CONGRATULATIONS on your purchase of Carvin's **PA800**, **PA1200** or **PA1200R** Series mixer! The "**R**" version is a non-power rack model designed for your own power amp while the **PA800** and **PA1200** models included built-in high power amplifiers for direct hook-up to your speakers. Please read this manual carefully to take all the advantages of your new mixer.

SUPERB SOUND is derived from the extremely low distortion, high "Headroom" design. A state-of-the art, low noise, high headroom, balanced XLR preamp for each channel features a common mode rejection of better than 78 dB, which means that any possible noise that may come over your cables is virtually eliminated. Even the balanced XLR output connectors guard your system from cable noise for professional recordings or external power amp connections. Distortion is nearly non-existent with THD below .1%, which guarantees the purity of your sound. Hear the difference - your sound will not seem "sterile" or "processed". It will be dynamically open and transparent just like it was meant to be!

LIGHT WEIGHT and EASY TO USE everything is logically laid out making the PA Series simple to use, which helps to eliminate operator error. Its compact size and weight of 28 lbs. makes it the lightest, most powerful mixer of its kind. No other competitor in the industry offers a higher performance to weight ratio!

3 HIGH CURRENT AMPLIFIERS deliver 333 watts RMS each. A total of 666 watts is delivered to your main speakers (333 watts each for the R/L if played in stereo), plus a 333 watt amp to drive your stage monitors for a total of 1000 watts. This is the kind of output required for today's professionals to maintain purity and integrity of sound. Six output jacks, two from each amp, deliver full power into 4 ohms, making these mixers more powerful than most amplifiers rated at 2 ohms. A peak indicator for every amp and a protect LED gives you a visual monitor.

A HIGH CURRENT POWER SUPPLY is provided by a beefy toroid transformer to assure continuous high amperage DC voltage to all three power amplifiers, eliminating "overload" or shutdown. 20,000 mfd capacitors offer a large power reservoir for bass thumping output.
The **PA1200R** features a 125k Hz switching power supply for operating your mixer at any voltage from 90 VAC to 240VAC. Like a laptop computer, you can go anywhere in the world and not worry about power adapters.

2 INDEPENDENT 24-Bit STEREO DSP EFFECTS allow you to assign each channel to your choice of effects. You can dedicate chorus/rev to the acoustic guitar channel and reverb to the vocals, etc. Both effects are adjustable to your stage monitors so you can hear yourself with full effects. The effects processors with 256 effects each, include reverbs, choruses, flanging and echoes, with parameters fully adjustable for; damping, decay, depth, speed, regeneration and time.

ACTIVE 3 BAND CHANNEL EQ provides easy adjustment for the tone you want. The LO frequency controls starts at 20 Hz and continues through 80 Hz for a solid non-flabby bass. A simple adjustment with the MID band, gives you the best sound for vocals or guitar in the very important 750Hz frequency range. The 11.5k Hz HI treble control adds sparkle to your top-end without adding harshness. Both the LO and HI are "shelving", which means they are effective from 20Hz up to 20k Hz.

TWO 9 BAND EQUALIZERS provide precise 1 octave adjustments to fine tune your over all sound and to help control feedback. Unlike one stereo graphic equalizer, two independent 9 bands give you total flexibility. At the push of a button, you can assign both equalizers to the main and monitor speakers or to the L and R outputs.

ENGINEERED TO LAST Every PA Series mixer incorporates a rugged reinforced steel chassis. Continuous full power is assured from a 370 sq inch, high-grade 6063-T5-aluminum heat sink cooled by a quiet dual-speed fan. You'll never have to worry about protect or power reduction modes.

ENGINEERED TO LAST cont. Hidden deep in the heart of these mixers is the "SMT" Surface Mount Technology construction that utilizes surface mounted components to prevent parts from shaking or vibrating loose. Sealed controls and switches guard against the outside elements while heavy-duty connectors provide a positive connection to your cables. Fire retardant FR-4 military spec circuit cards feature double-sided copper construction to guard against noise and radio frequencies (RF). Precision 1% tolerances guarantee that your settings will be accurate every time. The multi-ply wood cabinet is not the typical heavy particleboard that can break or crack, and the Duratuff covering is scratch and dent resistant. The PA Series is professionally made in the USA for years of service!

RECEIVING INSPECTION—read before getting started

INSPECT YOUR MIXER FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, please notify the shipping company and CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. This will provide the best possible protection during shipment. CARVIN and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty service if needed in the future.

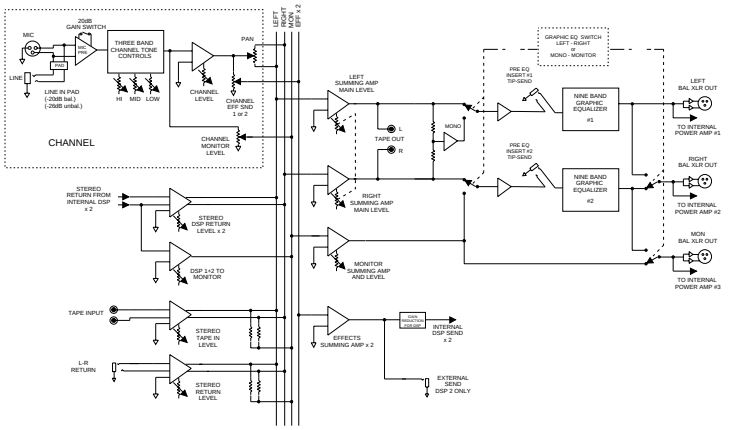
SHIPMENT SHORTAGE. If you find items missing, they may have been shipped separately. Please allow several days for the rest of your order to arrive before inquiring.

