

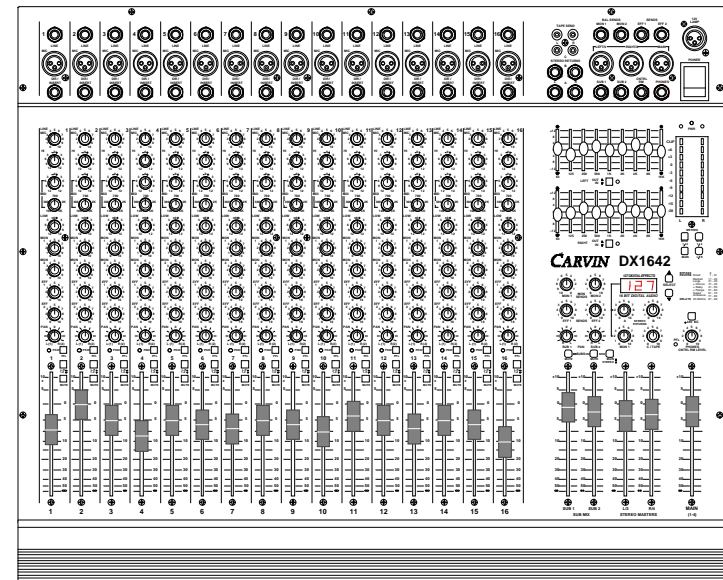
CARVIN

DX MIXER

HELPLINE

1-800-854-2235

8:30 To 4:30 Monday-Friday
Pacific Standard Time
USA



OPERATION MANUAL

Manual No. 96-16420
Revision 1.0
Mar. 1994

Made in USA

CARVIN
619-747-1710

CARVIN

1-800-854-2235

Record the serial number of your DX Mixer in the space provided below:

Serial No. _____ Invoice Date _____

RECEIVING INSPECTION

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

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to reship your mixer, always use the original carton and packing material. This will provide the best possible protection for your unit 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 servicing of your unit. Always check your invoice against the items you have received.

SHIPMENT SHORTAGE. If you find 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.

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

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FOR THE NEW OWNER

Congratulations on your selection of CARVIN products: "The Professional's Choice." Your new DX series console 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 console. 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 console 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 console 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 console accurately and in "plain English". But, if you have any questions that are not answered here, please call us at our toll free number. 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 console.

If you would like to comment on features or performance of your new console, please feel free to contact us. Comments from our customers has helped us improve and further develop our products and our business.

Please, send in the warranty card. Although it is not absolutely necessary to ensure warranty protection, 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 console. So, with this manual in hand you hold the key to proper operation of your new console, and to achieve truly professional results.

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

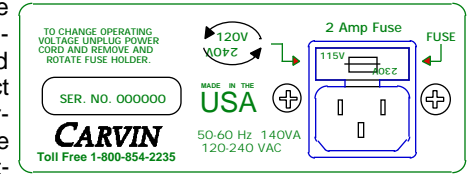
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QUICK START UP

If you're like most new owners, you're probably in a hurry to plug your **DX** 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:

CONNECTING AC POWER TO YOUR MIXER (Non-Powered Models Only)

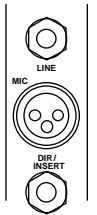
Check and change if necessary the AC Line Voltage to the proper voltage. The AC Line Voltage is listed on the fuse holder in the AC connect receptacle. To change the AC operating voltage remove and rotate the fuse holder so that the desired voltage reads right side up. Use only a grounded (3 prong) power outlet to prevent a shock hazard. This gives the quietest grounding for your mixer. **Powered models do not offer 120/240 voltage switching. They must be ordered for the appropriate line voltage.**



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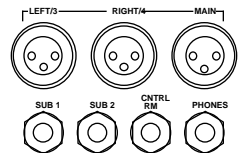
CONNECTING INPUTS TO YOUR MIXER

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



CONNECTING OUTPUTS FROM YOUR MIXER

Connect the **LEFT/3** and **RIGHT/4** balanced XLR outputs to the balanced XLR inputs on your power amp. If your power amp can not accommodate balanced XLR connections, there are unbalanced 1/4" phone jacks on the rear of your **DX** Series mixer (except powered models).



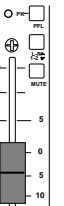
TURNING YOUR MIXER ON

Adjust all faders and gain controls of your mixer to the off position. Adjust all EQ tone controls—**Hi**, **MID** and **LOW** and the 9 Band Graphic EQ to their center positions. Adjust all the Channel **PAN** Assign controls to their center positions. Turn the mixer's power switch to the on position and check that the power indicator LED illuminates. Your mixer is now on and ready to operate.



SETTING YOUR CHANNEL LEVELS

Bring up the level of the **LINE MIC** gain control until the channel peak indicator LED **PK** illuminates, then back off this control by one number. It is normal for the peak indicator to occasionally flash during use. Set the **L-R/1-2** switch to the **L-R STEREO MASTERS**. Bring up the channel fader level to a nominal setting of "0", this is Unity Gain for the channel fader.



SETTING YOUR MASTER LEVELS

Bring up the **STEREO MASTER** faders to the desired volume level, and monitor the levels by depressing the **L/R** button in the **METERS** select block.



CHANNEL FEATURES

1. **LINE INPUT JACK** - This 1/4" phone jack is designed to accept unbalanced line or low level signals. This input will accept both high and low impedance input signals. It is sensitive enough to directly accept the output of a guitar or similar instrument with out the need for external direct input boxes or preamplifiers, yet will also accept line level signals such as pre amp outputs from amplifiers or keyboard systems.

2. **XLR MIC INPUT** - The XLR input is designed for balanced low impedance (microphone) input signals. This allows for long microphone cable runs without significant signal or high frequency loss. The input channel consists of a balanced differential amplifier which works to cancel externally generated noise. The XLR connector is wired as per the industry standard, pin one is ground, pin two is high (positive signal) and pin three is low (negative signal).

Phantom power is available on every XLR microphone input. This will allow you to run condenser microphones directly off of your **DX** Series mixer. A switch located in the master section will allow you to engage the phantom power.

NOTE: Make sure the phantom power is switched off before connecting or disconnecting microphones to your mixer. It is recommended that you allow the phantom power to discharge for about 10 seconds before making any microphone connections.

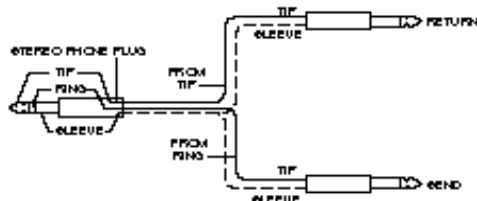
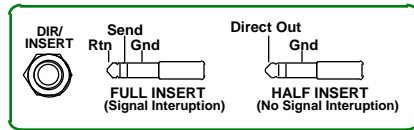
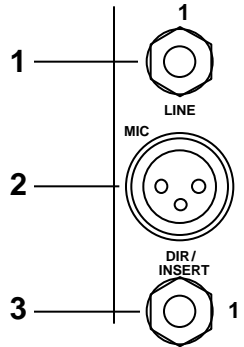
3. **DIRECT/INSERT JACK** - The channel patch jack allows you access to that channel for inserting different effects or signal processing equipment. Usually this jack is used with such signal processing equipment as compressors, limiters, delays, EQ's, etc. These devices can help with many problem situations requiring special attention.

For instance, if you have a vocal input requiring a very precise equalization (tone shaping) you may wish to "patch in" a more elaborate equalizer than the standard tone controls found on the channels. This would allow you the ability to affect that particular channel without affecting adjacent channels.

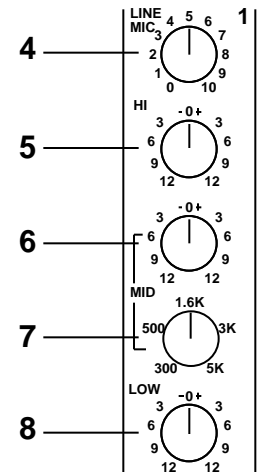
And, you achieve your objective of fine tuning that particular vocal. The jack is configured: Tip to return and Ring to send.

To use the **DIR/PATCH** for a direct channel output, insert the plug only halfway into the jack.

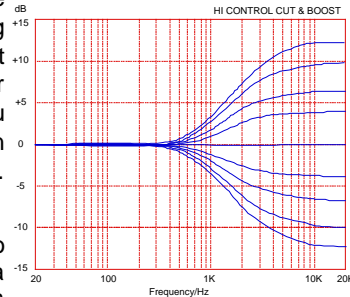
Carvin offers the **AP1** cable which is a 6" adapter which plugs into the **DIR/PATCH** giving a 1/4" jack for the "Send" and a 1/4" jack for the "Receive" portions of the Patch feature.



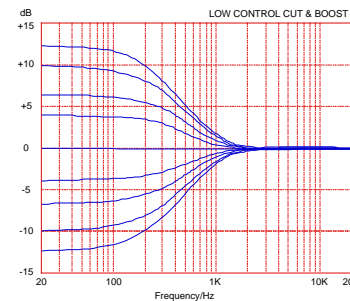
4. **GAIN CONTROL** - The best way to use this control is to start by rotating the gain control fully counterclockwise. Then while source material is active, bring up the gain control until the peak indicator illuminates and then back off until the peak **PK** indicator just stops flashing. This provides the maximum usable gain for the input. If the signal is too strong the red LED peak **PK** indicator will light. Rotate the **LINE / MIC** gain control counterclockwise until the **PK** light just goes out. Setting the input gain controls just below the peak threshold will set the input gain to deliver just the right level to the channel. It is alright if the peak indicator occasionally flashes during use, as it is set to come on at -6dB below clipping. Rotating the **LINE / MIC** gain control excessively counterclockwise beyond the point at which the **PK** light goes out will drop the signal too much and you may not have enough gain, or the noise floor (hiss) may become audible. Once this adjustment has been made you should not need to adjust this control again unless the signal changes at the source.



5-8 **CHANNEL EQ** - The Channel Equalizer is a very precise set of tone controls. The **HI** or "Treble" control is at the top of the Channel Equalizer controls. The **MID** and MID sweep controls are in the center. And, the **LOW** or bass control is at the bottom of this array. Use these knobs to modify the tone of the signal feeding this particular channel. It is most important that you know that the flat (or neutral) setting for each EQ control is "0" or (center detent). If you have any doubt about how to set the them then always set the channel EQ controls flat (i.e. "0").

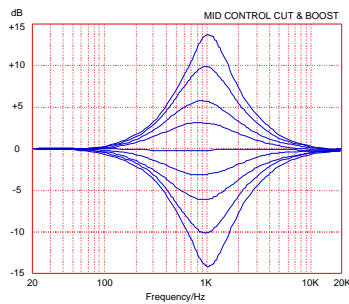


How a tone control works is basically similar to a volume control. The difference being that a tone control literally controls the volume of a specified frequency range. For instance, the **HI**, or treble control, when turned up will increase the volume of the high frequencies (at a 12kHz frequency shelf). Likewise, the **LOW**, or bass, control adjusts the volume at a 80Hz frequency shelf and therefore can be used to either emphasize or quiet the low range of an input signal.

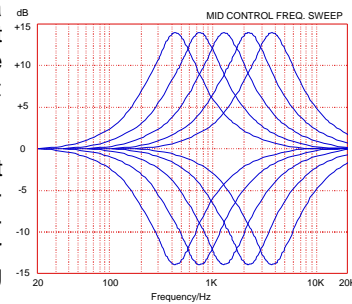


The **MID** has a variable frequency range from 300Hz to 5KHz this allows you to fine tune the mid-range frequencies. This is especially useful as the mid-range is usually the most critical "problem range". The EQ controls allow you to adjust the volume ± 12 dB at their center frequencies. Direct connection of electric guitars usually sound best with full **MID** cut (-12dB) at 500Hz, and full treble "**HI**" boost (+12dB). Experimentation is in order.

Usually these controls are used as a means of compensating for the imperfect response of various microphones in order to achieve the most natural sounding



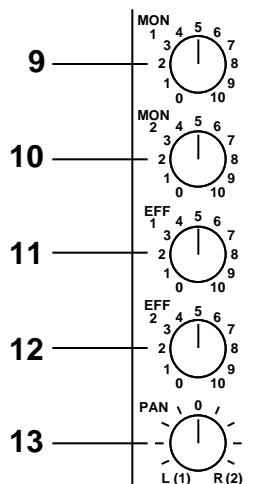
response of the sources you are mixing. If you find yourself making excessive adjustments with these controls you may want to try using either a different microphone or a different mic location. Making an instrument sound as natural as possible through the use of your Channel Equalizer is part of the overall art of professional mixing and recording.



9-12 MONITOR and EFFECTS BUS SENDS - The input channel's monitor and effects send controls are simply volume controls for setting up four "side mixes" which are independent of the main mix. They are used to set up mixes for stage monitors and various effects units. Each channel has two monitor send controls (**MON 1 & MON 2**). These control the volume of that channel's signal in the **MON 1 & MON 2** monitor mixes. The monitor level control on each channel adjusts the relative volume of that channel in the overall monitor mix. So, it is possible that you could set up a monitor mix that is entirely different from the main mix. For instance, you might have a vocal "out front", or louder, in the **MON 1** mix to allow a singer to concentrate on their vocals while feeding a relatively low level of that same vocal to the main mix. Since stage monitors are typically right next to the microphones, they are usually the mix most susceptible to feedback during a performance. Because of this we recommended that you use caution when adjusting monitor levels during a live performance. It takes a certain amount of "feel" to set up a good monitor mix without getting ringing or outright feedback. However, with experimentation and practice you will soon be able to get consistently good monitor mixes. The **MON 1 & MON 2** signals are taken "pre fader" so that the channel fader has no effect on the signal level sent to the monitor mixes.

The **EFF 1** and **EFF 2** controls send the channel signal to two more "side mixes" for use in feeding effects devices such as the internal DSP unit or outboard effects. The "Effects Send" signals are taken "post fader". This means that when the channel fader is reduced, so is the effects signal. The **EFF 2** control feeds the internal DSP system. By raising this control, you will send the channel's signal to the internal Digital Reverb unit. However, the DSP effect will not be heard until the DSP return control (effects return **RTN A**) is raised (see the System Master Section). The internal DSP return is automatically defeated when an outboard processor is plugged in the **RTN A** jack.

13. PAN CONTROL - The **PAN** control allows you to set the relative volume level of each channels send to the **L/3** and **R/4** master stereo outputs or to the **Sub 1** and **Sub 2** Sub Mixes, depending on the position of the **L-R/1-2** selector switch. Panning the channel all the way left will send the signal only to the **L/3** stereo master or the **SUB 1** master; panning hard right will send signal only to the **R/4** stereo master or the **SUB 2** master.



