

Fender[®]

M-80 BASS

Owner's Manual

P/N 040045

M-80 BASS OWNER'S MANUAL

The Fender M-80 BASS amplifier is the most recent effort in state-of-the-art bass amplifier technology, and is the first bass amp entry in the popular FENDER M-80 series. The design execution was carried out with the aid of some of today's best players, and represents years of thought and consideration in the determination of features and specifications. The features included in the M-80 BASS will provide a forum for almost every conceivable playing style from "contemporary" to those yet to come.

This manual covers all the features and functions for both M-80 BASS models; the stand alone HEAD and the 1-15" COMBO.

Much attention has been given to those who would like to take advantage of new signal processing devices which have appeared in recent time. Processors from simple battery powered devices to professional rack mounted studio effects may be used at will. This facility is accomplished through the use of the front panel EFFECTS LOOP SEND and RETURN. The preamp section of the M-80 BASS features two inputs of differing sensitivity, that allow connection of a variety of signal sources and levels. Built in emphasis circuitry is included to provide enhancement of the extreme low and high ends of the frequency spectrum. Wide range active TREBLE and BASS controls allow further response tailoring of the high and low frequency areas of the sounds you and your instrument produce. A unique feature of the M-80 BASS is the dual function MID control. Not only does it provide a full 18 decibels of boost or cut, but it also automatically switches the affected frequency band from 200 Hz for cut, to 1200 Hz for boost. These two frequencies were determined over time and through extensive testing and consulting with many top players, to be the most preferred and effective frequencies in obtaining a good bass sound quickly and easily. The rugged 160 Watt power amplifier was designed to give years of reliable service under all conditions and is equipped with our exclusive DELTACOMP adaptive compression system. When DELTACOMP engages, it is practically impossible to cause the power amplifier to clip (distort). With DELTACOMP, apparent compressor release time is kept short, yet waveform distortion is kept to a minimum at low frequencies. The inclusion of CHORUS infinitely widens the range of tonalities this amplifier can produce. By incorporating the chorus circuitry within the power-amp/compressor loop, the need for complicated and expensive companding (quieting) circuitry has been eliminated.

The M-80 BASS Head is designed to perform well with almost any high quality speaker system, but performs best when used with members of the FENDER M-80 BASS series and FENDER BXR series, which include various combinations of ten inch, fifteen inch, and eighteen inch speakers. The M-80 BASS Combo incorporates a highly efficient, computer designed tuned port cabinet, and delivers 100 Watts to its single fifteen inch FENDER special design driver. Full power is realized when connecting an additional 8 ohm cabinet, such as the HM4-10B or BXR-115.

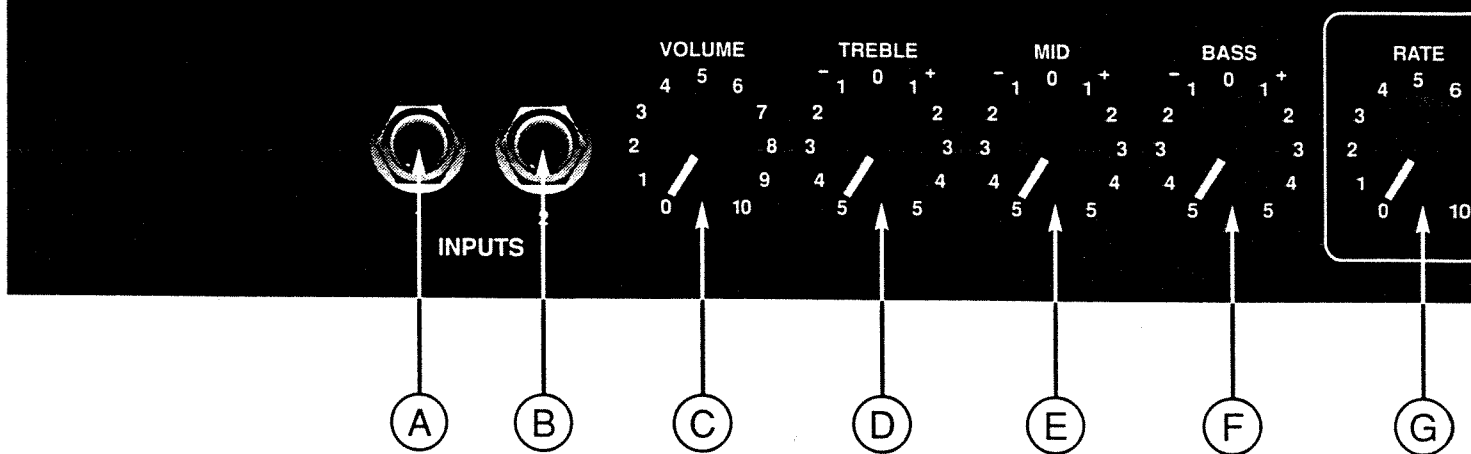
The selection of a Fender amplifier will reward you with years of quality music in a wide range of controlled sounds. This manual is designed to familiarize you with the equipment and to acquaint you with its many fine features. Read it carefully so that you will benefit from all the features as soon as you start using the amplifier.