RECORD THE SERIAL NUMBER on the enclosed warranty card or below on this manual for your records. Keep your portion of the card and return the portion with your name and comments to us or register online at **www.carvin.com/registration**

For your records, you may wish to record the following information.

Serial No._____ Invoice Date_____

PA1200 BLOCK DIAGRAM



MODEL PA800, PA1200, PA1200R SPECIFICATIONS:

Frequency Response:	Mic or Line Inputs: 20Hz-20kHz ±1dB
Total Harmonic Distortion:	Less than .1% at nominal levels
Equivalent Input Noise:	150 ohm source: -117dBu
Output Noise:	-90dBu Master Line Out (All Levels Minimum)
Output Headroom:	+26dB XLR bal, +20dB 1/4" unbal
Maximum Gain:	Mic in to Master Line Out: 70dB
Crosstalk:	Adjacent ch's: -60db at 1KHz
Common Mode Rejection:	-78db at 1KHz
Phantom Power:	XLR Mic channels
Channel EQ 3-band active:	LOW: 80Hz ±12dB MID: 750Hz ±12dB HI: 11.5KHz ±12dB
Power Output:	1000w @ 4Ω (8Ω: 200w x3, 4Ω: 333w x3)
Power Req.:	120VAC 60 Hz or optional 240VAC 50 Hz model
Size and Weight:	12.5"H x 20"W x 10"D, 28 lbs
PA1200R Power Req.:	90 - 240 VAC 50 - 60 Hz
Size and Weight:	11"H x 19.5"W x 4"D, 10 lbs
Remote Effects Controller:	Optional FS22 footswitch
Vinyl Cover:	CV1200

CARVIN
12340 World Trade Drive, San Diego, CA 92128
800.854.2235 www.carvin.com

This symbol is intended to alert 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.

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:

WATER AND MOISTURE: Appliance should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

POWER SOURCES: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

SERVICING: The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FUSING: If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.

SAFETY INSTRUCTIONS (EUROPEAN)

The conductors in the AC power cord are colored in accordance with the following code.

GREEN & YELLOW—Earth BLUE—Neutral BROWN—Live

U.K. MAIN PLUG WARNING: A molded main plug that has been cut off from the cord is unsafe. NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAIN PLUG INTO A POWER SOCKET.

LIMITED WARRANTY

Your Carvin product is guaranteed against failure for 1 YEAR unless otherwise stated. Carvin will service and supply all parts at no charge to the customer providing the unit is under warranty. Shipping costs are the responsibility of the customer. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. Carvin assumes no responsibility for horn drivers or speakers damaged by this unit. This warranty does not cover, and no liability is assumed, for damage due to: natural disasters, accidents, abuse, loss of parts, lack of reasonable care, incorrect use, or failure to follow instructions. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

When RETURNING merchandise to the factory, you may call for a return authorization number. Describe in writing each problem. If your unit is out of warranty, you will be charged the current FLAT RATE for parts and labor to bring your unit up to factory specifications.

MAINTAINING YOUR EQUIPMENT

Avoid spilling liquids or allowing any other foreign matter inside the unit. The panel of your unit can be wiped from time to time with a dry or slightly damp cloth in order to remove dust and bring back the new look. As with all pro gear, avoid prolonged use in caustic environments (salt air). When used in such an environment, be sure the mixer is adequately protected by a cover.

REPLACEMENT PARTS LIST FOR PA800/1200/1200R MIXERS

CAUTION

RISK OF ELECTRIC SHOCK

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL! THIS UNIT CONTAINS HIGH VOLTAGE INSIDE!

