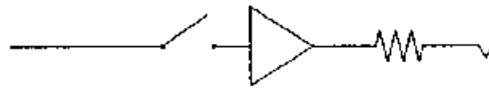


# CUSTOM AUDIO JAPAN



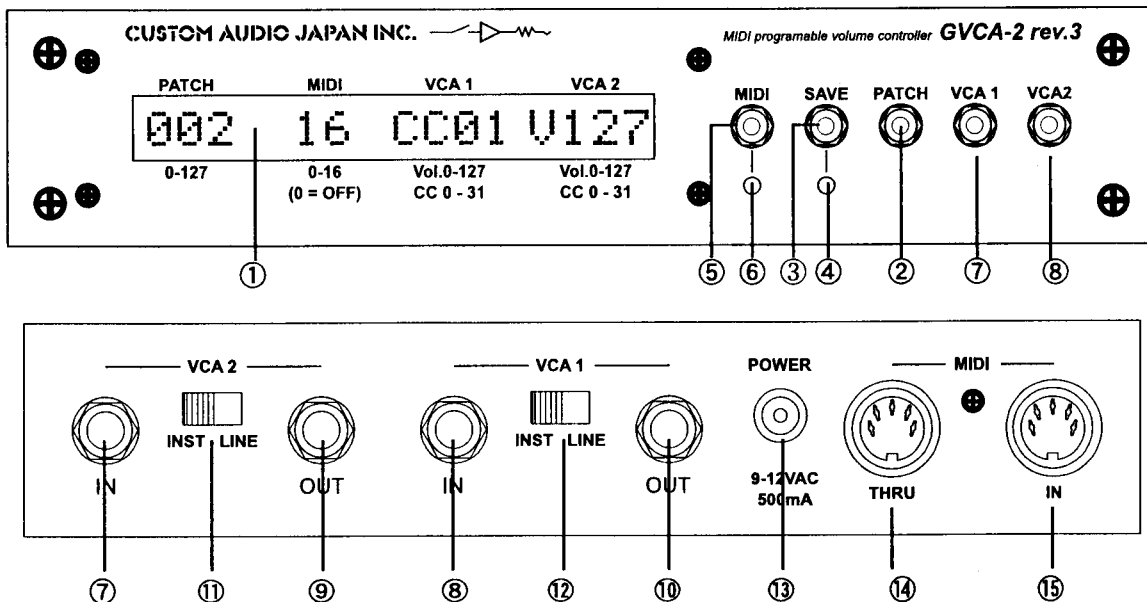
## ***GVCA-2 rev.3*** ***MIDI/Programmable VCA*** ***User's Guide***

# What is the GVCA-2?

The GVCA-2 is a programmable, MIDI controllable, dual channel, Voltage Controlled Amplifier (VCA). The GVCA-2 can be pre-programmed with specific volume level settings on each of its two audio channels (VCAs) and can also be controlled in real time via MIDI Continuous Controller commands.

The GVCA-2 has 128 user programmable memory locations called "Patches". Each "patch" contains either a volume or MIDI continuous controller number for each VCA. The patches can be scrolled through manually via the front panel controls or can be selected directly via MIDI Program Change commands. The volume and control continuous controller functions both have a volume curve that is logarithmic just as in a true mixing console audio fader.

The GVCA-2 audio channels have been designed with switch selectable operating levels allowing use with unbalanced line level as well as instrument level signals. The GVCA-2 has high impedance (1 meg ohm) inputs allowing direct interface with guitars and other electronic instruments. The GVCA-2 can be patched into the low level signal path at the input to guitar and other amplifiers as well as in line level effects loops. When used with guitar amplifiers, one VCA can be used at the amplifier input as a "drive" control while the other VCA can be used in the effects loop as a "volume" control. Other applications are possible as well including effect send control, panning, and signal routing.



# GVCA-2 Controls and Features

**(1) Status Display:** indicates the settings of all the GVCA-2 parameters including Patch Number, MIDI Receive channel setting, and the settings of volume or controller numbers for the two VCAs.

**(2) Patch Up/Down Buttons\*\*:** increment/decrement the patch number and loads the VCA settings stored at that memory location. Holding the button down will produce repeated incrementing/decrementing of the patch number (scrolling).

**(3 and 4) SAVE Button and SAVE LED:** saves the current VCA settings at the current Patch Number. When a VCA or MIDI channel setting has been altered using the MIDI, VCA1 or VCA2 Up/Down buttons, the save LED will blink indicating that a change has been made but not saved. When the SAVE button is pressed, the new settings will be stored and the LED will be extinguished. To clear the SAVE LED without pressing the SAVE button, press the Patch Up or Down Button once to change the patch number then return.

**(5 and 6) MIDI Button and MIDI LED:** pressing the MIDI button will increment the MIDI channel setting. The SAVE LED will flash indicating that the MIDI channel has been changed but not saved. Pressing the SAVE button will store the new MIDI channel setting to memory. Pressing the PATCH UP or PATCH DOWN buttons will restore the previous MIDI channel setting and clear the SAVE LED. Press the button repeatedly or hold down to scroll through the 16 MIDI channels and release at the desired setting. The MIDI LED will flicker when the GVCA-2 is receiving MIDI data at the MIDI input port.

