

# y POWER USER

## MUSIC PRODUCTION and PERFORMANCE With the MOTIF

### Assigning Your PLG150 Plug-in Board in a MIX Assigning Your PLG150 Plug-in Board in a Performance Updated for v1.7

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PLG150 Series boards (PLG150-AN, PLG150-DX, PLG150-PF, PLG150-VL, PLG150-DR and PLG150-PC) can be installed in any slot configuration. A consistent arrangement is recommended, as the bulk files remember which slot the file was created from.

**PLG150 Series Plug-in Boards** are each single part boards. What this means is that they are capable of contributing **one** sound at a time where ever they are used within the Modular Synthesis Plug-in System host product. For the Motif, the host in this case, each PLG150 Series board can be used in a very similar fashion to the Internal sounds. However, there are a few things that may cause you to scratch your head, if you are unaware of just how the PLG boards integrate into the host product. For example, the boards are all synthesizers on their own, but they don't have screens, knobs, sliders, analog audio outputs, etc. It doesn't even have buttons for you to enter information. What it does have is the chip set necessary to do the calculations to deliver its sound. Each board can be unique in terms of its sound-generating engine. The PLG boards will be using the host product for its screen (to communicate), its knobs to input data, its controllers to perform real time changes, its converters for translating its results to the analog output (in fact for all audio routing), and its effects and so on.<sup>1</sup> It is a rather complex network because these boards are not your typical expansion boards – these boards represent several different synthesis technologies and are capable of working in other modules and computer systems. The AN, DX, and VL boards are not based on digital samples, at all, but represent unique synthesis engines that were each available as stand alone synthesizers (AN1x, DX7/DX7mkII and VL1/VL70-m). But the Motif has its own way to address the boards in spite of the different technologies. The preset Voice data is stored in the Motif (Flash ROM) and are loaded when the board is detected at power up. This is why you need the version 1.7 update – it will place the Voice data for the new PLG150-DR and PC into the ROM area so that even if you don't own one of those boards yet that data will be inside the Motif. It has the ability to detect, and automatically load 64 Preset sounds to the PLG slot for each board it detects. Each 150 board can represent a different technology with an entirely unique set of parameters. Each PLG150 series Voice will access waveforms on its own board. Not all of the parameters for every different board could reside inside the Motif – so the Board's editor is available to address the synthesis engine in

<sup>1</sup> Additionally, the boards rely on external computer editors to fully address parameters when building Voices from scratch. The three "pure" synth boards (AN, DX and VL) can be fully edited from scratch. The PF is sample playback and the waves are fixed.

question. The Motif can store and recall Voices that "point" to specific waveforms on your PLG board. The Motif will memorize the Voice data (pointers), the PLG board slot number and maintain all this data. Take your time when seeking to route and learn about using the PLG boards in your setup. This guide will help you understand why and how to setup what you need.

The single PLG150 Voice per board can be played in Voice mode, layered with other sounds in a Performance, or as a Part within a Mix. Although each PLG150 series board has a unique story, the way in which they work within the Motif's various modes will be pretty much the same. The current 150 series boards are the PLG150-AN (analog Physical Modeling), the PLG150-DX (Frequency Modulation), the PLG150-PF (AWM2 sample playback), the PLG150-DR (AWM2 Drum Kit), the PLG150-PC (Latin percussion kits) and the PLG150-VL (Virtual Acoustic Physical Modeling).

### Using PLG150 Voices in a MIX

The Motif by itself (using just the internal sequencer) is capable of 16 Part Multi-timbral operation. The PLG boards have their own polyphony and are basically *separate* synthesizer engines that will use the host's hardware. Before you expanded the Motif with PLG boards, the 16 Parts of a MIX were always occupied by internal sounds. When viewing the MIX screen you are looking at PARTS 1-16 in the MIXER.

- Press MIXING



Once you have installed your PLG 150 board(s) you are able to toggle between viewing and editing the internal PARTS 1-16 and Boards PLUG-In slots PLG1-3 via the [F6] button.



Press F6 now, and get used to switching the view from 1-16 (Internal) and PLG1-3 (Plug-in slots 1-3). What you are going to do when you want to assign a PLG sound is either **layer** it with or **replace** one of the internal Motif sounds. As we stated, by default (when you

first call up a new MIXING page) Parts 1 through 16 are occupied by internal sounds assigned to MIDI channels 1-16. This is quite natural and basic but must be stated because what you want to do now that you have PLG boards is decide what MIDI channel do you want to address them. The PLG boards default to MIDI channels 1, 2 and 3 when you place the board in slot 1, 2 or 3 respectively. You can reassign them to any MIDI Channel, as necessary. It is guaranteed that whatever MIDI channel you choose will already have an internal Motif sound assigned – all 16 channels are currently used. If, for example, you want to place your PLG150 board on MIDI channel 10, you will need to make a decision. “Do you want it to *share* the MIDI channel with the current sound assigned to MIDI channel 10? Or do you want to *replace* the MIDI channel 10 sound (the sound on PART 10)?” The reason it does not automatically replace the internal sound is because you may want to layer or split a PLG150 Board sound with an internal sound at some point. To really understand this feature we need to get a clear understanding of PARTS and why they are useful.

