
CARVIN

MX640/MX842

Powered Mixers

OPERATION MANUAL

Manual No. 96-00842

Revision 1.0

12340 World Trade Drive., San Diego, CA 92128
800-854-2235

Receiving Inspection

INSPECT YOUR MIXER AND THE SHIPPING CARTON FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, notify the shipping company & CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your mixer, always use the original carton and packing material. This will provide the best possible protection for your unit during shipment. Neither CARVIN nor the shipping company will be liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty servicing of your unit. Always check your invoice against the items you have received. If you find some items missing it may be that they were shipped separately. Please allow several days for the rest of your order to arrive before inquiring. If you determine (after allowing an appropriate amount of time) you have not received all the items you ordered, please call CARVIN in order that we may file a tracer and take the proper steps to assure that you receive all the items in your order.

For the New Owner

Congratulations on your selection of CARVIN products: "The Professional's Choice." Your new MX640/MX842 series mixer demonstrates CARVIN's commitment to producing the highest quality & most sophisticated engineering in the audio industry today. Its wide acceptance and use by industry professionals illustrates the basis for CARVIN's recognition as "The Professional's Choice."

Professionalism can only be measured by people from the results they achieve through their efforts and knowledge. It is not something that automatically happens when buying a new or more sophisticated mixer. Rather, it's what you do with the equipment and how well you do it that ultimately makes the point. We are certain your new CARVIN mixer will deliver the performance necessary for you to achieve solid results, and ultimately enjoy a high degree of professional gain and enjoyment.

To compliment your new mixer and help you acquire that knowledge, we've included this manual. All of the information you need to be up and running is right here! You'll find using this manual easy and convenient. We've gone to great lengths to make it so. We've attempted to present the technical aspects of your new mixer accurately and in "plain English". But, if you have any questions that are not answered here, please call us at our toll free numbers. Our sales staff is well versed in the technical aspects of our products and are waiting to assist you with any questions you may have. We sincerely wish to ensure your complete satisfaction and enjoyment with your new mixer.

If you would like to comment on features or performance of your new mixer, please feel free to contact us. Criticism and comments from our customers has helped us improve and further develop our products and our business. We sincerely welcome any comments or ideas you may have.

Please, send in the warranty card. It will allow us to better know how you are using our equipment while keeping a ready reference for our files. Sending in the warranty card also helps us to mail out literature and information that may be of interest to you as a professional musician. Let us know where you are so we can keep in touch!

In this manual there are plenty of diagrams and descriptions to aid you in understanding your new mixer. So, with this manual in hand you hold the key to proper operation of your new mixer, and to achieve truly professional results.

May you enjoy many years of enjoyment, success, and fun with your new CARVIN mixer!

Carvin's national toll free number: 800-854-2235

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Quick Start Up

GETTING STARTED QUICKLY

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, turn the unit off and complete the following procedures:

1) CONNECTING AC POWER TO YOUR MIXER

- Check and change if necessary the rear AC Line Voltage Switch to the proper voltage. Change the fuse if necessary (listed on rear panel) if using 240V AC.
- Use only a grounded (3 prong) power outlet to prevent a shock hazard. This gives the quietest grounding.

2a) CONNECTING SPEAKERS

- Use the two 1/4" jacks or XLR's on the rear panel for speaker connections.
Use only Heavy-Duty speaker cables with 16 AWG or copper wire.

NOTE: Do not run your speakers through microphone wire or multi-conductor microphone junction boxes or "snakes" as sometimes referred to. This wire is normally a very light 20 gauge wire causing a substantial loss of power through the cable for less power to your speakers. All speaker wires must be non-shielded to prevent the power amplifier from oscillating at high frequencies.

2b) SpeakerGuard™ "PROTECT" LED—Speaker shorts/Incorrect speaker impedance/Excessively hot mixer

- The "PROTECT" circuits have three functions. It's important that these functions be understood. The PROTECT LED above the MASTER level indicates when the protect circuit has been activated.
 - 1) The first protection mode is against shorted speaker outputs. If a short should ever be present at the amps output, the SpeakerGuard™ relay will disengage the amplifiers from the speaker jacks. Turn the mixer off and remove the short. Turn the mixer on again and it's ready to perform (15 sec. to reset).
 - 2) SpeakerGuard™ will engage if the minimum impedance of the mixer has been exceeded. Turn the mixer off and check to see that the speaker impedance is not below the minimum rating. After correcting, turn the mixer on again and it's ready to perform (15 sec. to reset).
 - 3) SpeakerGuard™ will engage if the temperature of the rear heat sink is hotter than normal (the heat sink does normally run hot). Check to see that cool air is circulating around the rear of the mixer (12 minutes to reset)

3) CONNECTING INPUTS TO YOUR MIXER

- For low level balanced devices such as microphones, plug into the balanced "MIC" XLR input at the bottom front of the mixer. Use a 3 conductor shielded cable.
- To input high level devices such as Tape Recorders, CD's, Keyboards and Wireless mic receivers, plug into the "LINE" 1/4" input jacks on the bottom front. Use a 2 conductor shielded cable.

4) TURNING YOUR MIXER ON

- Adjust all level controls of your mixer to the off position.
- Adjust all "EQ" tone controls—HI, LO, and the 9 Band Graphic EQ to their center off position.
- Adjust all the Channel "PAN" Assign controls to their center (both L/R) position (MX842).
- Turn the mixer on by the rear panel power switch and watch for the Master LED to come on. Your mixer is now on and ready to operate.

Things To Know

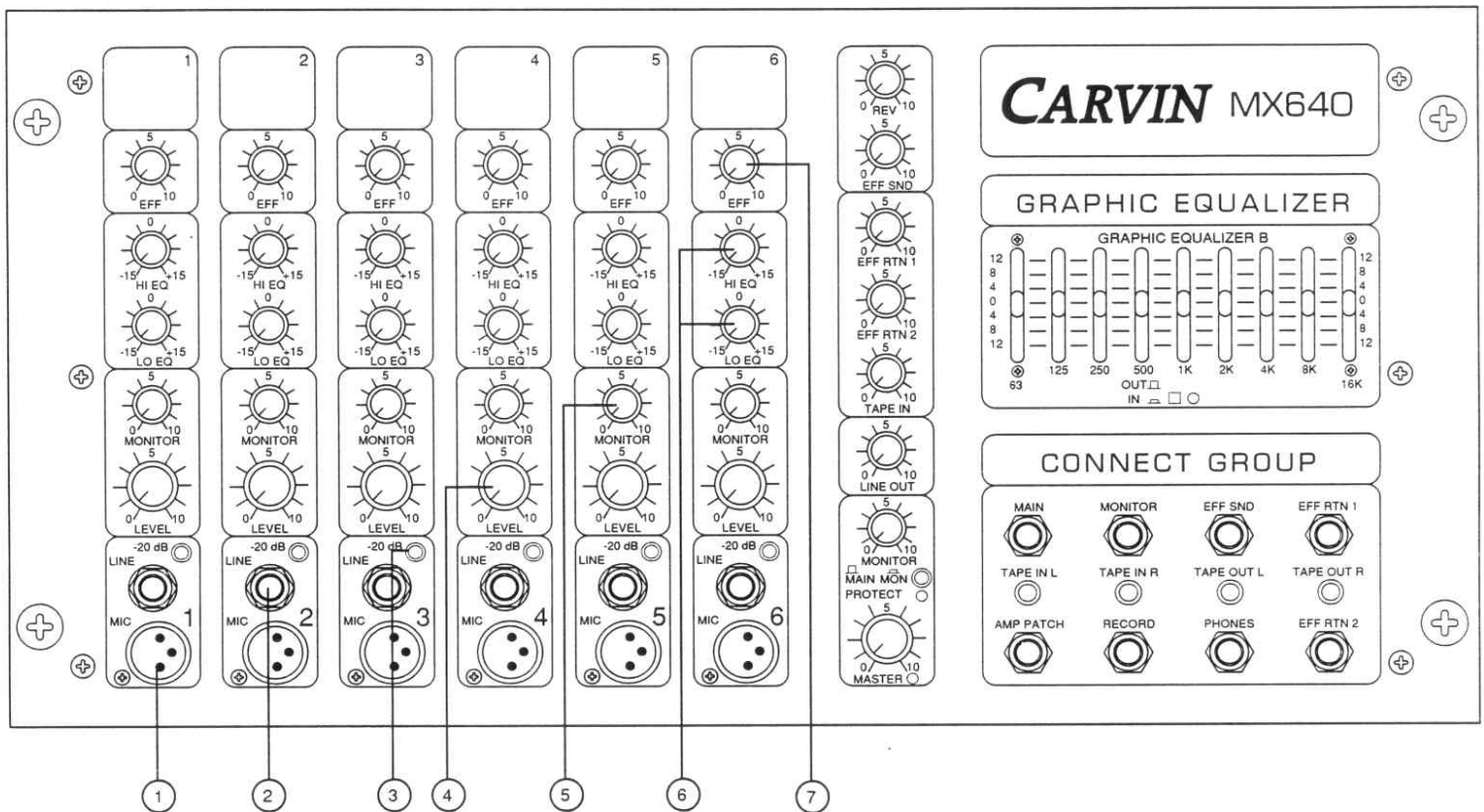
1) "GAIN" (-20dB channel switch above the Line In jack)

The normal position of this switch is in the "Out" position. If you encounter overloading from instruments or other "Hot" inputs, then push this switch in. This will reduce the signal by 20 dB so that the input stage can adequately handle the level.

2) CHANNEL LEVEL SETTINGS

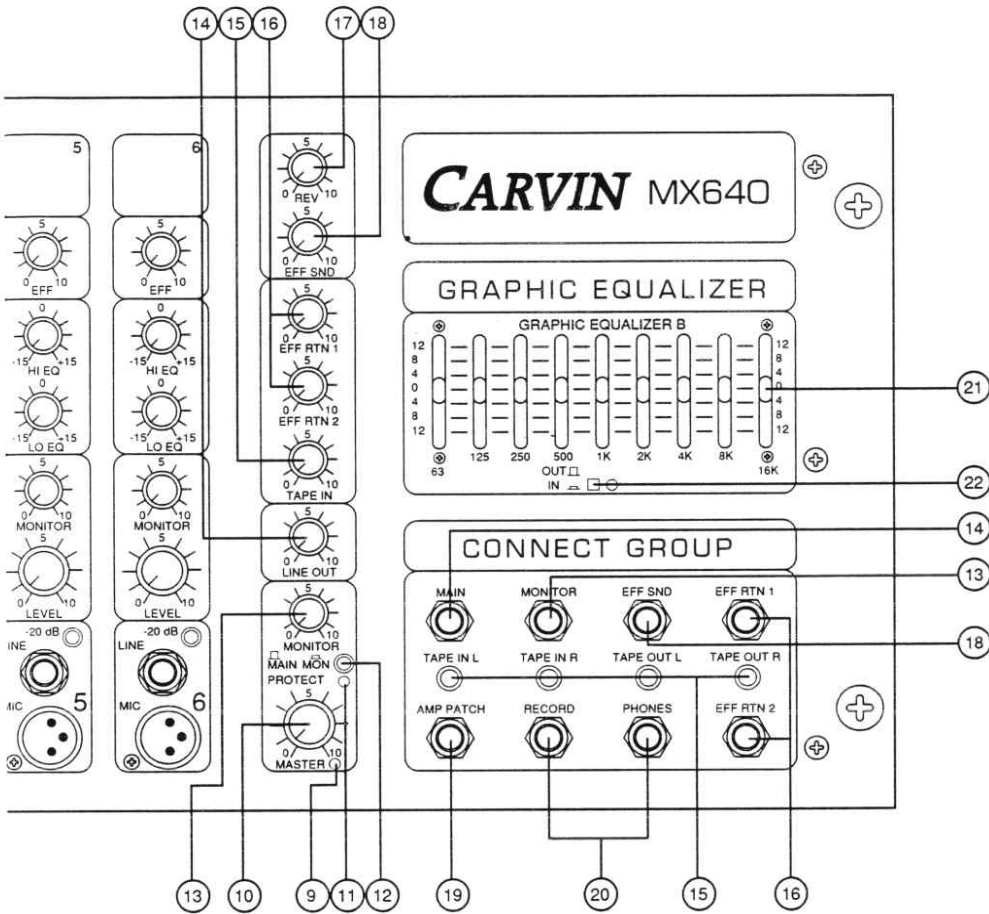
The channel "level" controls should be set equal or lower than the MASTER level to prevent pre-amp distortion.

MX640 Channel Features



- 1. XLR MIC INPUT** - The XLR inputs are designed for balanced low impedance microphone or line inputs. Balanced inputs permit long cable runs without signal loss or extraneous hum.
NOTE: All XLR's utilize 2 signal wires plus a shield—3 conductors total. See Pg 4-1 FIG 4.
- 2. LINE INPUT JACK** - These inputs utilize a standard 1/4" phone jack designed for unbalanced Mics or Instruments.
NOTE: This jack and the XLR input can be used at the same time for more input capacity. Rearrange the channels so the same level settings work for both inputs. See Pg 4-1 FIG 5.
- 3. -20dB PAD SWITCH** - These switches reduce the input gain by 20 dB. Engage this switch only when distortion is audible—input signal is too high for the input jack (this usually happens when using an instrument, keyboard, ETC.)
NOTE: This eliminates over-driving the input preamp before the channel LEVEL Control.
- 4. CHANNEL LEVEL** - These controls adjust the volume of the channel. They are calibrated 0 to 10. Typically you will want to run this control at the same or slightly lower than the MASTER level control for best results.
NOTE: The LEVEL controls should not be higher than the MASTER Level control. This will prevent over-driving the channel preamps.
- 5. CHANNEL MONITOR LEVEL** - These controls send signals to the master MONITOR control. Connect a separate power amp to drive the monitor speakers (via the 1/4" MONITOR jack on the front panel). The channel monitor control is "pre fader"—not affected by the channel LEVEL control.
NOTE: Use caution when adjusting these levels. Typically stage monitors are right next to the microphones where they are most susceptible to feedback.
- 6. CHANNEL TONE CONTROLS** - Because of active circuits, these controls allow for wider tone compensation over typical mixers. The Lo EQ will boost or cut bass starting at 100Hz while the Hi EQ will boost or cut Treble starting at 10kHz.
NOTE: These controls should be at the "0" center position unless you need to add or subtract bass and treble. The center position is the natural sound of the channel.
- 7. CHANNEL "EFF" CONTROLS** - These controls work off the channel LEVEL control (post LEVEL controls) to send a signal to the master EFF and REV controls. These master controls than drive either the internal reverberation system or your effect(s) devices (via the 1/4" EFF SND jack on the front panel).
NOTE: The EFF SND jack will drive a 600 ohm load which can drive several effects devices at the same time.

