

MACKIE

1402-VLZPRO

TV Quick Reference Guide





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This symbol indicates that the following section discusses advanced functions of the Mackie 1402-VLZPRO. For most studio applications, understanding these features is not necessary. However, in certain circumstances, the options described may be useful for your productions.



Mixer Layout

Patchbay

Channel Strips



Output Section

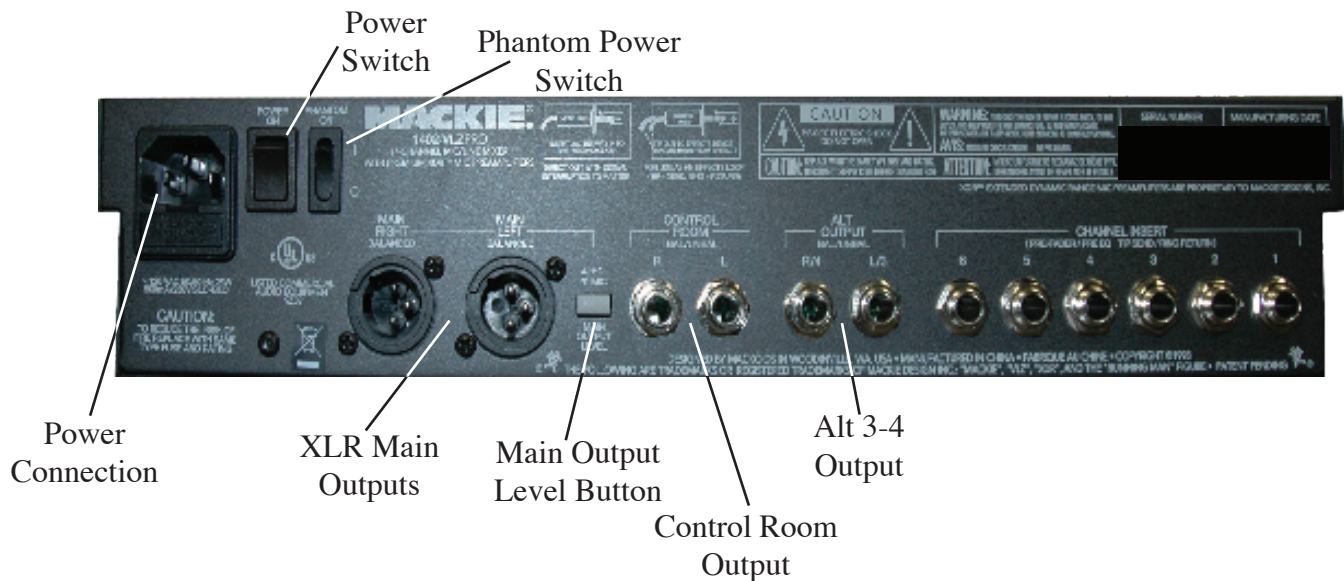
Patchbay: All audio equipment plugs in here, including microphones, CD Players, Line-level instruments, and headphones. This is also where the main output device plugs in, such as a DV Deck.

Channel Strips: These strips control the level of their respective inputs, and also contain the equalizer and effect controls, and the Mute and Solo buttons. The six strips on the left are for individual mics or mono instruments, and the four strips on the right are designed for stereo or mono line-level sources (CD players, etc).

Output Section: Controls the overall mix of all channels and effects.





Mixer Layout (continued)




Phantom Power Switch: Toggles the phantom power supply for condenser microphones plugged into the mic inputs on channels 1-6. Phantom Power **MUST** be on when using Shure MX184 microphones that do not have their own power supply.

 **XLR Main Outputs:** The main board mix flows through these two balanced XLR outputs.

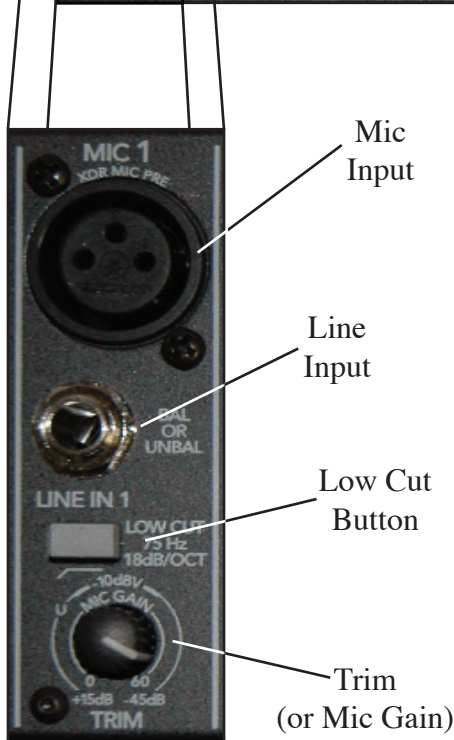
 **Main Output Level Button:** Engaging this button lowers the level of the XLR Main Output by 30dB. For studio use, this button should be engaged. For microphone wall jacks in auditoriums, cafeterias, etc., this button should be disengaged.

