

MESA/BOOGIE[®]

SUBWAY[®] WD-800[™]

Owner's Manual

Greetings from the Home of Tone®

...You, smart player and intuitive human, have put your trust in us to be your amplifier company. This is something that we do not take lightly. By choosing this instrument to be part of your musical voice, you have become part of the MESA® family... WELCOME... and to those of you who are already part of the Mesa family, we thank you for returning to your roots.

Our goal is to never let you down. Your reward is that you are the new owner of an amp, bred of fine heritage, benefitting from the many pioneering and patented MESA circuits as well as fresh cutting edge research and development efforts, leading to this new and exciting model. We feel confident that this amp will inspire many hours of musical satisfaction and lasting enjoyment. It was built with you in mind, by players who know the value of a fine musical instrument and the commitment it takes to make great music. The same commitment to quality, value and support we make to you... our new friend.

SUBWAY® WD-800™

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IMPORTANT SAFETY INSTRUCTIONS

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

To insure proper ventilation always make sure there is at minimum four inches (101.6mm) of space behind the rear of the apparatus. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc. Do not impede ventilation by placing objects on top of the apparatus which extend past the rear edge of its cabinet.

When Rack Mounting this unit proper ventilation space must be maintained. Do Not cover or block Front and Rear and allow at least 2" of open "breathing" space on both sides of the unit.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The AC plug is the mains disconnect. The plug should remain accessible after installation.

WARNING: EU: permission from the Supply Authority is needed before connection.

WARNING: Always make sure proper load is connected before operating the amplifier. Failure to do so could pose a shock hazard and may result in damage to the amplifier.

Do not expose amplifier to direct sunlight or extremely high temperatures.

Always insure the amplifier is properly grounded. Always unplug AC power cord before performing ANY service to the amplifier, including but not limited to changing the fuse. Use only same type and rating when replacing fuse.

Keep amplifier away from children.

To avoid damaging your speakers and other playback equipment, turn off the power of all related equipment before making the connections.

Do not use excessive force when handling buttons, switches and controls. Do not use solvents such as benzene or paint thinner to clean the unit.

Always connect to an AC power supply that meets the power supply specifications listed on the rear of the unit. Export models: always insure unit is wired for proper voltage. Make certain grounding conforms with local standards.

YOUR AMPLIFIER IS LOUD! EXPOSURE TO HIGH SOUND VOLUMES MAY CAUSE PERMANENT HEARING DAMAGE!

Your MESA/Boogie® Amplifier is a professional instrument. Please treat it with respect and operate it properly.

READ AND FOLLOW INSTRUCTIONS OF PROPER USAGE.

SUBWAY® WD-800™

Operating Instructions

OVERVIEW:

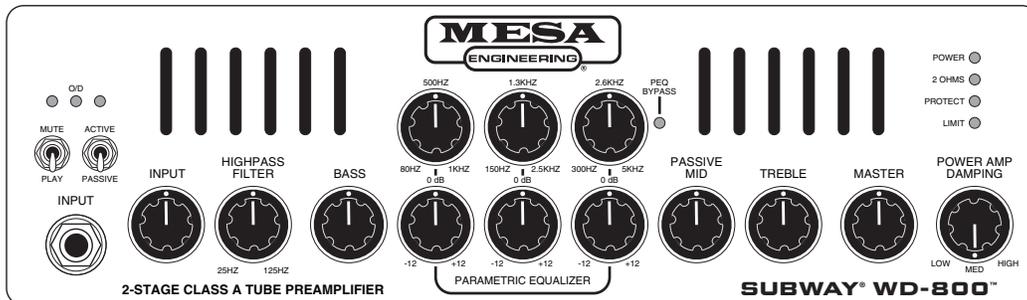
Congratulations on your choice of the SUBWAY WD-800™ and welcome to the MESA/Boogie® family! First, we would like to thank you for choosing us as your amplifier company and trusting us to help create your musical voice. This is something we never take for granted and you'll find that we are here and ready to assist you should you ever need help. Our goal is to help you sound your best at all times! We feel confident that your new amplifier will bring you many years of reliable service, rewarding inspiration and create for you a newfound freedom to express your music.

You have chosen an amplifier bred of a fine heritage, and this model is our testament to our legacy of tone. Its forefathers can be traced back to the very first MESA amplifier ever built, the MESA 450 Bass Head. In fact, the first 5 MESA amplifiers built in the Lagunitas mountain shack were Bass amps... a piece of trivia little known and overshadowed by our overwhelming notoriety for guitar amplification. But we've always loved the Bass, and have—since day one—been committed to elevating its stature through our art form. The bloodline for MESA bass continued with the first rack-mount chassis bass amplifier in 1980, the D-180. The mid-eighties saw the introduction of the BASS 400 and later in 1988, the BASS 400+ with its stunning pitch, punch and power delivered by an additional 6 x 6L6s to bring the total to twelve 6L6 power tubes in the mighty power section.

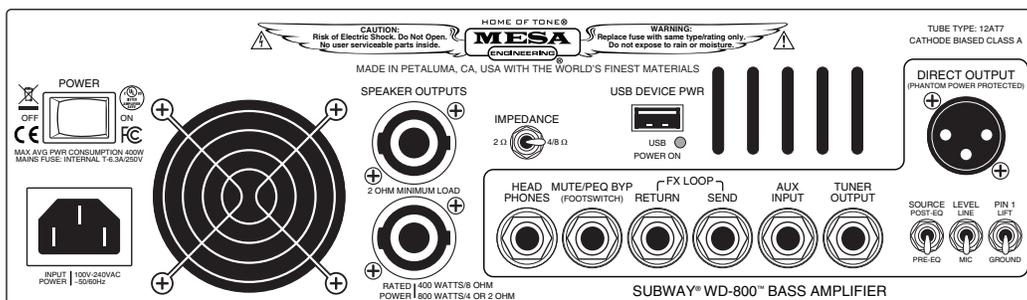
The 400+ went on to become a classic used by the world's most talented bassists for two decades. Paul McCartney, Mark King, Stanley Clark, Jack Blades, Michael Anthony, Blasko and Bootsy Collins, are but a few of the international stars that put the 400+ center stage to anchor the band during its 20 year build cycle. Those iconic amps still bring top dollar when you can find one changing hands on the pre-owned market. While MESA has since pioneered an entire line of tube-driven mosfet amplifiers (including the legendary Walkabout) that shored up our position in the bass market, changing times have encouraged us to take what we have learned over this time and create a whole new approach to the bass amp, while remaining true to our heritage and tradition of tone.

Tone Freaks Rejoice! The SUBWAY WD-800 is the next step in the MESA Bass Amp Bloodline. A tone dripping powerhouse that's both compact and lightweight, packaged to go the distance with features, packaging and control over the entire bass spectrum makes it an iconic step forward in bass amplification. The SUBWAY WD-800 is made in Petaluma, California with the World's Finest Materials.

FRONT VIEW: SUBWAY® WD-800™



REAR VIEW: SUBWAY® WD-800™



OVERVIEW: FRONT PANEL

The SUBWAY WD-800 begins with the front panel input section, which is comprised of the INPUT jack, MUTE switch and ACTIVE/PASSIVE switch. The INPUT jack feeds a high impedance J-FET input amplifier which provides appropriate loading for all active and passive pickups (including most piezo types). The MUTE switch silences the signal from the INPUT jack to the SPEAKER output, HEADPHONE output and DI output for silent tuning with a tuner connected in line with the instrument or to the TUNER OUTPUT jack. The ACTIVE/PASSIVE switch sets the gain of the input stage, reducing gain in the active position to prevent unwanted distortion from very high output basses and pedals. Indicator (tally) LEDs are provided for all switched functions.

The preamp section includes a hybrid J-FET/12AT7 (or 12AU7) vacuum tube variable GAIN stage incorporating tuned anti-saturation technology to prevent even momentary sticking to the supply rails, and allow instantaneous recovery for an even more graceful tube-like feel when driven hard into overdrive. A precision variable HIGH PASS FILTER is included to block unwanted sub-sonic signal (as well as for specific tone shaping functions), and an O/L (overload) LED is provided to give visual indication of when the preamp is being overdriven. "Sticking to the supply rails" occurs when the signal is driven so hard into clipping that excess charge accumulates. The time required to clear this charge causes the signal to "stick" to the supply rails during these extremes, creating a visual and audible kink in the shape of the waveform. The anti-saturation network we've included in your WD-800 prevents you from experiencing this unpleasant artifact.

Tone shaping on the SUBWAY WD-800 includes an active Baxandall EQ which consists of LOW and HIGH FREQUENCY shelving bands, plus an exclusive passive mid control (with make-up gain), a unique hybrid approach to the mid tone stack voicing within the tube preamp. There is an additional 3 band ACTIVE PARAMETRIC MID EQ section which allows for pin-point tone sculpting with foot-switch bypass and LED indicator.