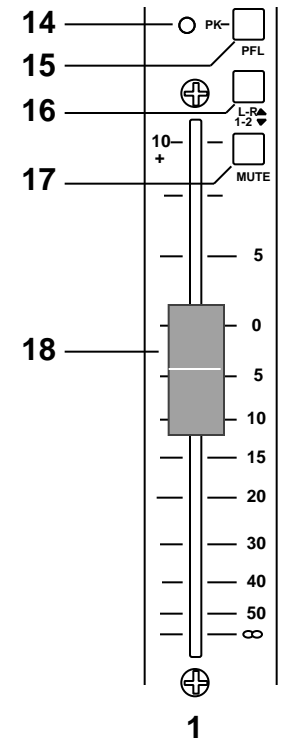
14. PEAK INDICATOR - Use the channel peak **PK** indicator to find the best setting for the **LINE/MIC** gain control. The **PK** warning light will flash whenever a signal exceeds a level of +12dBv anywhere within the channel. This light is used to warn the operator whenever signal levels are so high that there is risk of distortion. Whenever you see the **PEAK** LED flashing you should reduce the setting of the **LINE / MIC** gain control, until the LED just stops flashing. It is just as important to be sure not to set the **GAIN** control too low. Setting the channel gain too low will prevent you from achieving the excellent signal-to-noise performance that the mixer is capable of delivering. Note that the **PEAK** indicator responds to overloading at the mic and line preamps, the channel EQ, and the channel fader amp. Use this indicator to set the **GAIN** controls on all of the channels as your first step whenever setting up a mix. Careful use of these controls will assure you of a distortion, free mix with the lowest possible noise.

15. THE PFL CONTROL - The channel **PFL** ("pre fader listen") switch allows you to solo audition each channel or group of channels to the control room monitors (or phones) without affecting the main mix. The **PFL** switch lets you to hear only the channel (or channels) selected, even though you may be sending many signals through the mixer to the main mix. This is an extremely useful mixing feature that will help you to fine tune the EQ on individual sources, even during a performance. You can also combine solos. This means that you can depress one or more **PFL** switches in order to listen to combinations instruments to be sure their levels are good and that they are blending well. **Whenever you depress a PFL switch the Peak LED will come on to indicate that that channel is soloed.** Also, whenever any channel or sub group is soloed, another master LED will light up in the System Master Section to indicate that you are in a solo mode and that the normal control room feed has been interrupted by the solo system.

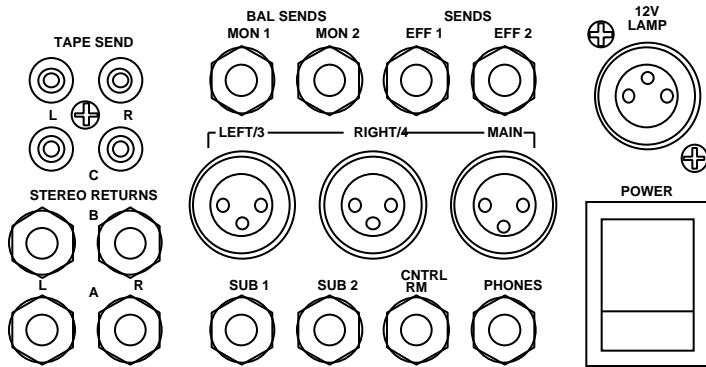
16. CHANNEL ASSIGN SWITCH - This switch gives you the option of assigning a channel to a sub mix or directly to the two-track output. Depressing this switch will assign the channels output to the **Sub Mix** master faders, thus giving you the option of grouping various channels as a side mix to the two-track.

17. THE MUTE SWITCH - When the channel **MUTE** switch is depressed the channels signal is totally removed from the system, including the monitor and effects side mixes. The only control that is not muted is the **PFL**, thus allowing you to audition a channel before folding it into the any of the active mixes.

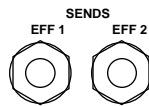
18. THE CHANNEL FADER - The Channel Fader controls the volume of each channel. It is accurately calibrated and adjusts the level of each channel as it is sent to the sub mix, two-track, and effects mixes. A "normal" setting for the channel faders would be between about -10 and +5 on the fader markings. This means that usually you will be operating your channel faders relatively high compared to your **2 TRACK** faders. Keeping the channel faders high will help assure the most quiet performance and best overall sound from your console.



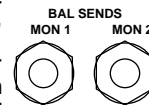
MASTER SECTION CONNECTORS



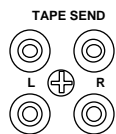
1. **EFF1 AND EFF2 SENDS** - These jacks are used to drive out-board signal processors such as digital delays, reverb units, chorus effects, etc. The Effects Send, **EFF1** and **EFF2**, jacks are used as an output from your console to drive the input of the effect you desire to use. By adjusting your Channel **EFF1** and **EFF2** Controls, and Master Section **EFF1** and **EFF2** Controls of your mixer you can vary the output of the Effects Send to drive your effect with as much, or as little signal as required for optimum performance.



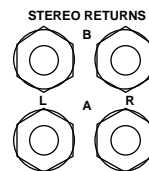
2. **BALANCED MONITOR SENDS** - These two 1/4" phone jacks deliver a Balanced line level signal to drive the inputs of your monitor power amps. For optimum performance use balanced 1/4" phone (Tip/Ring/Sleeve) patch cables. Using balanced connections will reduce cable hum and will allow 6dB more gain when driving balanced inputs. By adjusting your Channel **MON1** and **MON2** Controls, and Master Section **MON1** and **MON2** Controls of your unit you can mix and vary the output of the Monitor Sends to drive your power amp to the desired volume level.



3. **TAPE SEND** - The TAPE SEND RCA connectors are "pre-amp" outputs from the 2-Track Master controls. These line level outputs may be used to drive a tape deck for stereo recording while simultaneously using the **LEFT/3** and **RIGHT/4** XLR outputs to drive your main power amps.

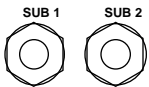


4. **TAPE RETURN** - These RCA connectors are pre-amp inputs to the **RTN C TAPE** control. Use these jacks for playback of stereo recordings. Use the **RTN C TAPE** to control the level of this return to the 2-Track buss.

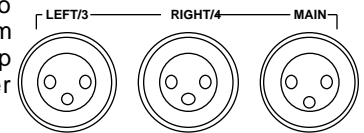


5. **STEREO RETURNS** - These 1/4" phone jacks are used to receive the outputs of your effects devices. **RTN A** is used for the optional internal DSP effects unit. By inserting into **RTN A** with a 1/4" phone plug you automatically disable the internal effects unit.

6. **SUB 1 & SUB 2 OUTPUTS** - These are your direct sub-mix sends off of the **SUB 1 & SUB 2**, SUB MIX faders. By using these outputs in conjunction with the **LEFT/3 & RIGHT/4** XLR outputs you can setup four independent sub mixes for multi track recording.

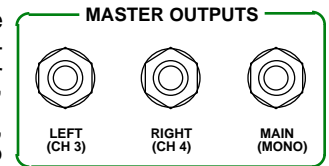


7. **LEFT & RIGHT OUTPUTS** - These two XLR jacks are balanced line level outputs from the 2-Track Master controls. These pre-amp outputs should be used to drive your power amps for your main house system.

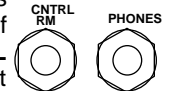


8. **MONO MAIN OUTPUTS** - This balanced XLR output contains the mix of your DXs four sub mixes. Use this output to deliver a mono output to your power amps when running mono systems.

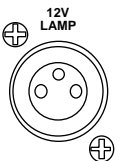
12. **AUXILIARY MASTER OUTPUTS** - There are an extra set of auxiliary master outputs located on the back panel of your **DX** series mixer (non-powered models only). These are 1/4" unbalanced equivalents to the XLR **LEFT/3**, **RIGHT/4** and **MAIN** outputs located on the top panel.



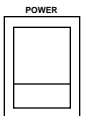
9. **PHONES & CONTROL ROOM** - Use these two stereo jacks to monitor the signal at various points in your mixer. The level of this output is controlled by the **PHONES CNTRL RM LEVEL** knob in the master section above the **MAIN** fader. To select what you are listening to depress one or more of the selector switches directly below the VU METERS.



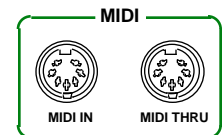
10. **12V LAMP XLR CONNECTOR** - The XLR connector labeled **12V LAMP** (located at the very top right of the system master) is a receptacle for a XLR type 12 volt Mini-Lamp. This light is used to provide illumination for the console when it is used in low light conditions. It operates on 12 volts and provides an excellent source of light where house lighting is kept low. The mini-light is offered by CARVIN and may be purchased for \$25.00 (specify Model **GX12V**).



11. **POWER ON/OFF SWITCH** - This is the main AC power switch for your **DX** mixer. When you flip this switch to the on position you should notice that the power indicator LED illuminates. It is a good practice to bring the main faders all the way down before turning the console on.



13. **MIDI IN & MIDI THRU** - There are a set DIN type MIDI connectors located on the back panel of your **DX** Series mixer. These connectors give you the option of controlling the internal DSP Multi Effects processor via MIDI.



MASTER SECTION FEATURES

1. THE VU METERS - The VU meters display the relative output signal levels of various sections of your **DX** mixer. A group of four meter selector switches are located at the VU LED array. One or more of these switches can be selected to monitor the desired outputs. The **PFL** switches in the channels of **DX** mixer override the meter selector switches, so anytime the **PFL** indicator LED is on the meters are displaying the **PFL** level.

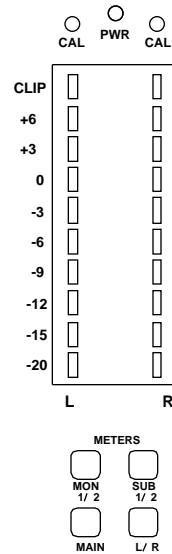
It is important to realize that there is no single correct reading for the VU meters. Rather, the most important use of the meters is to display relative signal levels. You will often glance at the meters simply to determine if there is a signal present at an output. It is entirely possible to have very little or no meter movement but be producing a perfectly acceptable signal level. In church applications there are many occasions when the VU meters will be just barely moving, but a perfectly acceptable signal level is being reached. This is normal, and the VU meter is simply indicating that you are using very little of the available output level of the console.

On the other hand, a rock band may produce levels that would indicate from -6 to +3 VU. Although it is perfectly normal for high level audio signal peaks to indicate on the meter up into the "orange" +3dB zone, you should try to keep the meter reading comfortably at or around "0" VU as a maximum value.

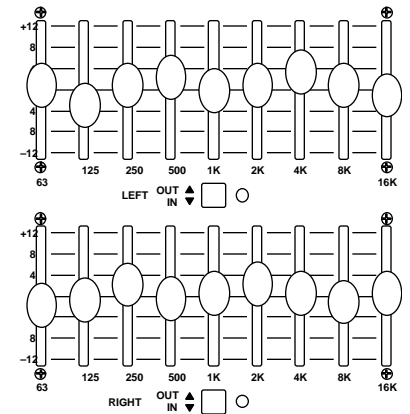
For recording applications the meters and their calibration are more important than for sound reinforcement use. This is because you usually want to squeeze as much signal onto tape as possible without saturating (distorting) the tape. You normally want the meters on the mixer to be calibrated the same, and therefore to read the same, as the meters on the recorder simply to allow you to keep your eyes on the mixer and not have to watch the meters at the recorder all the time.

On the powered version of the **DX** mixer the red **CLIP** indicator led acts as a power amp clip indicator, this serves as a guide to the maximum output level of the board. **Note: if the red CLIP meters come on and stay on, and you are getting no output from the internal power amps, your DX mixer has gone into its protection mode.** The cause of this is usually one of two problems. The amp may be running too hot, this can happen if there is poor ventilation through the intake and exhaust cooling vents. Check for obstructions, and allow at least 3" of free air space around vents. Turn the mixer off and allow it a few minutes to cool down. The other common cause for the amp to protect is if it is connected to shorted speaker cables or an inappropriate speaker load. The internal FET amps can safely handle speaker loads down to 4Ω. If your amp goes into protect mode for a shorted cable turn the mixer off, locate and replace the bad cable and then turn the mixer back on.

The meter calibration as shipped from the factory is +4db at the balanced outputs equals a "0" VU indication on the LED meters. The meters can be calibrated to your tape deck or other equipment in your studio by inserting a small flat blade screw driver into the **CAL** adjustment holes and rotating the level trimmers to the desired level.



2. THE GRAPHIC EQUALIZERS - Each **DX** mixer is provided with two nine band graphic equalizers. Each graphic EQ has a bypass switch and LED status indicator located below it. The LED is illuminated when the graphic EQ is switched into the signal path. The graphic EQ's are dedicated to the L/3 & R/4 two-track outputs of the mixer.



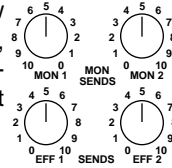
The 9 band Graphic Equalizers in the **DX** mixers provides a wide degree of tonal flexibility. To properly use the Graphic EQ (equalizer), set all sliders to their center position. With the sliders at this position, there is no effect on the audio signal. When you raise the slider above the center position, 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 bands.

Frequency: The 63 Hz slider is used 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 notes.

Adjusting: It is recommended that all sliders are 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. 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 a big difference. If you raise or lower all sliders at the same time, the EQ will act like a volume control because you are affecting all frequencies. Be careful with your adjustments, because you are affecting the overall sound.

The graphic EQ's are mainly used to "equalize" the response of the main speakers to provide the best sound for a given room. You are able to switch the graphics in or out of your main mix for an instantaneous evaluation of how they are affecting your main speakers by pressing the **IN/OUT** switch located just below the equalizers.

3. THE SENDS MASTER CONTROLS - Located just below the graphic equalizer are four controls labeled **MON 1**, **MON 2**, **EFF 1**, and **EFF 2**. These are the **SENDS** master level controls. The **SENDS** master level controls set the overall output level that is sent to the monitor and effects output jacks.

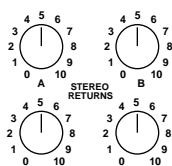


The internal DSP effects unit is controlled by **EFF2** send. Adjust this control to set the input level on the DSP. For best results set this send as high as possible, this will give you the lowest noise situation. If this control is set too high digital clipping (grunge) may occur, this is a very un-musical sounding form of distortion that must be avoided at all cost.

Monitor amp input level controls should be set at maximum (or at least half maximum). The overall volume of the monitor speakers is then controlled from the monitor **SENDS** master control(s) at the mixer. In general you may require two or even more separate monitor mixes to satisfy the needs of the performers. (For example: The singer usually wants to hear mainly vocals in his monitor mix but the drummer may want to hear more bass and less vocals in his monitor mix.)

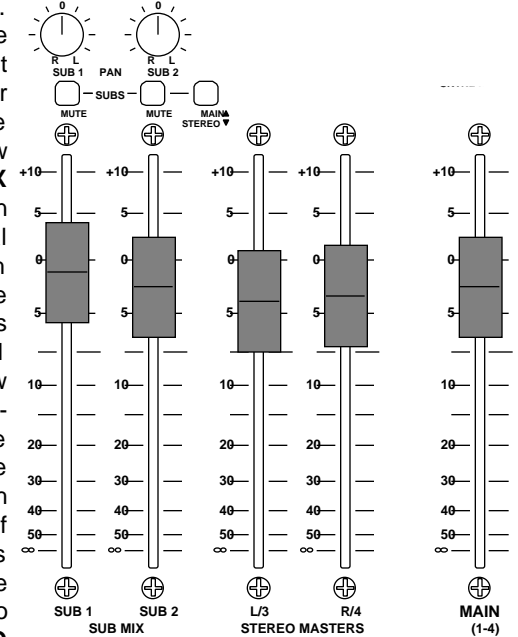
Effects units may or may not have an input level control. If your unit has an input level control it should be set relatively high (at least half of the maximum setting) when used with the DX Series mixers. Then you can control the overall input level at the effects unit from the appropriate **SENDS** master control.

