



POWER USER

Motif and the Modular Synthesis Plug-in System

PLG100-VH Vocal Harmony Effect Processor Plug-in Board

A Getting Started Guide

Tony Escueta & Phil Clendeninn
Digital Product Support Group
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- The PLG100-VH board is part of the Modular Synthesis Plug-in System. It is an **effect** processor that can be used in Performance mode or 'live' in a Song or Pattern to effect a microphone plugged into the A/D input (analog-to-digital). Please follow all the instructions in the Owner's Manual concerning installation. You can verify proper installation by powering up and viewing the UTILITY/ F6 PLUG screen. This Guide will take you through setting up the A/D input and editing the PLG100-VH from the front panel of the Motif. (There is also available a free stand alone VH Editor that brings the front panel parameters to your computer screen).

This Guide assumes you are at the Motif with the PLG100-VH properly installed in slot 1 and have a quality microphone plugged into the LEFT (L) A/D input on the back panel of the unit. Follow this guide step-by-step at least the first time through. When you are comfortable with the setup procedures feel free to experiment creating your own setups.

Some terminology that you will find in the VH area:

Lead (Melody) – Refers to your natural voice or the synthesized lead Voice w/pitch correction. Can be assigned an independent MIDI channel from the Harmony

Harmony (H) – MIDI controlled backing vocals (3 max.) follow chord/MIDI input. Can be triggered on it's own channel.

Gender (G) – male or female voice. Change gender without expensive, painful medical procedures.

Depth (Dpt) – how much a parameter will effect the sound

Threshold (Thresh) - the level at which a particular effect kicks in. Signals below the threshold are not effected.

Pitch Correction (PchCorrect) - when activated and a Gender type is selected you can create a 'vocode' effect that will follow your played notes. You can balance this with your normal voice or mix it completely to the vocoder effect.

ABOUT THE PLG BOARDS

The PLG-Modular Synthesis Plug-in System: This innovative feature allows you to add hardware plug-in boards that can be either complete synthesizers or specialized effect processing, as in the case of the PLG100-VH.

The PLG 100-VH Vocal Harmony

The PLG100-VH provides a sophisticated vocal effect that takes a microphone input and reproduces up to 3 harmony parts. These parts can be voiced under MIDI control to make for intricate 4 part choruses; (3 + your voice). This MIDI control can be real time (as you play) or controlled from a prerecorded MIDI track (you can have prerecorded track the controls the harmonies). It can also create effects where you control the pitch of a lead "synth voice" from your keyboard, and where you can transpose the pitch you are singing and can change the gender of the voice, as well. This is great, allowing you to talk, grunt or otherwise make noises into musical pitches or into wild robot-like sound effects.

Once it is connected, the PLG 100-VH becomes another effect block in the Motif and can be applied to one of the Parts within a PERFORMANCE. Although Harmony can be applied to normal instrument Parts, it is designed specifically to work with the A/D Input.

You can pre-program the pitch interval of the harmony, or you can play the harmony from the Motif keyboard and even have the harmony interval change, depending on the chord you play. As long as your own voice is in pitch and you play the appropriate chords, the PLG 100VH ensures that the harmony "voices" will be enharmonically correct and stay in pitch with the chord changes of the song. It also includes a gender changer effect that turns a male voice into a female voice (or vice versa), and a vibrato effect that can add vibrato to your voice.

The VH EFFECT EDITOR

There is free stand-alone PLG100-VH Effect Editor software available. It gives you comprehensive control over all PLG 100-VH settings and parameters. It also provides exceptionally easy and intuitive editing, with graphic controls.

BOARD INSTALLATION

To install the PLG100-VH, follow the instructions in the MOTIF Owner's Manual. The PLG100-VH must occupy slot 1 of the Motif (All Blue wires, 1 Orange wire) in order to use the microphone input. Be sure to place the board in the slotted grooves and that boards do not touch each other or the chassis of the Motif.

Using a Microphone & the A/D Input

Before we get started with the PLG 100-VH, it is necessary to understand how to use the A/D Input of the MOTIF.

This next section of the guide will instruct you how to use the A/D input of the MOTIF with a microphone, in conjunction with the PLG 100-VH. You can sing into a microphone that is plugged into the MOTIF and apply effects to the vocals.

Plug a microphone into one the A/D Inputs of the MOTIF. Check the MIC/LINE parameter found in [UTILITY]/ [F2] I/O /SF1 Input. Select MIC.

Three Easy Steps To Using The A/D Input and the PLG 100-VH.

Each PERFORMANCE stores A/D input settings and these can be unique per Performance.

To start from the beginning you will need to "initialize" a PERFORMANCE. If you have a PERFORMANCE that you want to use, skip step 1.