### Why PARTS?

You begin to appreciate the PART as a useful entity within the Motif when you realize that a Voice can be placed in a Performance or used in a Song/Pattern MIX and you can edit it via the, so called, PART parameters. Instead of editing the Voice directly you edit these PARTS. What does this gain you? It does not edit your Voice for any other Performance, or MIX that it happens to be used in...all your PART edits are “local” to the current Performance, or MIX location. In many competing products, any change that you make to your favorite String sound when you combine it or use it in a multi-timbral setup, will affect every other use of that String sound. The PART parameters are what allow the Motif **not** to have to alter everything to accommodate the current tweak. When you understand PARTS, they really do become a necessity.

### Replace it:

If you want to replace the internal AWM2 sound, you will need to know how to assign the PLG150 Part a MIDI Receive Channel and then deactivate the MIDI Receive Channel on the internal sound assigned to the selected MIDI channel. (This will require that you drop into MIXING EDIT and that you are comfortable toggling back and forth via the F6 button. Recognize that you can do a lot to a mix

without dropping down to EDIT). Let’s take it a step at a time. But first...

A little more background on “PARTS”:

- When you first call up the MIX view you can make quick changes to your basic mix such as Volume, Pan, Effect send, and you can even select a Voice. But you need to drop into MIX EDIT (both LEDs lit) to change the PART parameters such as MIDI receive channel assignment, the polyphony mode, the Arpeggio switch, Output assignment, filter cutoff and resonance, portamento, controllers, note range, Amplitude and Filter envelopes, etc. These are the PART edit parameters that store changes to the VOICE (via offsets) without having to edit the original Voice directly. Therefore by storing just these offset parameters to your MIX it is possible for the Motif to apply them without changing the original Voice data. It also is possible to swap out the VOICE without changing the offsets – this allows you to easily try different Voices in the same PART without having to redo all the settings.

Let’s clear up one other point right now. PARTS, TRACKS and CHANNELS, it is important that you are clear on the difference.

- A PART is a set of OFFSET parameters that can be saved with a Performance, or MIX. Each Part is assigned a Voice. They allow you to effectively edit a sound ‘locally’ without making a permanent change to the original Voice. PARTS of a MIX are set to receive via MIDI channels. PARTS of a Performance all receive on the Basic MIDI Receive channel.
- A CHANNEL is a MIDI communication bus, 1-16. In the case of a sequencer each track sends (transmits) data on a specific MIDI channel. In the case of the tone engine (receiving device), each PART of a multi-timbral MIX is assigned a MIDI channel to respond to. A basic MIDI setup has 16 MIDI channels. A multi-PORT system will have multiple 16 channel sets.
- A TRACK is a storage place in the sequencer and transmits on a MIDI channel to a PART. In a multi-PORT system a track is assigned one of sixteen MIDI channels of a PORT.

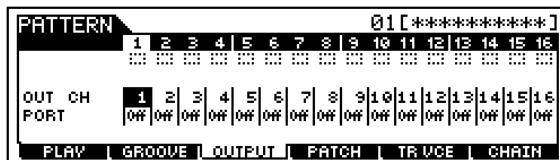
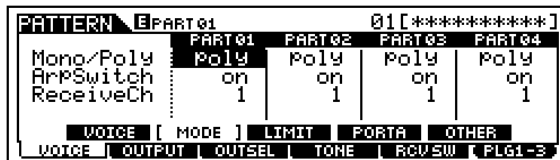
Each PART can be individually assigned a MIDI channel on which to receive incoming data. You can, in fact, assign several Parts to receive on the same MIDI channel. Doing so will mean that when you transmit on that MIDI channel you can play multiple PARTS simultaneously. This is exactly what occurs when you COPY a Performance into a MIX. (PF COPY).

How do you know definitively what MIDI channel you are transmitting on?

Before you put plug-in boards in the Motif, this was always easy to answer, because MIDI channel 1, PART 1 and Track 1 were always in alignment. You didn't need to know the difference. But let's get this down – because now that you have PLG boards you will need to know the difference. While in a MIX the Motif keyboard can be directed to play any of the PARTS. Even though you can only highlight one division in the screen at a time, it is possible to play multiple sounds simultaneously. This is accomplished by assigning multiple PARTS to the same MIDI channel, and then transmitting on that MIDI channel.

**HERE IS THE RULE:**

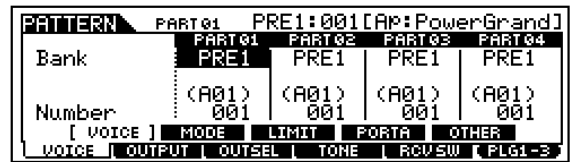
Your transmit channel is determined by the **OUTPUT CHANNEL** of the **TRACK** you select.



Referring to the two screens above, you can play the four PARTS assigned to MIDI Receive Channel 1 (top screen) if, and only if, you select the TRACK set to transmit to them, in this case track 1 (bottom screen). If you reassign the sequencer TRACK to a different channel that is the channel the keyboard will communicate on. The Track's OUTPUT Channel settings are found by pressing F3 OUTPUT (bottom screen above) from the main PATTERN PLAY screen. This is why when you illuminate the TRACK SELECT button you can select any one of the sixteen tracks. Your MIDI channel output will be dependent on the OUTPUT CHANNEL assignment of the TRACK NUMBER that you select. If, for example, you assign your PLG150 board to receive on MIDI channel 12, then in order to communicate with that PLG150 board you will need to select the **TRACK** that is assigned to transmit MIDI channel 12.<sup>2</sup>

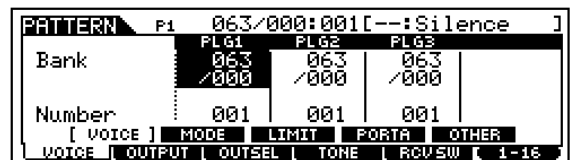
<sup>2</sup> -Whichever track that happens to be.

