
OPERATION MANUAL

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WARNING: READ THIS FIRST!

Different countries may require the use of a different AC adapter or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel. To reduce risk of fire or electric shock do not expose this product to rain or moisture.

CAUTION

If the 9101-91**, **PROFORMANCE** is rack mounted, an E-mu 19-inch, two space rack shelf (Model 9104) must be used.

User-Maintenance Instructions

1. The **PROFORMANCE** should be kept clean and dust free. Periodically wipe the unit with a clean, lint free cloth. Do not use solvents or cleaners.
2. There are no user lubrication or adjustment requirements.
3. Refer all other servicing to qualified service personnel.

Instructions pertaining to a risk of fire, electric shock, or injury to persons

Warning: When using electric products, basic precautions should always be followed, including the following:

1. Read all instructions before using the **PROFORMANCE**.
2. To reduce the risk of injury, close supervision is necessary when the **PROFORMANCE** is used near children.
3. Do not use the **PROFORMANCE** near water — for example near a bathtub, washbowl, kitchen sink, or in a wet basement.
4. The **PROFORMANCE** should be located away from heat sources such as radiators, heat registers, fireplaces, stoves, or ovens.

5. The **PROFORMANCE** should only be connected to an AC adapter of the type described in the operating instructions and included with the product.

6. The AC Adapter of the **PROFORMANCE** should be unplugged from the outlet when left unused for a long period of time.

7. Care should be taken so that objects do not fall onto and liquids are not spilled into the enclosure of the **PROFORMANCE**.

8. The **PROFORMANCE** should be serviced by qualified personnel when:

- The AC Adapter, cord or plug has been damaged, or
- Objects have fallen onto, or liquid has been spilled into the **PROFORMANCE**, or
- The **PROFORMANCE** has been exposed to rain, or
- The **PROFORMANCE** does not appear to operate normally or exhibits a marked change in performance, or
- The **PROFORMANCE** has been dropped, or the enclosure damaged.

9. Do not attempt to service the **PROFORMANCE** beyond that described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.

Radio and Television Interference

This equipment generates and uses radio frequency energy. If not installed and used correctly, that is, in strict accordance with the manufacturer's instructions, it may cause interference to radio and television reception. It has been certified to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of

the FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following means:

- Reorient the receiving antenna.
- Relocate the **PROFORMANCE** away from the receiver.
- Relocate the **PROFORMANCE** to a different outlet so that the receiver, drive and instrument are on different branch circuits.
- Install a rooftop antenna with a coaxial cable lead-in between the antenna and receiver.

If necessary, the user should consult E-mu Systems or an experienced radio/television technician for additional suggestions.

You may find the following booklet prepared by the Federal Communications Commission helpful: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U. S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Save These Instructions

INVENTORY

Unpacking the PROFORMANCE

The PROFORMANCE shipping carton should contain the following items:

- This Manual
- The PROFORMANCE Module
- The AC Adapter and Power Cord

If any of the above items are missing, please contact E-mu Customer Service at (408) 438-1921 between the hours of 8:00 AM and 5:00 PM PST.

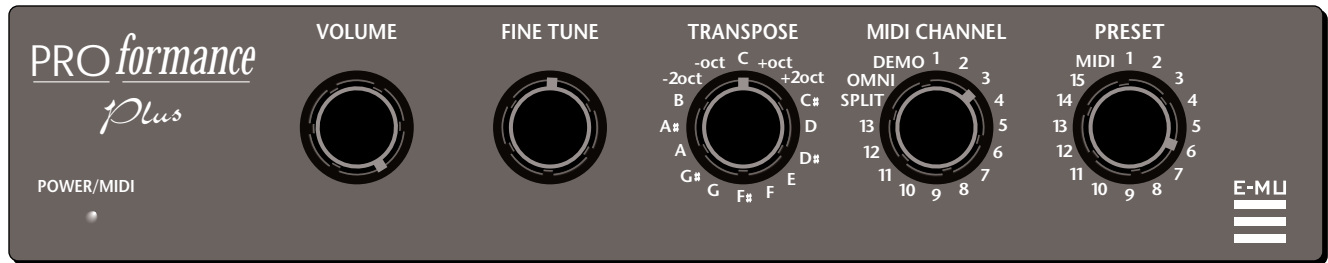
Make sure that the AC adapter that you received uses the correct voltage for your part of the world. The USA uses 110 Volt power, Europe uses 220V, and Japan uses 100V. If you do not have the correct AC Adapter, please contact your dealer.

ALSO...

In addition to the PROFORMANCE and accessories, you will also need the following items:

- A MIDI controller such as a MIDI keyboard, guitar controller, wind controller, personal computer with MIDI interface, etc.
- A MIDI cable.
- A stereo audio amplification system, such as a keyboard amplification system, a home stereo system, or headphones.
- The appropriate audio connection cables for your system.

