

FUTURERETRO

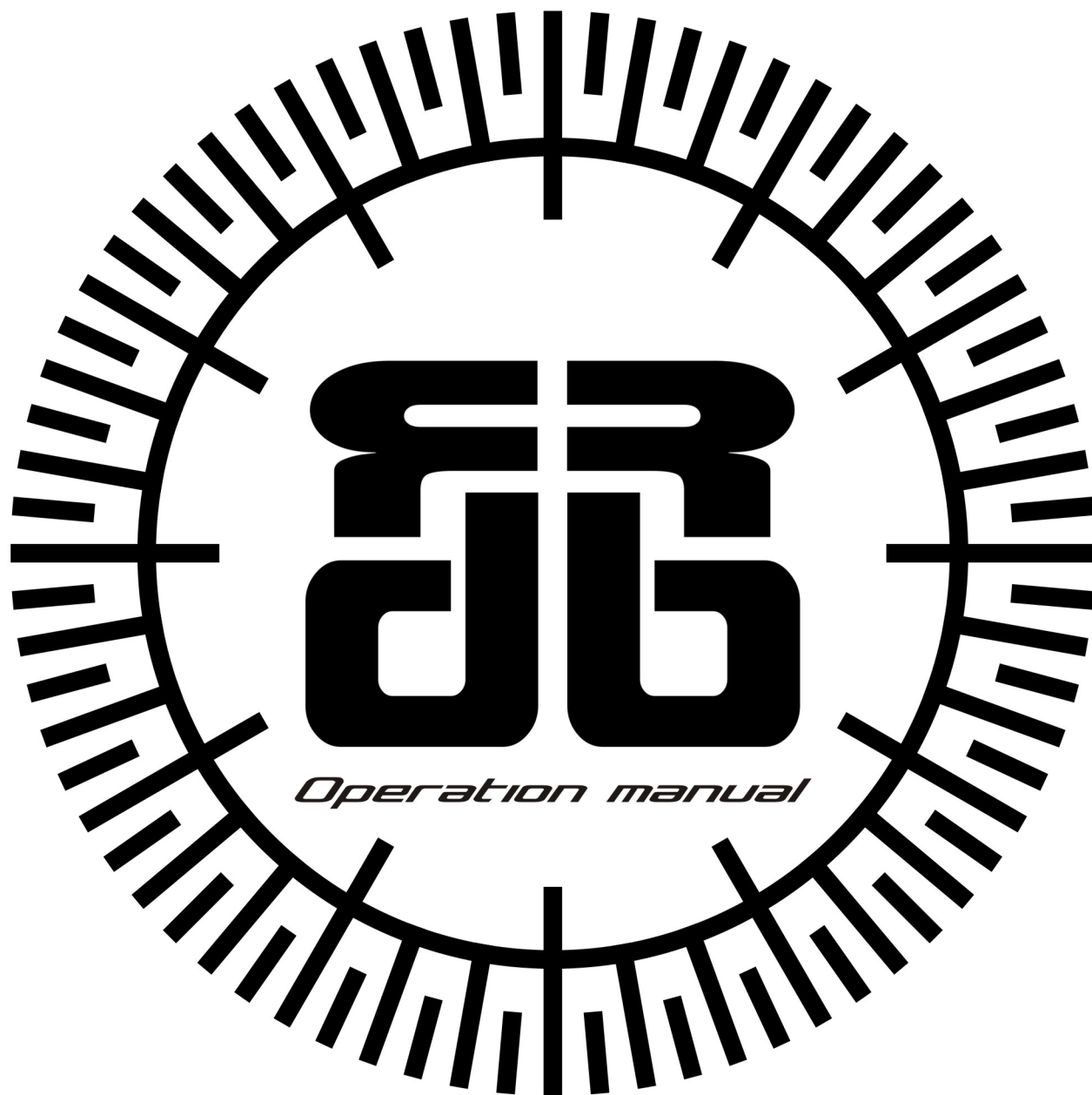


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INTRODUCTION

Thank you for choosing the **db**. Please take time to read through the entire manual to gain a complete understanding of the unit's features, as well as learn helpful procedures, precautions, and tips.

OVERVIEW

The **db** is designed to be the core of the modern recording artist's studio. This multifunctional device can be used for tracking, summing, and mastering your audio tracks, as well as full control of your monitoring system.

Only the finest quality components have been used in manufacturing this device for the best possible performance. Each product is entirely hand soldered and assembled, inspected, and tested in-house to meet our high-quality standards and provide trouble-free use.