1> Initialize A PERFORMANCE:

- Select the PERFORMANCE you wish to "Initialize".
- Push [JOB]. Select the Initialize job [F1].
- Push [ENTER] and then push [INC/YES]

2> Select the Source Input Level:

- Press the [PERFORM] button to select the main Performance screen.
- Press [F2] AD to make and verify microphone settings. Adjust the signal "gain" level by turning the small (GAIN) knob (located to the left of the A/D input jack).
- Set the VOLUME = 127
- Set the MONO/STEREO input to "L mono" or "R mono" as is

appropriate for your microphone. This will place your voice in the center of the mix.

- Set any effects or pan position to taste.

3>Applying the PLG 100-VH:

- Press the [EDIT] button.
- Press the [COMMON] button next to the Data Wheel to enter Common level parameters
- Press [F6] Effects/ [SF1] Connect. The PLG100-VH is an effect processor and logically this is where you will program all of its parameters. (Your PLG1 button will not work. The PLG100-VH is an effect processor and does not have Voices, per se).
- In the upper left corner of the screen you will see a diagram with two signals coming in from the left. The upper one is VCE INS or Voice Insertion Effect (the Part with the Insert Effects active). The lower one is reserved for the **PLG-EFF** or **Plug-In Effect Processor**. *That's us!* It reads "off" in the diagram below. Move the cursor down to highlight the word "off".
- Use the [DEC/NO] button to set the EFFECT PART as "PART A/D" (your Microphone)
- Highlight the PLG-EF box to view the various VH board modes: Thru (bypass), Vocoder HM, Chordal HM, Detune HM, Chromatic HM. Use the Data Wheel to make selections.



Important navigation tip: The screen above is very informative and changes when you activate or highlight particular areas. Notice in the screen shot above both F6 (Effect) and SF1 (Connect) are currently selected. When you install a PLG board that is an effect board, the "PLG-EF" box (which represents the VH board in this case), SF2 will display a button that will allow you to drop down and see the native PLUG IN EFFECT parameters. To return to this screen while editing the Vocal Harmony parameters remember to hit SF1 Connect.

What Are the Four Vocal Harmony Types?

VOCODER HM: This produces up to three **synth** voice harmony notes whose pitches correspond to the exact notes you play on the MOTIF. In other words, you can sing the melody and "play" the harmony or harmonies from the keyboard (or have them follow from a sequencer track). The Harmony sound can be edited. The Lead voice can be synthesized, as well (Pitch Correct = ON). This is very useful when you want to Pitch Correct your voice, forcing the sound of your voice to the notes you play on the keyboard. You can edit this synth lead voice from 'almost' natural to robot-like to munchkin-like (Lead Gender Depth). You can use your mouth shape and the sound of your voice to create unusual and bizarre out-of-this-world vocal effects. Changing the gender of the Voice uses one of the harmony voices and reduces the number of synth backing voices to 2.

Chordal HM: This produces up to three harmony notes that correspond to the chord-type you play on the MOTIF (or chords recorded to a sequencer).

For example, if you play a C major triad on the keyboard and sing a 'C' note (and Chordal Mode is set to "trio"), the resulting harmonies will be 'C', 'E', and 'G'. Thirty-four different chord types are recognized in this mode - giving you an amazingly full and flexible palette of harmonies, suitable for nearly any music style. The number of harmonies produced and their position above or below the melody is set in the Mode parameter.

In general, the Chordal Type is best suited when you want to simply play the chords and have the Harmony effect automatically sort out the suitable notes.

DETUNE HM: This produces a slightly "detuned" pitch and mixes it with the input signal for a rich, chorusing effect. The amount of the detuning is editable via the MODE parameter.

MIDI note data from a keyboard or sequencer has no effect in this mode.

CHROMATIC (CHROMAT.HM): This produces a harmony at a fixed pitch interval from the original sound (such as an octave, or a third). The amount of the pitch shift is set with the MODE parameter.

MIDI note data from the MOTIF or sequencer has no effect in this mode.

EXAMPLE 1

This first example will use the PLG 100-VH's VOCODER Harmony type and the MOTIF A/D Input.

To do this:

- Follow STEPS 1-3 of "Easy Steps To Using The A/D Input and the PLG 100-VH".

At this point, you should be able to:

- a) Hear audio through the microphone
- b) Play the MOTIF and hear a piano Voice.
- c) Sing into the microphone while playing a chord on the MOTIF. The harmonies produced (up to three harmony notes) are pitches corresponding to the notes you play on the MOTIF.

Now let's turn the piano Voice off so that we can concentrate on the Vocal Harmony board. To do this we go to the lower level of edit parameters – individual Part edit.

- Push Program (Track) button [1] to select PART 1
- Set the Part Switch to OFF for the piano voice currently in Part 1. [F1] Voice / [SF1] Voice. Part Sw = OFF

*At this point, you should **only** hear the original microphone signal and the harmonized parts (when you play the keyboard and sing into the microphone).

The next objective will be to alter the balance of the harmony signal so that no actual dry microphone signal is heard, just the VOCODER effect.