INTRODUCTION



The **PROFORMANCE/1**, 16-bit True Stereo Piano Module provides you with the rich, true-stereo sound of a concert grand piano at a fraction of the cost of an acoustic piano. Subtle nuances of the hammers, strings and soundboard are all captured with amazing detail.

The **PROFORMANCE/1** sound is exceptionally realistic and convincing because the **PROFORMANCE/1** is based on actual stereo recordings of a real Grand Piano. This is similar to the way a tape recorder works, except that here, the sounds are permanently recorded on digital memory chips and processed using our proprietary custom VLSI (Very Large Scale Integration) technology. As a result, you can now experience the rich sound of a \$18,000 concert grand at a truly affordable price.

Both **PROFORMANCE/1** and **PROFORMANCE/1 +** models feature 16 notes of stereo polyphony and a choice of several different piano sounds. **PROFORMANCE/1** is the only piano module available with true 16-bit architecture *and* stereo samples.

The **PROFORMANCE/1** comes standard with 15 different preset piano sounds. Each one offers you a different sound and feel in order to fit your musical style and mood.

The **PROFORMANCE/1 +** contains grand piano plus the following other instruments: acoustic and electric basses, two electric pianos, tone-wheel organ, and vibes. In addition, the **PROFORMANCE/1 +** has a user-definable keyboard split point, which is used to access two different sounds at once.

CONNECTIONS

POWER

Connect the AC adapter to the 9V AC power jack on the rear of the **PROFORMANCE**.

MIDI IN

The **PROFORMANCE** is controlled by MIDI messages received at the MIDI In connector. Connect the MIDI In of the **PROFORMANCE** to the MIDI Out of a MIDI controller such as a MIDI keyboard, MIDI wind controller, or MIDI guitar controller.

MIDI THRU

The MIDI Thru jack is used to connect additional MIDI devices onto the MIDI chain. MIDI Thru transmits an exact copy of the messages received at the MIDI In jack.

MIDI OUT

Used *ONLY* for MIDI overflow mode. MIDI Out may be connected to the MIDI In jack of another **PROFORMANCE**, which increases the polyphony from 16 to 32 stereo channels.

