



MIDI PROGRAMMABLE TUBE BASS PRE-AMP

OWNER'S MANUAL MB-1 (version 1)

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INTRODUCTION

Thank you for purchasing the ADA MB-1 MIDI Programmable Tube Bass Preamp. You now own the most tonally flexible and technologically advanced bass guitar amplification device available. Your

MB-1 will store 256 programs of exactly the right tone, no matter what kind of music you play. To properly set-up and familiarize yourself with the MB-1, read and follow these operating instructions completely. If you can't wait and want to jump right into the MB-1, go to the QUICK SET-UP section of this manual. We hope that the unlimited tonal possibilities and unmatched technological capabilities of your MB-1 will inspire you to great things.

IMPORTANT: Please take this time to fill-out and return the enclosed warranty card so that we may provide you with information on future software updates.

FEATURES

- Complete digital control
 - Complete analog signal path
 - Two low noise 12AX7 A tubes
 - Contour filter for Tube and Solid State circuits
 - ADA user-friendly programming software
 - On line help dictionary
 - 256 user programs
 - Two programmable gain stages for each program
 - Five band programmable semi-parametric EQ
 - Fully programmable analog chorus
 - Two programmable effects loops each with send and return levels
 - Adjustable crossover
 - Adjustable LF. limiter
 - Full range, Bi-amp, and Direct outputs
 - 1/4" instrument level input on front panel for easy access
 - Output level knob on front panel for fast volume adjustment without affecting tone
 - Programmable compressor
 - MIDI In, Out, and Thru
 - MIDI Mapping
 - MIDI System Exclusive Save and Load
 - MIDI System Exclusive parameter programmability
 - MIDI System Exclusive enable/disable
 - Front panel lock-out
 - Self-diagnostic check during power up
 - One year parts and labor warranty
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- Optional extended three year warranty available
 - Optional MC-I MIDI FOOT CONTROLLER provides instant random access to any program for on-stage control.



PRECAUTIONS

WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture. Keep the MB-1 out of direct sunlight. Avoid locations subject to vibration, excessive dust, heat, or cold.

CAUTION: To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

RETAIN INSTRUCTIONS: Keep this manual for future reference.

CLEANING: Do not clean your MB-1 with chemical solvents. Use only a clean, dry cloth.

QUICK SET -UP

Note: The MB-1 is a preamp and must be connected to a power amp in order to drive loud speakers.

Note: If you are using the complete ADA Bass Amplification System (MB-1, B500B, BASSLINE 15, and BASSLINE VX), set all rear panel controls to the points indicated by white dots.

INITIAL PREPARATION:

1. Connect bass guitar output to front panel input jack.
2. Connect MB-1 output(s) to input(s) on power amplifier(s)
3. Connect power amp output(s) to speaker cabinet(s) input(s), Note: use speaker cable(s) for this connection.
4. Turn MB-1 power switch ON.
5. Turn power amp on.
6. Adjust volume with Output level control.

SELECT PROGRAM NUMBER:

1. Use the up and down arrow buttons to scroll thru the memory numbers 1 thru 29. These are the Factory Preset Programs.
2. Select a bank by pressing the BANK button, use the up or down arrow button to select bank 0 thru 4, followed by any button 0 thru 9 for program number within the selected bank, (1 thru 9 in bank 0).

SELECT MIDI CHANNEL:

1. Press MIDI CHANNEL button.
2. Use up and down arrows to select MIDI channel from 1 to 16, ALL (OMNI), or OFF (MIDI reception off.)
3. Press MIDI CHANNEL button to store channel selection and exit to play mode.



SETUP

AUDIO PATCH

For best results always use high quality cables. Keep all cables as short as possible, and route cables neatly. Keep AC, MIDI, and audio cables as far apart from each other as possible. Note: Always use surge protected A.C. power.

1. Connect your bass guitar to the INPUT jack on the front panel.
2. If you are using a full range power amp and speaker cabinet configuration, connect the MB-1's Full Range output to the input on your power amp. Using a 12 to 16 gauge speaker cable, connect the power amp output to your speaker cabinet input. If your full range system is a "combo" type (pre amp, power amp, and speaker cabinet all in one), connect the MB-1's Full Range output to the combo amp's effect return or power amp in jack, if it has one. If not, use the front panel input. Note: For best signal to noise ratio when using the MB-1 with a combo amp, bypass the combo amp's preamp stage using the above patch configuration.
3. If you are using a Bi-amp power amp and speaker cabinet configuration, connect the MB-1's low output to the low input on your power amp. Connect the MB-1's Hi output to the hi input on your power amp. Using 12 to 16 gauge speaker cable, connect the hi and low outputs from your power amp to the corresponding inputs on your speaker cabinets.
4. The MB-1's Balanced Direct output may be used alone or in conjunction with the Full Range or Bi-amp outputs. It is switchable pre or post preamp and the ground is liftable. Set the Direct output pre/post switch to the desired position, (pre = tone direct from bass guitar, post = tone from MB-1.) The "PRE" is at line level output and "POST" is at instrument level output. Using an XLR type cable, connect the MB-1's Balanced Direct output to an instrument level input on the recording or P.A. console. If using the Balanced Direct output in the Post position, connect to a line level input. If a ground loop buzz occurs, set the MB-1's Direct out Ground Lift Switch up to eliminate the loop.

