

# Matrix-1000

## OWNER'S MANUAL

**Oberheim.**



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**Matrix-1000**

**Analog Sound Module**

**OWNER'S MANUAL**

**Second Edition - July, 1988**

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**Oberheim**

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**Oberheim Part No. 950071**

805-0024

**CAUTION:**

To prevent fire or shock hazard, do not expose this appliance to rain or moisture. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

**WARNING:**

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Congratulations on your purchase of the Oberheim Matrix-1000 Analog Sound Module. The Matrix-1000 is a 6-voice polyphonic instrument that is fast and easy to use. It is specifically designed to allow the musician to play the best 1000 sounds of the famous Oberheim Matrix-6.

Musicians at all levels will love the Matrix-1000's simplicity of operation — just select the Bank & Patch Number and play. But its simplicity is really quite misleading. The heart of the Matrix-1000 — its one thousand outstanding sound Patches — is a compilation of the finest Matrix sounds collected over the past three years from synthesizer enthusiasts around the world.

The Matrix-1000 provides you with the largest on-board library of rich, warm analog synthesizer sounds of any instrument. The first 200 patches can be customized via MIDI from a Matrix-6 keyboard, a Matrix-6R rack mount synthesizer, or a computer equipped with a MIDI interface and Matrix-6/6R editing or librarian software.

The Matrix-1000 introduces Group Mode, a new feature which allows up to 6 Matrix-1000s to be played together as a single instrument. The Matrix-1000 has a complete MIDI implementation, including Patch loading/Patch saving via MIDI System Exclusive. And all of this is packaged in a 1-rack space unit, an ideal addition to any instrument system.

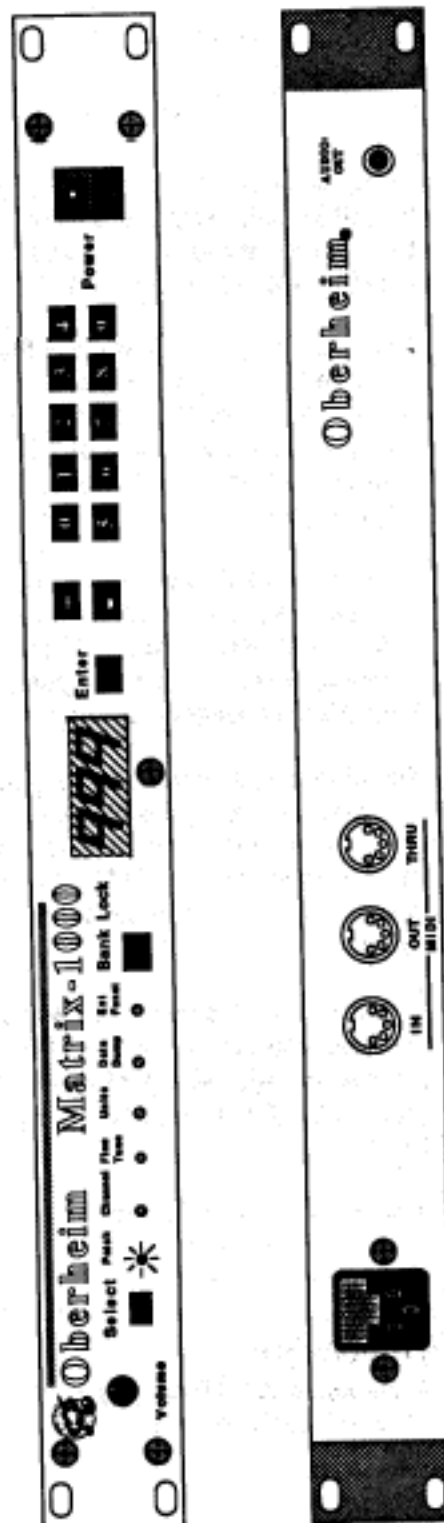
This manual will provide you with some very valuable information, and we recommend that you read this book in its entirety. It was written to provide you with all the information you will need to operate and interface your Matrix-1000. We encourage you to experiment and, above all, have fun.

Thank you for your investment in the State of the Art.

**Oberheim**

A Division of ECC Development Corporation  
Los Angeles, California  
USA

## Front & Back Panel



**IF YOU'RE IN A HURRY....**

## Matrix-1000 Quick-Start Procedure

### 1. INITIAL SET UP -

Place the Matrix-1000 on any level surface, or mount it in a rack cabinet.

- When rack-mounting the Matrix-1000, be sure to leave space above and below the unit to insure proper ventilation.

### 2. HOOK IT UP -

Connect the MIDI OUT of your Master instrument — keyboard, MIDI guitar, wind controller, computer, etc.— to the MIDI IN of the Matrix-1000. Refer to the Back Panel Layout diagram shown on Page 6 for descriptions of the Matrix-1000's inputs and outputs.