4. THE RETURNS MASTER CONTROLS - All DX Series mixers provide three stereo return inputs. The returns are labeled **RTN A**, **RTN B**, and **RTN C/TAPE**. Each **EFFECTS RETURN** knob adjusts the level of that effects signal that is returned to the mix. Use the **EFFECTS RETURN** controls to adjust the overall levels of your effects as they appear at your two-track or mono mix. The **STEREO A**, is the return for the internal DSP effects unit. This return controls the level of the signal as it leaves the internal digital effects unit. If you wish, you can override the internal DSP return and use the **RTN A** return for an outboard effect return simply by inserting a plug into the **EFF RTN A** jack. When using the built-in Digital Reverb it is best to set the **EFF 2** send level at the channels and at the **EFF 2** send master fairly high (at least half way to three quarters up) while keeping the **RTN A** control less than half way. This will result in the lowest noise. The control **RTN A/MON 1** allows you to mix a portion of the returned effect in **RTN A** into the monitor feed **MON 1**. Experiment with your effects devices and the internal DSP system and you will no doubt find new ways to do things. It's a lot of fun mixing in delays, reverbs, and other effects and can really spice up a mix. So, experiment and have fun!



5. THE SUB MIX - The **SUB 1 & SUB 2** sub mix controls allow you to mix certain channels down to a sub mix before they are mixed into the stereo two-track or the mono main masters.

The sub mix faders control the volume level of sub group as it is mixed down to **L/3 & R/4** or mono Main masters. Mute switches are provided to allow you to remove the **SUB MIX** feeds to the masters. You can audition the program material in the sub groups through headphones by selecting the **SUB 1/2** switch in the meters selector block. The **SUB 1** and **SUB 2 PAN** controls allow you to control the stereo imaging of your feed to the stereo masters. The **MAIN/STEREO** selector switch is a very important feature of your DX Series mixer. This switch allows you to direct the output of your **SUB MIX** to either the **L/3 & R/4 STEREO**



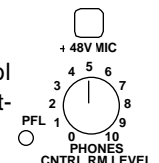
MASTERS or to the **MAIN (1-4)** mono master. To use your mixer as a four out board, set this switch to the MAIN position. This will leave the **STEREO MASTERS L/3** and **R/4** unaffected by the **SUB 1** and **SUB 2** mixes thus giving you true four out capabilities.

6. THE STEREO MASTERS - The **L/3** and **R/4** faders allow you to set the volume levels of the **LEFT** and **RIGHT XLR, TAPE SEND**, and auxiliary 1/4" phone jack outputs. These faders also set mix level to the mono **MAIN** master fader.

7. THE MAIN MASTER - The **MAIN** master fader contains the summed signals of the **SUB 1**, **SUB 2**, **L/3**, and **R/4** sub group faders. The **MAIN** controls the mono feed to the **MAIN** out XLR and the auxiliary 1/4" **MAIN** out jack.

8. THE PFL INDICATOR - The **PFL** indicator LED lights to indicate that a channel or group of channels are in **PFL** mode at this time.

9. THE PHONES & CONTROL ROOM LEVEL - This control allows you to set the levels at the **PHONES** and **CNTRL RM** outputs to the desired volume.



10. PHANTOM POWER - This switch turns on the microphone phantom power, for supplying a bias voltage for condenser microphones. The phantom power will not damage properly connected dynamic microphones.

INTERNAL DSP EFFECTS PROCESSOR

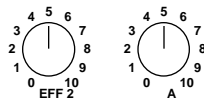
Your **DX** Series mixer can be purchased with the optional internal Digital Effects Processor. This section will describe how to use the DSP unit, and how to configure it for MIDI operation.

1. Loading a Program (Effect): To select a program manually use the up or down buttons to scroll through the available effects. If you press and hold either button, after a few seconds the scrolling rate will increase by ten times. When you are close to the desired number stop pressing the button then step through the last few program number to your desired program. The scroll rate automatically returns to the slow speed when the button is not pressed and held.



The last program number selected will be saved in non-volatile memory when power is removed. You do need to wait approximately 30 seconds after changing the program number before removing power for that number to be saved. Under normal use this will not be a factor because you will be using the program selected before removing power.

2. Setting Audio Levels: In order to get the best performance out of the internal Effects unit it is important that you properly set up Send and Return audio levels to and from your unit.

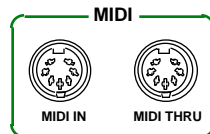


Turn all **EFF 2** send levels and **RTN A** level all the way down (fully counter-clockwise).

Set channel gains to normal operating levels as described in the channels features section of the manual.

Set the **RTN A** level to about 7. Set the **EFF 2** master send level to about 7. Turn up each channel **EFF 2** send that will be used until the desired mix is heard. If digital clipping is heard, reduce the channel **EFF 2** send level until the clipping (grunge) is gone. Use the **RTN A** level to vary the amount of effect needed.

3. MIDI CONTROL: To use a MIDI controller to change effects programs, connect the MIDI OUT from the MIDI controller or footswitch to the **MIDI IN** on the back of your **DX** mixer. A **MIDI THRU** is provided on the mixer for daisy chaining MIDI devices. Set the controller or footswitch to the desired MIDI channel number (1-16). Now select the same MIDI channel number on the mixer as follows. Press and hold down both the up and down buttons together. The display will change to show C01 telling you that the MIDI channel is CH1. Use the up or down buttons to scroll to the desired Channel. When done leave the buttons alone for approximately 10 seconds and the display will change back to the last program number used. The MIDI channel number you selected is now saved and will remain the same until you change it, this information is stored in non-volatile RAM so it is saved even after removing power from the mixer. You can now use



a MIDI controller or footswitch to change programs. Program number 001 is a bypass or muted output so you can leave the effects settings the same even when you don't want effect output. This makes programming an entire shows effects easy without loosing effects send and return settings.

4. About the Preset Programs:

0 Bypass: No audio output from DSP.

1-30 Delays: The delays range from simple 30mS to 550mS delays, and repeats from 0 to infinity.

31-60 Reverbs: These natural sounding reverberation effects range from a short plate to a long cathedral. The Percussion Plate is a very dense effect, perfect for kick or snare drums. The Vocal Plate is more open with lots of sibilance on the tail. The Room settings are even more open, replicating rooms from a practice studio to a concert hall.

61-90 Reverbs + Delay: These are combinations of the two above effects to vary the amount of pre-delay and echo density.

91-110 Chorus: A two voice stereo chorus. They vary in delay times, number of echoes, speed and amount recirculation. Some are followed by a short reverb.

111-128 Flange: A stereo flange with variations of depth, delay and speed. Some follow a short reverb.

Once you have used the DX DSP processor, you will discover its superb performance, and uncompromising quality. Unlike with other DSP units, you will not experience "Tail Flutter" with your DX DSP.

SETTING UP YOUR SOUND SYSTEM:

In this section you will be given a brief overview of what connections you will need to make in hooking up a sound system using your mixing console. You will be shown some of the different set-ups possible, and given some basics on how to mix live sound. If you are new to using mixing consoles you should find this section both informative as well as enlightening, and we hope you will find this information a “head start” in operating your sound system properly. As always, experimentation is the key to success. Remember, after you have been given the basics and you understand all the controls, how you use them will ultimately expand your creativity as a sound system operator.

1. Input Connections From the Stage

For live sound reinforcement (“PA” Sound), the input signals to the mixer will come from the microphones and instruments on stage. Each microphone or instrument you wish to be amplified by the “PA” system must be connected to one of the mixing console inputs. It is preferred to have as many of the stage instruments as possible plugged into your mixing console. This allows you the best overall volume control of each of the instruments as they are amplified by the “PA” system and heard by the audience.

Many times the mixing console will be located a distance from the stage. This allows the performance to be monitored and mixed from the audience's perspective. Monitoring at a distance from the stage usually means employing a “Snake” cable (available from CARVIN). Each of the microphones and instruments are plugged into the snake box at the stage and the snake cable carries all these signals out to the mixer. There they are plugged into the console inputs. All snake cables are numbered, both on the snake box and the cable, so that you can keep track of which microphones are being plugged into which channels. It is a good idea at this point to label each of the console channels according to what instruments it will be controlling. This can be done with masking tape (Scotch brand #230 drafting tape) or another suitable ‘light’ stick tape. The tape will give you a surface to write on, to properly label the channels. The extruded carrying handle of your DX mixer has a cutaway designed to accommodate 3/4” masking tape. The (XLR) balanced low impedance format will ensure you the best possible performance and lowest possible noise when operating with long cable lengths, such as a snake. However, many times you may have a single ended output (1/4 inch phone plug type) from an instrument that you may need to plug into the snake or directly into the “LINE” input of your console. This can be accomplished by a high to low impedance adapter (available from Carvin or other electronics outlets). Due to the versatile capabilities of the differential input circuitry in the DX series consoles, you may special wire a cable to have an XLR type connector at one end and a 1/4 inch phone plug at the other. Connect pin #3 of the XLR jack to the tip pin of the 1/4 inch phone plug. XLR pin #1 connects to the shield or ground of the 1/4 inch phone plug and XLR pin #2 is not utilized.

Before performing any of these types of special connections, we recommend that you first consult the manufacturer of the instrument or device you will be making this special connection to. Ask if the device will perform properly with the modifications you have in mind. If you are at all in doubt, we recommend using a high to low impedance adapter (as mentioned before) or a “Direct Box.”

Once you have connected all the input cables to your console, properly label the channels. Verify that all the connections are good and that all mics are connected properly. The next step is connecting your main amplifiers and speakers.

2. Connecting the Main Amps and Speakers

Any of the CARVIN DX Series consoles can be used for Mono or Stereo sound reinforcement. The mixer model numbers describe the particular models features. The number represents the (number of channels) X (number of outputs) format. Therefore the DX1642 console for instance is a (16 channel) X (4 output) format. This means that 16 input channels may be mixed to (4) outputs or “stereo”, which subsequently may be summed together to feed a mono output. For the sake of simplicity we will show how to hook up a “stereo” system here.

3. Powered Mixers and Non-Powered Mixers

You will be using the “LEFT OUT” and “RIGHT OUT” XLR jacks as the main pre-amp outputs to drive your power amplifiers. These 2 balanced output jacks will provide the lowest noise levels for signal output. The same snake that was used to feed the signals from the stage to the mixer usually has provisions for sending output signals from the mixer to the stage. You may plug the (pre-amp level) LEFT OUT and RIGHT OUT outputs from your mixer into the snake cable. This will send the signal to the power amplifiers, usually placed on stage. The power amplifiers will then drive your speakers. The LEFT/3 and RIGHT/4 1/4” phone jacks located on the rear panel may be used as auxiliary main pre-amp outputs (Non-Powered models only).

Once the snake cable, or alternate means of cabling, carrying the signal has reached the stage, the connections are made to the power amplifiers. The power amp outputs can then be connected to the speakers, using a heavy gauge wire. A 16 gauge (AWG) or heavier non-shielded wire is recommended.

Note: Your speaker cables are the only ones that should not be shielded. All other cables in your system that carry ‘Mic’ and ‘Pre-amp’ level signals should be shielded. To have shielded cables connected to the power amp outputs of your amplifiers could result in damaging the amplifier circuits.

4) Powered Mixers

With powered mixers (i.e. mixers with built in power amplifiers) you cannot take the LEFT and RIGHT amplifier outputs and feed them through the snake to power your speakers on stage. Doing this could result in damage to the power amp in the mixing console. Only ‘Pre-amp’ signals can be returned to the stage through the snake. Since you cannot send speaker level signals up the snake you will have to use separate speaker cables. These cables will carry the signal, from the powered console outputs, directly to the speakers. A 16 gauge(AWG) or heavier non-shielded wire is recommended. Keep in mind that the minimum loading for LEFT and RIGHT amp outputs is 4Ω per side.

5. Connecting the Monitor Amps and Speakers

In a typical setup for live sound the “DX” series MON1 and MON2 monitor (auxiliary) busses will be used to provide monitor mixes for the musicians on stage. The MON1 and MON2 output signals will be sent to the stage just like the main output signals. The signals are sent to the stage either by using a direct shielded wire from the MON 1 and MON 2 outputs or by using the snake. The signal can now be plugged into the inputs of the monitor amplifiers that will be powering the monitor speakers.

6. Monitoring at the Mixer

The DX series headphone output can be used to allow the sound mixer to solo individual channels, to set up the stage monitor mixes, and to audition either the two-track or mono main outputs. Whenever a “PFL” switch is selected, all the other signals, regardless of what has been selected in the meters select group, will no longer be heard. For instance, if a PFL switch is depressed in a channel, the PFL LED illuminates to indicate that the solo signal has replaced the normally selected signal as the feed to the phones. When all channel solo switches are released the phones feed will automatically switch back to the signal selected at the CTRL RM and PHONES jacks. Usually isolating or ‘closed’ type headphones are the best choice, because they help block out some of the sound from the main speakers. This allows you to better listen to what you have selected from your console oblivious to the surrounding ambient noise.

For phones monitoring of the the main outputs, turn the PHONES CTRL RM LEVEL knob all the way down, and plug a pair of stereo headphones into the PHONES jack next to the power switch. Be sure your headphones are 100 ohms or greater for proper operation. Depress one of the switches in the meters select group, located below the VU meters. None of the other switches should be depressed. Depressing the other switches will not harm anything, however, it will not allow you to concentrate on a single specific selection. Raise the PHONES CTRL RM LEVEL control for a comfortable volume in the headphones.

7. Setting Up the Main Mix

In order to set the main mix, you need to first have the input channels adjusted properly. The most important control on the input channel is the GAIN control. This control determines the overall ‘volume’ of the signal sent to the “ASSIGN”, from each individual channel. You should always set the gain control just under the threshold of where the peak “PK” indicator comes on. As a rule, the channel “PK” light should not be flashing if the channels are set up properly. Slight flashes from time to time are OK and indicate that you have probably set up your channels properly. The “PK” LED light flashes 6dB before actual output clipping (distortion) occurs so there is a safety margin. You do not have to worry about brief signal peaks escaping detection because a special peak circuit makes sure even the shortest over- level peaks will result in a strong flash by the “PK” LED. If the GAIN controls are set too low, then there may not be enough signal available at the channel fader when you are adjusting the SUBS’ or main 2 TRACK

mix. If the channel is too quiet after you have set up the main and monitor mixes, you will need to raise the channel GAIN controls to get more level. Be careful when you raise a channel GAIN control during a performance because you will be increasing the volume at the SUB’s (if used), 2 TRACK mix and the MON1, MON2 mix, and you may risk feedback, especially at the monitors!