EFFECT LOOP PATCH

The MB-1 has two effects loops, A and B. They may be used together or independently.

1. Connect the MB-1's EFFECT SEND "A" to the input of your first or only effect device.
2. Connect the mix output of your effect device to the MB-1's EFFECT RECEIVE "A".
3. If using both loops, connect your second effect device to loop "B" using the above patch.

MIDI PATCH

1. Connect the MIDI out from your optional MC-1 MIDI foot switch or other MIDI controller to the MB-1's MIDI IN jack. If using the standard 5 pin MIDI cable make certain the 5 pins in the cable line up with the correct 5 sockets of the MB-1's 7 pin MIDI IN jack.
2. If your system includes MIDI controlled effects, connect a MIDI cable from the MB-1's MIDI THRU to the MIDI IN jack on your effects device. You may chain multiple MIDI controlled effects using the above method.
3. If you are using the MB-1 as the first MIDI device in your system, and you are changing programs from the front panel of the MB-1, connect the MB-1's MIDI OUT jack to the MIDI IN jack on your MIDI effects unit.



SYSTEM POWER-UP

With any audio system you should apply AC power to components in the order of signal flow. Turn on the first device in the audio chain first and the last device in the audio chain last.

When turning your system off, use the reverse procedure!

1. Turn the MB-1 power switch to the "ON" position.
2. Turn on any effects units you have connected
3. Turn on your power amp
4. Select program number 1 on your MB-1
5. Set volume controls on MB-1, any connected effects, and power amp to the desired playing level. In order to optimize the signal-to-noise ratio throughout your system you should adjust the input and output level controls to get as much signal to each unit as possible without overloading.
6. If using Bi-amp outputs adjust the crossover. Turn off the LO side of your power amp, set crossover point for the desired amount of lows emanating from your HI speaker cabinet, then bring the LO side of your power amp back up.
7. If your power amp's rated output is greater than your low frequency speaker handling capability, set the Low Frequency Limiter (L.F. Limiter) on rear panel. Using the IN/OUT switch (to A-B signal against limited signal) while playing the low string, turn the LF. Limiter knob clock wise until the desired amount of limiting is achieved.

ACCESSING PROGRAMS

The MB-1 is shipped from the factory with 29 preset programs. Preset programs are accessible when the PRESET button is lighted. The MB-1 has storage capacity for 256 user programs. User programs are accessible when the INTERNAL PRGM button is lighted or through the MIDI IN port (see MIDI Mapping section of this manual.) The MB-1's MIDI PRGM section holds MIDI Mapping information only, no programs (preset or user) can be stored in these registers. Please note that tone and amount of overdrive in any program will depend on the type of pickups in your bass guitar, and any other equipment in your amplification system.

1. To change program number within a bank press the desired ones digit button from 0 to 9.
2. To change bank and program number press the bank button. Next use the up or down arrow buttons to select the desired bank number 0 to 25. Once the desired bank is selected, press the desired ones digit button from 0 to 9. The MB-1 will not change the program number until the ones digit has been pressed.
3. You may also scroll up or down through programs by pressing the up or down arrow buttons. The MB-1 's program number range is from 1 to 256.

Note: The MIDI specification allows for 128 program change commands, thus the MIDI bus will give you access to the first 128 programs in your MB-1. You may use either the "copy program" or "MIDI Mapping" feature (described later in this manual) to access programs 129 thru 256.



PROGRAMMING

FUNCTIONS AND PARAMETERS

The MB-1 has six programmable functions, each of which is controlled by one or more parameters. The functions and their parameters are:

1. Tube Pre-amp:
 - Tube Input Level
 - Tube Contour
 - Tube Overdrive
 - Tube Master Level
2. Solid State Pre-amp:
 - Solid State Input Level
 - Solid State Contour
 - Solid State Master Level
3. Compressor:
 - Compressor Ratio
 - Compressor Threshold
 - Compressor Gain
4. Equalizer:
 - Lo EQ Cut & Boost
 - Lo Mid EQ Cut & Boost
 - Lo Mid EQ Frequency
 - Mid EQ Cut & Boost
 - Mid EQ Frequency
 - Hi Mid EQ Cut & Boost
 - Hi Mid Frequency
 - Hi EQ Cut & Boost
5. Chorus:
 - Chorus Depth
 - Chorus Rate
6. Effect Loops:
 - Effect Loop Control

On the rear panel are adjustable, but not programmable functions: a Crossover, a Low Frequency Limiter, Effect Loops send and receive levels, and a Balanced Direct Output. These functions are manually adjustable by rear panel controls. They are usually set once to match your amp and speaker system. The dots indicate how they should be set when using an ADA B500B power amp and ADA Bassline VX & Bassline 15 speakers. Additionally, a 20Hz. high pass filter in the signal path prevents damaging subsonics from reaching your power amplifier.

Tube and Solid State Pre-amp Sections

The Tube and Solid State Pre-amp sections provide gain functions which are optimized to provide a wide range of tone, sustain, and distortion. Both sections have Input Level, Contour, and Master Level parameters, while the Tube section has an additional Overdrive parameter.

