



PowerMate³

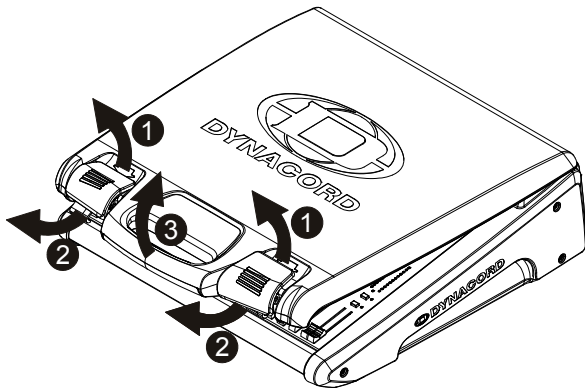
PowerMate 1000-3 / 1600-3 / 2200-3
POWERED MIXER

Quickstart



DYNACORD
GERMAN ENGINEERING EXCELLENCE

Setting-up the PowerMate fast and trouble-free



PREPARATIONS

1. Make sure that all rotary controls are set to their center (12 o'clock) position.
2. Make sure that all faders in the bottom area of the console are set to their minimum position.
3. Make sure that all the smaller faders of the graphic EQ (top right) are set to their center position.
4. Use the power lead provided to connect the PowerMate to a mains socket.

SETTING UP THE LOUSPEAKERS

5. Mount the loudspeakers on appropriate speaker pole-stands left and right of the stage or the performing artists. The height of the speakers should be set so they are above the heads of the audience. This ensures that sound levels at the front are not too high, while still achieving sufficient intelligibility at the back.
6. Turn the loudspeakers slightly towards "the center". This enables the performing artists to monitor their performance even without separate stage monitor speaker systems.
7. Connect the loudspeakers with Speakon cables to the amplifier output sockets on the rear of the PowerMate. When connecting the Speakon cables to the speakers and the amplifier insert the connector into the socket and turn it clockwise until it clicks into position. Otherwise a secure connection will not be achieved.

MICROPHONES

8. Positioning of the microphones. Microphones should not be placed directly in front of the sound reinforcement system's loudspeakers. This will help prevent unwanted feedback which occurs when the amplified sound coming from a speaker is fed back into the microphone.
9. First, only connect one microphone to Input 1. Use only heavy duty, good quality microphone cables. Thin and inflexible cables – although cheaper – could lead to accidents on the stage and are one of the most common reasons for problems to occur when setting up the equipment.

START-UP

10. Switch on the mains power to the PowerMate, using the POWER switch on the rear of the device. If you are using phantom powered condenser microphones, switch the phantom power on, using the PHANTOM POWER button between the MIC and LINE sockets. If you are only using dynamic microphones, leave this button unpressed.
11. If the red STANDBY indicator in the bottom right corner is lit, press the STANDBY switch to activate the appliance. Note: Playback of intermission music (using 2TRACK IN) is possible regardless of the STANDBY switch setting.
12. Make sure the amplifier output power, set in the „Speaker Protection“ menu, corresponds with the connected loudspeakers.
13. Test the microphone by holding it close to your mouth and speaking into it loudly. The green signal present indicator (SIG) of channel 1 will light. Turn the first channel's GAIN control – the control at the very top of the channel's module – slowly to the right until the red peak indicator (PK) starts to flash briefly. Now turn the GAIN control back to the left just a little. The signal level for this channel is now set to its optimum.
14. Set the fader of channel 1 to the 0 dB mark in the upper third of the fader path.

EFFECTS AND FILTERS

During the power on sequence the FX 1 unit is preset to the Reverb effect No. 5 and the FX 2 unit is preset to the Echo effect No. 55.

15. Press the FX 1 ON and the FX 2 ON buttons on the right bottom, above the green faders. The corresponding ON LEDs will light up green.
16. Position the FX 1 and FX 2 faders at the -10 dB mark.
17. Increase the output level by carefully pushing up the red master output controls (right bottom), while at the same time speaking into the microphone. Your voice is reproduced through the loudspeakers, being enhanced by an echo and reverberation effect. You can change the intensity of either effect, to the desired amount, by re-adjusting the FX 1 and FX 2 faders. You can also change the reverb depth or the delay time by pressing the function buttons below the display to select another effect. Within each group of effects the intensity and depths / delay increases as you increase the preset number. Individual settings for each input channel can be adjusted through the use of their separate FX controls.
18. Engage the LO CUT filter on every channel a microphone is being connected to. This filter suppresses unwanted low frequencies (foot steps on the stage and microphone handling noise). It should always be engaged for all vocal and woodwind / horns microphones; except when recording trombone, tuba, bass drum or bass guitar.
19. The VOICE filters of the monaural input channels are very useful with "thin" sounding microphones

or vocals. When picking up vocals or instruments with a full tonal character they are not necessarily needed.

