Power Dynamics
Professional Audio

171.142 PDM-S803 Stage Mixer 8Ch DSP/MP3
171.144 PDM-S1203 Stage Mixer 12Ch DSP/MP3
171.147 PDM-S1603 Stage Mixer 16Ch DSP/MP3
171.150 PDM-S803A Amplifier Mixer 8ch DSP/MP3
171.151 PDM-S1203A Amplifier Mixer 12ch DSP/MP3



USER MANUAL
GEBRAUCHSANWEISUNG
HANDLEIDING

V1.3

GB

Congratulations to the purchase of our mixer (amplified=171.150 and 171.151).
Please read the manual thoroughly prior to using the unit.

WARNINGS:

Read the manual prior to using the unit.

- Keep the manual so that any other user can read it first.
- Keep the packaging so that you can transport the unit in its original packaging in order to avoid damage
- For indoor use only.
- Prior to the first use, have the unit checked by a qualified person
- The unit contains voltage carrying parts. DO NOT open the housing.
- When you unplug the unit from the mains always pull the plug, never the lead.
- Do not plug/unplug the unit with wet hands.
- If the plug and/or lead are damaged, they need to be replaced by a technician.
- If the unit is damaged to an extent that internal parts are visible, DO NOT connect the unit to the mains and DO NOT switch it on. Contact your dealer.
- Connect the unit only to an (earthed) 220-240Vac/50Hz mains outlet protected by a 10-16A fuse.
- Do not place the unit near heat sources such as radiators, or water such as a swimming pool, wet basement etc.
- During a thunderstorm or if the unit will not be used for a longer period of time, unplug it from the mains.
- If the unit has not been used for an extended period of time, condensation may occur inside the unit. Let the unit reach room temperature first.
- Objects may not fall on, and liquids may not be spilled into the unit. Do not expose to rain.
- The unit should be installed so that its location or position does not interfere with its proper ventilation. It should not be situated on a place that may block the ventilation openings, or in a built-in situation that may impede the air flow.
- To avoid accidents in public premises, you need to adhere to the applicable rules and follow the indications/instructions.
- Keep out of the reach of children.
- Do not use cleaning sprays to clean the slider controls. They leave residues that cause dust and smear deposits inside the controls. In case of malfunction, ask a qualified technician for advice. Don't use benzene, thinner or other solvents for cleaning the unit.
- Make sure that all channel slider controls and the master volume control are set to the minimum prior to switching the unit on.
- Handle the channel faders with care. Quick variations can damage the speakers as the amplifier might clip.
- Avoid clipping of the amplifier. This happens if the clip Led's, mostly mounted on the front panel of the amplifier light up. Set the volume to a sufficiently low level.
- Make sure that the mains voltage is switched off before you make connections or changes.
- Use the appropriate connection leads for the specific signals.
- The power-cord should be routed so that it is not likely to be walked on or pinched (esp. near the plug or exit from the unit).
- Always switch on the amplifier at latest and switch it off at first. This prevents damage to your equipment in case of overdrive.
- Excessive force will cause damage to the unit.
- Do not place the device on an unstable bracket, stand, table etc. Do not mount on a wall if you are not able to calculate the forces. Pls follow the instructions of the manufacturer or qualified technicians.
- Repairs must always be carried out by an agreed technical service.
- Avoid excessive mechanical charges of the parts. If the LED vu-meter is continuously in the red area, the output signal is too strong. This results in distortion. Lower the master volume to an acceptable level in order to prevent damage to your equipment further to overdriving.

Do not attempt to make any repairs yourself. This would invalid your warranty. Do not make any changes to the unit. This would also invalid your warranty. The warranty is not applicable in case of accidents or damages caused by inappropriate use or disrespect of the warnings contained in this manual. Tronios BV cannot be held responsible for personal injuries caused by a disrespect of the safety recommendations and warnings. This is also applicable to all damages in whatever form.

NL

Hartelijk dank voor de aanschaf van deze mixer-(versterker-171.150 en 171.151).
Lees deze gebruiksaanwijzing aandachtig door alvorens het apparaat in bedrijf te stellen.

WAARSCHUWINGEN:

- Lees altijd eerst de gebruiksaanwijzing voordat u een apparaat gaat gebruiken.
- Bewaar de handleiding zodat elke gebruiker hem eerst kan doorlezen.
- Bewaar de verpakking zodat u indien het apparaat defect is, dit in de originele verpakking kunt opsturen om beschadigingen te voorkomen.
- Alleen voor gebruik binnenshuis.
- Voordat het apparaat in werking wordt gesteld, altijd eerst een deskundige raadplegen.
- In het apparaat bevinden zich onder spanning staande onderdelen; open daarom NOOIT dit apparaat.
- Bij het verwijderen van de stekker uit het stopcontact nooit aan het netsnoer trekken.
- Verwijder of plaats een stekker nooit met natte handen uit en in het stopcontact.
- Indien de stekker en/of netsnoer als snoeringang in het apparaat beschadigd zijn dient dit door een vakman hersteld te worden.
- Indien het apparaat zo beschadigd is dat inwendige (onder)delen zichtbaar zijn mag de stekker NOOIT in het stopcontact worden geplaatst én het apparaat NOOIT worden ingeschakeld. Neem in dit geval contact op met de dealer.
- Reparatie aan het apparaat dient te geschieden door een vakman en/of een deskundige.
- Sluit het apparaat alléén aan op een 220-240Vac/50Hz (geaard) stopcontact.
- Toestel niet opstellen in de buurt van warmte bronnen zoals verwarming etc. én vochtige omgeving zoals zwembad etc.
- Objecten mogen niet op deze mixer vallen en vloeistoffen mogen de mixer niet binnendringen. Niet blootstellen aan regen.
- Zorg voor een deugdelijke ventilatie, plaats geen objecten voor de ventilatieopening.
- Bij onweer altijd de stekker uit het stopcontact halen, zo ook wanneer het apparaat een poos niet gebruikt wordt.
- Bij hergebruik kan condensatiewater gevormd worden; laat het apparaat eerst op kamertemperatuur komen.
- Om ongevallen in bedrijven te voorkomen moét rekening worden gehouden met de daarvoor geldende richtlijnen en moeten de aanwijzingen/waarschuwingen worden gevolgd.
- Gebruik geen buitensporige kracht bij de bediening van de mixer.
- Het apparaat buiten bereik van kinderen houden.
- Als de mixer aan een wand bevestigd moet worden moet de draagkracht berekend worden. Kunt u dit niet zelf, schakel dan vakbekwaam personeel in.
- Gebruik geen schoonmaak spray om de schuifregelaars te reinigen. Restanten van deze spray veroorzaken dat smeer en stof ophopen in de regelaars. Bij storing raadpleeg een deskundige.
- Zorg er altijd voor dat wanneer het apparaat wordt ingeschakeld dat alle kanaalschuiven en het master volume op minimaal staan.
- Regel de kanaalschuiven met beleid, snelle variatie kunnen de luidsprekers beschadigen doorat de versterker gaat clippen.
- Zorg ervoor dat de versterker nooit gaat clippen: Dit gebeurt wanneer de clip leds, meestal op het front van de versterker, opgaan lichten. Regel het volume dusdanig in dat dit niet gebeurt.
- Verzeker u ervan dat de netspanning is uitgeschakeld als u verbindingen gaat maken of wijzigen.
- Gebruik de juiste aansluitkabels voor de specifieke signalen. Zorg ervoor dat men niet over kabels valt.
- Zorg er altijd voor dat de versterker als laatste wordt ingeschakeld en als eerste wordt uitgeschakeld. Dit voorkomt schade aan uw apparatuur bij eventuele oversturing.
- Eventuele reparaties altijd laten uitvoeren door een geautoriseerde dealer of technische dienst.
- Voorkom overmatige mechanische belasting van de onderdelen.
- Indien de LED VU-meter zich continu in de rode zone bevindt is het uitgangssignaal overstuurd. Vervorming is het resultaat, verlaag het master volume tot een acceptabel niveau om schade aan uw apparatuur door overstuur te voorkomen.