MX640 System Master Controls



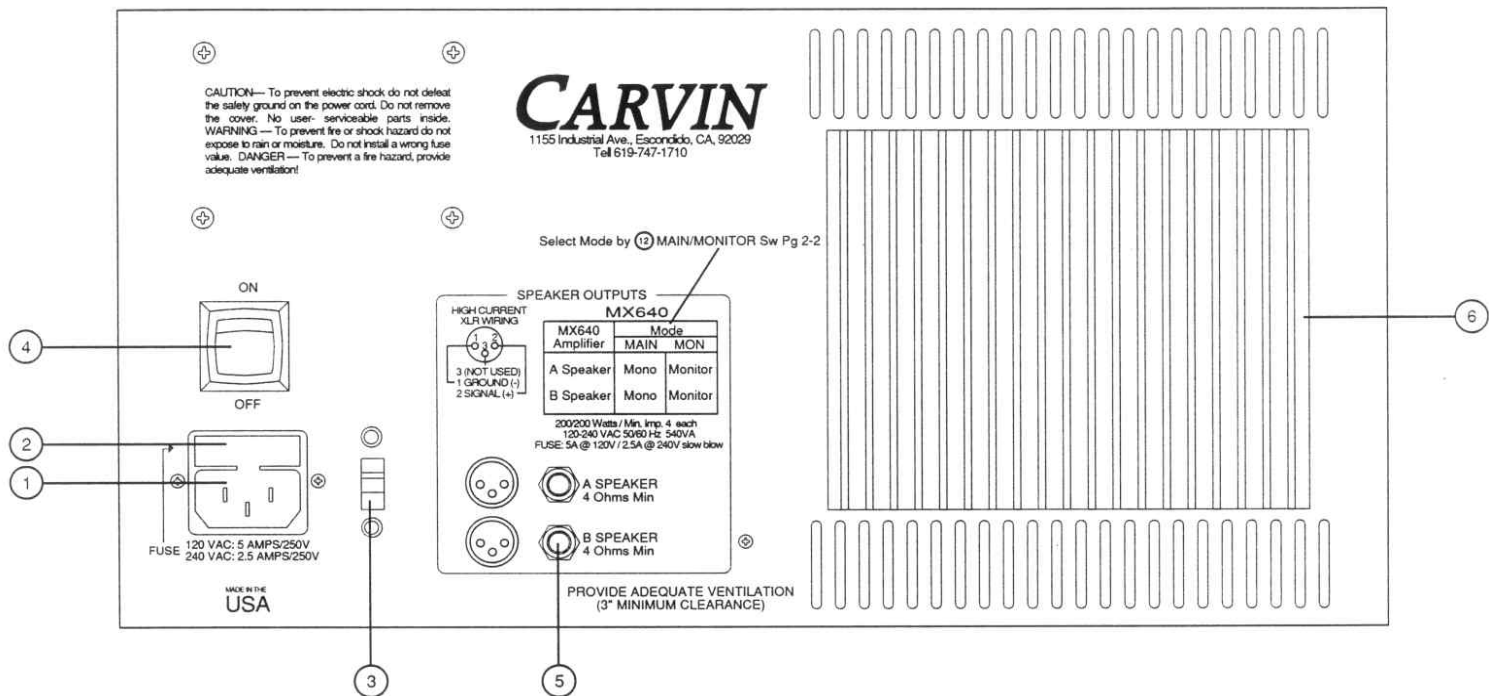
9. **POWER "LED"** - The power LED indicates when the MX640 is powered up.
10. **MASTER LEVEL** - The MASTER level feeds the built-in power amp and main output.
NOTE: This control should be set equal or higher than the channel settings to prevent over-driving the previous stages.
11. **MASTER "PROTECT" LED** - The master PROTECT LED indicates that the internal relay has disengaged the amplifier from the speaker output jacks on the rear panel.
NOTE: See 2b on page 1-4.
12. **MAIN—MONITOR SWITCH** - For normal operation, leave this switch in the "OUT" position. See FIG 9. To use the built-in power amp as the monitor amp, push this switch to the "IN" position. See Pg 4-3 FIG 10.
13. **MASTER MONITOR LEVEL** - The master MONITOR level sends the monitor signals from all six channels to the 600Ω MONITOR output jack on the front panel. See Pg 4-3 FIG 10.
14. **LINE OUT CONTROL** - This control gives you separate control over the MASTER control to feed signals to the LINE OUT 1/4" 600 ohm jack on the front panel. Nominal output is set for +4 dBV.
15. **TAPE IN/OUT** - This control, with the front RCA phono jacks, can be utilized as a separate channel for any high level input

- from tape decks, keyboards, ETC with a -10 dBV output.
NOTE: The TAPE IN and OUT jacks are designed to send a mono signal and receive a stereo signal from a tape deck. See Pg 4-5 FIG 14.
16. **EFFECTS RETURNS** - Two effects can be easily returned through the front 1/4" jacks. The RTN 1 and RTN 2 return controls are located in the master control section.
NOTE: Because there are two returns and only one send, you can use any unused output as the 2nd effects send—LINE OUT, TAPE OUT, MONO OUT, ETC. See Pg 4-6 FIG 15.
 17. **REV (Reverb) SEND** - The channel EFF send control also controls the signal to the built-in Reverb system to add concert hall reverberation to your sound. Turn the channel EFF up 3/4 and turn the master REV up for channel reverberation.
 18. **EFFECT(S) SEND** - All 6 channel EFF controls are directed to this master EFF SND level control. To prevent over-driving, this control should always be set at or higher than the channel EFF controls.
NOTE: Even though there is only one EFF SEND control, you can drive as many effects devices as you wish from the 600Ω EFF SND 1/4 jack on the front panel. See Pg 4-6 FIG 15.

19. **PATCH JACK** - The PATCH jack on the front panel is used to insert effects between the main signal and power amp or to isolate the power amp from the mixer section.
NOTE: The "RING" connection is the signal from the mixer. The "TIP" connection feeds the power amp (+4dBV level). See Pg 4-5 FIG 13.
20. **RECORD/PHONES OUT** - These 1/4" jacks on the front panel provide a 600 ohm output for recording and headphones.
21. **GRAPHIC EQUALIZER** - The 9 band Graphic Equalizer in the MX640 provides a wide degree of tonal flexibility. To properly use the Graphic EQ, set all sliders to their center position. With the sliders at this position, there is no effect on the audio signal. When you raise the slider above the center position, you boost levels in a narrow frequency band. If you lower the slider below the center, you are subtracting levels. When using these sliders, think of them as volume controls that can add or subtract tones in narrow frequency bands.
Frequency: The 63 Hz slider is for deep sub bass level adjustments, the 125 Hz is for higher bass adjustments, the 250, 500 and 1K Hz is for mid and higher mid tone adjustments, the 2K and 4K Hz is for mid treble adjustments, and the 8K and 16K Hz sliders add to the very high treble.
NOTE: It is recommended that all sliders be set in their center position before equalizing your tone. Typically low frequency feedback is in the 125 and 250 Hz range while high feedback is in the 2k and 4k Hz range. Occasionally you may have to turn one frequency (slider) off to -12dB to help stop feedback. But you should never turn the adjacent sliders off too. Instead, set the adjacent sliders to -6dB to form a gentle negative curve. Likewise, if you need more deep bass, boost the 63 Hz by 10 dB and the 125Hz by 5 dB. Or, if you need more treble, boost the 8k by 6 dB and the 16k Hz by 4 dB. Note—there is not much signal at 16k so you may not hear any difference except for added noise. If you raise or lower all sliders at the same time, the EQ will act like a volume control because you are effecting all frequencies. Take care not to over-adjust as this will drastically alter your over-all sound. Use the EQ in addition to proper microphone and speaker placement for the control of feedback.

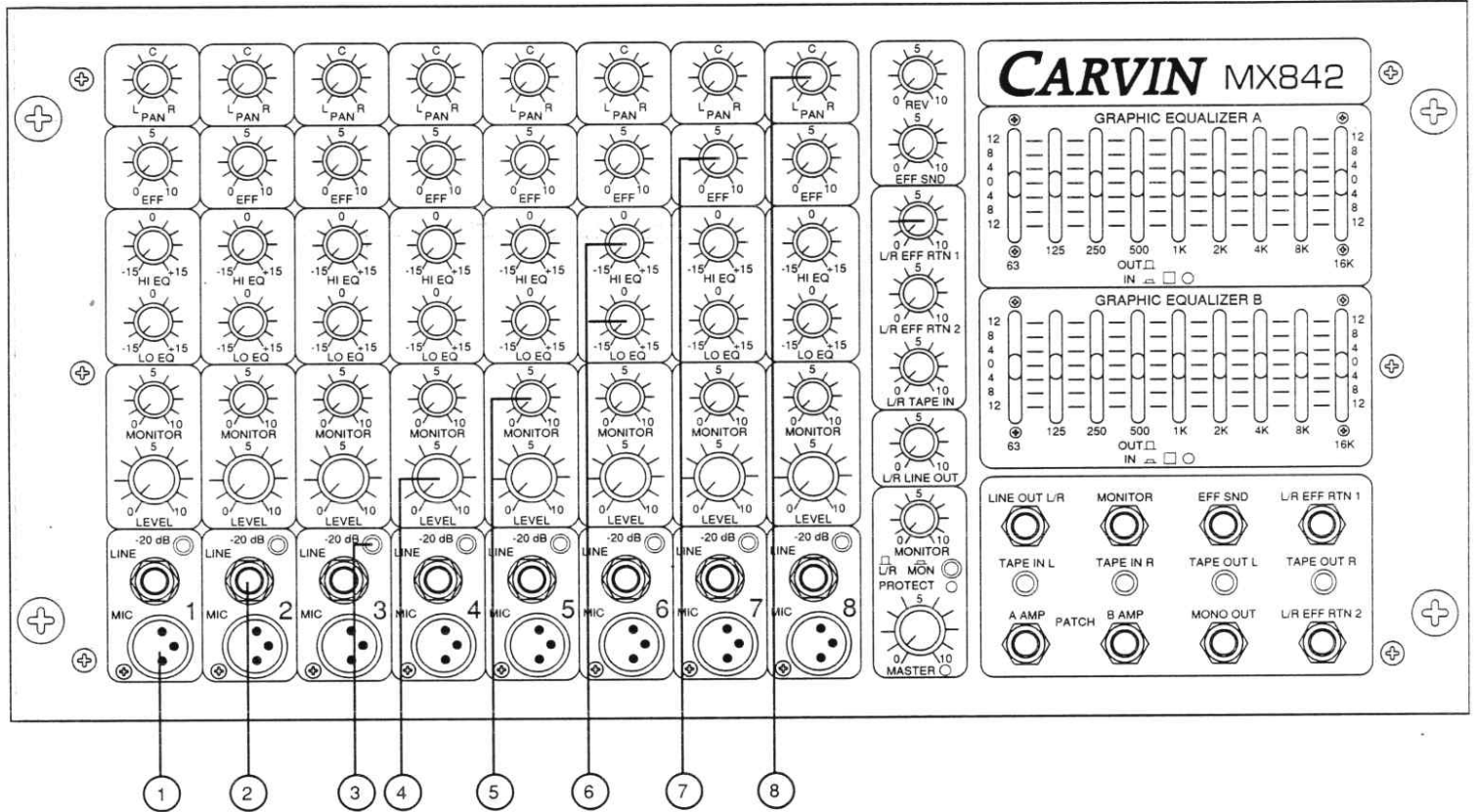
22. **GRAPHIC EQ IN/OUT SWITCH** - To use the graphic equalizer, the EQ switch must be in the IN position. The red LED will indicate that it is turned on.

MX640 Rear Connections



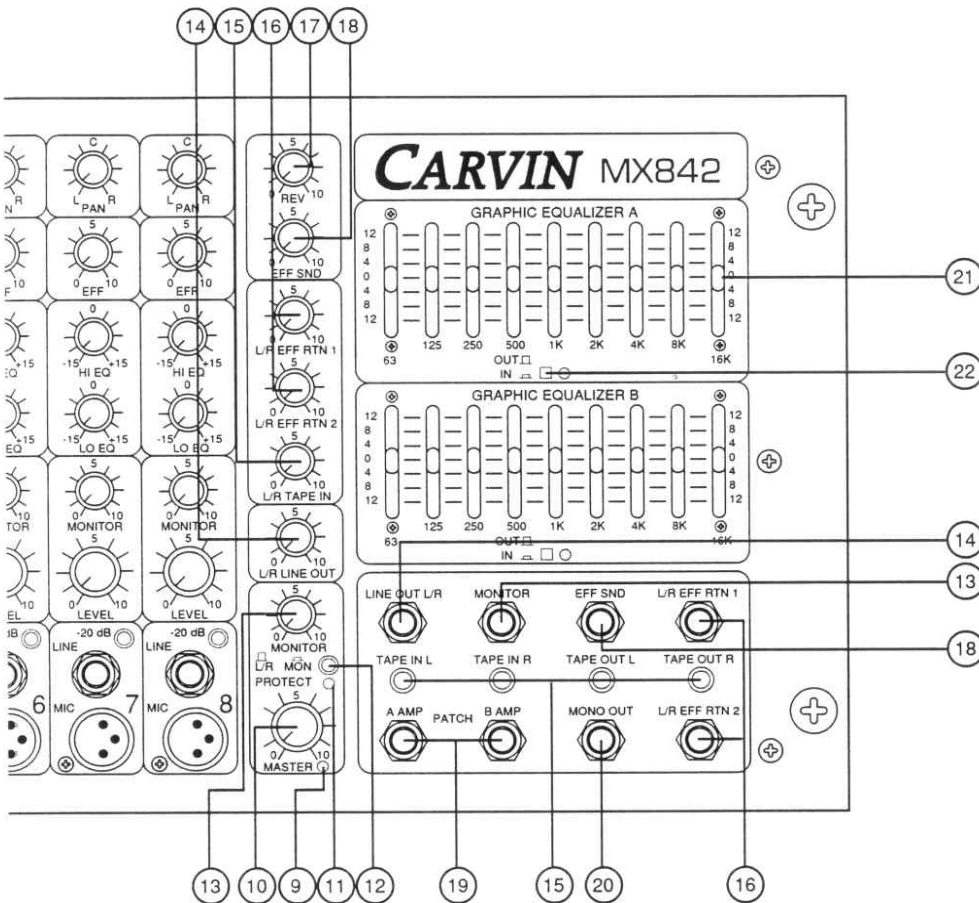
- 1. AC LINE CORD** - The MX640 employs a heavy duty removable grounded AC cord and should only be plugged into a grounded "3 prong" power outlet. If a grounded outlet is not available, the amp should not be used. For safety, no attempt should ever be made to defeat the ground pin of the AC line cord.
- 2. AC LINE FUSE** - The MX640 fuse is built into the AC receptacle socket—marked by an arrow on the rear panel pointing to the receptacle. The fuse can be changed by removing the AC cord and wedging a slot-head screwdriver under the top to pull out the fuse holder. Once out, the fuse can be replaced (there is room for a spare fuse in the tunnel).
 NOTE: 120 volt fuses are available from Radio Shack: Part No 270-1175 for a 5 Amp slow-blow fuse for 120 volt use and 2.5 Amp for 220 volt use. Use slow-blow 5 x 20mm fuses only.
- 3. 120/240 VOLT SWITCH** - Check and change if necessary the rear AC Voltage Switch to the proper voltage. If a switch is not found, than pull out the Fuse Holder (built into the AC cord receptacle) and turn it over to the proper voltage as seen on the holder reading right side up ($\frac{120}{OFF}$)—this automatically switches the voltage and the fuse to the proper voltage and fuse value. Be sure to change the fuse value (listed on rear panel) as you change the voltage setting.
- 4. POWER SWITCH** - To turn your MX640 on, simply press the switch to the "ON" position as listed on the rear panel. The red LED below the bottom MASTER level control will light to indicate you have power to the unit.
- 5. SPEAKER CONNECTIONS** - The MX640 incorporates four speaker connectors. Two standard 1/4" and two XLR-male connectors are featured.
 NOTE: These connectors are wired in "parallel". The MX640 minimum impedance for all connectors is 2 ohms. Any loads below 2 ohms will engage the protect light—see Pg 1-4 section 2b. Use non-shielded 16 gauge or heavier cable. See Pg 4-1 FIG 3.
- 6. COOLING** - To prevent the PROTECT LED from coming on, be sure the rear heatsink fins have plenty of fresh air. Never lay the unit on its back blocking air.

MX842 Channel Features



1. **XLR MIC INPUT** - The XLR inputs are designed for balanced low impedance microphone or line inputs. Balanced inputs permit long cable runs without signal loss or extraneous hum.
NOTE: All XLR's utilize 2 signal wires plus a shield—3 conductors total. See Pg 4-1 FIG 4.
2. **LINE INPUT JACK** - These inputs utilize a standard 1/4" phone jack designed for unbalanced Mics or Instruments.
NOTE: This jack and the XLR input can be used at the same time for more input capacity. Rearrange the channels so the same level settings work for both inputs. See Pg 4-2 FIG 5.
3. **-20dB PAD SWITCH** - These switches reduce the input gain by 20 dB. Engage this switch only when distortion is audible—input signal is too high for the input jack (This usually happens when using an instrument, keyboard, ETC.)
NOTE: This eliminates over-driving the input preamp before the channel LEVEL Control.
4. **CHANNEL LEVEL** - These controls adjust the volume of the channel. They are calibrated 0 to 10. Typically you will want to run these control at the same or slightly lower than the MASTER level control for best results.
NOTE: The LEVEL controls should not be higher than the MASTER Level control. This will prevent over-driving the channel preamps.
5. **CHANNEL MONITOR LEVEL** - These controls send signals to the master MONITOR control (#13). Connect a separate power amp to the drive monitor speakers (via the 1/4" MONITOR jack on the front panel). The monitor signal can also be switched into AMP 1. See FIG 8. The channel monitor control is "pre fader"—not affected by the channel LEVEL control.
NOTE: Use caution when adjusting these levels. Typically stage monitors are right next to the microphones where they are most susceptible to feedback.
6. **CHANNEL TONE CONTROLS** - Because of active circuits, these controls allow for wider tone compensation over typical mixers. The Lo EQ will boost or cut bass starting at 100Hz while the Hi EQ will boost or cut Treble starting at 10kHz.
NOTE: These controls should be at the "0" center position unless you need to add or subtract bass and treble. The center position is the natural sound of the channel.
7. **CHANNEL "EFF" CONTROLS** - These controls work off the channel LEVEL control (post LEVEL control) to send a signal to the master EFF and REV controls. These master controls then drive either the internal reverberation system or your effect(s) device (via the 1/4" EFF SND jack on the front panel).
NOTE: The EFF SND jack will drive a 600 ohm load which can drive several effects devices at the same time.
8. **CHANNEL "PAN" CONTROLS** - These controls assign each channel to either the LEFT (AMP 1) or RIGHT (AMP 2) stereo outputs of the MX842 (center for mono).