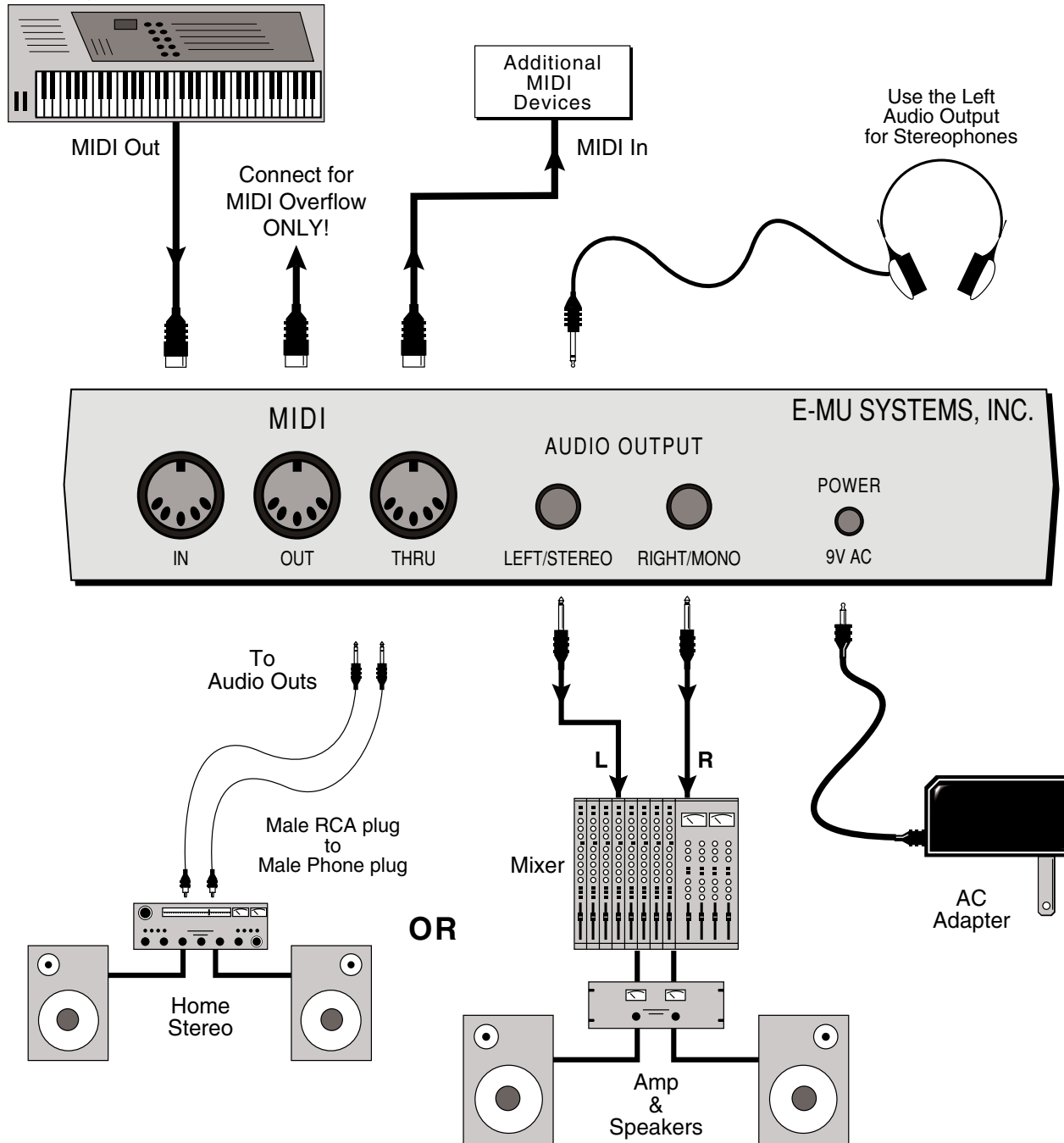
AUDIO OUTPUTS

The **PROFORMANCE** is a high quality, stereo audio device. In order to reproduce its wide dynamic range and frequency response, use a high quality amplification and speaker system such as a keyboard amplifier or home stereo system. Stereo connection is highly recommended because of the added realism provided by stereophonic sound. If you have **PROFORMANCE** connected in mono, you are only using half of the circuitry! Headphones may be used if an amplifier and speaker system is not available. Plug stereo headphones into the Left/Stereo output jack. The Right/Mono output jack serves as a monophonic output when the left jack is not plugged in.

CONNECTION INSTRUCTIONS

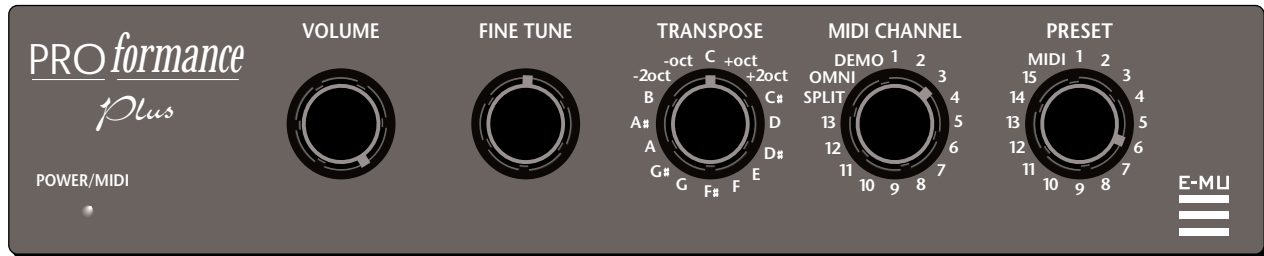
MIDI Controller

(MIDI Keyboard, Sequencer, Computer, etc.)



*This diagram shows a typical equipment setup for the **PROFORMANCE**. Stereo connection is **HIGHLY** recommended!*

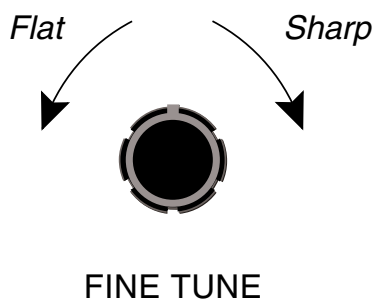
BASIC OPERATION



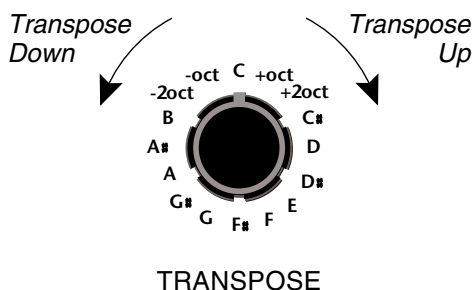
■ **Power/MIDI Activity LED** - Glows green, indicating that power is connected and flashes when MIDI data is being received.



■ **Volume Control** - This is the master volume control. The PROformance has a relatively high output level in order to drive headphones. If you hear the sound start to "break up" or clip, the output level should be reduced using this control.



■ **Fine Tune Control** - This control is used to tune the PROformance to other instruments. With the control set in the center detent position, the PROformance will be precisely tuned to concert pitch (A=440 Hz). Tuning the control clockwise raises the pitch and turning it counterclockwise lowers the pitch. The range of this control is $\pm 1/2$ semitone, with a resolution of 1 cent (1/100 semitone).



■ **Transpose Selector** - Transposes the PROformance up or down one octave in semitone increments. It also has settings to transpose ± 1 or 2 octaves. Transpose selections are referenced to C on the musical scale. With the control set straight up at C, there is no transposition. The two positions on either side give 1 and 2 octave transpositions. As the knob is rotated *clockwise*, transpose is shifted *up* in semitone steps from C# up to B. When the knob is rotated *counterclockwise*, transpose is shifted *down* in semitone steps from B down to C#.

