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PA Equipment User Guide

Precautions

The PA is intended for indoor use only. If used for an outdoor event, all equipment must be under cover and positioned at least 2m from doors and windows in order to be safely clear of the elements.

The PA should not be left outside overnight, even inside a tent, as moisture will still collect, with the potential of causing damage. Always ensure the PA is properly packed down at the end of each day, even if it is to be used again in the same location the next day.

Do not run cables past doors, access routes or across dance floors, etc., in order to avoid creating a trip hazard and risking potential damage to the cables.

No food or drink should be within 2m of any of the equipment, including all cables, microphones, speakers, stands, power amp, mixers, Graphic EQ or Reverb Unit.

The power amp should be plugged into one of the 2 sockets of the 10m 2-way power extention reel, while the remaining units can be plugged into any of the 4 sockets of the 1m 4-way power extension cable, which itself can be plugged into the mains or the remaining socket of the 10m 2-way power extension reel.

Any on-stage equipment that requires power should be connected to separate Mains sockets from that used to connect the PA.

Set-up

Connections

Equipment should be connected according to the diagram on the last page of this Guide. Make all connections before powering up any of the equipment.

When connecting microphones and instruments, make use of the XLR and Jack Loom cables to reach the stage area, then connect single cables to extend to mic stands and instruments, using adapters with the Jack cables. You can also use the 5m Phono cable to reach the stage for stereo instruments, using extra cables and adapters to extend if necessary. Be aware that condenser mics require 48V phantom power, so be sure to engage it first.

NB: When connecting the Sub-Mixer's Main Outputs to the Aux Return 2 Inputs of the Main Mixer, make sure the '2TK TO CTRL ROOM' button is IN, in order to hear audio from the Sub Mixer.

Arrangement

Amp, Mixer(s), Graphic EQ and Reverb Unit must be placed on a table at all times, never on the floor, and positioned at least 3m from the stage area.

Do not place Amp, Mixer(s), Graphic EQ or Reverb Unit on top of each other, instead allowing each unit its own space on the surface of the table.

Speakers should be carefully placed onto their stands, set to around head height, at the front left and right corners of the stage area, facing away from the stage, towards the audience. They should be secured to the stand via the screw at the back.

Mic stands should be placed on or behind the front edge of the stage area, and angled so that the microphone is pointing into the stage area, away from the front face of the speakers at all times, in order to avoid feedback.

Cables should be neatly trailed down the back/side of the table, straight down to floor level, not at an angle, and should run from table to stage around the perimeter of the room, in order to avoid becoming a trip hazard and risk of damage to the cables.

Gaffa tape or cable tidy should be used to secure cables to the floor/wall where necessary and possible for the same reasons.

Cables should run across the front, sides and back of the stage, never across the stage area itself, apart from in order to reach the required location from the nearest point around the stage perimeter.

Mic cables should run to the base of the stand, then coil loosely up to and around the boom to the microphone.

Instrument cables should run to a point around the stage perimeter that is the nearest to the instrument being connected, then along the floor into the stage area and straight up to the instrument's audio socket(s).

In use

Important!

Before flipping the power amp's power switch to On (|), make sure all other equipment is properly connected and already powered up, with all the mixer(s) faders set to zero, and the power amp's main channel level knobs also at zero.

Amp volume level knobs should initially be set to Half way at the 12 o'clock position (50%) and should not exceed the Three Quarter mark at the 3 o'clock position (75%) while in use.

If either of the power amp's channels' clip lights show or if there is any audible distortion, then volume should be reduced immediately, either via the main channel volume level knob(s), the mixer's main mix fader(s) or the appropriate individual channel fader.

If a channel's PEAK LED flashes, you should reduce the gain and/or fader's level and/or the appropriate EQ control. The channel's PEAK LED should never be constant unless the channel is in Solo/PFL mode.

If the mixer's red clip LED flashes or lights up, the main level faders or the appropriate channel fader(s)/gain knob(s) should be reduced immediately until the red clip LED is no longer lit or flashing.

Never send the reverb unit's return channel signal back to itself using the mixer's send control on that channel, as this will cause a feedback loop, which can quickly result in harsh distortion, which can be severely damaging to both the power amp and the speakers.

If microphones are removed from the stand during performance, they should be replaced in the stand clip when not in use - never left on the floor.

A microphone's pick-up should not be cupped in the hands, so as to avoid the risk of feedback. Some singers and mouth harpists use this technique to alter the tone of their voice or instrument, but the mics provided with this PA should not be used in this way. Mouth harpists should have their own bullet mic if they wish to use this technique.