MX842 System Master Controls



9. POWER "LED" - The power LED indicates when the MX842 is powered up.

10. MASTER LEVEL - The MASTER level is a stereo control directing the L & R signals of the mixer into the built-in stereo power AMP 1 "Left" & AMP 2 "Right".

NOTE: This control should be set equal or higher than the channel settings to prevent over-driving the previous stages.

11. MASTER "PROTECT" LED - The master PROTECT LED indicates that the internal relays have disengaged the amplifiers from the speaker output jacks on the rear panel.
NOTE: See 2b on page 1-4.

12. L/R —MONITOR SWITCH - You can use the main speaker output of MX842 in "STEREO" or "MONO" mode. If used in the MONO mode (by pushing the L/R MON switch in), AMP 1 is routed to the MONITOR control allowing you to drive your monitor speakers. AMP 2 is then used for both L/R main speakers—mono mode. This feature is available when you do not have another power amp to drive your monitor speakers.
NOTE: For Main or Monitor speaker hookups, see Pg 4-2 FIG 7 & 8.

13. MASTER MONITOR LEVEL - The master MONITOR level sends the monitor signals from all eight channels to the 600Ω MONITOR output jack on the front panel (or) to AMP 1 via the L/R-MONITOR switch. This low impedance source can drive several power amps.

14. L/R LINE OUT CONTROL - This control gives you separate control over the MASTER control to feed signals to the L/R LINE OUT 1/4" 600 ohm jack on the front panel. Nominal output is set for +4 dBV. This stereo jack is also designed to drive stereo headphones. See Pg 4-4 FIG 12.

15. L/R TAPE IN/OUT - This control, with the front RCA phono jacks, can be utilized as a separate channel for any high level input from tape decks, keyboards, ETC with a -10 dBV output.
NOTE: The L/R TAPE IN and OUT jacks are designed to send a stereo signal to and from the tape deck's inputs and outputs. See Pg 4-5 FIG 14.

16. L/R STEREO EFFECTS RETURNS - Two stereo effects can be easily returned through the front 1/4" stereo jacks. The RTN 1 and RTN 2 return controls are located in the master control section.

NOTE: Because there are two returns and only one send, you can use any unused output as the 2nd effects send—LINE OUT, TAPE OUT, MONO OUT, ETC. See Pg 4-6 FIG 15.

17. REV (Reverb) SEND - The channel EFF send control also controls the signal to the built-in Reverb system to add concert hall reverberation to your sound. Turn the channel EFF up 3/4 and turn the master REV up for channel reverberation.

NOTE: The REV SND should be set equal or higher than the channel EFF to prevent over-driving.

18. EFFECT(S) SEND - All 8 channel EFF controls are directed to this master EFF SND level control. To prevent over-driving, this control should always be set at or higher than the channel EFF controls.

NOTE: Even though there is only one EFF SEND control, you can drive as many effects devices as you wish from the 600Ω EFF SND 1/4 jack on the front panel. See Pg 4-6 FIG 15.

19. A/B PATCH JACKS - The A & B PATCH jacks on the front panel are used to insert effects between the main signal and power amp(s) or to isolate the power amps from the mixer section.

NOTE: The "RING" connection is the signal from the mixer. The "TIP" connection feeds the power amps (with a +4dBV level). See Pg 4-5 FIG 13.

20. MONO OUT - The MONO 1/4" jack on the front panel provides a mono signal that is derived from the L and R outputs. This 600 ohm output delivers +4 dBV for all power amps.

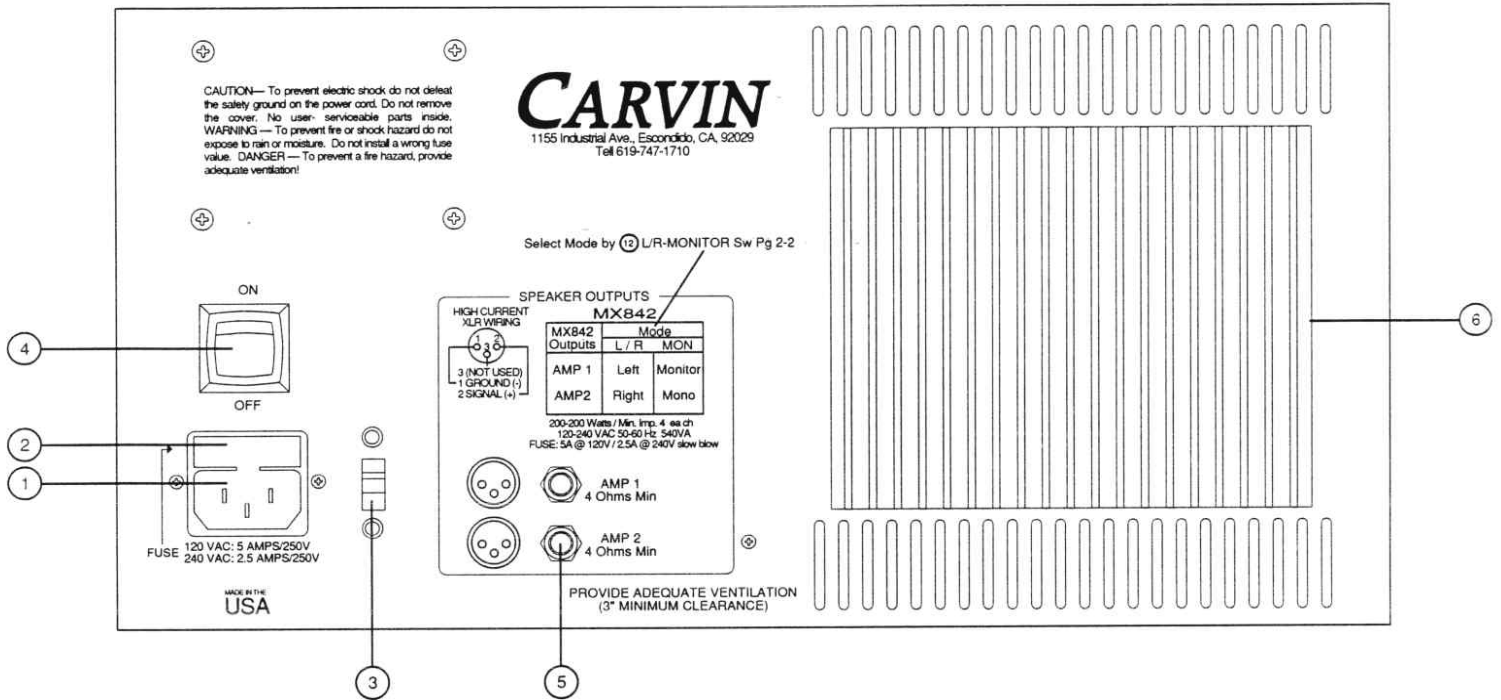
21. GRAPHIC EQUALIZER - The dual 9 band Graphic Equalizer in the MX842 provides a wide degree of tonal flexibility. To properly use the Graphic EQ (equalizer), set all sliders to their center position. With the sliders at this position, there is no effect on the audio signal. When you raise the slider above the center position, you boost levels in a narrow frequency band. If you lower the slider below the center, you are subtracting levels. When using these sliders, think of them as volume controls that can add or subtract tones in narrow frequency bands.

Frequency: The 63 Hz slider is for deep sub bass level adjustments, the 125 Hz is for higher bass adjustments, the 250, 500 and 1K Hz is for mid and higher mid tone adjustments, the 2K and 4K Hz is for mid treble adjustments, and the 8K and 16K Hz sliders add to the very high treble.

NOTE: It is recommended that all sliders be set in their center position before equalizing your tone. Typically low frequency feedback is in the 125 and 250 Hz range while high feedback is in the 2k and 4k Hz range. Occasionally you may have to turn one frequency (slider) off to -12dB to help stop feedback. But you should never turn the adjacent sliders off too. Instead, set the adjacent sliders to -6dB to form a gentle negative curve. Likewise, if you need more deep bass, boost the 63 Hz by 10 dB and the 125Hz by 5 dB. Or, if you need more treble, boost the 8k by 6 dB and the 16k Hz by 4 dB. Note—there is not much signal at 16k so you may not hear any difference except for added noise. If you raise or lower all sliders at the same time, the EQ will act like a volume control because you are effecting all frequencies. Take care not to over-adjust as this will drastically alter your over-all sound. Use the EQ in addition to proper microphone and speaker placement for the control of feedback.

22. GRAPHIC EQ IN/OUT SWITCH - To use the graphic equalizer, the EQ switch must be in the IN position. The red LED will indicate that it is turned on.

MX842 Rear Connections



- 1. AC LINE CORD** - The MX842 employs a heavy duty removable grounded AC cord and should only be plugged into a grounded "3 prong" power outlet. If a grounded outlet is not available, the amp should not be used. For safety, no attempt should ever be made to defeat the ground pin of the AC line cord.
- 2. AC LINE FUSE** - The MX842 fuse is built into the AC receptacle socket—marked by an arrow on the rear panel pointing to the receptacle. The fuse can be changed by removing the AC cord and wedging a slot-head screwdriver under the top to pull out the fuse holder. Once out, the fuse can be replaced (there is room for a spare fuse in the tunnel).
 NOTE: 120 volt fuses are available from Radio Shack: Part No 270-1175 for a 5 Amp slow-blow fuse for 120 volt use and 2.5 Amp for 220 volt use. Use slow-blow 5 x 20mm fuses only.
- 3. 120/240 VOLT SWITCH** - Check and change if necessary the rear AC Voltage Switch to the proper voltage. If a switch is not found, than pull out the Fuse Holder (built into the AC

cord receptacle) and turn it over to the proper voltage as seen on the holder reading right side up ($\frac{120}{OFF}$)—this automatically switches the voltage and the fuse to the proper voltage and fuse value. Be sure to change the fuse value (listed on rear panel) as you change the voltage setting.

- 4. POWER SWITCH** - To turn your MX842 on, simply press the switch to the "ON" position, as listed on the rear panel. The red LED below the bottom MASTER level control will light to indicate you have power to the unit.
- 5. SPEAKER CONNECTIONS** - The MX842 incorporates two speaker connectors for each channel. SPEAKER 1 is for the LEFT (Monitor) amp while SPEAKER 2 is from the RIGHT (Mono) amplifiers. One standard 1/4" and one XLR-male connector are featured for each channel.
 NOTE: These connectors are wired in "parallel". The MX842 minimum impedance is 4 ohms per channel. Any loads below 4 ohms will engage the protect light—see Pg 1-4 section 2b. Use non-shielded 16 gauge or heavier cable. See Pg 4-1 FIG 3.

- 6. COOLING** - To prevent the PROTECT LED from coming on, be sure the rear heatsink fins have plenty of fresh air. Never lay the unit on its back blocking air.

HOOKUP CONFIGURATIONS / DIAGRAMS

FIG 1.
2 COND SHIELDED
INSTRUMENT / MIC CABLE

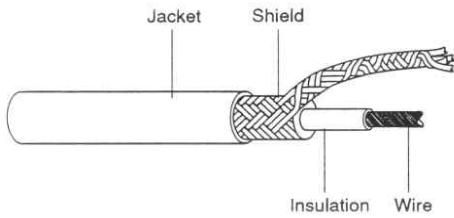


FIG 2.
3 COND SHIELDED XLR
BAL. MIC CABLE

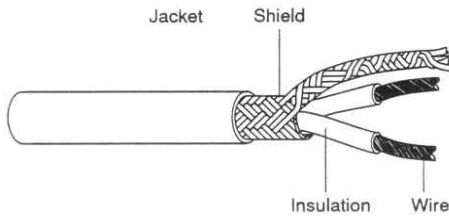


FIG 3.
2 COND NON-SHIELDED
16 AWG SPEAKER CABLE

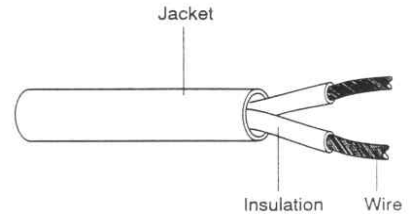


FIG 4.
BALANCED XLR WIRING
3 COND. SHIELD CABLE—SEE FIG. 2.

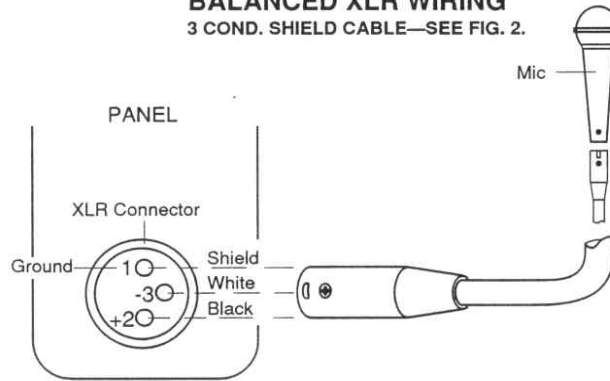


FIG 5.
UNBALANCED INPUT WIRING
2 COND. SHIELD CABLE—SEE FIG. 1.

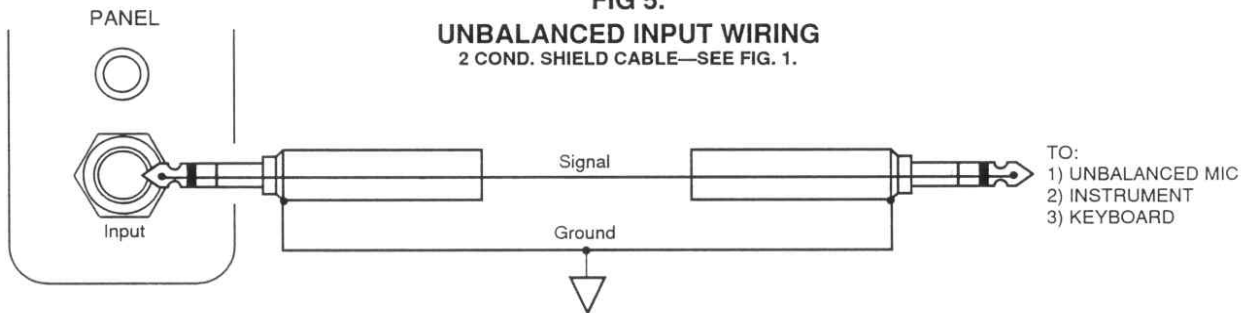
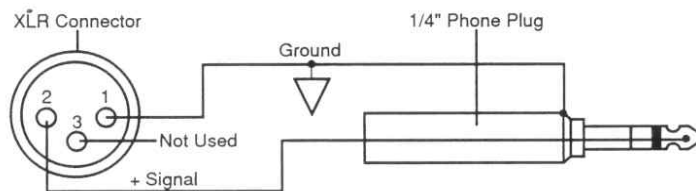


FIG 6.
XLR TO 1/4" PHONE PLUG ADAPTER
2 COND. SHIELD CABLE—SEE FIG. 1.



MX842 SPEAKER HOOKUPS

The L/R MON switch on the front panel above the MASTER level control allows one of the built in power amps to drive monitor speakers while allowing the other power amp to drive the MAIN speakers. Both FIG. 7 & 8 will show how this is done. See item #5 on Pg 3-2.