Do not proceed without a clear understanding of this point. The PART number does not determine what MIDI channel you are transmitting on when you are in a MIX. The OUTPUT Channel of the track set to transmit to that PART determines it.

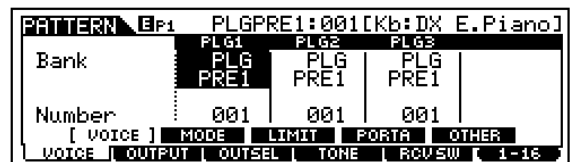


Setting the PLG slot to a MIDI channel:

- Press MIXING
- Press EDIT
- Press TRACK 1 to select PART Edit
- Touch the F6 button to toggle to PLG1-3 view. The Parts are labeled PLG1, PLG2 and PLG3.

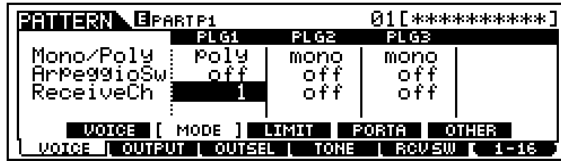


- Select the Bank and sound Number that you want to use. It is very important to select a bank associated with the PLG board in slot 1. Select the board's "PLG PRE1" bank<sup>3</sup> and Program Number 001.



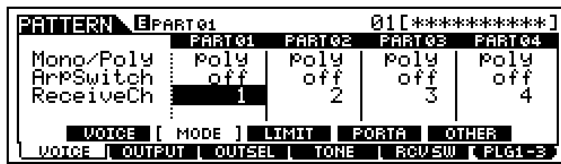
- Select F1 Voice/ SF2 Mode
- The Receive Channel for a PLG150 series board in Slot 1 defaults to MIDI Channel 1. The Receive Channel for a PLG150 series board in Slot 2 defaults to MIDI channel 2. The Receive channel for a PLG150 series board in Slot 3 defaults to MIDI channel 3. You can, of course, choose any MIDI channels, as you require.

<sup>3</sup> The PLG PRE 1 bank is automatically loaded when the Motif detects a PLG150 series board on power up. You know, when you power up it says "Checking Plug-in boards..." If it finds a board it loads 64 VOICES into a PRESET ROM location determined by the board it detects in the slot.

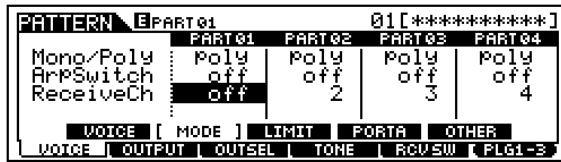


When the Receive Channel is set to channel 1, the PLG1 sound will be “layered” with the Motif internal sound(s) associated with MIDI channel 1 (PART 01 by default). To turn off the internal PART 1 sound you must un-assign the MIDI Receive Channel:

- Touch the F6 button to toggle to the internal 1-16 view.
- Select F1 Voice/SF2 Mode



- Set the Receive Channel of the internal PART01 to OFF.



You can now play the PLG150 sound “in place of” the internal sound.

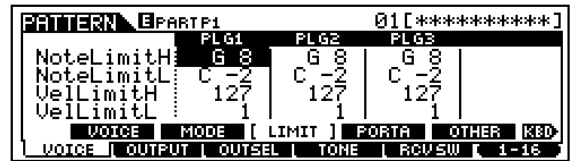
If you had assigned the PLG board to MIDI channel 12, then you would go to any PART set to receive on MIDI channel 12 and deactivate its MIDI Receive channel, thereby replacing the internal sound with the PLG sound. And you would need to transmit from a track assigned to MIDI channel 12 to play the PLG150 sound. Try this as this can be tricky. Up until now the PART you have selected and are viewing in the screen always coincided with the PART you heard. But with PLG assignment this can be different.

- Toggling back to the PLG1-3 view, via F6, will allow to make any further tweaks to the PLG PART. (You can only hear the PART when you are on a Track set to transmit on its assigned channel).
- STORE your MIX

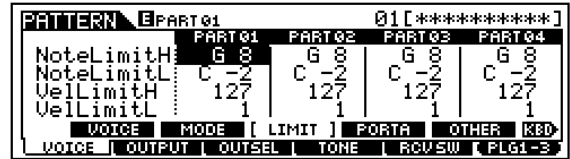
If the internal PART you replace is in a different screen location then the PLG board you may notice that you cannot hear the PLG board until you toggle back to the internal Parts and select the track of that PART. This is normal. It will only seem odd while you are editing. Once you store your setup the transmit selection will always be done by the TRACK SELECT function.

### Layer it/Split it:

If you want to layer or split the PLG sound with the internal sound, simply leave both Parts with their MIDI channels assigned. You can then set the Note Limits, Volumes, pan positions, controller receive switches, etc., of each individually.