The Input Level parameters set how much signal from your bass guitar pickup(s) gets passed to the Contour section. This will affect the sensitivity of the Pre-amp.



The Contour parameters select a contour curve. These contour curves affect the basic tone color of your sound.

The Overdrive parameter in the Tube Pre-amp section affects the amount of distortion you get. The tonal character of the Overdrive is controlled by the amount of input level drive, and your choice of contour curves.

The Master Level parameters let you adjust the overall level of the Pre-amp sections and also the mix between Tube and Solid State tones -- either or both may be used at the same time.

Compressor Section

The Compressor section adjusts the signal level to keep it relatively consistent above a Threshold level. What this gives you is control over your dynamics. The Compressor makes a loud attack softer and a sustained note louder even as it decays. The overall effect is to keep the signal level constant. This can be useful in the studio when you don't want to overdrive a mixing board with too much signal.

The Compression Ratio parameter controls how much an input signal will affect the compressor output. For example, a ratio of 4 to 1 means that if the input signal changes from 1 to 4, the output will change from 1 to 1.25. Higher levels of compression "squeeze" the signal more.

The Compression Threshold parameter sets the level at which compression begins. Signals below that level pass through the compressor with no change in level. Signals above that level are compressed at a ratio set by the Compression Ratio parameter.

The Compressor Gain parameter sets the output level of the Compressor. Once the signal has been compressed it can no longer reach its full input level. The Compressor Gain parameter allows you to set the maximum signal level you want going into the following sections.

Five Band Equalizer Section

The equalizer section of the MB-1 provides 5 bands of equalization. The equalizer allows you to shape your tone by cutting or boosting the amount of sound in each band by up to 14 dB. The 1..0 and Hi band sections are shelving equalizers. This means that their low and high pass frequencies are fixed - only the cut and boost of these sections are adjustable. The 1..0 Mid, Mid, and Hi Mid are semiparametric equalizers. This means that you can adjust their center frequency as well as the amount of cut or boost.

The LO band EQ section passes frequencies below 50 Hz. The LO Mid EQ section may be adjusted for a center frequency between 54 Hz and 166 Hz. The Mid EQ section may be adjusted for a center frequency between 170 Hz and 545 Hz. The Hi Mid EQ section may be adjusted for a center frequency between 570 Hz and 1680 Hz. The Hi band EQ section passes frequencies above 1800 Hz.

By adjusting the cut and boost and the center frequencies of the EQ section you can emphasize a particular range of tones for just the sound you want.

Chorus Section

The Chorus section is an analog chorus which provides a rich, full swept comb filter effect. The amount of chorusing is controlled by the Depth parameter, while the sweep rate is controlled by the Rate parameter.



Effect Loops

The MB-1 allows you to add external effects to your sound and switch them in and out under program control. Two effect sends and returns are provided -- an "A" channel and a "B" channel. Both are identical and provide individual send and receive level controls on the rear panel. The two effect loops are in parallel and either one or both may be switched in or bypassed as desired.

Crossover

The manually controlled Crossover splits your sound into two bands -- high and low. The crossover frequency is set by the rear panel control and sets the frequency at which your sound will be sent to the low output or the high output. This feature is used with bi-amplification systems where high range and low range speaker cabinets, such as the ADA Bassline VX and Bassline 15, are each driven by separate power amplifiers or by a two channel power amplifier, such as the ADA B500B.

Low Frequency Limiter

Loudspeakers can be damaged by sending them too much power. Most of the power in a bass guitar is in the low frequencies. When using a bi-amp system it is often desirable to limit the maximum power sent to the low frequency cabinet. The Low Frequency Limiter allows you to set the maximum amount of signal that will be sent to the low frequency cabinet when the MB-1 is used with a bi-amp system. It has no effect on the high, full range or balanced direct outputs. It is manually set by the rear panel control. A rear panel bypass switch removes the Low Frequency Limiter from the signal path.

Balanced Direct Output

A Balanced Direct Output is provided for when using the MB-1 in a studio, or for live performances where a direct feed to the mixing board is desired. The Direct output is switchable between Pre and Post settings.

When set to the Pre position, the Direct output is at instrument level and is the unmodified sound coming directly from your bass guitar pickup(s). In this position the MB-1 is effectively out of the signal path and none of the programs you select will have any effect on your tone.

When set to the Post position, the Direct output is at line level and the signal you get is the tone you set up with the MB-1 program you have selected. This is the same signal that comes from the single ended full range output, only in a balanced form.

A rear panel pin 1 ground lift switch is provided for ground loop hum elimination if necessary.

Parameters and Programs

The parameter values that define your tone are held in a set of working registers while you are playing or editing. These values together are called a program and can be assigned a program number 1 to 256. The current program in the working registers is replaced by whatever program you next select, so once you have the parameter values that give the tone you want, you have to save it or it will be lost.

All 256 user programs and all 29 factory preset programs may be selected directly from the front panel. From MIDI In, however, you can only select 128 program numbers. To solve this problem, and to provide enhanced compatibility with other MIDI devices, there is a MIDI Map function.

The MIDI Map function allows anyone of the 128 MIDI program change codes to select anyone of the 256 user programs. The 29 factory preset programs are not directly accessible



via the MIDI Map, but if you want to get to one of them from MIDI you can store a copy of the desired preset programs in one of the 256 user programs" and select it that way.