P/N	QTY	DESCRIPTION	LOCATION
03-50135	2	STANDOFF LED .500 X .135	T1 D6, D7
03-92521	6	STANDOFF LED .925 x .215	T1 D1, D2, D4, D5, D8, D9
06-40060	1	TERMINAL 90dg MALE PC MTG .250	QC1
07-01603	1	KNOB "6L" 6x6x17.4mm GREY CAP	S4
07-01602	1	KNOB "6" 6x6x9.7mm GREY CAP	S1
21-40000	12	XLR FEMALE CONNECTOR W/O GRND	J11-J121
21-40001	3	XLR MALE CONNECTOR	J2, J7, J9
21-40022	1	JACK RCA QUAD PC VERTICAL MTG	J5
21-52545	17	JACK .250 PHONE STEREO STEEL	J1, J3, J6, J10 J8, J12-J122
23-11004	1	CONNECT HEADER 4 PIN STRAIGHT	H12
23-11010	2	CONNECT HEADER 10 PIN STRAIGHT	H1, H11
23-40008	1	CONNECT HEADER .400 IN 8 PIN H2	
23-92995	2	SHUNT JUMPER UNPLATED MIDDLE PINS ON H2	
25-02201	1	SWITCH DPDT PUSH PC MTG LOCKNG	S4
25-02201-1	12	ASSEMBLED SWITCH AND CAP	S11-S121
25-04201	1	SWITCH 4PDT PUSH PC MTG LOCKNG	S1
30-12734D	1	PCB CARD MAIN 1000W PA1200 MIX	
46-22461	1	CAP MYLR .2200UF 63VOLT 10%	C250
49-10212	33	0.001UF SMT 10% FILM 0805 50V	C49, C51, C53, C71, C117, C128, C130, C146, C111, C123, C211, C223, C311, C323, C411, C423, C511, C523, C611, C623, C711, C723, C811, C167, C911, C923, C1011, C1023, C1111, C1123, C1211, C1223
49-10312	2	0.01UF SMT 10% FILM 080550V	C43, C89
49-10412	38	0.1UF SMT 5% CERAMIC 0805	C3, C4, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C24, C35, C39, C60, C65, C74, C75, C76, C77, C78, C79, C80, C137, C138, C140, C142, C151, C152, C155, C165, C166
49-10451	16	0.1 uF SMT 10% FILM 1206 50V	C5, C16, C27, C42, C44, C81, C83, C86, C88, C91, C94, C95, C96, C97, C98, C99
49-22035	116	SMT CAP 22uF 35v ELECTROLITIC	C1, C2, C19, C20, C21, C26, C29, C31, C33, C59, C62, C63, C64, C66, C67, C68, C72, C73, C93, C103, C104, C105, C108, C110, C114, C115, C120, C149, C153, C154, C157, C158, C161, C162, C168, C169, C172, C173, C203, C204, C205, C208, C210, C214, C303, C304, C305, C308, C310, C314, C403, C404, C405, C408, C410, C414, C503, C504, C505, C508, C510, C514, C603, C604, C605, C608, C610, C614, C703, C704, C705, C708, C710, C714, C803, C840, C805, C808, C810, C814, C903, C904, C905, C908, C910, C914, C1003, C1004, C1005, C1008, C1010, C1014, C1103, C1104, C1105, C1108, C1110, C1114, C1203, C1204, C1205, C1208, C1210, C1214, C170, C270, C370, C470, C570, C670, C770, C870, C970, C1070, C1170, C1270
49-22212	4	0.0022UF SMT 10% FILM 0805 50V	C56, C132, C135, C139
49-22312	18	0.022UF SMT 10% FILM 0805 50V	C41, C50, C85, C125, C129, C134, C112, C212, C312, C412, C512, C612, C712, C812, C912, C1012, C1112, C1212
49-25152	4	220PF SMT 5% CERAMIC 0805	C57, C141, C69, C118
49-27052	2	27 PF SMT 5% CERAMIC 0805	C36, C37
49-33152	2	330PF SMT 5% CERAMIC 0805	C55, C136
49-33212	2	0.0033UF SMT 10% FILM 0805 50	C47, C126
49-33312	2	0.033UF SMT 10% FILM 0805 50V	C48, C127
49-39052	62	39PF SMT 5% CERAMIC 0805	C34, C40, C156, C17, C18, C22, C23, C25, C28, C30, C32, C58, C82, C84, C90, C92, C100, C113, C118, C119, C122, C124, C143, C144, C145, C147, C159, C160, C163, C164, C213, C247, C313, C347, C413, C447, C513, C547, C613, C647, C713, C747, C813, C847, C913, C947, C1013, C1047, C1113, C1147, C1213, C1247, C148, C248, C348, C448, C548, C648, C748, C848, C948, C1048, C1148, C1248
49-47212	6	0.0047uF SMT FILM 0805 50V	C45, C52, C54, C116, C131, C133
49-47312	2	0.047UF SMT 10% FILM 0805 50V	C46, C121
49-56152	29	560PF SMT 5% CERAMIC 0805	C70, C119, C87, C171, C174, C106, C107, C206, C207, C306, C307, C406, C407, C506, C507, C606, C607, C706, C707, C806, C807, C906, C907, C1006, C1007, C1106, C1107, C1206, C1207
49-82052	36	82PF SMT 5% CERAMIC 0805	C101, C102, C201, C202, C301, C302, C401, C402, C501, C502, C601, C602, C701, C702, C801, C802, C901, C902, C1001, C1002, C1101, C1102, C1201, C1202, C109, C209, C309, C409, C509, C609, C709, C809, C909, C1009, C1109, C1209
58-00035	1	0.0 SMT JUMPER 1206	R187
58-10025	2	100.5 SMT .25W 1206 1%	R40, R157
58-10035	7	1K SMT .25W 1206 1%	R48, R81, R99, R129, R178, R181, R188
58-10045	55	10K SMT .25W 1206 1%	R1, R11, R12, R14, R15, R16, R27, R28, R31, R35, R36, R37, R39, R46, R47, R54, R55, R59, R78, R83, R125, R126, R137, R139, R140, R142, R149, R151, R154, R155, R159, R160, R163, R164, R171, R192, R198, R211, R220, R230, R231, R227, R228, R123, R223, R323, R423, R523, R623, R723, R183, R923, R1023, R1123, R1223