You can set the Note range for the PLG Part



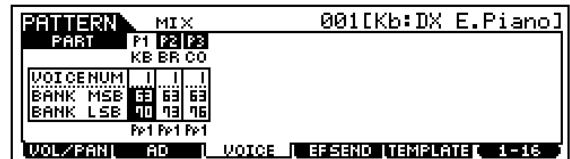
You can set the Note range of the internal Part

- STORE your settings. And exit EDIT

### MIXING: VOICE Selection and BANKS

Let’s now take a look at some of the MIX parameter views and learn something about the Bank Select and Voice selection functions available with the PLG Boards.

- From the MIXING mode



In the screen above, P1 (DX board) is set to the MSB/LSB bank 63/70, the P2 (VL board) is set to bank 63/73 and P3 (AN board) is set to bank 63/76. Here’s what you need to know about these BANKS: The BANK MSB and LSB numbers indicate the kind of Voice you are recalling. If the MSB number is “63” this denotes a PLG Voice that has been integrated with Motif parameters and controller routings...it is either a “Plug-in Preset Voice” loaded from Motif ROM when powered up or it is a “Plug-in User Voice” in one of the 64 locations for customized Voices per Slot. Each of the PLG150 series Boards loads in a **single** bank of 64 PRESETS Voices **and** the User can store 64 USER Voices – these are Voices that point to waveform data on the Boards. (The exception is the PLG150-VL Board, which loads in **three different** banks of 64 (192) Voices. One for each of the playing styles to control that particular PLG Boards technology. In each

case the bank is referred to as PLGPRE1, except the PLG150-VL, which will have a bank PLGPRE1 (TouchEG), PLGPRE2 (Velocity) and PLGPRE3 (Breath Control).

**PLUG-IN PRESET Voices:**

**63/70** This MSB/LSB<sup>4</sup> number will always address the PLG PRE 1 (Pp1 = Plug-in Preset 1) bank of the PLG150 board that is placed in slot 1 – it matters not which board, only that it is a PLG150. The PLG PRE1 bank Voices are loaded at power up. The data for them is stored permanently in the Motif ROM and is loaded when a board is detected in slot 1 when you turn the power on. In the example above, the DX board in P1 (Plug-in slot 1) was detected and therefore the Motif would load 64 Voices intended for the PLG150-DX into this *reserved* bank. If it had detected a different board it would have loaded the Voice data appropriate for that board. Therefore, the bank 63/70 will **always** reference the PLG150 board you place in slot 1.

- 63/71 PLG PRE2 (VL only) in slot 1\*
- 63/72 PLG PRE3 (VL only) in slot 1\*

**63/73** is the PLG PRE1 (Pp1) bank for any PLG150 board placed in slot 2.

- 63/74 PLG PRE2 (VL only) in slot 2\*
- 63/75 PLG PRE3 (VL only) in slot 2\*

**63/76** is the PLG PRE 1(Pp1) bank for any PLG150 board placed in slot 3.

- 63/77 PLG PRE2 (VL only) in slot 3\*
- 63/78 PLG PRE3 (VL only) in slot 3\*

- \*PLG150-VL has three PLG PRE banks, each containing 64 Presets. This was necessary with VL technology in order to include a preset bank setup for TOUCH EG play, one for Velocity play and one for Breath Control play. That is why bank numbers 63/71 & 63/72, 63/74 & 63/75 and 63/77 & 63/78 may also be seen, as possible PLG PRE 2 and PLG PRE 3 for a VL board that might be in that slot.
- If you have a PLG150-PF, DR or PC it would inherit one of three banks numbers for its 64 PLG PRE 1 sounds: 63/70 if in slot 1; 63/73 if in slot 2; or 63/76 if in slot 3.

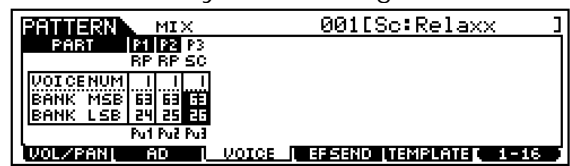
The thing to know about the PLG PRE bank Voices is that they are completed PLUG-IN VOICES, which means they have been integrated with Motif parameters and controllers - as opposed to BOARD VOICES

<sup>4</sup> These two numbers are used by the MIDI system to identify different Voice banks. Banks can contain up to 128 sounds each. You will use these MSB/LSB bank numbers when you are inserting a PLG board into a Song Mix or a Pattern Mix.

which are entirely resident on the PLG board itself. More on them in a minute, but first, there is one more type of PLUG-IN VOICE.

**PLUG-IN USER: PLG\_USER Voices**

These are defined as Voices that you create using the PLG board data as the raw material (source data), to which you add Motif controllers, and routing to make a custom user version called the “PLG\_USR” (Pu1, Pu2 or Pu3). These get saved in an ALL DATA and in the ALL VOICE file types. They are initially BLANK until you create your own variations of the Preset data or create your own Plug-in Voices.



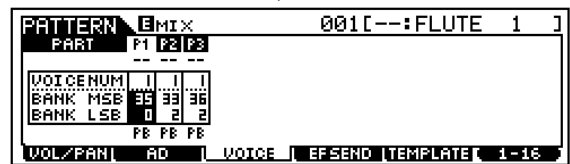
**63/24** this is a PLG\_USR or PLUG-IN USER Voice bank. After you create or tweak a BOARD Voice by applying Motif effects and controller routing to it you will store it to one of 64 RAM locations that Motif reserves for each PLG150 Slot. This bank is the PLG\_USR and will reflect the technology of the board in that slot. Above you see Pu1 or PLG\_USR 1 under the P1 slot.