The MB-1 understands MIDI System Exclusive messages which allow you to use a computer or sequencer to save and restore your programs. Other System Exclusive messages allow you to change individual parameters in the working registers or in user programs with a patch editor on your MIDI equipped computer. A programmer's guide and specification is available directly from ADA or from your authorized ADA dealer if you decide you want to get into MIDI control at this level.

SET CODE

The MB-1's SECURITY CODE feature enables you to lockout the front panel functions. When you have completed programming your unit it is a good idea to "SET CODE" in order to protect internal memory from being altered inadvertently. The MB-1 is shipped from the factory with the SECURITY CODE OFF. To set your personal security code and lock the front panel:

1. Press the STORE button. It will light.
2. Press the Bank button and while holding the BANK button down press the number 3 button.
3. The display will read SEt CodE - - - -
4. Enter a four digit number which you will easily remember
5. Press the STORE button. Your MB-1 is now in lock out mode and your personal security code must be entered upon prompt to unlock the MB-1 and permit any front panel operations.

NOTE: In the event that you forget your personal security code, you may unlock the MB-1 by entering the default security code. The default security code is: 2001.

EDITING AND STORING PROGRAMS

EDIT MODE

Note: We recommend programming your "cleanest/loudest bass guitar tone" program first. Get it as loud as you can without any distortion. You should then use this program as a volume reference while building the rest of your programs, in particular the MASTER parameters. From this reference you will be able to match or decrease the level of clean programs. Overdrive programs can then be set louder, equal to, or less than your reference.

1. Press the PRESET or INTERNAL PRGM button to get into the desired storage area
2. Press the EDIT button. It will light
3. Press the Input button for the desired voice, Tube or Solid State. Note: you may use both Tube and Solid State voices together
4. Use the up and/or down arrow buttons to adjust the input level
5. Press the Master button for the desired voice
6. Use the up/down arrow buttons to set the master level. Input adjusts the amount of gain for the corresponding voice. Master adjusts the output level for the corresponding voice and its mix relationship to the other voice. Once you have established Input and Master levels for at least one voice, you will be able to listen to the program as you edit it. Note: at this stage, pressing the up and down arrow buttons together will reset the MASTER to 0.
7. Press the contour button for the desired voice
8. Use the up/down arrow buttons to select the desired contour filter curve. There are six contour filter curves for the Tube voice and five contour curves for the Solid State



voice. With a CONTOUR parameter selected, the display will show the curve number and a graphic representation of the curve. In the Tube voice, curves number 5 and 6 are to be used for overdrive settings. Curves 5 and 6 will increase gain through the tubes. With the INPUT and MASTER parameters you may fine tune the amount and color of overdrive

9. Press the Compressor button
10. The display will show the current compression ratio
11. Use the up/down arrow buttons to set the compression ratio (amount of compression.) Pressing the up and down arrows together will turn off the Compressor
12. Press the Compressor button again. The display will read "t" followed by a number 0.1 to 10.0. This represents the compression Threshold (the level at which compression begins.)
13. Use the up/down arrow buttons to set the threshold. A higher Threshold will pass more signal before compression begins.
14. Press the Compressor button again. The display will read "G" followed by a number 1.0 to 10.0. This represents compressor output Gain
15. Use the up/down arrow buttons to set the Gain. It is recommended that the Gain be set to its lowest value for most Compressor setups. For Compressor Ratios over 10: 1 with Threshold values set below 2.0, the gain can be set to a higher value
16. Press the LO button. If no EQ parameters have been entered the display will read "FLAt". Note: At any time you have one of the five EQ bands selected (dB/cut or boost page for the three mid bands) you can push the up and down arrow buttons together to set the entire EQ section flat (no EQ cut or boost.)
17. Use the up/down arrow buttons to set the amount of boost or cut desired
18. Press the LO MID button. Note the LED in the left side of the display: "dB" indicates amount of boost or cut. Pressing the LO MID button again will toggle to "Hz" indicating the center frequency being cut or boosted. You may toggle back and forth as needed
19. Use the up/down arrow buttons to set the amount of boost or cut along with the center frequency desired
20. Use the above method to adjust MID and HI MID
21. Press the HI button. Note that the HI EQ parameter is a shelving type, the same as the LO EQ parameter. To adjust the HI EQ follow the procedure in steps 15 and 16
22. Press the CHORUS button. The display will read "d" followed by a number 0 to 100. This indicates Chorus Depth
23. Use the up/down arrow buttons to set the desired Chorus Depth: 0 = off and 100 = full. Note: At this stage, pressing the up and down arrow buttons together will turn OFF the chorus
24. Press the CHORUS button again, the display will read "r" followed by a number 0.0 to 10.0. This indicates Chorus Rate
25. Use the up/down arrow buttons to set the desired Chorus Rate: 0 = off and 10.0 = full. When Chorus Rate is set to 0 the chorus will act as a comb filter. Changing the value of Chorus Depth will move the comb filter point from 1 to 100. If no chorus or comb filter is desired set Chorus Depth and Rate to 0
26. Press the EFFECTS LOOP button
27. Use the up/down arrow buttons to select the desired Effects Loop status: "Out" = none or off, "A" = effect loop A only, "b" = effect loop B only, and "A b" = effect loop A and B together. Note: at this stage, pressing the up and down arrow buttons together will turn off effect loops A and B.