### 3. TURN IT ON -

Make all your connections **before** powering the instrument on.

- When the Matrix-1000 is powered on, does the front panel display light up? If not, check your connections.

### 4. SELECT MODE -

Press the **Select** key repeatedly. The lights will "loop" around the six headings: **Patch**, **Channel**, **Fine Tune**, **Units**, **Data Dump**, and **Ext. Funct.**

- Patch** lets you select a patch. Use the Number Keys to enter a **three**-digit number from **000** through **999**, or use the **+** and **-** keys to advance or reverse the patch number. Or, select a patch from MIDI.
- Channel** lets you select the MIDI transmit and receive channel. Use the **+** and **-** keys to select from MIDI Channels 1 through 16 or OMNI mode (displayed as **on**).

Guitar Controller users (and some others) may wish to select MONO mode (MIDI mode 4). This provides independent pitch bend on each string. When the display reads **G1**, the Matrix-1000 plays in MONO mode on basic channel 1.

- c. Select **Fine Tune**, and use the + and - keys to fine tune your Matrix-1000 to the other instruments in your system. A display value of 0 is the center of the range (A=440 Hz).

The remaining modes are described in Chapter 4.

#### 5. BANK LOCK -

The Matrix-1000's patches are grouped in ten banks of 100 patches each. The first digit of a patch number is the bank (0 through 9), and the last two digits are the location of the patch within that bank (00 through 99).

**Bank Lock** lets you change patches within a bank by typing two digits instead of three. Select **Patch** mode, and press **Bank Lock**. A dot appears between the first and second display digits. Now, enter two digits to choose any patch in the bank. Change banks by entering a digit from 0 through 9 while holding down **Bank Lock**. Press **Bank Lock** again to return to three-digit patch selection. The display dot disappears.

#### 6. ADJUST THE VOLUME -

The **Volume** knob controls the volume level output of the Matrix-1000.

These brief procedures are explained in detail throughout the rest of the manual. We encourage you to read the manual in its entirety if you would like to learn more about the Matrix-1000.

## Unpacking

### ACCESSORIES

The following items should be in the box when you open it:

- The Matrix-1000 Analog Sound Module
- This Owner's Manual
- Warranty Card
- AC Cord
- MIDI Cable
- ECC/Oberheim Authorized Service Centers Directory

If any of these items is missing, contact the Oberheim Dealer where your Matrix-1000 was purchased.

### RACK MOUNTING

The Matrix-1000 may be mounted in a standard 19-inch rack mount cabinet. To do this, you will need a Phillips-Head screwdriver and four mounting bolts with washers.

The Matrix-1000 uses one standard rack space (1-3/4 inches). We recommend leaving an air space of approximately 1/2-inch between the Matrix-1000 and other units in the rack, to prevent overheating. This is especially important if the Matrix-1000 will be left powered on for long periods of time. We also recommend that the Matrix-1000 not be mounted adjacent to a power amplifier, or any other device that produces heat.

# Hookup

## AC POWER

The Matrix-1000 runs on AC power between 95-130 volts or 200-240 volts. It is set for the AC voltage of the country to which it has been shipped from the factory. The voltage may, if necessary, be changed by a switch accessible through the bottom of the unit.

- The AC receptacle on the back panel is protected by a paper strip identifying the Matrix-1000's factory AC voltage setting. Check that your Matrix-1000 is set for the proper AC voltage. Then remove this strip, plug the female end of the AC cord into the Matrix-1000 and the male end into your wall outlet.

**Warning:** When the voltage is changed, the fuse must also be changed for continued protection against fire. See the information on the Matrix-1000 case or in the Specifications section of this manual for further information on the correct fuse type and rating for each AC voltage setting.

## AUDIO and MIDI CONNECTIONS

Connect the AUDIO OUTPUT jack of the Matrix-1000 to a mixing board, hi-fi system, instrument amplifier, or a sound system, using a standard audio cable (guitar cord) with a 1/4-inch plug. The Matrix-1000 can be plugged into a Line Input, or an attenuated Microphone Input. Connect the Matrix-1000 to your sound system before powering on the Matrix-1000.

Connect the MIDI OUT of your Master instrument — keyboard, MIDI guitar, wind controller, computer, etc.— to the MIDI IN of the Matrix-1000, using a standard MIDI interface cable. The MIDI Channel must be the same for both your Master Instrument and the Matrix-1000, or else the Matrix-1000 must be in OMNI or MONO Mode. MIDI Channel selection is described under Channel mode in Chapter 2.