**63/25** this is a PLG\_USR Voice bank for 64 Voices for the board in slot 2.

**63/26** this is the PLG\_USR Voice bank for 64 Voices for the board in slot 3.

**BOARD VOICES:**

Board Voices are the raw data out of which you can construct your own custom PLUG-IN USER Voices. These banks do not begin with “MSB 63” and have not been integrated with Motif effects, controllers and other routing but are resident entirely on the Board in question. Again the Motif will address these banks through the slot containing the board. If a bank (MSB/LSB) is selected for a slot that does not contain that board, no sound will be heard.



In the view above you see the three PLG Boards (PB) in our example each pointing to a native BOARD VOICE bank. The number of Voices in a bank, the number of banks

available, and the operation of each of the boards can be slightly different. It depends on the technology involved. The \* asterisks below denote a user RAM bank for custom "from scratch" waveform building when available – You can create from scratch wave data in the case of the AN, DX and VL synth boards. The user RAM bank is the bank that you will be able to communicate with via the individual Voice Editors for each Board. The AWM2 boards (PF, DR, PC and XG) you cannot work from scratch because that would mean working with a sampler. The boards do not sample! You can edit the onboard waveforms to varying degrees.

#### PLG150-DX

**35/0\*** is a bank specific to the PLG150-DX board. You see the "PB" which denotes PLG BOARD bank. On the DX board there are 64 USER locations for custom (from scratch) DX sounds in this bank. Sounds are bulked to this bank in two separate loads 1-32 and 33-64<sup>5</sup>. Use the "DX Simulator" Voice Editor to create and bulk (from scratch) sounds (or directly from any 6-Operator FM-based DX/TX product). There are several banks of presets and some 912 DX Voices total among the various DX banks. However, it is significant to note that "35/0" is the bank that will contain any custom sounds you make in the DX SIMULATOR – all the others are Preset (fixed) banks.

**35/1** is a bank specific to the PLG150-DX board. It contains 128 preset FM sounds.

**35/2** is a bank specific to the PLG150-DX board. It contains 64 preset FM sounds.

**XG** banks – the other banks are setup for use with XG/GM protocol – meaning they are categorized as substitutes for XG/GM list Voices. And can be addressed via an XG Editor.

#### PLG150-VL

**33/0** is a bank specific to the PLG150-VL board and contains 128 preset VL physical models for velocity play

**33/1** is a bank specific to the PLG150-VL board and contains 128 preset VL physical models setup for breath control play.

**33/2\*** is a bank specific to the PLG150-VL board. It contains 6 custom locations for actual new (from scratch) configurations of the real time physical modeling VL engine. These are created in the VL Expert Editor or VL Visual Editor.

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<sup>5</sup> The original DX had a 32 Voice limit. To maintain compatibility amongst all DX/TX products this Voice architecture has been maintained.

**33/3** is a bank specific to the PLG150-VL board and a variety of your favorites (64 locations). It can be receive bulks directly from VL70-m tone module.

#### PLG150-AN

**36/0** is a bank specific to the PLG150-AN board and contains 128 preset AN analog physical model sounds.

**36/1** is a bank specific to the PLG150-AN board and contains 128 preset AN sounds.

**36/2\*** is a bank specific to the PLG150-AN board. It is the USER bank for your custom AN Voices. There are 128 USER locations in this bank. Use the "AN Expert Editor" to create and bulk to this bank your (from scratch) analog voices.

#### PLG150-PF

**32/0** is a bank specific to the PLG150-PF board. There is no user "from scratch" RAM bank on the PF board (it would have to sample, after all). These are all preset piano waveforms (some with built-in programmed effects) that you can further enhance with Motif controllers and even add more effects. It contains 128 board sounds.

#### PLG150-DR

**47/0\*** is a bank specific to the PLG150-DR board. There is no user "from scratch" Elements on the DR board (again it would have to sample). These are all preset DRUM kit waveforms that you can further enhance with Motif controllers and even add more effects. There are 8 USER KITS available. You select a KIT "as a whole" – then you can edit each note of that kit – you cannot create your own from scratch kits. It contains 80 KITS – each kit is a single Element. You can select a preset "kit" element and then edit everything about that kit element including using the board's 2 effect processors (REV and INSERTION). But the selection of drum waves comes as a complete set. This bank contains 8 locations for the user to create their own customized drum elements.

**79/0** is a bank specific to the PLG150-DR board. It contains the 80 preset kit Elements from which you can edit each drum via the provided Plug-in Board Editor for PLG150-DR. These Kits can stand on their own, just as they are because they use the PLG150-DR's generous onboard Board effects. This means you can allocate the native Motif effects for other duties.

#### PLG150-PC

**47/1\*** is a bank specific to the PLG150-PC board. There is no user "from scratch"

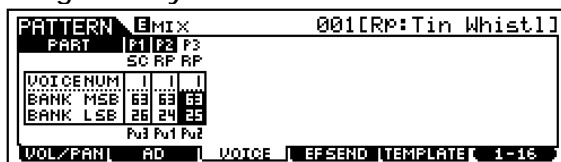
Elements on the PC board. These are all preset PERCUSSION kit waveforms that you can further enhance with Motif controllers and even add more effects. It contains 80 KITS – each kit is a single Element. You can select a preset “kit” element and then edit everything about that kit element including using the board’s own 2 effect processors (REV and INSERTION). But the selection of waves comes as a complete set. This bank contains 8 locations for the user to create their own customized drum elements.