The built-in quality of a Fender amplifier is the result of over three-and-a-half decades of dedication in the combined skills of research and development by our engineers and musicians.

That is we proudly say... FENDER, The Sound That Creates Legends.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE UNIT TO RAIN OR MOISTURE.

160 WATTS

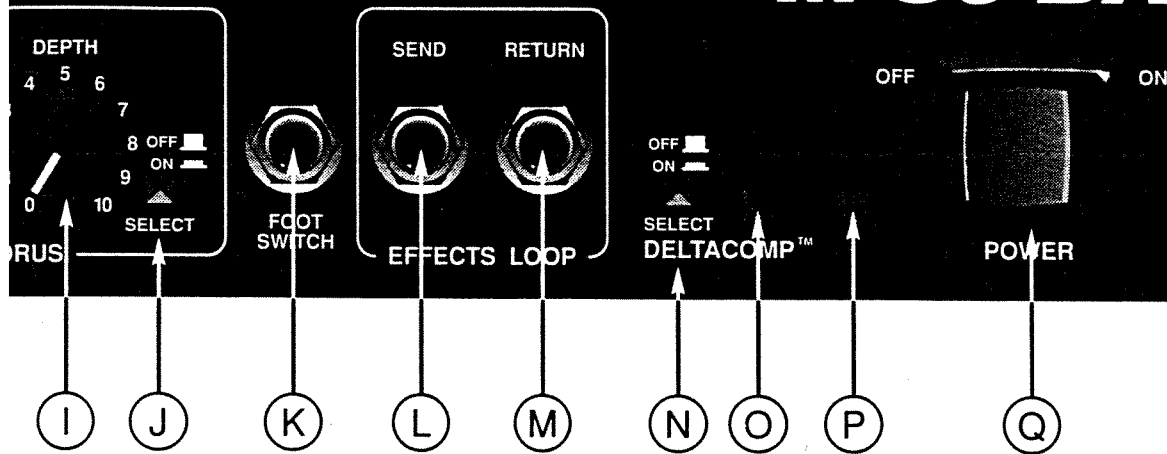


FRONT PANEL DESCRIPTION

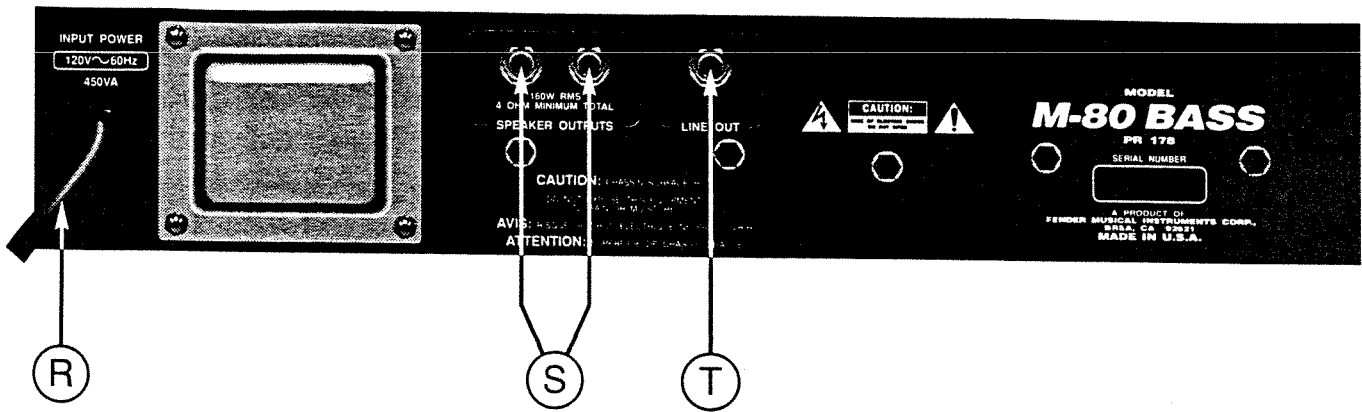
The front panel contains all items necessary for system operation and observation. Please read this section of the manual carefully to make sure you understand all the operational features of your new FENDER M-80 BASS amplifier. The diagram above corresponds to the Combo version. The front panel functions are identical for the M-80 BASS HEAD, only the order is reversed.