Mic Technique and Mixing Tips

When micing acoustic instruments, aim the microphone directly at the loudest part of the instrument (always remembering to point them away from the PA speakers) and as close to the sound source as possible/practical. On an acoustic guitar or ukelele, this will be the sound hole and a similar position on a banjo or similar stringed instrument. Aim for the 'f' holes of a violin, cello or double bass. On a woodwind or brass instrument, it will be just above the bell or the end furthest from the mouthpiece, so as to capture maximum loudness, while steering clear of air hitting the mic's pick-up.

Be aware that the closer the microphone is to the sound source, the more bass it will pick up. This is called the proximity effect. There is usually a 'sweet spot' for placing a mic on any instrument, which balances sufficient level without gaining too much low end or risking feedback. Also consider the possibility that some instruments will not require amplification, as they are either loud enough by themselves or occupy a frequency range that is sufficiently shrill to cut through without assistance.

When checking a mic or instrument's signal level, apply 1/3 gain to the appropriate channel, then slowly increase the fader's level until the desired volume is reached, carefully applying more gain if necessary. Adjust each channel's EQ as required in order to achieve a good balance in the mix, while retaining the natural character of the sound source. Too much bass can muffle and overwhelm the mix, while too much treble can be overly harsh and painful to the ear. Both are unpleasant and can damage the equipment at extreme settings, so take care to find a pleasant-sounding and balanced mix.

Watch the mixers' main level meters while blending your mix. The ideal output level should be averaging around '0', with peaks in the yellow and troughs in the green. The red Clip LED at the top of the meters should not light, as this signifies clipping and will result in undesirable distortion, which is unpleasant to hear and can damage the mixer, as well as the power amp and speakers.

The Graphic EQ can be used to eliminate problem frequencies in the room, which may feedback across mic channels and electro acoustic guitar pick-ups or those of any similarly equipped acoustic instruments. Each frequency's fader has a red LED which will flash at varying intensities as they detect incoming audio within their respective ranges. The brighter the LED, the more intense the frequency range.

When experiencing feedback that can't be addressed with the mixer channel's gain, fader or EQ, without having a negative impact on the sound, watch the Graphic EQ's faders for LEDs that remain constantly bright and try reducing their level in order to counteract the issue on the main output. This should be done sparingly, as it will affect the overall tone of the mix as a whole.

The reverb unit offers several other effects besides reverb, all of which can be used to enhance the ambience of a sound source, including delay, chorus, flanger and rotary speaker spacial effects. Only one effect can be used at a time, but any channel of the connected mixer can be sent to the reverb unit, whose effected signal can be mixed in using the return channel's level control.

Pack-down:

Important!

When you have finished using the PA, turn the power amp's main channel knobs all the way down to zero, before flipping the power switch to Off (0).

Switch all remaining equipment off and (or if they don't have a power switch) disconnect their power cables.

When disconnecting both power and audio cables, hold the plug not the cable itself or you will risk damaging the cable.

Take care when coiling the cables - especially mic and instrument cables. Doing this too quickly is likely to damage them - it's just one of those jobs that take a bit of time - but it's worth making sure they coil naturally and that they aren't twisted when you wind them up.

All units, microphones and cables should be carefully placed back into their cases as closely as possible to how they were arranged when the PA was collected.

Equipment List & Specifications

1 x Stereo Power Amplifier + PSU
(90W/side @ 8Ω)

2 x Loudspeakers
(80W @ 8Ω)

1 x 8-Channel Main Mixer + PSU
(4 x mono Mic/Line Channels, 4 x mono/stereo Line Channels, 2 x mono Sends, 2 x stereo Returns, 2 x stereo Outputs)

1 x 6-Channel Sub Mixer + PSU
(2 x mono Mic/Line Channels, 3 x mono/stereo Line Channels, 1 x mono Send, 2 x stereo Return, 3 x stereo Outputs)

1 x Stereo Graphic Equaliser + PSU
(15 frequency bands per channel)

1 x Stereo Reverb FX Unit + PSU
(256 algorithms; reverb, delay, chorus, flanger, etc.)

3 x Shure SM58 Microphones
(Dynamic mics for vocals, instruments and amps, 3 x clips)

2 x Shure PG48 Microphones
(Dynamic mics for vocals, instruments and amps, 2 x clips)

1 x t.bone EM-500 Microphone
(Condenser mic for acoustic instruments and ambience, 1 x clip)

2 x Speakon to Jack cables
(Speakon to 1/4" Mono jack, 5m)

1 x 8-way XLR (Mic) cable Loom
(Male XLR – Female XLR, 5m)

1 x 4-way 1/4" mono Jack (instrument) cable Loom
(Male TS to male TS, 6m)

6 x Microphone cables
(Male XLR to Female XLR; 4 x 3m, 1 x 5m)

