QUICK START

Reading the owner's manual is an absolute unmitigated drag. I mean it's for wimps. For the non-wimps in the crowd we offer this Quick Start section, so you don't embarrass yourself in front of your friends.

Upon initial power-up, you should see the words, "Rane MPE 47 . . . r1.0" (the current revision level) scroll by in the SYSTEM display window. Then the SYSTEM display indicates the last memory location used before the power was turned off, and the green MEMORY indicator lights. The MPE 47 is now ready to use.

(The MPE 47 has two levels of security lockout. If you think your unit may be in either of these lockout modes, please consult the enclosed MPE Users Guide for further instructions.)

Two terms need to be learned early on. The first is Stored Memory. Stored Memory is any of the 128 locations provided for curves. The second is Working Memory. Working Memory is a scratch-pad location used for changing curves before you put them into Stored Memory. Working Memory is also what you hear.

The first few Stored Memory locations (up to 32 maximum) were preset at the factory. In the beginning these may be used to give you instant curves for experimenting. If you want a different curve, press the UP/DOWN buttons to scroll, or directly enter a Stored Memory number via buttons 0 through 9 (observe the red SYSTEM display). Please note that all Stored Memory numbers must be at least two digits; e.g., Stored Memory number 4 is entered as 04, etc. For direct access to Stored Memory locations above 99, push the 100 button, then the next two digits. For example, to recall Stored Memory 125, press 100, 2 and 5, and you will have arrived! Once the last digit is entered, the Stored Memory is instantly called up (what you see is what you hear).

Changing the overall level or equalizer curve of either channel requires the use of the EQ Edit mode. Push the EQ button (repeated operation cycles between Ch.s 1-2, Ch.s 3-4, and neither) to select the channels you wish to modify. Now press LEVEL (repeated operation cycles between 1 and 2, or 3 and 4) or press the frequency button desired (the yellow LED lights). Next scroll the UP/DOWN buttons until the desired level shows on the green EQUALIZER display. When finished editing, push the STORE button once, enter a new Stored Memory number if needed, then push STORE again to place the new curve into the Stored Memory location shown on the red SYSTEM display. Presto facto, it's Miller time. Please see the enclosed MPE Users Guide for further details.

SOFTWARE UPDATES

Please till out and mail in the enclosed registration card. Notification of any software revisions will be mailed to all registered users. Failure to register could result in missing important update information.

SYSTEM CONNECTION

When connecting the MPE 47 to other components in your system for the first time, LEAVE THE POWER SUPPLY FOR LAST. This will give you a chance to make mistakes and correct them before any damage is done to your fragile speakers, ears, headphones, et al.

INPUTS. Inputs on the MPE 47 are balanced/unbalanced. This means that standard 1/4" connectors on the ends of any good quality cable will work well between your signal sources, signal processing and amplification. If balanced 1/4" inputs are your choice, use Tip - Ring - Sleeve connectors; wire the tip as hot, the ring as return (-) and the sleeve as signal ground. Use 1/4" mono connectors for unbalanced sources.

OUTPUTS. The MPE 47 offers unbalanced (only) output connectors. Use standard 1/4" mono shielded cable for interconnect.

You should be aware, also, that just because we indicate that a sleeve on a 1/4" is used for grounding, it is not always wise to use it. Rane Note 110 (included with your unit) goes into the reasons and logic behind all of this madness. Please have a look at it to attain the best performance possible from your MPE 47.

Front Panel Description
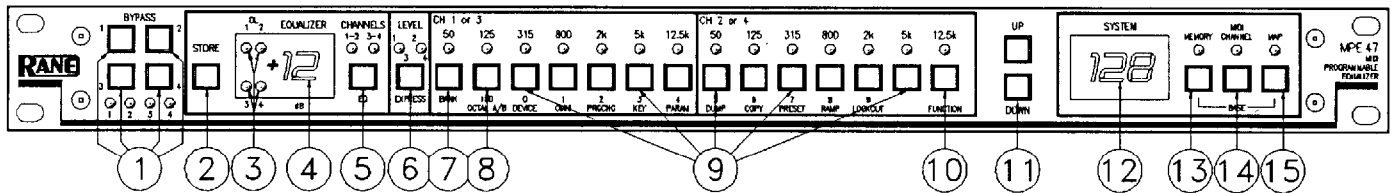
1. BYPASS 1, 2, 3 & 4. Pressing any button toggles between Bypass and Active modes (LED on = Bypass).

2. STORE. Pressing this control transfers the contents of Working Memory into Stored Memory at a location selected by either the number keys or the UP/DOWN buttons. Pressing STORE once prompts the user for the Stored Memory location; pressing it again writes the information to Stored Memory.