 **Control Room Output:** The CTL Room mix flows through these balanced 1/4" jacks. This output will be discussed in greater detail later on (pgs. 8&9).

 **Alt 3-4 Output:** The Alt 3-4 mix, as determined by the Mute/ALT 3-4 button on the channel strips, flows through these balanced 1/4" jacks. This output will be discussed in greater detail later on (pgs. 8&9).



The Patchbay



Mic Inputs: Almost any kind of mic that has a standard XLR-type male mic connector can be plugged into these inputs, which will handle any mic level without overloading. Ribbon, dynamic, and condenser mics all sound excellent through these jacks.

Phantom Power: Most modern professional condenser mics are equipped for Phantom Power, which they need in order to function properly. Phantom power will not affect dynamic mics, therefore allowing you to have both condenser and dynamic mics plugged into the same board. You should never plug single ended (unbalanced) microphones or instruments into the MIC IN jacks if the PHANTOM power is on. Do not plug instrument outputs into the MIC IN jacks unless you know for certain it is safe to do so.

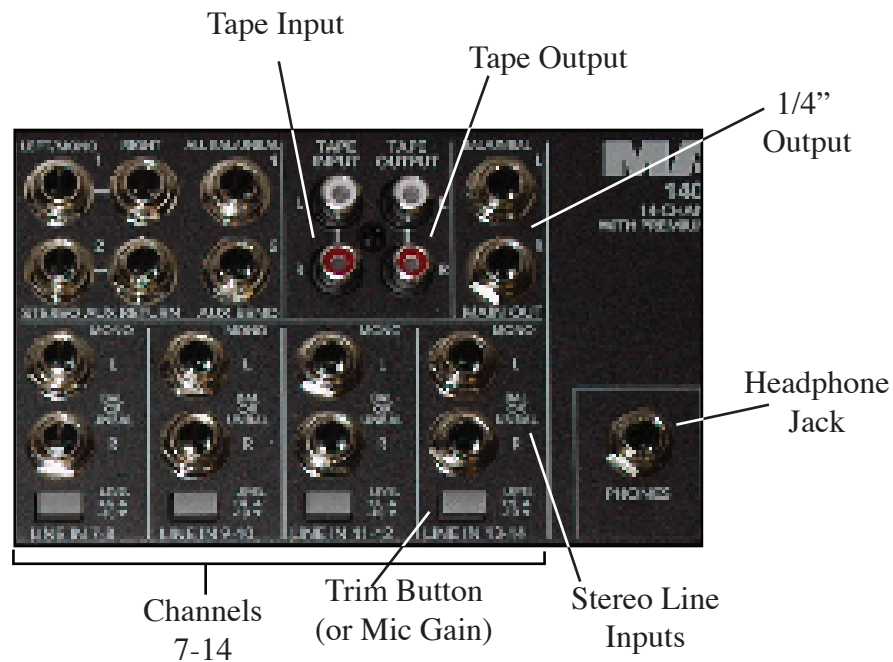
Line Inputs: Balanced or unbalanced sources at almost any level may be plugged into these inputs.

Low Cut Button: This button progressively cuts bass frequencies below 75Hz, eliminating stage rumble, mic handling clunks and breath pops. This affects the mic inputs only.

Trim Knob (or Mic Gain): This knob adjusts the input sensitivity of the mic and line inputs. When using the XLR input, this knob should normally be turned 75 -80% clockwise (right) for use with a microphone. When using a CD , Cassette, VCR or DVD Player, turn the knob almost completely counterclockwise (left).



The Patchbay (continued)



Stereo Line Inputs (Channels 7-14): These fully balanced inputs are designed for stereo or mono, balanced or unbalanced signals. For a mono source, plug the jack into the Left channel and leave the Right channel empty - the Mackie board will automatically send the signal through both channels.

Trim Button (or Mic Gain): This button adjusts the input sensitivity of the line inputs on channels 7-14. Engaged the audio is boosted by 4dB, disengaged the audio is lowered by 10dB.