Voer zelf geen reparaties uit aan het apparaat; in elk geval vervalt de totale garantie. Ook mag het apparaat niet eigenmachtig worden gemodificeerd, in dit geval vervalt de totale garantie. Ook vervalt de garantie bij ongevallen en beschadigingen in elke vorm t.g.v. onoordeelkundig gebruik en het niet in acht nemen van de waarschuwingen in het algemeen en gestelde in deze gebruiksaanwijzing. Tevens aanvaardt Tronios BV geen enkele aansprakelijkheid in geval van persoonlijke ongelukken als gevolg van het niet naleven van veiligheidsinstructies en waarschuwingen. Dit geldt ook voor gevolgschade in welke vorm dan ook.

D

Herzlichen Glückwunsch zum Kauf dieses Mischpults (mit eingebautem Verstärker-171.150 und 171.151).

Bitte lesen Sie diese Anleitung sorgfältig vor der Inbetriebnahme durch.

Sicherheitsvorschriften:

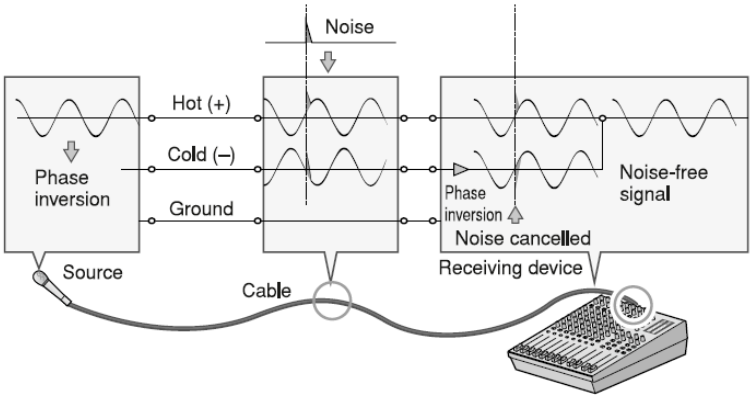
- Bedienungsanleitung vor Inbetriebnahme sorgfältig durchlesen.
- Für spätere Bezugnahme aufbewahren.
- Originalverpackung für späteren Transport aufbewahren.
- Nur für Innengebrauch.
- Niemals das Gehäuse öffnen; Reparaturen nur von einem Fachmann ausführen lassen.
- Beim Abziehen des Steckers immer am Stecker ziehen, niemals an der Netzschnur.
- Stecker niemals mit nassen Händen anfassen.
- Sollten Stecker und/oder Netzschnur, sowie der Kabeleingang zum Gerät beschädigt sein, müssen diese durch einen Fachmann ersetzt werden.
- Wenn das Gerät sichtbare Schäden aufweist, darf es NICHT an eine Steckdose angeschlossen und NICHT eingeschaltet werden. Benachrichtigen sie in diesem Fall Ihren Fachhändler.
- Das Gerät nur an eine (geerdete) 220-240V AC/50Hz Netzsteckdose mit 10-16A Leistung anschließen.
- Nicht in der Nähe von Wärmequellen und einer feuchten Umgebung aufstellen.
- Bei Unwetter sowie Nichtgebrauch das Netzgerät aus der Steckdose ziehen.
- Nach längerem Nichtgebrauch kann sich Kondenswasser im Gehäuse gebildet haben. Lassen Sie das Gerät erst auf Raumtemperatur kommen.
- Vor Kindern schützen.
- Vor dem Einschalten alle Kanalschieberegler, sowie den Master Lautstärkeregler ganz herunterfahren.
- Die Schieberegler vorsichtig behandeln. Eine zu schnelle Veränderung kann die Lautsprecher beschädigen, weil der Verstärker überfordert ist.
- Den Verstärker nicht überfordern (Clipping). Wenn die Clip LEDS am Verstärker aufleuchten, ist die Lautstärke zu hoch eingestellt. Sofort die Lautstärke auf einen niedrigern Pegel einstellen.
- Den Verstärker immer zuletzt einschalten und zuerst ausschalten.
- Keine Reinigungssprays für die Schieberegler verwenden. Die Rückstände verursachen Schmier- und Staubansammlungen in den Reglern. Im Problemfall einen Fachmann fragen.
- Legen Sie keine Gegenstände (Metall) oder Flüssigkeiten (in Tassen usw.) in der Nähe des Produkts (kann zu irreparablen Schäden oder Stromschlag führen beim eindringen).
- Objekte dürfen nicht auf diesem Mischpult fallen und/oder Flüssigkeiten dürfen nicht eindringen in den Mixer. Das Gerät nicht dem Regen aussetzen.
- Für ausreichende Belüftung sorgen, keine Objekte für die Entlüftung hinstellen.
- Verwenden Sie keine übermäßige Kraft bei der Bedienung des Mischpults.
- Wenn das Mischpult an einer Wand montiert werden sollte, kann die Tragfähigkeit berechnet werden. Können Sie dies nicht selbst, lassen Sie dann Fachpersonal zu.
- Verwenden Sie die richtigen Kabel für die Signale. Achten Sie darauf, daß nicht über Kabel gestolpert werden kann.
- Verwenden Sie kein Benzin, Verdünner oder andere Lösungsmittel zur Reinigung des Geräts.