FIG 7.
MX842 CONNECTIONS FOR STEREO MAIN SPEAKERS
 USE ONLY 16 AWG OR HEAVIER UNSHIELDED CABLE

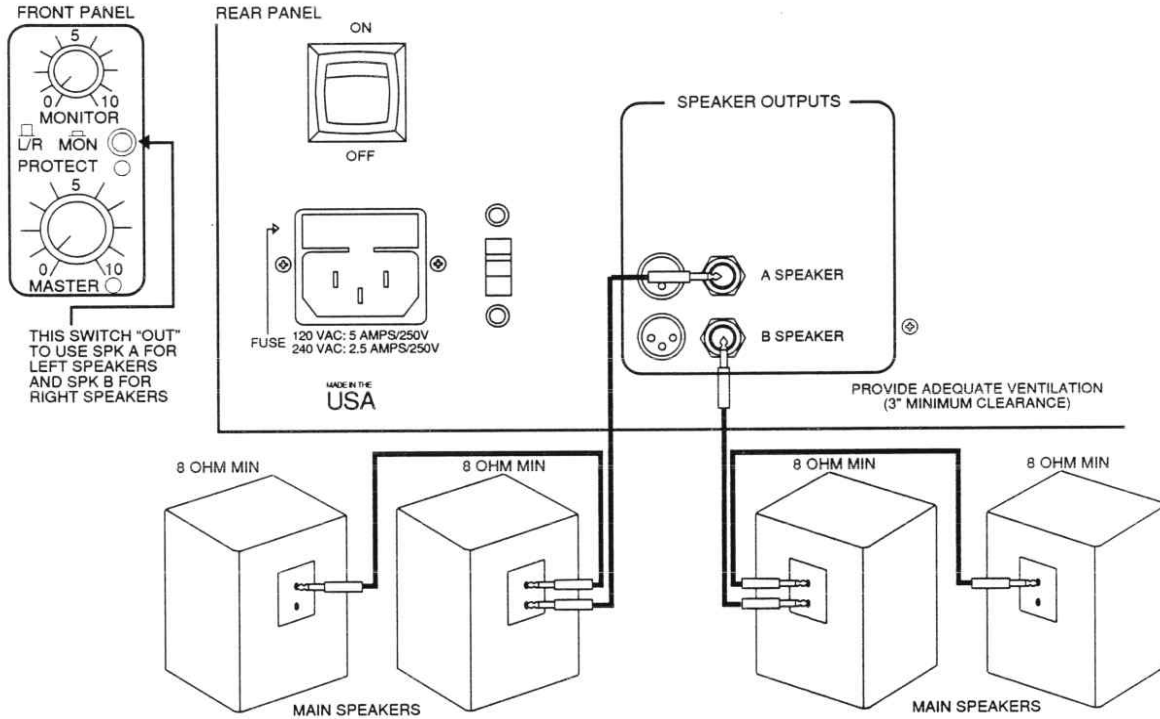
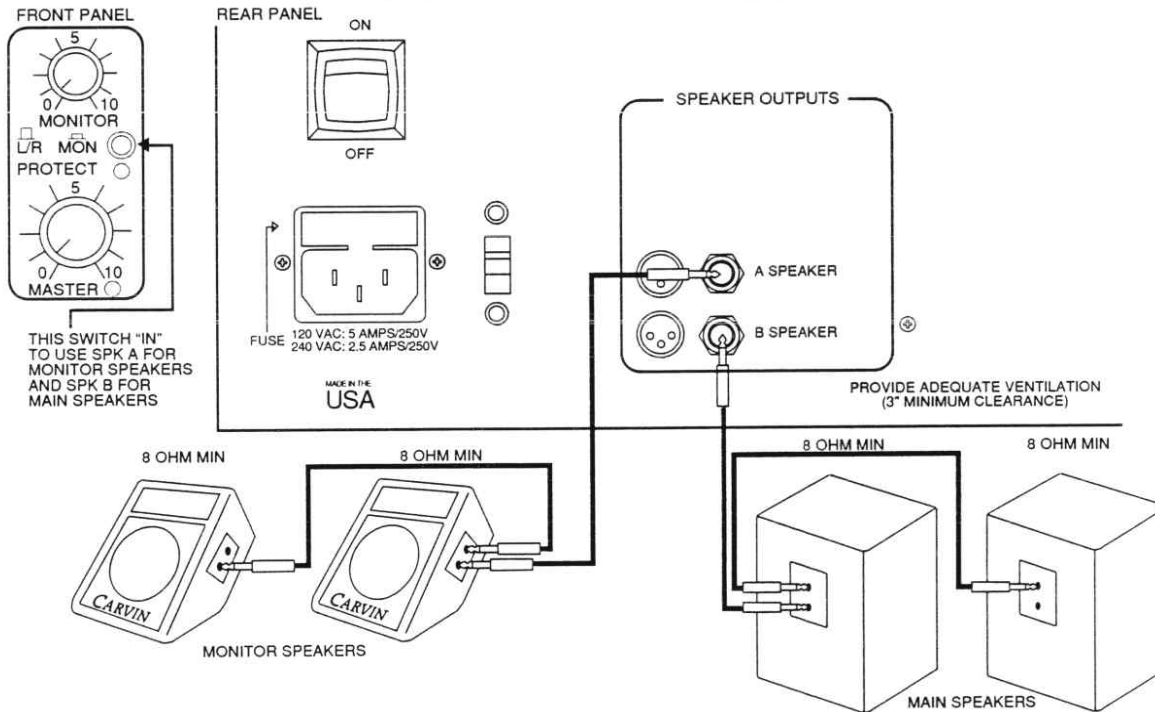


FIG 8.
MX842 CONNECTIONS FOR SEPARATE MONITOR SPKS AND MAIN SPKS
 USE ONLY 16 AWG OR HEAVIER UNSHIELDED CABLE



MX640 SPEAKER HOOKUPS

The MAIN/MON switch on the front panel above the MASTER level control allows the built in power amp to drive monitor speakers or the MAIN speakers. Both FIG. 9 & 10 will show how this is done. See item #12 on Pg 2-2

FIG 9.

MX640 CONNECTIONS FOR MAIN SPEAKERS ONLY USE ONLY 16 AWG OR HEAVIER UNSHIELDED CABLE

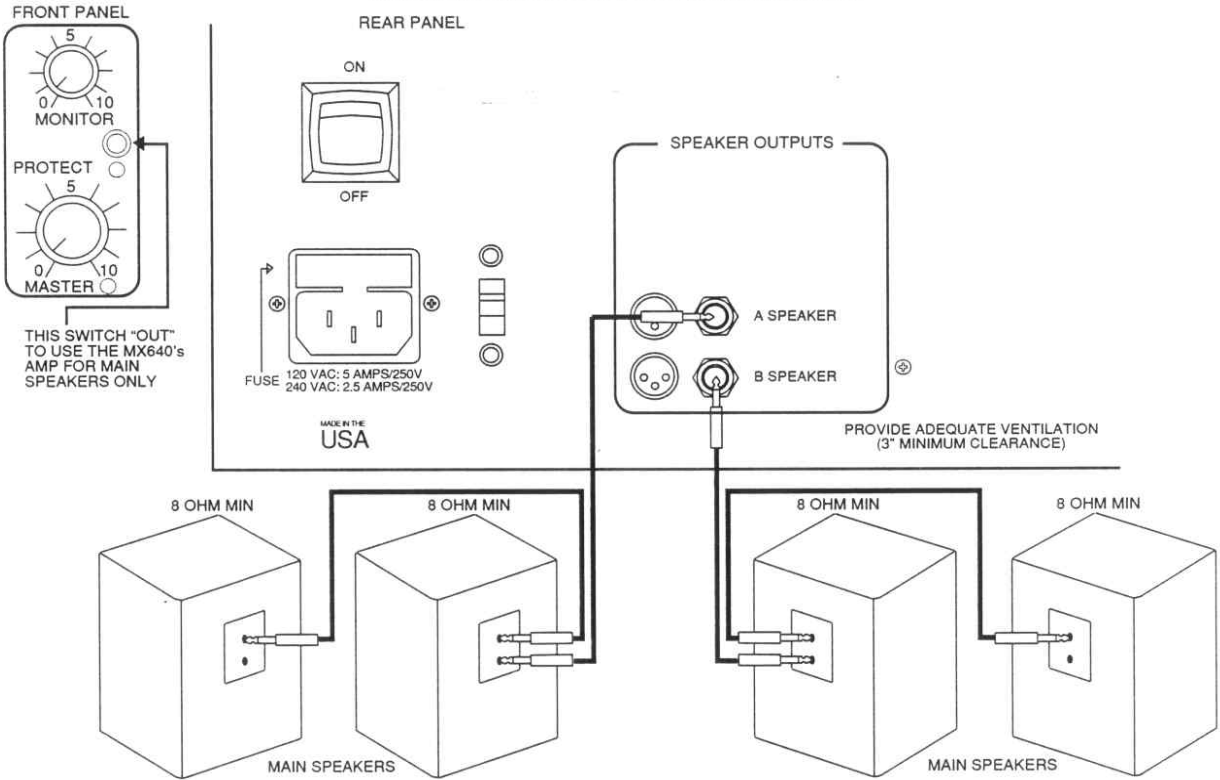
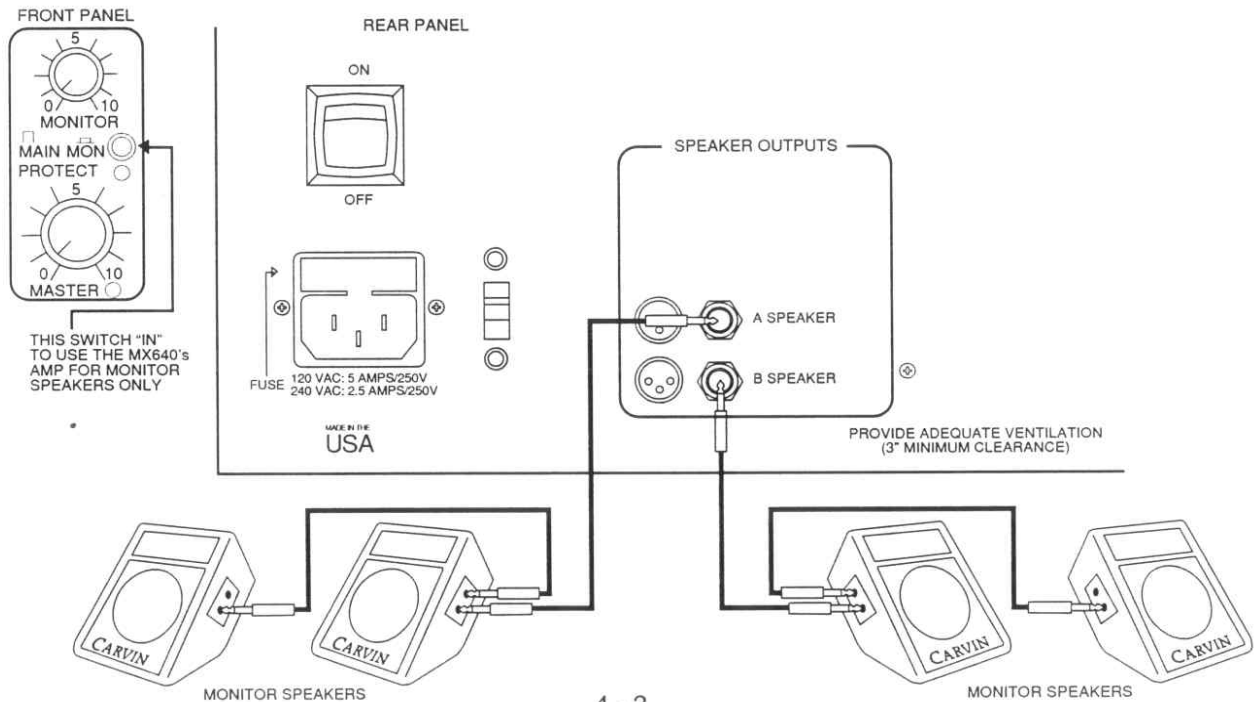
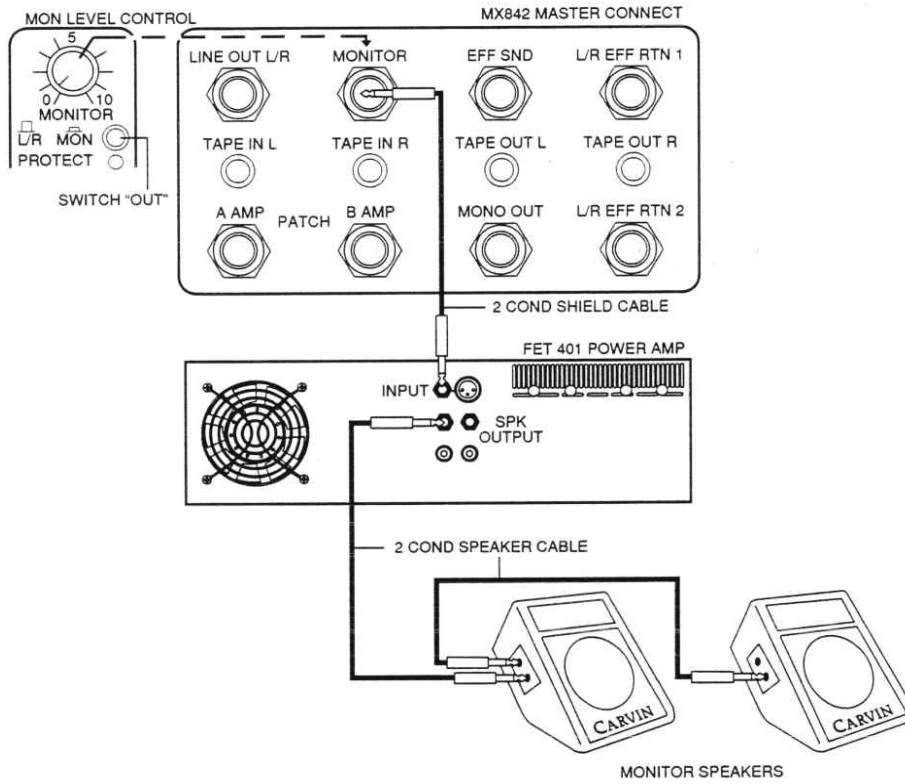


FIG 10.