Tape Input: These RCA jacks may be used to connect devices such as tape, CD, or DVD players. In order to hear this input in the main mix, the Tape button and the Assign to Main Mix button must be engaged in the Output Section of the board.

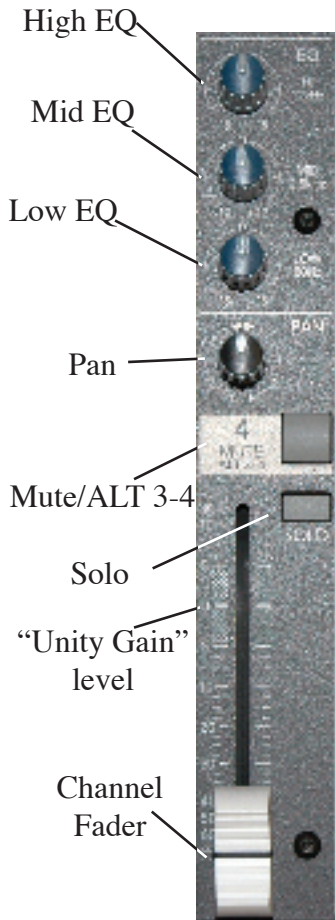
Tape Output: These RCA jacks output the Main Mix. This is the main output source. From here the audio can be sent to a DV deck, a DVD/VCR recorder, a computer input, etc.

1/4" Output: These balanced 1/4" jacks output the Main Mix.

Headphone Jack: Any pair of headphones, whether 1/4" or 3.5mm (with the appropriate adaptor) may be plugged into this output. The levels for the headphone jack are controlled by the CTL Room/Submix fader. The sources output through the headphone jack are determined by the C-R/SOURCE area of the board's Output Section.



The Channel Strips



The Mackie 1402 VZLPRO Board contains 10 channel strips. The first 6 strips control XLR/Line Input channels 1-6, and the last four strips control Stereo Line Input channels 7-14 (7-8, 9-10, etc). The functions on the channel strips operate the same regardless of what type of input they control.

Channel Fader: The Fader controls the channel's level - from off (fully down) to unity gain at the "U" marking, on up to 10dB of additional gain (fully up).

Unity Gain "U": After adjusting the input signal (using the Level-Setting Procedure), placing the fader at the "U" marking indicates no change in the signal level, giving you optimum levels for your mix.

Solo: This button mutes all other channels in the Control Room and Head-phone Mix, allowing you to preview a channel without having to bring it into the Main Mix. You can solo as many channels at a time as you desire. When you solo a channel, that channel's levels will be displayed on the Meters. **Warning:** if the Assign to Main Mix button is engaged in the Output Section, pressing the Solo button will send that channel to the Main Mix.

Mute/ALT 3-4: This button serves two purposes. First, by engaging this button, its respective channel will be cut from the Main Mix. **Second, any channel with this button engaged will be assigned to the ALT 3-4 Mix. This is then fed to the ALT 3-4 output on the back of the board. This separate mix may be reintroduced to your Main Mix by engaging the ALT 3-4 and Assign to Main Mix buttons in the Output Section, thus allowing you to control an entire group of channels (the ALT 3-4 Submix) with the one fader (CTL Room/Submix Fader).**