58-10055	3	100K SMT .25W 1206 1%	R52, R71, R90
58-15035	36	1.5K SMT .25W 1206 1%	R110, R210, R310, R410, R510, R610, R710, R810, R910, R1010, R1110, R1210, R112, R212, R312, R412, R512, R612, R712, R812, R912, R1012, R1112, R1212, R115, R215, R315, R415, R515, R615, R715, R815, R915, R1015, R1115, R1215
58-15045	16	15K SMT .25W 1206 1%	R4, R5, R127, R128, R108, R208, R308, R408, R508, R608, R708, R808, R908, R1008, R1108, R1208
58-15055	18	150K SMT .25W 1206 1%	R2, R8, R10, R41, R44, R49, R61, R65, R66, R67, R79, R85, R86, R89, R143, R145, R156, R172
58-22035	46	2.2K SMT .25W 1206 1%	R21, R24, R25, R32, R60, R62, R64, R68, R72, R74, R87, R94, R97, R134, R33, R53, R56, R57, R58, R165, R168, R169, R103, R203, R303, R403, R503, R603, R104, R204, R304, R404, R504, R604, R703, R803, R903, R1003, R1103, R1203, R704, R804, R904, R1004, R1104, R1204
58-22045	101	22K SMT .25W 1206 1%	R135, R136, R190, R191, R34, R105, R205, R305, R405, R505, R605, R705, R805, R905, R1005, R1105, R1205, R152, R252, R352, R452, R552, R652, R752, R852, R952, R1052, R1152, R1252, R109, R209, R309, R409, R509, R609, R709, R809, R909, R1009, R1109, R1209, R113, R213, R313, R413, R513, R613, R713, R813, R913, R1013, R1113, R1213, R147, R247, R347, R447, R547, R647, R747, R847, R947, R1047, R1147, R1247, R148, R248, R348, R448, R548, R648, R748, R848, R948, R1048, R1148, R1248, R150, R250, R350, R450, R550, R650, R750, R850, R950, R1050, R1150, R1250, R119, R219, R319, R419, R519, R619, R719, R819, R919, R1019, R1119, R1219
58-22055	12	220K SMT .25W 1206 1%	R20, R22, R26, R63, R69, R73, R75, R88, R95, R96, R100, R111
58-33025	4	330.5 SMT .25W 1206 1%	R77, R82, R161, R162
58-33035	14	3.3K SMT .25W 1206 1%	R70, R133, R116, R216, R316, R416, R516, R616, R716, R816, R916, R1016, R1116, R1216
58-33045	5	33K SMT .25W 1206 1%	R3, R9, R91, R121, R124
58-39035	4	3.9K SMT .25W 1206 1%	R19, R76, R92, R93
58-43045	2	43K SMT .25W 1206 1%	R18, R131
58-47005	4	4.7 SMT .25W 1206 1%	R996, R997, R998, R999
58-47025	6	470.5 SMT .25W 1206 1%	R38, R138, R42, R43, R45, R50, R80, R98, R179, R182, R189, R144, R146, R153, R229, R232
58-47035	49	4.7K SMT .25W 1206 1%	R29, R158, R6, R7, R13, R17, R30, R84, R120, R122, R132, R166, R170, R106, R206, R306, R406, R506, R606, R706, R806, R906, R1006, R1106, R1206, R107, R207, R307, R407, R507, R607, R707, R807, R907, R1007, R1107, R1207, R180, R280, R380, R480, R580, R680, R780, R880, R980, R1080, R1180, R1280
58-47045	14	47K SMT .25W 1206 1%	R23, R130, R114, R214, R314, R414, R514, R614, R714, R814, R914, R1014, R1114, R1214
58-56025	2	560.5 SMT .25W 1206 1%	R233, R234
58-56035	48	5.6K SMT .25W 1206 1%	R101, R102, R201, R202, R301, R302, R401, R402, R501, R502, R601, R602, R701, R702, R801, R802, R901, R902, R1001, R1002, R1101, R1102, R1201, R1202, R117, R118, R217, R218, R317, R318, R417, R418, R517, R518, R617, R618, R717, R718, R817, R818, R917, R918, R1017, R1018, R1117, R1118, R1217, R1218
58-68025	1	680 SMT .25W 1206 1%	R51
58-92201	3	22 SMT 1W 2512 20%	R174, R175, R176
60-71024	1	CMOS STATIC RAM 1MEG 20NS	U3
60-75320	5	LED RED DIFFUSED 3MM T-1.00	D4, D6, D7, D8, D9
60-75330	1	LED GREEN DIFFUSED 3MM T-1.00	D1
60-75340	2	LED YELLOW DIFFUSED 3MM T-1.00	D2, D5
60-78050	1	REGULATOR VOLTAGE 5 +V 1 AMP	Q27 LAY FLAT
62-07712	1	IC DSP W/CODEC AKM7712	U1
62-16400	1	CRYSTAL CERAMIC SMT 16.4mHz	Y1
62-19140	1	1N914 HI SPD SMT 250mW DIODE	D3
62-20430	15	NJM2043SMT(TESTED) DUAL HFREQ	A10, A14, A19, A11, A21, A31, A41, A51, A61, A71, A81, A91, A93, A95, A97
62-45650	39	NJM4565 SMT DUAL HI FREQ	A1, A2, A3, A4, A5, A6, A7, A8, A9, A13, A15, A16, A17, A18, A20, A23, A24, A25, A28, A30, A12, A22, A32, A42, A52, A62, A72, A82, A92, A93, A95, A97, A27, A26, A46, A66, A86, A88, A99
62-87764	1	MICRO CONTROLLER SOIC PACKAGE	U2
71-09252	36	POT 9 "D-P" 25F B50K-CC	{P11, P12, P13}- {P121, P122, P123}
71-09253A	30	POT 9 "D-P" 25F B50K-	P1, P2, P3, P5, P6, P18, {P16 - P126} {P14 - P124}
71-10320	18	ORDER 20MM SL20V3-B10K-L15D(G)	P171 THRU P179, P181 THRU P189
72-12552	12	POT 12 "D-P" 25F 1B50Kx2-C NOB	{P19 - P129}
72-12553	5	POT 12 "D-P" 25F 1B50Kx2 NOB	P4, P7, P8, P9, P10
72-12554A	12	POT 12 "D-P" 25FS 1BM50K-C TAP	{P17 - P127}
77-10005	1	LABEL PCB ASSY TRACK "R-S-T"	