MX640 CONNECTIONS FOR MONITOR SPEAKERS ONLY USE ONLY 16 AWG OR HEAVIER UNSHIELDED CABLE



**FIG 11.
EXTERNAL MONITOR
(AMPLIFIER/SPEAKER) HOOKUP**



**FIG 12.
AUX. OR EXTERNAL R/L POWER AMP CONNECTIONS
(OR) STEREO HEADPHONES**

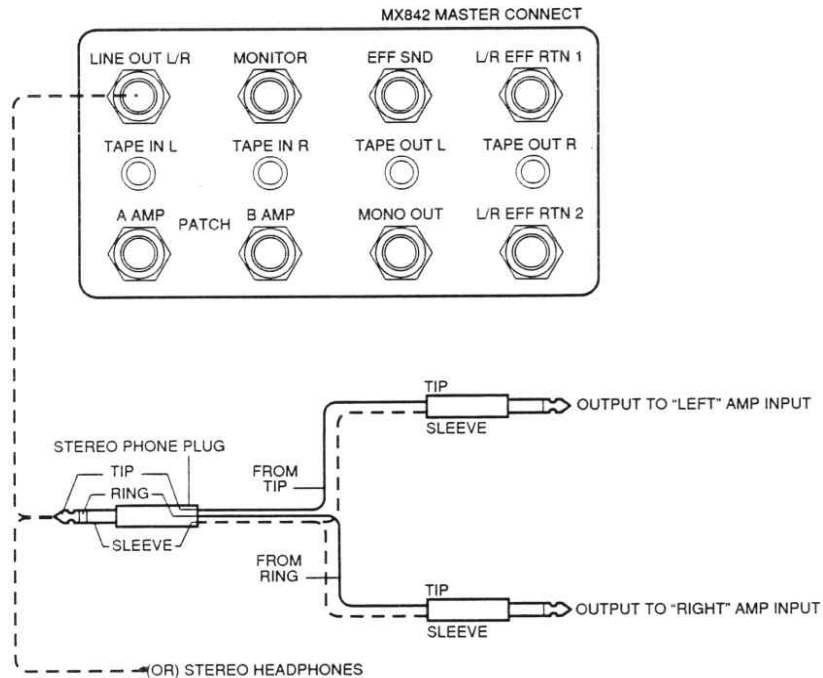


FIG 13.
PATCH CONNECTION TO INPUTS OF POWER AMPS
POWER AMP INTERRUPT

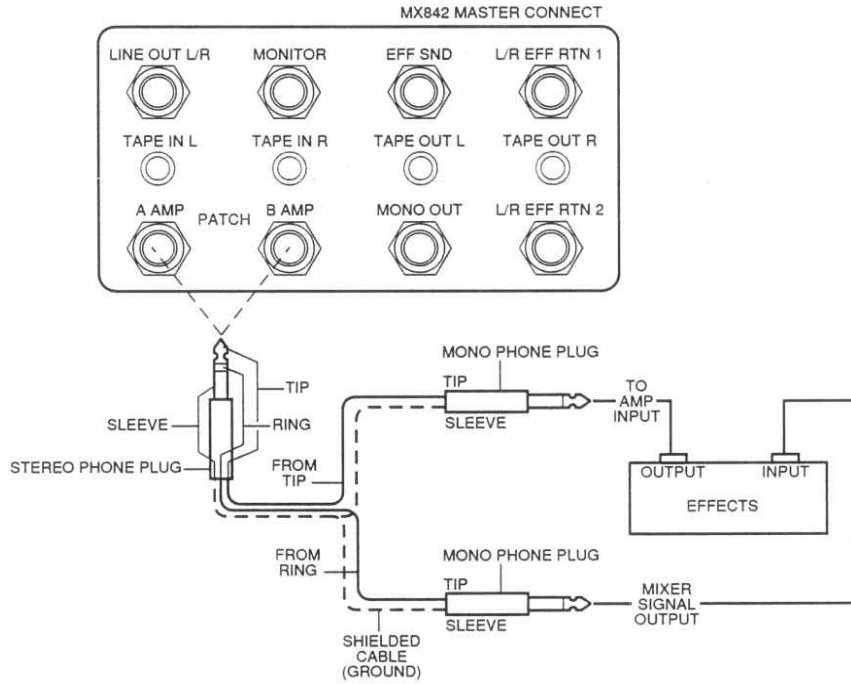


FIG 14.
TAPE / AUX. INPUT & OUTPUT CONNECTIONS
USE 2 COND. SHIELD CABLE WITH PHONO (RCA) CONNECTORS

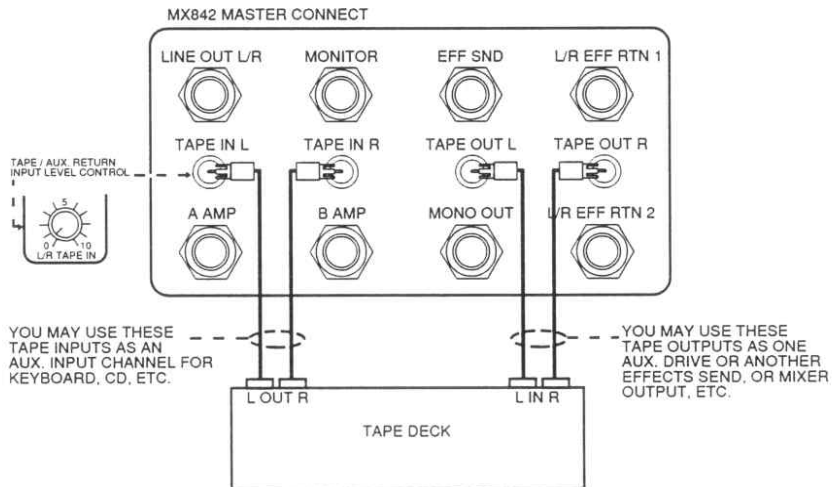
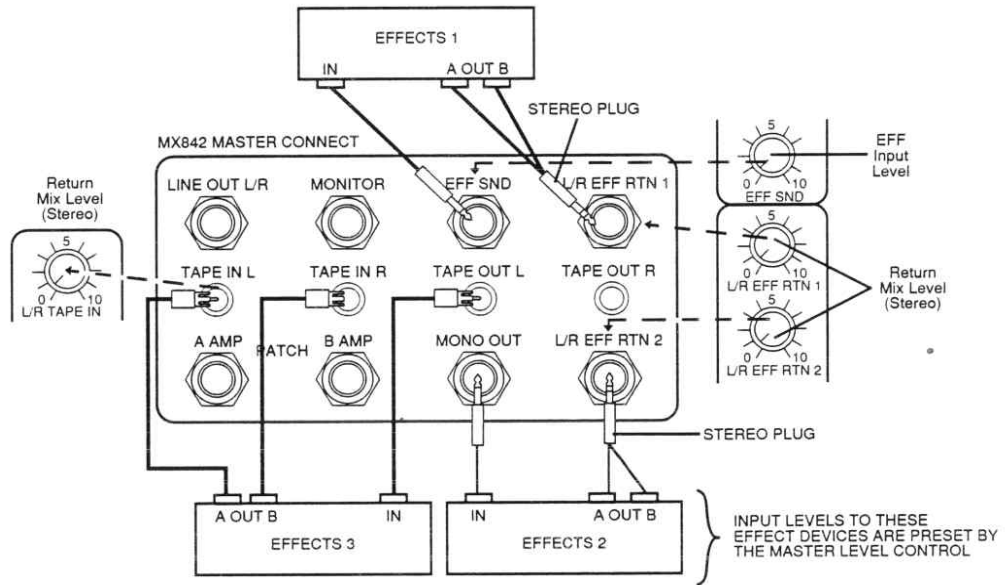


FIG 15.
FOR STEREO EFFECTS 1, 2, & 3—CONNECTIONS
 (USE 2 COND. SHIELD CABLES)



Operations

1) POWER UP SEQUENCE

There is one rule for good practice regarding the sequence in which to power up and down the system. The rule is:

Turn the loudspeaker amplifiers on last and off first.

This will prevent any excessive transient signals from getting to your loudspeakers and possibly damaging the horn drivers.

Besides the concern over damaging the loudspeakers, it is not a good idea to expose your audience to obnoxious pops, squeals or thumps if you want them to come back again. Make sure your audience hears only clear sound from your sound system!

2) SOUND SYSTEM CHECK

After the sound system is connected and powered up, you will want to check every microphone and instrument connection one channel at a time. To check lines to your mixer, have an assistant speak into each microphone and send a signal through every instrument. You need to confirm that every microphone and line properly feeds its assigned channel on the mixer. Make sure that every channel used is properly identified. If your audience is seated at this time, you can spare them from listening to this testing by unplugging the speaker on the mixer and monitoring the sound check, using headphones. At the same time, you can verify the stage monitor system by raising the monitor sends at each channel and then carefully raising level on the monitor send knobs. Your assistant can verify the stage monitor sound as he checks each mic and instrument. Finally, check the main system sound by using one of the mics on the stage. This completes the basic system check out.

3) SPEAKER PLACEMENT

For portable or permanently mounted speakers, the speaker should always be placed as high as possible. Carvin's T33 portable speaker stand will elevate speakers up to 6' allowing you to reach several hundred feet back to your audience. For auditoriums, speakers can be mounted: 1) to the auditorium side—10' to 12' high. 2) in a front cluster of 3 speakers mounted in the front center. 3) in a circular cluster of 5 to 6 speakers mounted in the center of a gym. Be sure to incorporate a "safty chain" to each speaker. Speakers should always be mounted ahead of mics to prevent feedback.

4) HOW TO FIGURE SPEAKER IMPEDANCE

On powered mixing consoles it is very important that you do not go below the unit's minimum impedance with your speaker system. What this means is that you cannot connect too many speakers in parallel to your powered mixing console. Speakers, as a rule, are connected in parallel. This means the '+' (Red) of the first speaker is connected to the "+" of the second speaker. Calculate the impedance for your speakers, on each channel (Left and Right) and be sure that it does not fall below the MINIMUM LOAD impedance that your mixing console is rated to handle. On all CARVIN powered mixers the MINIMUM RECOMMENDED impedance is 4 ohms per amp (2 ohms for the MX640). You may of course use higher impedances. In order to figure the impedance of your speaker system you should use the following formula:

Formula for Parallel Impedance

Find the rated impedance of each of your speakers. Is should be written on the cabinet rear or bottom. It will typically be 8 ohms (8 Ω), 4 ohms (4 Ω), 3 ohms (3 Ω), or 16 ohms (16 Ω), but others do exist. Invert these numbers (i.e. make a fraction out of them).

Example: 8 Ω would become 1/8
 4 Ω would become 1/4

Add each of these fractions together and divide the denominator (bottom number) by the numerator (top number). The result will be your load impedance produced by your speaker system.

Example: You have two, 8 Ω speakers connected in parallel, the impedance of them is calculated.

Add speaker impedances 1/8 + 1/8 = 2/8 Divide denominator 8 by numerator 2
 This equals 8/2 = 4 Ω total load impedance

Example: Speaker ratings: 8 Ω + 16 Ω + 16 Ω
 So 1/8 + 1/16 + 1/16 = 4/16 Divide 16 / 4 = 4 Ω total load impedance

Suggestions for Efficient Set-Up

LIVE SOUND REINFORCEMENT

At this point we would like to make some general comments on setting up and operating a sound system. The most important point to emphasize is that a little planning before the day of the performance, can prevent serious problems the night of the performance, especially if you are new to sound reinforcement work.

1) POWER REQUIREMENTS

A 15 amp circuit is all you will need to run your sound system. This will include other equipment such as a tape deck and effects processor.

One of the greatest problems of circuit overloading is flood or spot lights plugged into the same circuit you plan to use for the sound system. Try not to use the same circuit to power both the lighting and the sound system.

2) EQUIPMENT LIST

A good way to prepare for the show is to write out a list of ALL the equipment that you will be using. Later you can use this list as a check list when it comes time to load up before, and after, the performance. It will make sure that you do not forget or lose pieces of your gear. Your list should include everything from the mixer down to the last interconnect cable. If you start with a block sketch of the sound system showing the mixer, snake, main amps, main speakers, monitor amps, and monitor speakers you can then draw in each interconnect cable. On every cable drawn in label each end as to the type of connector it will need. This diagram will help you to quickly set up the system because you will not have to stop and think what connects to what. It's no fun scrambling to assemble interconnect cables when showtime is a few minutes away! A complete equipment list and system diagram can help prevent equipment loss and should allow quick and efficient sound system setup.

3) TOOL KIT

Put together a good tool kit and add it to your equipment list. Make sure your tool kit includes a generous assortment of connector adapters. Stock enough spare connectors to repair each different type of interconnect cable you use in your system. Preventive maintenance is always the best way to assure the least amount of equipment related problems. Keep your cables clean and in good repair at all times. And, be sure to clean any dirt or dust off all your mixers, cables, and speakers. Such preventive maintenance will provide you with a much more reliable system. A good basic tool kit might carry the following items;

- 1) Spare cables and fuse's
- 2) Spare connectors or adapters
- 3) Screwdrivers appropriate for any need (Flathead and Philips - Small & Large)

Of course, your tool kit can be as elaborate as you desire, according to your technical ability. It is also a good idea to carry a flashlight or accessory lamp for those occasions where the house lights go down and you are left in total darkness, groping for the knobs!

4) MAINTENANCE

There is very little maintenance required by your unit. The best possible maintenance is preventative. The major causes of breakdown occur from dirt and heat. Vacuuming the front panel of your console regularly will assure that harmful dust and dirt does not accumulate in any of the electronics. A vinyl slip cover (manufactured by CARVIN) is highly recommended and should be used whenever you are not operating the console. Always keep your cords in a clean and orderly manner. This assures you the most reliable connection and saves embarrassment from intermittences caused by poorly maintained equipment. Vacuum your speaker cabinets regularly, and keep them wiped off to eliminate any build up of dirt. It is also recommended that you purchase a vinyl slip cover to properly protect your speakers.

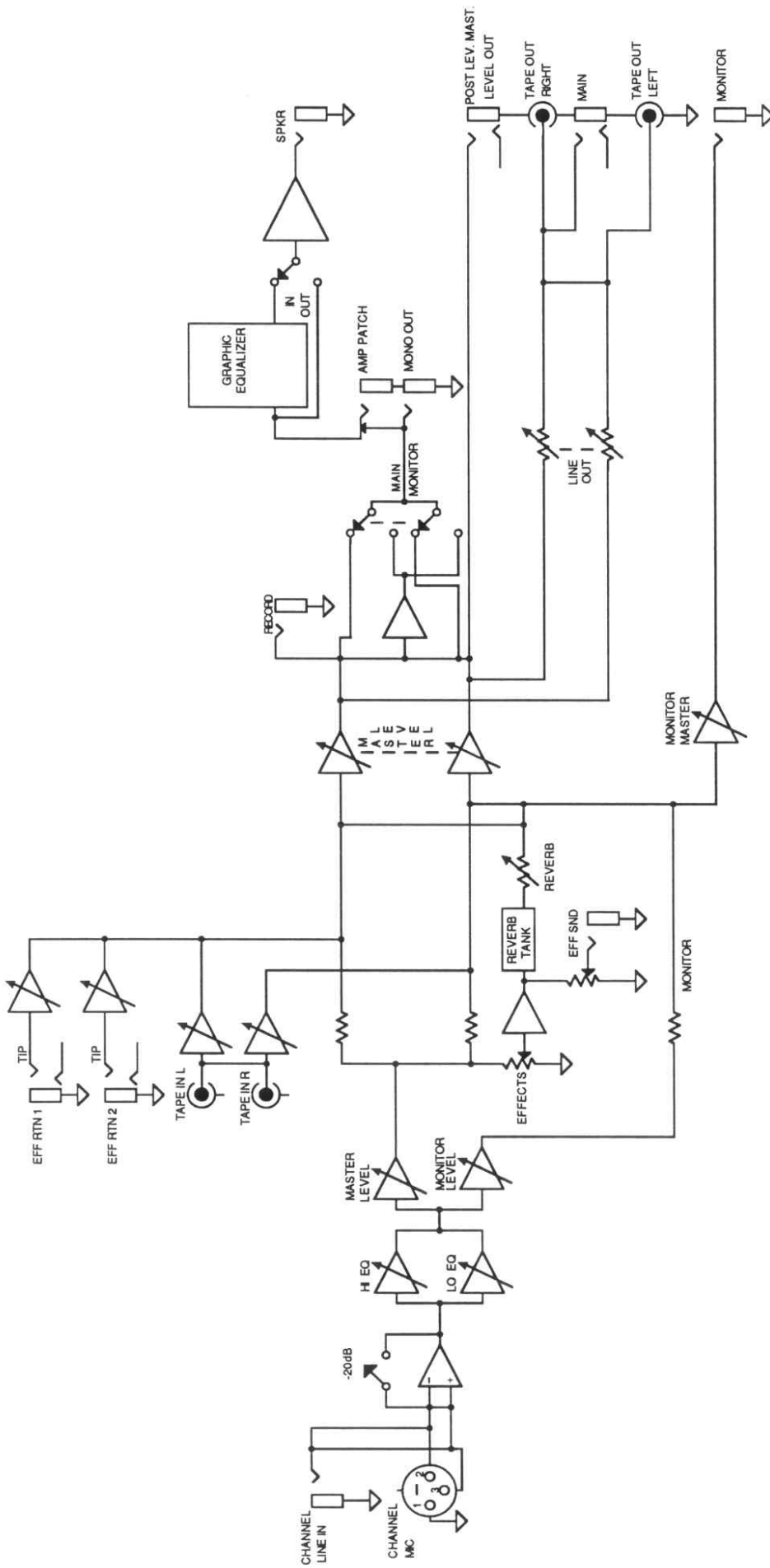
Always keep your mixer well ventilated when using it. Keep a minimum of 3 inches of free space behind the rear panel. This space will allow the hot air to escape, and not build up inside your console. Providing proper cooling will aid in the reliability of your console.