- Note that a MIDI cable is slightly different from the generic '5-pin DIN' cable available from some electronics retailers. Use of this generic cable may result in 'ground-loop hum', which does not occur with MIDI standard cables.
- Up to four MIDI instruments may be chained together by using MIDI THRU, assuming that you are not using very long MIDI cables (maximum total length for the entire rig is about 50 feet).

The order in which you power on your instruments is important. First, turn on the Matrix-1000, with its volume control set to its minimum (Volume knob all the way counter-clockwise). Next, turn on your Master instrument. Then turn on the sound system — mixer first, then the power amplifier. Powering on in this order will make sure that your Matrix-1000 sees all the MIDI information sent by the Master, and prevent a possible audio "thump" from harming your speaker(s). When shutting down your system, reverse the order: turn off the power amplifier, then the mixer, then the Matrix-1000 and the rest of your instruments.

The Matrix-1000 Back Panel Layout diagram on the Page 6 will assist you in setting up the Matrix-1000, showing the different connections that are possible with the back panel jacks.

## CARE & MAINTENANCE

For proper care and handling, do not expose your Matrix-1000 to direct sunlight or to temperatures above 120° F (48.9° C).

Be careful not to spill any liquids on or into the Matrix-1000. Do not expose the Matrix-1000 to moisture or store it in an area that is damp or has high levels of humidity.

To clean your Matrix-1000, use a soft cloth with mild soap (such as dishwashing liquid) and luke-warm water. Spray-type window cleaners are acceptable, but spray the cloth, not the Matrix-1000. Do not use harsh or abrasive detergents or solvents. We do not recommend vinyl-treatment products, which leave a residue.

## SERVICING

If your Matrix-1000 needs servicing, do not attempt repairs yourself. Refer to the section in the back of this manual titled IF YOU HAVE A PROBLEM, and contact your nearest ECC/Oberheim Authorized Service Center. A current list of Service Centers is included in the Owner's Packet along with this manual.

We encourage you to familiarize yourself with the Warranty Policy in the back of the manual. It outlines your rights and responsibilities under the ECC/Oberheim Limited Warranty, and lists several important exclusions.

## Specifications

### Description

Polyphonic MIDI Synthesizer Module  
1000 Resident Patches  
6 Analog Voices

### Modes

Patch select  
Polyphonic Playback of Pre-programmed Analog Sounds:  
200 RAM Patches; 800 ROM Patches  
MIDI Channel 1 – 16 Select plus OMNI and MONO Modes  
Fine Tune  
Units select (multiple device cascade mode)  
Data Dump  
Extended Functions

### Front Panel

Select Mode Key  
Bank Lock Key  
Enter Key  
Numeric Keypad with + and – keys  
3-character Numeric Display  
Volume Control  
Power Switch

### Rear Panel

Monophonic Audio Out Jack  
MIDI IN, OUT and THRU Ports  
AC Receptacle

### Power Requirements (user selectable):

North America and Japan: 95 – 120v AC, 50 – 60 Hz, 55 watts max.  
Europe: 200 – 230v AC, 50 – 60 Hz, 55 watts max.

### Fuse Requirements

100V 500mA Fast Acting  
120V 500mA Fast Acting  
220V 250mA Fast Acting  
240V 250mA Fast Acting

### Dimensions

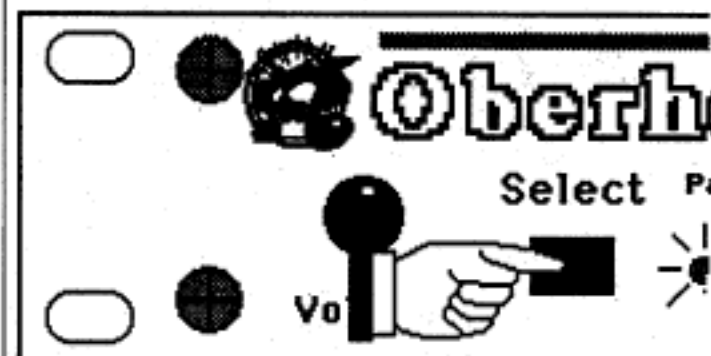
Width (side-to-side)	18.97 in. (48.18 cm.)	Standard Rack
Depth (front-to-back)	10.94 in. (27.79 cm.)	
Height (top-to-bottom)	1.75 in. ( 4.45 cm.)	1 Rack Space
including feet	2.03 in. ( 5.16 cm.)	
Net Weight	9 lbs., 4 oz. ( 4.20 kg.)	
Shipping Weight	13 lbs. ( 5.90 kg.)	

Specifications are subject to change without notice.