BASIC OPERATION

■ **MIDI Channel Selector** - This control selects the MIDI channel number in Poly mode, and also selects Omni mode, the Keyboard Split Point (+ *unit only*) or the Demo Sequence.

● When a MIDI channel number is selected, the **PROFORMANCE** is automatically placed in *Poly Mode* and will only respond to information on the selected MIDI channel.

● Selecting *Omni* places the **PROFORMANCE** in Omni mode so that it responds to any and all MIDI channels.

● The *Split* function pertains to the **PROFORMANCE** + only. On the 'plus', certain presets have been programmed with a split keyboard so that two sections of the keyboard play a different sound. The split point can be user-defined.

To define the point at which the keyboard is divided:

1. Set the selector to *Split*.
2. Play a key on the keyboard (the last note you play will be used).
3. Move the selector out of the *Split* mode.

Any "Split" presets will now be divided at the selected split point. If no split point is defined, the factory setting of G2 will be used. **The split point is *not* retained upon power down.**

● About two seconds after selecting *Demo*, the demo sequence will begin playing. Turning the knob to another position stops the sequence.

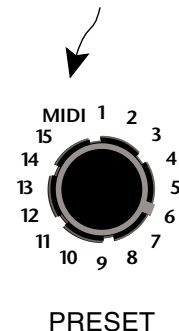
■ **Preset Selector** - This control allows you to select one of the 15 presets (sounds). When this control is set to the "MIDI" position the preset numbers are accessed via MIDI program change command. The **PROFORMANCE** + model has an additional 17 presets which are available over MIDI. As on many other devices, the **PROFORMANCE** preset numbers are offset by +1 from the MIDI preset numbers. Therefore, MIDI preset change #0 equals preset #1 on **PROFORMANCE**.

■ For more information on the various MIDI modes, see *Introduction to MIDI*, on page 19 of this manual.



▼ When using the *Split* function **and** *Overflow* mode, you must select the split point on both **PROFORMANCE** units.

Responds to Preset Changes over MIDI



MAKE MUSIC

If you have your AC power adapter, audio and MIDI cords hooked up, it's time to start playing. The green LED on the front of the **PROFORMANCE** should be lit, and it should flash when you play your MIDI keyboard (or other MIDI controller).

■ Turn the MIDI channel selector to *Omni* mode. This mode is the easiest to use while getting started.

■ Set the volume control on **PROFORMANCE** to full. Set your amplifier (stereo or mixer) to low volume and slowly turn it up while you play your MIDI controller. You should now be hearing music.

If you still aren't getting sound, consult the following chart:

PROBLEM SOLVER

- | | |
|---|--|
| ● The green LED on the front panel is not lit. | ✓ Check the AC power adapter. Make sure it is plugged in correctly and that it is of the proper voltage for your part of the world. |
| ● The green LED is lit, but doesn't flash when notes are played. | ✓ Check the MIDI cable and make sure that your MIDI keyboard (controller) is turned on. |
| ● The green LED flashes, but the PROFORMANCE does not make any sound. | ✓ Check the audio connections. Play the demo sequence and use a pair of headphones to verify that the PROFORMANCE is playing. |
| ● The demo plays, and the green light flashes, but the PROFORMANCE doesn't play from the keyboard. | ✓ Set the PROFORMANCE to Omni mode, and try again. |
| ● Wavering notes. | ✓ Turn down the Modulation Wheel on the keyboard. |

PROFORMANCE PRESETS

PRESETS (Standard Unit)

- | | |
|-----------------------------|--|
| 1. Dark Grand | Medium touch sensitivity and dynamic tonal response, perfect for solo pieces. |
| 2. Classic Grand | Medium touch sensitivity and brighter overall tone make this piano ideal for ensembles or concertos. |
| 3. Mellow Ivory | Medium touch sensitivity and overall dark tone creates very soft moods and textures. |
| 4. Rock Piano | Medium touch sensitivity and bright timbres allow the piano to cut through a mix without EQ. |
| 5. Honky Tonk | Very detuned and bright, good for ragtime. |
| 6. Mellow Chorus | Same as preset #3, detuned. |
| 7. Modern Rock | A bright, slightly detuned piano. |
| 8. Dark Touch | Same as preset #1, but with more touch sensitivity. |
| 9. Rock Touch | Same as preset #4, but with more touch sensitivity. |
| 10. Mellow Touch | Same as preset #3, but with more touch sensitivity. |
| 11. Classic Touch | Same as preset #2, but with more touch sensitivity. |
| 12. Dark Patterns | Same as preset #1, but with less touch sensitivity. |
| 13. Rock Patterns | Same as preset #4, but with less touch sensitivity. |
| 14. Mellow Patterns | Same as preset #3, but with less touch sensitivity. |
| 15. Classic Patterns | Same as preset #2, but with less touch sensitivity. |

PROFORMANCE + PRESETS

In addition to the grand piano sounds, the **PROFORMANCE +** contains samples of electric piano, electric and acoustic bass, vibes, and organ for a total of 32 presets. Presets 16 - 32 can be accessed *only* via a MIDI program change command.