Reparieren Sie das Gerät niemals selbst und nehmen Sie niemals eigenmächtig Veränderungen am Gerät vor. Sie verlieren dadurch den Garantieanspruch. Der Garantieanspruch verfällt ebenfalls bei Unfällen und Schäden in jeglicher Form, die durch unsachgemäßen Gebrauch und Nichtbeachtung der Warnungen und Sicherheitshinweise in dieser Anleitung entstanden sind.Tronios BV ist in keinem Fall verantwortlich für persönliche Schäden in Folge von Nichtbeachtung der Sicherheitsvorschriften und Warnungen. Dies gilt auch für Folgeschäden jeglicher Form.

Balanced, Unbalanced—What's the Difference?

In a word: "noise." The whole point of balanced lines is noise rejection, and it's something they're very good at. Any length of wire will act as an antenna to pick up the random electromagnetic radiation we're constantly surrounded by: radio and TV signals as well as spurious electromagnetic noise generated by power lines, motors, electric appliances, computer monitors, and a variety of other sources. The longer the wire, the more noise it is likely to pick up. That's why balanced lines are the best choice for long cable runs. If your "studio" is basically confined to your desktop and all connections are no more than a meter or two in length, then unbalanced lines are fine—unless you're surrounded by extremely high levels of electromagnetic noise. Another place balanced lines are almost always used is in microphone cables. The reason for this is that the output signal from most microphones is very small, so even a tiny amount of noise will be relatively large, and will be amplified to an alarming degree in the mixer's high-gain head amplifier.

Balanced noise cancellation



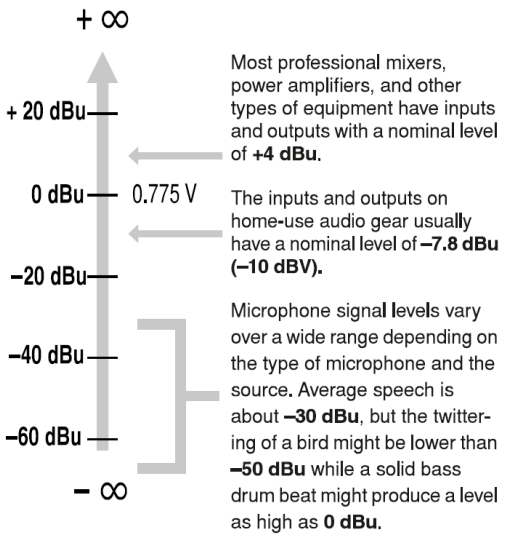
To summarize

Microphones	Use balanced lines.
Short line-level runs	Unbalanced lines are fine if you're in a relatively noise-free environment.
Long line-level runs	The ambient electromagnetic noise level will be the ultimate deciding factor, but balanced is best.

Signal Levels and the Decibel

Let's take a look at one of the most commonly used units in audio: the decibel (dB). If the smallest sound that can be heard by the human ear is given an arbitrary value of 1, then the loudest sound that can be heard is approximately 1,000,000 (one million) times louder. That's too many digits to deal with for practical calculations, and so the more appropriate "decibel" (dB) unit was created for sound-related measurements. In this system the difference between the softest and loudest sounds that can be heard is 120 dB. This is a non-linear scale, and a difference of 3 dB actually results in a doubling or halving of the loudness.

You might encounter a number of different varieties of the dB: dBu, dBV, dBM and others, but the dBu is the basic decibel unit. In the case of dBu, "0 dBu" is specified as a signal level of 0.775 volts. For example, if a microphone's output level is -40 dBu (0.00775 V), then to raise that level to 0 dBu (0.775 V) in the mixer's preamp stage requires that the signal be amplified by 100 times.



A mixer may be required to handle signals at a wide range of levels, and it is necessary match input and output levels as closely as possible. In most cases the "nominal" level for a mixer's input and outputs is marked on the panel or listed in the owner's manual.

To EQ or Not to EQ

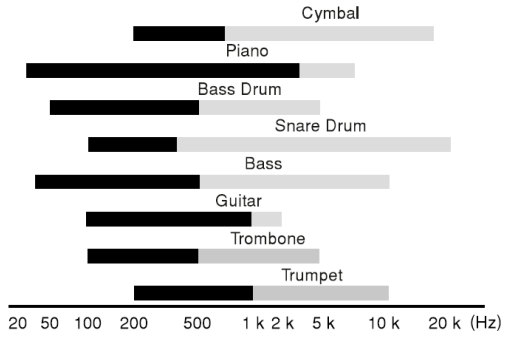
In general: less is better. There are many situations in which you'll need to cut certain frequency ranges, but use boost sparingly, and with caution. Proper use of EQ can eliminate interference between instruments in a mix and give the overall sound better definition. Bad EQ—and most commonly bad boost—just sounds terrible.

Cut for a Cleaner Mix

For example: cymbals have a lot of energy in the mid and low frequency ranges that you don't really perceive as musical sound, but which can interfere with the clarity of other instruments in these ranges. You can basically turn the low EQ on cymbal channels all the way down without changing the way they sound in the mix. You'll hear the difference, however, in the way the mix sounds more "spacious," and instruments in the lower ranges will have better definition. Surprisingly enough, piano also has an incredibly powerful low end that can benefit from a bit of low-frequency roll-off to let other instruments—notably drums and bass—do their jobs more effectively. Naturally you won't want to do this if the piano is playing solo.

The reverse applies to kick drums and bass guitars: you can often roll off the high end to create more space in the mix without compromising the character of the instruments. You'll have to use your ears, though, because each instrument is different and sometimes you'll want the "snap" of a bass guitar, for example, to come through.

The fundamental ■ and harmonic □ frequency ranges of some musical instruments.



■ Fundamental: The frequency that determines the basic musical pitch.