The MB-1 is monitored at seven points along the signal path for clipping via the front panel CLIP LED's. If the LED's flash on and off while you play there is no need for concern. The CLIP LED's are there to help you pinpoint overload distortion in the event you are having trouble obtaining a clean bass guitar tone. If you hear unwanted clipping and the LED's flash



while you play, you should lower the level of the parameter just before the indicated clipping point.



STORE MODE:

1. Press the STORE button. It will light. If you are in MIDI PRGM mode you will be prompted to press the INTERNAL PRGM button first. (You can't store a program to a MIDI program number!)
2. Press the BANK button, then use the up or down arrow buttons to select the desired bank number in which to store your program
3. Press the ones digit (0 to 9) of the desired program number in which you want to store your program. Your program is now stored.

Note: If you store to a program number which currently holds a program, the original program will be erased and replaced with the new program.

COPY PROGRAM

1. Call up the program number to be copied (See "accessing programs" section of this manual.)
2. Press the STORE button. It will light
3. Press the BANK button, and use the up or down arrow buttons to select the desired bank number in which to copy your program
4. Press the ones digit (0 to 9) of the desired program number in which you want to copy your program. Your program is now copied.

LOAD PRESET PROGRAMS

There are 29 factory preset programs (1-29) that can be loaded from factory preset ROM into the internal program memory via the front panel.

LOAD ONE PRESET

1. Select the preset you wish to load from ROM (See "accessing programs" section of this manual.)
2. Press the STORE button. It will light
3. Press the BANK button, and use the up or down arrow buttons to select the desired bank number in which to store your program (0-25.)
4. Press the ones digit (0 to 9) of the desired program number in which you want to store your program. Your program is now stored.

LOAD ALL 29 PRESETS

Note: If you have your own programs in internal memory numbers 1 to 29, loading all preset programs from ROM will erase your programs.

1. Press the STORE button. It will light.
2. Press the BANK button and while holding the BANK button down press the 1 button
3. The display will read "Presets Loaded." When the display returns to a program number, all 29 factory presets have been loaded into the INTERNAL register 1-29.



FACTORY PRESETS

- 1 SLAP 1
- 2 JAZZ 1
- 3 FATBOY
- 4 METAL
- 5 CLEAN
- 6 SLAP 2
- 7 DISTORTION
- 8 BUZZ
- 9 PUNCH 3
- 10 AQUA
- 11 PUNCH 1
- 12 GRINDER
- 13 PUNCH 2
- 14 MONSTER
- 15 CLASSIC
- 16 SLAP 3
- 17 POP
- 18 BEE
- 19 WAH
- 20 CLEAN TUBE
- 21 GRINDY TUBE
- 22 FULL DISTORTION
- 23 MOTOWN
- 24 FRETLESS GROAN
- 25 FRETLESS TALK
- 26 JACO
- 27 STONES
- 28 FUZZ
- 29 UPRIGHT



MIDI

SELECT MIDI CHANNEL

1. Press the MIDI CHNL button on the front panel of your MB-1. It will light.
2. Use the up or down arrow buttons to select a MIDI channel from 1 to 16 on the display.
3. When the desired MIDI channel number is displayed, press the MIDI CHNL button to store your selection and exit the MIDI channel edit mode.
4. Assign your MC-1 MIDI Foot Controller and any connected MIDI effects to the same MIDI channel number that you assigned the to MB-1 .

OPTIONAL MC-1 REMOTE

The ADA MC-1 is a universal MIDI FOOT CONTROLLER that permits sending program change commands to the MB-1 and the rest of your MIDI equipment.

MIDI DISPLAY MODES

The MB-1 has two display modes. In the MIDI display mode, the display shows MIDI Program numbers (1-128). In the Internal Program mode, the display shows Internal Program numbers (1-256) and Factory Presets (1-29). Either mode may be selected by pressing either the MIDI PRGM or the INTERNAL PRGM buttons.

MIDI MAPPING

The MIDI mapping feature allows you to "translate" any MIDI Program number received at the MB-1 's MIDI IN port to the MB-1 's INTERNAL PROM numbers (1-256). The MB-1 's MIDI THRU port will pass thru the MIDI Program number received at the MIDI IN port to subsequent connected MIDI devices. Mapped program numbers will not be sent to subsequent connected MIDI devices.

The MB-1 can be used as a MIDI Controller to subsequent MIDI devices that are connected to the MB-1 's MIDI OUT port. Since MIDI protocol only uses program numbers 1 thru 128, any front panel selected Internal Program number that is greater than 128 is not sent out of the MIDI OUT port. Note: The MIDI MAPPING feature is only used internally by the MB-1.