79/1 is a bank specific to the PLG150-PC board. It contains the 80 preset Latin percussion kit Elements from which you can edit each drum via the provided Plug-in Board Editor for PLG150-PC. These Kits can stand on their own, as they are because they use the PLG150-DR’s generous onboard Board effects. This means you can allocate the native Motif effects for other duties.

**WARNING:**

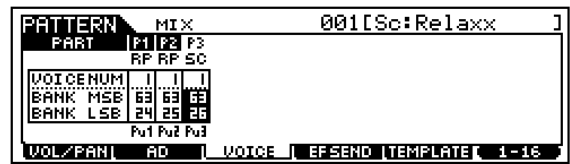
The PLG150-PF, PLG150-DR and PLG150-PC boards are sample playback based and do not have their own RAM bank (samples take up too much RAM for that to be practical). Therefore you cannot, technically speaking, build sounds on them “from scratch” – you can tweak the Elements that are provided. The Voice data of the three “pure” synth boards (AN, DX and VL) is very small compared to sample data. A typical bank of 32 DX Voices, for example, uses about 4Kb of memory. That’s right 4k, kilobytes, for thirty-two sounds. Think about the MB of sample data necessary to do your own sampling. Of course, the Motif is a sampler and you can always create your own custom kits if you want to get involved.

**Assign wisely...**



Here is an example of a bad assignment. Look closely, under the banks you can see that “Pu3” is listed under Slot P1 and 63/26 is wrongly selected, “Pu1” is under slot P2 and 63/24 is wrongly selected, and “Pu2” is under slot P3 and 63/25 is wrongly selected. This is BAD. Nothing will sound. The PU denotes a PLG USER bank. But in the screen shot above, our musician, Homer S., has the USER Voices for the AN board in the slot for the DX board, the DX data is pointing to the VL board and the VL data is pointing to the AN board. This is very

bad and will result in NO SOUND! The AN parameters are meaningless to the DX board. Doh!



In the screen above, Lisa Simpson has correctly aligned the finished (MSB in the sixties) Motif PLUG-IN Voices to the proper boards. Pu1 = P1, Pu2 = P2 and Pu3 = P3. And the MSB/LSB numbers are correctly aligned 63/24, 63/25, and 63/26. This is GOOD and will result in many hours of happy musical enjoyment!

**What if I am using USB MIDI to connect the Motif to an external sequencer?**

The USB (MIDI) connection opens up possibilities and will allow you to break the 16 MIDI channel limit. When you are using its internal sequencer, the Motif is limited to just 16 MIDI channels, one per internal PART. If you are sequencing with a computer sequencer, you may have the option of addressing the Motif on as many as 34 separate MIDI channels (maximum).<sup>6</sup> You can address the PLG150 series boards via the USB **multiple PORT** system. Each MIDI PORT can address 16 MIDI channels.

Therefore, the **internal** Motif sounds can be addressed from your external software on PORT 1 (fixed) and the PLG 150 series boards can be addressed on three separate MIDI channels of PORT 2, for example. Even though the PLG VOICE is on MIDI channel 1 it will not interfere with the internal Motif sound on MIDI channel 1, if they are being addressed on separate PORTS. This way you do not have to layer or replace the sound.<sup>7</sup>

<sup>6</sup> This scenario would be one where you have the 16 Internal parts, plus the 16-part multi-timbral PLG100-XG plus two PLG150 series boards. You can address the Motif via USB’s multi-PORT system.

<sup>7</sup> We have purposefully ignored the PLG100-XG board up until now because you can **only** really make effective use of this MULTI part board through the USB MIDI interface with an external sequencer. It is recommended that you use an external sequencer when trying to take advantage of the additional 16 parts and 32 notes of polyphony.



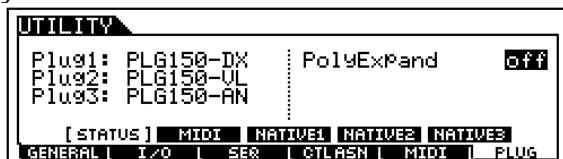


Each PLG board has settings for DEVICE NUMBER, and PORT NUMBER. The Device number will come in handy when you have two or more boards of the same technology. By giving each a unique Device number ID you can address each independently with bulk data – allowing you to load different sounds to each independently. The PORT assignment will allow you to break the 16-channel limit when using an external sequencer. You can configure your external sequencer to address the 16 internal Motif Parts via PORT 1 (fixed) and the PLG Boards can be addressed on separate PORTS, as necessary. In the scenario above, you could set the DX, the VL and the AN to **Port 2**, since each only requires a single MIDI channel (remember the PLG150 series are all **single** part boards). Therefore they would only occupy 1 MIDI channel each on Port 2.

USB supports multiple sets of 16 MIDI channels. Each PORT represents 16 discreet MIDI channels. Your external sequencer will let you assign MIDI channel and PORT assignment **per TRACK**. So once again, it is the track and its MIDI channel assignment that determines what plays what, when.