3. OL 1, 2, 3 & 4. Ch.'s 1, 2, 3 & 4 overload (OL) indicators. These red LEDs illuminate any time the inputs, filters or outputs of the channels reach 4 dB below clipping.

4. EQUALIZER Display. This numeric green LED display indicates the boost/cut level of an individual filter, or the overall level, whichever is selected (LED on). The MPE 47 must be in the EQ Edit mode to activate this display.

5. EQ. Pressing this button once places the MPE 47 in the Channels 1-2 EQ Edit mode (CHANNELS 1-2 LED on); a second depression enters the Channel's 3-4 EQ Edit mode (CHANNELS 3-4 LED on); and a third time takes the MPE 47 out of the EQ Edit mode (both LEDs off).

6. LEVEL/ EXPRESS. In the EQ Edit mode, this button allows setting the overall level of either channel. When not in the EQ Edit mode, this button sets Expression parameters. Expression is a mode that allows an EQ curve to "bend" (change) based on MIDI continuous controller or channel pressure aftertouch commands. Please see the MPE Users Guide for further information.

7. 50Hz/BANK. In the EQ Edit mode, this button selects the 50 Hz filter. In the Normal Operating mode, pressing this control locks the MPE to the current bank; something similiar to a "tens hold" function. When using the octal numerical base system of notation instead of the decimal numerical base system of notation (explained in the MPE Users Guide) it has a similar function.

8. 125Hz/100/OCTAL A/B. In the EQ Edit mode, this button selects the 125 Hz filter. In the Normal Operating mode this gets you directly to the 100s, or switches between A/B banks when using the octal numerical base system of notation.

9. Filters/Numerals. In the EQ Edit mode, these buttons select the filters associated with their labels. In the Normal Operating mode they allow direct access number entry for Stored Memory selection. They also select several "secret" features when used with the FUNCTION button. To find out more about their other uses, please see the MPE Users Guide.

10. 12.5kHz/FUNCTION. In the EQ Edit mode, this button selects the 12.5 kHz filter. In the Normal Operating mode it acts as a shift-key to select secondary functions. Again we must reference the MPE Users Guide for details. Sorry.

**11. UP & DOWN.** Used to increase or decrease parameters in all operating modes.

12. SYSTEM Display. This red digital display indicates system information, such as Stored Memory locations, MIDI Channel selection, mapping assignments, lockout codes, Factory preset numbers, ramp step size, revision number, and so on.

13. MEMORY. Used to enter the Normal Operating mode. A flashing LED indicates Working Memory differs from Stored Memory. When in the EQ Edit mode, all changes to the Working Memory are compared with the Stored Memory version by simply pressing and holding the MEMORY button. What is heard is the Stored Memory curve; releasing the MEMORY button allows you to hear edited Working Memory.

14. MIDI CHANNEL. Pressing this button displays the current MIDI Channel assignment for this MPE. Flashing indicates MIDI OMNI mode is on. Change the MIDI Channel by using the UP/DOWN buttons, or number keys. Pressing this button again returns the unit to Normal Operating mode.

15. MAP. Used for MIDI Mapping covered in the MPE Users Guide.

Rear Panel Description
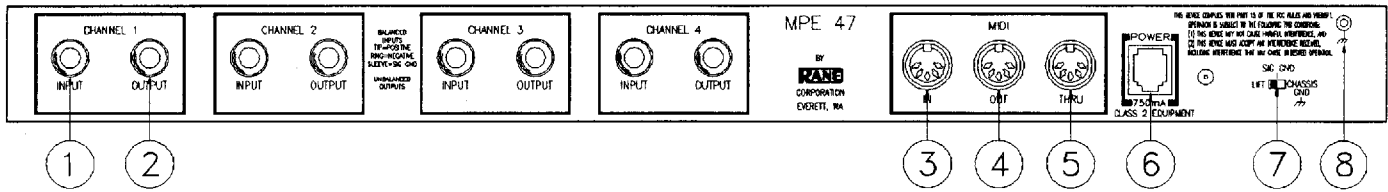
1. **1/4" CHANNEL INPUT.** This is a tip-ring-sleeve (TRS) balanced input connector. Tip is (+), ring is (-), and sleeve is ground. For unbalanced operation, use either a mono or stereo TRS plug. If using a stereo plug, short the ring to the sleeve.

2. **1/4" CHANNEL OUTPUT.** This is a mono tip-sleeve (TS) unbalanced output connector. Tip is (+) and sleeve is ground. Use either a mono or stereo cable. When using a stereo TRS plug, connect your hot lead to the tip, ground to the sleeve and leave the ring open.