1. Press the MIDI PROM button
2. Using BANK, up/down arrows, and 0 to 9 buttons, select the MIDI Program number (1 to 128) to be mapped or "translated"
3. Press the INTERNAL PROM button twice. It will flash and the current Map assignment will be displayed
4. Using BANK, up/down arrows, and 0 to 9 buttons select the desired Internal Program number (1 to 256.) This is the number which the MB-1 will change to when a MIDI Program number is received from the MB-1 MIDI IN port (or the MB-1 front panel when the MB-1 is in the MIDI display mode)
5. Press the INTERNAL PROM button again to store your mapping assignment and exit mapping mode. Note: You may map multiple MIDI Program numbers to a single mapped Internal Program number.

ONE-TO-ONE MIDI MAPPING

The MB-1 is shipped from the factory with a one-to-one mapping assignment, i.e. MIDI program change number 1 received at the MIDI IN port will change the MB-1 to program number 1, program change 2 will change the MB-1 to INTERNAL program 2, etc. If you want to restore the one-to-one relationship for all 128 MIDI Program numbers:

1. Press the STORE button. It will light
2. Press the BANK button and while holding down the BANK button press the number 2 button.



3. The display will read " 1 to 1 LoAdEd." When the display returns to a program number, the one to one mapping assignment is complete. Note: Restoring one-to-one mapping will erase all previous MIDI mapping assignments.

MIDI SYSTEM EXCLUSIVE

The MB-1 's System Exclusive Save and Load features allow you to save and load programs to and from disk. In order to use these features you must have a computer with a MIDI interface and MIDI software which supports standard MIDI file save/load, or a MIDI sequencer that supports standard MIDI file save/load. You can down-load or up-load one program at a time or the MB-1 's entire internal memory. When you have completed programming your MP-I we recommend you back up your work by saving it to disk.

In order to use the save and/or load feature you must connect MIDI cables from the MB-1 MIDI IN and MIDI OUT ports to the appropriate MIDI IN and MIDI OUT ports of your computer/sequencer. NOTE: To avoid MIDI feedback disable MIDI ECHO/PATCH THRU on your computer or sequencer. If transferring data from one MB-1 to another, use one MIDI cable at a time to avoid MIDI feedback.

SINGLE PROGRAM SAVE

1. Select the program you wish to save to disk (see "accessing programs" section of this manual.)
2. Press the STORE button. It will light
3. Ready your computer/sequencer to receive data
4. Press the BANK button and while holding the BANK button down press the number 5 button. The display will read "CurrEnt SEnt." When the display returns to the program number, the save process is complete.

ALL PROGRAM SAVE

1. Press the STORE button. It will light
2. Ready your computer/sequencer to receive data
3. Press the BANK button and while holding the BANK button down press the number 6 button
4. The display will read "SEnding All. " When the display returns to a program number, the save process is complete.

MEMORY PROTECT

The MB-1 is shipped from the factory with Memory Protect turned ON. Before loading system exclusive data you must turn Memory Protect OFF.

1. Press the STORE button. It will light
2. Press the BANK button and while holding the BANK button down press the number 8 button
3. The display will read "S-E ProtEct on (or) S-E Protect oFF." When the display returns to a program number, the Memory Protect is on or off, as indicated
4. To turn the Memory Protect ON, use the same procedure.

SINGLE/ALL PROGRAM LOAD

Note: Up-loading a single program or all programs via MIDI system exclusive will erase any or all programs which reside in the MB1 's Internal Program RAM. The MB-1 will accept a MIDI System Exclusive message up-load at any time provided the Memory Protect is OFF, MIDI channel assignments are correct (see "Select MIDI Channel" section of this manual), and the cables are properly connected. A MIDI System Exclusive file saved to disk from the MB-1 will be recognized and up-loaded once executed by the sending MIDI device. During



an up-load the MB-1's display will read "Loading." Once you have completed a MIDI System Exclusive up-load, turn the MB-1 's Memory Protect ON.



TECHNICAL

FRONT PANEL CONTROL FUNCTIONS

CLIP	Monitors signal level at seven points of the circuit. To prevent unwanted clipping set levels so LED's light only during largest transients.
INPUT	Accepts instrument level 1/4" phone jack.
OUTPUT LEVEL	Sets volume without affecting tone or amount of distortion.
LED DISPLAY	Displays selected program number, MIDI channel number, and mapped program number in play mode. Displays selected parameter's current value in edit mode.

DUAL FUNCTION CONTROLS

IN PLAY MODE

PRESET	Selects Factory Presets storage register
BANK	Enter a bank number (0 to 25) by using the up or down arrows. After bank selection, you must select the "ones" digit using the buttons labeled (0 to 9) to exit bank select mode.
0 THRU 9	Selects the "ones" digit of the program number.
MIDI CHNL	Selects the MIDI channel edit mode. Use up or down arrows to select MIDI channel I to 16, ALL (OMNI) or OFF.
INTERNAL PRGM	Selects the user program storage register.
MIDI PRGM	Selects the MIDI Mapping storage register.

IN EDIT MODE

INPUT	Adjusts the amount of gain into the corresponding voice (Tube or Solid State.)
CONTOUR	Allows user to chose one of the six available contour filter curves for the corresponding voice (Tube or Solid State.)
OVERDRIVE	Adjusts amount of overdrive (distortion.)
MASTER	Adjusts the output level for the corresponding voice (Tube or Solid State), and its mix relationship with the other voice.
COMPRESSOR	Adjusts compressor ratio, threshold, and gain (compressor output level.)
LO	Shelving type EQ, +/- 14dB 50Hz
LO MID	Semi parametric type EQ, +/- 14dB @ 54Hz - 166Hz
MID	Semi parametric type EQ, +/- 14dB @ 170Hz - 545Hz
HI MID	Semi parametric type EQ, +/- 14dB @570Hz - 1680Hz.