All inputs and outputs are fully balanced, and internal signal routing is 99 percent balanced for the lowest possible noise.

All summing is passive, and switching is handled by high-voltage relays, providing a color-free/noise-free audio path, with outstanding headroom.

Up to 16 channels of audio summing are provided.

You can use your preamp of choice for desired accuracy or color, or audition different preamps to get the right tone for each job.

Hard bypass switching is provided for eight stereo insert channels of buss processing, allowing for quick auditioning of your favorite outboard hardware.

Mid/side processing is provided for controlling the width of your mixes and processing the mid/side signals independently.

Parallel processing is provided on the buss processing chain and can act as a quick way to A/B the pre/post signals of the buss.

Track control provides monitor level control for microphones or the instrument you are tracking.

The monitor section allows you to check your mixes quickly on any combination of three stereo monitor pairs, as well as on headphones. Mixes can be auditioned as stereo or mono audio.

Monitoring output is stepped to provide quick selection of ideal mixing levels.

Delayed monitor activation at power on/off prevents transients from harming your monitors.

The **db** also provides latency-free monitoring of the instrument that you are tracking, versus backing tracks playing in your digital audio workstation (DAW).

PRECAUTIONS

Look over the unit to make sure no damage has occurred during shipping. Never apply power to a unit that appears damaged.

Check that the red voltage indicator on the power switch is set to the proper voltage for your country.



To change the voltage selection, first make sure the power cord has been removed from the unit. Open the voltage selector/fuse cover (near the mounting screw). Gently pry the red fuse holder out of the enclosure, rotate it 180 degrees and reinsert the fuse holder. Close the fuse cover and verify that the correct voltage for your country is displayed in the window.

Use the proper pin-style IEC power cord for use in your country.

Replace the fuses only with 250V 1Amp fast-blow type.

Do not open the unit, since there are no user-serviceable parts inside. Dangerous high voltages exist within the unit even when the unit is unplugged or turned off. Refer all servicing to qualified personnel.

Never expose the **db** to rain or moisture. If liquids are spilled into the unit, unplug from the power mains immediately, and let the unit sit in a dry warm environment until all moisture has evaporated.

Avoid exposing the unit to smoke, or to dusty, or extreme hot and cold environments, as these things may cause premature component failure.

Clean the exterior of the **db** with a soft dry cloth. Never use abrasive cleaners that may harm the surface and finish of the unit.

Do not block ventilation holes in the chassis. When rackmounting the **db**, leave space above and below the unit for proper ventilation.

Disclaimer

All information represented in this manual is believed to be accurate at the time of publication. Any addendums to the manual and further product support may be found on the Support page of our Web site: www.future-retro.com/support.html

Product specifications may be subject to change.

Future Retro assumes no responsibility for inaccuracies, errors, omissions, nor liability for any loss or damage resulting directly or indirectly from the use, misuse, or abuse of this product.

Information in this manual may not be copied, reproduced, or distributed in any form without permission from Future Retro.

Warranty

The db comes with a 1-year warranty covering all parts and labor.

Please register your product at: www.future-retro.com

WIRING

All DB-25 connectors are for use with standard D-sub 8-channel snakes. Use high-quality audio cables whenever possible.

DB-25 wiring for SUMMING IN 1-8 connector

CHANNEL	SHIELD	+SIGNAL	-SIGNAL
1	25	24	12
2	11	10	23
3	22	21	9
4	8	7	20
5	19	18	6
6	5	4	17
7	16	15	3
8	2	1	14

XLR jacks wiring:

PIN 1 = Ground
PIN 2 = Positive (HOT)
PIN 3 = Negative (COLD)

Instrument jacks wiring:

TIP = Positive (HOT)
RING = Negative(COLD)
SLEEVE = Ground

Headphone jack wiring:

TIP = Left channel
RING = Right channel
SLEEVE = Ground

DB-25 wiring for SUMMING IN 9-16 connector

CHANNEL	SHIELD	+SIGNAL	-SIGNAL
9	25	24	12
10	11	10	23
11	22	21	9
12	8	7	20
13	19	18	6
14	5	4	17
15	16	15	3
16	2	1	14

DB-25 wiring for BUSS IN/OUT 1-4(5-8) connectors

CHANNEL	BUSS INSERT	SHIELD	+SIGNAL	-SIGNAL
1	1(5) LEFT	25	24	12
2	1(5) RIGHT	11	10	23
3	2(6) LEFT	22	21	9
4	2(6) RIGHT	8	7	20
5	3(7) LEFT	19	18	6
6	3(7) RIGHT	5	4	17
7	4(8) LEFT	16	15	3
8	4(8) RIGHT	2	1	14