Next, there is a MASTER volume control which sets the amplifier's output level. The combination of positions between the input GAIN and MASTER volume, along with the signal strength from your bass (which is also affected by your playing style and touch) allows for a wide range of tones and feel, from shimmering clean to overdriven and everything in between.

Finally, there is a POWER AMP DAMPING control. What is this you might ask? By adjusting this control, you can loosen up the inherent tightness of the power amp which gives more bounce and makes the amp a little bit more interactive with the speakers. Different combinations of speakers, along with room acoustics, playing style and personal taste will dictate how this control is set.

OVERVIEW: REAR PANEL

On the rear panel, you will find the power switch, and the AC mains inlet on a standard IEC "C14" connector. The SUBWAY WD-800 contains an auto-ranging universal power supply that can accept and operate on any voltage between 100-120 volts & 220-240 volts AC, 50/60Hz without the need for any user adjustments or fuse change. This feature makes these amps ideal for the international touring musician who plays in a variety of global regions. The only thing necessary to make the amp work is a correct power (mains) cable that matches the power outlet/receptacle in the region. It is important for the mains power to be grounded/earthed for safety as well as EMC reasons.

Next are parallel connected NL-4 SpeakOn™ connectors, which are wired with the amplifier positive to terminal "1+" and the amplifier negative to terminal "1-". All cables with NL-2 connectors (2 pole) will be wired this way. There is an IMPEDANCE SELECTOR switch provided to properly match the power amplifier to the load. When driving a load less than 4 ohms (like 2.66 ohms or 2 ohms), set the impedance switch to the 2 ohm position.

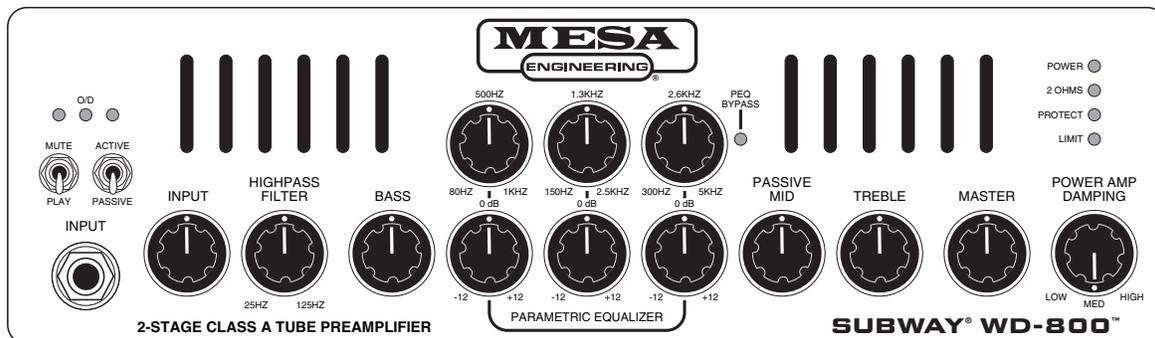
The SUBWAY WD-800 is equipped with a HEADPHONE output, which will drive all common headphones and IEM ear pieces between 8 and 32 ohms, a MUTE/PEQ BYPASS footswitch jack that mutes the signal when the tip is shorted to the sleeve and bypasses the parametric eq when the ring is shorted to sleeve. Additional connections are provided for a serial master EFFECTS LOOP, an AUX input, and a TUNER output.

One feature that sets your new SUBWAY WD-800 apart from the rest of the market is the inclusion of a studio grade XLR balanced DIRECT OUTPUT, complete with PRE-EQ/POST-EQ signal routing switch, MIC/LINE level switch, and pin 1 GROUND LIFT switch. Circuit attributes include full phantom power protection, high RFI immunity and extreme tolerance to ground potential differences.

Another unique feature is the inclusion of a USB charging port, which allows you to charge most USB connected devices. This can be handy when rehearsing with an MP3 player, tablet, or phone.

INSTANT GRATIFICATION:

The SUBWAY WD-800 is about the easiest amp on the planet to get great sound from... it really is a “plug and play” amp. Start with the MUTE switch down (mute off), the ACTIVE/PASSIVE switch down (passive pickup), the HIGHPASS FILTER set to the 9:00 position, BASS, PASSIVE MID and TREBLE controls in the “flat” (12:00 straight up) position, the MASTER volume control in the 1:00 position and set the POWER AMP DAMPING control to the HIGH position. Plug your bass in, and turn the GAIN control up until you reach your desired volume. Then, set the HIGHPASS FILTER, and EQ to taste.



FRONT PANEL (CONTROLS & FEATURES)

INPUT JACK:

This 1/4" (6.35mm) TS (tip-sleeve) jack is the instrument INPUT that feeds the first stage monolithic J-FET input buffer amp of the SUBWAY WD-800. This stage is inherently transparent, and directly feeds the DI out when the DI out is set to the “PRE-EQ” position.

MUTE SWITCH:

This switch (and its associated red indicator/tally LED) mutes the audio signal being sent to all outputs except the TUNER OUT jack for silent tuning with a tuner connected to the instrument cable and then through to the amp or to the TUNER OUTPUT jack. When the switch is in the up position, the red LED will illuminate and NO audio will be present at the DIRECT OUTPUT jack, HEADPHONE jack, or the SPEAKER OUTPUT jack. This switch can also be used to place the amp into standby mode before and between sets without adjusting any of the controls. When using the MUTE FOOTSWITCH, this switch must be placed in the down position.

ACTIVE/PASSIVE SWITCH:

This switch (and its associated blue indicator/tally LED) sets the sensitivity of the J-FET input buffer. Often (though not always), an active bass may have a signal level up to 10dB greater than a typical passive bass. If you find that you are operating the gain control near the low (counter-clockwise) end of the control's rotation in order to prevent the O/L LED from flashing, switching this switch up (into the ACTIVE position) will reduce the input sensitivity (gain) by ~10dB, allowing greater control range and freedom from overload with high output active basses. This control does not lower the input impedance of the amplifier, nor does it “suck tone” like the input pads on some other amps.

INPUT CONTROL & O/D LED:

This control determines the overall gain (and drive level) of the hybrid J-FET 12AT7 (or 12AU7) vacuum tube gain stage. Overdriving this gain stage may be a desirable tonal characteristic of your playing style, the amber O/L LED provides a visual indication of the status of the drive signal level and how much preamp overdrive is being achieved. When using significant overdriven tones, you may find it helpful to back down on the TREBLE EQ a little bit to reduce harshness and also to reduce the BASS EQ (and/or increase the frequency on the high pass filter) to increase the clarity and impact. This hybrid tube gain circuit draws inspiration from elements of our legacy amps, including the Walkabout, Carbine, and even the legendary Bass 400. If it's your tone, this tube gain stage is designed to be overdriven, so give it a try. When employing heavier overdrive, it's generally more pleasing reduce the tweeter level if your cabinets have tweeters. Note that the GAIN control operates in a linear fashion, an increase in gain continues linearly throughout the entire rotation of the control. The amount of overdrive is increased by turning the INPUT CONTROL up beyond the clean area of operation, and the overall volume will be controlled by turning the MASTER VOLUME down as needed.

HIGHPASS FILTER:

This control sets the low frequency roll-off point of the amplifier, and is an important feature in maintaining control over the extreme low end (especially under high drive conditions). This precision filter is comprised of variable two pole

filter with a turnover frequency that is set at approximately 25Hz. While HPF's have been standard fare within the pro audio industry for decades, this feature has only appeared in bass guitar amplifiers within the past few years (with some notable exceptions). This filter provides additional mechanical protection to the speakers from over-excursion damage by reducing the power to the speaker below the frequency range that the speaker cabinet provides adequate acoustic loading to the drivers. This is one of the primary (and preventable) causes of premature speaker failure, especially with compact speaker cabinet products that are driven very hard. A second use for this filter is to roll off the very low end when overdriving the amp. This prevents the signal from becoming muddy, and preserves the naturally musical growl and grit of the overdriven signal. A third use is for rolling off the extreme low end when boosting the bass eq control, allowing for some unique low mid voicings, and a fourth use is for reducing the sub-bass frequencies that can get out of hand in a boomy room. Experimentation will be helpful in all of these applications.

BASS CONTROL: This active eq control is responsible for the amount (or volume) of low frequencies present in the signal, relative to the rest of the spectrum. Low frequencies (<80Hz) are responsible for the “depth”, “bottom”, “roundness”, or “feel” of the tone. This is an active control with boost and cut, the amount of boost proportional to the clockwise rotation to the right of “flat” (12:00 straight up) position and the amount of cut proportional to the counter-clockwise rotation to the left of “flat” (12:00 straight up) position. As with everything related to EQ, generally, a little bit goes a long way. The HIGH PASS FILTER control, combined with the BASS CONTROL adds another dimension of tone sculpting by rolling off the extreme low end when boosting the bass eq control, allowing for some unique low mid voicings. Use enough to get the job done and no more. Note that if you have very compact cabinets and need high volumes, you will want to be aware that it is possible to overdrive speakers with excessive bass boost. If your speaker is not getting you enough high level low end, it's possible that you do not have enough “rig for the gig”, and “more speaker” is needed. This is a shelving type filter.