HI	Shelving type EQ, +/- 14dB @ 1800Hz+
CHORUS	Adjusts chorus sweep depth and sweep rate.
EFFECTS LOOP	Allows choice of effect loop "A", "B", "A+B", or off.
EDIT	Places the MB-1 into Edit mode. The display reads "Edit" until a parameter is selected. Display then shows the value of the selected parameter. Use the up and down arrows to set the value of the selected parameter. If you decide not to edit the current program, but you've already pressed the EDIT button, you may exit the edit mode by pressing EDIT again.
STORE	Places the MB-1 into Store mode. Stores any current or edited program to any internal program number. Press STORE button followed by a program number. LED indicates Store mode is engaged. LED turns off when storage is complete. If you decide not to store the current program, but you've already pressed the STORE button, you may exit the Store mode by pressing STORE again.

DICTIONARY

The MB-1's hidden commands may be reviewed at any time while in play mode by pressing and holding the BANK button in combination with the desired function's command number button. We call this feature "Dictionary mode". To view the MB-1's hidden commands in Dictionary mode:

1. Press the BANK button and while holding the BANK button down press the number button which corresponds to the command you wish to view.
2. The display will show the hidden command.

The hidden commands and corresponding number buttons are as follows:

- BANK + 1 = LOAD ALL 49 PRESETS
- BANK + 2 = LOAD 1 TO 1 MIDI MAP
- BANK + 3 = SET CODE
- BANK + 5 = SEND CURRENT PROGRAM
- BANK + 6 = SEND ALL PROGRAMS 1-256
- BANK + 8 = SYS. EX. PROTECT ON/OFF
- BANK + 9 = ADA MESSAGE

NOTE: To execute one of the hidden commands, press the STORE button prior to pressing the BANK and number button.



REAR PANEL CONTROL FUNCTIONS

FUSE	Externally accessible 0.5 AMP fuse. Replace with equivalent type and rating only.
POWER SWITCH	ON/OFF Rocker switch (located near power supply to prevent AC line hum.)
MIDI THRU	Passes all MIDI data received at the in port to subsequent MIDI devices.
MIDI OUT	Transmits MIDI data originated by the MB-1 front panel.
MIDI IN	Receives MIDI data from MC-1 or other MIDI device.
PHANTOM POWER	9V AC/DC coaxial power input jack supplies phantom power to the optional MC-1 MIDI FOOT CONTROLLER thru the 7 pin din MIDI in jack and 7 pin cable.
PRE/POST	Switches Balanced Direct output Pre or Post MB-1 Preamp.
PIN 1 LIFT	Switches ground lift (pin 1) on Direct output.
DIRECT OUT	Balanced Direct output, XLR type
FULL OUT	Full Range output, 1/4" phone type
HI OUT	High Frequency output, 1/4" phone type.
LO OUT	Low Frequency output, 1/4" phone type.
LIMITER SWITCH	Switches L.F. Limiter ON/OFF.
LIMITER ADJUST	Adjusts L.F. Limiter
CROSSOVER	Adjusts the Crossover point between 150Hz to 750Hz.
RECEIVE B	Effect Loop "B" return, 1/4" phone type.
SEND B	Effect Loop "B" send, 1/4" phone type.
RECEIVE A	Effect Loop "A" return, 1/4" phone type.
SEND A	Effect Loop "A" send, 1/4" phone type.
RECEIVE LEVEL B	Adjusts Effect Loop "B" return level.
SEND LEVEL B	Adjusts Effect Loop "B" send level.
RECEIVE LEVEL A	Adjusts Effect Loop "A" return level.
SEND LEVEL A	Adjusts Effect Loop "A" send level.

SOFTWARE VERSION

The MB-1 displays the current installed software version during power-up. It is a three digit number with decimal point which is displayed just after the LED's flash in the power up sequence.

SELF DIAGNOSTICS

The MB-1 's internal self-diagnostic functions automatically check the unit for memory errors during power up. Additional checks are made when data is received in the form of MIDI System Exclusive messages. When an error is detected during power up, one or more error messages will be displayed. The following chart shows the error code that will be displayed in the event of a problem, the cause of the problem, and the appropriate action for you to take. Diagnostic status is also available via MIDI System Exclusive messages. For information on MIDI diagnostics, please refer to the MB-1 MIDI SOFTWARE SPECIFICATION AND PROGRAMMER'S GUIDE,



which may be ordered from your authorized dealer, or directly from ADA. Order ADA part number 701083.