SPECIFICATIONS

SIGNAL LEVELS: > +28dBu

AC POWER INPUT: 115V/230V ~ 50-60Hz

AC POWER CONSUMPTION: 400mA current

FUSES: 250V 1Amp fast blow

DIMENSIONS: 15"(L) x 19"(W) x 3.5"(H)

WEIGHT: 12.5 lbs.

INPUTS

2 Microphone (XLR)

2 Instrument (1/4")

16 Summing (DB-25)

8 Stereo buss processors (DB-25)

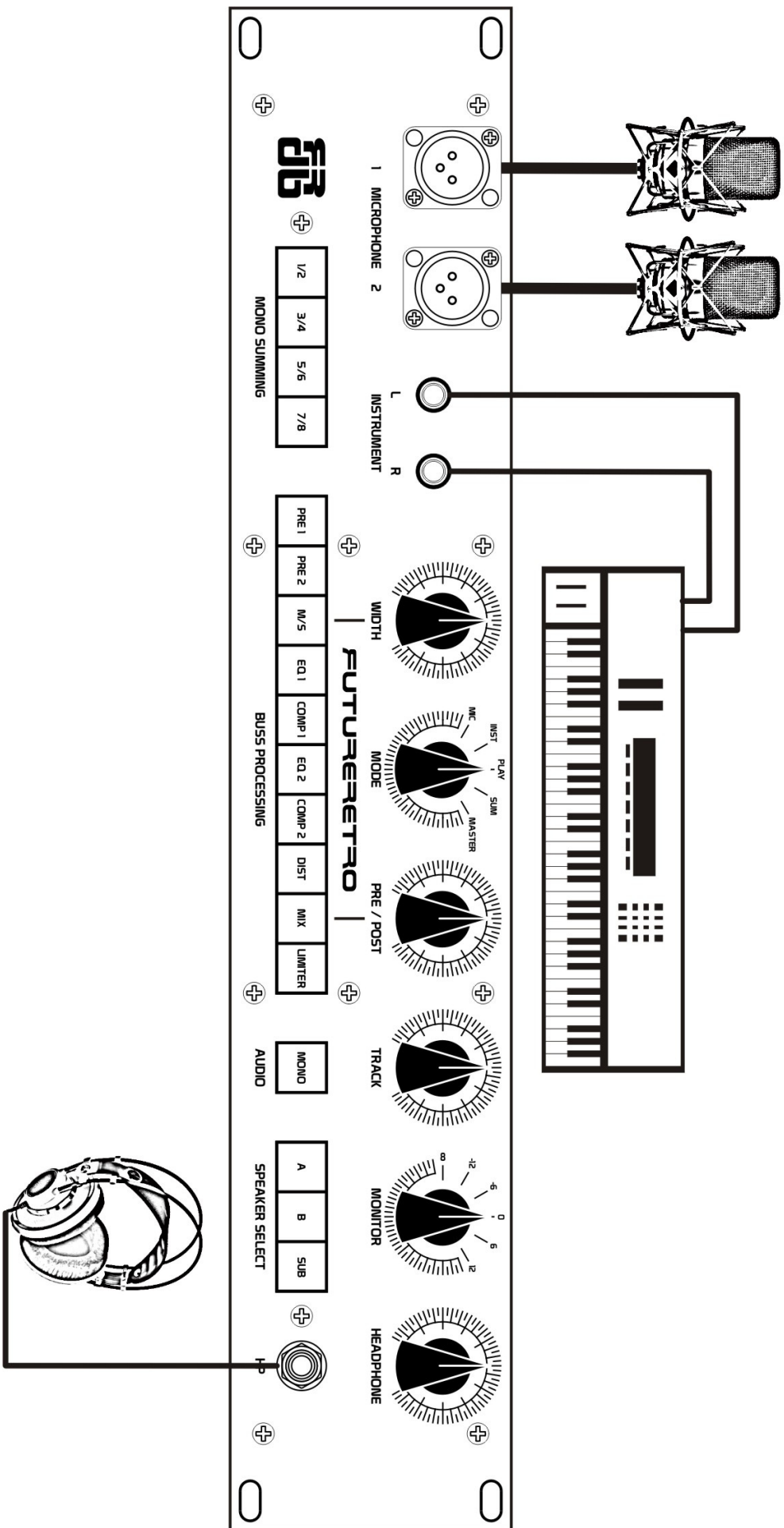
OUTPUTS

8 Stereo buss processors (DB-25)

2 Record (XLR)

6 Monitor (XLR)

1 Headphones (1/4")



CONNECTIONS



Microphones should be connected to MICROPHONE inputs 1 and 2 on the front panel.