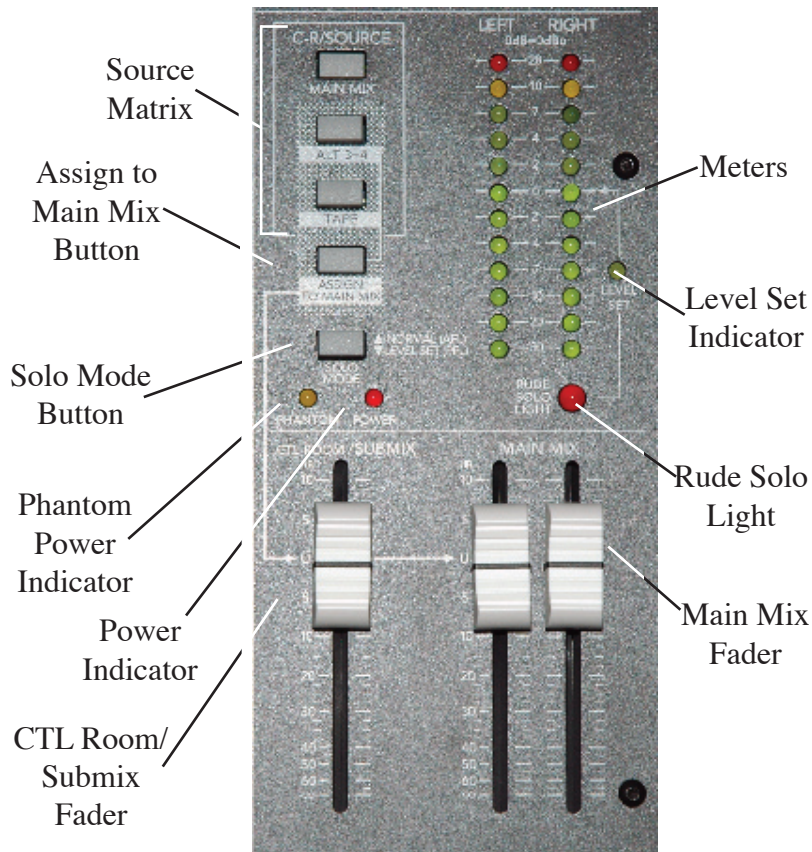


Pan: This knob adjusts the amount of channel signal sent to the left versus the right output. On mono channels (ch. 1-6 or 7-4 with connections to the Left input only), this knob simply adjusts the balance between the left and right outputs of that channel. On stereo channels (7-14) with connections in both the Left and Right inputs, this knob adjusts the balance between the Left and Right inputs of that channel.

Equalizer Controls: Each knob allows for a 15dB cut or boost to its range. The Low EQ knob adjusts frequencies below 80Hz (bass drums, bass guitar, etc.), the Mid EQ knob adjusts frequencies centered around 2.5 KHz (most defining frequencies are found in this range), and the High EQ adjusts frequencies from 12KHz upward to 20KHz (cymbals, tape hiss, etc).

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The Output Section



Main Mix Fader: This fader controls the levels of signals sent to the Main Outputs: XLR, 1/4" and RCA Tape Out. All Channels that are not muted or turned fully down will be output through the Main Mix, which is final product that is sent to your recording devices.

Source Matrix: This section allows for you to hear something other than the Main Mix. Via the Source Matrix buttons, you can choose to listen to any combination of the Main Mix, ALT 3-4 and Tape sources. Remember, the ALT 3-4 is the additional stereo mix created by activating the Mute/ALT 3-4 button on the channel faders. The Tape button brings in the stereo signal coming from the RCA Tape Input. Selections made in the Source Matrix deliver signals to the Control Room Output, Phones, and Meters. If no buttons are engaged, nothing will come through these outputs and the meters will not display any signal.

The exception to that is if a Solo button is engaged. Regardless of the Source Matrix selections, engaging a channel's Solo button will replace that selection with the Solo signal, which will also be sent to the Control Room and Tape Outputs, and the Phones.

 **CTL Room/Submix Fader:** This fader controls the levels of the Control Room Output and the Phones. When the Main Mix is your Source Matrix selection, the levels are controlled by both the CTL Room/Submix Fader and the Main Mix Fader. When the Tape or ALT 3-4 source is your selection, the CTL Room/Submix Fader is the only controller for their levels.

Solo Mode Button: Whenever a Channel's Solo button is engaged, its audible levels (sent through the Control Room Output and the Phones) are controlled by the CTL Room/Submix Fader. The Meters, however, will not indicate the audible levels. With the Solo Mode button in the up position, you'll hear the soloed channel after it has been run through its Trim, EQ, Fader, and Pan controls, and the Meters will display these levels regardless of the CTL Room/Submix Fader's position. This is called AFL Mode (After-Fader Listen). However, with the Solo Mode button down, you'll hear the soloed channel before its Faders are applied (but post-EQ), allowing for a quick check of the channel even if its fader is all the way down. This is called PFL mode (Pre-Fader Listen).



The Output Section (continued)

Assign to Main Mix Button: This button, when engaged, sends any selection in the Source Matrix to the Main Mix, with the level control being the CTL Room/Submix Fader. In this way, you can send the Tape Input to the Main Mix, or you can assign various channels to the ALT 3-4 Mix (by Muting them) and then send the ALT 3-4 Mix to the Main Mix by engaging the ALT 3-4 button in the Source Matrix and the Assign to Main Mix button. By doing this, you'll be able to control all of your ALT 3-4 channels with one fader, creating a handy submix. Be aware that engaging the Assign to Main Mix button will also send any soloed channels into the Main Mix.

Meters: The Meters are actually many displays in one, but to simplify things, remember that they only display the levels of the Source Matrix selections or Soloed channels. If nothing is selected in the Source Matrix and no channels are soloed, then there will be no display on the Meters. So, if you want the Meters to display the levels of the Main Mix, engage the Main Mix button in the Source Matrix.