3. **MIDI IN.** This connector allows the MPE 47 to respond to external MIDI control.

4. **MIDI OUT.** This connector drives the input of another MIDI device.

5. **MIDI THRU.** This output contains all the MIDI information exactly as it comes into the MIDI input. None of the controls on the MPE 47 have any effect on this output. Normally used for daisychaining purposes.

6. **Remote Power Supply Input.** USE ONLY A RANE MODEL RS 1 OR OTHER REMOTE AC POWER SUPPLY APPROVED BY RANE. The MPE 47 is supplied with a remote power supply suitable for connection to this input jack. Consult the factory for replacement or substitution.

7. **GROUND LIFT Switch.** This switch gives the user the option to tie signal ground to chassis ground. Typically, a system is quieter in the LIFT position. See CHASSIS GROUNDING note on last page for details.

8. **Chassis Ground Point.** A 6-32 threaded hole used for chassis grounding purposes. See CHASSIS GROUNDING note on last page for details.

OPERATING INSTRUCTIONS

THE BASICS. Don't be intimidated by the fact that the MPE 47 is a programmable equalizer with a lot of buttons on the front and none of the familiar slide controls and rotary pots and such. The product is very straightforward and following the steps below should get you started.

ALWAYS THINK FOUR. The MPE 47 has four independent channels. You can set up separate EQ curves for each channel; however when it comes to memory operations all four channels are affected together. There are 128 possible memory locations TOTAL, not 128 locations for each channel. Each Stored Memory location is split into 4 pieces — one for each channel. The MPE 47 stores four channels at a time, You cannot store one channel without the others. If you edit one channel and store it, you also store the other 3 channels with it. They are not changed, but they are stored with the new changed channel. When you recall a Preset Curve, you recall four preset curves. They may be different, but they are all recalled at once. When you use Curve Weighting, you are using four curves to weight four channels at one time. Just remember that anything you do with memory, you do to all four channels at a time.

EDITING CURVES. Changing the overall level or equalizer curve of any of the channels requires the use of the EQ Edit mode. To edit any curve push the EQ button (repeated operation cycles between Ch.'s 1 & 2, Ch.'s 3 & 4, and neither) to select the channels you wish to modify. Now press LEVEL or any of the 7 frequency buttons (the

yellow LED lights to acknowledge selection). Next scroll the UP/DOWN buttons until the desired level shows on the green EQUALIZER display. When finished editing all four channels, push the STORE button once. The number in the SYSTEM display starts blinking to remind you to select a location, or to use the current one. Enter a new number if needed, then push STORE again to place the four new curves into the Stored Memory location shown. The MPE Users Guide should be consulted for further details.

STORING CURVES. Four curves (one for each channel) are stored in any of the 128 memory locations at one time. Once stored, this location is referred to as the Stored Memory location. To begin the process, press STORE once. This causes the SYSTEM display to begin blinking the current Stored Memory location number. If you want to store your Working Memory curves into this location, press STORE again and your wish shall be granted. If not, select another Stored Memory location using the number keys or the UP/DOWN buttons. When the correct location is displayed, press STORE again. The four curves in the selected location have now been replaced with the four curves of the current Working Memory.

COMPARING CURVES. A most useful feature is the ability to compare the changes you have just made with what is in the Stored Memory location. The MPE 47 makes this easy by using the MEMORY button when in the EQ Edit mode. All changes to the Working Memory are

compared with the Stored Memory by pressing and holding the MEMORY button. The letter C appears on the EQUALIZER display indicating a compare function is being performed. While the MEMORY button is held, what is heard is the Stored Memory curve; releasing the MEMORY button allows you to hear the edited Working Memory version.

USING STORED CURVES. To use any of the curves in Stored Memory, all you do is show the Stored Memory location on the red SYSTEM display. Whatever number shows is the label of the Stored Memory location for the current Working Memory.

Working Memory is the scratch pad where you work. You can think of it as the 129th memory location (like the 19th hole in golf), except you cannot actually store anything here — only operate on it, or listen to it. When a Stored Memory location shows up on the SYSTEM display, the curves are actually in two locations: safely stored at the memory location shown and in the Working Memory scratch pad, ready for you to change if you want. You can do anything you want to the Working Memory without altering the original stored version. When complete, you must store these new versions either in place of the old curves, or into a new location. This is the significance of the MEMORY light blinking. Once you do anything to the original curves, the MEMORY light starts blinking to remind you that you have changed them.