+ PRESETS

1. **Dark Grand** Medium touch sensitivity and dynamic tonal response, perfect for solo pieces.
2. **Classic Grand** Medium touch sensitivity and brighter overall tone make this piano ideal for ensembles or concertos.
3. **Mellow Ivory** Medium touch sensitivity and overall dark tone creates very soft moods and textures.
4. **Rock Piano** Medium touch sensitivity and bright timbres allow the piano to cut through a mix without EQ.
5. **Warm Electric Piano** A rich dark sound, great for solo playing.
6. **Studio Electric Piano** A lighter electric piano sound.
7. **Electric Organ** This is a straight Hammond B3 sample.
8. **Rock Organ** This organ has a full, rich sound.
9. **Straight Vibes** Vibraphone samples with velocity-to-mallet, and tremolo on the modulation wheel.
10. **Bright Vibes** Vibes plus digital waveforms, mod. wheel tremolo.
11. **Acoustic Bass/Piano** Split preset.
12. **Electric Bass/Organ** Split preset.
13. **Synth Tines** An 8-voice digital Electric Piano

PROFORMANCE + PRESETS

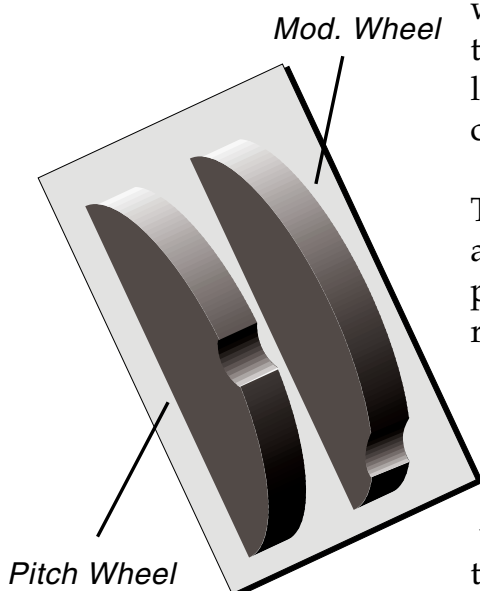
+ PRESETS (cont)

- | | |
|---------------------------------------|---|
| 14. Piano Bell | An 8-voice, electronic synth keyboard patch. |
| 15. Acou. Bass/Elec. Piano | Split preset. |
| 16. Acoustic Bass/Vibes | Split preset. |
| 17. ElectricBass/Piano | Split preset. |
| 18. Honky Tonk | Very detuned and bright, good for ragtime. |
| 19. Acoustic Bass/Organ | Split preset. |
| 20. Elec. Bass/Elec. Piano | Split preset. |
| 21. Exceptionally Bright Piano | Lots of high frequency. |
| 22. Mellow Chorus | Same as preset #3, detuned. |
| 23. Ice Keys | High harmonic digital waveforms. An 8-voice sound. |
| 24. Modern Rock | A bright, slightly detuned piano. |
| 25. Dark Touch | Same as preset #1, but with more touch sensitivity. |
| 26. Rock Touch | Same as preset #4, but with more touch sensitivity. |
| 27. Mellow Touch | Same as preset #3, but with more touch sensitivity. |
| 28. Classic Touch | Same as preset #2, but with more touch sensitivity. |
| 29. Mellow Patterns | Same as preset #3, but with less touch sensitivity. |
| 30. Rock Patterns | Same as preset #4, but with less touch sensitivity. |
| 31. Dark Patterns | Same as preset #1, but with less touch sensitivity. |
| 32. Classic Patterns | Same as preset #2, but with less touch sensitivity. |

PROFORMANCE CONTROLS

■ CONTROL WHEELS

Your MIDI keyboard will probably have a pair of control wheels (or levers) located on the left side of the unit. The left wheel or lever is usually spring loaded and is normally used to control pitch. The right wheel or lever is usually not spring loaded and is a general purpose wheel normally used to control modulation amount.



Your MIDI keyboard controller may have two or more control wheels.

The *Left Wheel* is programmed to be a pitch bender and allows you to bend notes up and down. This wheel bends the pitch up when pushed forward, down when pulled back and returns to normal tuning when the wheel is centered.

The *Right Wheel* is programmed to control the amount of modulation applied to the sound. This modulation may be different for each preset and can take the form of vibrato, tremolo, or chorusing. With the right wheel all the way toward you (down), there is no modulation. As the wheel is pushed forward, more modulation is added. The modulation amount is assigned to MIDI continuous controller #1.