TREBLE CONTROL: This active eq control is responsible for the amount (or volume) of high frequencies present in the signal, relative to the rest of the spectrum. High frequencies (>2.5kHz) are responsible for the “bright”, “airy”, “shimmery” character of the tone. This is an active control with boost and cut, the amount of boost proportional to the clockwise rotation to the right of “flat” (12:00 straight up) position and the amount of cut proportional to the counter-clockwise rotation to the left of “flat” (12:00 straight up) position. This is a shelving type filter.

PARAMETRIC MID EQ CONTROLS:
GAIN CONTROLS: These controls (bottom row) are responsible for the amount (or volume) of the corresponding LOW MID, MID and HIGH MID midrange frequencies present in the signal, relative to the rest of the spectrum. (the center frequency of each band is selected with the corresponding mid frequency control, top row). This is an active control with boost and cut, the amount of boost proportional to the clockwise rotation to the right of “flat” (12:00 straight up) position and the amount of cut proportional to the counter-clockwise rotation to the left of “flat” (12:00 straight up) position of. This is a peak-dip (or bell) style filter. Remember that a little eq goes a long way, use just enough to get the job done.

FREQUENCY CONTROLS: These controls (top row) are responsible for selecting the center frequency (or pitch) that the corresponding EQ GAIN controls acts on. Rotating this control sweeps the center frequency from lower (counterclockwise) to higher (clockwise). If the eq gain control is set at 12:00 noon, there will be no effect when rotating the frequency control because there is no boost or cut being performed. Sweep range varies by band, band 1: 80Hz – 1kHz, band 2: 150Hz – 2.5kHz, and band 3: 300Hz – 5kHz. The frequency distribution of the sweep control is linear from endpoint to endpoint. It should be noted that these controls do not act on a single frequency but act on a range of frequencies approximately 1/3 of an octave on each side of the center frequency.

PASSIVE MID CONTROL: This eq control is an integral part of the amplifier's voicing circuit and is responsible for the amount of midrange frequency content present in the signal, relative to the rest of the spectrum. Midrange is primarily responsible for voicing and articulation character of the instrument. This is a passive control with cut only, the amount of cut roughly proportional to the counter-clockwise rotation of the control. Due to the specific way this filter is implemented by the use of make-up gain, most users will find that their flat or neutral tone will be from the 10:00 to 2:00 position, and this might give the appearance of boost as the control is rotated farther clockwise. This filter's Q (width) symmetry and response is quite different from the parametric mid section, which is typically used more for precise tuning of the amp's response.

MASTER VOLUME CONTROL: This control is responsible for the level of signal being sent to the power amp, and deter-

mines the overall playing volume of the SUBWAY WD-800. Using the MASTER VOLUME along with the INPUT GAIN control allows the optimal control over playing volume. For example, if you are using high input gain to achieve an overdriven tone, it will be likely be necessary to adjust the master volume down to obtain a reasonable playing volume and to avoid excessive overdriving of the power amp. Likewise, if you are looking for a very clean tone, you may wish to start with a lower INPUT GAIN control setting and use a higher MASTER VOLUME control setting to obtain the desired playing volume. The MASTER VOLUME control operates in a linear fashion, an increase in volume continues linearly throughout the entire rotation of the control.

POWER AMP DAMPING CONTROL:

This control is responsible for amount of damping that the amplifier places on the speaker. Because this is an unusual, but very useful control, some discussion of what damping is will help you understand why this control may be so important to some players.

One of the primary differences between solid state and tube amps is how tightly the speaker is coupled to the power amplifier's output stage. All amplifiers have some resistance (more correctly, impedance) between the power circuitry and the speaker. This impedance greatly affects how tightly the amplifier can control the speaker. High damping means that there is very little impedance between the amplifier's output circuitry and the speaker, the feel will be tighter and more controlled. Low damping means that there is more impedance between the amplifier's output circuitry and the speaker, the feel will be looser and less controlled. Because a speaker is a complex impedance, this "lower damping" interaction can be responsible for a bit more "bloomy", organic feel.

Generally, tube amps fall into the low damping category while solid state amps fall into the medium to high damping category. Speakers have mass and the force required to accelerate the mass back and forth comes from the power generated by the amp and delivered through the voice coil sitting within the magnetic gap of the speaker's motor. This means that to accurately accelerate and decelerate the cone at each end of its travel requires efficient power delivery to the speaker. As the power delivery becomes less efficient, the force becomes less and the cone accelerates and decelerates more sluggishly, corresponding to undershoot and overshoot of the cone. This, plus native voicing, are the most likely explanations for the "bloomy", slightly "round bottom" feeling reputation that many tube amps enjoy.

In tube amps, the impedance between the output stage and the load is high (resulting in a low damping factor of maybe 25) while in a solid state amp the impedance between the output stage and the load is low (resulting in a high damping factor of maybe 500 to 1000). These are inherent properties of the respective topologies. These damping factor numbers also vary with frequency, as does the speaker impedance, so the interaction is quite complex actually.

What does this mean? With lower damping, the amp will tend to feel a little looser (especially on the low end), a little bloomy, and a little more organic. While there will be some tonal differences, it's really more of a feel difference. With higher damping, the amp will feel a little tighter and more controlled on the bottom end, and to some players it may feel more "immediate". This control allows the player to adjust the damping to accommodate a wider range of tastes. In general, the lower damping will work better at lower volumes and the higher damping will work better at higher volumes (especially in a boomy room) where better cone control and tighter low end might help the bass fit better into a mix. Because amplifier damping interacts with speaker impedance, different speakers will behave differently. As a generality, a sealed cabinet, which has high intrinsic electro-mechanical damping will probably feel a little better with a lower amp damping. A ported cabinet on the other hand typically has lower intrinsic electro-mechanical damping and will probably feel a little better with a higher damping. There are some ported cabinets with tunings that result in a serious under-damped response and these cabinets in particular tend to work better with the highest damping. Let your ears and fingers be the ultimate judge. It should be noted that the effect is very speaker dependent, and somewhat subtle. This feature is simply another tool to allow "feel based" players a little more control under a wider variety of playing conditions when necessary.

POWER LED:

This blue LED indicates that the amplifier is connected to a power source and is switched on, operating correctly. If this LED is not on, double-check the power source, and be sure the power cable is firmly inserted into the IEC power inlet socket.

2 OHM LED:

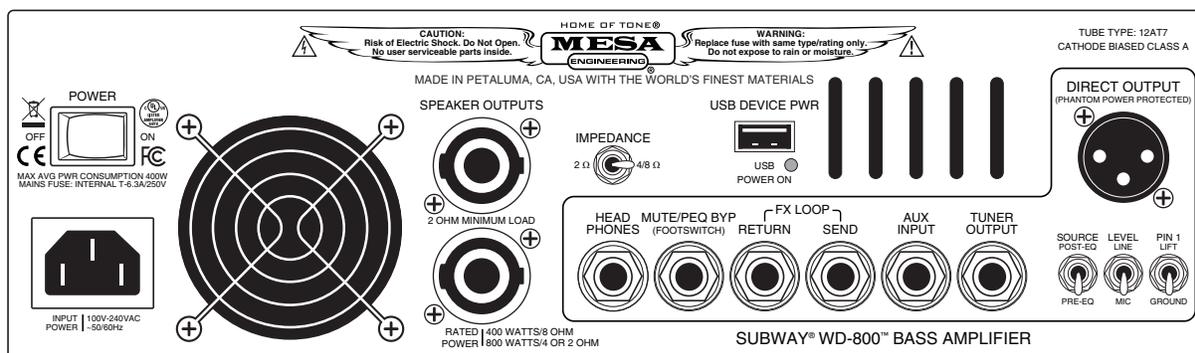
This blue LED indicates that the amplifier's 2 ohm operating mode has been selected via the 2 OHM switch located on the rear panel.

PROTECT LED:

This red LED indicates that the amplifier has entered protect mode and is either protecting itself from an external fault (such as blocked ventilation, shorted speaker cable or defective speaker), or that there is an internal fault within the amp

itself. Verify that it's not a fault external to the amplifier by disconnecting all cables (except the power cable) from the amplifier. If the protect LED is no longer lit, the problem is most likely a bad speaker cable or defective speaker. Testing with a set of headphones can help to narrow down the problem, as the headphone signal is derived post-power amp using a frequency compensated, cabinet emulation network.

LIMIT LED: This amber LED indicates that the power amp is nearing maximum power and is entering the soft clip/limit output tube emulation mode. Soft clip/limit output tube emulation mode mimics many of the desirable characteristics of tube amp output stage overdrive while eliminating the common solid state clipping artifacts. There is approximately 6dB of range on this circuit, driving beyond this, of course, will cause gradual output stage clipping. It's acceptable for this amplifier to operate in output stage overdrive mode (if that's the tone you are after) with the LED flashing roughly 25% of the time on.