With the input channel GAIN controls set properly, you are now ready to set up the Master Section mix. Start with a couple of channel faders at the nominal (0) setting and raise the “2 TRACK” faders to get the desired volume over the main speaker system. You should now hear combined audio from all the channels with raised faders. Proceed to adjust the channel faders to create the mix of input signals that you would like. Try to keep the channel faders working in the upper half of their range of travel. The faders of unused input channels should be left down so that they do not contribute noise to the mix. If you are listening to a stereo (2 TRACK) mix, then you can use the Assign “PAN” controls to pan the individual channel signals anywhere between far left and far right. If you are mixing to a “mono” output, the pan controls will have no effect except for a slight volume loss at either far left or far right extremes. For mono mixing the channel pan controls are usually set at center (0). During Mono mixing, you will probably want to use the “MAIN” volume control, located at the far right of the board. This control adjusts the volume of the “MAIN” XLR and 1/4” phone jacks.

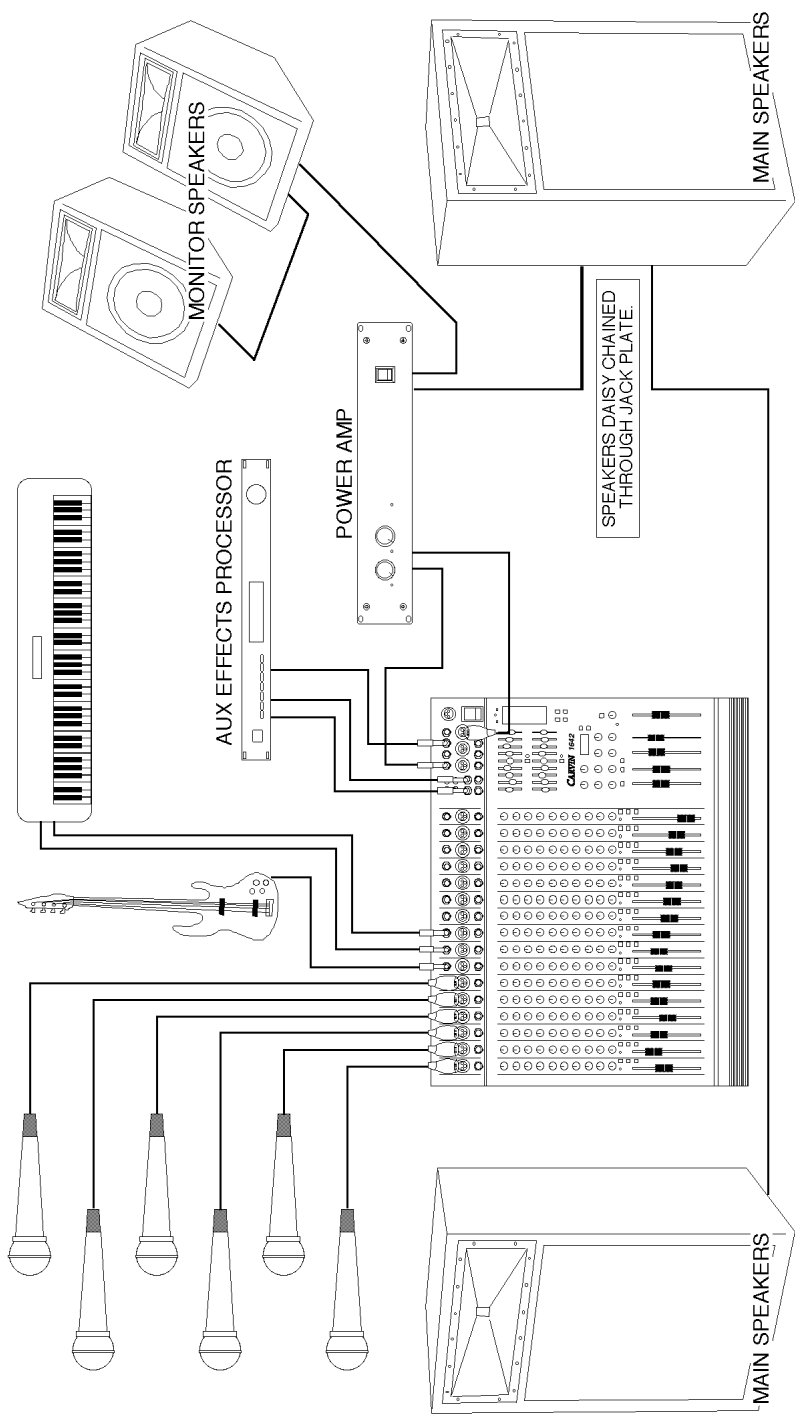
8. Setting Up the Monitor Mixes

Each input channel of your console has knobs labeled “MON 1” and “MON 2”. These knobs allow you to adjust the volume each channel sends to the desired monitor. They allow you to send two different monitor mixes at levels independent of your main mix. These two mixes (MON 1 and MON 2) are independent of each other and the main two track mix. The overall level of the MON 1 and MON 2 mixes is set by the two master “MON 1” and “MON 2” master knobs located on the Master Effects Strip in the SENDS section.

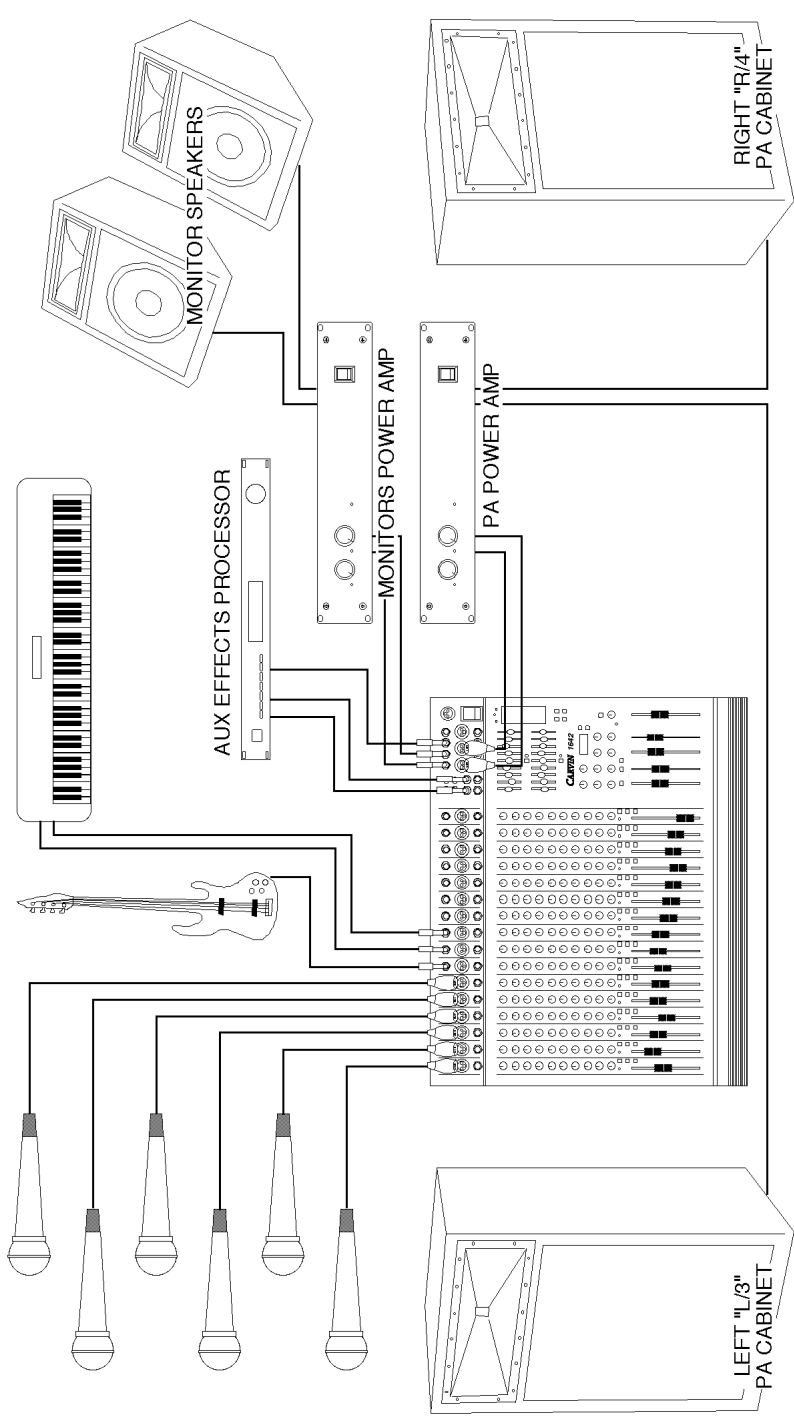
The monitor send signals, from each input channel, are ‘post’ the channel equalizer. This means the channel equalizer will affect both the monitor and main mix. Also, the monitor controls are ‘post’ the channel LINE point, which means that any effect you have patched into the channel will affect both the monitor mix and the main mix. Notice, the monitor controls are not affected by any of the faders. This means that the channel volume setting, controlled by the channel slider, will not affect the monitor volume. Your monitor volume levels are completely independent of your main mix.

The MON 1 and MON 2 mixes can be auditioned in the headphones by depressing the “MON1/2” switch in the METERS select group. Remember that if a PFL switch is depressed, the PFL channels selected will always override the signal feeding the phones.

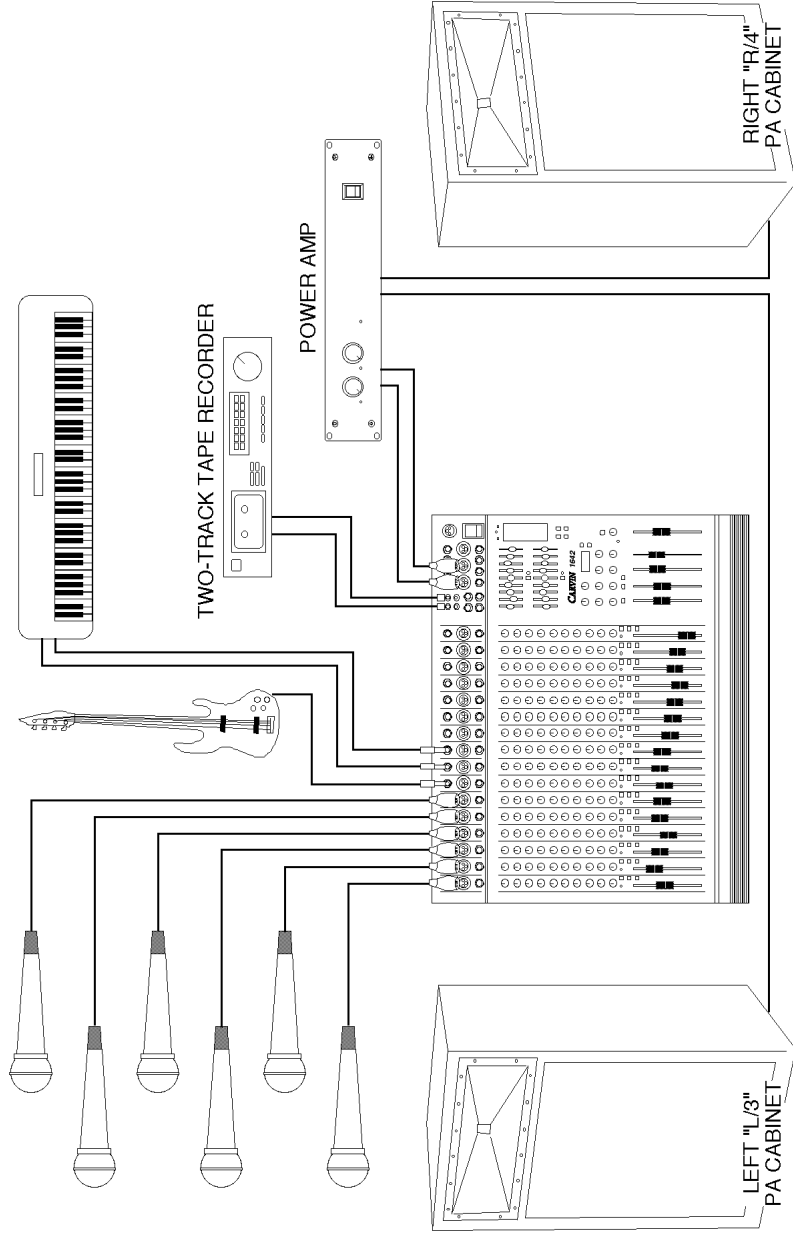
MONO PA:



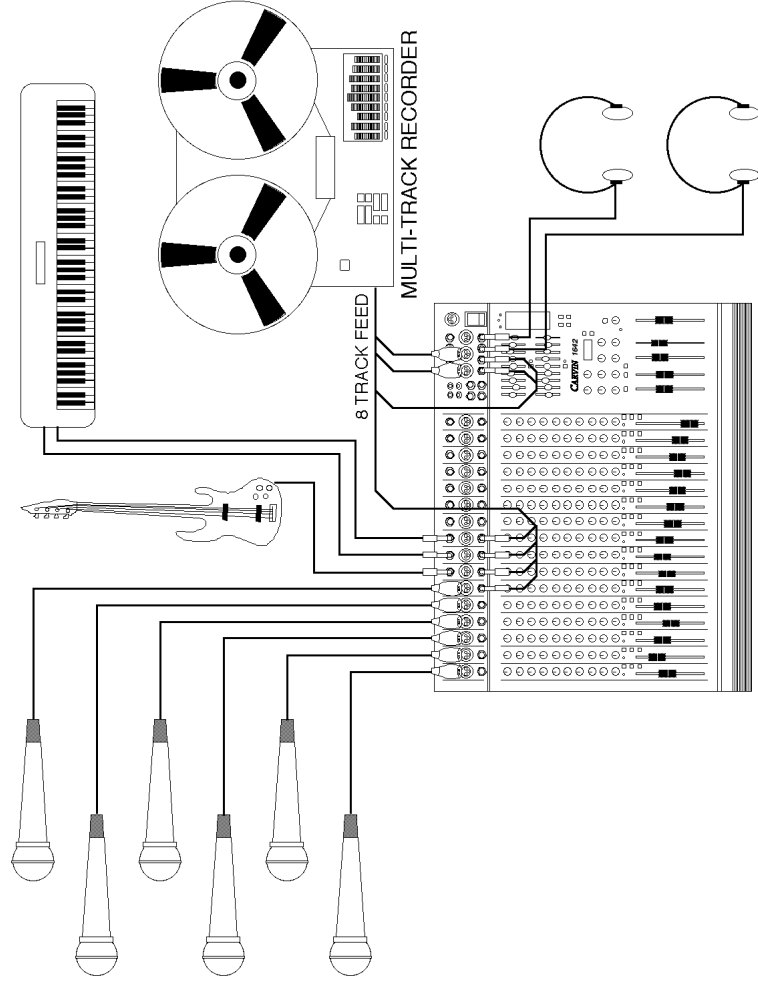
STEREO PA:



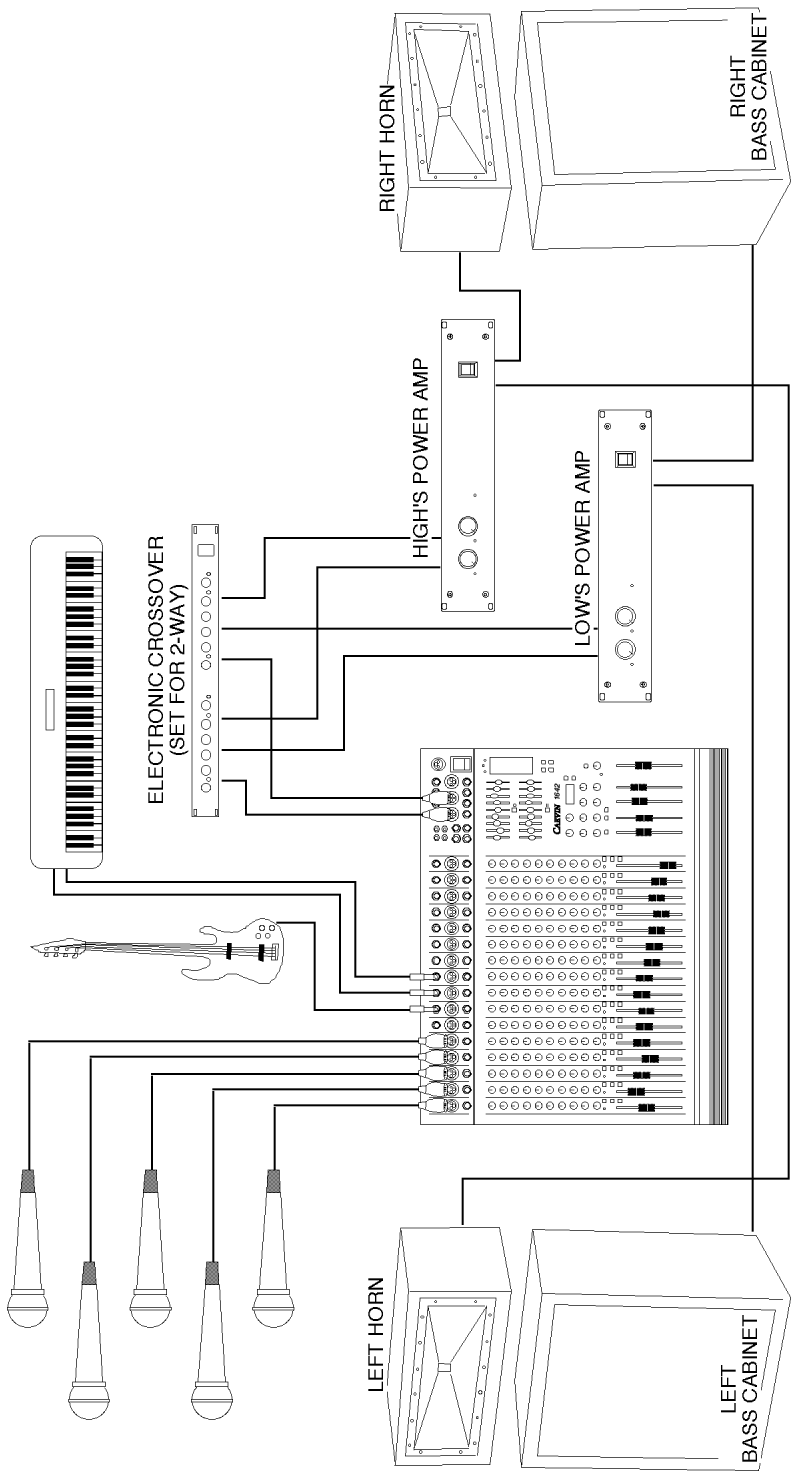
STEREO PA + RECORDING:



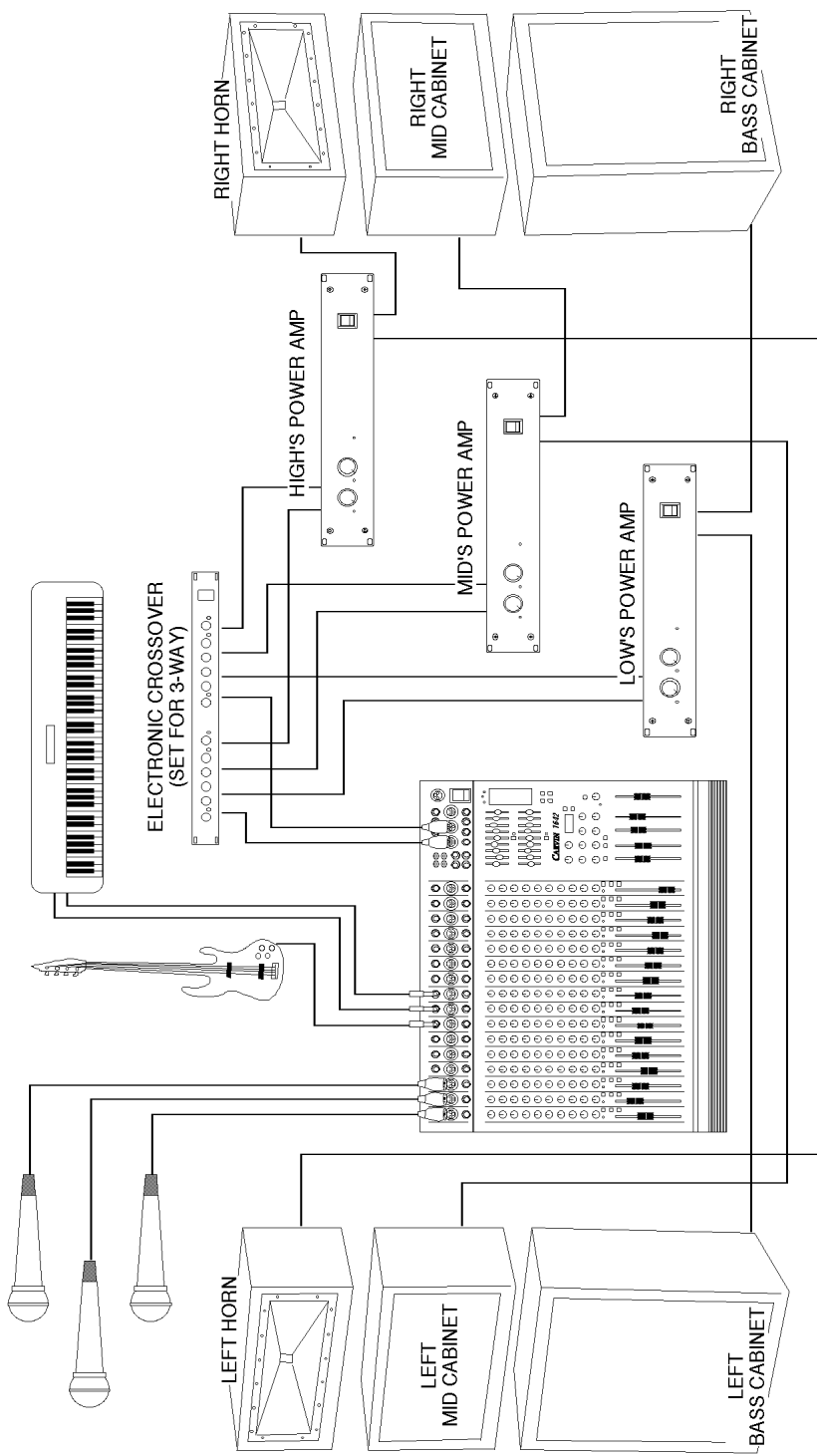
MULTI-TRACK RECORDING:



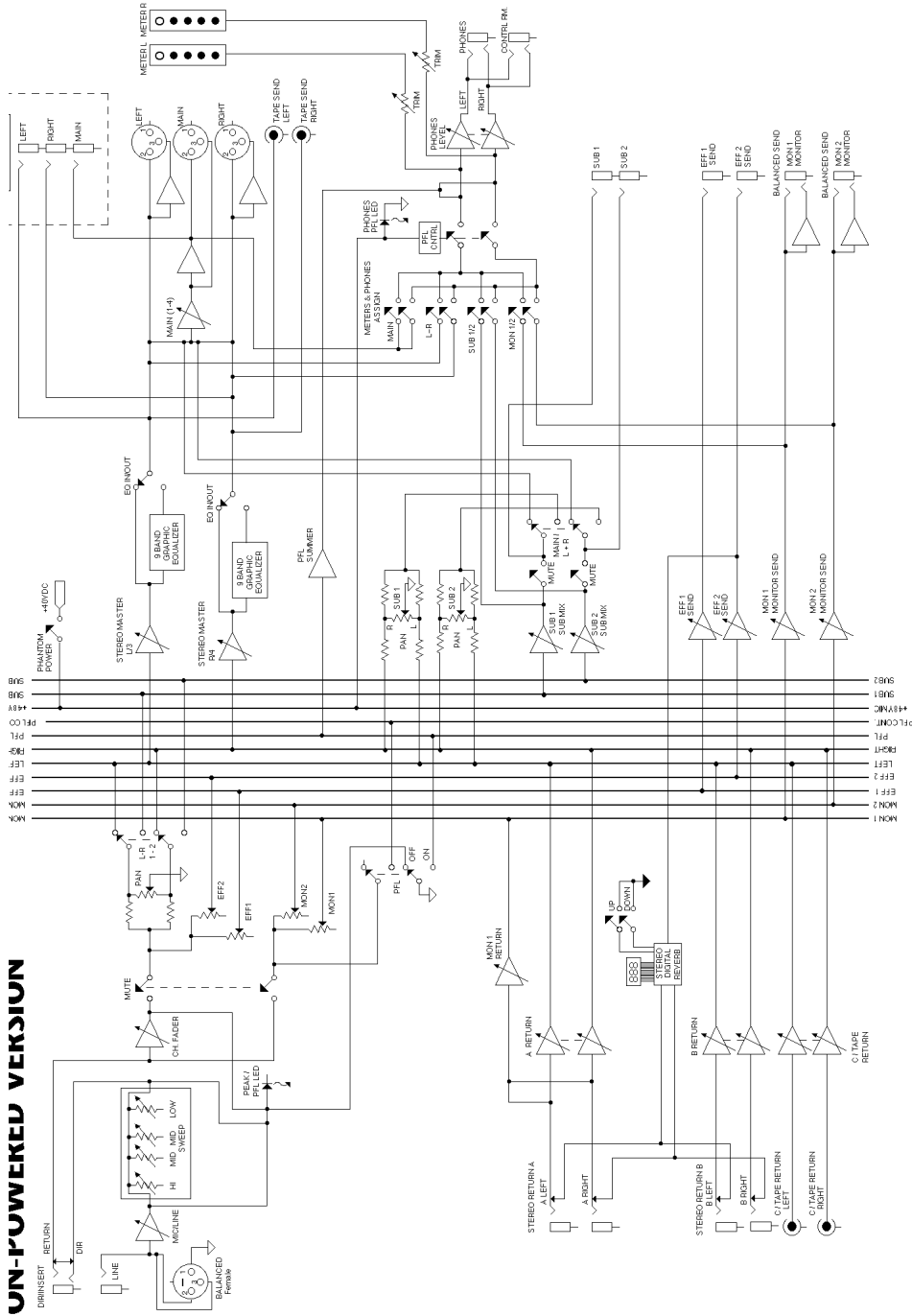
BI-AMP PA:



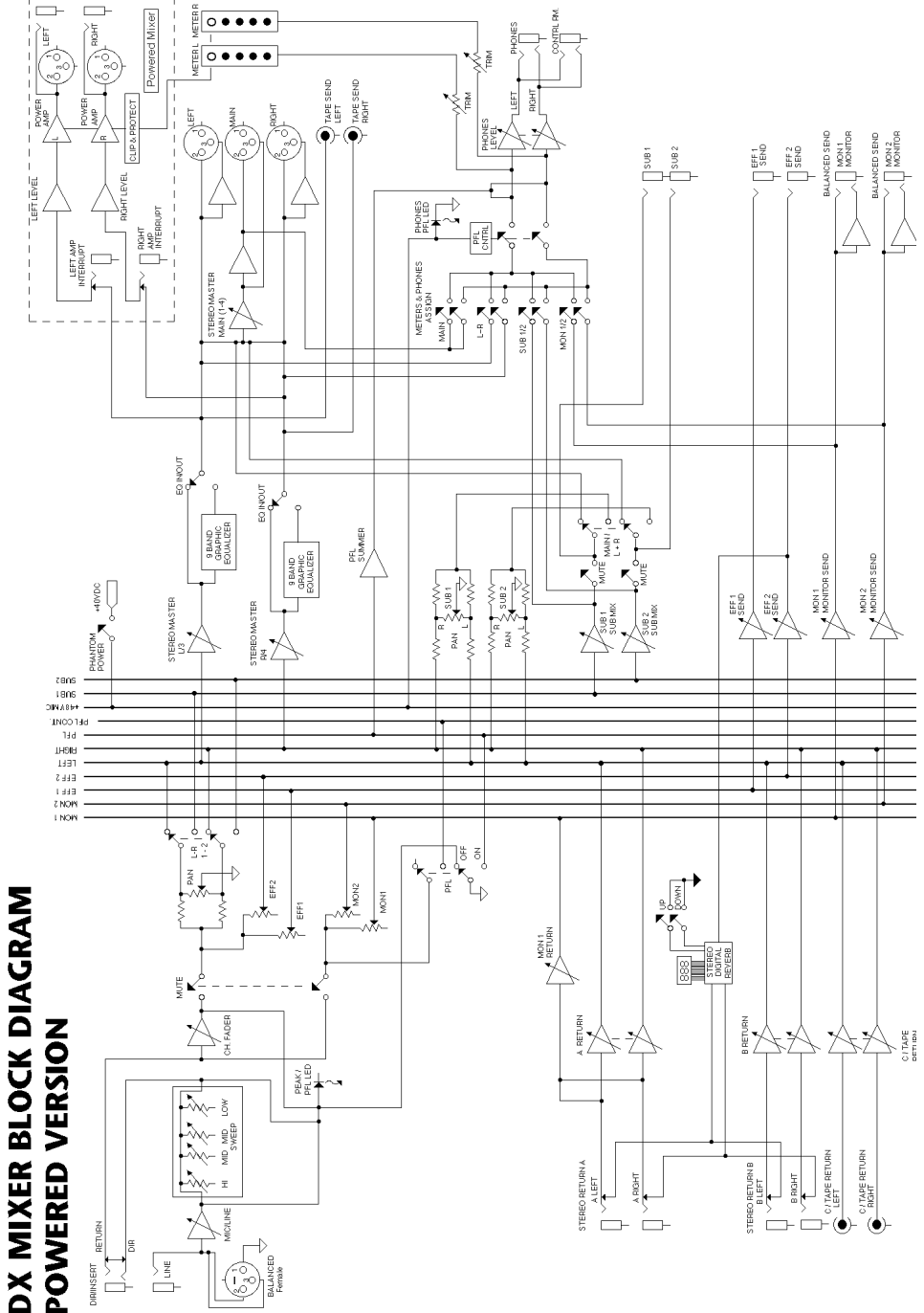
TRI-AMP PA:



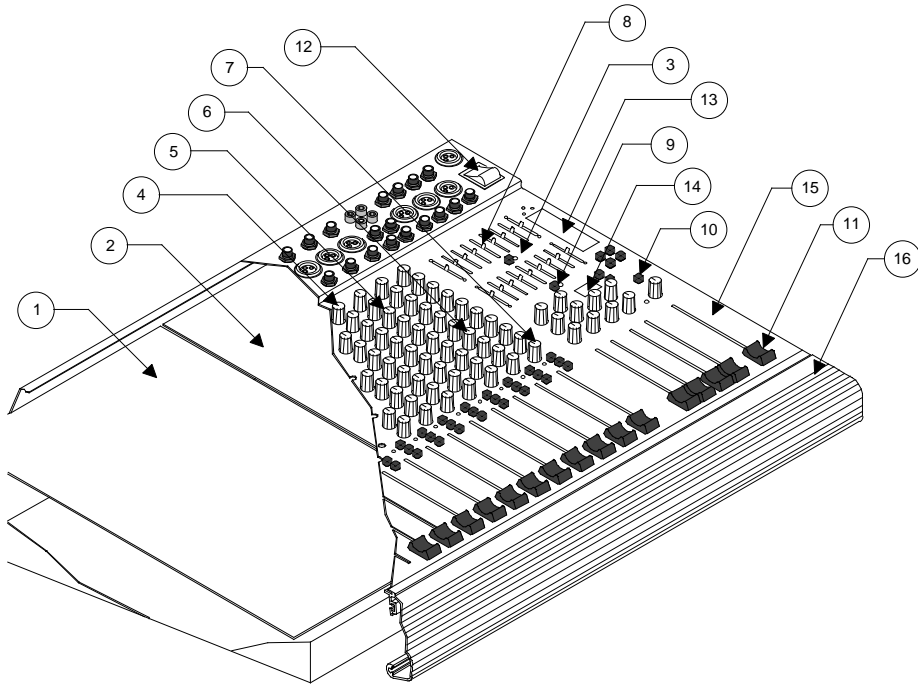
NON-POWERED VERSION



DX MIXER BLOCK DIAGRAM POWERED VERSION



REPLACEMENT PART GUIDE



DX MIXER PARTS LIST

REF	DESCRIPTION	PART #	Qty/1642	Qty/2442
1	Eight Channel printed circuit board assembly	80-16421	1	2
2	Master Section printed circuit board assembly	80-16424	1	1
3	Graphic Equalizer printed circuit board assembly	80-16425	1	1
4	Control Knob (Yellow)	07-12020	17	25
5	Control Knob (Grey)	07-12028	36	68
6	Control Knob (Green)	07-12025	50	82
7	Control Knob (Pink)	07-12021	50	82
8	EQ. Fader Cap	07-70283	18	18
9	Small Button	07-01601	2	2
10	Large Button	07-01602	58	82
11	Fader Knob	07-15104	21	29
12	Power Switch	21-02803	1	1
13	VU Meter Lens	03-42200	1	1
14	Effects Unit Lens	03-32100	1	1
15	Top Panel	10-16021/24021	1	1
16	Chassis / Handle Assy.	10-16024/24024	1	1



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

Parts Without Reference Designator

DESCRIPTION	PART #	Qty/1642	Qty/2442
Transformer Shield 1	10-16121	1	1
Transformer Shield 2	10-16122	1	1
Heat Sink	10-16127	1	1
PCB Stand Off	03-05625	5	7
Rubber Foot	03-19682	8	8
Screw, 4-40 .250 PPH	06-10005	9	9
Screw, 6-32 .250 PPH	06-10050	5	5
Screw 6-32 FH Philips	06-10051	6	6
Screw, 6-32 .375 PPH	06-10060	6	6
Screw, 6-32 .375 SMS	06-10061	4	4
Screw, 8-32 .375 PPH	06-10100	2	2
Screw, 2mm x 5mm PPH	06-11205	8	8
Screw, 3mm x 5mm PFH	06-11300	50	68
Nut 12mm	06-11121	44	60
KEP Nut, 6-32 BLK Zinc	06-50030	14	14
KEP Nut, 8-32 BLK Zinc	06-50040	2	2
Transformer	15-00032 D	1	1
AC Receptacle	21-02803	1	1
Fuse, 2AMP Fast	70-11020	1	1

DX Mixer Sub Assemblies

80-16421 Eight Channel PCB Assembly

REF	DESCRIPTION	PART #	Qty
A1	5532, Low Noise Op Amp	60-55320	8
A2	4558, Low Noise Op Amp	60-45580	8
A3	4558, Low Noise Op Amp	60-45580	8
A4	4558, Low Noise Op Amp	60-45580	8
C1	Capacitor, Elec. 470µF, 63V	47-47061	8
C2	Capacitor, Elec. 470µF, 16V	47-47116	8
C3	Capacitor, Cer. 82pF, 500V	45-82052	8
C4	Capacitor, Cer. 27pF, 500V	45-27052	8
C5	Capacitor, Cer. 120pF, 500V	45-12152	8
C6	Capacitor, Elec. 10µF, 50V	47-10051	8
C7	Capacitor, Elec. 47µF, 63V	47-47061	8
C8	Capacitor, Cer. 82pF, 500V	45-82052	8
C9	Capacitor, Cer. 27pF, 500V	45-27052	8
C10	Capacitor, Cer. 120pF, 500V	45-12152	8
C11	Capacitor, Elec. 10µF, 50V	47-10051	8
C12	Capacitor, Cer. 250pF, 1000V	45-25152	8
C13	Capacitor, Poly. 0033µF, 100V	46-33212	8
C14	Capacitor, Cer. 10pF, 500V	45-10052	8
C15	Capacitor, Poly 0.01µF, 100V	46-10312	8
C16	Capacitor, Poly 0.0047µF, 100V	46-47212	8
C17	Capacitor, Poly 0.01µF, 100V	46-10312	8
C18	Capacitor, Cer. 10pF, 500V	45-10052	8
C19	Capacitor, Poly 0.1µF, 100V	46-10412	8
C20	Capacitor, Elec. 10µF, 50V	47-10051	8
C21	Capacitor, Cer. 27pF, 500V	45-27052	8
C22	Capacitor, Elec. 10µF, 50V	47-10051	8
C25	Capacitor, Elec. 10µF, 50V	47-10051	8
D1	Diode, 1N914	61-19140	8
D2	Diode, 1N914	61-19140	8
D3	Diode, 1N4003	61-40030	8
D4	Diode, 1N4003	61-40030	8
D5	Diode, 1N4003	61-40030	8
D6	LED, Small Red	60-75320	8
H7	Conn. Hdr 8 pin	23-10082	1
H8	Conn. Hdr 8 pin	23-10082	1
H9	Conn. Hdr 2 pin	23-10002	1
J1	Jack 1/4", 7P Plastic.	21-06457	8
J2	XLR, Conn. Female.	21-00301	8
J3	Jack 1/4", 7P Plastic.	21-06457	8
L1	Ferrite Shield Bead,	15-27430	8
L2	Ferrite Shield Bead,	15-27430	8
P1	Pot Vert. 30mm PCB 5C50K	71-13051	8
P2	Pot Vert. 30mm PCB B50K	71-13052	8
P3	Pot Vert. 30mm PCB B50K	71-13052	8
P4	Pot Vert. 30mm PCB B50K	71-13052	8
P5	Pot Vert. 30mm PCB B5K	71-13050	8
P6	Pot Vert. 30mm PCB B50K	71-13053	8
P7	Pot Vert. 30mm PCB B50K	71-13053	8
P8	Pot Vert. 30mm PCB B50K	71-13053	8
P9	Pot Vert. 30mm PCB B50K	71-13053	8
P10	Fader 100mm 25A100K	71-15200	8
P12	Pot Vert. 30mm 5C50Kx2	71-13070	8

80-16421 Eight Channel PCB Assembly Cont.

REF	DESCRIPTION	PART #	Qty
R1	Resistor, 5.62K, 1/4W, ±1%	50-56235	8
R2	Resistor, 5.62K, 1/4W, ±1%	50-56235	8
R3	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R4	Resistor, 47.5K, 1/4W, ±1%	50-47041	8
R5	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R6	Resistor, 5.62K, 1/4W, ±1%	50-56235	8
R7	Resistor, 150Ω, 1/4W, ±5%	50-15025	8
R8	Resistor, 47.5K, 1/4W, ±1%	50-47041	8
R9	Resistor, 22K, 1/4W, ±5%	50-22045	8
R10	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R11	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R12	Resistor, 5.62K, 1/4W, ±1%	50-56235	8
R13	Resistor, 2.2K, 1/4W, ±5%	50-22035	8
R14	Resistor, 2.2K, 1/4W, ±5%	50-22035	8
R15	Resistor, 12K, 1/4W, ±5%	50-12045	8
R16	Resistor, 6.2K, 1/4W, ±5%	50-62035	8
R17	Resistor, 6.2K, 1/4W, ±5%	50-62035	8
R18	Resistor, 47K, 1/4W, ±5%	50-47045	8
R19	Resistor, 15K, 1/4W, ±5%	50-15045	8
R20	Resistor, 15K, 1/4W, ±5%	50-15045	8
R21	Resistor, 15K, 1/4W, ±5%	50-15045	8
R22	Resistor, 47K, 1/4W, ±5%	50-47045	8
R23	Resistor, 47K, 1/4W, ±5%	50-47045	8
R24	Resistor, 470Ω, 1/4W, ±5%	50-47025	8
R25	Resistor, 47K, 1/4W, ±5%	50-47045	8
R26	Resistor, 4.7M, 1/4W, ±5%	50-47065	8
R27	Resistor, 2.2M, 1/4W, ±5%	50-22065	8
R28	Resistor, 100K, 1/4W, ±5%	50-10055	8
R29	Resistor, 180K, 1/4W, ±5%	50-18055	8
R30	Resistor, 1K, 1/4W, ±5%	50-10035	8
R32	Resistor, 33K, 1/4W, ±5%	50-33045	8
R33	Resistor, 3.3K, 1/4W, ±5%	50-33035	8
R34	Resistor, 3.3K, 1/4W, ±5%	50-33035	8
R35	Resistor, 47K, 1/4W, ±5%	50-47045	8
R36	Resistor, 47K, 1/4W, ±5%	50-47045	8
R37	Resistor, 47K, 1/4W, ±5%	50-47045	8
R38	Resistor, 47K, 1/4W, ±5%	50-47045	8
R39	Resistor, 47K, 1/4W, ±5%	50-47045	8
R40	Resistor, 47K, 1/4W, ±5%	50-47045	8
R41	Resistor, 47K, 1/4W, ±5%	50-47045	8
R42	Resistor, 10Ω, 1/4W, ±5%	50-10015	8
R43	Resistor, 10Ω, 1/4W, ±5%	50-10025	8
R44	Resistor, 47K, 1/4W, ±5%	50-47045	8
R45	Resistor, 47K, 1/4W, ±5%	50-47045	8
R46	Resistor, 10K, 1/4W, ±5%	50-10045	8
R47	Resistor, 10K, 1/4W, ±5%	50-10045	8
R49	Resistor, 47K, 1/4W, ±5%	50-47045	8
R50	Resistor, 47K, 1/4W, ±5%	50-47045	8
S1	Switch DPDT Push PC Mtg	25-02201	8
S2	Switch DPDT Push PC Mtg	25-02201	8
S3	Switch DPDT Push PC Mtg	25-02201	8

LX MIXER SUB ASSEMBLIES CONT.

REF	DESCRIPTION	PART #	Qty
A1	5532, Low Noise Op Amp	60-55320	8
A2	4558, Low Noise Op Amp	60-45580	8
A3	4558, Low Noise Op Amp	60-45580	8
A4	4558, Low Noise Op Amp	60-45580	8
C1	Capacitor, Elec. 47µF, 63V	47-47061	8
C2	Capacitor, Elec. 470µF, 16V	47-47116	8
C3	Capacitor, Cer. 820F, 500V	45-82052	8
C4	Capacitor, Cer. 270F, 500V	45-27052	8
C5	Capacitor, Cer. 120pF, 500V	45-12152	8
C6	Capacitor, Elec. 10µF, 50V	47-10051	8
C7	Capacitor, Elec. 47µF, 63V	47-47061	8
C8	Capacitor, Cer. 820F, 500V	45-82052	8
C9	Capacitor, Cer. 270F, 500V	45-27052	8
C10	Capacitor, Cer. 120pF, 500V	45-12152	8
C11	Capacitor, Elec. 10µF, 50V	47-10051	8
C12	Capacitor, Cer. 250pF, 500V	45-25152	8
C13	Capacitor, Poly 0.0033µF, 100V46-33212	46-33212	8
C14	Capacitor, Ceramic 10pF, 500V45-10052	45-10052	8
C15	Capacitor, Poly 0.01µF, 100V	46-10112	8
C16	Capacitor, Poly 0.0047µF, 100V	46-47212	8
C17	Capacitor, Poly 0.01µF, 100V	46-10312	8
C18	Capacitor, Ceramic 10pF, 500V45-10052	45-10052	8
C19	Capacitor, Poly 0.1µF, 100V	46-10412	8
C20	Capacitor, Elec. 10µF, 50V	47-10051	8
C21	Capacitor, Cer. 270F, 500V	45-27052	8
C22	Capacitor, Elec. 10µF, 50V	47-10051	8
C25	Capacitor, Elec. 10µF, 50V	47-10051	8
D1	Diode, 1N914 .35' prep.	61-19140	8
D2	Diode, 1N914 .35' prep.	61-19140	8
D3	Diode, 1N4003 .35' prep.	61-40030	8
D4	Diode, 1N4003 .35' prep.	61-40030	8
D5	Diode, 1N4003 .35' prep.	61-40030	8
D6	LED, Small Red	60-75320	8
H7	Conn. Hdr 8 pin	23-10082	1
H8	Conn. Hdr 8 pin	23-10082	1
H9	Conn. Hdr 2 pin	23-10002	1
J1	Jack 1/4", 7P Plastic	21-06457	1
J2	XLN, Conn. Female	21-00301	1
J3	Jack 1/4", 7P Plastic	21-06457	1
L1	Ferrite Shield Bead,	15-27430	8
L2	Ferrite Shield Bead,	15-27430	8
P1	Pot Vert. 30mm B50K	71-13051	8
P2	Pot Vert. 30mm B50K Cntr Clk	71-13052	8
P3	Pot Vert. 30mm B50K Cntr Clk	71-13052	8
P4	Pot Vert. 30mm B50K Cntr Clk	71-13052	8
P5	Pot Vert. 30mm B50K	71-13050	8
P6	Pot Vert. 30mm B50K	71-13050	8
P7	Pot Vert. 30mm B50K	71-13053	8
P8	Pot Vert. 30mm B50K	71-13053	8
P9	Pot Vert. 30mm B50K	71-13053	8
P10	Fader 100mm 25A100K	71-15200	8
P12	Pot Vert. 30mm 5C50Kx2	71-13070	8
R1	Resistor, 5.6K, 1/4W, ±1%	50-56235	8
R2	Resistor, 5.6K, 1/4W, ±1%	50-56235	8
R3	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R4	Resistor, 47.5K, 1/4W, ±1%	50-47041	8
R5	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R6	Resistor, 5.6K, 1/4W, ±1%	50-56235	8
R7	Resistor, 150Ω, 1/4W, ±5%	50-15025	8
R8	Resistor, 47.5K, 1/4W, ±1%	50-47041	8
R9	Resistor, 2.2K, 1/4W, ±5%	50-22035	8
R10	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R11	Resistor, 2.21K, 1/4W, ±1%	50-22131	8
R12	Resistor, 5.6K, 1/4W, ±1%	50-56235	8
R13	Resistor, 2.2K, 1/4W, ±5%	50-22035	8
R14	Resistor, 2.2K, 1/4W, ±5%	50-22035	8
R15	Resistor, 1.2K, 1/4W, ±5%	50-12045	8
R16	Resistor, 6.2K, 1/4W, ±5%	50-62035	8
R17	Resistor, 6.2K, 1/4W, ±5%	50-62035	8
R18	Resistor, 47K, 1/4W, ±5%	50-47045	8
R19	Resistor, 15K, 1/4W, ±5%	50-15045	8
R20	Resistor, 15K, 1/4W, ±5%	50-15045	8
R21	Resistor, 15K, 1/4W, ±5%	50-15045	8
R22	Resistor, 47K, 1/4W, ±5%	50-47045	8
R23	Resistor, 47K, 1/4W, ±5%	50-47045	8
R24	Resistor, 470Ω, 1/4W, ±5%	50-47025	8
R25	Resistor, 47K, 1/4W, ±5%	50-47045	8
R26	Resistor, 4.7M, 1/4W, ±5%	50-47065	8
R27	Resistor, 3.3K, 1/4W, ±5%	50-33035	8
R28	Resistor, 100K, 1/4W, ±5%	50-10055	8
R29	Resistor, 180K, 1/4W, ±5%	50-18055	8
R30	Resistor, 1K, 1/4W, ±5%	50-10035	8
R32	Resistor, 33K, 1/4W, ±5%	50-33045	8
R33	Resistor, 3.3K, 1/4W, ±5%	50-33035	8
R34	Resistor, 3.3K, 1/4W, ±5%	50-33035	8
R35	Resistor, 47K, 1/4W, ±5%	50-47045	8
R36	Resistor, 47K, 1/4W, ±5%	50-47045	8
R37	Resistor, 47K, 1/4W, ±5%	50-47045	8
R38	Resistor, 47K, 1/4W, ±5%	50-47045	8
R39	Resistor, 47K, 1/4W, ±5%	50-47045	8
R40	Resistor, 47K, 1/4W, ±5%	50-47045	8
R41	Resistor, 47K, 1/4W, ±5%	50-47045	8
R42	Resistor, 10Ω, 1/4W, ±5%	50-10015	8
R43	Resistor, 10Ω, 1/4W, ±5%	50-10015	8
R44	Resistor, 47K, 1/4W, ±5%	50-47045	8
R45	Resistor, 47K, 1/4W, ±5%	50-47045	8
R46	Resistor, 10K, 1/4W, ±5%	50-10045	8
R49	Resistor, 47K, 1/4W, ±5%	50-47045	8
R50	Resistor, 47K, 1/4W, ±5%	50-47045	8
S1	Switch DPDT Push PC Mtg	25-02201	8
S2	Switch DPDT Push PC Mtg	25-02201	8
S3	Switch DPDT Push PC Mtg	25-02201	8

