

WARNINGS

- Attempting to repair this unit is not recommended and may void its warranty.
- Missing or altered serial numbers automatically void the warranty. For your own protection, be sure the serial number labels on the unit and exterior box are intact.

ONE-YEAR LIMITED WARRANTY

Manufacturer warrants unit to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase to the original purchaser and is not transferable. This warranty does not include damage resulting from accident, misuse, abuse, alteration, or incorrect current or voltage. If unit becomes defective within warranty period, Tech 21 will elect to repair or replace it free of charge. After warranty period expires, manufacturer will repair defective unit for a fee.

PROOF OF PURCHASE IS REQUIRED FOR ALL REPAIRS

For residents of the U.S. and Canada, please call or email Tech 21 for shipping instructions and a Return Authorization Number. Tech 21 will not accept packages without prior authorization, pre-paid freight (UPS preferred), and proper insurance.

FOR PERSONAL ASSISTANCE & INQUIRIES

Contact Tech 21 weekdays from 10:00 AM to 5:00 PM, Eastern Standard Time.

DESIGNED AND MANUFACTURED IN THE U.S.A.



Fill in the following information for future reference:

Model Number _____

Serial Number _____

Dealer's Name _____

Dealer's Address _____

Date of Purchase _____



Tel: 973-777-6996 / Fax: 973-777-9899

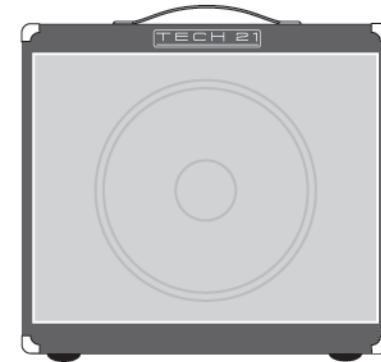
E-Mail: info@tech21nyc.com

Website: www.tech21nyc.com

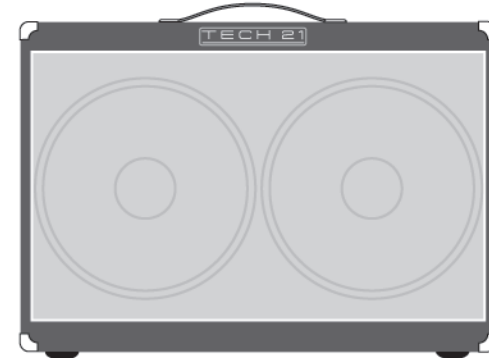
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POWER ENGINE 60™

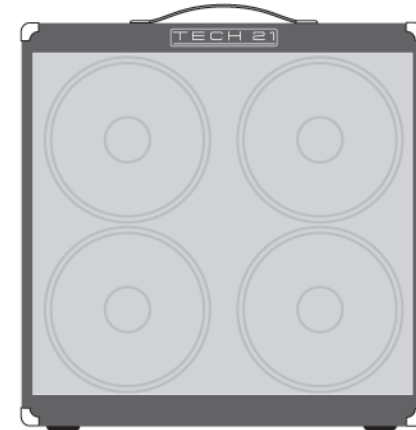
TECH 21·NYC



1x12



2x12



4x10

Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS. READ AND SAVE THESE INSTRUCTIONS. HEED ALL WARNINGS.



This symbol, wherever it appears, alerts the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol, wherever it appears, alerts the user to important operating and maintenance instructions in the accompanying literature. Read the manual.

This unit is powered by potentially hazardous voltage. Therefore, observe the following safety precautions:

	CAUTION RISK OF ELECTRICAL SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

	ATTENTION RISQUE D'ELECTROCUTION NE PAS OUVRIR	
ATTENTION: POUR REDUIRE LES RISQUES D'ELECTROCUTION NE PAS ENLEVER LE COUVERCLE. AUCUNE PIECE INTERNE N'EST REPARABLE PAR L'UTILISATEUR. POUR TOUTE REPARATION, S'ADRESSER A UN TECHNICIEN QUALIFIE.		