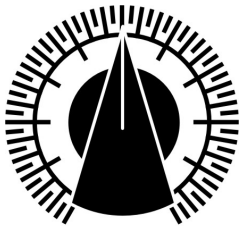
If you are doing stereo recording, input 1 will be Left channel while input 2 will be the Right channel.

1 MICROPHONE 2



L R
INSTRUMENT

Connect the outputs of your instruments to the respective L / R INSTRUMENT inputs on the front panel.



HEADPHONES

Connect your headphones to the front panel jack labeled HP.

The HEADPHONES control adjusts the audio sent to the headphones. The headphones will monitor the same signal that is being sent to monitors A, B, and SUB.

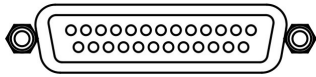
The headphone amplifier has very high gain. Start with this control turned fully counter-clockwise, and slowly rotate clockwise until the desired level is reached.



HP

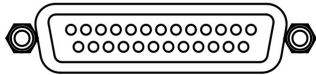


SUMMING IN 1-8



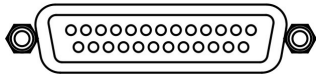
Connect channels 1-8 OUT of your DAW audio interface to SUMMING IN 1-8.

SUMMING IN 9-16



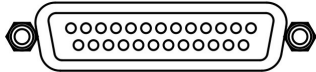
If your DAW audio interface has 16 outputs, connect channels 9-16 OUT to SUMMING IN 9-16.

BUSS IN 1-4



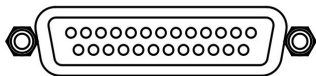
Connect the outputs of your first 4 hardware buss processors to BUSS IN 1-4.

BUSS OUT 1-4



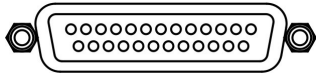
Connect the inputs of your first 4 hardware buss processors to BUSS OUT 1-4.

BUSS IN 5-8



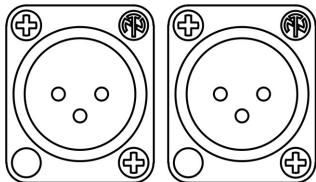
Connect the outputs of your second 4 hardware buss processors to BUSS IN 5-8.

BUSS OUT 5-8



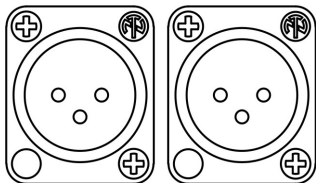
Connect the inputs of your second 4 hardware buss processors to BUSS OUT 5-8.

MONITOR A RIGHT LEFT



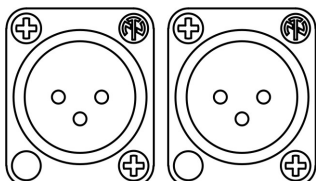
Connect MONITOR A outputs to your near-field monitor amplifier inputs.

MONITOR B RIGHT LEFT



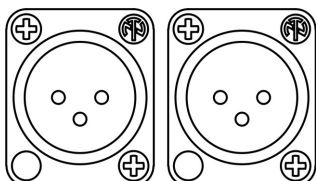
Connect MONITOR B outputs to your loudspeakers (or a second set of monitors) amplifier inputs.

MONITOR SUB RIGHT LEFT



Connect MONITOR SUB outputs to your subwoofer (or a third set of monitors) amplifier inputs.

RECORD OUT RIGHT LEFT



Connect the RECORD OUT outputs to inputs 1/Left and 2/Right of your DAW's A/D converter.

SETTING UP YOUR SYSTEM



Once the **db** is fully connected to your system, you should calibrate the sound pressure level (SPL) of audio in your room.

Set the MONITOR control to the 0 dB setting, and set the MODE control to PLAY.

Set your DAW master output channels to outputs 1 and 2 of your audio interface. Play source material in your DAW (white or pink noise may be preferable), and set the output of your DAW and audio interface so it is as close as possible to 0 dB without clipping.