MX640 Specifications

POWER AMP SECTION	
Power Output	4 Ω : 300w 2 Ω : 400w
Frequency Response	20 to 20k Hz \pm 1.5 dB
THD	less than 0.1% 20 to 20k Hz at full power Typical: 0.01% THD
Power Amp/Speaker Protection	DC sensing relay
MIC/LINE PRE AMPS	
Channels	6
Line Input Impedance	10kohms
XLR Bal Input Impedance	150 to 600 ohms
Input Connectors	Balanced XLR and 1/4" phone jack
Equivalent Input Noise	-120dB (unweight, 150 ohms)
Channel Equalization	Hi Band \pm 12 dB @ 10K Lo Band \pm 12 dB @ 100 Hz
Crosstalk	-60 dB (adjacent channels)
Common Mode Rejection	-75 dB @ 1k Hz
Condenser Mic Power	+48 VDC (regulated)
MAIN OUTPUT SECTION	
Graphic EQ Freq.	60, 120, 250, 500, 1k,2k, 4k 8k and 16k Hz \pm 12dB
Graphic IN/OUT switch	Yes
Maximum Gain	60 dB (mic to main out) 20 dB (line to main)
Main, Monitor & Effects Output	+20dBv
Output Connectors	1/4" (RCA for tape)
Speaker Outputs	Two 1/4" jacks and two Male XLR's
Power Requirements	120/240 VAC 50-60 Hz
Fuse	120V: 5 Amp—slow-blow 5x20mm 240V: 2.5 Amp—slow-blow 5x20mm
Dimensions	12"H x 21"W x 12"D
Shipping Wt:	41 lbs

MX842 Specifications

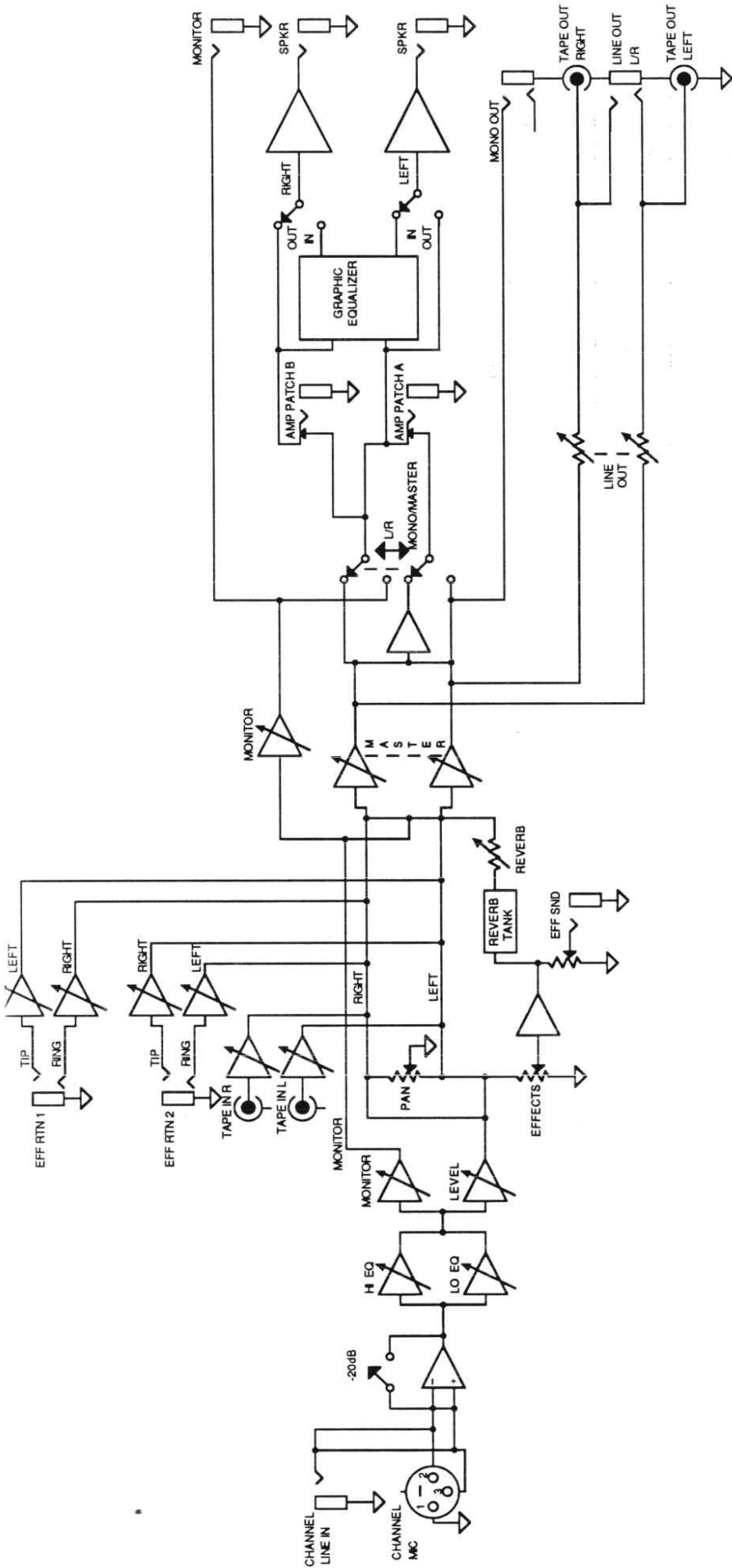
POWER AMP SECTION	
Power Output	8 Ω : 300w (150w/150w) 4 Ω : 400w (200w/200w)
Frequency Response	20 to 20k Hz \pm 1.5 dB
THD	less than 0.1% 20 to 20k Hz at full power Typical: 0.01% THD
Power Amp/Speaker Protection	DC sensing relays
MIC/LINE PRE AMPS	
Channels	8
Line Input Impedance	10kohms
XLR Bal Input Impedance	150 to 600 ohms
Input Connectors	Balanced XLR and 1/4" phone jack
Equivalent Input Noise	-120dB (unweight, 150 ohms)
Channel Equalization	Hi Band \pm 12 dB @ 10K Lo Band \pm 12 dB @ 100 Hz
Crosstalk	-60 dB (adjacent channels)
Common Mode Rejection	-75 dB @ 1k Hz
Condenser Mic Power	+48 VDC (regulated)
MAIN OUTPUT SECTION	
Graphic EQ Freq.	60, 120, 250, 500, 1k,2k, 4k 8k and 16k Hz \pm 12dB
Graphic IN/OUT switch	Yes
Maximum Gain	60 dB (mic to main out) 20 dB (line to main)
Main, Monitor & Effects Output	+20dBv
Output Connectors	1/4" (RCA for tape)
Speaker Outputs	Two 1/4" jacks and two Male XLR's (AMP 1 and AMP 2)
Power Requirements	120/240 VAC 50-60 Hz
Fuse	120V: 5 Amp—slow-blow 5x20mm 240V: 2.5 Amp—slow-blow 5x20mm
Dimensions	12"H x 21"W x 12"D
Shipping Wt:	45 lbs



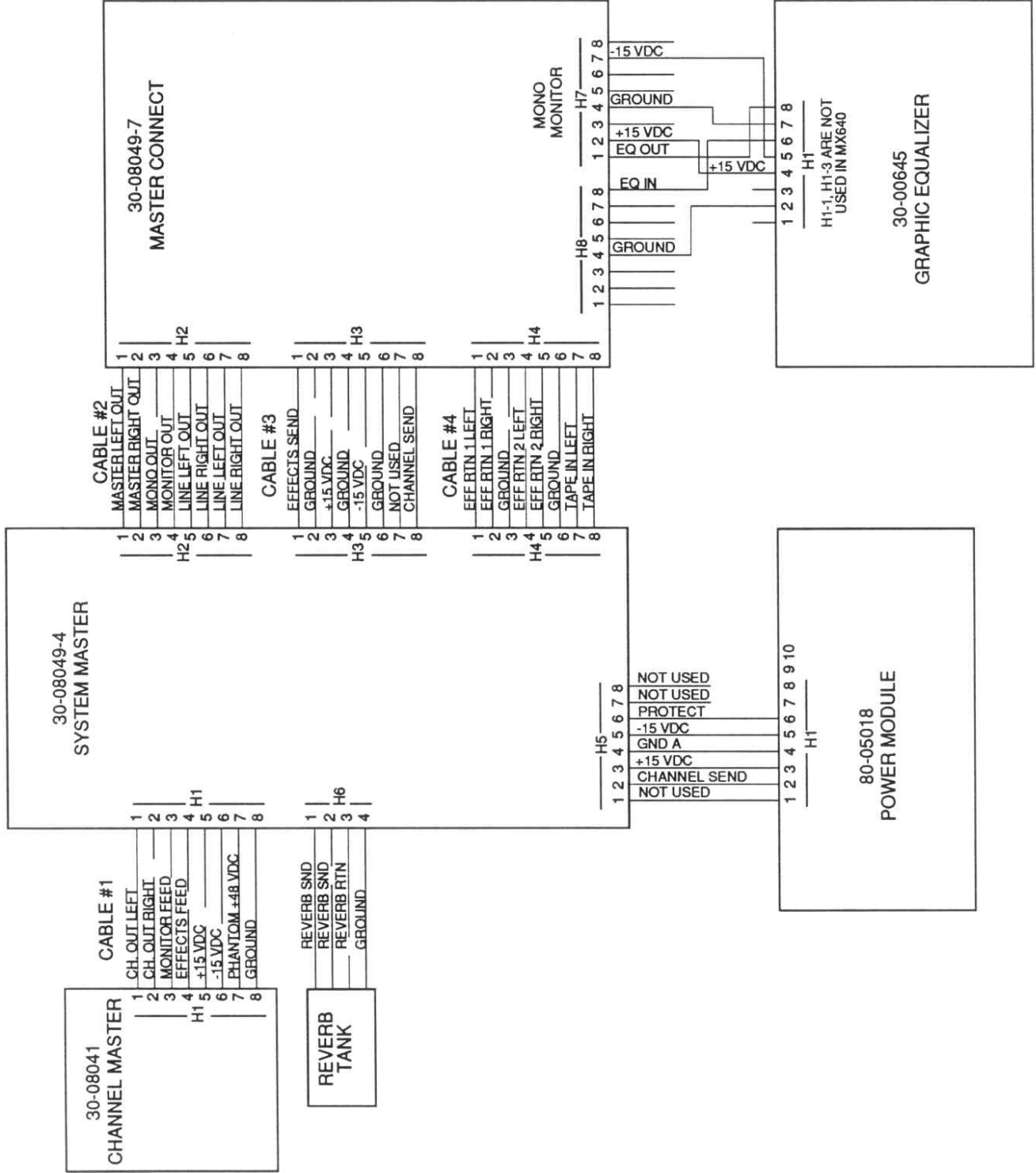
CARVIN
 1155 INDUSTRIAL AVE.
 ESCONDIDO, CA 92029
 (619) 747-1710
 FAX 747-9065

MX640
 Block Diagram

DRAWN BY:	C. McEUIEN	DATE:	29NOV90
APPROVED:	<i>[Signature]</i>	DATE:	15MAY91
PCB NO.		REV.	
ASSY. NO.	87-00842	REV.	A
REVISED BY:	C. McEUIEN	DATE:	9MAY91



CARVIN		1155 INDUSTRIAL AVE. ESCONDIDO, CA 92029 (619) 747-1710 FAX 747-9065	
MX842		Block Diagram	
DRAWN BY:	C. McEJEN	DATE:	29NOV90
APPROVED:	<i>John P. May</i>	DATE:	15MAY91
PCB NO.		REV:	
ASSY. NO.	87-00842	REV:	A
REVISED BY:	C. McEJEN	DATE:	9MAY91



NOTES: (UNLESS OTHERWISE SPECIFIED)

CARVIN

1155 Industrial Ave.
Escondido, CA 92029
619-747-1710
FAX 747-9065

MX640 INTERCONNECT

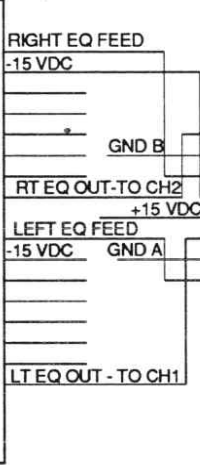
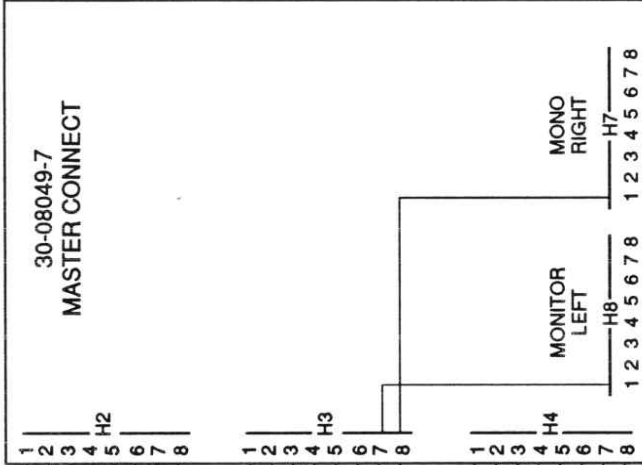
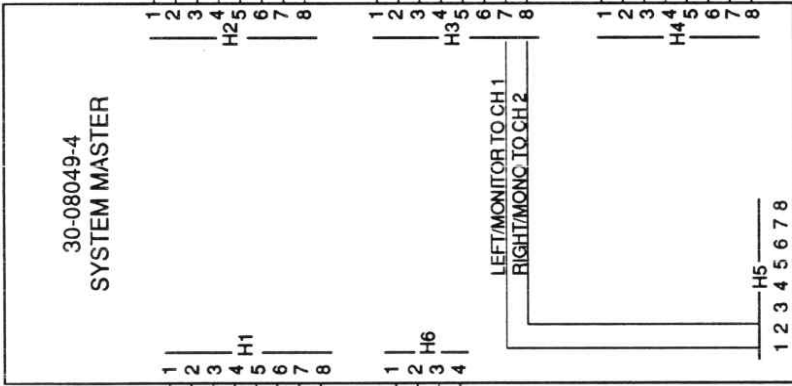
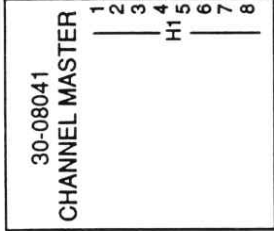
Rev (B)

Part No. 10-00000 (Rev B) Date Revised 28 OCT 90

Approved By: *[Signature]* Date Approved: 15 MAY 91

Drawn By: *[Signature]* Date Drawn: 9 MAY 91

CFM

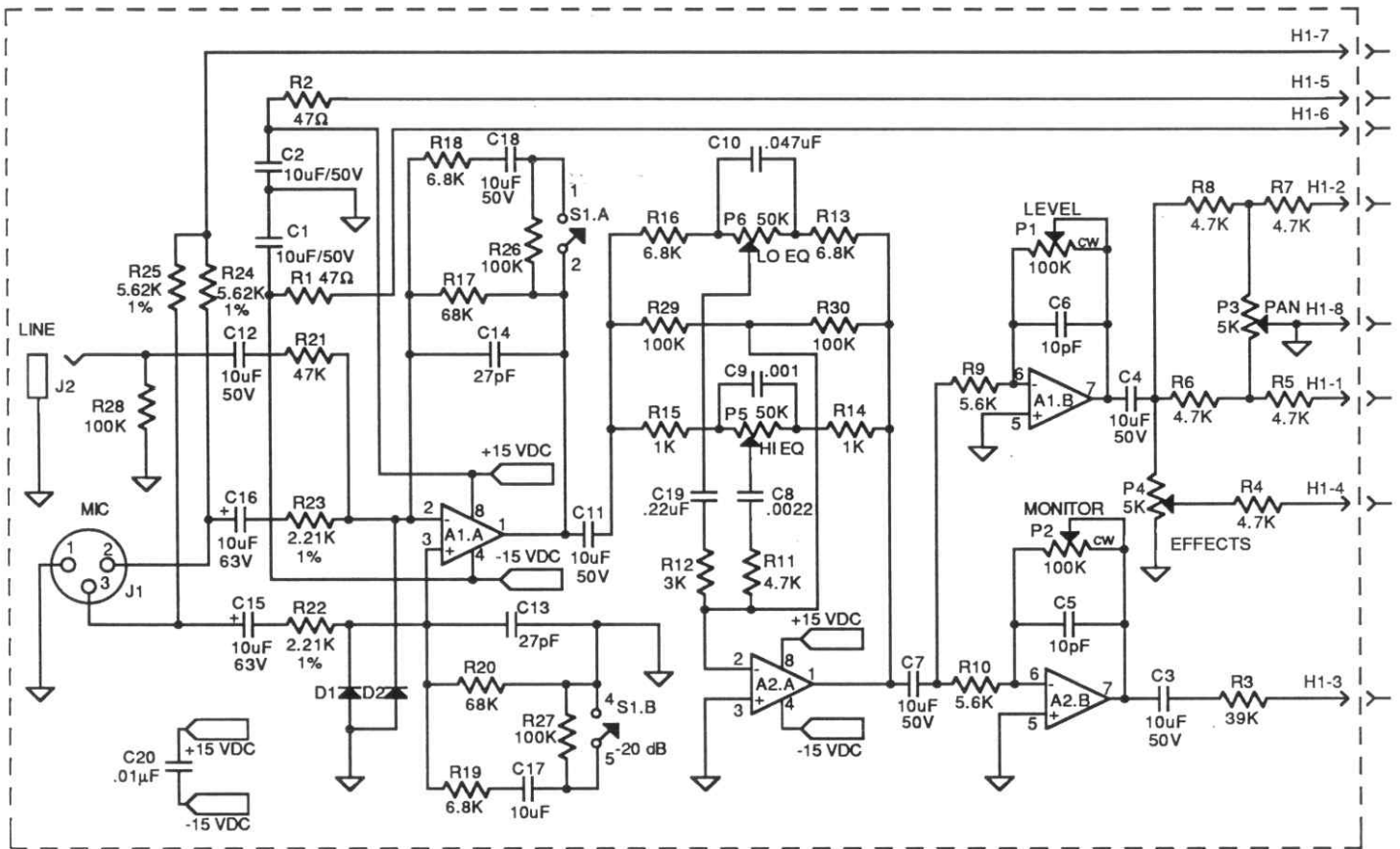


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1155 Industrial Ave.
Escondido, CA 92029
619-747-1710
FAX 747-9065