## Front Panel Keys

### SELECT Key

The **Select** key accesses, one at a time, the six operating modes of the Matrix-1000: **Patch**, **Channel**, **Fine Tune**, **Units**, **Dump** and **Ext. Funct.** Press **Select** repeatedly. The indicator lights will "loop" around the six modes. The numeric display changes to correspond to the selected mode.



### BANK LOCK Key

In **Patch** mode, press the **Bank Lock** key to turn bank lock on and off. Hold down **Bank Lock** while pressing a **Number** key to change the bank.

In any other mode, press **Bank Lock** to jump immediately back to **Patch** mode.

The **Bank Lock** key also acts as a mute switch. Pressing **Bank Lock** at any time immediately silences the Matrix-1000.



## ENTER, + and - Keys and Number Keys

### Enter

Enter is used as a store key for the Patch Copy feature and for storing programmable group mode. It may be used as an on/off switch for some functions, such as MIDI echo. Finally, the Enter key is used to start data dumps and calibration routines.



### + and - Keys

The + and - keys change values up and down by 1. For instance, in Patch mode, + selects the next patch, and - selects the previous patch. When held down, + and - repeat automatically. + and - may also act as on and off switches in Ext. Funct. mode.

### Number Keys

The Number keys are used to type values directly. For instance, in Patch mode, the Number keys are to enter patch and bank numbers. With the exception of Ext. Funct. mode, values may be changed using either + and - or the Number keys. In Ext. Funct., the Number keys select the different Extended functions, and only the + and - keys may be used to change values.

## Basic Modes

### PATCH

This is the mode you will use most often. In this mode, the display shows which of the 1000 sounds you are playing. Patches are numbered 000 through 999. You can change patches either from the Matrix-1000 front panel or from MIDI.



Patches are grouped in ten banks of 100 patches each. The first digit of a patch number is the bank (0 through 9), and the last two digits are the location of the patch within the bank (00 through 99). For instance, patch 427 is bank 4, location 27.

### Selecting a Patch From the Front Panel

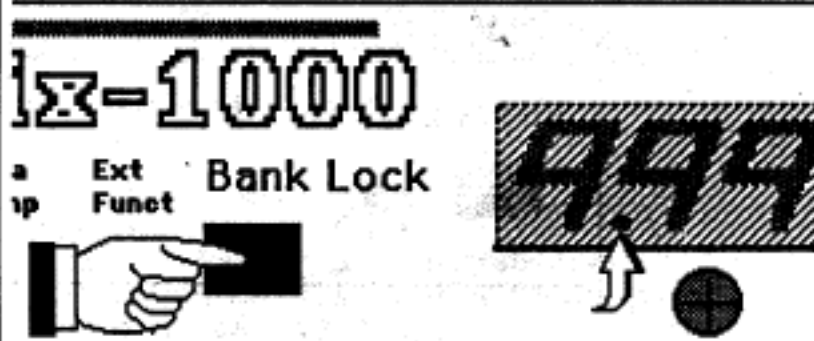
- Press the Bank Lock key to turn bank lock on and off. The decimal point between the first and second display digits turns on and off. Turning on bank lock freezes the bank number.
- When bank lock is off, use the Number keys to type in the three-digit number (000 through 999) of the desired patch. Or, press + or - until the desired patch is displayed.



- When bank lock is on, type the two-digit number (00 through 99) of the desired patch in the current Bank. Or, press + or - until the desired patch in the current Bank is displayed. To change Banks, hold down Bank Lock and type the digit of the desired Bank (0 through 9).

#### Selecting a Patch From MIDI

How do you enter a 3-digit patch number if your Master instrument has only 2-digit patches? This is where bank lock comes



in especially handy.

- Press the Bank Lock key to turn on bank lock. The decimal point between the first and second display digits will light. Do a patch change on your Master instrument, and the Matrix-1000 recalls the corresponding patch in the current Bank. For instance, suppose patch 309 is selected on the Matrix-1000. Press Bank Lock, and then select patch 22 on your Master instrument. The Matrix-1000 selects patch 322.

If your Master instrument has patch numbers which start at 1 rather than 0, then patch 01 on the Master selects patch 00 of the selected bank on the Matrix-1000, patch 02 on the Master selects patch 01, etc.

- To change banks from MIDI, push (or pull) the Master controller's Vibrato or Modulation wheel, lever or joystick (MIDI controller #1) to its maximum position. While holding the Master's Vibrato control at its maximum, select a patch from 0 through 9 on the Master. The bank of the same number is recalled on the Matrix-1000. For instance, suppose patch 322 is selected on the Matrix-1000. Hold the Vibrato control and select patch 4 on the Master. The Matrix-1000 selects bank 4, so the patch changes from 322 to 422.

If your Master has patch numbers which start at 1 rather than 0, then patch 1 selects bank 0, patch 2 selects bank 1, etc.