**(7 and 8) VCA1 and VCA2 Up/Down Buttons\*\*:** scroll up/down through the volume and continuous controller settings. When the VCA is in volume range the display will indicate "V" and the volume setting (0-127). Volume numbers greater than 127 shift the VCAs to Continuous Controller mode where the display will indicate "C" and the control number (0-31). Holding the buttons down will produce repeated incrementing/decrementing of the settings (scrolling). Pressing any of these buttons will change the VCA setting but will not store it to memory. The SAVE LED will begin blinking indicating that the setting has been changed but not saved. Pressing the SAVE button will store the new setting at the current Patch Number. To clear the SAVE LED without pressing the SAVE button, press the Patch Up or Down Button once to change the patch number then return.

**(7 and 8) VCA1 and VCA2 Inputs:** Hi-Z (1 meg ohm) inputs accepts unbalanced instrument or line level input signals.

**(9 and 10) VCA1 and VCA2 Outputs:** low -Z outputs suitable for driving amplifier inputs or line level inputs with impedance of 2K ohms or greater.

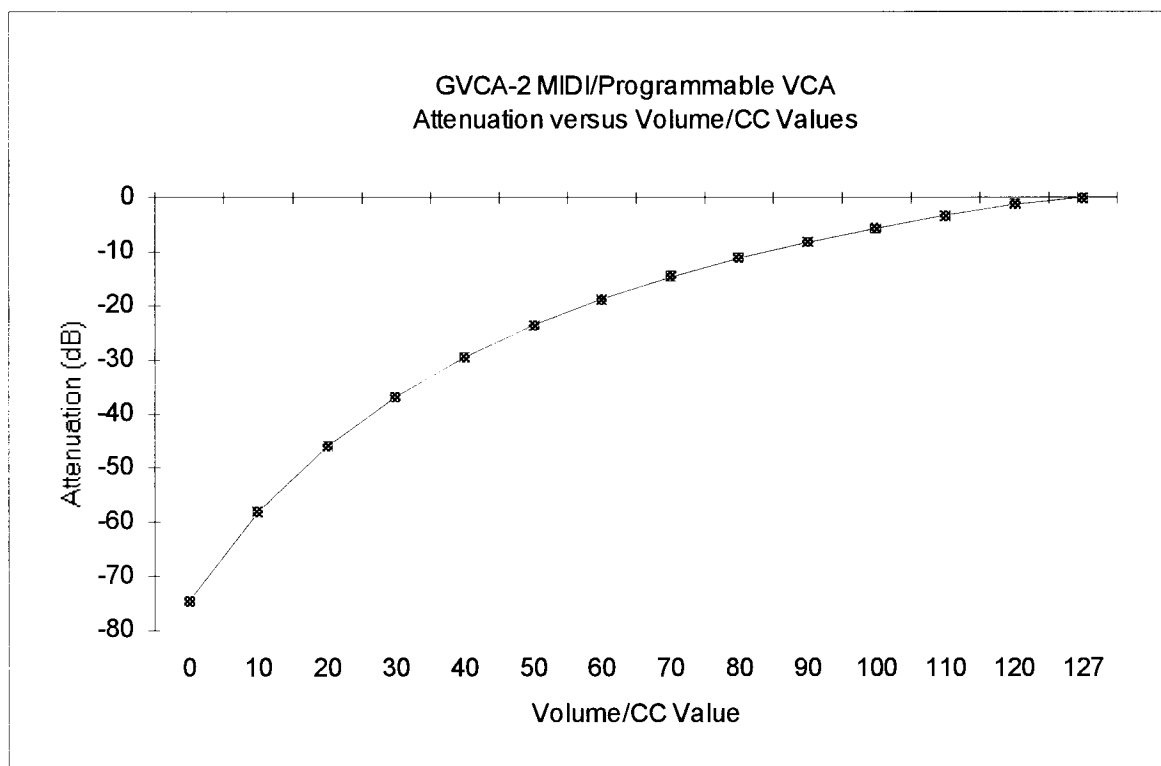
**(11 and 12) VCA1 and VCA2 Level Selector Switches:** provides optimum signal level matching for instrument or line level inputs to maximize the GVCA-2 audio dynamic range. **To obtain the minimum noise level from the VCAs it is EXTREMELY important that these switches be set to the "instrument" position when used with low level signals.**

**(13) Power Input Jack:** 5.5mm x 2.5mm jack accepts 9-12 VAC, 500 ma input from an external AC power adapter (supplied with unit).

**(12) MIDI In Jack:** input for MIDI continuous controller and program change data.

**(13) MIDI THRU Jack:** outputs a buffered duplicate of data received at the MIDI In jack. Useful for “daisy chaining” multiple MIDI devices.

**\*\*NOTE:** To speed user programming, the GVCA-2 PATCH, VCA 1, and VCA 2 Up/Down controls have been designed to “loop” and will “roll down” to 0 upon reaching their maximum value and will “roll up” to maximum once the minimum value has been reached. It is faster, for example, to scroll up rather than down to reach patch number “9” when starting at “127”.



# GVCA-2 MIDI/Programmable VCA

## Typical Performance Specifications:

Frequency Response: 20Hz-20Khz±0.5dB

Signal-to-Noise Ratio: ≥100dB (20Hz-20KHzBW, 0dB Attenuation)

THD+Noise: ≤0.02% (20Hz-20KHzBW, 0dB Attenuation)

Input Impedance: 1M ohms, unbalanced on 1/4" phone jacks

Output Impedance: unbalanced 1/4" phone jacks, 2K ohms or greater load impedance

Gain control range: approximately 80dB

Gain control resolution: 7 bit (128 steps), audio taper

Programmable Volume Levels: 0-127

MIDI Continuous Controller numbers: 0-31

MIDI Continuous Controller Values: 0-127