- Vibrato is a cyclic change in pitch.
- Tremolo is a cyclic change in amplitude.
- Chorusing is a voice doubling effect created by detuning the two sides of the stereo sound and slightly modulating the pitch.

■ MIDI VOLUME CONTROL

Your MIDI keyboard may have a provision for a MIDI volume control. This may be a control mounted on the keyboard itself, or it may be controlled via a footpedal. In any case, the volume of **PROFORMANCE** can be controlled from your MIDI controller if it sends this information on MIDI continuous controller channel #7. Consult the operation manual of your MIDI controller to find out if it transmits MIDI Volume information. For more information on MIDI, see page 19 in this manual.

PROFORMANCE CONTROLS

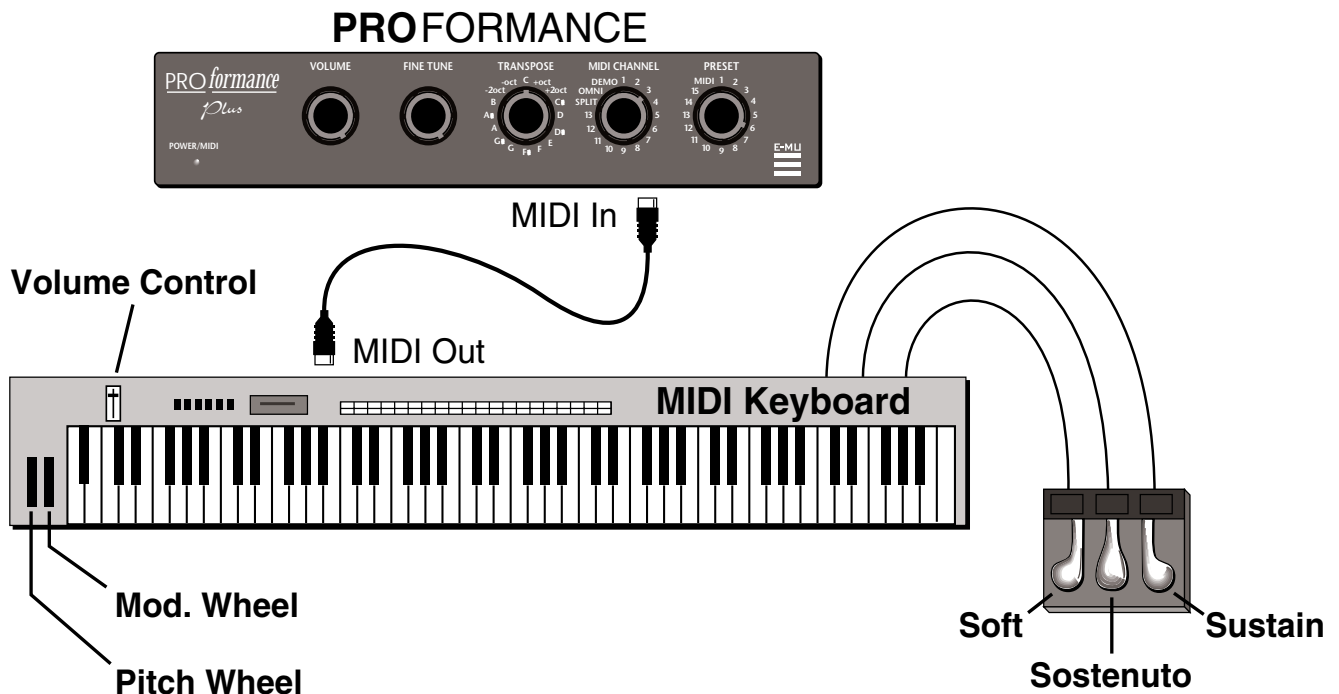
■ CONTROL FOOTSWITCHES

Your MIDI keyboard may also have footswitches which can control the following functions on the **PROFORMANCE**.

- **Sustain**- Sustains all notes played while the footswitch is depressed. Assigned to MIDI controller #64
- **Sostenuto**- Sustains all notes which are being held at the time of the footswitch depression, but all subsequent notes played will decay normally. Assigned to MIDI controller #66.
- **Soft** - Slightly mutes the volume and tone of all notes played after the footswitch is depressed. Assigned to MIDI controller #67.
- **Split Point** - On the **PROFORMANCE +**, the last note played while the footswitch is held defines the split point.