- In short, whenever the Matrix-1000 sees a MIDI Patch Change when the Vibrato or Modulation (MIDI controller #1) is more than half way on, it uses the patch number as a bank number. So be careful — if you're playing notes with your Vibrato on, and you make a Patch change, the Matrix-1000 understands that as a bank change command. To allow bank changing without using Vibrato, MIDI controller #31 performs the same function. This mode is the same as that found in the Oberheim DPX-1 and some other instruments.
- If bank lock is turned off, the Matrix-1000 will receive patches 000 through 127 over MIDI. If a bank change is sent from MIDI, using either the Vibrato or MIDI controller #31, the Matrix-1000 turns on bank lock automatically.

MIDI patch changes are transmitted and received by the Matrix-1000 on its Basic Channel. Patch changes and bank changes are received by the Matrix-1000 in all front panel modes, not just Patch.

## CHANNEL

This mode controls the MIDI channels used by the Matrix-1000 to send and receive MIDI messages such as notes, patch changes and pitch bends. It's important to make sure the Matrix-1000 is listening to the channel or channels being sent by your Master instrument. When Channel mode is selected, you can set the Matrix-1000 into any of these receive modes, using the + and - and Number keys:



- A number from 1 to 16 indicates the channel on which messages are transmitted and received.
- **on** indicates that OMNI mode is active. In this mode, the Matrix-1000 receives messages on all channels, and transmits on channel 1.
- Displays from **G1** to **G9** mean that the Matrix-1000 is in MONO mode (MIDI mode 4), with basic channels 1 through 9. The **G** here stands for **guitar**, since MONO mode is usually used with guitar controllers to allow independent pitch bend on each string.

When **G1** is selected, the Matrix-1000 is in MONO mode with MIDI Channel 1 as the Basic Channel. MIDI Patch Change commands are recognized on Channel 1, and the Voices respond to Notes and Controllers (Pitch Bend, Volume Pedal and Pressure/After-Touch) independently on the first six MIDI Channels: Voice 1 on Channel 1, Voice 2 on Channel 2, Voice 3 on Channel 3, etc. When **G2** is selected, the same thing happens, except that MIDI Channel 2 is now the Basic Channel, and Voice 1 plays on Channel 2, Voice 2 on Channel 3, Voice 3 on Channel 4, etc. See the chart below for the exact channels that are used in MONO mode. Vibrato and Sustain Pedal are received on the lowest channel number and used for all voices when in MONO mode.

When proper MIDI communication is occurring, the Matrix-1000 lights a dot in the lower right-hand corner of the display any time a note is playing. If the dot does not appear while you are playing, check both your MIDI Channel selections and your MIDI cable connections.

The MIDI channel and MIDI Mode (OMNI/POLY/MONO) are stored in memory, so that you do not have to set up the mode and channel when you turn on the power. While the MIDI channel can be changed only from the front panel, the MIDI mode can be changed remotely from MIDI. If the Channel display seems to change mysteriously, make sure that your Master instrument is not sending Mode Change Messages.

Refer to the following chart to determine the Voice-to-Channel assignments of the nine MIDI MONO modes of the Matrix-1000. Notice that **G9** is the top MIDI Channel represented. The Matrix-1000 does not operate in MIDI MONO for Channels 10 through 16.

Display	Basic Channel	Voice 1 Channel	Voice 2 Channel	Voice 3 Channel	Voice 4 Channel	Voice 5 Channel	Voice 6 Channel
G1	1	1	2	3	4	5	6
G2	2	2	3	4	5	6	7
G3	3	3	4	5	6	7	8
G4	4	4	5	6	7	8	9
G5	5	5	6	7	8	9	10
G6	6	6	7	8	9	10	11
G7	7	7	8	9	10	11	12
G8	8	8	9	10	11	12	13
G9	9	9	10	11	12	13	14

## FINE TUNE

The Matrix-1000 is normally tuned to Standard Pitch of A = 440 Hz, but it can be adjusted to match the tuning of other instruments in your system.

# erheim Matrix



When **Fine Tune** is selected, the Display reads the current Fine Tune value. This value is stored in memory until it is changed. Change the value by using the + and - keys or the Number keys.

The range of **Fine Tune** is  $\pm$  a 1/4-tone, represented on the display as a number from +31 to -31. When the display reads 0, A = 440 Hz. Positive numbers indicate sharp tunings, and negative numbers indicate flat tunings.

## TRANPOSE, UNISON, MIDI ECHO

The Ext. Funct. mode of the Matrix-1000 contains Extended Functions. There are presently eight of these functions, numbered 0 through 7 and they are not saved with each patch, although they are saved when you turn the power off. Numbers 0 through 2 are the ones you will need most often.

