



MARK III SERIES 260 MONITOR OPERATING GUIDE

INTRODUCTION

The new Peavey Mark III 260 Series Monitor represents our latest effort to bring to the market place a moderately powered monitor featuring many "state-of-the-art" features not found in competing equipment at any price. The new 260 Monitor embodies unique features that have been developed in conjunction with our massive R & D program on the Mark III Series instrument amplification systems, as well as our CS Series professional power amplifiers.

For many years, our 260 Monitor has been the "standard of the industry" for a small medium-powered system. The recent circuit improvements make this system an even better performer in every way. This new system has been **totally** redesigned from the special input jacks through to the power output connectors. Both the inputs and outputs have been short-circuit and overload protected and many new and interesting features have been incorporated into this versatile system. Comparison of features and performance with any competing unit anywhere near to its moderate price range will illustrate the market superiority of our new Mark.III 260 Monitor system.

GENERAL DESCRIPTION

The new 260 Monitor features line inputs with virtually infinite dynamic range since the input is connected directly to a 50K-Ohm potentiometer. This type of input setup will enable use of the 260 Monitor with any level from approximately ½ Volt up to and including speaker levels (25 - 30 Volts RMS). This tremendous dynamic range, coupled with the relatively high 50K-Ohm input impedance allow patching the 260 Monitor into almost any signal point in any audio system. The special design of our input circuitry is protected from overvoltage and transients and possible overdrive of the input front end by the arrangement of the level control in **front** of the input preamp.

A special low cut filter has been incorporated that enables a very sharp variable rolloff to be introduced into the signal path to prevent the relatively "non-directional" low frequency signals from causing problems in the monitor system such as "muddiness," lack of clarity, and feedback tendencies. This unique filter is totally variable from approximately 200 Hz to 20 Hz, which is the lower frequency limit of the system. The low cutoff setting may be considered flat and should be the position at which the system is set (i.e., flat) if the rolloff filter is not required.

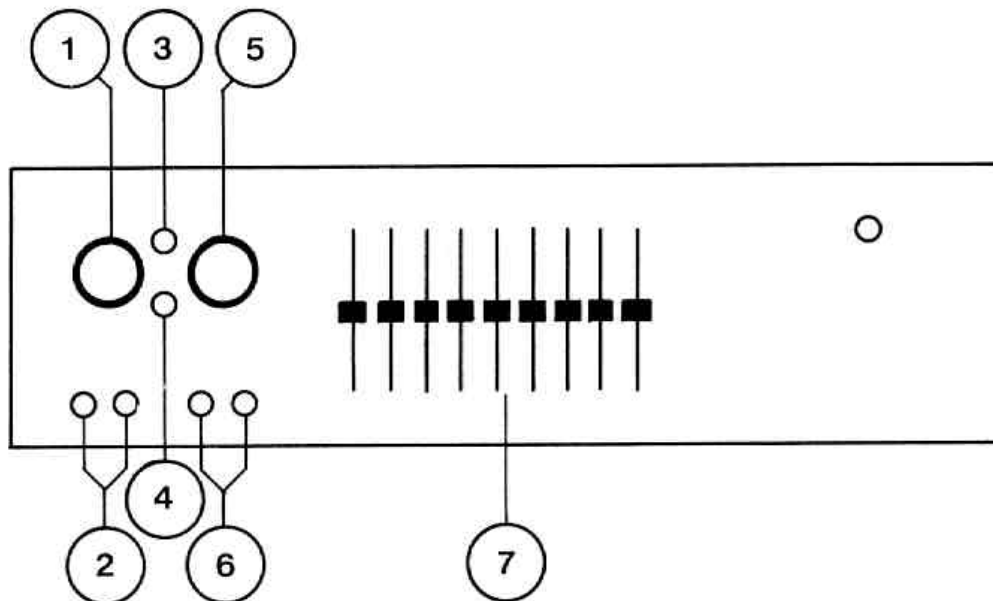
The built-in line amplifier is capable of supplying better than 2 Volts RMS into 600 Ohms and provides adequate output capability to drive almost any auxiliary signal processing unit or power amplifier. The output is completely shortcircuit protected and should present no problem when interfacing with other equipment.

The nine-band graphic equalization circuitry is designed around the latest in solid-state filter technology and provides nine distinct bands of equalization to allow incremental control over the various frequency bands.

The Mark III 260 Monitor is a small and reasonably powered unit featuring a 130-Watt RMS power amplifier with a full complement of equalization and frequency compensation controls and includes a new type of dynamic compression circuitry. The compression effect enables us to maximize the performance of the amp/speaker combination. We have determined through much research that compression circuitry should prevent the amp/speaker combination from running out of headroom (clipping) and should be as simple to operate as possible to avoid undue complication for the user. Our effective compression circuitry is controlled by a simple on/off switch and its action is indicated by an LED.