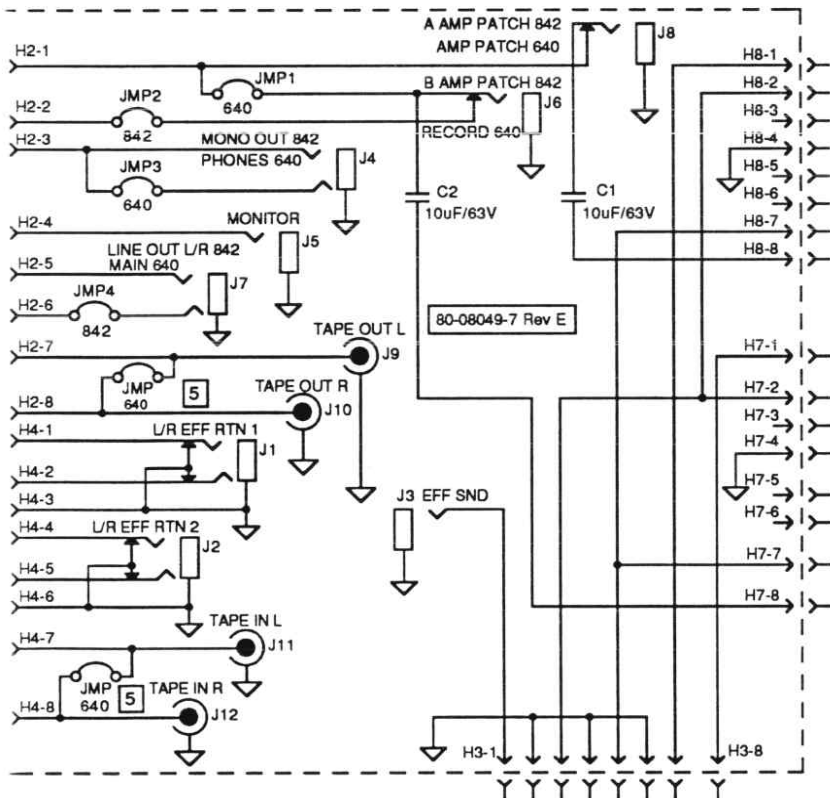
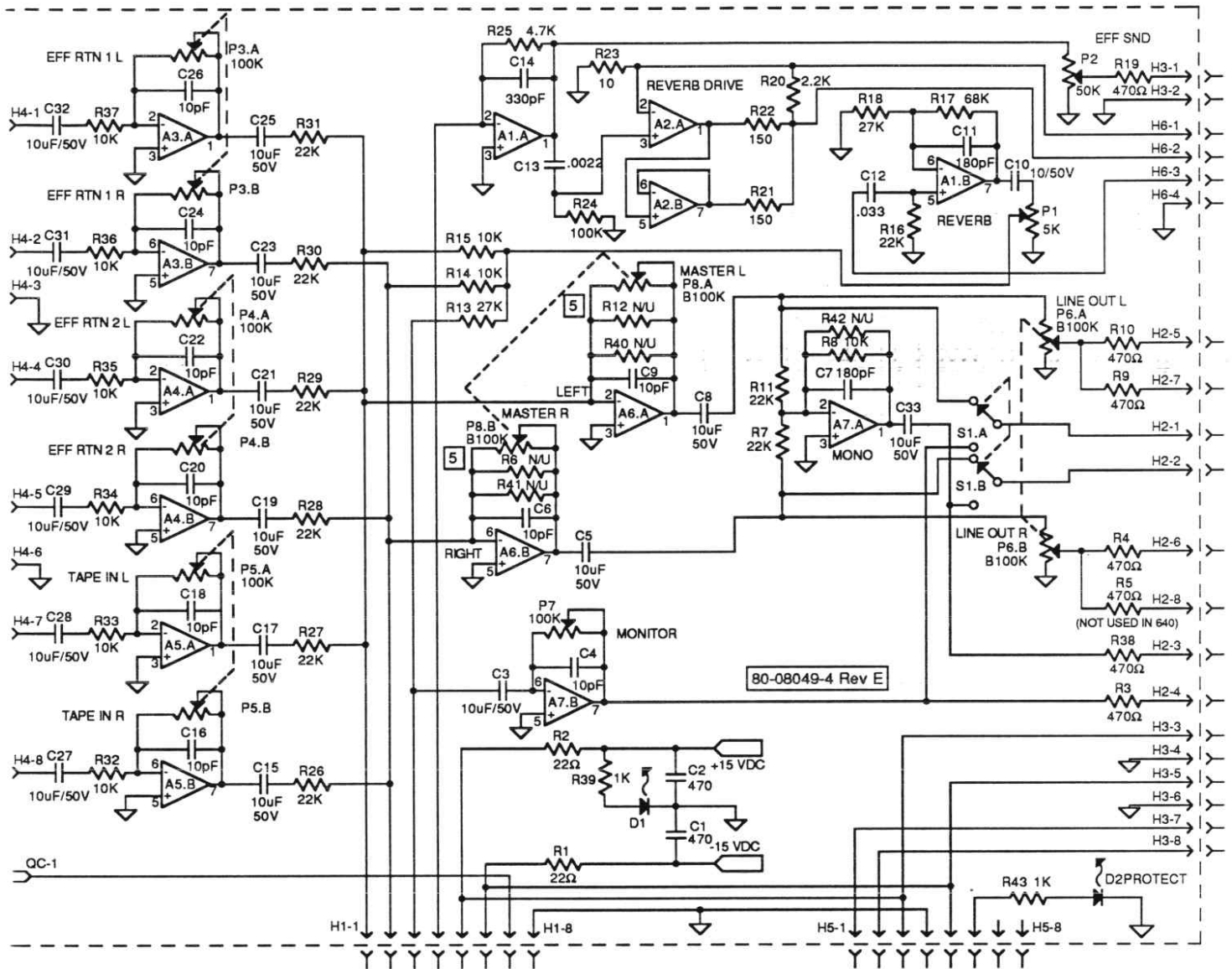
MX842
INTERCONNECT
Rev (B)

Part No. 10-00000 (Rev B) Date Revised 28OCT90
Approved By: *[Signature]* Date Approved: *15 MAY 91*
Drawn By: *[Signature]* Date Drawn: *9 MAY 91*
CFM

NOTES: (UNLESS OTHERWISE SPECIFIED)

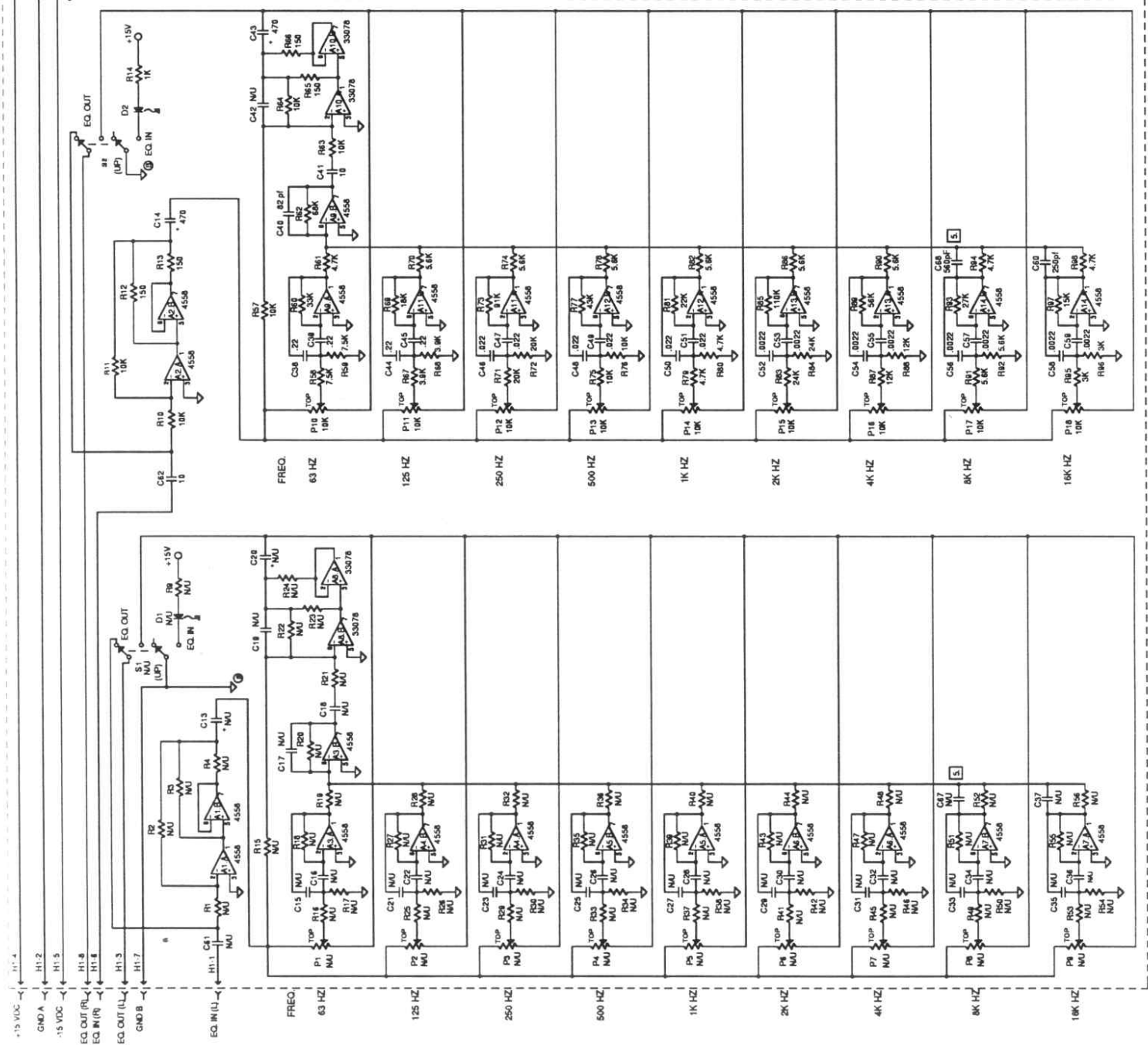
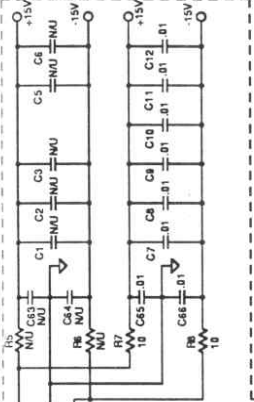


<h1 style="margin: 0;">CARVIN</h1>		1155 INDUSTRIAL AVE. ESCONDIDO, CA 92029 (619) 747-1710 FAX 747-9065	
		<h2 style="margin: 0;">MX 842, MX 640 CHANNEL CARD</h2>	
DRAWN BY:	C. MCEUEN	DATE:	8 DEC 88
APPROVED:			DATE:
PCB NO:	30-08041	REV:	Rev E
ASSY. NO:	80-08041	REV:	Rev K
REVISED BY:	C. McEuen	DATE:	9 MAY 91



- 5. ADDED AS SECONDARY.
 - 4. A3 IS A 33078 TYPE OP AMP.
 - 3. ALL OP AMPS, EXCEPT A3, ARE 4558 TYPE.
 - 2. ALL CAPACITORS IN MICROFARADS (EXCEPT AS NOTED).
 - 1. WHERE STEREO 1/4" PHONE JACKS ARE USED, TIP = LEFT AND RIGHT = RING.
- NOTES: UNLESS OTHERWISE SPECIFIED.**

<h1 style="margin: 0;">CARVIN</h1> <h2 style="margin: 0;">MX 842</h2> <h3 style="margin: 0;">MASTER CARD</h3>		1155 INDUSTRIAL AVE. ESCONDIDO, CA 92029 (619) 747-1710 FAX 747-9065	
		80-08049-4 Rev E	
DRAWN BY:	C. McEuen	DATE:	12 JAN 89
APPROVED:	<i>John P. Murphy</i>		DATE: 15 MAY 91
PCB NO:	30-08049	REV:	Rev E
ASSY. NO:	80-08049	REV:	Rev L
REVISED BY:	C. McEuen	DATE:	9 MAY 91



5. ADDED AS SECONDARY.
- ALL GNDS ARE GND EXCEPT AS NOTED.
 - ALL DIODES ARE 1N4004 EXCEPT AS NOTED.
 - ALL CAPACITORS IN MICROFARADS EXCEPT AS NOTED.
 - ALL CAPS ARE TYPE 4558 EXCEPT A0 AND A10 WHICH ARE TYPE 33078.