REAR PANEL (CONTROLS & FEATURES)

POWER SWITCH: This switch is used to turn your amp on and off by disconnecting the amplifier from the power source (mains). This amplifier complies with the new EU Eco-design directive by providing a switched “0.00 watt power consumption off-mode”.

IEC POWER INLET: This power inlet conforms to the IEC C-14 type standard, and is to be used with a cordset containing a matching connector, and appropriate plug for the intended market.

OPERATING POWER REQUIREMENTS: The SUBWAY WD-800 is designed with a universal, auto-ranging power supply that automatically adjusts to line voltages between 100-120V and 220-240V, 50 or 60Hz. The power supply is internally monitored by supervisory protection circuits and thus contains a non-user replaceable fuse that opens in the unlikely event of a major failure. The amplifier is designed to be use with grounded or earthed power, meaning that the chassis is always maintained at ground/earth potential even in the event of a gross failure within (or external to) the amplifier. Never remove the grounding/earthing pin from the power plug, or alter the power cable.

COOLING FAN: The SUBWAY WD-800 incorporates a low speed, high reliability cooling fan which allows it to drive difficult loads (including 2 ohms) at very high duty cycles. Be sure this fan inlet is not blocked or the amplifier’s protection circuits shutting the amplifier down due to a thermal fault condition. This quiet, low noise fan will always run at a low speed, the air flows into the chassis from the back and out through the front and side slot vents.

SPEAKER OUTPUTS: The SUBWAY WD-800 is rated to drive a minimum 2 ohm load (with the impedance selector switch set to the 2 ohm position), meaning either 4 x 8 ohm cabinets or 2 x 4 ohm cabinets. The amplifier incorporates a pair of SpeakOn™ NL4FC connectors (wired in parallel) that mate with either NL2MP or NL4MP plugs.

Cables using NL-2 plugs contain only 1+/1- terminals and will always be correctly wired for use with the amplifier, but cables using NL4 connectors come with different wiring configurations. If using cables with NL-4 connectors, they may be constructed with standard 2 wire cable which must be wired 1+ to 1+ and 1- to 1-. If the cable contains 4 wires, that's ok because terminals 2+ and 2- which are

connected to the second pair are simply not used.

The cables to avoid are what are called NL4 bridge mode cables, which are typically 2 wire, and wired 1+/1- on the speaker end and 1+/2+ on the amplifier end (used for pro audio power amps that support this specific bridged termination). These cables SHOULD be clearly marked but sometimes they are not, so be aware of the possibility when buying or troubleshooting cables.

Why SpeakOn™ cables and not the “old favorite” 1/4” (6.35mm) connector? There are several important reasons, the first being that with updates to global safety regulations, amplifiers like the Subway WD-800 require “touch-proof connections”. A second reason is because the power amplifier’s internal topology is BTL (bridge tied load), neither output terminal are at ground potential, so touch-proof connectors provide an added layer of safety to the system. A third reason is the often poor quality of the 1/4” (6.35mm) connection, which at low power is not much of an issue, but at higher power levels become a failure point. A fourth reason is that one common failure mode of amplifiers is when the 1/4” (6.35mm) speaker cable works loose at the speaker cabinet, the tip gets shorted to the sleeve within the speaker jack’s bushing, applying a short circuit to the amplifier’s speaker output. While this amplifier is protected against such faults, it’s not good practice to test any amplifier protection on a regular basis.

Never connect the speaker output to anything except a speaker. This especially means not to a DI, even a speaker level DI because the Subway WD-800 utilizes a BTL (bridged) output power amplifier. On a bridged amplifier, the minus terminal that is normally at ground is actually a driven output that swings above and below ground at peak currents of up to 30 amps. Using a DI, the normal shell or ground terminal (pin 1) of the DI is not at ground at the amplifier’s end but may be connected to the console (mixer) circuit ground bus at the console’s end which would cause the amplifier to drive dangerous currents into circuitry that does not expect to see such currents, nor is it generally protected from this fault. So, in addition to possibly damaging your amp, you could also damage a (potentially) very expensive console.

SPEAKER IMPEDANCE: All speakers have a “rated nominal impedance”. Impedance is the resistance to AC electrical current that the amplifier is tasked with delivering. The lower the speaker’s impedance, the greater the current that the power amplifier must provide. The lowest impedance that the Subway WD-800 amplifier is capable of driving safely is 2 ohms (with the impedance selector switch in the 2 ohm position), which is a parallel connection (the standard connection of virtually all speaker cabinets) of either two x 4 ohm cabinets or four x 8 ohm cabinets. Note that measuring speaker cabinets using an ohm meter will not give accurate results because ohm meters read DC resistance not AC impedance (technically called “reactance”). AC impedance will always be greater than the DC resistance, an 8 ohm speaker will typically measure between 5 and 7 ohms, a 4 ohm speaker will typically measure between 2.5 and 3.5 ohms when measured with an ohm meter (or DMM).

SPEAKER POLARITY (OR PHASE): All speakers have “polarity”. A speaker that is wired in accordance to the current industry standard will move forward when a positive DC voltage is applied to the positive terminal of the speaker. While there are well established standards, there are also deviations from standards, either by legacy (ie. early JBL drivers), by faulty repair (incorrectly wired cabinet or defective recone parts) or a manufacturer choosing to ignore the standard. If a multi-driver speaker cabinet or a pair of speaker cabinets does not appear to have the expected output or low end, it’s always a good idea to double-check that all drivers move forward with positive DC voltage (no more than a 9 volt battery) momentarily applied to the + terminal (this will be the 1+ terminal on a SpeakOn™ connector, or the tip on a 1/4” (6.35mm) connector). If you find that on a multi-speaker cabinet, one speaker moves out while the other does not move, it’s likely that the non-moving driver has either failed or has become disconnected. If one driver moves out while the other driver moves in, it’s likely that the driver moving in is wired incorrectly (or in a sealed cabinet is failed or disconnected and is merely being moved in the opposite direction by coupling to the air mass inside the cabinet itself). Being aware of these possibilities can often help when troubleshooting something that doesn’t appear to be performing quite right.

IMPEDANCE SELECTOR SWITCH: The SUBWAY WD-800 is equipped with an impedance selector switch to match the amplifier’s drive capabilities to loads below 4 ohms. Whenever using loads of either 2.66 ohms (a 4 ohm load paralleled with an 8 ohm load or three paralleled 8 ohm loads) or a 2 ohm load (a 4 ohm load paralleled with a 4 ohm load or four paralleled 8 ohm loads) this switch must be set in the 2 ohm position. Failure to do so will result in the amplifier’s protection circuits (correctly) shutting the amplifier down due to an over-current fault condition.

HEADPHONE OUTPUT: The SUBWAY WD-800 includes a 1/4" (6.35mm) TRS tip-ring-sleeve headphone output jack, which will drive all common headphones and IEM ear pieces between 8 and 32 ohms (and many well above 32 ohms). **It is not necessary to have a speaker connected to the amp when using headphones, it is completely safe to operate the amp without a speaker load.** It's advisable to use caution whenever sticking a sound source in your ear, as damaging volume is possible, especially with "bass player accidents", and when volume is factored over a long period of time. This output contains additional cabinet emulation circuitry. This output should not be connected to anything but headphones or ear buds.

MUTE / PEQ BYPASS FOOTSWITCH: This dual function 1/4" (6.35mm) TRS footswitch jack is used in conjunction with a standard latching two button footswitch terminated with a 1/4" (6.35mm) tip-ring-sleeve plug. When the TIP is shorted to the sleeve, the signal is muted. (Note that the front panel mute switch must be in the down position for this function to work, otherwise, the front panel switch over-rides the footswitch by placing the amp in mute mode regardless of the position of the footswitch). When in the mute mode, the signal is available only at the tuner output jack, the signal is muted at the speaker output, headphone output, effects send output and DI output. When the RING is shorted to sleeve, the 3 band parametric eq. is bypassed and the red PEQ BYPASS LED will illuminate on the front of the amp (indicating that the parametric eq is bypassed). MESA sells Subway WD-800 specific footswitches (two button) separately through our authorized dealers and distributors, our parts and accessories online store, or by contacting our customer service department.