- A. **INPUT 1:** A high impedance, high sensitivity plug-in connection for instruments.
- B. **INPUT 2:** Plug-in connection for instruments. The high gain input (INPUT 1) should be used for most instruments. This input can handle as much as 3.5 volts R.M.S., while the low gain input (INPUT 2) accepts 7 volts R.M.S. without audible distortion. For both cases, this is greater than any active bass with a 9 volt battery can produce. If you are using a bass with dual 9 volt batteries, or a "hot" passive bass, it might be wise to try INPUT 2. For the rare case where two players want to use one amplifier, or where two instruments are to be used during the performance, both inputs may be used.
- C. **VOLUME:** This control sets the gain of the preamp and serves as an adjustment for the "loudness" of the amplifier.
- D. **TREBLE:** Adjusts the high frequency part of the spectrum. Turning the treble up will cause the sound to become "BRIGHT" or more "CRISP".
- E. **MID:** Adjusts the middle frequency part of the spectrum. Turning the control clockwise from the center detent will boost frequencies centered around 1.2 kHz. Turning the control counterclockwise from the detent will cut frequencies centered around 200 Hz.
- F. **BASS:** Adjusts the low frequency part of the spectrum, the area where the "deep" fundamentals reside.
- G. **RATE:** Adjusts the sweep rate of the chorus generating circuitry. A lower number corresponds to a slower rate of sweep.
- H. **CHORUS INDICATOR:** This LED is illuminated when the chorus is active. The intensity of the LED is modulated by the chorus sweep LFO to give a visual indication of the sweep rate.
- I. **DEPTH:** Adjusts the intensity of the chorus effect. A lower setting will introduce a subtle yet distinct effect whereas a higher setting will create a more dramatic effect. With both the RATE (item G) and DEPTH controls set midway or higher, a variety of vibrato/tremolo type effects can be achieved.

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- J. SELECT:** Activates the chorus generating circuitry for a fuller, more colorful sound. NOTE: This switch disables the Chorus Select FOOTSWITCH (item K).
- K. FOOTSWITCH:** Plug-in connection for remote footswitch to switch the CHORUS on and off. For proper operation of the footswitch, the CHORUS SELECT (item J) switch should be out. NOTE: Any good quality patch cord will work with the remote footswitch, however a speaker grade cord is preferable to a coax guitar cord when it's available.
- L. EFFECTS LOOP SEND:** This jack provides an unbalanced mono output signal from the preamp at a point before the internal chorus circuits. This output can be used in conjunction with the RETURN (item M) as a patch point for external mono effects devices. The SEND can also be used to feed recording and sound reinforcement mixers a dry signal. (For a signal with internal CHORUS, use the rear panel LINE OUT jack (item T)). Additionally this output can be used to drive another M-80 BASS as a slave amp. This is done by connecting a standard guitar cord from the SEND jack of the master amplifier to the RETURN jack (item M) of the slave.
- M. EFFECTS LOOP RETURN:** This unbalanced jack inputs signal directly to the chorus generating circuitry, which then drives the power amp section. It automatically disconnects the preamp circuitry when used. This is useful when using the Effects Loop option or when using the M-80 BASS as a slave amplifier for a mono signal source. The CHORUS is active in the slave so that a chorused signal will be generated if selected.
- N. DELTACOMP:** DELTACOMP is Fender's exclusive compressor circuit used in the M-80 BASS. This circuit is designed to prevent the power amplifier section from clipping, causing unwanted distortion. With the button "IN," DELTACOMP is ON. With the button "OUT," DELTACOMP is OFF, and a special ASYMMETRIC LIMITER circuit is enabled. The Asymmetric Limiter is designed to "smooth-out" any distortion caused when the power amplifier clips by adding even-order harmonics.
- O. DELTACOMP INDICATOR LED:** This led, when lit, indicates that the power amplifier has reached full power and that either DELTACOMP or LIMITING has occurred, depending on the position of the switch. The unit may seem louder without DELTACOMP, since the power amp will be allowed to go into clipping. With DELTACOMP on, your volume level will be rather loud before the compressor turns on; this is normal.
- P. POWER INDICATOR:** When this LED is illuminated, the M-80 BASS is receiving power.
- Q. POWER:** Turns the M-80 BASS on or off.