Place a SPL meter in the location where you will be when monitoring and mixing your music.

Select the appropriate set of monitors by activating the A, B, or SUB switches, while adjusting the amplifier level for that respective monitor pair. You want to adjust your amplifier levels to achieve a SPL reading of approximately 85 dB.

The 0 dB setting on the MODE switch will now be your ideal monitoring setting. By monitoring your audio at this constant level, your ears will become accustomed to how music should sound at this level, and your mixes should improve.

The -12 dB and -6 dB settings will attenuate the monitoring level to check your mix at decreased levels, while +6 dB and +12 dB will allow you to check your mix at increased levels.

Avoid listening to audio at these higher levels for extended periods of time. Doing so can cause the ears to fatigue, misleading your judgment when making critical choices during mixing.

LABELING SWITCHES

Once you decide how external buss processors will be connected to the **db**, you should consider labeling the corresponding switches.

A transparency sheet is included for labeling these switches. When cutting out the labels, use the fine-dot grid to guide your cuts.

- * To remove the switch cap, depress the switch so it is in the outward position.
- * Using your fingers, grab the top and bottom of the switch cap and pull it off.
- * Use your fingernails or a thin flat blade to gently pry the clear plastic top off the white base.
- * Place the transparent label on the white base and install the clear plastic top on the base.
- * Reinstall the switch cap for the switch by aligning it and pressing it on the switch.

INSERT PROCESSORS EXAMPLE

Here is an example of how we set up our **db**. You can think of this as a starting point. Obviously, your hardware requirements and/or uses may differ.

PRE 1	PRE 2	M/S	EQ 1	COMP 1	EQ 2	COMP 2	MULTI	MIX	LIMITER
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BUSS PROCESSING

First you will notice we have stereo preamps for inserts 1 and 2.

If you are going to be doing any audio summing from your DAW, you will need a preamp for makeup gain.

Preamps in these locations will also be useful when tracking mics and instruments to get the optimum signal level for further processing and recording.

Having two preamps is nice, as you can choose different “colors” of amplification for different sources. You may choose one for “clean” precise work and another for “color” or adding mojo to your sound.

TIP: Activating both preamps simultaneously in the first two insert locations can also be used to generate overdrive and distortion if “clean” just isn’t your thing.

On insert 3 we have placed a parametric EQ that can then be used on the MID/SIDE process or as normal for stereo material. EQ is probably the most useful effect to use on the MID/SIDE process to really focus the low-frequency spectrum to the center channel while enhancing the high-frequency spectrum in the sides.

TIP: If more processors are required on the MID/SIDE insert, you can always daisy-chain the desired number of effects on BUSS 3 IN/OUT.

For insert 4 we placed a compressor to help tame peaks from the EQ on insert 3, or for general transient control.

For Insert 5 we use another EQ/sonic enhancement device. Sometimes you may prefer to EQ after compression occurs, or simply use a different “color” EQ than is setup for insert 3.

Insert 6 is another compressor, there simply for more tonal options. For instance the compressor on insert 4 in our case is tube-based, while the compressor on insert 6 is solid state optical for two totally different results.

For insert 7 we use a multi-effects processor. By setting the effects processor to have a 100 percent wet output, and then using the Pre/Post MIX control, we can vary the amount of effect mixed into our audio.

Insert 8 is a great place for a limiter. In this way you always maintain control over audio levels before they hit your DAW’s A/D converters. In addition, since the limiter is after the PRE/POST MIX process, it is easier to monitor a more constant level when checking the pre/post mix.

Keep in mind that some of the insert effects you use may be ideal for tracking purposes, while others are intended more for the mastering process. The nice thing about the **db** is that you have them all in one place so you can quickly check to see what works best for the task at hand.

AUDIO CONTROL

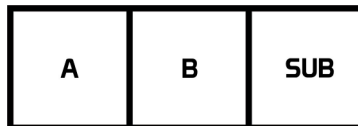


AUDIO

Activating the MONO AUDIO switch will take all stereo audio and convert it to a mono audio signal sent to both left and right monitors. Only the monitor signal will be converted to mono. The audio signal going through the BUSS PROCESSING and to the RECORD OUT will remain stereo.

This feature is useful to check the left/right phase of your stereo mix. It can also be used when tracking mono signals so that you hear this mono audio coming out both the left and right speakers.