	VORSICHT ELEKTRISCHE SCHLAGGEFAHR NICHT OFFNEN	
VORSICHT: ZUR MINIMIERUNG ELEKTRISCHER SCHLAGGEFAHR NICHT DEN DECKEL ABNEHMEN. INTERNE TEILE KÖNNEN NICHT VOM BENUTZER GEWARTET WERDEN. DIE WARTUNG IST QUALIFIZIERTEM WARTUNGSPERSONAL ZU ÜBERLASSEN.		

1. Read and follow all instructions before using product.
2. Do not use product near water (such as near a bathtub, washbowl, kitchen sink, swimming pool, in a wet basement, etc.).
3. Unit should be located so that its location or position does not impede the flow of air through the ventilation openings.
4. Product should be located away from heat sources such as radiators, heat registers, or other products, including amplifiers, that produce heat.
5. Product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
6. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the unit.
7. Do not allow objects or liquids to penetrate the enclosure through openings.
8. During heavy use, chassis may get hot to the touch. Handle with care.
9. Protect unit from strong impact.
10. Unplug product before cleaning. Never spray liquid cleaners into the amp: wipe with a clean, lint-free cloth to remove dirt and film.
11. Only use attachments/accessories specified by the manufacturer.
12. This product should be used only with a cart or stand that is recommended by the manufacturer. When a cart is used, use caution when moving the cart/product combination to avoid injury from tipping over.
13. Amplifiers may be capable of producing high volume levels that could cause permanent hearing loss or damage, if the exposure to such levels is prolonged. Such damage is progressive and irreversible! If you experience any hearing loss or ringing in the ears, consult an audiologist.



14. Unplug unit during lightning storms or when unused for long periods of time.

15. This unit must be earth grounded. To reduce the risk of electric shock, NEVER remove or otherwise attempt to defeat the ground pin of the power cord. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

WARNING: To avoid the risk of fire, electric shock or injury, do not expose this unit to rain or moisture. Do not remove metal covering from chassis parts. Doing so exposes extremely dangerous high voltages. There are no user-serviceable parts inside. Hazardous voltages are present inside the chassis. Refer all servicing to qualified personnel.

CAUTION: Never modify the power cord. If original power cord becomes damaged, frayed, or has exposed wires, replace immediately with same rating and gauge, or higher. Replacements are commercially available or you can contact Tech 21 directly.

WARNING: Attempting to repair this unit is not recommended and may void its warranty. NOTE: In the U.S. and Canada, servicing is performed at factory only. In other countries, please refer repairs to the local Tech 21 authorized distributor.

FUSE



Fuse holder located inside A/C cord receptacle. **You must remove power cord to change fuse.** Replace with similar type & same value:
100-117V units use F 3A L • 230-240V units use F 1.6A L.

QUICK START AND STOP INSTRUCTIONS

Here's how you can get your Power Engine 60 up and running before you read the entire manual. Note: By not reading the manual, you'll miss out on how to get the most out of your new investment!

1. Plug your amp or pre-amp/processor output into the XLR input or 1/4" input of the Power Engine 60.
2. Be sure your amp or pre-amp/processor is already turned on. (See "Noteworthy Notes" #1: Powering Up and Powering Down.)
3. Be sure the volume of the Power Engine 60 is turned down. Attach the AC cord, plug into a wall socket and turn on the Power Engine 60.
4. Play your guitar and you should hear a sound coming through the Power Engine 60. If not, check that all volume controls are turned up, recheck your connections, and be sure your cable isn't faulty. If there is still no sound, refer to factory or qualified technician.

QUICK STOP: After shutting off the Power Engine 60 (or any amplifier), wait at least 10 seconds before turning it back on.

TECH 21, THE COMPANY

Tech 21 was formed by a guitarist possessing the unusual combination of a trained ear and electronics expertise. In 1989, B. Andrew Barta made his invention commercially available to players and studios around the world. His highly-acclaimed **SansAmp**[™] pioneered Tube Amplifier Emulation in professional applications for recording direct and performing live, and created an entirely new category of signal processing. There have since been many entries into this niche, yet SansAmp continues to maintain its reputation as the industry standard.