# erheim Matrix-1



In Ext. Funct. mode, the Number keys select the function, while the + and - keys change the *on* or *off* status or number value. What's important to remember is that the function number is not displayed. Instead, each Extended Function has its own unique display:

### Common Extended Functions

Press Number Key:	Display Reads:	Definition:
0	<i>Uon</i> or <i>Uof</i>	Unison mode is ON. Unison mode is OFF.
1	<i>tm</i>	Transpose mode.
2	<i>Eon</i> or <i>Eof</i>	MIDI Echo is ON. MIDI Echo is OFF.

## 0 Unison

**Unison** mode causes the Matrix-1000 to play all six Voices with one key depression. This is effective for fattening up certain sounds like basses and leads.

Some patches are pre-programmed to be in Unison. Most are not. The front-panel Unison overrides the pre-programmed Unison.

- Use the + key to turn Unison on and the - key to turn it off, or press Enter to switch between on and off.
- In Unison, if more than one note is played, only the lowest note held will be heard.

Unison is not the same as the "Mono keyboard mode" found on some instruments. Mono keyboard mode allows you to play only one Voice monophonically. Unison plays all six Voices together as a single note. This is why the Matrix-1000 sounds richer and louder in Unison mode.

When you play legato, the sound may or may not retrigger. This is programmed as appropriate for each patch.

## 1 Transpose

You can transpose the pitch of the Matrix-1000 up or down as much as two octaves.

- Press **Select** until you reach **Ext. Funct.** Press 1 to choose the **Transpose** function. The display reads *trn*.
- Press **Enter** to display the transpose amount.
- Use the + and - keys to change the transposition amount. You can play as you change the value, to hear how the transpose sounds.

The transposition is displayed in semitones. 0 indicates standard pitch. To transpose up an octave, set the transpose value to 12. To transpose up two octaves, set the value to 24, etc.

## 2 MIDI Echo

When **MIDI echo** is on, all MIDI IN data received by the Matrix-1000 is sent back out the MIDI OUT port. In other words, **MIDI echo** makes the MIDI OUT port act like a MIDI THRU port, but with the advantage that you can switch it on and off without unplugging any cables.

- Use the + key to turn **MIDI echo** on and the - key to turn it off, or press **Enter** to switch between on and off.

Use **MIDI echo** to layer sounds from several Matrix-1000s, or from a Matrix-1000 and another synthesizer. For example, to layer three Matrix-1000s:

- Connect the MIDI OUT (not THRU) of the first Matrix-1000 to the MIDI IN of the second. Connect the MIDI OUT of the second to the MIDI IN of the third.
- Set your Master instrument and all the Matrix-1000s to MIDI channel 1, as described under **Channel**.
- On the first Matrix-1000, press **Select** until you reach **Ext. Funct.** Press 2 to choose the **MIDI echo** function. Press + to turn **MIDI echo** on. Now do the same on the second Matrix-1000. Since the third Matrix-1000 is the last in line, you do not need to turn on its **MIDI echo**.
- That's it! Now when you play a note on your Master instrument, you'll hear all three Matrix-1000s play.

Layer several different Matrix-1000 patches for orchestral effects. Or, set each Matrix-1000 to a different **Fine Tune** value, and layer the same patch to get super-fat pads and unisons.

MIDI echo is also used in conjunction with group mode, as described in Chapter 4.

With the exception of MIDI Active Sensing, all MIDI data is echoed, even System Exclusive messages. However, use of MIDI echo for MIDI Real Time Information, such as drum machine clocks, is not recommended.

#### Hints for playing the Patches

- Use the controllers. The Matrix-1000 can use Pitch Bend, Pressure, Mod Wheel (Controller #1), Breath Control (#2), Pedal Control (#4), and Sustain (#64). Although they may not all be used in every patch, you may find some interesting effects.
- Hold notes for a long time, and let them release for a long time. Lots of things are controlled by envelopes. Playing staccato is good for other patches.
- Play clusters of notes. This is good for many sound effects.
- Play the sound at different places on the keyboard.

The bottom line is *Experiment*. The Matrix-1000 is one of the world's most dynamic synthesizers and can do some very unusual things. Programmers have taken advantage of this, so all the patches may not be what you expect. If a sound is uninteresting, you are probably playing it wrong!

At the heart of the Matrix-1000 is the same circuitry used to produce the sounds in the Oberheim Matrix-6 keyboard and the Matrix-6R rack mount synthesizer. Recent advances in technology have permitted the same rich sounds to be packaged in a 1-rack space unit at a considerably lower cost.

The Matrix-1000 contains sounds that have been compiled over that last several years from Matrix-6 and Matrix-6R owners from all over the world. Just recently, Oberheim released a cassette data tape with these sounds to Matrix-6/6R owners so that they will be able to enjoy the tremendous flexibility of having one thousand synthesizer sounds on one cassette.

