

# Great River MixMaster 20

## Preliminary Manual

### INITIAL CONNECTIONS:

Caution: DO NOT CONNECT AC TO THE POWER SUPPLY BEFORE THE SUPPLY IS CONNECTED TO THE MIXER!!!

Connect the mixer and power supply with the supplied cable. This cable is the same on either end, and is keyed so it will only go in the mating connector one way. Be sure the ring is turned down, about three-quarters of a turn, you will feel it lock. Do this at both the mixer and power supply end of the cable.

Choose a good location for the supply, with convenient access to the power switch, but not too close to any audio cables. Give at least 6 inches of clearance between audio cables and the supply.

Microphone inputs are standard female XLR's, wired pin 2 hot. Phantom power is switched on an individual channel basis on the front panel.

The mixer can be connected to your computer via the USB connector on the rear panel. This allows the simple mixer memory application to be used. This application is supplied in both Windows and Mac versions.

The remote talkback jack is a ¼" TS phone jack for connecting a foot switch. Connecting tip to sleeve activates the talkback function, releasing the connection de-activates talkback.

## INITIAL CONNECTIONS: (Continued)

All other connections to the mixer are via DB-25 connections, wired in the Tascam wiring standard.

### DB-25 Connector # 1

This connector has inputs One thru Eight, in order.

### DB-25 Connector #2

This connector has inputs Nine thru Sixteen, in order

### DB-25 Connector #3

This connector has inputs Seventeen thru Twenty, in order in positions 1 thru 4 and in position 7 and 8 are Tape Returns Left and Right.

### DB-25 Connector #4

This connector has Patch Sends for input channels 1-4 wired in positions 1 thru 4 and Patch Sends for the Stereo Mix Left and Right in positions 5 and 6.

### DB-25 Connector #5

This connector has Patch Returns for input channels 1-4 wired in positions 1 thru 4 and Patch Returns for the Stereo Mix Left and Right in positions 5 and 6.

## INITIAL CONNECTIONS: (Continued)

### DB-25 Connector # 6

This connector has the Direct Outputs of input channels 1-4 on positions 1 thru 4 and Auxilliary Mix Outs 1 thru 4 on positions 5 thru 8.

### DB-25 Connector #7

This connector has the Stereo Mix Left and Right Outputs on positions 1 and 2, Cue Out Left and Right on positions 3 and 4, Speaker A Out Left and Right on positions 5 and 6, and Speaker B Out Left and Right on positions 7 and 8.

All connections in the DB-25 pin connectors are balanced +4dBu signals and must have both the hot and cold connections made to operate correctly. They may be unbalanced by connecting the cold line to ground, which is not recommended but not illegal.

## BASIC OPERATIONS:

The MixMaster 20 has a fairly long turn-on sequence, about 30 seconds. The logic circuitry powers up first and stabilizes, then the middle voltages that power the summing input channels (5-20) and the monitor section stabilize, then the long slow ramp of power for input channels 1 to 4 and the mix and fader amplifiers stabilizes. This power also lights the meters, so when they come on the unit is ready to go.

The control room function switches are on the right edge of the unit and include from top to bottom the Speaker B and A selectors, the Tape button, Patch button and Talkback.

Speaker A and B control the feed of audio to either or both outputs.

Tape allows instant comparison between listening to the mix when not pressed, or the stereo return from your mixdown recorder when pressed.

Patch allows instant comparison between listening to the mix without any effects in the patch loop, or to the full chain when pressed. It is a hardwire bypass of the patch loop.

Talkback is as expected. The talkback microphone signal is injected into the Cue output, the mix signal to the speakers is dimmed, as well as the mix signal to the cue outs.

Control Level affects only the signal to Speaker A and B.

The sideways mounted fader is a high quality Penny & Giles stereo conductive plastic audio taper unit. It controls the gain of the fader amplifier, which is the return part of the stereo mix patch send and return. The output of the fader amplifier is the main stereo mix that is fed to your 2-mix recorder. The fader amplifier operates at unity gain when the fader is set to 0. The fader amplifier is

## BASIC OPERATIONS: (Continued)

transformer coupled on both the input and outputs. The maximum signal level at the output is +29dBu. The input impedance of the fader amplifier is about 50K ohms, enough to not load any professional equipment used in the patch loop.