□ Harmonics: Multiples of the fundamental frequency that play a role in determining the timbre of the instrument.

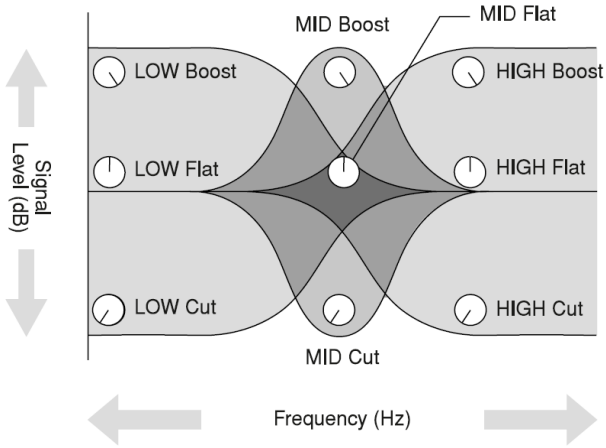
Some Frequency Facts

The lowest and highest frequencies than can be heard by the human ear are generally considered to be around 20 Hz and 20,000 Hz, respectively. Average conversation occurs in the range from about 300 Hz to about 3,000 Hz. The frequency of a standard pitchfork used to tune guitars and other instruments is 440 Hz (this corresponds to the "A3" key on a piano tuned to concert pitch). Double this frequency to 880 Hz and you have a pitch one octave higher (i.e. "A4" on the piano keyboard). In the same way you can halve the frequency to 220 Hz to produce "A2" an octave lower.

Boost with Caution

If you're trying to create special or unusual effects, go ahead and boost away as much as you like. But if you're just trying to achieve a good-sounding mix, boost only in very small increments. A tiny boost in the midrange can give vocals more presence, or a touch of high boost can give certain instruments more "air." Listen, and if things don't sound clear and clean try using cut to remove frequencies that are cluttering up the mix rather than trying to boost the mix into clarity.

One of the biggest problems with too much boost is that it adds gain to the signal, increasing noise and potentially overloading the subsequent circuitry.



Ambience

Your mixes can be further refined by adding ambience effects such as reverb or delay. The GS-12FX 's internal effects can be used to add reverb or delay to individual channels in the same way as external effects processors. (Refer to page 15).

Reverb and Delay Time

The optimum reverb time for a piece of music will depend on the music's tempo and density, but as a general rule longer reverb times are good for ballads, while shorter reverb times are more suited to up-tempo tunes. Delay times can be adjusted to create a wide variety of "grooves". When adding delay to a vocal, for example, try setting the delay time to dotted eighth notes corresponding to the tune's tempo.

Reverb Tone

Different reverb programs will have different "reverb tone" due to differences in the reverb time of the high or low frequencies. Too much reverb, particularly in the high frequencies, can result in unnatural sound and interfere with the high frequencies in other parts of the mix. It's always a good idea to choose a reverb program that gives you the depth you want without detracting from the clarity of the mix.

Reverb Level

It's amazing how quickly your ears can lose perspective and fool you into believing that a totally washed-out mix sounds perfectly fine. To avoid falling into this trap start with reverb level all the way down, then gradually bring the reverb into the mix until you can just hear the difference. Any more than this normally becomes a "special effect."

The Modulation Effects:

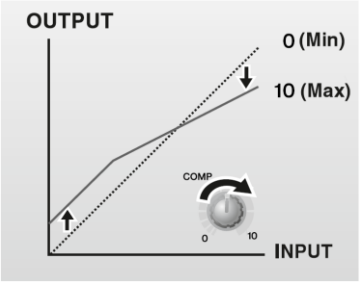
Phasing, Chorus, and Flanging

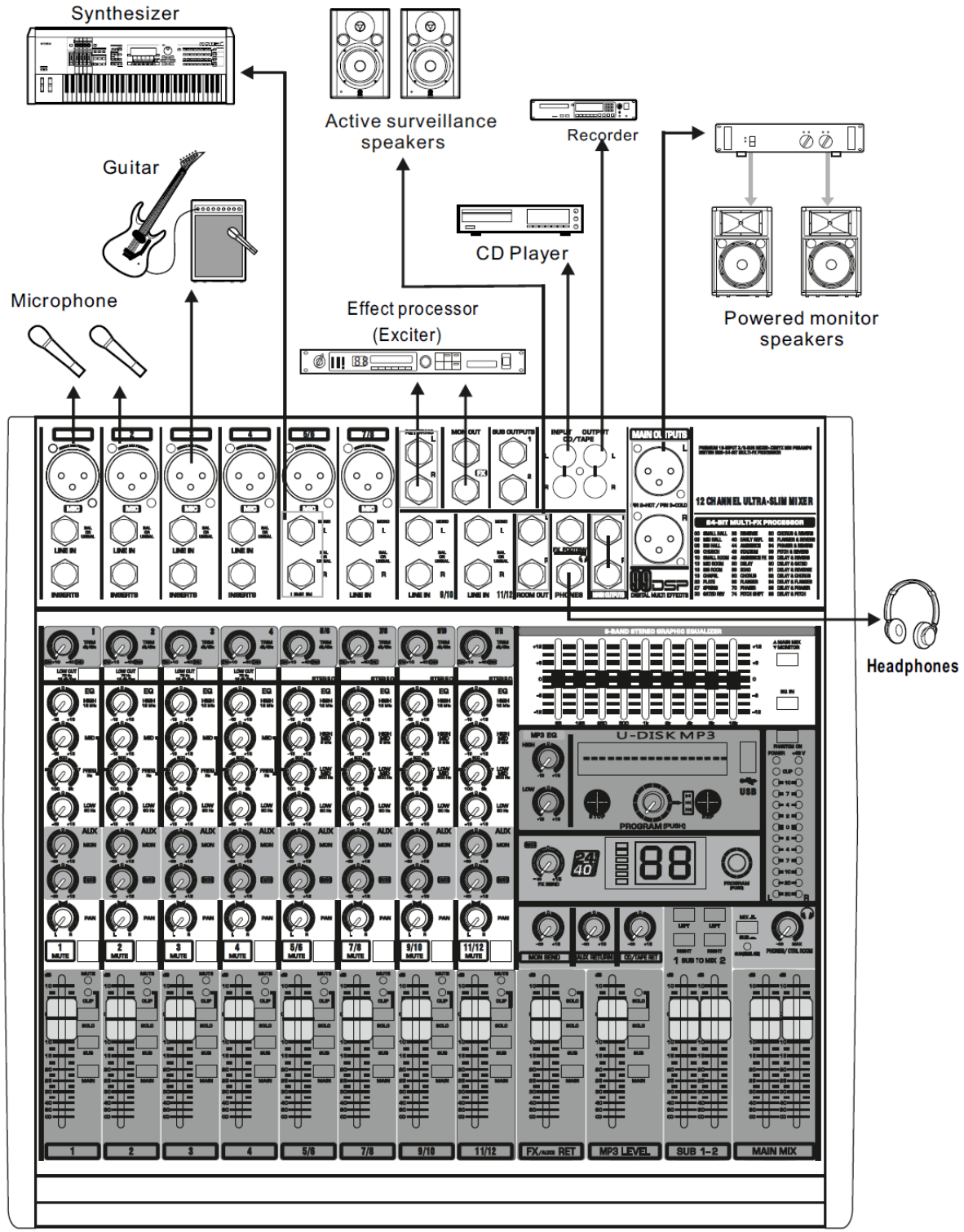
All of these effects work on basically the same principle: a portion of the audio signal is "time-shifted" and then mixed back with the direct signal. The amount of time shift is controlled, or "modulated", by an LFO (Low-frequency Oscillator).
For phasing effects the shift is very small. The phase difference between the modulated and direct signals causes cancellation at some frequencies and reinforces the signal at others and this causes the shimmering sound we hear.