REAR PANEL DESCRIPTION

The above diagram corresponds to the M-80 BASS COMBO. Orientation differs slightly on the M-80 BASS HEAD.

- R. **LINE CORD:** The line cord should be connected to a suitable power source, with the correct voltage and frequency, as shown in the power rating at the amplifier rear. If you are not sure, check some other piece of equipment in your area. **DO NOT ALTER THE 3 PRONG PLUG.**
- S. **SPEAKER OUTPUTS:** Speaker connections are four ohms minimum total. The two jacks are wired in parallel. The M-80 BASS is not designed for speaker loads lower than 4 ohms total.
- T. **LINE OUT:** This output is derived from the speaker outputs, and is at line level, similar to that of the EFFECTS LOOP SEND jack (item L) on the front panel. LINE OUT includes the effects of DELTACOMP and CHORUS if selected, and can be used to drive slave amplifiers for more output. It can also be used in the studio with proper equalization as a recording output.

FABRIC CARE

The exclusive Fender fabric covering your cabinet has been especially designed for years of lasting beauty. A very light, soapy solution on a sponge may be used to remove dirt and residue that may accumulate in the fabric. Be careful not to let any liquid come in contact with operating surfaces. **DO NOT** have the amplifier plugged into the power outlet when cleaning.

TROUBLESHOOTER'S CHECKLIST:

If the amp is set up but does not function, check the following items:

- Is the amp power cord properly plugged into an electrical outlet?
- Is there power at the outlet?
- Is the speaker properly connected to the amplifier?
- Are all the control knobs turned up?
- Is the volume control on the instrument turned up?
- Is your instrument properly plugged into the amplifier?
(Eliminate any effect pedals and try another guitar cord.)

If, after checking all of the above, the system is still not performing correctly, consult your Fender Service Dealer.

SPECIFICATIONS

POWER AMPLIFIER SECTION

| | |
|----------------------------|------------------|
| Power output: | 160 Watts |
| Rated load impedance : | 4 Ohms total |
| Distortion at rated power: | 1% |
| Damping factor, at 4 Ohms: | Greater than 100 |
| Power bandwidth: | 20 Hz to 20 kHz |
| Input sensitivity: | 0.90 volt R.M.S. |
| Input impedance: | >10k Ohms |
| Slew factor: | Greater than 1 |
| DELTA COMP range: | 20 dB |

PREAMP SECTION

| | |
|--|--|
| Input impedance: | Input 1 >800k Ohms Input 2 >100k Ohms |
| Sensitivity: Volume at maximum, all tone controls at "0" detent, chorus off, power amp at 160 Watts, 4 Ohm load. | Input 1 10mV Input 2 20mV |
| Equalization range: | TREBLE +/- 17 dB at 5 kHz MID +18 dB at 1.2 kHz/-18 dB at 200 Hz BASS +/- 14 dB at 40 Hz |
| Power requirements: | 120 volts AC, 60 Hz, 450 Watts Max. |