While still in EDIT mode, return to upper level parameters:

- Press [COMMON]/ [F6] Effect/ [SF2] PLG-EF.
- We now can view the edit parameters of the VOCODER.
- Use the right cursor to select the page with the LowerG.Dpt (Lower Gender Depth) and the Lead/Harm (Lead/Harmony) balance parameters in the right column.
- Adjusts the balance between the "lead" and the PLG 100-VH's vocal harmonies.
- Set the L=H parameter to "**L<H63**"

*At this point, you should **only** hear the harmonized parts (when you play the

keyboard **and** sing into the microphone). Don't be afraid to sing OUT LOUD. Many people never hear the effect because they don't give up enough signal to the microphone. But don't overload the signal either. It may take a minute for you to adjust to how to sing to get maximum benefit. Remember you have 3 parts so playing more notes than that is, well, silly.

Using the PLG100-VH in this manner will allow you to actually play your vocal parts from the keyboard. The "synthesizer" harmony pitches will be completely determined by what is played on the keyboard of the MOTIF. Controllers such as pitch bend can also be applied to the harmonized effect. STORE this Performance, if you would like to keep it.

EXAMPLE 2

the "Classic" Vocoder setting

The next setting will give you the classic robot-like vocoder effect with key control.

To do this:

- Follow STEPS 1-3 of "Easy Steps To Using The A/D Input and the PLG 100-VH".
- Push Program (Track) button [1] to select PART 1
- Set the Part Switch to OFF for the piano voice currently in Part 1. [F1] Voice / [SF1] Voice. Part Sw = OFF

*At this point, you should **only** hear the original microphone signal and the harmonized parts (when you play the keyboard and sing into the microphone). If not, check the Lead/Harmony balance (L=H).

The next objective will be to:

- Adjust the settings of the PLG100-VH to put the finishing touches on the robot-like voice effect.
- Alter the balance of the Lead/Harmony signal so that no actual dry microphone signal is heard, just the VOCODER effect.

Set the parameters as follows:

- 'Mode' to **-1 OCT**
- 'H.Gender' (Harmony gender) to **auto**
- 'L.Gender' (Lead gender) to **male**
- 'Pitch Correct' to **ON**
- Upper Threshold to **"5"**
- Set Lower Thrsh to **"6"**.

- Set Upper Gender Depth to "+00".
- Set the 'Lower Gender Depth to -20 (minus values move toward Barry White; positive values toward mechanical-man
- Lead-Harmony to L63>H

*The idea of this setting is to get a monotone, robotic sounding effect. At this point you are ready to determine what pitch the PLG board will drive by simply playing a key on the MOTIF.

Please feel free to experiment with a parameter. Certain parameters will work together. For example, with the Pitch Correction ON – the VH will force the 'lead' voice to the pitch you play on the keyboard when you select a Lead Gender Type, male/female. The Threshold parameters will set sensitivity for the male or female, or upper and lower voices.

Keep in mind, how you 'shape' your words (shape of the mouth), the register of your voices and volume that you speak or sing into the microphone, all determine the results of the synthesized voice(s). This allows endless and unique performance possibilities.

EXAMPLE 3

This next example will use the PLG100-VH's CHORDAL harmony type.

To do this:

- Follow STEPS 1-3 of "3 Easy Steps To Using The A/D Input and the PLG100-VH" and select CHORDAL in "Step 3".

In general, the Chordal Type will allow you to simply play the chords and have the Harmony effect - automatically sort out the suitable notes. Select the parts that the synth voice will create: duet, trio, above, above & below, below, etc.

The same setup method can be applied for using DETUNE and CHROMATIC types.

Additional settings can be altered within all of the Harmony Types to change the type of voicing of the harmonization, gender type of the harmonies, and detuning, transposition and pitch correction parameters.

You must name and save the PERFORMANCE to retain these changes.

Backup your data in an ALL Data file to an optional SmartMedia Card or SCSI storage device. Performance data can be stored in the ALL data type file (.w2a), or bulked to an external device as system exclusive data.

Can I record this wacky stuff in the Motif Integrated Sampling Sequencer?

That's a fair question whose answer may or may not be what you expect. Because the Motif does not route incoming signals through the effect processors when it samples (it does when you resample), you *cannot* record yourself using the Vocal Harmony, directly. However, that said, once you lay down your vocal you can process it like any other signal through the VH processor and resample that to an audio track. By assigning the Harmony parts to follow a specific MIDI channel you can 'orchestrate' your backing vocals with any track containing the controlling note data.

Visit www.Motifator.com and download the files called VH_PLG_2.w2a and VH_PLG_2.w3a and transfer them to your SmartMedia card or SCSI drive. There are 15 examples. 10 are Chordal setups, 1 Detune, and 4 are Vocoder examples. Also you will find several Songs and Patterns setup to use the various setups.

Duet Above **Chordal**
 Duet Below
 Duet Above & Below
 Trio Above
 Trio Above & Below
 Trio Below
 Trio Above & Below + Bass
 Quartet Above
 Quartet Above & Below
 Quartet Below

Detune **Detune**

Vocoder **Vocoder**
 Barry
 Jane
 Weird

Tony Escueta and Phil Clendeninn
 File examples prepared by Athan Billias
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