Overall, the Mark III Series 260 Monitor represents a quantum increase in circuitry and sophistication over its predecessor, as well as the few units that compete with it in the market. Experimentation and familiarization with the equipment will allow the operator to obtain favorable results when used with acceptable speaker systems and mike/speaker placements.

WARNING: To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture.



FRONT PANEL LEVEL CONTROL (1)

This level control is a conventional 50K audio taper pot that is located in **front** of the input preamp and is arranged in such a manner as to provide virtually infinite dynamic range, accepting signals as low as $\frac{1}{2}$ Volt up to speaker levels (20 - 30 Volts). This feature allows maximum flexibility as far as signal takeoff within most audio systems.

LINE INPUTS (2)

The line inputs are twin standard $\frac{1}{4}$ " jacks that feature a unique switching function. Either input may be used and the switching circuitry allows parallel operation when both line input jacks are plugged into simultaneously. This unique paralleling action may be used for bridging through the jacks, etc., etc. Their function is simple and straightforward and should present no operational difficulty. When neither jack is used, a short circuit is provided at the input to minimize noise and hum pickup.

COMPRESSION SWITCH (4)

The compression switch consists of a simple on/off arrangement whereby the compression circuitry is switched in or out of the circuit. Action of the compression circuitry is indicated by illumination of the compression LED on the front panel (3). When operating this unit with the compression circuitry activated, one should not be concerned that the limit LED indicates compression virtually constantly during a performance since this is what it was designed to do; i.e., to maximize the dynamics available from the power amplifier within its output capabilities. The compression effect may be switched off by the toggle switch on the front panel. We have not included other compression controls since this compression is based on our exclusive DDT ("distortion detection technique") circuit that senses conditions that might cause power amp overload and activates the compression circuit when clipping is imminent. Generally speaking, when operating units of moderate power output capability such as this 130-Watt unit, it is desirable to keep the compression circuitry active during the entire performance since this will tend to prevent power amp overload, while at the same time protecting the speaker system from receiving overloaded (square wave) signals. Clipped (square wave) signals present a very severe strain on most speaker systems because of the significant amount of DC present when the power amplifier clips at either extreme of the voltage swing. It is prudent to make sure that the input level control is adjusted properly to prevent clipping the input preamp since the compressor works on the output amplifier and will not prevent overdriving the front end preamp.

LOW CUT FILTER (5)

The low cut filter consists of an active high pass (low cut) filter, embodying the latest operational amplifier technology to produce a variable 12 dB/octave rolloff characteristic at any frequency between 20 Hz and 200 Hz. In the normal mode of operation, the low cut control should be operated in the flat (20 Hz) position which will allow the frequency response to extend downward to this point. Because of the relatively non-directional characteristics of the lower frequencies, as well as other problems generally encountered with excessive low end response in a monitor system, we have provided the capability of sharply rolling off at any point that is variable between flat (20 Hz) up to 200 Hz. This unique low cut capability allows us to selectively set the low end characteristics of the monitor system and will serve to prevent undesirable low frequencies from destroying good monitor sound due to excessive stage "rumble," directional problems which tend to cause feedback, and other low frequency related problems that are particularly difficult to deal with in conventional monitor systems. Operation of this low cut control should present no problem and experimentation will allow the user to determine at what point this filter should be used in a performing situation. Remember that normally this filter should be in the flat position which effectively places the filter out of the circuit. Any adjustment should always be started from this basic flat (20 Hz) position; that is, the control should be fully counterclockwise.