### Using PLG Voices in PERFORMANCE Mode

Each PLG150 series board is capable of contributing one sound at a time to a Performance. There can be a maximum of four Voices in a Performance. Each PLG board that you have can contribute one Voice



When you are ready to select sounds whether in a MIX or a Performance, you must point DX Voices through the slot containing the DX board, VL Voices through the slot containing the VL board and AN Voices through the slot containing the AN board, etc. This sounds natural and simple enough and what it means is that if you place a Voice that is AN parameters in the PART that has the DX board assigned you will not get any sound. Each board must find the parameters that its technology understands. DX parameters are meaningless when placed in a position where it is looking at an AN board and vice versa. The

nice thing about the 150 series boards is they can go into any slot. But when you get into voicing and programming these unique technologies you will want to come up with a slot scheme that remains consistent. In other words, when you create Voices and save data, it matters where (what slot) the board is placed. Remain consistent. The easiest way: the order in which you purchased them.

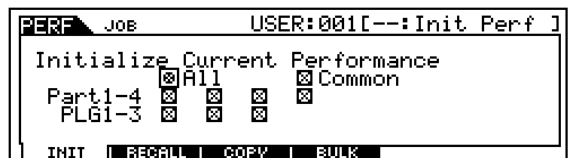
Let's put together a multi-technology Performance.

### Creating a Performance using a PLG board and Native Motif sounds

In our example setup above, the **DX** board is in **slot 1** (hereafter referred to as P1 for Plug-in 1), the **VL** board is P2, and the **AN** board is P3.

When you are going to create a Performance, start by INITIALIZING a location. Any combination of Voices up to four can be selected. Only a single sound from each PLG150 board can be contributed to this Performance. But you could select 1 Internal and 3 PLGs (if you have three PLG boards). Or you could do 2 internals and 2 PLG boards (assuming you have 2 PLG boards) and so on - any combination up to four Voices. Let's learn something new about initializing a Performance.

- Press Performance/ JOB/ F1



The figure shows the selections you can make when you are setting up a Performance.

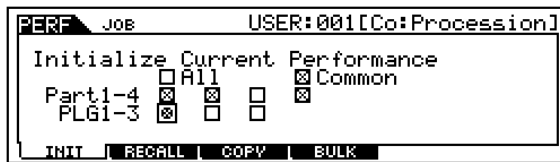
- Press ENTER/ YES to execute.

This creates an INITIALIZED Performance. This is important to do this initialization so that we are not inheriting any data from a previously programmed one<sup>8</sup>. When the ALL box is checked, all parts of the Performance are initialized, and only PART 01 will be assigned. This gives us a Performance temporarily named "INIT PERF" with just one internal sound (PowerGrand) assigned to PART01; all others will be turned OFF. That is the default

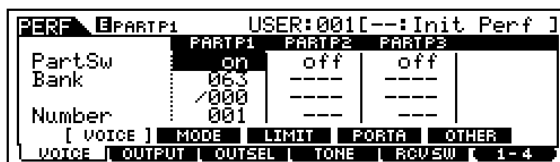
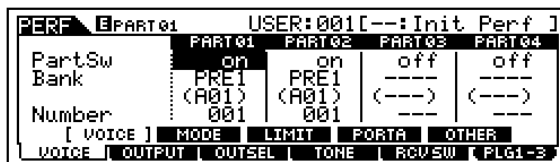
<sup>8</sup> Later when you become comfortable with the PART parameters, you can work with existing Performance data.

INIT. Let's use a shortcut to setting up specific combinations.

After executing the INIT above, clear the ALL box, but place a "X" in the COMMON box and the only the PARTS and PLG SLOTS you are going to use. Let's set up for 2 Internal parts and a DX sound. This would mean 2 "x's" on the PART line and 1 x in the P1 box, as shown:



When you execute this INITIALIZE, it will give us the following setup: (use F6 to toggle).<sup>9</sup>



Of particular importance in the above two screens is the **PART SW** or Part Switch. This is where you can activate or deactivate a Voice in a PERFORMANCE. Notice the difference between the **internals** PART01, PART02, PART03, PART04 and the **Plug-ins** PARTP1, PARTP2 and PARTP3.

- Move the cursor down to the BANK and Select your VOICES. Internal sounds can be selected for Parts01 and 02, while a DX sound can be selected for PartP1. (Remember you cannot select just any sound in any slot, the board must be there to support your selection!)

You will not be able to recall anything but the proper sound through the assigned Part. It is that simple. You cannot recall AN or VL sounds in this PART as long as it is a P1 Part. Knowing where to look and how to set up a Part for a particular slot is worthy of review.

<sup>9</sup> Internal sounds will always be listed before PLG sounds. You can use PART SW as an alternative method in EDIT.

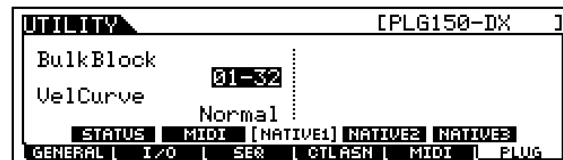
Let's take a look at the individual Parts and the parameters you have available to edit in this multi-technologied Performance. Like most areas of the Motif you have two levels of EDITING: COMMON and in this case PART. The COMMON level, appropriately named, will be parameters that are common to all Voices in the Performance. Things like the name, master EQ, Effects, etc. You reach the COMMON level via a dedicated button (next to the Data Wheel). The Part level will let you address individual Voices within the Performance and you access them via the 1-4 buttons that are sometimes the TRACK buttons. Pressing one of them during EDIT will recall all the data for that individual Voice within this Performance. You toggle to your PLG boards via the F6 button labeled (PLG1-3).

### Splits and Layers

The only difference between a Performance that is a Split and one that is a Layer is the NOTE LIMIT parameter. You can define a region for a Part, which is convenient when you need to isolate a bass sound for left-hand play and a lead sound for right-hand play. These can get as complex as you your imagination.