SPEAKER SELECT



SPEAKER SELECT

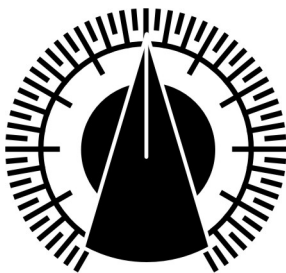
The SPEAKER SELECT switches allow you to turn on or off any combination of monitor speakers connected.

We recommend you have your near-field monitors as A, loudspeakers as B, and subwoofer as SUB although any combination of speakers can be connected.

Speaker selection is instantaneous and completely silent.

NOTE: If audio is playing while speaker selection is changed, transients may be heard only because selection was made while the waveform was at any phase other than 0. This is normal and will not harm your speakers.

TRACK CONTROL

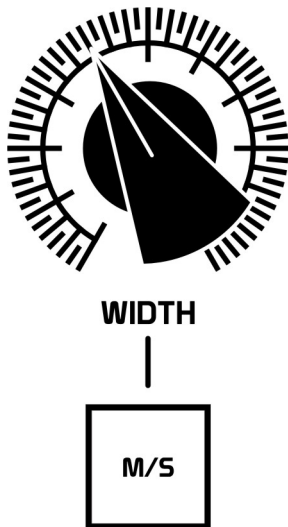


TRACK

The TRACK control allows you to adjust the monitoring level of MIC or INSTRUMENT signals while tracking those sources.

The 12 o'clock position is an ideal starting level. Rotating the control counter clockwise will decrease the level. Rotating the control clockwise will increase the level.

MID/SIDE PROCESSING



MID/SIDE processing allows you to process the left/right in-phase audio separately from the out-of-phase audio, allowing you to control the width of your audio stereo image.

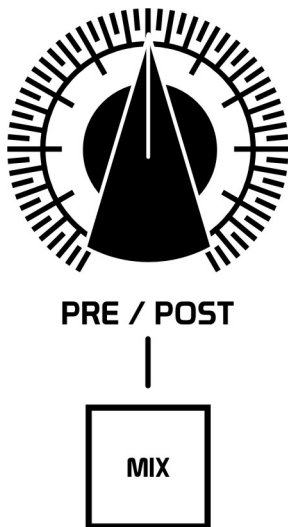
The MID signal is comprised of the in-phase left/right audio.
The SIDE signal is comprised of the out-of-phase left/right audio.

To hear the effect of the MID/SIDE processing, activate the M/S switch. With the WIDTH control at the 11 o'clock setting, you will hear an even mix between the MID and SIDE signals. As you rotate the WIDTH control counter-clockwise, the stereo image will become more mono. Rotating the WIDTH control clockwise will make the stereo image appear wider.

Activating BUSS PROCESSING insert switch 3 will allow you to externally process the MID and SIDE signals independently with the processor on insert 3.

The MID signal will be processed by the Left channel, while the SIDE signal will be processed by the Right channel.

PARALLEL PROCESSING



Parallel processing allows you to control the mix of the PRE and POST signals for the BUSS PROCESSING chain.

The PRE signal is taken from the output of BUSS PROCESSING insert 2.
The POST signal is taken from the output of BUSS PROCESSING insert 7.

Activate the MIX switch to hear the effect of parallel processing.

As you rotate the PRE/POST control counter-clockwise, you will hear more of the signal coming from insert 2's output. Rotating this control clockwise will increase the amount of signal heard that is passed through (all active) BUSS PROCESSING inserts 3 through 7.

Parallel processing works great on EQ, compression, distortion, and even multi-effects processors such as reverbs, delays, and so forth.

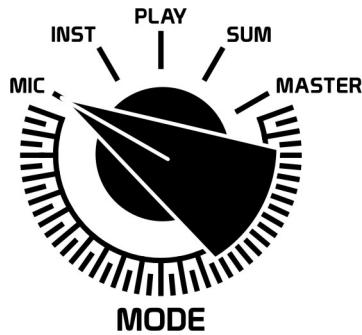
TIP: With the PRE/POST control in the PRE position, activating MIX is a quick way to A/B processes used on the BUSS.

TRACKING

First, prepare an audio track to record to in your DAW, setting the input source to inputs 1 and 2 (for stereo recording) or input 1 or 2 individually (for mono recording).

Mute the track that is being recorded to in the DAW to prevent feedback from occurring, and arm the track so that the level of incoming audio can be monitored.