PA800, PA1200, PA1200R CONTROLS

QUICK START UP

If you're like most new owners, you're probably in a hurry to plug your mixer in and use it. Here are some brief instructions to get you going quickly. With the mixer unplugged and the unit turned off, complete the following procedures:

A. CONNECTING AC POWER TO YOUR MIXER

- Be sure to plug your mixer into the proper voltage for your country, either **120V-60Hz** or **240V-50Hz**. The **PA1200R** accepts both voltages listed.
- Use only a grounded (3 prong) power outlet to prevent a shock hazard. This gives the quietest grounding for your mixer.

B. CONNECTING INPUTS TO YOUR MIXER

- For balanced microphones, use a shielded cable and plug into the XLR **MIC** inputs.
- For high output devices like instruments & keyboards, plug into the **LINE** input jacks using a shielded cable. Depress the **GAIN** switch "**IN**" for mic or "**OUT**" for instruments.

C. TURNING YOUR MIXER ON

- Set all channel and master **LEVEL** controls to their OFF positions
- Set all **HI**, **MID**, and **BASS** controls and the graphic equalizers to their center "flat - no boost or cut" position.
- Adjust all channel "**PAN**" controls to their center position.
- Connect your speakers and monitors at the rear panel.
- Turn the mixer on by the rear **POWER SWITCH** and watch for the front **POWER** LED to come on. Your mixer is now ready to operate by turning the levels up.

MIC CHANNEL FEATURES

1. LINE INPUT JACK

The **LINE** input is a 1/4" phone jack designed for balanced or unbalanced line or instruments. Examples of these inputs would be guitar, keyboard or CD player. The line input can be used at the same time the mic input is being used.

2. XLR MICROPHONE INPUT

The **XLR MIC** input is designed for balanced low impedance microphones. The high performance, low noise preamps do a superb job of noise reduction. The XLR connector is wired as per the industry standard, pin 1 is ground, pin 2 is non-inverting (positive), and pin 3 is inverting (negative). Note: Make sure the phantom power is switched off before connecting or disconnecting microphones to the mixer. It is recommended to allow 5 seconds for the phantom power to discharge before making any microphone connections.

3. GAIN SWITCH

The **GAIN** switch increases the input sensitivity on both the LINE and MIC input jacks by 20dB. Depress the **GAIN** switch "**IN**" for mic or "**OUT**" for instruments. If distortion is heard, the input source is overdriving the input stage. Disengage the **GAIN** switch to the "**OUT**" position.

4. CHANNEL LEVEL CONTROL

The **LEVEL** control adjusts the volume of the channel before going to the PAN control. Here is where the individual channel volumes are adjusted to make up the desired mix at the main outputs. A general rule to prevent internal overdriving, is to keep the MAIN master LEVEL the same or higher than the channel LEVEL.

5. MONITOR LEVEL CONTROL

The **MON** level control adjusts the volume of the channel going to the master monitor send. The monitor level control is a pre-channel level control. This means it is unaffected by adjustments from the channel level. The purpose for this is the main mix adjustments can be made without disturbing the monitor mix.