With a full line of SansAmp models, Tech 21 also offers effect pedals and MIDI products, as well as “traditional” style amplifiers for guitar and bass. Each product is thoughtfully and respectfully designed by B. Andrew Barta himself with the player in mind. Our goal is to provide you with flexible, versatile tools to cultivate, control, refine and redefine your own individual sound. Tech 21 takes great pride in delivering consistent quality sound, studio to studio, club to club, arena to arena.

POWER ENGINE 60, AN OVERVIEW

The Power Engine 60 is yet another new multi-functional concept from Tech 21. These handsome cabinets, available in 1x12, 2x12 and 4x10 configurations, match and complement our own Trademark Series of combo amplifiers. They each have 60 watts of *transparent* power with convenient, on-board 3-band, active EQ controls to compensate for challenging venues.

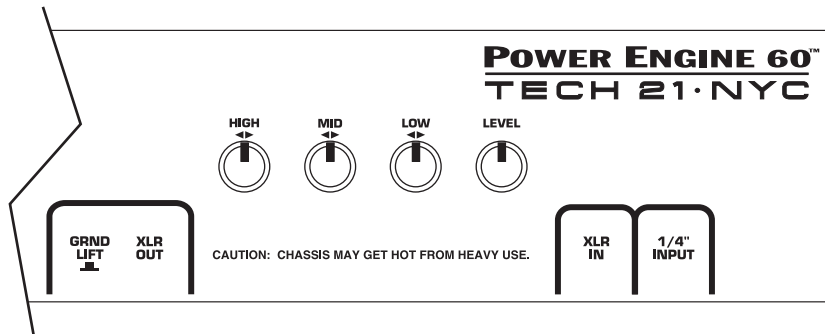
You can use a Power Engine 60 with **any** direct recording device or pre-amp --analog or digital, tube or solid state-- from **any** manufacturer. (We happen to be partial to our own SansAmp line of direct recording pre-amps, of course, but that's just us.)

Take your SansAmp, or preamp gizmo du jour, with all those great direct sounds you've spent so much time creating, out to a gig and simply plug into the Power Engine 60. It will amplify all your personal settings without giving you any additional coloration. Just volume, no tone.

With a Trademark or other amplifier, you can incorporate the Power Engine 60 into your existing system to substantially increase the volume when you need it for larger venues, as well as for monitoring.

There are ground-independent inputs and output, so there's no limit to how much power you can have. Power Engine 60s can be daisy-chained from New York to Tokyo (and back!).

THE INS AND OUTS



1/4" INPUT (*FOR INSTRUMENTS ONLY*)

Accepts 1/4" output of your pre-amp/processor or amplifier. This specialized input features an isolation transformer to eliminate ground loops when using the Power Engine 60 in conjunction with an amplifier. Be aware that this transformer loads down passive guitar inputs. If you would like to plug your guitar directly into the Power Engine 60, either use an active guitar or any buffered type of effect pedal (Boss®, Ibanez®, Tech 21, etc.) in bypass mode in order to drive the low input impedance of the amplifier. ***NOTE: DO NOT PLUG THE SPEAKER OUTPUT OF AN AMP INTO THIS INPUT.** Doing so may result in severe damage to the unit or your amp or both.

XLR IN

Balanced XLR input accepts XLR output of your pre-amp/processor or amplifier. This specialized input is also linked to the isolation transformer to eliminate ground loops when using the Power Engine 60 in conjunction with an amplifier or chaining with additional Power Engine 60s.

NOTE: We advise against using both inputs at the same time as it may cause you to experience signal degradation.

XLR OUT

Balanced low impedance XLR parallel output is connected directly to the input, so that the signal bypasses the tone controls. For live gigs, you can use this output directly into the P.A. system so you won't need to mic the Power Engine 60.

GROUND LIFT

Connects or disconnects the ground between the XLR output of the Power Engine 60 and the mixer. We recommend starting with the ground lifted. If necessary, connect the ground by pushing the button in.

®Registered trademarks of their respective companies.

TONE SECTION

The Power Engine 60 includes convenient, on-board, 3-band **active** EQ controls, which cut and boost, rather than traditional passive controls which only cut. This gives you greater control and adjustability to compensate for virtually any situation.

NOTE: These tone controls only affect the power amp and speaker, not the XLR output. The signal going into the 1/4" input or XLR input passes straight through. So you can tailor your stage sound to the room without affecting the sound out of the P.A.