TRACKING MICROPHONE SOURCES



To record microphone sources, set the MODE switch to MIC.

If recording a stereo pair of mics, input 1 will be the Left mic, input 2 will be the Right mic.

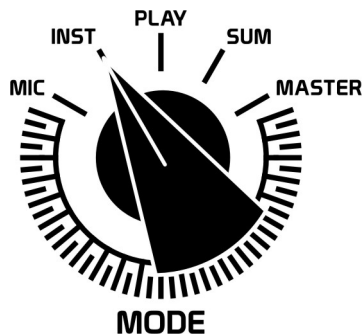
If recording from a single microphone, you may wish to activate the MONO AUDIO switch so that audio is heard in both the left and right monitors.

Activate the buss switch for the preamp you want to use. If the microphone requires phantom power, activate phantom power on the preamp. Increase the gain of your preamp to achieve the ideal recording level.

You may activate/deactivate any of the buss processors and make adjustments to their settings as you monitor the audio source. You can adjust the monitoring level of the instrument to be recorded, versus tracks playing in the DAW by adjusting the TRACK level control.

Once all is set, you can begin recording. When done recording, turn phantom power off at the preamp!

TRACKING INSTRUMENT SOURCES



Connect the instrument you are going to record to the INSTRUMENT L/R inputs on the front panel. Set the MODE switch to INST.

If recording mono audio source, you may wish to activate the MONO AUDIO switch so that audio is heard in both the left and right monitors.

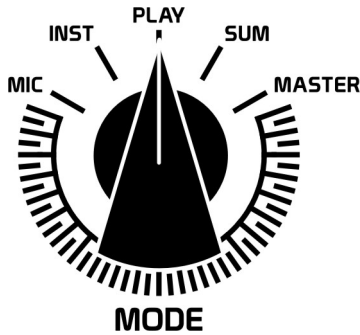
Activate the buss switch for the preamp you want to use. Increase the gain of your preamp to achieve the ideal recording level. You may activate/deactivate any of the buss processors and make adjustments to their settings as you monitor the audio source.

You can adjust the monitoring level of the instrument to be recorded, versus tracks playing in the DAW by adjusting the TRACK level control. Once everything is set, you can begin recording.

CAUTION: When changing MODES be aware if phantom power has been left on while recording a microphone source. While the **db** does have internal circuit protection that limits phantom power to +/-18V DC to anything connected to the INSTRUMENT and SUMMING inputs, and most professional devices will have some output circuit protection built in to prevent damage in such a case.

Damage may occur in devices without this sort of protection. For this reason, always turn phantom power off after recording a microphone session, or before changing modes in the **db**.

PLAYING TRACKS FROM THE DAW

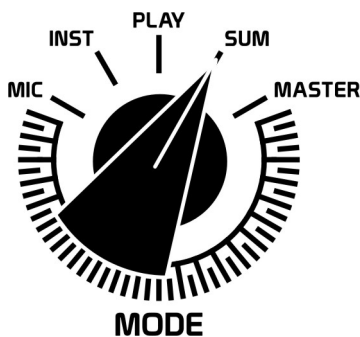


Select PLAY MODE to hear what you just recorded, or to monitor any other audio playing in the DAW. Make sure the master output of your DAW is set to outputs 1 and 2 of your audio interface and that the track you just recorded is unmuted.

This mode is nice as it allows you to record a track and then quickly monitor the recording without having to disrupt the selection and settings of the processor buss.

If you need to redo a recording, simply switch back to MIC or INST MODE, and arm the recording track.

SUMMING



Summing allows you to take multiple audio tracks and combine them into either a mono or stereo track.

You may notice when you listen to individual tracks in your DAW that they sound great, but after you accumulate lots of tracks, your audio starts sounding flat and lifeless. That's because software has to crunch what would be a very large number into a finite amount of space. In doing so, some details of your audio are bound to get discarded.

Many professionals choose to use analog summing to retain the high resolution of each track through the D/A converters. The audio is then combined with infinite resolution in the analog domain before being recorded back into the DAW.

You should find that this method helps preserve punch, presence, and channel separation.

To prepare tracks for summing, first you will need to set the tracks you want to sum for a specific output. If you are using an 8-channel audio interface, you can assign audio to outputs 1 through 8. With a 16 channel interface you can assign outputs 1 through 16.

You will typically assign each track to a different output to achieve the best results.