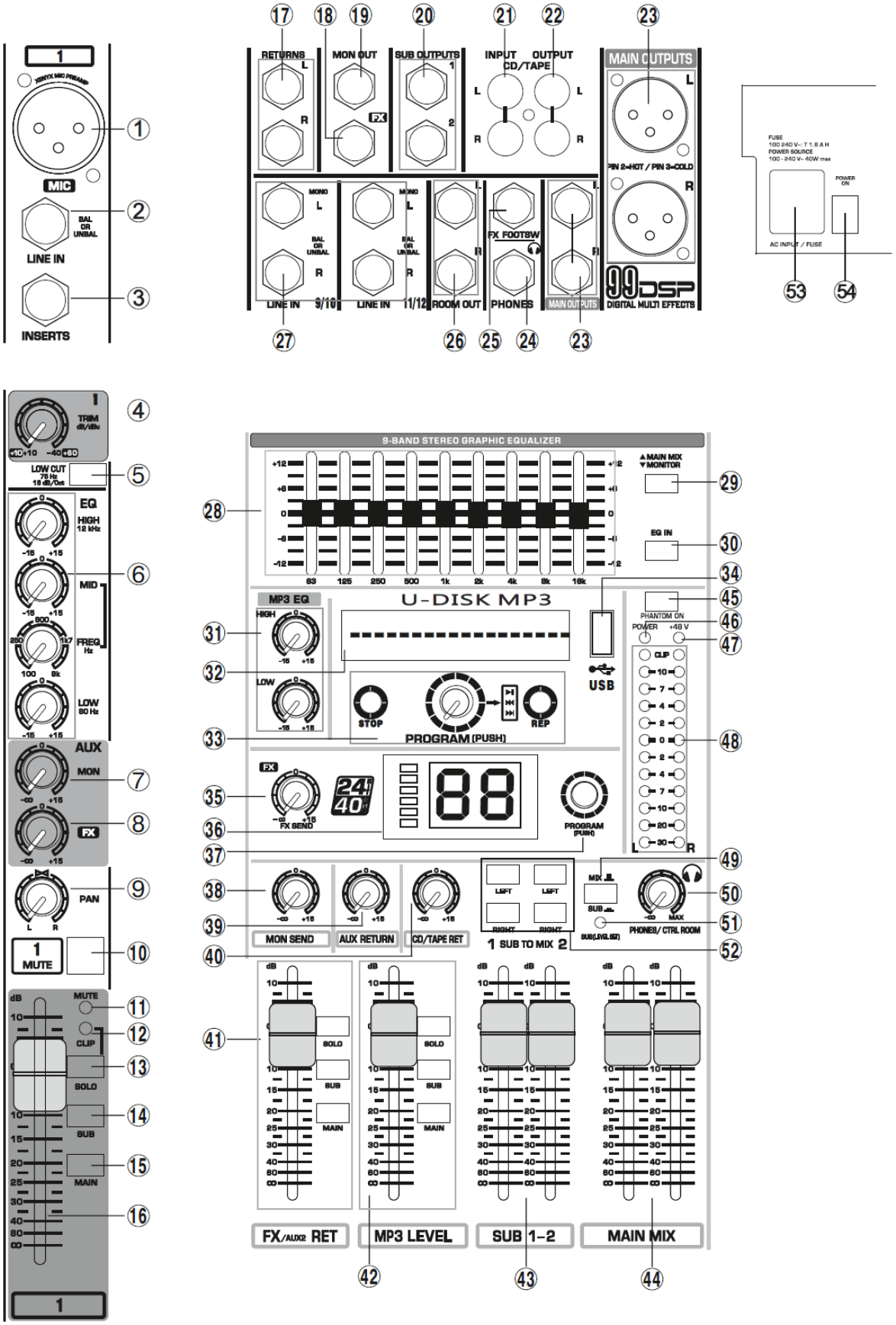
For chorus and flanging the signal is delayed by several milliseconds, with the delay time modulated by an LFO, and recombined with the direct signal. In addition to the phasing effect described above, the delay modulation causes a perceived pitch shift which, when mixed with the direct signal, results in a harmonically rich swirling or swishing sound.
The difference between chorus and flanging effects is primarily in the amount of delay time and feedback used—flanging uses longer delay times than chorus, whereas chorus generally uses a more complex delay structure. Chorus is most often used to thicken the sound of an instrument, while flanging is usually used as an outright "special effect" to produce other-worldly sonic swoops.

Compression

One form of compression known as "limiting" can, when properly used, produce a smooth, unified sound with no excessive peaks or distortion. A common example of the use of compression is to "tame" a vocal that has a wide dynamic range in order to tighten up the mix. With the right amount of compression you'll be able to clearly hear whispered passages while passionate shouts are still well balanced in the mix. Compression can also be valuable on bass guitar. Too much compression can be a cause of feedback, however, so use it sparingly.
Most compressors require several critical parameters to be set properly to achieve the desired sound. The MG compressor makes achieving great sound much easier: all you need to do is set a single "compression" control and all of the pertinent parameters are automatically adjusted for you.