PROFORMANCE MIDI Controllers

Controller	MIDI #
Pitch Wheel	PWH
Mod. Wheel	#1
Volume	#7
Sustain	#64
Sostenuto	#66
Soft	#67
Split Point (Plus Only)	#70



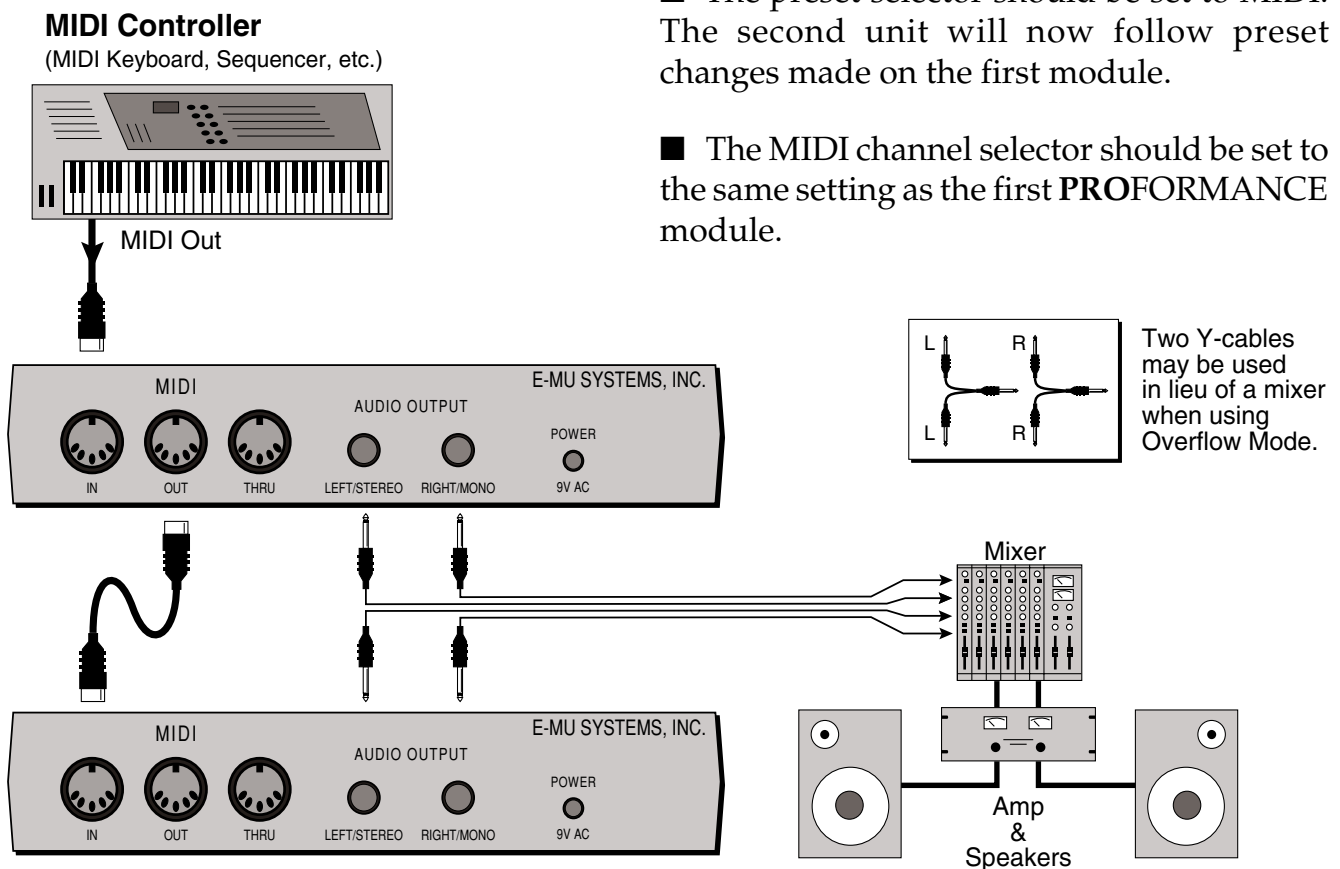
In most cases, your MIDI keyboard will probably already be set up to transmit the proper controller messages. If a particular controller does not seem to work, consult the MIDI implementation chart for your MIDI keyboard.

OVERFLOW MODE

■ OVERFLOW MODE

Two **PROFORMANCE** modules may be connected together as shown in the following diagram in order to double the polyphony. A single **PROFORMANCE** module is capable of playing a maximum of 16 notes simultaneously.

When a second **PROFORMANCE** module is connected to the MIDI Out of the first, the first **PROFORMANCE** puts itself into *Overflow* mode. When the first **PROFORMANCE** runs out of notes, any additional notes played are directed to the MIDI Out port and on to the second **PROFORMANCE** module. The second **PROFORMANCE** module should be set up as follows:



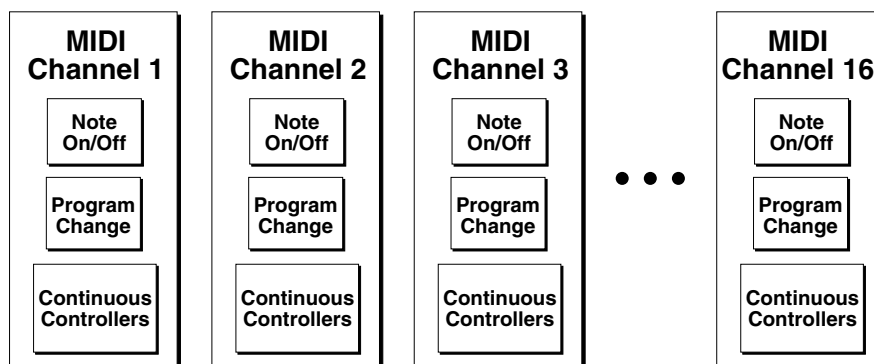
Two **PROFORMANCE** modules may be linked via Overflow mode to provide 32 note polyphony.