The send for the stereo patch loop is the output of the main mixing amplifier. This is also fully transformer coupled, and also has a maximum output level of +29dBu.

The Talkback level knob controls the amount of talkback signal in the cue output.

This will normally be adjusted to about 12 or 1 o'clock.

The middle right section of the panel, underneath the stereo meters is the summing inputs control function area. This is where channels 5-20 are assigned to the mix, levels and pans set, cleared, and soloed.

To Assign a channel to the mix:

Press CHAN, turn the SELECT knob until the blinking green LED is at the channel you wish to use, then press the SELECT knob, this will change the LED from blinking to solid green. You can continue to select more channels, or you can assign level or pan values. To set level, press LEVEL and turn the SELECT knob to bring the gain of the channel(s) up to the desired point. The blue LEDs will show the level, although there are more settings than LED's. Once the level is set, push and hold the SELECT knob and press the SAVE button. Once a setting for a channel has been saved the LED will turn solid red, unless it is reselected for another setting operation.

## BASIC OPERATIONS: (Continued)

To set pan position, reselect the channel, then instead of pressing LEVEL, press PAN, rotate SELECT to put the signal in the desired position (indicated by the green and single center red LEDs), then press and hold SAVE and the SELECT knob again.

You can select multiple channels and assign levels, then go back and pick the odd numbered ones in the group and set pans to the left, reselect the evens, set pans to the right without altering the levels previously set. This is helpful when setting up multiple stems.

To remove channels from the mix bus, select them first, then press the CHAN button again, push and hold the SELECT knob and press CLEAR.

To solo a channel, or group of them, select by pressing the CHAN button and rotating and pressing the SELECT knob as above, then press SOLO. This will mute any other channels in the mix, or if the solo buttons on channels 1 thru 4 are pushed at the same time they will also be heard. To clear a solo group, press CLEAR, unless you have accidentally pressed CHAN again, in which case simply press LEVEL then CLEAR.

In this mixer, soloing is what is known as “destructive” solo, in other words the action of soloing something is actually turning everything else off on the mix bus, so if you are recording the mix, you will hear the solo action.

It takes longer to describe these operations than it takes to do them, so a few tries will make it clear.

## BASIC OPERATIONS: (Continued)

### Channels One thru Four

These channels are transformer coupled in and out, have a maximum direct output level of +29dBu, and have both mic and line inputs.

The microphone preamp is a transformer coupled high gain low noise design that will accept up to a +15dBu microphone signal. Phantom power is applied with the +48 button in. Set the desired preamplifier gain with the MIC GAIN pot. Normal operation is with the channel LEVEL pot at the 0 position, but this can be varied as needed.

The line input stage is also transformer coupled, and will accept up to a +24dBu signal. Set the line input sensitivity with the LINE GAIN pot. Unity gain operation is at 0. Again, normal operation is with the channel LEVEL pot at the 0 position.

Operation of the channel is selected by the MIX/LINE pushbutton, out is mic in, line input is selected with the button in. Polarity of either signal will be reversed when the POLARITY button is pressed.

When the PATCH button is pressed, the external patch loop return for that channel will be selected. The patch send is always active. This allows you to instantly listen to the effect of any processing in the loop. It is a hardwire bypass of the loop.

These channels may be sent to the mix bus by pressing the TO MIX button. The channel may also be soloed with the SOLO button.

Each channel may also be assigned to any of four auxiliary busses by pressing the appropriate AUX button, and raising the level of the corresponding AUX pot. These outputs are only active when the channel is assigned to the mix bus.

## BASIC OPERATIONS: (Continued)

The application program.

This is a simple program that stores the important mixer settings and a number of text notes that can be saved with other session files to make recreating a mix much easier.

Simply connect the computer to the mixer with the USB cable, communications will be established and indicated by the green “LED” on the program’s graphic display.

Text notes can be entered into the various boxes regarding outboard equipment used, or channel level settings on the first four non-recallable channels. The level and pan settings of channels 5 thru 20 will be automatically stored when you save current settings to a file.

Setting the mixer up for a mix can be simplified by making template files and using them to get things in place rapidly, then store as a new file when everything is finished.

Please feel free to call me with any questions:

Dan Kennedy

Great River Electronics

651-455-1846

[dkennedy@greweb.com](mailto:dkennedy@greweb.com)