LAST USED LIST	
SYM	NOT USED
A	14
C	6A
D	2
H	1
P	18
B	8A
S	2

CARVIN
 1152 INDUSTRIAL BLVD
 ESCONDIPO, CA 92026
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 FAX 747-8855

MX640 GRAPHIC EQUALIZER

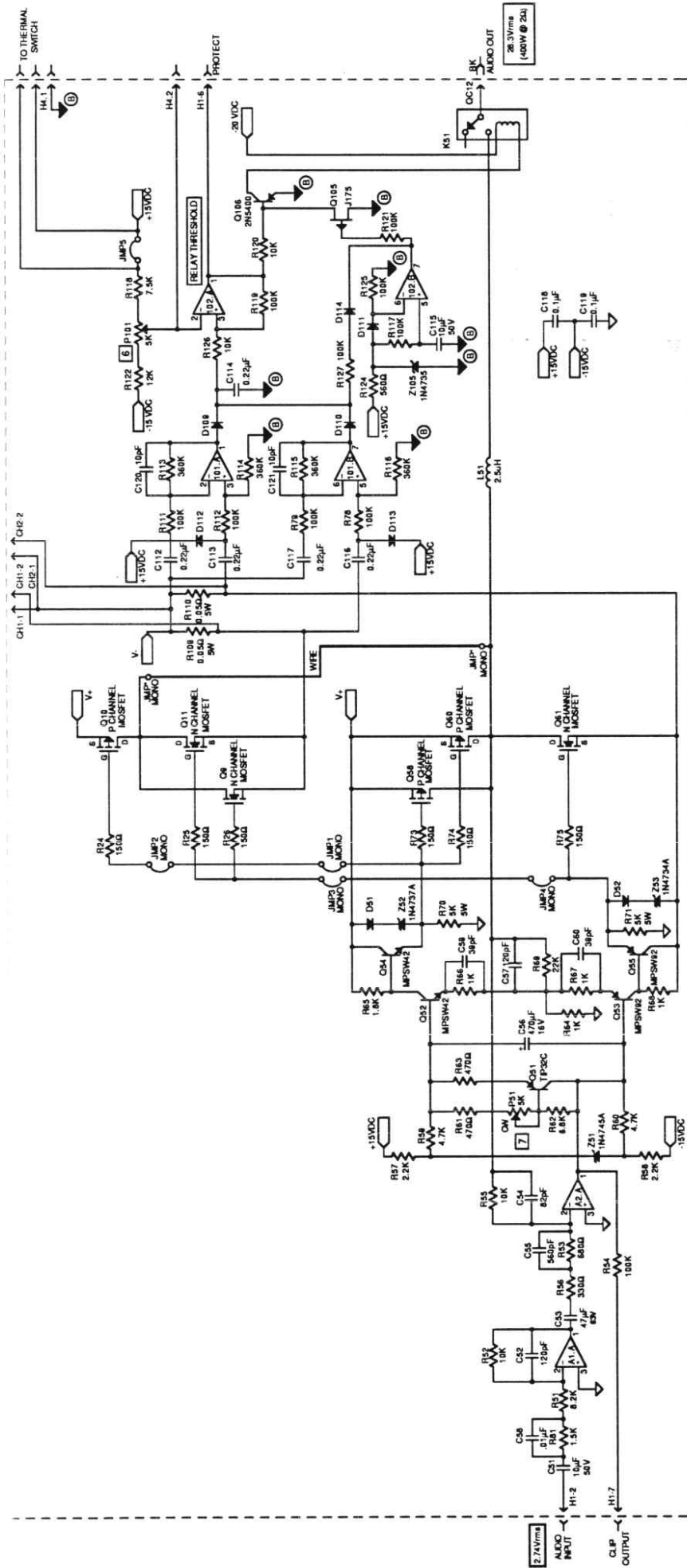
DRAWN BY: C. MUELIEN DATE: 8 NOV 90

APPROVED: *[Signature]* DATE: *15 MAR 91*

PCB NO. 80-00445 REV. A

ASBY. NO. 80-00645 REV. C

REVISED BY: C. MUELIEN DATE: 9 MAY 91



CARVIN
1155 INDUSTRIAL AVE.
ESCONDIDO, CA 92029
(619) 747-1710
FAX 747-9665

400W MONO POWER MODULE (M86-6)

DRAWN BY: C. MUEJEN DATE: 15JAN90 (M86-6)

APPROVED: *[Signature]* DATE: 15JAN91

PCB NO: 30-10028 REV: G

ASSY NO: 80-05018 REV: I

REVISED BY: CFM DATE: 11APR91

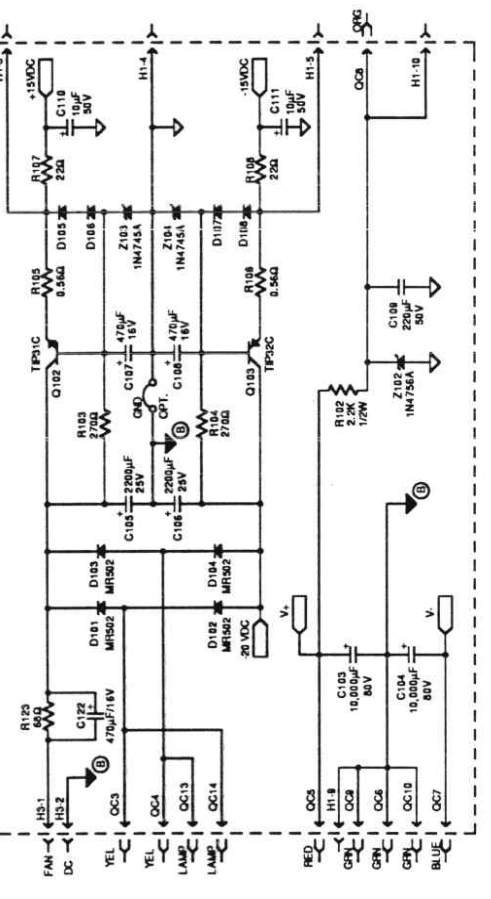
- 7 ADJUST P1/P51 FOR 6mV (±0.2mV) DROP ACROSS R109/R110 RESPECTIVELY UNIT WARM, 120 VAC LINE.
 - 8 ADJUST P101 FOR XXX Vdc (±0.1 Vdc) AT A102 PIN 2.
 - 9 ADDED AS SECONDARY OPERATION.
 - 4. A101 AND A102 ARE 4558 TYPE OF AMPS.
 - 3. A1 AND A2 ARE MC33078 OF AMPS.
 - 2. ALL DIODES ARE 1N4003 (EXCEPT AS NOTED).
 - 1. ALL CAPACITORS IN MICROFARADS (EXCEPT AS NOTED).
- NOTES: UNLESS OTHERWISE SPECIFIED

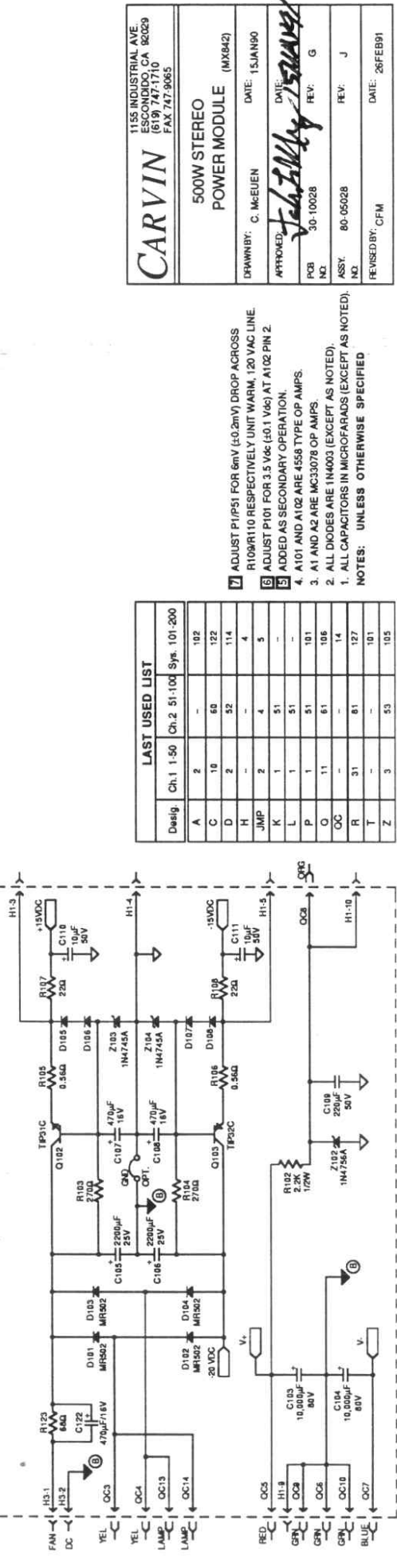
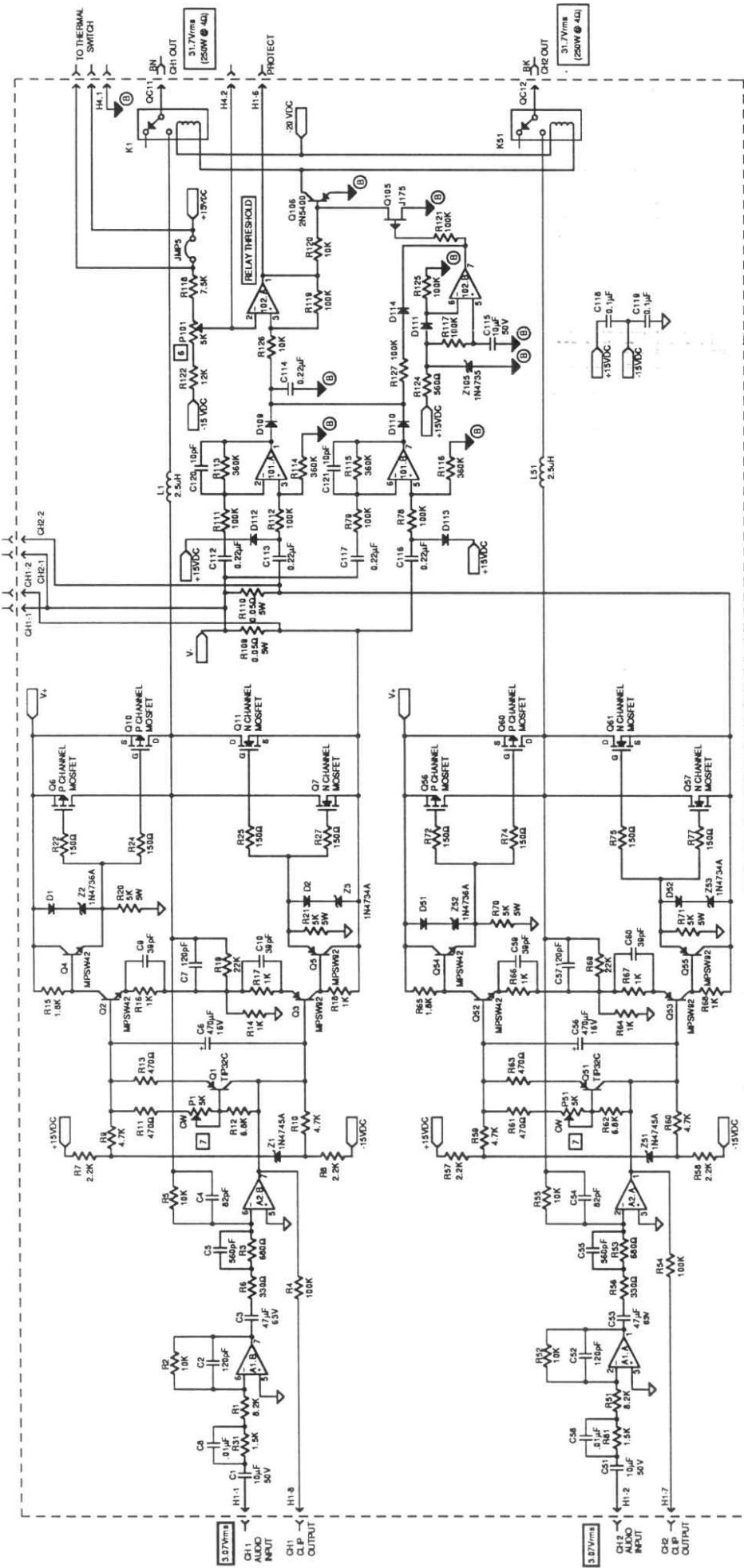
LAST USED LIST

Design	Ch.1	1-50	Ch.2	51-100	Sys.	101-200
A	2	-	-	-	-	102
C	18	68	52	-	-	114
D	2	52	-	-	-	114
H	-	-	-	-	-	4
JMP	2	4	-	-	-	5
K	1	51	-	-	-	-
L	1	51	-	-	-	-
P	1	51	-	-	-	101
O	11	61	-	-	-	106
OC	-	-	-	-	-	14
R	31	81	-	-	-	127
T	-	-	-	-	-	101
Z	3	53	-	-	-	105

LABELS NOT USED

C
D
G
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z





CARVIN
 1155 INDUSTRIAL AVE
 ESCONDIDO, CA 92029
 (619) 747-1710
 FAX 747-9665

500W STEREO POWER MODULE (MXP642)

DRAWN BY: C. McEUEEN DATE: 15 JAN 90
 APPROVED: *[Signature]* DATE: 15 JAN 90
 PCB NO. 30-10028 REV: G
 ASSY. NO. 80-05028 REV: J
 REVISION BY: CFM DATE: 28 FEB 91

- 7] ADJUST P1/P51 FOR 6mV (±0.2mV) DROP ACROSS R109/R110 RESPECTIVELY UNIT WARM, 120 VAC LINE.
 8] ADJUST P101 FOR 3.5 Vdc (±0.1 Vdc) AT A102 PIN 2.
 9] ADDED AS SECONDARY OPERATION.
 4. A101 AND A102 ARE 4558 TYPE OP AMPS.
 3. A1 AND A2 ARE MC33078 OP AMPS.
 2. ALL DIODES ARE 1N4003 (EXCEPT AS NOTED).
 1. ALL CAPACITORS IN MICROFARADS (EXCEPT AS NOTED).
 NOTES: UNLESS OTHERWISE SPECIFIED

LAST USED LIST

Design	Ch.1	1-50	Ch.2	51-100	Spec.	101-200
A	2	-	-	-	-	102
C	10	60	60	122	-	122
D	2	52	-	114	-	114
H	-	-	-	4	-	4
JMP	2	4	-	5	-	5
K	1	51	-	-	-	-
L	1	51	-	-	-	-
P	1	51	-	-	-	101
O	11	61	-	-	-	106
OC	-	-	-	14	-	14
R	31	81	-	127	-	127
T	-	-	-	-	-	101
Z	3	53	-	-	-	105

Warranty and Service Information

You may use our specialized service department to repair your MX640/MX842 mixer. Call us Toll-Free 800-854-2235 for your Service number so we will anticipate your shipment. Put the Service Number on the carton and be sure to include a full description of every problem when returning your unit. Pack the amp in its original carton using all its packing material and return it by UPS pre-paid. Units with physical damage, missing parts, or damage from improper service are not serviceable.

• CALL BEFORE RETURNING

If in doubt about a malfunction, please call our service department (toll-free) and we will help you determine if your unit is defective to avoid costly shipping.

• REPAIRS UNDER WARRANTY(1Year)

1. There is no charge for service under warranty. However, shipping is to be paid both ways by the customer.
2. Include a copy of the original invoice to verify your warranty along with a full description of the problem(s).
3. Allow approximately 10 days for servicing.
4. Include a check for \$15 to cover the return shipping charges or we can ship the items back COD for \$15 (the cost of shipping) plus the current COD fee.
5. Speaker Systems: If you require a loudspeaker repair, you should remove the defective component (speaker) to save on shipping charges.
6. To avoid damage, ship only in the original carton (save your cartons—a replacement is \$5 plus \$5 shipping)

• REPAIRS OUT OF WARRANTY

1. After your warranty has expired, call for our flat rate which includes parts, labor and testing to bring your unit up to factory specifications. Allow for return shipping charges.
2. If there are no problems with the unit, 50% of the normal flat rate will be charged for checking the unit out.
3. Allow approximately 10 days for repair and testing, plus shipping time.
4. To avoid damage, ship only in the original carton (save your carton).

• SERVICING IN YOUR AREA

You may select your own service center or have your own qualified technician work on the unit at your own expense. This will not void the warranty unless damage was done because of improper servicing. Under the ONE YEAR WARRANTY, Carvin will ship parts pre-paid to you or your technician providing that the defective part(s) are first returned for our inspection. If you do not have a qualified service person, we ask that you do not involve yourself in servicing the unit.

LIMITED WARRANTY

Your Carvin Professional Series Product is guaranteed against failure for ONE YEAR. Carvin will service the unit and supply all parts at no charge to the customer providing the unit is under warranty.

CARVIN WILL NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN.

This warranty is extended to the original purchaser only and is not transferable. THIS WARRANTY DOES NOT INCLUDE FAILURES CAUSED BY INCORRECT USE, INADEQUATE CARE OF THE UNIT, OR NATURAL DISASTERS. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY.

Carvin takes no responsibility for any horn driver or speaker damaged by this unit. 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. No liability is assumed for damage due to accident, abuse, lack of reasonable care, loss of parts, or failure to follow Carvin's directions. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

In the interest of creating new products and improving existing ones, Carvin is continually researching the latest state of the art audio design methods, and modern packaging and production techniques. Thus, Carvin reserves the right to make changes in its products and specifications without notice or obligation.

Toll Free 800-854-2235

ESCONDIDO FACTORY STORE

1155 Industrial Ave.
Escondido, CA 92029
(619) 747-1710 M-F 8 to 4:30

SANTA ANA FACTORY STORE

1907 N. Main St.
Santa Ana, CA 92706
(714) 558-0655 M-F 10:30-7; Sat 10-6

HOLLYWOOD FACTORY STORE

7414 Sunset Blvd.
Hollywood, CA 90046
(213) 851-4200 M-F 10:30-7; Sat 10-6