Additionally, be aware that you need not set everything at max to obtain maximum results. (See "Noteworthy Notes" #2: EQ.)

LOW, MID, HIGH

Boost or cut ± 12 dB from the center point (12 o'clock).

ODDS AND ENDS

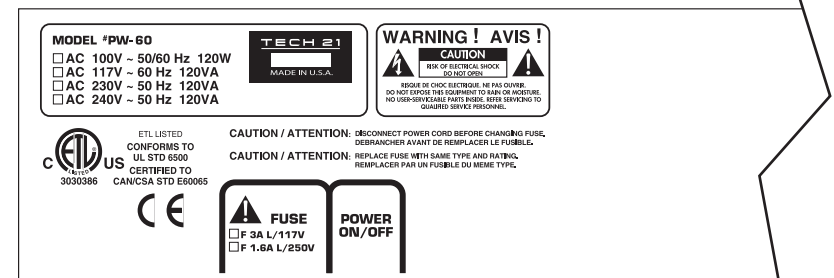
LEVEL

Adjusts the volume level of the Power Engine 60. Be sure to set the Level control to match (approx.) the output volume of the unit/amp into which it is plugged. The unit/amp's level then becomes the "master volume" control. (See additional info under "Noteworthy Notes" #3: Volume.)

FUSE

Replace with similar type and same value:

100-117V units use F 3A L • 230-240V units use F 1.6A L.



IMPORTANT REMINDER: Fuse holder located inside A/C cord receptacle. **You must disconnect and remove power cord to change fuse.**

NOTEWORTHY NOTES & CONSIDERATIONS

1) Powering Up and Powering Down. To avoid the typical loud pop and potential harm to the speaker and/or horn, power up in this order:

For mono applications:

- 1st:** Amplifier or pre-amp/processor
- 2nd:** Power Engine 60

For stereo applications:

- 1st:** Stereo processor
- 2nd:** Amplifier or pre-amp/processor
- 3rd:** Power Engine 60

2) EQ. We recommend starting with all controls flat. Then use each sparingly as needed for whatever room you're in. Remember, you need not set everything at max to obtain maximum results. It would be rare that turning all the tone controls up would accomplish a favorable sound. In most instances, a slight cut of the Mid control should be adequate.

3) Volume.

(a) When using the Power Engine 60 with an amplifier/processor, be sure to set the Power Engine 60 Level control to match (approx.) the output volume of the amp/processor. If the Power Engine 60 is set higher, it may cause undesirable distortion. Note: Rely on your ears. The position of the level knobs of the amp/processor and Power Engine 60 may not necessarily be the same.

(b) When using the Power Engine 60 with a Tech 21 Trademark combo amp, the Power Engine 60 Level control will most likely yield the best results when at max, even when the Trademark is at lower levels.

4) Stacking. You may experience electrical interference with sensitive reverb circuits when stacking a Trademark or other amp on top of the Power Engine 60. For best results, position the amps side by side. If space limitations dictate stacking, the reverb tank should be moved from the bottom of the amp to the rear panel (if possible) so it is out of the magnetic field of the Power Engine 60's transformer.

5) Enjoy !

POWER ENGINE 60 SPECIFICATIONS

Note: With on-going product development and improvements, specifications and/or the cosmetic appearance of this unit may change without prior notice.

Model Number	PW60
Input Impedance	10KOhm
Nominal Input Level*	-20dBu to +4dBu
Optimal Output Load	8 Ohms
Power Output	60W
Nominal XLR Output*	-20dBu to +4dBu
Maximum Power Consumption	120W
AC Input Power	100V, 117V, 230V, 240V
Cycles	50/60 Hz

NOTE: AC power cannot be switched. Each unit constructed for specific voltages.
 *Measured using a -10dB 400Hz test signal with all amp controls flat, no Reverb or Boost. Actual levels will vary with your settings.