The Matrix-6 and Matrix-6R, however, can store only 100 of the Patches from the tape at a time. With the Matrix-1000, you have **immediate** access to all 1000 Patch sounds because they are all stored inside the Matrix-1000.

But it doesn't stop there. In Chapter 4, under the **Data Dump** mode, we'll tell you how you can customize your patches via MIDI. Right now, we'll cover another way to customize the Matrix-1000.

#### Copying Patches Within the Matrix-1000

After playing the Matrix-1000 for a period of time, you may want to move certain sounds to new memory locations. The **Patch Copy** function lets do just that. You can copy FROM any patch from 000 through 999 TO any patch from 000 through 199. You cannot copy TO patches 200 through 999; they are permanent.

The patch you copy FROM is called the source patch. The patch you copy TO is the destination patch. When you copy a patch, the old contents of the destination patch is ERASED and replaced with the source patch. Be sure to copy only TO a patch which you don't need to save.



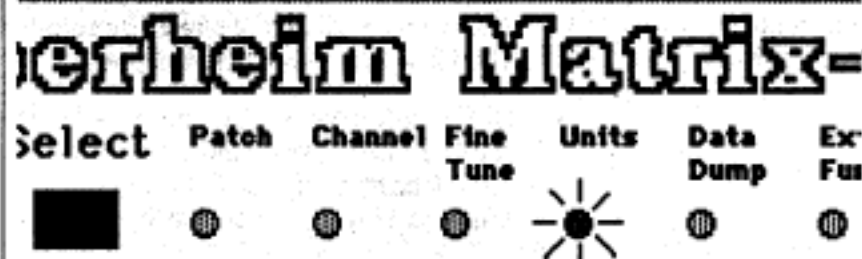
- Press **Select** until you reach Patch mode. Select the patch that you want to copy FROM.
- Press and hold down the Enter key. The Display changes to read **sto** for "store".
- While still holding Enter, type the three-digit number of the patch you want to copy TO.
- When the third digit is pressed, the new patch number is displayed, and the copy is complete. The old patch at that number is ERASED and replaced with the copied patch.
- If you make a mistake before the third digit is pressed, let go of Enter and start over.

If the display shows **Pro** instead of **sto** when you press Enter, the memory has been protected. Memory Protect must be turned off before any patches can be copied or stored. See Chapter 4 under Ext. Funct. #6.

## SPECIAL MODES

### UNITS

**Units controls group mode**, an exciting new feature that lets you play several Matrix-1000's together as if they were one self-contained instrument. Two Matrix-1000s in group mode become a single 12-voice synthesizer. Three Matrix-1000s become an 18-voice synthesizer. Group mode supports as many as six Matrix-1000s, for up to 36-voice polyphony.



Here is how to set up group mode for two Matrix-1000s. The procedure is basically the same when more units are added. The first Matrix-1000 is considered the Group Master. The other Matrix-1000s are slaves. All operations in the setup procedure are performed on the Group Master only. The slave Matrix-1000s are configured automatically by the Group Master.

- Connect the MIDI OUT (not the THRU) of the first Matrix-1000 to the MIDI IN of the second Matrix-1000.
- Press **Select** until **Channel** is lit. Set the Matrix-1000 to OMNI Mode, or to the MIDI Channel of your keyboard, MIDI guitar, etc. Make sure that MIDI MONO Mode (G1 through G9) is not selected, since MIDI MONO does not work with group mode.
- Press **Select** until **Units** is lit. The display reads **off**.

- Use the + key to select the total number of Matrix-1000s that you want to group together. Since there are two units in this case, the number 2 should be displayed. Also, the dot between the second and third display digits lights up. This dot remains lit whenever you are in **group mode**.
- Now for the fun part...playing! When you play in **group mode**, the first note plays on the first Matrix-1000, the second note plays on the second Matrix-1000, the third note plays back on the first, the fourth note goes to the second, etc. We call this note assignment "Alternating Rotate". Achieve stereo effects by panning the output of each Matrix-1000 to a different stereo position on your mixer, and multitimbral effects by setting each Matrix-1000 in a Group to a different patch.
- Select **Patch mode**, and choose a new patch. Patch and bank changes on the Group Master are transferred automatically to the rest of the Group. (Other changes, like **Fine Tune**, must be made on each unit individually.)
- To leave **group mode**, return to **Units**, and reset the number of units to **off**.