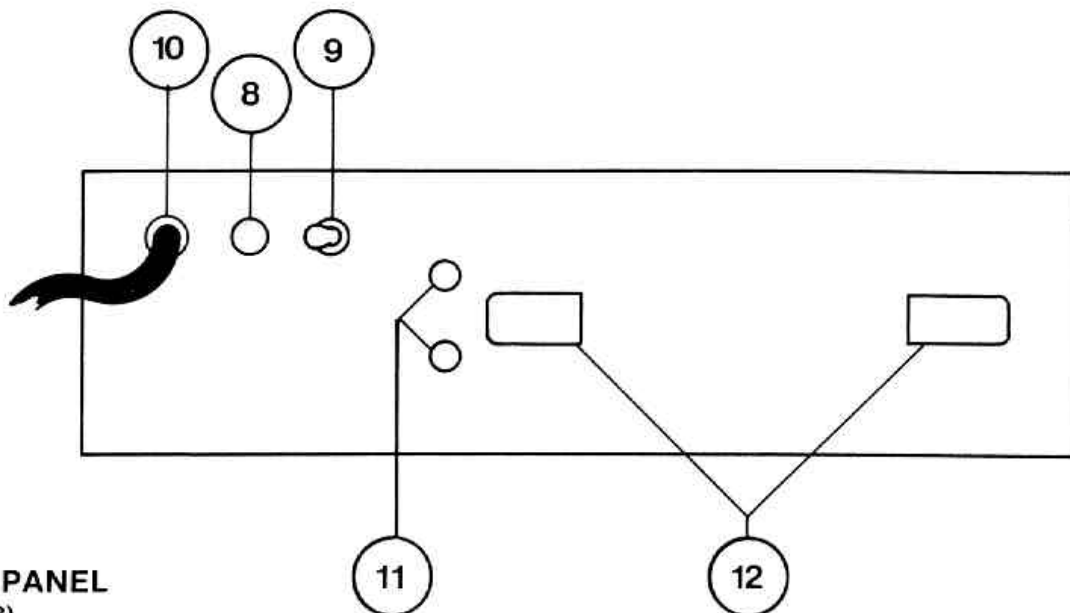
LINE OUT (6)

The line out jacks are wired in parallel and present a 600-Ohm output impedance with a nominal output capability of 2 Volts RMS. The entire 260 Monitor system when operated in the flat position at maximum volume presents a total voltage gain of approximately 4, i.e., $\frac{1}{2}$ Volt in will result in 2 Volts out. (Simultaneously, the power amp will provide full power output.) This line out is transient and short-circuit protected and is capable of driving almost any audio accessory device designed for line levels.

GRAPHIC EQUALIZER (7)

The graphic equalizer built into the 260 Monitor provides a wide range of boost and cut of nine separate ranges at 1-octave intervals across the audio band from 50 Hz to 12,000 Hz, which generally covers the range important in monitor systems. The action of this graphic is more or less conventional with the center settings of the sliders resulting in "0" boost or cut, with corresponding boost in the upper positions and cut in the lower positions. Generally, all equalization should start out in the flat ("0") position. One should avoid overboosting various frequencies since this sometimes promotes feedback and other undesirable characteristics in the monitor system. Overboosting the lows will often create a "muddy" sound that will cause feedback, as well as strongly detracting from the overall monitor sound, and use up excessive power capability. Overboosting the high end can definitely promote feedback and may give an undesirable "strident" or "screechy" sound to the monitor. One should be careful to realize that cutting the low frequencies using the low cut control, and subsequently boosting the low end using the graphic, is not good practice since this tends to interfere with the maximum dynamic range capabilities of the circuitry; i.e., it is not a good idea to have the low cut filter and the graphic equalizer opposing each other.

It is wise to avoid **excessive** cutting of large segments of the audio passband since this may tend to reduce dynamic range of this system. As a rule, a flat monitor system is desirable but, in practice, one generally requires some degree of equalization to arrive at a satisfactory monitor level. Due primarily to feedback limitations, experimentation and on-stage experience are the keys to achieving a proper overall tonal balance.



REAR PANEL FUSE (8)

The fuse is located within the cap of the fuseholder and must be replaced with one of the proper type and value if it should fail. It is necessary that the proper type and value fuse be used in order to avoid damage to the equipment and to prevent voiding the warranty. If your unit repeatedly blows fuses, it should be taken to a qualified service center for repair.

POWER SWITCH (9)

On domestic units, the power switch is of the three-position type with the center position being "OFF." This switch has two "ON" positions, one of which is used to ground the amplifier properly. One of the "ON" positions will yield the lowest amount of residual hum and this is the position that should be used.

On export models, we utilize a simple on/off switch that does not have multiple "ON" positions since the grounding (earthing) conditions vary with the different electrical systems of the United States versus other nations.

LINE CORD (10)