1/2	3/4	5/6	7/8
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MONO SUMMING

Notice that the front panel provides four MONO SUMMING switches for the first eight summing channels. When each switch is activated, that stereo channel then becomes two separate mono channels.

For instance, let's say you have a kick drum on channel 1, a bass drum on channel 2. By activating the 1 / 2 switch, channels 1 and 2 will both be panned to the center. Use mono summing on all instruments you want center panned.

NOTE: Selecting MONO SUMMING will make that audio input louder as it assigns a single audio input to both the left and right audio outputs. You can compensate for this by adjusting the track output level in the DAW.

With stereo inputs, you can use the pan control in your DAW to specify the stereo placement for that track.

Prepare an audio track to record the summed audio to in your DAW, setting the input source to inputs 1 and 2 (for stereo recording) or input 1 or 2 individually (for mono recording).

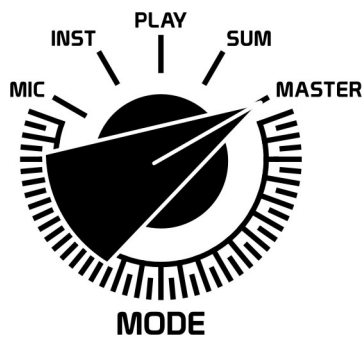
Mute the track that is being recorded to in the DAW to prevent feedback from occurring, and arm the track so that the level of incoming audio can be monitored.

Activate the buss switch for the preamp you want to use. Increase the gain of your preamp to achieve the ideal recording level.

You may activate/deactivate any of the buss processors and make adjustments to their settings as you monitor the audio source although in most cases simply running the summed audio through the preamp is all that is needed. Once you are satisfied with the overall mix levels, you can begin recording.

Now that you have just summed 8 or 16 channels of audio down to 2 channels, you can deactivate those 8 or 16 channels of audio in your DAW, freeing up tracks and CPU power.

MASTERING



Mastering allows you to take your stereo mix, process it through the **db** buss, and record the final mix into the DAW.

Mastering provides that final touch to your overall mix using fine amounts of EQ, compression, sonic enhancement, or all of the above to achieve the optimum levels and spectral balance for your music.

Set the MODE switch to MASTER.

Prepare an audio track to record the audio to in your DAW, setting the input source to inputs 1 and 2 (for stereo recording) or input 1 or 2 individually (for mono recording).

Mute the track that is being recorded to in the DAW to prevent feedback from occurring, and arm the track so that the level of incoming audio can be monitored.

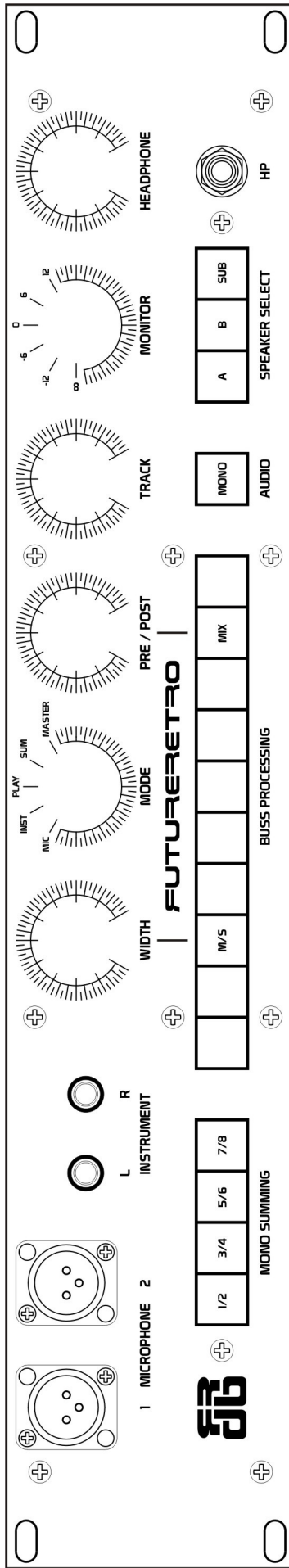
Activate the buss switch for the preamp you want to use. Increase the gain of your preamp to achieve the ideal recording level.

You may activate/deactivate any of the buss processors and make adjustments to their settings as you monitor the audio source.

You may wish to experiment with use of the MID/SIDE processing, and parallel processing using the PRE/POST MIX sections, as these can be essential tools for the mastering process.

To check the left/right phase of your mix, activate MONO AUDIO.

Once you are satisfied with the overall mix levels, you can begin recording.



USER NOTES