REF	DESCRIPTION	PART #	Qty
A100	4558, Low Noise Op Amp	60-45580	1
A101	4558, Low Noise Op Amp	60-45580	1
A102	4558, Low Noise Op Amp	60-45580	1
A103	4558, Low Noise Op Amp	60-45580	1
A104	4558, Low Noise Op Amp	60-45580	1
A105	4558, Low Noise Op Amp	60-45580	1
A106	5532, Low Noise Op Amp	60-55320	1
A107	4558, Low Noise Op Amp	60-45580	1
A108	4558, Low Noise Op Amp	60-45580	1
A109	4558, Low Noise Op Amp	60-45580	1
A110	4558, Low Noise Op Amp	60-45580	1
A111	5532, Low Noise Op Amp	60-55320	1
A112	4558, Low Noise Op Amp	60-45580	1
A113	5532, Low Noise Op Amp	60-55320	1
A114	4558, Low Noise Op Amp	60-45580	1
A115	4558, Low Noise Op Amp	60-45580	1
C100	Capacitor, Elec. 10µF, 50V	47-10051	1
C101	Capacitor, Cer. 10pF, 500V	45-10052	1
C102	Capacitor, Elec. 10µF, 50V	47-10051	1
C103	Capacitor, Cer. 10pF, 500V	45-10052	1
C104	Capacitor, Elec. 10µF, 50V	47-10051	1
C105	Capacitor, Cer. 10pF, 500V	45-10052	1
C106	Capacitor, Elec. 10µF, 50V	47-10051	1
C107	Capacitor, Cer. 10pF, 500V	45-10052	1
C108	Capacitor, Elec. 10µF, 50V	47-10051	1
C109	Capacitor, Cer. 10pF, 500V	45-10052	1
C110	Capacitor, Elec. 10µF, 50V	47-10051	1
C111	Capacitor, Cer. 10pF, 500V	45-10052	1
C112	Capacitor, Elec. 220µF, 50V	47-22151	1
C113	Capacitor, Elec. 10µF, 50V	47-10051	1
C114	Capacitor, Cer. 10pF, 500V	45-10052	1
C115	Capacitor, Elec. 10µF, 50V	47-10051	1
C116	Capacitor, Cer. 10pF, 500V	45-10052	1
C117	Capacitor, Elec. 10µF, 50V	47-10051	1
C118	Capacitor, Cer. 10pF, 500V	45-10052	1
C119	Capacitor, Elec. 10µF, 50V	47-10051	1
C120	Capacitor, Cer. 10pF, 500V	45-10052	1
C121	Capacitor, Elec. 10µF, 50V	47-10051	1
C122	Capacitor, Elec. 10µF, 50V	47-10051	1
C123	Capacitor, Cer. 27pF, 500V	45-27052	1
C124	Capacitor, Cer. 27pF, 500V	45-27052	1
C125	Capacitor, Elec. 10µF, 50V	47-10051	1
C126	Capacitor, Elec. 10µF, 50V	47-10051	1
C127	Capacitor, Cer. 10pF, 500V	45-10052	1
C128	Capacitor, Elec. 10µF, 50V	47-10051	1
C129	Capacitor, Cer. 0.22µF, 100V	46-22312	1
C130	Capacitor, Cer. 10pF, 500V	45-10052	1
C131	Capacitor, Elec. 10µF, 50V	47-10051	1
C132	Capacitor, Cer. 0.22µF, 100V	46-22312	1
C133	Capacitor, Elec. 10µF, 50V	47-10051	1
C134	Capacitor, Cer. 10pF, 500V	45-10052	1
C135	Capacitor, Cer. 27pF, 500V	45-27052	1
C136	Capacitor, Cer. 27pF, 500V	45-27052	1
C137	Capacitor, Cer. 27pF, 500V	45-27052	1
C138	Capacitor, Elec. 10µF, 50V	47-10051	1
C139	Capacitor, Cer. 10pF, 500V	45-10052	1
C140	Capacitor, Elec. 10µF, 50V	47-10051	1
C141	Capacitor, Elec. 10µF, 50V	47-10051	1
C142	Capacitor, Cer. 10pF, 500V	45-10052	1
C143	Capacitor, Elec. 10µF, 50V	47-10051	1
C144	Capacitor, Cer. 27pF, 500V	45-27052	1
C145	Capacitor, Elec. 10µF, 50V	47-10051	1
C146	Capacitor, Elec. 10µF, 50V	47-10051	1
C147	Capacitor, Elec. 10µF, 50V	47-10051	1
C148	Capacitor, Elec. 10µF, 50V	47-10051	1
C149	Capacitor, Cer. 10pF, 500V	45-10052	1
C150	Capacitor, Elec. 10µF, 50V	47-10051	1
C151	Capacitor, Cer. 10pF, 500V	45-10052	1
C152	Capacitor, Cer. 10pF, 500V	45-10052	1
C153	Capacitor, Elec. 10µF, 50V	47-10051	1
C154	Capacitor, Cer. 120pF, 500V	45-12152	1
C155	Capacitor, Cer. 120pF, 500V	45-12152	1
C156	Capacitor, Poly 0.1µF, 100V	46-10412	1
C157	Capacitor, Poly 0.1µF, 100V	46-10412	1
C158	Capacitor, Elec. 470µF, 16V	47-47116	1
C159	Capacitor, Elec. 470µF, 16V	47-47116	1
C160	Capacitor, Elec. 470µF, 16V	47-47116	1
C161	Capacitor, Elec. 10µF, 50V	47-10051	1
C162	Capacitor, Cer. 10pF, 500V	45-10052	1
C163	Capacitor, Elec. 10µF, 50V	47-10051	1
C164	Capacitor, Cer. 10pF, 500V	45-10052	1
C165	Capacitor, Elec. 10µF, 50V	47-10051	1
C166	Capacitor, Elec. 10µF, 50V	47-10051	1
C167	Capacitor, Elec. 470µF, 16V	47-47116	1
C168	Capacitor, Elec. 470µF, 16V	47-47116	1
C169	Capacitor, Elec. 470µF, 16V	47-47116	1
C170	Capacitor, Elec. 470µF, 16V	47-47116	1
C171	Capacitor, Elec. 470µF, 16V	47-47116	1
D100	LED, Small Red	60-75320	1
D101	LED Ladder x10	60-42200	1
D102	LED Ladder x10	60-42200	1
D103	Diode, 1N4003	61-40030	1
D104	Diode, 1N4003	61-40030	1
D105	LED, Small Red	60-75320	1
D106	Diode, 1N4003	61-40030	1
D107	Diode, 1N4003	61-40030	1
D108	Diode, 1N4003	61-40030	1
D109	Diode, 1N4003	61-40030	1
D110	Diode, 1N4003	61-40030	1
D111	Diode, 1N4003	61-40030	1
D112	Diode, 1N4003	61-40030	1
D113	Diode, 1N4003	61-40030	1

LX MIXER SUB ASSEMBLIES CONT.

REF	DESCRIPTION	PART #	Qty
H1	Conn. Hdr 8 pin	23-10082	1
H2	Conn. Hdr 8 pin	23-10082	1
H3	Conn. Hdr 10 pin	23-10011	1
H4	Conn. Hdr 8 pin	23-10082	1
H5	Conn. Hdr 4 pin	23-10004	1
H6	Conn. Hdr 10 pin	23-10011	1
H10	Conn. Hdr 2 pin	23-10002	1
J100	Jack 1/4", 7P Plastic	21-06457	1
J101	Jack 1/4", 7P Plastic	21-06457	1
J102	Jack 1/4", 7P Plastic	21-06457	1
J103	Jack 1/4", 7P Plastic	21-06457	1
J104	RCA Jack 2x2	21-40022	1
J105	Jack 1/4", 3P Plastic	21-06453	1
J106	Jack 1/4", 3P Plastic	21-06453	1
J107	Jack 1/4", 7P Plastic	21-06457	1
J108	Jack 1/4", 7P Plastic	21-06457	1
J109	XLN, Conn. Male	21-00306	1
J110	XLN, Conn. Male	21-00306	1
J111	XLN, Conn. Male	21-00306	1
J112	Jack 1/4", 7P Plastic	21-06457	1
J113	Jack 1/4", 7P Plastic	21-06457	1
J114	Jack 1/4", 3P Plastic	21-06453	1
J115	Jack 1/4", 3P Plastic	21-06453	1
J116	XLN, Conn. Female	21-00301	1
JMP3	Jumper, PCB	51-00050	1
JMP4	Jumper, PCB	51-00050	1
JMP5	Jumper, PCB	51-00050	1
JMP6	Jumper, PCB	50-00035	1
JMP7	Jumper, PCB	50-00035	1
JMP8	Jumper, PCB	50-00035	1
JMP9	Jumper, PCB	51-00050	1
JMP11	Jumper, PCB	44-18000	1
JMP12	Jumper, PCB	44-18000	1
JMP13	Jumper, PCB	44-18000	1
JMP14	Jumper, PCB	50-00035	1
JMP15	Jumper, PCB	50-00035	1
JMP16	Jumper, PCB	44-18000	1
JMP17</			

DX Mixer Sub Assemblies Cont.

80-16424 Master Section "B" Power Supply PCB Assembly

REF	DESCRIPTION	PART #	Qty
C1	Capacitor, Elec. 2200µF, 25V	47-22225	1
C2	Capacitor, Elec. 2200µF, 25V	47-22225	1
C7	Capacitor, Elec. 2200µF, 25V	47-22225	1
C8	Capacitor, Elec. 220µF, 50V	42-22151	1
C9	Capacitor, Elec. 220µF, 50V	42-22151	1
C10	Capacitor, Elec. 220µF, 50V	42-22151	1
C11	Capacitor, Elec. 220µF, 50V	42-22151	1
D1	Power Diode, #MR502	60-50200	1
D2	Power Diode, #MR502	60-50200	1
D3	Power Diode, #MR502	60-50200	1
D4	Power Diode, #MR502	60-50200	1
D5	Diode, 1N4003	61-40030	1
D6	Diode, 1N4003	61-40030	1
H3	Conn. Hdr 10 pin	23-10011	1
H10	Conn. Hdr 2 pin	23-10002	1
H11	Conn. Hdr 4 pin	23-10004	1
JMP1	Jumper, PCB	50-00035	1
JMP2	Jumper, PCB	50-00035	1
JMP3	Jumper, PCB	50-00035	1
QC1	Quick Connect	06-40050	1
QC2	Quick Connect	06-40050	1
QC3	Quick Connect	06-40050	1
R1	Resistor, 100Ω, 5W	56-20100	1
R2	Resistor, 560Ω, 1/4W, ±5%	50-56025	1
U1	7815, +15V Regulator	60-78150	1
U2	7915, -15V Regulator	60-79150	1

80-16424 Master Section "C" Powered Rear Connect PCB Assembly

REF	DESCRIPTION	PART #	Qty
H4	Conn. Hdr 8 pin	23-10008	1
J1	Jack 1/4", 3P Plastic	21-06453	1
J2	Jack 1/4", 3P Plastic	21-06453	1
J3	Jack 1/4", 3P Plastic	21-06453	1
J4	XLR, Conn. Female	21-00301	1
J5	Jack 1/4", 3P Plastic	21-06453	1
J6	XLR, Conn. Female	21-00301	1
QC1	Quick Connect	06-40060	1
QC2	Quick Connect	06-40060	1
QC3	Quick Connect	06-40060	1

80-16424 Master Section "C" Non-Powered Rear Connect PCB Assembly

REF	DESCRIPTION	PART #	Qty
H11	Conn. Hdr 8 pin	23-10008	1
J1	Jack 1/4", 3P Plastic	21-06453	1
J2	Jack 1/4", 3P Plastic	21-06453	1
J3	Jack 1/4", 3P Plastic	21-06453	1
JMP 4	Jumper, PCB	50-00035	1

DX Mixer Sub Assemblies Cont.