EFFECTS LOOP: A serial (series) effects loop is provided, consisting of 1/4" (6.35mm) TS effects send and effects return jacks, for connecting "serial" line level outboard effects devices such as compressors, limiters and gates. The loop may also be used with parallel outboard devices such as delays, reverbs, harmonizers and octavers, etc. by using the wet-dry mix control on the outboard device to mix the dry with processed signal. This loop is located right before the master volume control, and is also intended to be used as a PREAMP OUT / POWER AMP IN for the linking of two amplifiers in a master-slave configuration, or for using the preamp or power amp separately. The master volume control on each amplifier is then used to set the volume between the two amplifiers (in a master/slave configuration), or as a power amp input level control when using the Subway WD-800 as a stand-alone power amp. The effects loop's return jack contains a "normal switch" that interrupts the signal whenever a plug is inserted into the return jack, and automatically bypasses the effects loop when the plug is removed. Because of this, the effects send jack may be used as a post eq, pre master volume output, even when the amp is not being used as a loop.

AUX INPUT: This amplifier is provided with a 1/4" (6.35mm) TRS AUX input. This TRS stereo jack properly sums left and right channels from an MP-3 player, i-device, or laptop as many of these new devices do not contain adequate circuitry for proper summing. The signal injection point is right before the master volume control, you can use the player's volume control to balance the level between your bass and the playback device. Note that for best performance, a 1/8" (3.5mm) TRS to 1/4" (6.35mm) TRS cable (also called a stereo cable) is used, this will always match between devices and allow the amplifier's automatic summing circuitry to work properly. For upright players, this input can be used to plug the output of your upright's outboard preamp (such as our Rosette, Subway or Subway Plus PRE-DI) into the power amp. The level of this input is controlled by the master volume on the SUBWAY WD-800 as well as the controls on your outboard preamp.

DIRECT OUTPUT (DI OUT): A feature that sets your new SUBWAY WD-800 apart from the rest of the market is the inclusion of a studio grade XLR balanced direct output. This output is capable of driving balanced analog lines as long as 500 feet, is fully phantom power protected, is noise resistant and stability compensated for a reliable, low noise floor, high quality signal. This output follows the pro audio standards of pin 2=non-inverting, pin 3=inverting and pin 1=ground. Every known console in the world follows this wiring standard.

DI OUT SOURCE SWITCH: This switch selects the signal source routing that is used to derive the direct output signal. In the PRE position, the signal is sourced directly from the input buffer. Muting the amplifier by the front panel mute switch (or optional footswitch) mutes this output to allow for silent tuning. In the POST position, the signal is sourced from the output of the equalizer section and before the master volume control. Generally, for PA use the FOH (front of house) engineer will probably prefer a PRE eq send because the capability of his PA system may be significantly different than your stage rig, and the eq that you use to sound good on stage may not work well on a bigger system and in a larger acoustic space out front, or in the context of the mix. If you use the overdrive capability of the amp, or you use effects in the effects loop, then the post position is a better choice but you will need to work with your FOH engineer to ensure that the eq you use on stage will work ok for the FOH mix. For recording, depending on the

DISCUSSION ABOUT SMPS & CLASS D FROM THE DESIGN TEAM:

QUESTION: What makes this new amplifier so light weight?

ANSWER: This amplifier uses new technology, both an SMPS (SwitchMode Power Supply) and a Class D power amplifier to decrease the size and weight. These designs are carefully implemented and fully tested to insure robust, reliable performance in real world conditions night after night.

QUESTION: How can such a light weight amplifier deliver solid bass? I thought an amp has to be heavy to produce deep bass.

ANSWER: By operating in a non-linear fashion (with power devices that are either fully on or fully off) the output stage no longer has to accommodate reactive load inefficiencies, overly sensitive protection of “safe operating areas”, and dissipate waste heat like output devices operating within their linear region. This means more power and better low frequency control with less heat. The pro audio industry has been using this technology almost exclusively in the large scale touring market for about 20 years, driving massive arena and stadium subwoofers night after grueling night on the road. In fact, much of the technology in our power amplifiers comes from the high reliability touring pro audio world.

QUESTION: How do I know that these amplifiers will be reliable?

ANSWER: The designer of the Subway amplifier project has over 20 years of SMPS/Class D amplifier experience, in bass amplifiers as well as in touring pro audio. We have worked closely with the European engineering team on the development of these new power modules, including extensive testing, on real world stages with real musicians and real audiences, night after night, as proven by the reputation of the entire Subway bass amp line. This engineering relationship goes back over 20 years, when class D amplifiers were in their infancy.

QUESTION: Why is the power supply so small and light weight?

ANSWER: An SMPS is just like any other power supply, except for the fact that it operates at a much higher frequency (~100kHz) than a traditional power supply (either 50Hz or 60Hz). A high operating frequency reduces the size of the transformer's core, which in turn reduces the length of the wire wound around the core. Since most of the weight of a power transformer is in the core and the copper wire, reducing the core reduces size, weight and the amount of copper needed to wrap around the core, which improves the performance of these smaller transformers under the highest load conditions.

QUESTION: How does the SMPS work?

ANSWER: Without getting too technical, a switch-mode power supply takes the incoming AC mains (50-60Hz) power, rectifies it to a high voltage direct current (HVDC). This HVDC is then filtered/stored in the input filter capacitors as reserve energy for discharge as needed into dynamic loads. This HVDC is then chopped/switched at about 100kHz into high voltage, high frequency alternating current (HVHFAC), which is fed through a high frequency transformer which converts the HVHFAC into low voltage, high frequency alternating current (LVHFAC) which is then rectified and filtered into low voltage direct current (LVDC) that the power amplifier's circuitry uses.

QUESTION: Why is the Class D power amplifier so small and light weight?

ANSWER: A Class D amplifier operates its output stage non-linearly, meaning that the output devices are switched either fully on or fully off at a switching frequency of about 500kHz. This “cutoff-saturation” switching minimizes waste heat by avoiding operation in the wasteful “linear range”, and without the heat, there's no need for the large, heavy aluminum heatsinks.

QUESTION: How does the Class D amplifier work?

ANSWER: In Class D amplifiers, the analog audio signal is converted into a PWM (pulse width modulated) pulse train representation of the analog audio signal (similar to the A/D converter in a PWM digital audio recorder) at +5 volts conventional logic level. This PWM signal is level shifted upwards by large switching power MOSFET transistors (that operate non-linearly to avoid waste heat) to high voltage and current. The resulting high level PWM signal then passes through a high power “low pass reconstruction filter” that extracts the original but level shifted (amplified) audio signal from the PWM signal which feeds your speakers. Class D is not “digital”, it is a non-linear analog technology, sharing some fleeting similarities with its digital counterpart. (Disclaimer: This is a simplified description, there are many details omitted, but the basic operational function is accurate. There is a lot of engineering that goes into making a high performance, robust, safe and reliable design.)

TROUBLESHOOTING:

In the event that your amplifier appears not to work correctly, often enough the problem is not with the amp, but a related piece of equipment, so it's necessary to take a deliberate, systematic approach to troubleshooting in order to effectively identify and correct the problem. Yes, believe it or not, we have seen all of these things many times.

SYMPTOM: No audio output:

Is the power LED lit and do the tally LEDs over the function switches work?

NO: Possible causes to check in this order are

1. Verify the power source, verify that the IEC power cable is not damaged and is fully inserted into its socket,
2. Verify that nobody unplugged your amp or turned off your power strip when you weren't looking (if so, blame the guitar player, turn on and play.).
3. If these do not solve your problem, it's possible that your amplifier has failed so call our customer service department and we will help you get this resolved.

YES: Possible causes to check in this order are:

1. Defective speaker cable or cabinet (test known good speaker cable and cabinet)
2. Defective bass or cable (test with known good bass and instrument cable)
3. Defective pedals/effects/pedalboard (plug bass directly into amplifier input, bypassing all devices in front of the amp)
4. Mute switch engaged or mute footswitch turned on (turn mute function off)
5. Problem with effects loop (for models with effects loop, a cable plugged into the effects return will interrupt signal, there is a problem with an effects device or patch cable, there is an intermittent connection due to dust or debris inside the effects return jack. Try bypassing effects loop with short shielded patch cable.
6. Gain or Master controls turned down (turn the controls up)
7. Will the amp play with a signal fed into the AUX INPUT or EFFECTS RETURN jacks? If so, the problem is with the preamp. It's possible that the tube/valve has failed. (substitute a known good 12AT7 or 12AU7 into the V1 position and see if this restores audio)
8. There is indeed a problem with the amp, call our customer service department and we will help you get this resolved.

SYMPTOM: Distorted audio output:

1. Defective battery in active bass causing instrument's onboard preamp to distort (replace battery)
2. With very hot 18V basses, it's possible to overdrive the amp's preamp when in passive mode (switch to active mode)
3. Gain structure problem if using effects (if the amp has an effects loop, which operates at line level, it's possible to overdrive some effects that are built exclusively for instrument level. Try unplugging effects from effects loop.)
4. Slightly intermittent cable in system (this can be an instrument cable, patch cable or loose screw in SpeakOn plug)

5. Defective or blown speaker(s) in cabinet (test with known good cabinet, repair cabinet as needed)
6. Possible failing tube/valve in preamp (substitute with known good 12AT7 or 12AU7)
7. There is indeed a problem with the amp, call our customer service department and we will help you get this resolved.