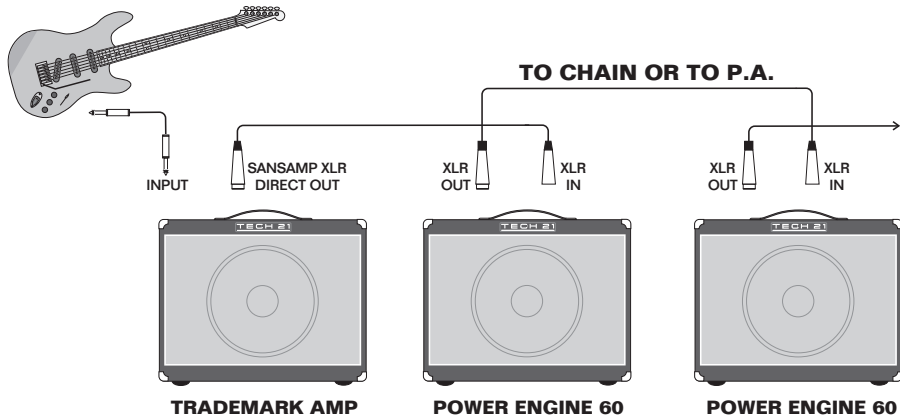
	PW60-1x12	PW60-2x12	PW60-4x10
Speaker:	Model #CT2112-8, Celestion® Seventy80 12" 80W - 8Ω	Model #CT2112-16, Celestion® Seventy80 12" 80W - 16Ω each 8Ω total load	Model #ET2110-8, Custom Eminence® 10" 50W - 8Ω each 8Ω total load
Dimensions:	20"l x 11"w x 18"h	26"l x 12"w x 19"h	22"l x 12"w x 22"h
Weight:	35 lbs.	47 lbs.	46 lbs.

Optional Accessories:

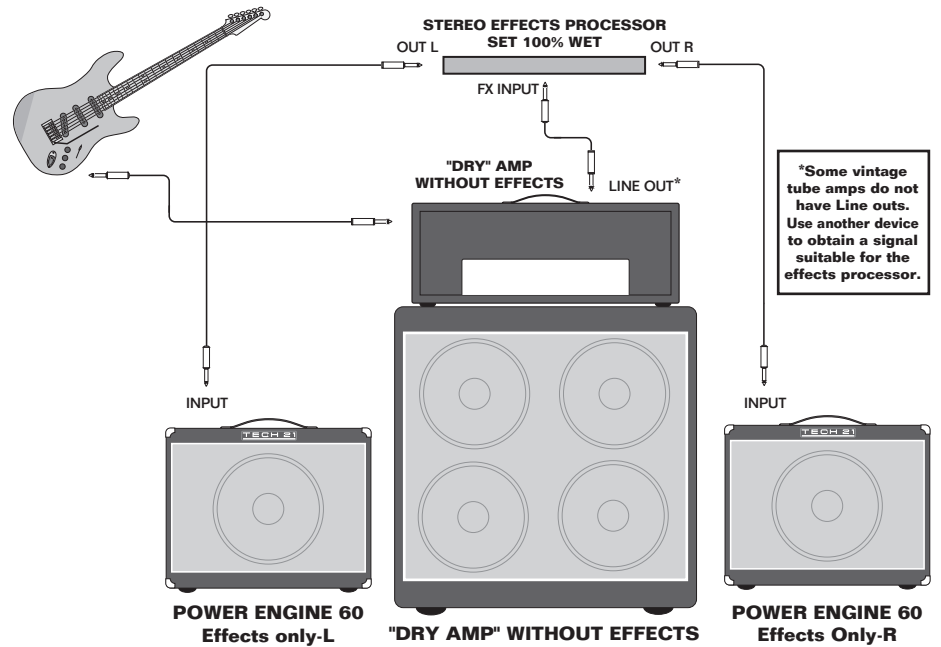
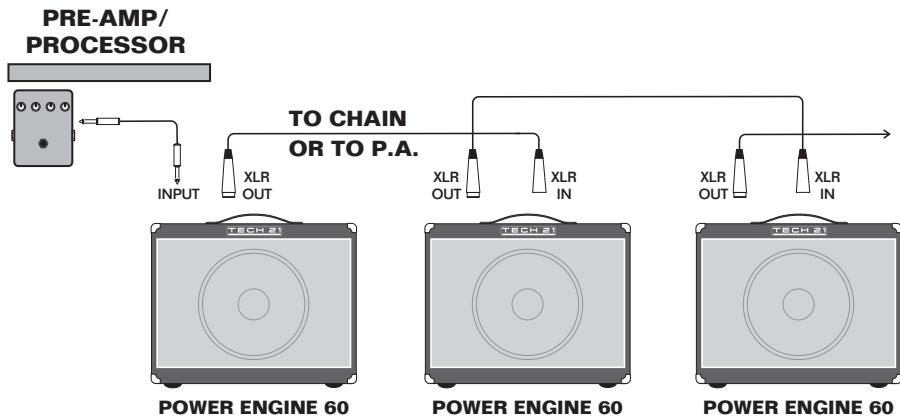
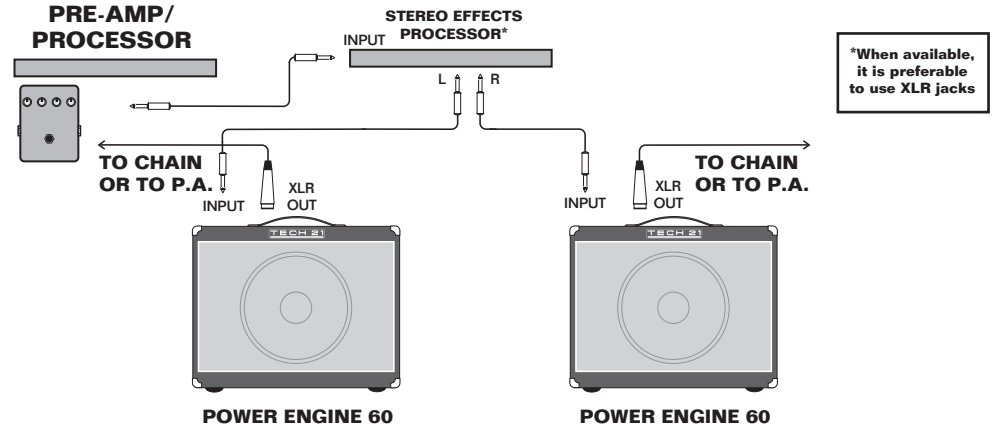
- Vinyl cover**, black with silver logo
- Flight case** with hammered aluminum finish, lock and casters