6. CHANNEL PAN CONTROL

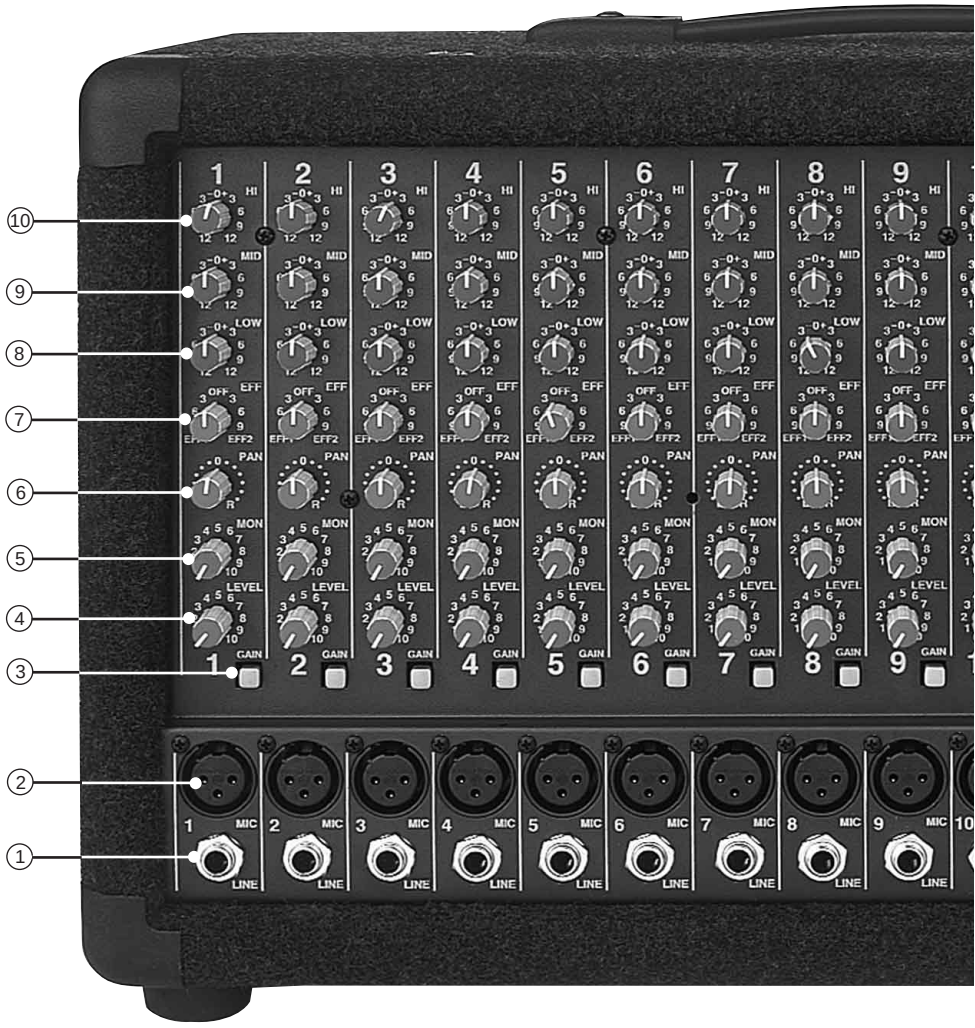
The **PAN** control puts the channel into the LEFT, RIGHT or CENTER in the stereo main outputs. If stereo placement is needed, set the **PAN** control to the full RIGHT or LEFT position.

7. CHANNEL EFFECTS 1&2 LEVEL

The **EFF 1&2** adjusts the level sent to the dual effects processors and to the EFF SND 2 jack. The effects control is post-channel level, which automatically tracks the channel's LEVEL & tone controls. Turning this control to the left will send to the internal effects processor 1. Turning to the right will send to the internal effects processor 2 (and the external EFF 2 SND jack). Reduce these levels if PEAK LEDs are flashing on the effects processors.

8-10. CHANNEL TONE CONTROLS

Each channel features active 3-band tone controls **LO**, **MID**, and **HI**. All three function as boost (clockwise) & cut (counter-clockwise) controls. The center **0** is the "flat" or no effect position. The **LO** and **HI** controls are shelving type with corner frequencies at 80Hz and 11.5k Hz respectively. The **MID** control is a band pass type centered at 750Hz. Recommended setting: **LO** & **HI** +4, **MID** at -6 to -12 to add clarity.



MASTER SECTION FEATURES

11. MAIN MASTER LEVEL (AMPS 1&2)

The **MAIN** control is the master volume control for all channels. The **MAIN** signal is sent to the **GRAPHIC EQ** that feeds the power amps and the **RIGHT** and **LEFT** XLR output jacks.

12. MONITOR MASTER LEVEL (AMP 3)

The **MONITOR** master level is sent to the **GRAPHIC EQ** (if switched "**IN**") and feeds the **MONITOR** power amp 3 and XLR output jack.

13. EFF 2 SEND JACK

The **EFF 2 SEND** jack can send a signal to an external processor. This is the same signal sent to the internal EFF 2 processor.

14. RETURN LEVEL & L-R RETURN JACK

The **RETURN** level control and **L-R** jack provides another input into your mixer. It is most commonly used for an outboard effects processor returning the signal from the EFF 2 SND, or as another input from a stereo source or instrument.

A stereo TRS (Tip, Ring, Sleeve) cable will send the Tip signal to the **L** and the Ring signal to the **R**. Inserting a mono plug partially (first "click") will send a mono signal to both **L-R**.

15. L-R XLR OUTPUT CONNECTORS

The **L-R** professional balanced XLR line outputs are post graphic EQ connectors. Use these to feed additional power amps or recording gear. Note: If the INSERT jacks are being used for patching, the new signal will be present.