SYMPTOM: Noise (low frequency hum) in audio:

1. Defective instrument cable or problem with bass wiring (unplug instrument cable from amplifier, if hum goes away, this means that the noise is entering from outside the amplifier. Try known good instrument cable and/or bass)
2. Problem with wiring or a device in the effects loop (remove send and receive wiring from the amp's effects loop to identify the source of the noise, correct as necessary.)
3. Power source wiring is not grounded/earthed (check all wiring for missing grounding/earthing pins, have qualified electrician check building power wiring for missing ground/earth connections and correct as necessary.)
4. External stray magnetic field present coupling into the pickups, especially single coils (one clue that this may be the cause is when the volume level of the hum changes with position of the bass. Possible causes are large power transformers located near the performance area, if this occurs when you get close to another instrument amp it may be due to stray field from its power supply)
5. If your amp model contains a tube/valve in the preamp, it's possible that you are experiencing the beginning of a tube/valve failure (replace tube/valve)

SYMPTOM: Noise (high frequency hiss and hash) in audio:

1. If the noise goes away when the instrument cable into the amp is unplugged, the cause of the noise is external to the amp (possibly an active preamp with the treble turned all the way up, a failing battery, defective on board preamp)
2. If your amp model contains a tube/valve in the preamp, it's possible that you are experiencing the beginning of a tube/valve failure (replace tube/valve)
3. If there neon or fluorescent lighting close by, it's possible that EMI is radiating into the pick-up wiring (try turning off such lighting to see if noise goes away. If so, it could be arcing secondary wire on neon lighting, failing ballast or tube on fluorescent lighting, radiated EMI getting into instrument pick-up)
4. Power source wiring is not grounded/earthed (check all wiring for missing grounding/earthing pins, have qualified electrician check building power wiring for missing ground/earth connections and correct as necessary.)
5. Problem with wiring or a device in the effects loop (remove send and receive wiring from the amp's effects loop to identify the source of the noise, correct as necessary.)
6. Tweeter turned all the way up in a quiet room (may need to turn tweeter down under such conditions, especially if the sensitivity of the tweeter greatly exceeds that of the low frequency drivers with tweeter turned up)

SYMPTOM: Noise (popping) in audio:

1. Popping while playing, especially one string. (check bass set-up to be sure there is adequate clearances between the string and pickup pole pieces.)
2. Popping while just sitting there, or when touched. (under dry environmental conditions, it's possible that electrostatic discharge is the cause. (try antistatic mat on floor, humidifier in room)
3. Popping when tapping or banging on chassis. If your amp model contains a tube/valve in the preamp, it's possible that you are experiencing the beginning of a tube/valve failure (replace tube/valve)
4. Popping or static noise can be caused by some cellular phone devices, especially if they are located close to pickups. Turning the phone off or setting to "airplane mode" will eliminate this as a cause.

SYMPTOM: Protect LED turns on:

1. Disconnect all cables except power cable, if the amp is no longer in protect, try plugging in just the speaker cable. If the amp goes immediately into protect, one possible cause is a defective or damaged crossover that is presenting an illegal load to the simplifier and the protection circuit is working correctly. (try a known good speaker cabinet from another manufacturer to rule this possibility out. If the amp works correctly with another speaker cabinet, call customer service for assistance. This is more common with “do it yourself” speaker projects with incorrectly designed crossovers. ALL amps with PWM carriers are sensitive to stored reactive energy is defective crossover tank circuits.)
2. Protect circuit shuts down amp while playing at low to moderate volumes (possible shorted speaker cable, try known good speaker cable)
3. Protect circuit shuts down amp at moderate to high volumes. Verify that total load to the amplifier has not fallen below 4 ohms (or 2 ohms on models that support 2 ohms with the impedance selector switch set to 2 ohms). (possible causes are incorrect pairing of multiple speaker cabinets, incorrectly labeled speaker cabinets that were repaired or modified without relabeling, defective driver that has shorted voice coil turns as voice coil warms up.)
4. Power source voltage falling dangerously low due to improper wiring or extension cable that is too long for it's wire size. (triggering the amp's under-voltage protection), or from dangerously high power source voltage (triggering the amp's over-voltage protection) (correct problems as needed with the help of a qualified electrician)

SYMPTOM: No (or slow) USB charging of connected device:

1. Is this an Apple device? There are several program controlled charge rates available for Apple products, varying from 100mA all the way up to 2.1A. The charge port will support the 500mA standard, which will charge the larger devices more slowly than the bigger dedicated chargers.
2. Is this an Apple i-Pad or other large tablet? When operating an iPad or tablet, the current draw of the screen alone will be close to 500mA so the charging rate will be very low. Operating with a charged battery and also connected to the charge port on the amp will greatly extend the battery life under use however.
3. Is this an Android phone that Qualcomm QC enabled? This charger does not support QC, and will charge at the slower 500mA rate if the device software allows it.
4. Does your device use a USB-C connector? While it won't charge at the higher rate's supported by this standard, it should be backwards compatible with the 500mA standard.

FACTORY SAMPLE SETTINGS

CRISP, CLEAN FINGERSTYLE

NOTE: Bypass Parametric Equalizer

The control panel for the 'CRISP, CLEAN FINGERSTYLE' setting features the following configurations:

- Inputs:** MUTE (OFF), ACTIVE (ON), PLAY (OFF), PASSIVE (OFF), INPUT (SELECTED).
- 2-Stage Class A Tube Preamplifier:** INPUT, HIGHPASS FILTER (25Hz, 125Hz), BASS.
- Parametric Equalizer:** 500Hz, 1.3kHz, 2.6kHz (all at 0dB), 80Hz, 1kHz, 150Hz, 2.5kHz, 300Hz, 5kHz (all at 0dB).
- PEQ Bypass:** Bypassed (indicated by a dot).
- Master Controls:** PASSIVE MID, TREBLE, MASTER.
- Power Section:** POWER AMP DAMPING (LOW, MED, HIGH).
- Protection:** POWER (OFF), 2 OHMS (OFF), PROTECT (OFF), LIMIT (OFF).

FAT, FULL & ROUND

NOTE: Bypass Parametric Equalizer

The control panel for the 'FAT, FULL & ROUND' setting features the following configurations:

- Inputs:** MUTE (OFF), ACTIVE (ON), PLAY (OFF), PASSIVE (OFF), INPUT (SELECTED).
- 2-Stage Class A Tube Preamplifier:** INPUT, HIGHPASS FILTER (25Hz, 125Hz), BASS.
- Parametric Equalizer:** 500Hz, 1.3kHz, 2.6kHz (all at 0dB), 80Hz, 1kHz, 150Hz, 2.5kHz, 300Hz, 5kHz (all at 0dB).
- PEQ Bypass:** Bypassed (indicated by a dot).
- Master Controls:** PASSIVE MID, TREBLE, MASTER.
- Power Section:** POWER AMP DAMPING (LOW, MED, HIGH).
- Protection:** POWER (OFF), 2 OHMS (OFF), PROTECT (OFF), LIMIT (OFF).

SLAPTASTIC

The control panel for the 'SLAPTASTIC' setting features the following configurations:

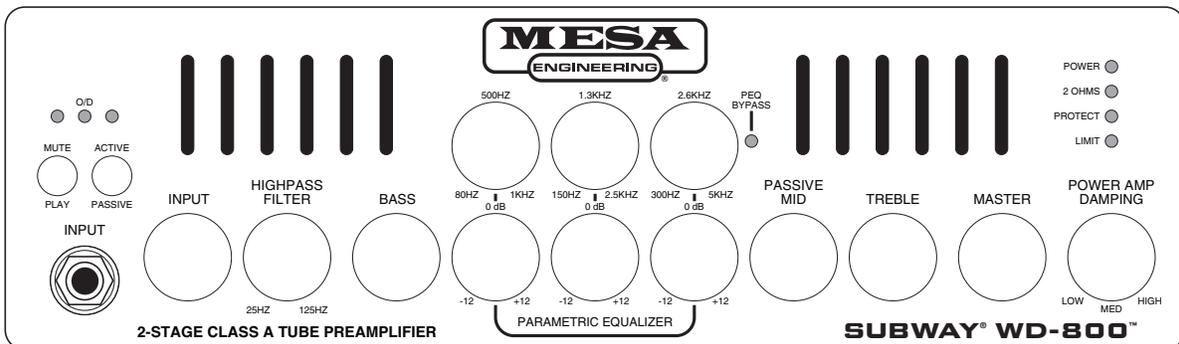
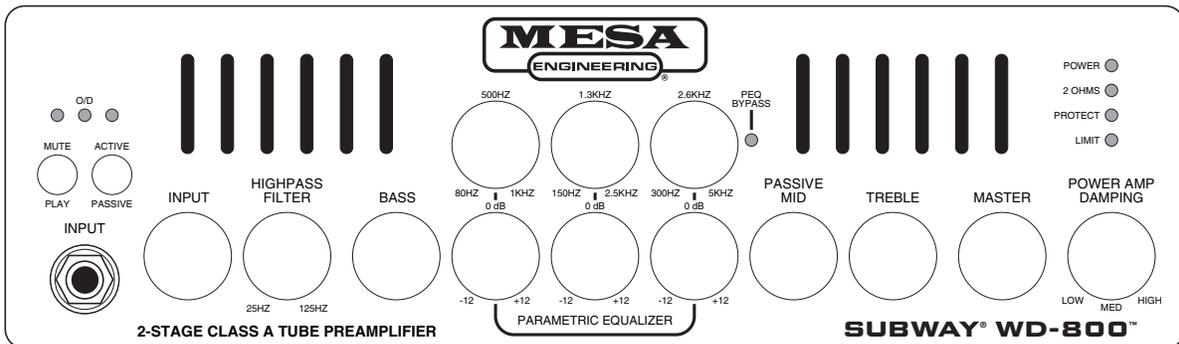
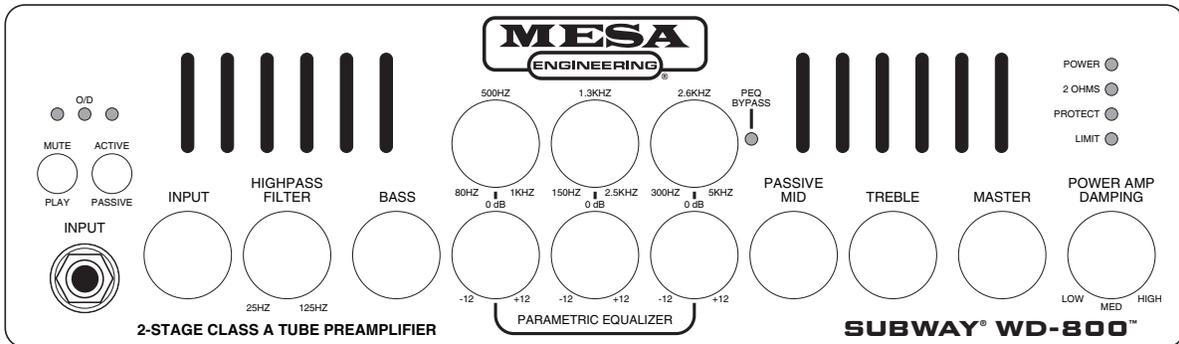
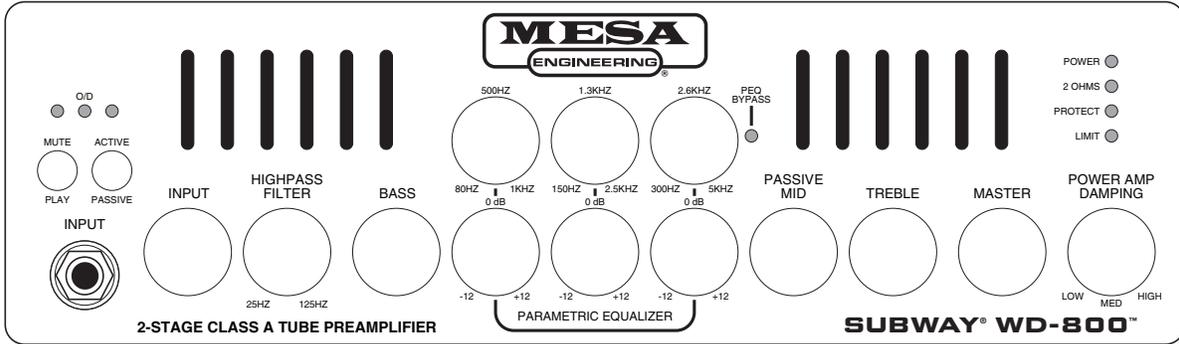
- Inputs:** MUTE (OFF), ACTIVE (ON), PLAY (OFF), PASSIVE (OFF), INPUT (SELECTED).
- 2-Stage Class A Tube Preamplifier:** INPUT, HIGHPASS FILTER (25Hz, 125Hz), BASS.
- Parametric Equalizer:** 500Hz, 1.3kHz, 2.6kHz (all at 0dB), 80Hz, 1kHz, 150Hz, 2.5kHz, 300Hz, 5kHz (all at 0dB).
- PEQ Bypass:** Bypassed (indicated by a dot).
- Master Controls:** PASSIVE MID, TREBLE, MASTER.
- Power Section:** POWER AMP DAMPING (LOW, MED, HIGH).
- Protection:** POWER (OFF), 2 OHMS (OFF), PROTECT (OFF), LIMIT (OFF).

TUBE GRIND & PUNCH

The control panel for the 'TUBE GRIND & PUNCH' setting features the following configurations:

- Inputs:** MUTE (OFF), ACTIVE (ON), PLAY (OFF), PASSIVE (OFF), INPUT (SELECTED).
- 2-Stage Class A Tube Preamplifier:** INPUT, HIGHPASS FILTER (25Hz, 125Hz), BASS.
- Parametric Equalizer:** 500Hz, 1.3kHz, 2.6kHz (all at 0dB), 80Hz, 1kHz, 150Hz, 2.5kHz, 300Hz, 5kHz (all at 0dB).
- PEQ Bypass:** Bypassed (indicated by a dot).
- Master Controls:** PASSIVE MID, TREBLE, MASTER.
- Power Section:** POWER AMP DAMPING (LOW, MED, HIGH).
- Protection:** POWER (OFF), 2 OHMS (OFF), PROTECT (OFF), LIMIT (OFF).

USER SETTINGS



SUBWAY® WD-800™

Specifications

Output Power Rating:	200 Watts RMS @ 16 ohms, 10% THD (includes preamp O/D THD) [note 1] 400 Watts RMS @ 8 ohms, 10% THD (includes preamp O/D THD) [note 1] 800 Watts RMS @ 4 ohms, 10% THD (includes preamp O/D THD) [note 1] 800 Watts RMS @ 2 ohms, 10% THD (includes preamp O/D THD) [note 1, 4]
Signal to Noise Ratio:	-65dB (20-15kHz, unweighted, controls at 12:00 positions)
Available Gain:	40dB (eq controls flat, passive mode, gain/master at 12:00)
Input Pad & Maximum Input Level:	-10dB (active), >6.35 V(RMS) with input gain at 9:00, eq flat
High Pass Filter:	2 pole fixed, 2 pole variable, 24dB/octave, 25Hz – 125Hz
Equalization:	Bass: +14dB/-14dB @ 40Hz, shelving [note 2] Passive Mid: -15dB @ 250 Hz, dip only Treble: +11dB/-14dB @ 4kHz, shelving [note 2] Parametric Mid Bands: +12dB/-14dB, peak/dip @ selected band centers
Instrument Input Impedance/Sensitivity:	>1 Meg ohm, -10dBu (gain & master at 12:00)
Aux Input Impedance/Sensitivity:	10 K ohm, +4dBu [note 5]
Effects Return Impedance/Sensitivity:	20 K ohm, +4dBu [note 5]
Effects Send Impedance/Sensitivity:	<1 K ohm, +4dBu [note 5]
DI Output Impedance/Sensitivity:	<1 K ohm, -28dBu mic position, -10dBu line position
Power Amp Damping:	~1000 at 8 ohms (high), ~50 at 8 ohms (medium), ~25 at 8 ohms (low) [note 6]
Preamp Tube Complement:	one, optimized for 12AT7 or 12AU7 (12AX7 can be used with some loss of dynamics)
Power Requirements:	100-120/220-240 VAC, 50/60Hz, 250W, auto-ranging power supply
Size:	12.00 (305mm) wide x 10.15" (258mm) deep x 3.45" (88mm) high [note 3]
Weight:	approx. 7 lbs (3.18 kg)

[note 1]: area under the curve, factoring preamp harmonics management, >25% duty cycle

[note 2]: measured approx. 1 octave from knee

[note 3]: chassis only, not including feet and controls

[note 4]: impedance selector switch set to 2 ohm position

[note 5]: nominal levels, there's typically a min. of 12dB of addtl. gain for signals below, and 12 dB of headroom above nominal levels

[note 6]: < 1kHz

MESA/Boogie® continually develops new products and improves existing ones. For this reason, specifications and information in this manual are subject to change without notice.

SERVICE INFORMATION

- **USA /CANADA Customer Support:**

For technical support, troubleshooting, tone questions, settings help and more...

707-778-6565 Monday-Thursday, 9AM-5PM Pacific Time

NOTE: If a Product Specialist is not available when you call (helping other customers), PLEASE leave a voice message with a phone number and a good time to call and WE'LL CALL YOU BACK!