PHYSICAL SPECIFICATIONS

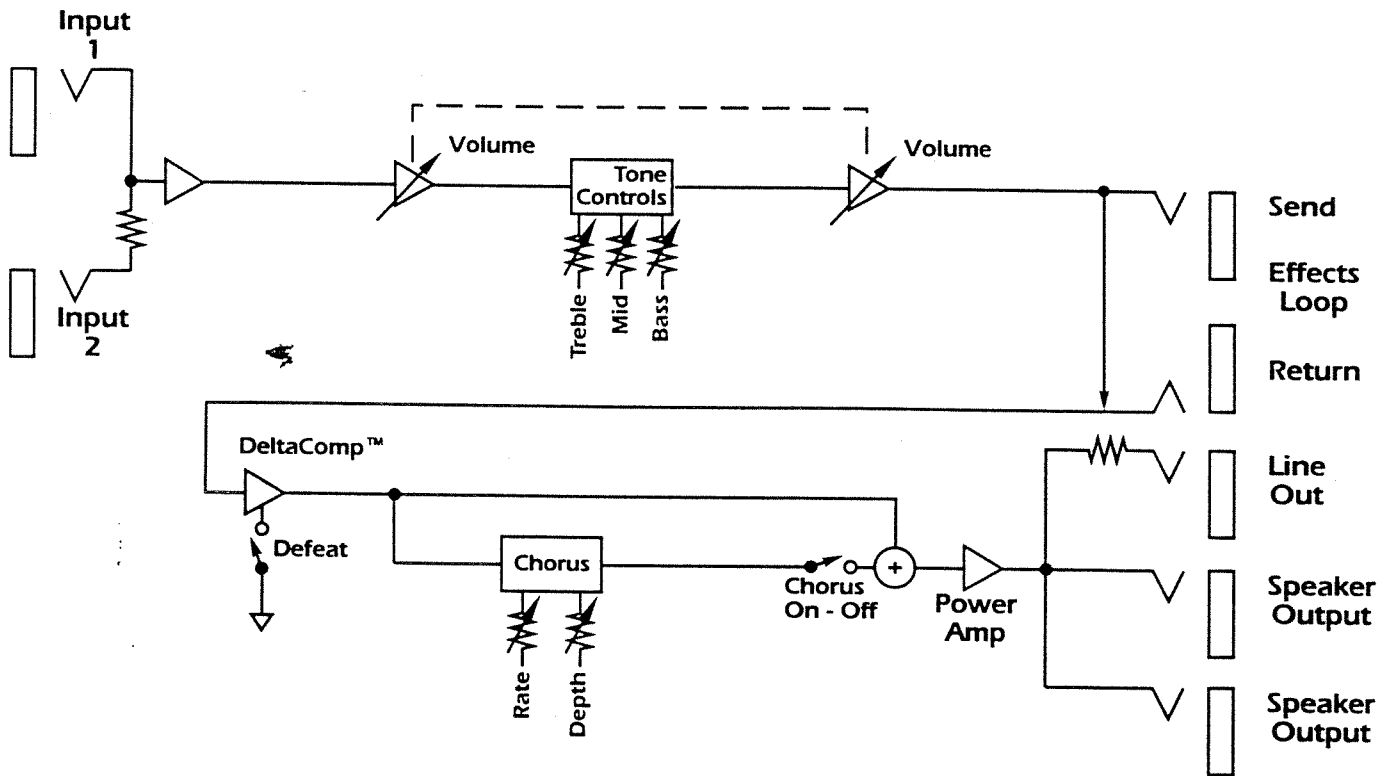
M-80 BASS HEAD (Fender P/N 022-4207)

| | |
|---------|------------------------|
| Width: | 27 inches (68.5cm) |
| Height: | 11-1/2 inches (29.2cm) |
| Depth: | 12-1/2 inches (31.8cm) |
| Weight: | 35 lbs. (15.9 kg) |

M-80 BASS COMBO (Fender P/N 022-4200)

| | |
|----------|--|
| Width: | 21-1/2 inches (54.6cm) |
| Height: | 25-1/2 inches (64.8cm) |
| Depth: | 13-1/2 inches (34.3cm) |
| Weight: | 65 lbs. (29.5 kg) |
| Speaker: | 1-15" Fender Special Design (P/N 027577) |

M-80 BASS BLOCK DIAGRAM



A PRODUCT OF:
FENDER MUSICAL INSTRUMENTS
BREA, CA 92621