Synthesizer
Active surveillance speakers
Recorder
Guitar
CD Player
Microphone
Effect processor (Exciter)
Powered monitor speakers
Headphones
12 CHANNEL ULTRA-SLIM MIXER
U-DISK MP3


1
MIC
LINE IN
INSERTS
RETURNS
MON OUT
SUB OUTPUTS
INPUT CD/TAPE
OUTPUT
MAIN OUTPUTS
PIN 2=HOT / PIN 3=COLD
FUSE
POWER SOURCE
AC INPUT / FUSE
POWER ON
FX FOOTSW
ROOM OUT
PHONES
MAIN OUTPUTS
99DSP
DIGITAL MULTI EFFECTS
TRIM
LOW CUT
EQ
HIGH
MID
FREQ
LOW
AUX
MON
FX
PAN
MUTE
CLIP
SOLO
SUB
MAIN
9-BAND STEREO GRAPHIC EQUALIZER
MAIN MIX
MONITOR
EQ IN
MP3 EQ
U-DISK MP3
USB
STOP
PROGRAM (PUSH)
REP
PHANTOM ON
POWER
+48 V
CLIP
FX SEND
MON SEND
AUX RETURN
CD/TAPE RET
1 SUB TO MIX 2
PHONES/ CTRL ROOM
FX/AUX2 RET
MP3 LEVEL
SUB 1-2
MAIN MIX

1. MIC Input jacks
These are balanced XLR-type microphone input jacks. (1:Ground; 2: Hot; 3: Cold)

2. LINE Input Jacks (monaural channels)
These are balanced TRS phone-jack line inputs. (T: Hot; R:Cold; S: Ground). You can connect either balanced or unbalanced phone plugs to these jacks.

3.INSERT Jacks
These jacks can be used to insert an externalsignal-processing device between the equalizer and fader of the corresponding monaural input channel.The INSERT jacks are ideal for connecting devices such as graphic equalizers,compressors,or noise filters into the corresponding channels.

4. TRIM Control
Adjusts the input signal level. To get the best balance between the S/N ratio and the dynamic range, adjust the gain so that the PEAK indicator 9 lights only occasionally and briefly on the highest input transients. The -60 to +10 scale is the MIC input adjustment range. The 40 to +10 scale is the LINE input adjustment range.

5. LOW OUT SWITCH
This switch toggles the HPF on or off. To turn the HPF on, The HPF cuts frequencies below75 Hz.

6. Equalizer(HIGH.MIDand LOW)3
This three-band equalizer adjusts the channel's high.mid and low frequency bands. Setting the knob to the "0" position produces a flat response in the corresponding band. Turning the knob to the right boosts the corresponding frequency band, while turning to the left attenuates the band.

7. AUX Control
Monitor and effects busses (AUX sends) source their signals via a control from one or more channels and sum these signals to a so-called bus. This bus signal is sent to an aux send connector (for monitoring applications: MON OUT) and then routed, for example, to an active monitor speaker or external effects device. In the latter case, the effects return can then be brought back into the console via the aux return connectors. All monitor and effects busses are mono, are tapped into post EQ and offer amplification of up to +15 dB.

8. FX Control
The aux send marked FX offers a direct route to the built-in effects processor and is therefore post-fader and post-mute.

9. PAN Control
The PAN control determines the position of the channel signal within the stereo image. When working with subgroups, you can use the PAN control to assign the signal to just one output, which gives you additional flexibility in recording situations. For example, when routing to subgroups 3 and 4 , panning hard left will route the signal to group output 3 only, and panning hard right will route to group output 4 only.

10. MUTE Switch
Turn this switch on to send the signal to the buses.the switch lights orange when on.

11. MUTE LED
The MUTE LED indicates a muted channel.

12. CLIP LED
The PEAK-LED lights up when the input signal is driven too high. If this happens, back off the TRIM control and, if necessary, check the setting of the channel EQ.

13. SOLO SWITCH
The SOLO switch is used to route the channel signal to the solo bus (Solo In Place) or to the PFL bus (Pre Fader Listen). This enables you to listen to a channel signal without affecting the main output signal. The signal you hear is taken either before the pan control (PFL, mono) or after the pan and channel fader (Solo, stereo)

14. SUB Switch
This switch alligns the channel.

15. MAIN Switch
This switch alligns the channel¡s sig.

16. CHANNEL FADER

Adjusts the level If the channel signal.Use these faders to adjust the balance between the various channels.

17. STEREO AUX RETURNS Jacks

The STEREO AUX RETURN jacks generally serve as the return for the effects mix (created using the post-fader aux sends) by connecting the output of an external effectsdevice. If only the left jack is connected, the AUX RETURN is automatically switched to mono.

18. AUX SEND1 Jacks

The AUX SEND jack should be used when hooking up a monitor power amp or active monitor speaker system. The relevant aux path should be set pre-fader.

19. MON Jack

The MON jack carries the master aux mix(from the channel`s AUX MON controls).

20. SUB1-2 OUT Jacks

These impedance-balanced* TRS phone jacks output the ALT3-4 signals. Use these jacks to connect to the input jacks of an multi-track recorder, external mixer, or other such device.

21. CD IN JACKS

These RCA pin jacks input a stereo sound source. Use these jacks when you want to connect a CD player directly to the mixer.

22. REC OUT (L, R) Jacks

These RCA pin jacks can be connected to an external recorder such as an MD recorder in order to record the same signal that is being output via the STEREO OUT jacks.

23. MAIN OUT (L, R) Jacks

These jacks deliver the mixer's stereo output. You use these jacks, for example, to connect to the power amplifier driving your main speakers.

24. PHONES Jack

Connect a pair of headphones to this TRS phone-type output jack.

25. FX FOOTSW Jacks

Connect a standard foot switch to the foot switch jack and use this to switch the effects processor on and off. A light at the bottom of the display indicates wheater the effects processor has been muted by the foot switch.

26. CONTROL ROOM OUT Jacks

The control room output is normally connected to the monitoring system in the control room and carries the stereo mix or, when selected, the solo signals.