80-16425 Graphic Equalizer PCB Assembly

REF	DESCRIPTION	PART #	Qty
A1	4558 Low Noise Op Amp	60-45580	1
A2	4558 Low Noise Op Amp	60-45580	1
A3	4558 Low Noise Op Amp	60-45580	1
A4	4558 Low Noise Op Amp	60-45580	1
A5	4558 Low Noise Op Amp	60-45580	1
A6	4558 Low Noise Op Amp	60-45580	1
A7	4558 Low Noise Op Amp	60-45580	1
A8	5532 Low Noise Op Amp	60-55320	1
A9	4558 Low Noise Op Amp	60-45580	1
A10	5532 Low Noise Op Amp	60-55320	1
A11	4558 Low Noise Op Amp	60-45580	1
A12	4558 Low Noise Op Amp	60-45580	1
A13	4558 Low Noise Op Amp	60-45580	1
A14	4558 Low Noise Op Amp	60-45580	1
C1	Capacitor, Mylar, 0.01µF	46-10312	1
C2	Capacitor, Mylar, 0.01µF	46-10312	1
C3	Capacitor, Mylar, 0.01µF	46-10312	1
C5	Capacitor, Mylar, 0.01µF	46-10312	1
C6	Capacitor, Mylar, 0.01µF	46-10312	1
C7	Capacitor, Mylar, 0.01µF	46-10312	1
C8	Capacitor, Mylar, 0.01µF	46-10312	1
C9	Capacitor, Mylar, 0.01µF	46-10312	1
C10	Capacitor, Mylar, 0.01µF	46-10312	1
C11	Capacitor, Mylar, 0.01µF	46-10312	1
C12	Capacitor, Mylar, 0.01µF	46-10312	1
C13	Capacitor, Elec., 470µF/16V	47-47116	1
C14	Capacitor, Elec., 470µF/16V	47-47116	1
C15	Capacitor, Mylar, 0.22µF	41-22412	1
C16	Capacitor, Mylar, 0.22µF	41-22412	1
C17	Capacitor, Ceramic, 82pF	45-82052	1
C18	Capacitor, Elec., 10µF, 50V	47-10051	1
C20	Capacitor, Elec., 470µF/16V	47-47116	1
C21	Capacitor, Mylar, 0.22µF	41-22412	1
C22	Capacitor, Mylar, 0.22µF	41-22412	1
C23	Capacitor, Mylar, 0.022µF	46-22312	1
C24	Capacitor, Mylar, 0.022µF	46-22312	1
C25	Capacitor, Mylar, 0.022µF	46-22312	1
C26	Capacitor, Mylar, 0.022µF	46-22312	1
C27	Capacitor, Mylar, 0.022µF	46-22312	1
C28	Capacitor, Mylar, 0.022µF	46-22312	1
C29	Capacitor, Mylar, 0.0022µF	46-22212	1
C30	Capacitor, Mylar, 0.0022µF	46-22212	1
C31	Capacitor, Mylar, 0.0022µF	46-22212	1
C32	Capacitor, Mylar, 0.0022µF	46-22212	1
C33	Capacitor, Mylar, 0.0022µF	46-22212	1
C34	Capacitor, Mylar, 0.0022µF	46-22212	1
C35	Capacitor, Mylar, 0.0022µF	46-22212	1
C36	Capacitor, Mylar, 0.0022µF	46-22212	1
C37	Capacitor, Ceramic, 250pF	45-25152	1
C38	Capacitor, Mylar, 0.22µF	41-22412	1
C39	Capacitor, Mylar, 0.22µF	41-22412	1
C40	Capacitor, Ceramic, 82pF	45-82052	1
C41	Capacitor, Elec., 10µF, 50V	47-10051	1
C43	Capacitor, Elec., 470µF/16V	47-47116	1
C44	Capacitor, Mylar, 0.22µF	46-22412	1
C45	Capacitor, Mylar, 0.22µF	46-22412	1
C46	Capacitor, Mylar, 0.022µF	46-22312	1
C47	Capacitor, Mylar, 0.022µF	46-22312	1
C48	Capacitor, Mylar, 0.022µF	46-22312	1
C49	Capacitor, Mylar, 0.022µF	46-22312	1
C50	Capacitor, Mylar, 0.022µF	46-22312	1
C51	Capacitor, Mylar, 0.022µF	46-22312	1
C52	Capacitor, Mylar, 0.0022µF	46-22212	1
C53	Capacitor, Mylar, 0.0022µF	46-22212	1
C54	Capacitor, Mylar, 0.0022µF	46-22212	1
C55	Capacitor, Mylar, 0.0022µF	46-22212	1
C56	Capacitor, Mylar, 0.0022µF	46-22212	1
C57	Capacitor, Mylar, 0.0022µF	46-22212	1
C58	Capacitor, Mylar, 0.0022µF	46-22212	1
C59	Capacitor, Mylar, 0.0022µF	46-22212	1
C60	Capacitor, Ceramic, 250pF	45-25152	1
C61	Capacitor, Elec., 10µF, 50V	47-10051	1
C62	Capacitor, Elec., 10µF, 50V	47-10051	1
C63	Capacitor, Mylar, 0.01µF	45-10312	1
C64	Capacitor, Mylar, 0.01µF	45-10312	1
C65	Capacitor, Mylar, 0.01µF	45-10312	1
C66	Capacitor, Mylar, 0.01µF	45-10312	1
C67	Capacitor, Ceramic, 560pF	45-56152	1
C68	Capacitor, Ceramic, 560pF	45-56152	1
D1	Red T1 LED	60-75320	1
D2	Red T1 LED	60-75320	1
H1	Conn. Header, 8 Pin,	23-10082	1
P1	10KΩ, 30mm Slider	70-10331	1
P2	10KΩ, 30mm Slider	70-10331	1
P3	10KΩ, 30mm Slider	70-10331	1
P4	10KΩ, 30mm Slider	70-10331	1
P5	10KΩ, 30mm Slider	70-10331	1
P6	10KΩ, 30mm Slider	70-10331	1
P7	10KΩ, 30mm Slider	70-10331	1
P8	10KΩ, 30mm Slider	70-10331	1
P9	10KΩ, 30mm Slider	70-10331	1
P10	10KΩ, 30mm Slider	70-10331	1
P11	10KΩ, 30mm Slider	70-10331	1
P12	10KΩ, 30mm Slider	70-10331	1
P13	10KΩ, 30mm Slider	70-10331	1
P14	10KΩ, 30mm Slider	70-10331	1
P15	10KΩ, 30mm Slider	70-10331	1
P16	10KΩ, 30mm Slider	70-10331	1
P17	10KΩ, 30mm Slider	70-10331	1

80-16425 Graphic Equalizer PCB Assembly Cont.

REF	DESCRIPTION	PART #	Qty
R1	Resistor, 1/4W, 10K	50-10045	1
R2	Resistor, 1/4W, 10K	50-10045	1
R3	Resistor, 1/4W, 150Ω	50-15025	1
R4	Resistor, 1/4W, 150Ω	50-15025	1
R5	Resistor, 1/4W, 10Ω	50-10015	1
R6	Resistor, 1/4W, 10Ω	50-10015	1
R7	Resistor, 1/4W, 10Ω	50-10015	1
R8	Resistor, 1/4W, 10Ω	50-10015	1
R9	Resistor, 1/4W, 10K	50-10045	1
R10	Resistor, 1/4W, 10K	50-10045	1
R11	Resistor, 1/4W, 10K	50-10045	1
R12	Resistor, 1/4W, 150Ω	50-15025	1
R13	Resistor, 1/4W, 150Ω	50-15025	1
R14	Resistor, 1/4W, 1K	50-10035	1
R15	Resistor, 1/4W, 10K	50-10045	1
R16	Resistor, 1/4W, 7.5K	50-75035	1
R17	Resistor, 1/4W, 7.5K	50-75035	1
R18	Resistor, 1/4W, 33K	50-33045	1
R19	Resistor, 1/4W, 4.7K	50-47035	1
R20	Resistor, 1/4W, 68K	50-68045	1
R21	Resistor, 1/4W, 10K	50-10045	1
R22	Resistor, 1/4W, 10K	50-10045	1
R23	Resistor, 1/4W, 150Ω	50-15025	1
R24	Resistor, 1/4W, 150Ω	50-15025	1
R25	Resistor, 1/4W, 3.9K	50-39035	1
R26	Resistor, 1/4W, 3.9K	50-39035	1
R27	Resistor, 1/4W, 18K	50-18045	1
R28	Resistor, 1/4W, 5.6K	50-56035	1
R29	Resistor, 1/4W, 20K	50-20045	1
R30	Resistor, 1/4W, 20K	50-20045	1
R31	Resistor, 1/4W, 5.6K	50-56035	1
R32	Resistor, 1/4W, 5.6K	50-56035	1
R33	Resistor, 1/4W, 10K	50-10045	1
R34	Resistor, 1/4W, 10K	50-10045	1
R35	Resistor, 1/4W, 43K	50-43045	1
R36	Resistor, 1/4W, 5.6K	50-56035	1
R37	Resistor, 1/4W, 4.7K	50-47035	1
R38	Resistor, 1/4W, 4.7K	50-47035	1
R39	Resistor, 1/4W, 12K	50-12045	1
R40	Resistor, 1/4W, 5.6K	50-56035	1
R41	Resistor, 1/4W, 24K	50-24045	1
R42	Resistor, 1/4W, 24K	50-24045	1
R43	Resistor, 1/4W, 110K	50-11055	1
R44	Resistor, 1/4W, 5.6K	50-56035	1
R45	Resistor, 1/4W, 12K	50-12045	1
R46	Resistor, 1/4W, 12K	50-12045	1
R47	Resistor, 1/4W, 56K	50-56045	1
R48	Resistor, 1/4W, 5.6K	50-56035	1
R49	Resistor, 1/4W, 5.6K	50-56035	1
R50	Resistor, 1/4W, 5.6K	50-56035	1
R51	Resistor, 1/4W, 27K	50-27045	1
R52	Resistor, 1/4W, 4.7K	50-47035	1
R53	Resistor, 1/4W, 3K	50-30035	1
R54	Resistor, 1/4W, 24K	50-24045	1
R55	Resistor, 1/4W, 15K	50-15045	1
R56	Resistor, 1/4W, 4.7K	50-47035	1
R57	Resistor, 1/4W, 10K	50-10045	1
R58	Resistor, 1/4W, 7.5K	50-75035	1
R59	Resistor, 1/4W, 7.5K	50-75035	1
R60	Resistor, 1/4W, 33K	50-33045	1
R61	Resistor, 1/4W, 10K	50-10045	1
R62	Resistor, 1/4W, 68K	50-68045	1
R63	Resistor, 1/4W, 10K	50-10045	1
R64	Resistor, 1/4W, 10K	50-10045	1
R65	Resistor, 1/4W, 150Ω	50-15025	1
R66	Resistor, 1/4W, 150Ω	50-15025	1
R67	Resistor, 1/4W, 3.9K	50-39035	1
R68	Resistor, 1/4W, 3.9K	50-39035	1
R69	Resistor, 1/4W, 18K	50-18045	1
R70	Resistor, 1/4W, 5.6K	50-56035	1
R71	Resistor, 1/4W, 20K	50-20045	1
R72	Resistor, 1/4W, 20K	50-20045	1
R73	Resistor, 1/4W, 91K	50-91045	1
R74	Resistor, 1/4W, 5.6K	50-56035	1
R75	Resistor, 1/4W, 10K	50-10045	1
R76	Resistor, 1/4W, 10K	50-10045	1
R77	Resistor, 1/4W, 43K	50-43045	1
R78	Resistor, 1/4W, 5.6K	50-56035	1
R79	Resistor, 1/4W, 4.7K	50-47035	1
R80	Resistor, 1/4W, 4.7K	50-47035	1
R81	Resistor, 1/4W, 22K	50-22045	1
R82	Resistor, 1/4W, 5.6K	50-56035	1
R83	Resistor, 1/4W, 24K	50-24045	1
R84	Resistor, 1/4W, 24K	50-24045	1
R85	Resistor, 1/4W, 110K	50-11055	1
R86	Resistor, 1/4W, 5.6K	50-56035	1
R87	Resistor, 1/4W, 12K	50-12045	1
R88	Resistor, 1/4W, 12K	50-12045	1
R89	Resistor, 1/4W, 56K	50-56045	1
R90	Resistor, 1/4W, 5.6K	50-56035	1
R91	Resistor, 1/4W, 5.6K	50-56035	1
R92	Resistor, 1/4W, 5.6K	50-56035	1
R93	Resistor, 1/4W, 27K	50-27045	1
R94	Resistor, 1/4W, 4.7K	50-47035	1
R95	Resistor, 1/4W, 3K	50-30035	1
R96	Resistor, 1/4W, 3K	50-30035	1
R97	Resistor, 1/4W, 15K	50-15045	1
R98	Resistor, 1/4W, 4.7K	50-47035	1
R100	Jumper, PCB	44-13500	1
R102	Jumper, PCB	44-13500	1
S1	Switch DPDT Push	25-	

DX Mixer Specifications

Frequency Response:	Mic or Line Inputs: 20Hz-20KHz \pm 1dB
Total Harmonic Distortion:	Less than .025%
Equivalent Input Noise:	150 ohm source: -118dBV
Output Noise:	All Faders Minimum: -92dBV
Maximum Gain:	Mic in two-track out: 70dB
Crosstalk:	Adjacent ch's: -60db at 1KHz
Common Mode Rejection:	-75db at 1KHz
Peak Warning Level:	6dB below Clipping (+14dBV)
Phantom Power:	+40 VDC Regulated
Channel EQ.:	3 band active, LOW: 80Hz \pm 12dB HI: 12KHz \pm 12dB MID: 300-5KHz \pm 12dB
Graphic EQ.:	9 Band Oct. Intervals \pm 12dB
VU Metering:	10 Seg. (Adj. -15 to +20dBV at 0VU)
Mic Input:	XLR input: -70 to -10 dBv
Line Input:	1/4" Phone Jack: -30 to +10dBV
Power Requirement:	120/240 VAC 50/60Hz
Size:	DX1642: 25"W x 5.5"H x 22.5"D DX2442: 34"W x 5.5"H x 22.5"D
Warranty:	One year parts and labor

WARRANTY AND SERVICE INFORMATION

Call Toll-Free 800-854-2235 if you need help with your CARVIN product. If you need to return it for service, our service dept. will issue a Service Number so that we can expect your shipment. Write the Service Number on the carton and be sure to include a full description of every problem. Pack in its original carton using all its packing material. Return by UPS pre-paid. Units returned with physical damage, missing parts, or damage from improper service are not serviceable.

REPAIRS UNDER WARRANTY (1Year)

There is no charge for service under warranty. However, shipping is to be paid both ways by the customer.

REPAIRS OUT OF WARRANTY

If your warranty has expired, call us for the current flat rate service charge which includes parts, labor and testing to bring your unit up to factory specifications.

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.

EXTENDED WARRANTY

An extended warranty is available beyond the normal one year period. Please call 1-800-854-2235 for more information.

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 DOES 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.

CARVIN

1-800-854-2235
(619) 747-1710 M-F 8 to 4:30