If you want a different curve, press the UP/DOWN buttons to scroll, or directly enter a number via buttons 0 through 9 (observe the red SYSTEM display). Please note that all Stored Memory numbers must be at least two digits; e.g., Stored Memory number 4 is entered as 04, etc. For direct access to Stored Memory locations above 99, push the 100 button, then the next two digits. For example, to recall stored memory 125, press 100, 2 and 5. Once the last digit is entered, the program is instantly called up (what you see is what you hear). What could be simpler?

BYPASS MODE. Pressing either BYPASS 1,2,3 or 4 causes all audio in the selected channel to be routed around the equalizer electronics. Please note that a bypassed condition cannot be stored. If recalling a flat curve is required, simply store a program in which all filter and level controls are set to zero.

MIDI CHANNEL. Pressing the CHANNEL button displays the currently assigned MIDI Channel. Pressing UP/DOWN increases or decreases the MIDI Channel number. You may select from 1 through 16, or Off.

OTHER FEATURES. To say the MPE 47 does a lot more than explained in this brief space is like saying a personal computer makes a good paperweight. Please read the MPE Users Guide for a more in-depth look at your MPE 47.

POWER SUPPLY. As noted elsewhere in this manual, NEVER USE A POWER SUPPLY WITH YOUR MPE 47 OTHER THAN THE ONE SUPPLIED FROM THE FACTORY OR AN EXACT REPLACEMENT OBTAINED FROM RANE CORPORATION. The MPE 47's power supply input is designed for an AC supply, delivering 18-24 volts, from a center-tapped transformer capable of supplying at least the current demanded by this product. Using any other type of supply may damage the equalizer and void the warranty (which at two years parts and labor is worth safeguarding, don't you think?).

Additional information, application hints and full technical specifications will be found on the enclosed MPE 47 Data Sheet.

IMPORTANT NOTE

FCC & VDE NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules, and similar requirements found in European specifications VDE 0871/0875. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. USE OF SHIELDED MIDI CABLES IS REQUIRED FOR FCC COMPLIANCE.

CHASSIS GROUNDING

The unit is shipped with its Ground Lift switch in the CHASSIS GND position. This ties signal ground to chassis ground. If after hooking up your system it exhibits excessive hum or buzzing, there is an incompatibility in the grounding configuration between units. Here are some things to try:

1. Try combinations of lifting grounds on units supplied with ground lift switches (or links).
2. Verify all chassis are tied to a good earth ground.
3. Units with outboard power supplies do NOT ground the chassis through the line cord. Make sure these units are solidly grounded by tying the Chassis Ground Point to known earth ground. Use a star washer to guarantee proper contact.

RANE CORPORATION   MPE 47   MIDI Implementation Chart   Date: SEPTEMBER 1989
MIDI Programmable Equalizer   Version: 1.0

FUNCTION		Transmitted	Recognized	Remarks
Basic Channel	Default	1	1	
	Changed	1—16	1—16	
Mode	Default			OMNI ON/OFF IS SELECTABLE ON UNIT
	Messages	X	X	
	Altered			
Note Number	True Voice	X	X	
Velocity	Note ON	X	X	
	Note OFF	X	X	
After Touch	Key's	X	X	ASSIGNABLE AS "EXPRESSION" CONTROLLER.
	Ch's	X	O	
Pitch Bender		X	X	
Control Change	0—120	X	O	A SINGLE (OR ALL) CONTINUOUS CONTROLLER(S) ARE ASSIGNED AS THE "EXPRESSION" CONTROLLER. ALL CONTROLLERS ARE TREATED AS SINGLE—BYTE
	121	X	O	RESET ALL CONTROLLERS.
Prog Change		0—127	0—127	ON BOARD MAPPER. OCTAL/DECIMAL FORMAT SELECTABLE
	True #		1—128 or A11—B88	
System Exclusive		O	O	PROTOCOL DEFINED IN SEPARATE DOCUMENT
System Common	:Songs Pos	X	X	
	:Song Sel	X	X	
	:Tune	X	X	
System Real Time	:Clock	X	X	
	:Commands	X	X	
Aux Messages	:Local ON/OFF	X	X	
	:All Notes Off	X	X	
	:Active Sense	X	— X	
	:Reset	X	O	SYSTEM RESET
Notes		"EXPRESSION" IS A MODE OF THE MPE 47 THAT ALLOWS AN EQ CURVE TO "BEND" BASED ON CONTINUOUS CONTROLLER OR CHANNEL PRESSURE AFTERTOUCH DATA.		

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   O :YES
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO   X :NO