16. MONITOR XLR OUTPUT CONNECTOR

This line output is the same signal that feeds the internal MONITOR AMP 3. Use this professional balanced XLR output for additional power amps.

17. PRE EQ INSERTS 1 AND 2

These jacks allow you to inject a signal into the master section of the mixer. This insert is before the GRAPHIC EQ using a stereo (tip ring sleeve). The TIP is the SEND and the RING is the RETURN. The typical use of these jacks are for the insertion of a compressor or other outboard gear between the master preamp and the EQ. If a mono plug is inserted into these jacks, the channels are disconnected from the power amps.

18. TAPE JACKS

The **L-R TAPE IN** RCA inputs are ideal for connecting a CD or tape player. These TAPE IN jacks can also be used for returning another stereo effects processor or instrument (keyboard).

18. TAPE JACKS CONT.

The **L-R TAPE OUT** RCA jacks sends the MAIN signal (pre graphic EQ) for recording. If the TAPE OUT is being used to record, make sure the TAPE IN control is turned OFF to avoid feedback. The TAPE OUT jacks are another way to access the output of the master section if the INSERT jacks are being used.

19. DSP PROCESSORS

Two 24-Bit processors provide a host of great sounding effects including Flange, Reverb, Echo, & Chorus. The channel **EFF 1&2** send controls delivers the signals to the dual processors. Note: Reduce these levels if the red PEAK LEDs are flashing on the processors.

Turn up the **EFFECTS** control to 5 on the processor(s) to add your effects, while at the same time adjust the **SELECT** and the **PARAMETER** controls to get the desired effect. Note: An audible noise will be heard while adjusting the effects.

EFFECT PARAMETERS

Each of the four effects has a variable parameter that can be easily adjusted. Each "SELECT" & "PARAMETER" is described below.

A) ECHO: SELECT the amount of the regeneration (repeating). Now select the **PARAMETER** control for the shortest or longest delay time between the original signal and the echo.

B) REVERB: SELECT the amount of presence (high frequencies) in the reverb. Now turn the **PARAMETER** control to provide the minimum or maximum decay.

C) CHORUS: SELECT the amount of reverb with your chorus. Now turn the **PARAMETER** control to increase the depth.

19. DSP PROCESSORS CONT.

D) FLANGE: SELECT the amount of speed with your flange (phasing effect). Now turn the **PARAMETER** control to increase the depth.

20. DSP PK 1, PK 2 LED's

The DSP **PEAK** LED indicates that the signal level to the processor is too high. To prevent distortion, turn the EFF 1-2 control towards the center (off) position until the PEAK LED stops flashing.

21. EFF TO MONITOR CONTROL

The **EFFECTS TO MONITOR** level controls the amount of the effects that goes into your monitors.

22. TAPE IN LEVEL

You may use the **TAPE IN** level as another input into your mixer using the RCA **TAPE IN** jacks.

23. AMP "CLIP" LED's

The amp **CLIP** LEDs indicate when the power amps are starting to distort (clip). Reduce the MAIN 1-2 and/or MONITOR 3 master volumes to prevent distortion.

24. POWER LED

The Power LED indicates when the mixer is powered up.

25. PROTECT LED

The mixer will "protect", engaging relays to mute the speakers if: a) impedance is below 4Ω on any amplifier b) shorted speaker cables, or c) ventalation problems. If this LED comes on, shut the mixer "**OFF**" and check for cable problems, proper impedance and obstructed rear cooling vents. If you encounter an over-heat problem, leave the mixer "**ON**" allowing the fan to cool down the internal components. The mixer will auto-reset. If a problem persists, please contact Carvin's service dept. 800-854-2235.

26. GRAPHIC EQUALIZER SWITCH

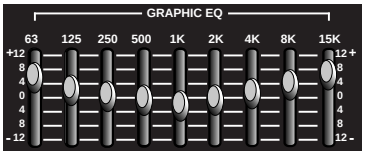
The **EQ** button will switch the EQ's from LEFT-RIGHT to MONO/MONITOR. The "**OUT**" position puts both EQ's in the **L-R** MAIN mix only. **EQ1** is for the LEFT amp and **EQ2** is for the RIGHT amp. The "**IN**" position will combine the **L-R** mix into **EQ1** as a mono mix. Then the monitor mix is routed through **EQ2** for use with the **MONITOR 3** amp to help control stage feedback.

27. ADJUSTING THE GRAPHIC EQUALIZER

When the EQ sliders are in their center position, they do not affect the audio signal. When EQ sliders are raised or lowered from this position, they boost or cut respectively a narrow frequency band. To reduce feedback in the low frequency range, try lowering one of the 63, 125 or 250 Hz sliders. High frequency feedback is reduced by lowering one of the 2k or 4k Hz sliders.

To help with feedback reduction, the main speaker should always be placed in front of the microphones.

For tone enhancement you may want to raise the 63, 125 (for deeper bass) and the 4, 8 and 16k (for crisper highs) forming a "smile" curve as shown.



28. EFFECTS FOOT SWITCH JACK

The optional **FS22** will remotely shut off EFFECTS 1 or 2.