INTRODUCTION TO MIDI

MIDI, or Musical Instrument Digital Interface, is a link between musical instruments which allows various types of musical equipment to be connected together. The MIDI cable transmits information about the status of one instrument to another. For example, when you press a key on your MIDI keyboard, a message is transmitted which tells the instrument at the other end of the cable to play that note. When you release the key, a message is transmitted which tells the instrument to *stop* playing that note.

At its simplest level, MIDI uses 3 basic types of messages: *note on/off*, *program change*, and *continuous controller* messages.

- **Note On/Off** messages tell the instrument which notes to play. This message also includes information on *how hard* the note was played (velocity).
- **Program Change** messages tell the instrument to change its program or sound.
- **Continuous Controller** messages tell the instrument to change a parameter, such as the volume.



The messages described above are called *Channel Messages*. MIDI contains 16 MIDI channels which are comparable to the channels on your television. You can tune-in to a particular channel and ignore information coming in on another channel. Unlike your TV, some MIDI instruments have the ability to listen to multiple channels at once. Each of the sixteen MIDI channels can carry its own *note on/off*, *program change* and *continuous controller* messages.

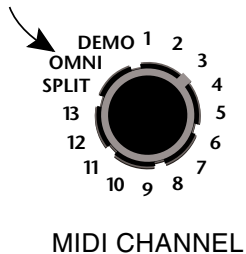
INTRODUCTION TO MIDI

Continuous Controllers

There are many specific continuous controllers for each MIDI channel. A continuous controller is a knob or wheel that can be continuously adjusted, as opposed to a switch that can be turned on or off. Some controllers such as the pitch wheel, modulation wheel and volume, have standardized controller numbers. For example, volume is usually sent on continuous controller #7. The **PROFORMANCE** will only respond to volume information if your MIDI keyboard transmits volume information on continuous controller #7.

MIDI Modes

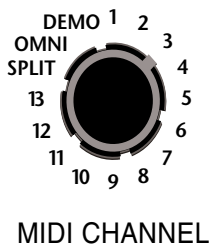
There are 4 different MIDI modes which can be used for different applications. (Only two of the modes, Omni and Poly, are used on the **PROFORMANCE**.) The four MIDI modes currently in use are described below.



MIDI CHANNEL

Omni Mode - This is the simplest and easiest to use MIDI mode. A synth in Omni mode transmits on channel 1 and receives on *all* MIDI channels simultaneously. This mode is useful when you simply want to connect two pieces of gear together. Connect MIDI Out to MIDI In and away you go.

Mono Mode - When an instrument is in mono mode, it can only play one note per MIDI channel. This mode is sometimes useful with MIDI guitar and wind controllers.



MIDI CHANNEL

Poly Mode - Poly mode uses any one of the sixteen channels. In poly mode, only one channel can be received. The advantage of using poly mode is that each channel is kept separate from the others. Using poly mode, you could have 16 independent musical lines playing on 16 different synthesizers at the same time!

Multi Mode - This mode is used on multi-timbral instruments which can listen to more than one of the 16 MIDI channels simultaneously and can play a separate sound on each channel.

MIDI IMPLEMENTATION CHART

The MIDI implementation chart is designed to show a particular instrument's MIDI parameters at a glance. This chart shows the MIDI parameters transmitted and received by the **PROFORMANCE**. Check the MIDI implementation chart for your MIDI controller to see which parameters it transmits.

MIDI Command	Transmitted	Received	Comments
Note On	No	Yes	
Note Off	No	Yes	
Pitch Wheel	No	Yes	
Program Change	No	Yes	0-14, <i>Plus</i> = 0-31
Overflow Mode	Yes	Yes	
Channel Pressure	No	No	
Poly Key Pressure	No	No	
Control Change	No	Yes	PWH, #1, #7
Sustain Footswitch	No	Yes	#64
Sostenuto Footswitch	No	Yes	#66
Soft Footswitch	No	Yes	#67
Split Footswitch	No	Yes	#70 †
All Notes Off	No	Yes	
Omni Mode	No	No	Ignores Mode Δ *
Poly Mode	No	No	Ignores Mode Δ *
Mono Mode	No	No	Ignores Mode Δ *
System Exclusives	No	No	

† *On plus unit only. Works exactly like front panel split function.*

* *Turns all notes off.*



**WORLD HEADQUARTERS
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