Once you have completed these initial steps your PA system should now be fully functional, providing good quality sound without needing to adjust any other controls.

BEST PRACTICES FOR BETTER SOUND

20. If the sound does not meet your expectations, it may be because of the quality of the loudspeakers or the microphones that are incorporated. How can one find out, if the speakers degrade the overall sound? Connect a CD Player to the 2TRACK IN input (RCA type jacks on the right top of the front panel) and turn the 2TRACK to MASTER control to the right, so that the CD Player's audio signal can be heard. Play some tracks of different CDs. If the sound is natural and clear, it is probably not the loudspeakers that are causing the trouble, but may be the connected microphone. If the sound is still either damped, screeching or nasaling, test the PowerMate with another speaker model.
21. Apart from the speakers the acoustics of the room can influence the sound of your system. The master channels are equipped with a graphic equalizer to match the overall sound to varying locations. The equalizer is activated when the corresponding button (right of the EQ-faders) is pressed and the green GRAPHIC EQ to MASTER LED lights (to change the graphic equalizer routing refer to the owner's manual). Normally, only minor changes in the setting should provide you with the desired improvement. Moving the EQ faders to their extreme positions will generally cause a degradation in the overall sound quality and will most likely result in acoustic feedback.
22. When testing the equipment, always use your ears and don't just rely on an analyzer – even if it is an expensive model. Adjusting a sound reinforcement system with an analyzer is not only very complicated but also time consuming. In many cases the results are far from satisfactory since the measuring and analyzing equipment may not be capable of computing all the necessary parameters at the same time and interpreting the information they provide requires a great deal of skill and experience. The human ear on the contrary can process all this information in realtime and without any additional expense.
23. Now, feel free to test the effect that the sound shaping controls of each channel provide you with. Turn the LO and the HI controls carefully and listen to the changing tonal character of the sound. Normally, only minor adjustments are necessary to match individual personal taste. In podium discussion applications it can be useful to turn the LO control slightly to the left, resulting in an improved attenuation of unwanted popping noise, coming from the microphones of "untrained announcers". When the HI control is set at the "2 o'clock position", the vocals gain additional intelligibility and a more brilliant or bright sound.
24. Between the bass (LO) and treble (HI) controls of the microphone channels additional "semi parametric mid controls" are provided. These are used to increase or decrease the level of variable frequency bands. The lower MID control is used to adjust the level at the center frequency which is determined by the upper kHz control. You should "play" with these controls a little to learn about their effect. Generally, the mid EQ controls are useful when recording drums, providing you with the possibility to add more definition to tom tom or kick drum sounds and volume to a snare sound. When adjusting vocals or brass instruments, setting these controls should be carried out very carefully. The wrong setting will probably result in dramatically "bad" sound. The best advice we can give you in this situation is to leave the controls at their center position.
25. A note on the microphone selection. Vocals are best picked up, using dynamic microphones with cardioid polar pattern. These models provide a high proximity effect and good off-axis rejection and they are relatively insensitive to popping sounds and feedback. On the other hand, when recording acoustical instruments, such as an acoustic guitar or as overhead mics of a drum kit, vocal microphones are the wrong choice. Here, only condenser type microphones will provide a useful solution. This means, you need at least two or three different microphone models when recording the performance of a band, including vocals, horns and drums. The only way to find the right models that are most suitable for your own setup, is to test them. Degradation in sound quality resulting from an incorrectly chosen microphone can not be compensated for on the mixer.
26. Finally, a word on incorporating external third-octave or octave band graphic equalizers. These are mainly used in major sound reinforcement installations to compensate for acoustical problems within multiple speaker systems or to eliminate acoustical feedback. Adjusting these equalizers is not only a very complex matter but also extremely time consuming and the overall sound improvement is mostly minimal. If a system does not sound right, the best improvements will be achieved by testing different speaker and microphone models. On the contrary, if external sound shaping equipment is used, the risk of degrading the overall sound quality through misadjustment is actually much greater than any improvement which might be gained by using these devices.

Please read the PowerMate Owner's manual for more details about e.g.:

- Speaker Protection
- Effect selection and editing
- LPN Processing
- Equalizer Routing
- Installing the USB driver and the Cubase LE software
- Using the MIDI interface
- Using the DIGITAL AUDIO INTERFACE for record or playback

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Specifications subject to change without notice.