2 x 1/4" mono Jack (instrument) cables
(3m)

10 x L+R Phono (system set-up) cables
(Various lengths from 0.4m to 5m)

Numerous Phono – Jack adapters
(Female Phono – Male Jack)

4 x 1/4" Jack extension adapters
(Female – Female Jack)

4 x Phono extension adapters
(Female – Female)

1 x 2-way power extension reel
(10m)

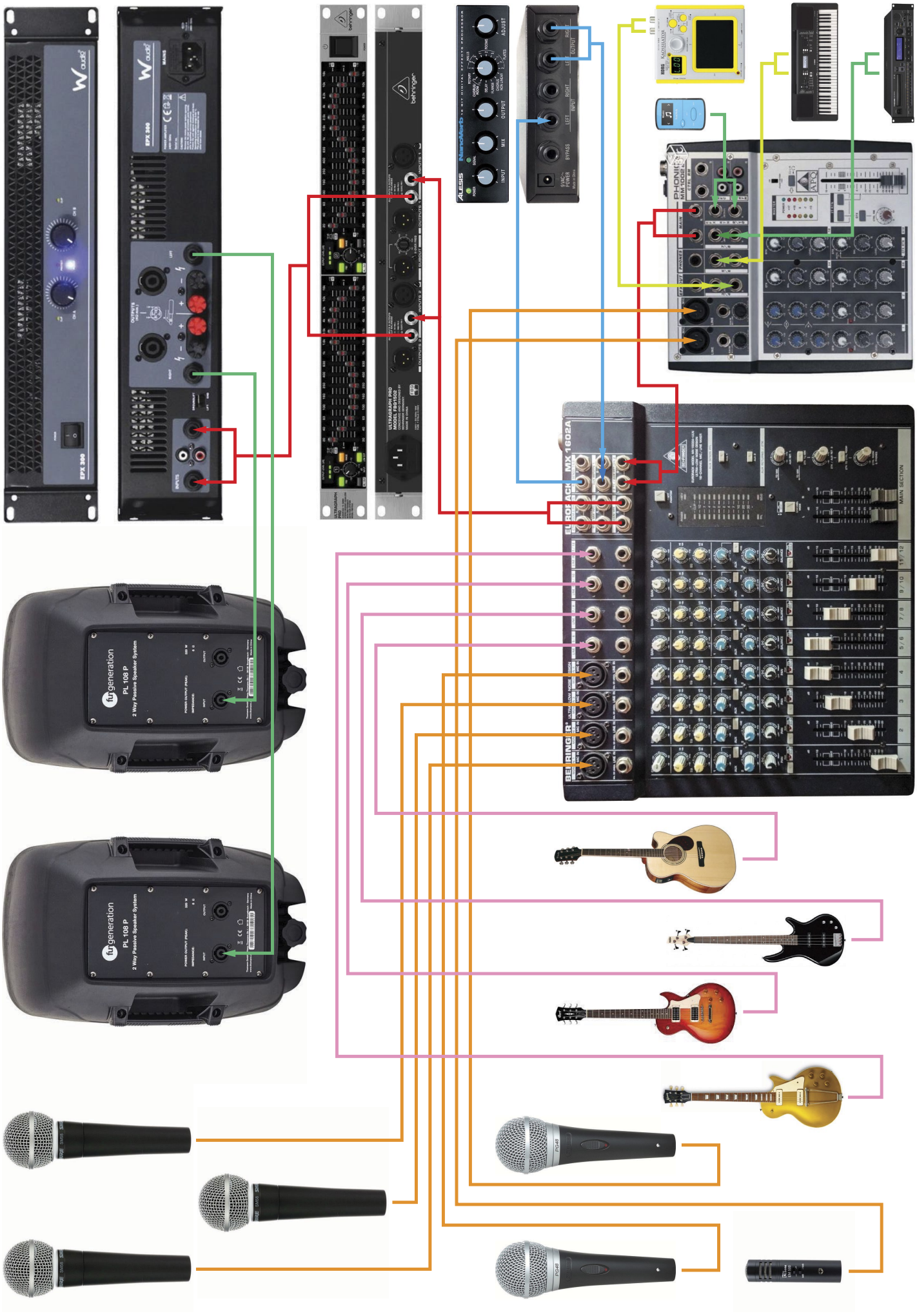
1 x 4-way power extension sockets
(1m)

2 x Speaker Stands
(Suitable for support of up to 25kg load per stand)

4 x Microphone Boom Stands
(3 x Vocal/Instrument stands, 1 x Instrument stand)

2 x Vertical Microphone Stands
(Suitable for vocalists without an instrument)

1 x Microphone Clamp stand
(Ideal for keyboard players, etc.)



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