27.STEREO Jacks

Each stereo channel has two balanced line level inputs on jacks for left and right channels. If only the left jack (marked "L") is used, the channel operates in mono. The stereo channels are designed to handle typical line level signals, and depending on model, have a level switch (+4 dBu or -10 dBV) and/or a line GAIN control. Both jack inputs will also accept unbalanced connectors.

28.9-BAND STEREO GRAPHIC EQUALIZERI

The graphic stereo equalizer allows you to tailor the sound to the room acoustics.

29.FBQ FEEDBACK DETECTION SWITCH

The switch turns on the FBQ Feedback Detection System.It uses the LEDs in the frequency banc faders to indicate the critical frequencies. On a per-need basis, lower the frequency range in question somewhat in order to avoid feedback. The graphic stereo equalizer has to be turned on in order to use this function.

30.EQ IN SWITCH

Use this switch to activate the graphic equalizer.

31.MP3 PLAY EQ

The two-band equalizer adjusts the level if the two bands Mp3 player.

32.MP3 PLAY window

Show the Mp3 planing.time.song name and other play instruction.

33.MP3 switch

STOP:stop play PLAY:play music PREV:last song NEXT:next song REP:single orcycle play

PROGRAM Dial

You can select the Mp3preset by turning the PROGRAM control. The display flashes with the number of the current preset. To recall the selected preset, press on the button; the flashing stops.

34.MP3 player jack

USB:can be play throrgh U-DISK

35. AUX SEND2(FX) Control

The AUX SEND (FX) jack carries the master aux mix (from The channel`s FX controls). You can connect this to an external effects device to process the FX bus. The processed signal can then be brorght from the effects device back into the STEREO AUX RETURN jacks.

36. EFFECTOR LEVEL LIGHT **EFFECTOR DISPLAY**

Show the effect level stronger Show the kind of effector.

37. PROGRAM Dial

You can select the effect preset by turning the PROGRAM control. The display flashes with the number of the current preset. To recall the selected preset, press on the button; the flashing stops. You can also recall the selected preset with the foot switch.

38. MON SEND Control

Use this fader can control the MON output jack

39. STEREO AUX RETURN1 Control

Adjusts the level at which the signal received at the RETURN jacks (L (MONO) and R) is sent to the STEREO L/R bus.

40.CD/TAPE RET Control

Adjusts the level of the signal sent from the CD IN jacks.

41. FX SEND Fader

Control effect input signal level & SEND FX jack input.

42.MP3 VOL Fader

Change VOL button can be control the VOL of Mp3.

43. SUB1-2 FADER

You use the high-precision quality faders to control the output level of the subgroups.

44. MAIN MIX FADER

You use the high-precision quality faders to control the output level of the main mix.

45. PHANTOM +48 V Switch

This switch toggles phantom power on and off. When the switch is on the mixer supplies +48V phantom power to all channels that have XLR mic input jacks. Turn this switch on

46. POWER Indicator

This indicator lights when the mixer's power is ON.

47. 48V Indicator

The red¡48V LED lights up when phantom power is switched on.Phantom power is required to operate condenser microphones.

48.Level Meter

Show the level signal¡s strong

NOTE:The¡0¡segment corresponds to the nominal output level.The PEAK indicator lightsrd when the output reaches the clipping level..

49.MIX/SUB Switch

This switch assigns the Phones signal to the SUB/MIX bus.

50. PHONES/CTRL ROOM ONLY Control

Use this control to adjust the control room output level and the headphones volume.

51. PFL indicator

when open the monitor,PEL is lighting.

52. SUB TO MAIN Switch

If this switch is on,the mixer sends the signals processed BY the SUB faders onto the stereo bus.

53. FUSE HOLDER/IEC MAINS RECEPTACLE

The console is connected to the mains via the cable supplied, which meets the required safety standards. Blown fuses must only be replaced by fuses of the same type and rating. The mains connection is made via a cable with IEC mains connector. An appropriate mains cable is supplied with the equipment.

54. POWER Switch

Use the POWER switch to turn on the mixing console. The POWER switch should always be in the "Off" position when you are about to connect your unit to the mains. To disconnect the unit from the mains, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible. If mounting in a rack, ensure that

INSTALLATION

Rack mounting (only 171.144)

The packaging of your mixing console contains two 19" rack mounts for installation on the side panels of the console.

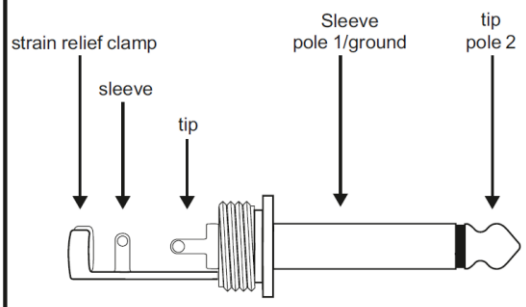
Before you can attach the rack mounts to the mixing console, you need to remove the screws holding the left and right side panels. Then, use these screws to fasten the two rack mounts, each speciically to one side. With the rack mounts installed, you can mount the mixing console in a commercially available 19" rack. Be sure to allow for proper air low around the unit, and do not place the mixing console close to radiators or power amps, so as to avoid overheating.

Only use the screws holding the mixing console side panels to fasten the 19" rack mounts.

Cable connections

You will need a large number of cables for the various connections of the console. The illustrations below show the wiring of these cables. Be sure to use only high-grade cables.

1/4" TS footswitch connector

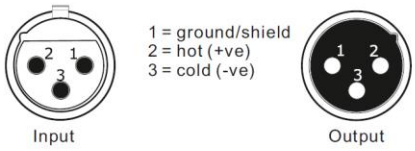


The footswitch connects both poles momentarily

Audio connections

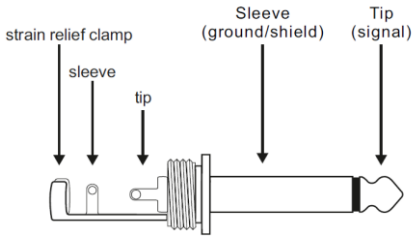
Please use commercial RCA cables to wire the 2-track inputs and outputs.
You can, of course, also connect unbalanced devices to the balanced input/outputs. Use either mono plugs, or use stereo plugs to link the ring and shaft (or pins 1 & 3 in the case of XLR connectors).