Group mode works together with **MIDI echo** to make it easy to switch between layered and many-voiced polyphonic textures. Set up **group mode** as above, and then do the following:

- Press **Select** until **Units** is displayed. Notice that the dot between the second and third display digits is lit, to indicate **group mode**.
- Press **Enter**. The dot disappears. The current patch will now ignore **group mode**. Press **Enter** again to turn **group mode** back on for this patch. The dot reappears.
- Turn on **MIDI echo** on both Matrix-1000s, as described in Chapter 2. This must be done on each unit separately.

- Return to **Units mode**. Now both **group mode** and **MIDI echo** are on.
- Play some music! Notice that **group mode** takes precedence over **MIDI echo**. With **group mode** on (display dot lit), the two Matrix-1000s play together as a 12-voice instrument. With **group mode** off (no dot), they become a layered six-voice instrument. Press **Enter** in **Units mode** to switch back and forth.

For even greater flexibility, you can program each patch on the Group Master to use or ignore **group mode**. The Matrix-1000 is shipped from the factory with all patches programmed to use **group mode**. If you want to use a particular patch as a layer, program it to ignore **group mode**. Doing this is very similar to Patch copy. In fact, it's like copying a patch to itself.

- Press **Select** until **Units** is displayed. Use **Enter** to turn **group mode** off for the patch.
- Press **Select** until **Patch** is displayed. Press and hold **Enter**. The display reads **sto**, for "store". As with Patch Copy, Memory Protect must be off when storing the **group mode** setting for a patch.
- Type the three-digit patch number of the current patch. The patch will now ignore **group mode**. All patches, even the ROM patches 200 through 999, may be programmed to ignore **group mode**.
- To turn **group mode** back on for a patch, go to **Units**, use **Enter** to turn **group mode** back on, and copy the patch to itself again.



You can use **group mode** to combine a Matrix-1000 with a Matrix-6 or Matrix-6R to make a 12-voice instrument:

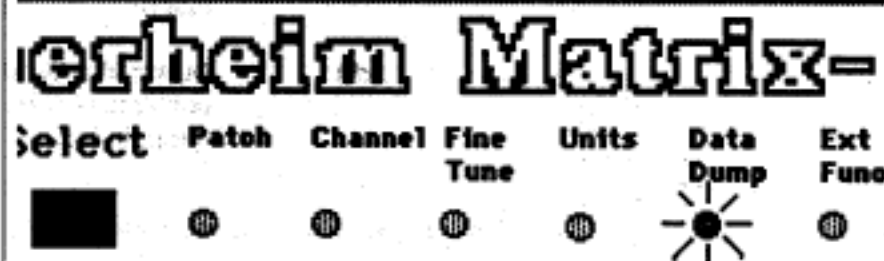
- You must have Matrix-6/6R software revision 2.13 or later.
- Connect Matrix-6 MIDI OUT to Matrix-1000 MIDI IN, and Matrix-1000 MIDI Out to Matrix-6 MIDI IN. OR, Connect Master to Matrix-1000 MIDI IN, and Matrix-1000 MIDI OUT to Matrix-6R MIDI IN.
- Set Matrix-6/6R Master Parameter 00 BASIC CHAN 01.
- Set Matrix-6/6R Master Parameter 01 OMNI ON.
- Set Matrix-6/6R Master Parameter 05 LOCAL CTL OFF.
- Set Matrix-6/6R Master Parameter 13 SPILLOVER OFF.
- Set Matrix-1000 Channel to **on**.
- Set Matrix-1000 Units to 2 to turn on group mode.

In fact, **group mode** can actually be used between a Matrix-1000 and any other single synthesizer. The Matrix-1000 must be the Group Master, and the other synthesizer will be assumed to have only six voices. The other machine must be set to Basic Channel 1.

## DATA DUMP

**Data Dump** is used to send patches between the Matrix-1000 and another device: a second Matrix-1000, a Matrix-6 Keyboard, the Matrix-6R rack mount or a computer equipped with a MIDI interface and Matrix-6/6R patch librarian or editor program. You can use **Data Dump** to back up your patches, load in new patches, or even to edit sounds from a computer.

You should know that the Matrix-1000 uses two different kinds of memory for patches. The first 200 Matrix-1000 sounds (Patch numbers 000 through 199) stored in RAM (Random Access Memory). This means you can edit, change, overwrite or otherwise customize them. The remaining 800 sounds (Patch numbers 200 through 999) are in permanent ROM (Read Only Memory) and cannot be changed. Patch backups are unnecessary for ROM sounds, but are highly recommended for the RAM sounds.



### Saving Patches: Dumping FROM the Matrix-1000

- Connect the MIDI OUT of the Matrix-1000 to the MIDI IN of the receiving device.
- Make sure that MIDI System Exclusive is enabled on the receiving device.
- Press **Select** on the Matrix-1000's front panel until **Data Dump** is lit.