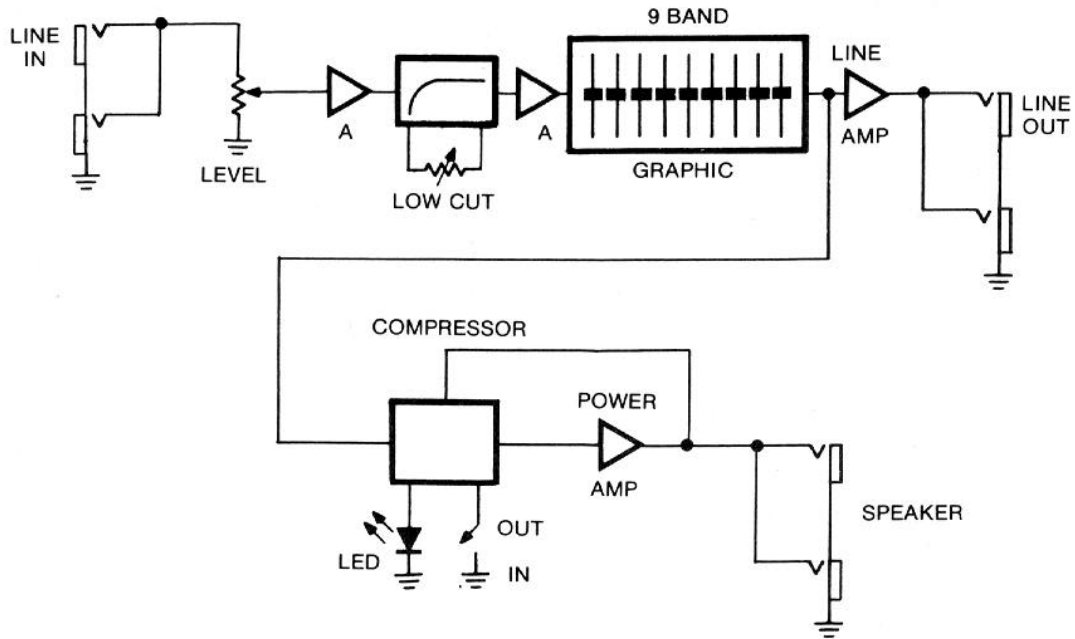
For your safety, we have incorporated a three-wire line (mains) cable with proper grounding facilities. It is not advisable to remove the ground pin under any circumstances. If it is necessary to use the amp without proper grounding facilities, suitable grounding adaptors should be used. Much less noise and greatly reduced shock hazard exist when the unit is operated with the proper grounded receptacles.

SPEAKER OUTPUTS (11)

The speaker output jacks are wired in parallel and are of the standard $\frac{1}{4}$ " type. Both the output jacks are wired in parallel and either or both may be used when connecting your speaker system. The 260C module has been optimized for a 4-Ohm load but has adequate performance to drive loads both above and below the recommended 4-Ohm impedance. Extreme care should be used when operating a unit at below 4 Ohms since lower load impedances tend to overload the power amplifier and may cause premature activation of the power amp's short-circuit protection system and/or thermal fault protection circuitry. Because of the unique design of the compressor, the circuitry will still minimize clipping regardless of load values.

LINE (MAINS) CORD RETAINERS (12)

We have provided two large molded line cord retainers on the rear panel to allow storage of the mains cable for travel. In operation the cable should be **completely** unwrapped to allow maximum heat dissipation from the rear panel/heatsink.



DANGER
 EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.
 THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS	SOUND LEVEL dBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	110
½ or less	115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS.
 EAR PLUGS OR PROTECTORS IN THE EAR CANALS 3 DB OR OVER THE BARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

CAUTION
 THIS AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC WHICH MAY REQUIRE OCCASIONAL PEAK POWER. TO HANDLE OCCASIONAL PEAK POWER, ADEQUATE POWER "HEADROOM" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVELS IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE ASSOCIATED LOUDSPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, heater, radiator or another heat producing amplifier.
8. Connect only to a power supply of the type marked on the unit and to the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding write for our free booklet "Shock Hazard and Grounding."
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag, or an ammonia based household cleaner if necessary.
13. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
14. This unit should be checked by a qualified service technician if:
 - A. The power supply cord or plug has been damaged.
 - B. Anything has fallen or been spilled into the unit.
 - C. The unit does not operate correctly.
 - D. The unit has been dropped or the enclosure damaged.
15. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.

SPECS

- POWER OUTPUT:**
130 Watts RMS @ 0.1% THD, 4 Ohms, with DDT
- SENSITIVITY:**
0.5 V RMS for full power output, EQ flat, level control full CW
- INPUT IMPEDANCE:**
Greater than 20K Ohms
- MAX. AVAIL. GAIN LINE INTO LINE OUT:**
12 dB, EQ flat
- LINE OUTPUT SOURCE IMPEDANCE:**
600 Ohms
- LINE OUTPUT LEVEL:**
2 V RMS when power amp clips
10 V RMS max. into 10K Ohms
5 V RMS max. into 600 Ohms
- EQUALIZATION:**
±12 dB @ 50, 100, 200, 400, 800
1.5K, 3K, 6K & 12K Hz
- LOW-CUT FILTER:**
Adjustable from 200 Hz to 20 Hz, 12 dB/octave rolloff



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