Balanced use with XLR connectors

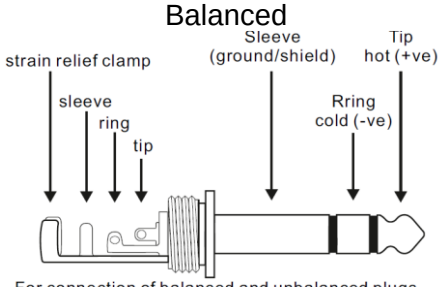


For unbalanced use, pin 1 and pin 3 have to be bridged

Mono

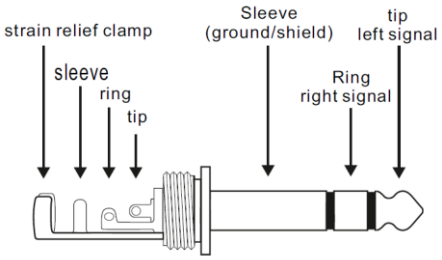


Balanced



For connection of balanced and unbalanced plugs, ring and sleeve have to be bridged at the stereo plug.

Stereo



MICROPHONE INPUTS (XENYX MIC PREAMP)

Type	XLR, electronically balanced, discrete input circuit

Mic E.I.N. (20 Hz - 20 kHz)

@ 0 Ω source resistance	-134 dB / 135.7 dB A-weighted
@ 50 Ω source resistance	-131 dB / 133.3 dB A-weighted
@ 150 Ω source resistance	-129 dB / 130.5 dB A-weighted
Frequency response	<10 Hz - 150 kHz (-1 dB), <10 Hz - 200 kHz (-3 dB)
Gain range	+10 to +60 dB
Max. input level	+12 dBu @ +10 dB Gain
Impedance	approx. 2.6 kΩ balanced
Signal-to-noise ratio	110 dB / 112 dB A-weighted (0 dBu In @ +22 dB gain)
Distortion (THD+N)	0.005% / 0.004% A-weighted

Line input

Type	¼" TRS connector electronically balanced
Impedance	approx. 20 kΩ balanced
	10 kΩ unbalanced
Gain range	-10 to +40 dB
Max. input level	30 dBu

FADE-OUT ATTENUATION[1] (CROSSTALK ATTENUATION)

Main fader closed	90 dB
Channel muted	89 dB
Channel fader closed	89 dB

FREQUENCY RESPONSE

Microphone input to main out

<10 Hz - 90 kHz	+0 dB / -1 dB
<10 Hz - 160 kHz	+0 dB / -3 dB

Stereo inputs

Type	¼" TRS connector, electronically balanced
Impedance	approx. 20 kΩ
Max. input level	+22 dBu

EQ mono channels

Low	80 Hz / ±15 dB
Mid	100 Hz - 8 kHz/ ±15 dB
High	12 kHz/ ±15 dB

EQ stereo channels

Low	80 Hz / ±15 dB
Low Mid	500 Hz / ±15 dB
High Mid	3 kHz / ±15 dB
High	12 kHz / ±15 dB

Aux sends

Type	¼" TS connector, unbalanced
Impedance	approx. 120 Ω
Max. output level	+22 dBu

Stereo aux returns

Type	¼" TRS connector, electronically balanced
Impedance	approx. 20 kΩ bal. / 10 kΩ unbal.
Max. input level	+22 dBu

Main outputs

Type	XLR, electronically balanced and ¼" TRS balanced
1622FX only:	¼" TS connector unbalanced
Impedance	approx. 240 Ω symm. / 120 Ω unbalanced
Max. output level	+28 dBu
	+22 dBu

Control room outputs

Type	¼" TS connector unbalanced
Impedance	approx. 120 Ω
Max. output level	+22 dBu

Headphones outputs

Type	¼" TRS connector, unbalanced
Max. output level	+19 dBu / 150 Ω (+25 dBm)

DSP

Converter	24-bit Sigma-Delta, 64/128-times oversampling
Sampling rate	40 kHz

MAIN MIX SYSTEM DATA[2]

Noise

Main mix @ -∞, Channel fader @ -∞	-101 dB -100 dB
Main mix @ 0 dB, Channel fader @ -∞	-93 dB -96 dB -87 dB
Main mix @ 0 dB, Channel fader @ 0 dB	-81 dB -83 dB -80 dB

Power supply

Mains voltage	100 to 240 V~, 50/60 Hz

Power consumption

CH.6	40W
CH.8	40W
CH.12	50W
CH.16	50W

Fuse	100 - 240 V ~: T 1.6 A H 250 V
Mains connection	Standard IEC receptacle

Measuring conditions:

1: 1 kHz rel. to 0 dBu; 20 Hz – 20 kHz; line input; main output; unity gain.

2: 20 Hz – 20kHz; measured at main output. Channels 1 - 4 unity gain; EQ flat; all channels on main mix; channels 1/3 as far left as possible, channels 2/4 as far right as possible. Reference = +6 dBu.

Troubleshooting

Power doesn't come on.	• Is the power line properly plugged into an AC wall outlet? • Are the power line and AC wall outlet connected correctly?
No sound	• Are microphone,external devices,and speakers connected correctly? • Are the channel GAIN controls,channel fader,STEREO OUT Master fader and GROUP fader set to appropriate levels? • Are the speaker cables connected properly,or are they shorted? • If the above checks do not identify the problem,please contact the service certer.
Sound is faint, distorted,or noisy	• Are the channel GAIN controls,channel fader,STEREO OUT Master fader and GROUP fader set to appropriate levels? • Are two different instruments connected to the XLR-type and phone jacks,or to the phone and RCA pin jacks on one channel? Please connect to only one of these jacks on each channel. • Is the input signal from the connected device set to an appropriate level? • Are you applying the effects at an appropriate level? • Are microphone connected to the MIC input jacks? • If you are using condenser microphone,is the PHANTOM +48V switch turned on?
No effect is applied	• Check that the EFFECT control on each channel is correctly adjusted. • Be sure that the FX control and EFFECT fader are correctly adjusted.
I want spoken words to be heard more clearly.	• Adjust the equalizers on each channel.
I want to output a monitor signal through speakers.	• Connect a powered speaker to the AUX jack, or to the AUX1 or 2 jack and turn the PRE switch on each channel on. Then adjust the output signal by using the AUX controls on each channel.
The level meter doesn't show the output signal level.	• Are the PEL switches for the channels that you are not using turned on?

The products referred to in this manual conform to the European Community Directives to which they are subject:

- Low Voltage (LVD) 2014/35/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Restriction of Hazardous Substances (RoHS) 2011/65/EU

CE

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