



- M3) MVOM - Mono Voice Output Mode / MIDI Mode Four

This mode is intended for control of up to 8 synths. See page 12 of the MUX Operation Manual for complete details.



- M4) NSWC - Note Switch Conversion Mode

In this Mode, CV outputs represent the Velocity of a note and the Gate outputs reflect Note On and Note off data. Outputs are assigned to note numbers. For example, the velocity data of a Note On message for Note #1 produces a voltage at CV output #1. This mode is intended for application requiring more than 1 MUX card and many voltages and gates. See page 14 of the MUX Operation Manual.



(M5)

- M5) MVOM - Mono Voice Output Mode
- M6) MVIM - Mono Voice Input Mode



(M6)

These two modes are primarily intended for complete control of single monophonic synths and provide 8 control voltage and 8 Gates which correspond to the most common usages of MIDI data in these applications. See page 16 of the MUX Operation Manual.



M8) SMPLmon - Machine Code Monitor.

See page 19 of the MCVI Operation Manual.



(M9)

M9) PSQSH - Poly Squash Mode

M10) PCYC - Poly Cycle Mode

M9 and M10 allow control of up to 8 synths in MIDI Poly Mode. See page 18 MUX Operation Manual.



(M10) 8 note



(M10) 7 note



(M10) 6 note

(M10) 5 note



(M10) 4 note



(M10) 3 note



(M10) 2 note

When reviewing the various Operating Mode details covered in the MUX Operation Manual, you will notice that most Modes can support more than 1 MUX card and that different outputs can be realized by assigning the MUX card to a different "address space" (card #). The MV-8 has been factory wired with its MUX card set to be Card #1. So that, for example, the Control Voltage and Gate outputs in the Note Switch Conversion Mode are derived from Note and Velocity data from keys 1-8. By changing the address of the MUX card to #2 the outputs will correspond to notes 9-16.

The MUX card number can be changed if desired by following the instruction provided on pages 6 and 7 of the MUX Operation Manual.

You will also notice that Controller/Switch input mode (M1) has provisions for echoing Control Voltage and Gate inputs directly to the outputs by grounding pin 4 of the buss. This connection has been made during the manufacture of the MV-8 with a wire which is clearly labeled "ECHO JUMPER" on the backplane inside the MV-8. If you wish to disable this feature, you can do so by clipping this jumper.