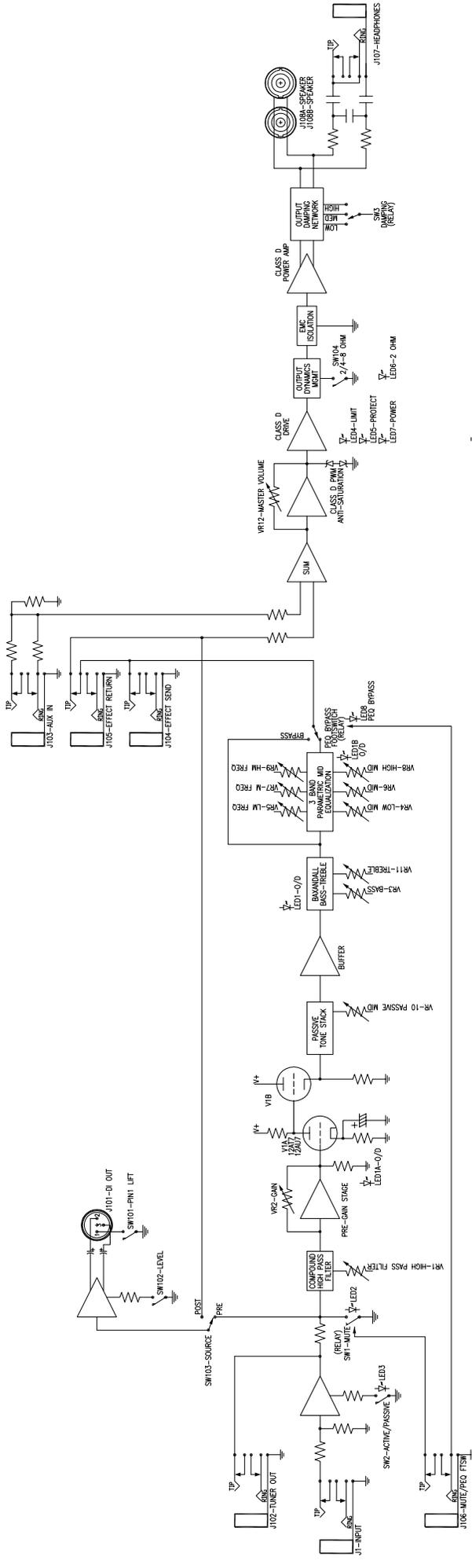
- **INTERNATIONAL Customer Support:**

For warranty and technical support, please contact your LOCAL MESA DISTRIBUTOR.

You may use this link to search the web for your local distributor's contact information:

www.mesaboogie.com/support/locations.html





SUBWAY WD-800 BLOCK DIAGRAM

ALL FRONT PANEL KNOBS
PT# 408608

2 X FRONT RACK HANDLE
PT# 407115

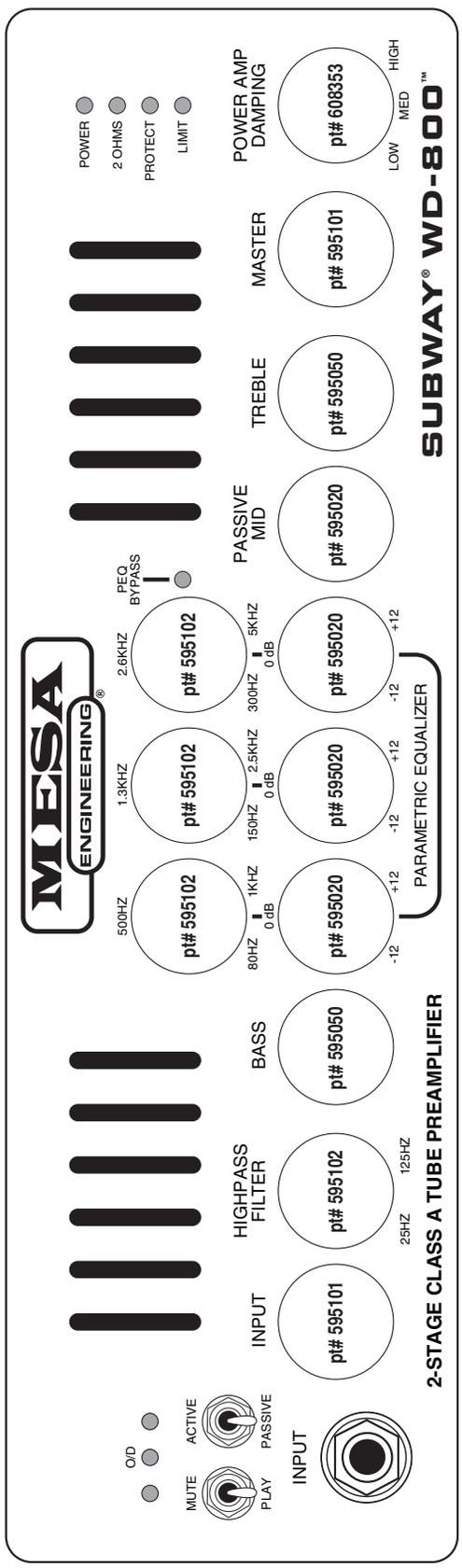
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MUTE SWITCH pt# 607335
O/D LED pt# 394251
ACTIVE LED pt# 394261
ACTIVE/PASSIVE SWITCH pt# 607335

LOGO
pt# 800034

PEQ BYPASS LED pt# 394201

- POWER LED pt# 394261
- 2 OHMS LED pt# 394261
- PROTECT LED pt# 394201
- LIMIT LED pt# 394251

FRONT PANEL: SUBWAY D-800



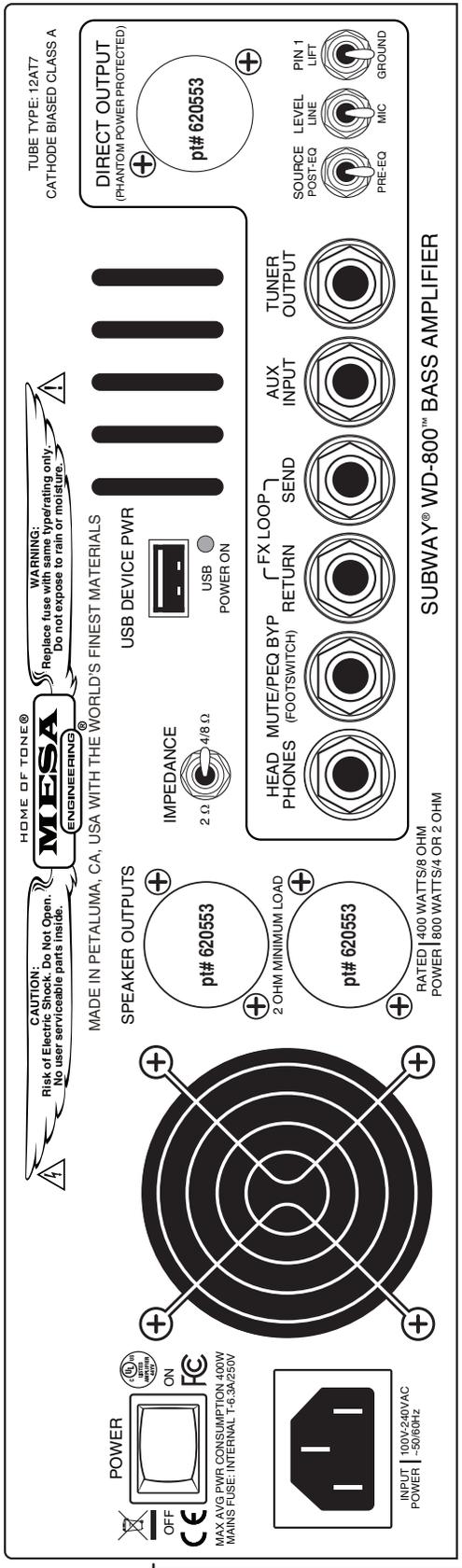
SUBWAY® WD-800™

2-STAGE CLASS A TUBE PREAMPLIFIER

JACK
pt# 619354

SWITCH pt# 607335
USB LED pt# 394232
USB JACK pt# 620100

REAR PANEL: SUBWAY D-800



POWER SWITCH
pt# 600118
IEC POWER JACK
pt# 613713
FAN pt# 783140
FAN GRILLE pt# 256184

6 X SCREWS pt# 304150

SWITCH pt# 619334

SWITCH pt# 607334

SUBWAY® WD-800™ BASS AMPLIFIER

TUBE TYPE: 12AT7
CATHODE BIASED CLASS A

CAUTION: Risk of Electric Shock. Do Not Open. No user serviceable parts inside.

HOME OF TONE®
MESA ENGINEERING®

MADE IN PETALUMA, CA, USA WITH THE WORLD'S FINEST MATERIALS

POWER OFF ON
MAX AVG POWER CONSUMPTION: 400W
MAINS FUSE: INTERNAL T-6.3A/250V

RATED 400 WATTS/8 OHM
POWER 1800 WATTS/4 OR 2 OHM

The Spirit of Art in Technology™



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