Accessories and replacement parts (i.e., knobs, grill panel, speaker, logo plate, handle, etc.) are available through your authorized dealer, distributor or directly from Tech 21.

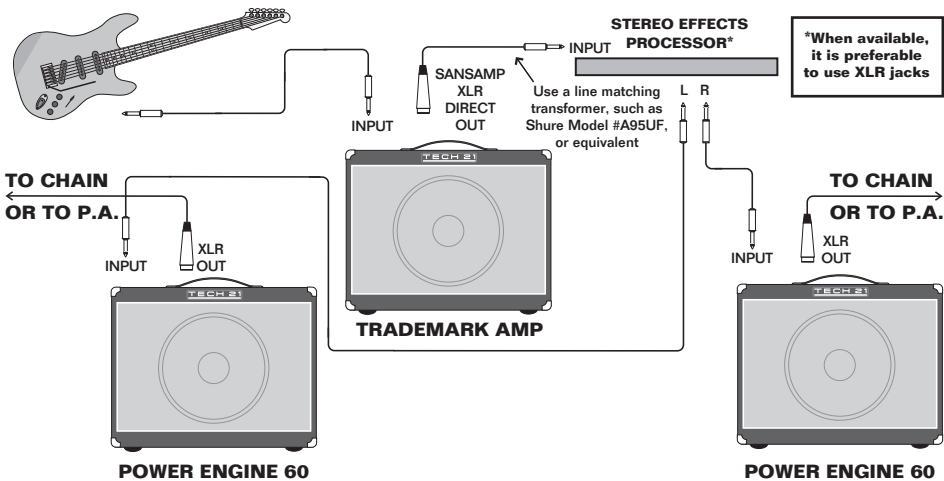
Power Engine 60 Hook-Up Diagrams (MONO)



Power Engine 60 Hook-Up Diagrams (STEREO)



Power Engine 60 Hook-Up Diagrams (STEREO)



(MONO or STEREO)