- Once you have completed you edits you should STORE your work. Then make a backup to either SmartMedia card or to the SCSI drive of your choice. PLG USR Voices will remain in memory but any custom board Voices must be either backed up in the Voice Editor where you created them or to the special "PluginAllBulk" file for the slot containing your PLG150 board. See the Power User articles for details on each individual board.

### Other PLG board considerations

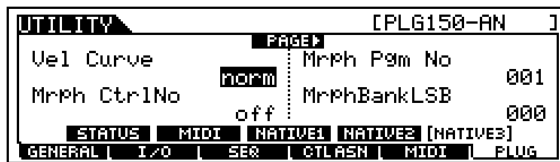


In UTILITY you will find the F6 PLUG function when you add PLG boards to your Motif. The NATIVE parameters refer to those 'native' to the particular type of PLG board you have installed – remember they can be entirely different technologies. In the example, we have been using you can see above parameters concerning the PLG150-DX. Voice data from any original 6-operator FM synth can be bulked into the DX boards USER RAM bank (35/00) in two blocks of 32 sounds. The

Velocity curve can be changed to even mimic the response of an original DX7.



This screen is parameters 'native' to the PLG150-VL technology. The WX LIP mode has to do with how it responds to the WX wind controller, if you were using one of those to play the VL board while in the Motif. The Breath Mode parameter allows you to globally change the assignment for applying "Pressure" to the virtual mouthpiece/bow. This is the function that starts the oscillation of the model (the virtual horn or bowed string). When you use this global Breath Mode setting it will address each individual VL Voice that has been programmed to follow the "SYSTEM" Global settings<sup>10</sup>. Breath Control can be written as controller 02 (BC) or converted to 11 (EXP). Breath Curve controls globally how much resistance there is to your blowing through the mouthpiece of the BC3.



There are several pages of parameters Native to the PLG150-AN board. Including Velocity Curve, and being able to "MORPH" via a controller from the current Voice to your favorite Voice. There are additionally (when you cursor right) four additional Assignable Control Numbers. After all it is analog and the more controllable parameters you have the better. These AC numbers let you apply the Knobs and Pedals of the Motif to any specific parameters within an AN Voice.

Note: When you install the PLG150-DR or the PLG150-PC board, there are no NATIVE parameters. (This is also true of the PLG100-XG/VH). This is normal. The PLG150-PF will let you select from various Velocity response curves.

<sup>10</sup> When programming your own VL controller settings you can store the individual Voice with its Breath Control setting set to SYSTEM. This will allow you to change your mind and reprogram all your VL sounds at once. All those set to SYSTEM will follow the global setting.

### A Word on Storing/Bulking PLG VOICES

Although it may seem hopelessly convoluted the first time you encounter the PLG150 series Plug-in Boards, you will discover that you **can** learn to manage them with success once you understand what is going on. If all the technologies were the same it would, quite naturally, simplify things. But that is not really the goal here. The goal is to make available some of the most exciting synthesis technologies of the past 25 years. And make it available in a format that is not outrageously expensive yet allows the user, in many cases, to edit them and create their own sounds. If you weren't around the first time analog synthesis or FM synthesis roamed the earth you may never truly appreciate them being available here. If you judge the AN board's ability to do pianos or electric piano sounds versus samples and you do this in earnest, then you missed the point. Analog synthesis never could do those sounds well but they had their own charm. The fact that FM could not do convincing acoustic piano sounds is well documented but there are some sounds that nothing but FM synthesis can do. And VL is an acquired taste but nothing on the planet does what VL does. Basically, the Plug-in Voice parameters are backed up, even after power down. What is not backed up are any custom waveform elements you create yourself in any of the "pure synthesis" boards: AN, DX, and VL. And on the 3 AWM2 boards (PF, DR and PC) you select from preset ELEMENTS (the same as you do when you create an internal Motif Voice – in the Motif you select from a list of 1309 preset waveforms). From there you can program them/customize them.

Custom element data for the AN, DX, VL, DR and PC boards must be saved separately in a special "BULK" type file. This can be either in its own EDITOR or you can create a special PluginAllBulk file for the slot you have the board in. This is why a consistent layout of your boards becomes a necessity. As you increase your libraries of sounds for these technologies you will want to be able to take advantage of them quickly without much reconfiguring. When you create your own custom setups for the Motif and your PLG150 Boards you can automate the entire load procedure so that when you power up all your Voice, Performance, Song, Pattern, Plug-in Voice, Custom Plug-in Voice and system data is loaded automatically. This can be accomplished by naming files in a specific fashion. Then you can 'teach' the Motif what folder to look in when you power up. See the Owner's Manual

or the Power User documents on the PLG150 series boards for details on AUTOLOAD. The Voice Editor for Motif 6/7/8 will allow you to manipulate and copy/paste Voices into custom loads.

The Plug-in USER Voice data remains in memory after power down but can be backed up in an 'ALL' (.w2a), 'ALL VOICE' (.w2v), or 'VOICE EDITOR' (.w2e) file type. The Boards that have the ability to create custom element waveforms (AN, DX, VL, DR and PC) will save to SmartMedia card/SCSI drive in a bulk file: (.w2b) and this file is slot specific.

PluginAllBulk1 – slot 1  
PluginAllBulk2 – slot 2  
PluginAllBulk3 – slot 3

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