If, however, you want to monitor the levels of another channel *before* sending it to the Main Mix, that's where the multiple meter displays come in handy. Simply Solo any channel and its levels will take over the Meters. Another feature of the Meters is that they display a channel's Source before it is affected by the CTL Room/Submix Fader. So even if the CTL Room/Submix fader is all the way down, the Meters will still display a reading as long as the channels are exporting a signal. If a channel's fader is all the way down as well, then the Meters will not display a reading unless they are in Pre-Fader Listen mode.

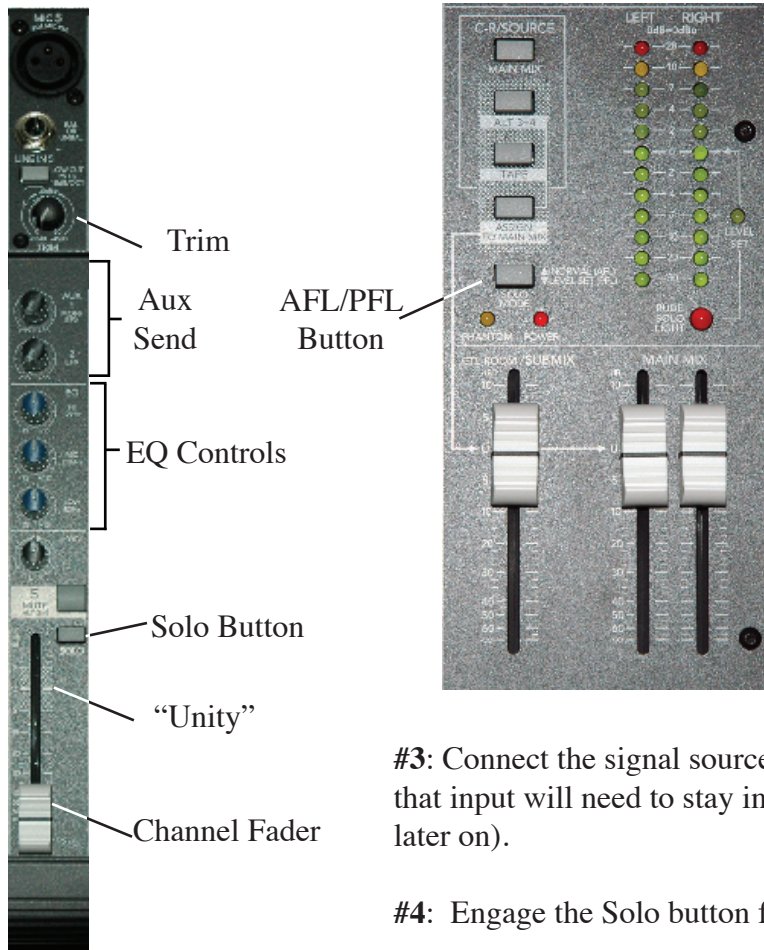
Level Set Indicator: This light will glow solid green during the Level Setting Procedure.

Rude Solo Light: This light will flash red when any channel's Solo button is engaged. If you find yourself unable to hear anything through one of your outputs, check the Rude Solo Light, as a Soloed channel could be the root of the problem.

Power/Phantom Power Indicators: These lights will glow when the board is receiving power and when the Phantom Power switch is engaged, respectively.

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Level Setting Procedure



The Mackie 1402 contains a built-in procedure for setting the levels for channels 1-6. This procedure adjusts the Trim of the channels so that the “Unity” marking of each channel represents 0dB of output. The steps must be performed one channel at a time.

To listen to the adjustments while they are being performed, plug headphones into the Phones jack and set the CTL Room/Submix fader to about one quarter of the way up.

#1: Turn the Trim, Aux Send, and Fader controls fully down.

#2: Set the EQ knobs at the center position.

#3: Connect the signal source to the channel input (this is the channel where that input will need to stay in order for this procedure to benefit your mixing later on).

#4: Engage the Solo button for that channel.

#5: Engage the AFL/PFL (Solo Mode) button in the Output Section (the green Level Set Indicator will turn on).

#6: Play something into the selected input. You may use an instrument, a singing or speaking voice, or a line input such as a CD player output. Be sure that the volume of the input is the same as it will be during normal use.

#7: Adjust the channel’s Trim control so that the display on the meters stays around 0dB and never goes higher than “+7” (the meters will only light up on the right bar during this procedure).

#8: If you would like to apply some EQ, do so now and then repeat step 7.

#9: Disengage that channel’s Solo button and repeat for each of Channels 1-6.