ERROR CODES

DISPLAY	CAUSE	ACTION
C 1 to C 256	Preset checksum error. The preset indicated was found to be in error. The preset is initialized to default values.	Re-enter the data for the preset.
Err 1	MIDI map checksum error. All MIDI program numbers are set 1: 1 with internal memory numbers.	Re-enter MIDI map assignments.
Err 2	Working register checksum error. All values of stored parameters in the working register are set to default values. All are set to 0 except effects loop is set to 'out' and the tube voice is selected.	Call up another program number or re-enter parameter values via Edit session.
Err 3	MIDI control parameters checksum error. All parameters set to default values: MIDI = OFF, MIDI internal # = 1, most recently received MIDI program = 1, current program = 1, Memory protect = ON, and display flashes.	Re-enter MIDI parameters via front panel.
[None]	Indicates the program itself has an error. Program will not display anything and unit will not operate.	Check power source and fuse. If good, unit requires service.

BATTERY REPLACEMENT

The MB-1 uses a 3-volt Lithium battery which maintains power for program storage while the MB-1 is unplugged from an AC supply. Expected battery life is 8-10 years. Should replacement be necessary, contact a qualified service technician.

TUBE REPLACEMENT

Your factory installed 12AX7A tubes should last approximately two years. When tube replacement becomes necessary, we recommend that you use only ADA factory-tested replacement tubes for the cleanest and quietest performance possible. These can be obtained from ADA or an authorized ADA dealer. Order ADA part number 800301 for a matched pair. For more information call ADA customer service at (415) 632-1323.



SPECIFICATIONS

EQ:	LO Shelving type, +/- 14dB @ 50Hz; LO MID Semi Parametric type, +/- 14dB @ 54Hz-166Hz; MID Semi Parametric type, +/- 14dB @ 170Hz-545Hz; HI MID Semi Parametric type, +/- 14dB @ 570Hz-1680Hz; HI Shelving type, +/- 14dB @ 1800Hz+.
TUBE COMPLEMENT:	Three stages of gain using two, low noise 12AX7A.
MIDI:	Channel 1-16, OMNI, OFF; Program change: External 0-128, Internal 1-256; MIDI Mapping, System Exclusive Dump and Load.
CHORUS:	Depth 0 (none) to 100, Speed 0.1 sec. to 10 sec.
INPUT:	1/4" phone jack, high impedance (1 meg ohm) wide range.
OUTPUT:	Full range: 1/4" phone jack line level. Bi-amp: Hi and Low 1/4"phonejacklinelevel. Direct: Balanced XLR, assignable pre or post, ground (pin 1) liftable.
EFFECT LOOP:	Two parallel independently assignable in/out with independent send and return level control.
COMPRESSOR:	Selectable threshold, ratio (1:1 to 40:1), and gain.
CONTOUR:	Six selectable filter curves for each voice (Tube and Solid State.)
CROSSOVER:	Adjustable 150Hz to 750Hz.
POWER:	120V AC, 50/60 Hz. POWER CONSUMPTION: 12 watts.
DIMENSIONS:	D-10.5", W-19", H-1.75" (1 rack space.)
WEIGHT:	6 lbs. 8 lbs shipping.
OPTIONS:	220V AC, 50/60 Hz. Extended 3 year warranty.
OPTIONAL ACCESSORIES:	MC-1 MIDI Foot Controller, Phantom power cable.



APPLICATION NOTES

PERFORMANCE

When plugging a cable from your bass guitar directly into the MB-1's front panel input, we recommend strain relieving it by looping the cable twice through the handle of your rack case. This will prevent any damage to the MB-1's input jack should someone step on the bass guitar cable.

PROGRAMMING

We recommend programming your "cleanest/loudest bass guitar tone" program first. Get it as loud as you can without any distortion. You should then use this program as a volume reference while building the rest of your programs, in particular the MASTER parameters. From this reference you will be able to match or decrease the level of clean programs. Overdrive programs can then be set louder, equal to, or less than your reference.

BACKUP/DOCUMENT

Once you've put all that work into programming your MB-1, backup your memory with System Exclusive Bulk Dump. If you can't get access to a disk drive put pen to paper and document your work (an ounce of prevention is worth a pound of cure!)

RETURNING UNITS FOR SERVICE

If your MB-1 requires service, please call our Customer Service Department at (415) 632-1323 for a Return Authorization (RA) Number and shipping instructions. Do not ship repairs to ADA without an RA number.

WARRANTY

ADA MB-1 (excluding tubes) is warranted against defects in material and workmanship for a period of three-hundred and sixty five (365) days from date of purchase. Original factory installed tubes are warranted against defects in material and workmanship for a period of ninety (90) days from date of purchase. During the warranty period, ADA or its agent will, at its sole option, repair or replace defective parts and make necessary repairs to the product which is defective at no charge. If the failure is the result of misuse, abuse, accident or misapplication, ADA has no obligation to repair or replace the failed product. ADA retains the right to make such determination on the basis of factory inspection. ADA will not be responsible for any device damaged by the MB-1. This warranty remains valid only if repairs are performed by ADA or its agent, and provided that the serial number on the unit has not been defaced or removed. This warranty is expressly in lieu of all other warranties either expressed or implied. This warranty gives you specific rights. You may have other rights that vary from state to state.

OPTIONAL EXTENDED WARRANTY

An optional three year warranty is available on the MB-1 if the extended warranty protection policy is purchased within the first 90 days of purchase. The policy covenants and restrictions are the same as our standard one year warranty, only the term is increased an additional three years after the original factory warranty expires. For the extended warranty application call ADA customer service at (415) 632-1323.