29. PHANTOM POWER SWITCH AND LED

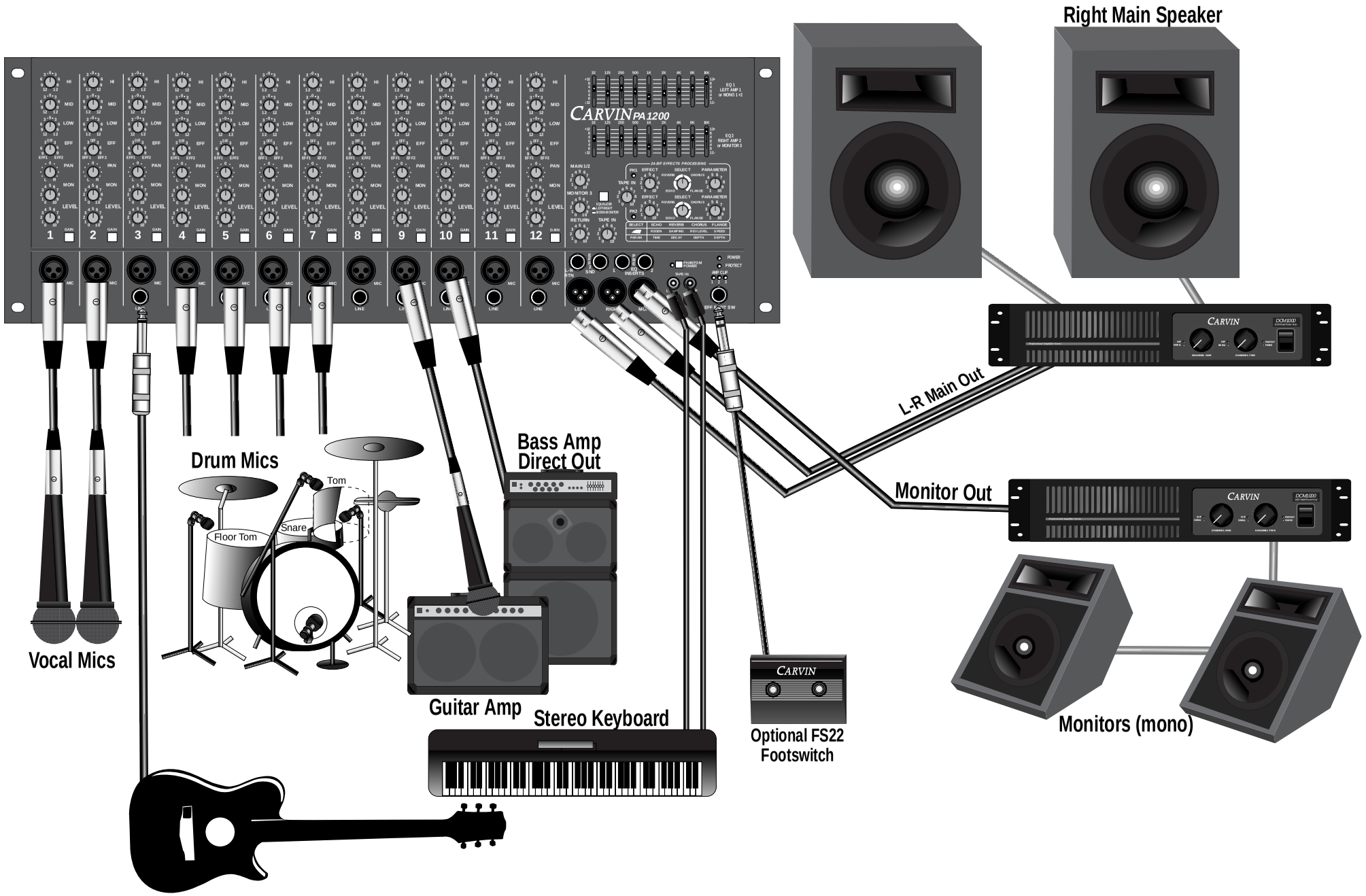
The PHANTOM power switch turns on the microphone phantom power in the channel XLR jacks. This power is used for supplying a voltage to condenser microphones. The LED indicates the phantom power is turned on. The phantom power will not damage conventional dynamic microphones. Note: Make sure the phantom power is switched off before connecting or disconnecting microphones to the mixer. It is recommended to allow 5 seconds for the phantom power to discharge before making any microphone connections.

REAR PANEL-POWER/SPEAKER CONNECTIONS

The rear panel contains the **POWER SWITCH** and **AC** power cable connection. For the **PA800** and **PA1200,** there are 3 groups of 1/4" speaker jacks. Each group has two 1/4" outputs (wired in parallel). **AMPS 1** and **2** are for the **LEFT** and **RIGHT** speakers. **AMP 3** is for the **MONITOR** speakers.

NOTE: 4Ω MIN IMPEDANCE PER AMPLIFIER (Maximum one 4Ω or two 8Ω speakers per amp). **MAKE ALL SPEAKER CONNECTIONS <u>BEFORE</u> TURNING THE MIXER ON .**

PA1200R LIVE SET UP



PA800, PA1200, LIVE SET UP