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Contents

1	LICENSE	1
2	Help	3
3	Contact	5
4	Welcome to The Better Music Manual!	7
4.1	How can we help you?	7
4.2	Only interested in some of the subjects discussed in this book?	7
5	Intro	9
5.1	Background check	9
5.2	Experience	9
5.3	Starting up	9
6	What you can learn from this manual	11
7	The four stages of competence	13
8	The Cheap Seats	15
9	Sound	17
9.1	On Stage	17
10	The Basics	19
10.1	Know your gear!	19
10.2	Sound-chain from source to speaker	19
11	The Sound field	21
11.1	Where to put them all	21
11.2	Balancing acts	22
12	Mixers	23
12.1	Analog / digital desks	23
13	Things to consider	25
14	Monitoring	27

15 Microphone choice and usage	29
16 Effects	31
17 Equalisation	33
18 Using your instrument	35
18.1 Lead / rhythm guitar issues	35
19 Rhythm guitar	37
20 Lead guitar	39
21 The Rhythm section	41
21.1 Bass players	41
21.2 Drummers	41
22 Getting better at it	43
22.1 Practise	43
22.2 Playing	43
23 Stage setup	45
23.1 At the gig	45
24 Guitars	47
25 Kit	49
26 Band placement on stage	51
27 Personal Responsibility	53
28 Pricing	55
29 Indices and tables	57

CHAPTER 1

LICENSE

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CHAPTER 2

Help

This manual covers a vast range of topics so please send me any requests you may have for clarity on any topic, or a better explanation of an existing topic, or topics you feel should be included in the subject [or removed :-].

Send your requests through to me at edkiddgell@gmail.com, I'll do my best to addresss your concerns.

CHAPTER 3

Contact

Please call Ed (edkiddell@gmail.com)

Music docs:

CHAPTER 4

Welcome to The Better Music Manual!

4.1 How can we help you?

The goal of this document is to improve individual and group musicianship, enhance your musical sensitivity, improve your ear, make it easier to adapt to differing playing situations, give you more confidence, and generally make a better musician out of you!

If you want to improve in any of these areas then this document is for you!

4.2 Only interested in some of the subjects discussed in this book?

Please understand that not all aspects covered are of interest to everyone. Should you find that you are only interested in one or two of the areas covered just skip over the rest.

5.1 Background check

I have been playing music professionally for over 30 years. While I started off as a guitarist in a club band and have played in a wide variety of groups ranging from 2-piece pub bands up to fully fledged military orchestras, I've had the most fun playing in a four- or five-piece rock outfit.

5.2 Experience

My training as a sound engineer began very early on, because we had no-one to help us with our sound when we started out. We had to do everything ourselves and consequently learned everything we needed to know by trial and error. We made plenty of mistakes, but learned from every one, and this manual is partly a result of the knowledge I have gained over the past few thousand gigs, both as a performer on stage and as a sound engineer, on stage and front-of-house.

5.3 Starting up

While the information in this manual is applicable to any musician / instrument in a live performance scenario I am a guitarist, so the approach will be more guitarist oriented. Also, I'll be using 'Rules of Thumb' a lot as I've found that they tend to work well as generic starting points when preparing for and setting up a live sound. Once you have built a good foundation for the sound you can use your discretion to further tweak the system until the sound starts to take shape.

CHAPTER 6

What you can learn from this manual

1. Understand what the parameters / boundaries / rules governing modern popular music are, where they come from, why to stick to the rules, and how to use them to your advantage as a musician and songwriter
 2. Maximising the margin for error: and why this is critical
 3. How to learn a song quickly
 - Basic orchestration
 - Standard chord sequences
 4. Building trust between band members
 5. Musical cues:
 - What are they?
 - How to use them
 6. What is the difference between playing and performing?
 7. Don't allow your playing to interfere with anything else being sung / played on stage
 - Using inversions to fill in the spaces and not clutter up the sound with redundancies
 - Less is More
 - How to listen to everyone around you while you're playing
 - Playing in context
 - Instrument roles
 8. Light and Shade – What it's all about
-

The four stages of competence

When starting to learn any new subject it is important to understand where you sit in the competency scale. There are four basic levels:

1. Unconscious incompetence

- You don't know that you don't know – *this is where you are when you start out. You are unaware of the vast possibilities that exist within your instrument and, more importantly, your abilities. You can stay at this level and still play guitar, but improvement beyond the basics will be minimal.*

2. Conscious incompetence

- You know that you don't know - *this is the start of the learning curve and unless you reach this point you will never improve. You are becoming increasingly aware of your lack of knowledge and ability, and are determined to 'get better' - whatever that means to you.*

3. Conscious competence

- You know that you know – *you have been focused on improving various aspects of your presentation, and are working diligently at increasing your knowledge of your instrument and of music in general. You can pull off just about anything you want to, given some time to learn it.*

4. Unconscious competence

- You don't know that you know – *you have mastered the important aspects of musicianship and your playing is effortless. You can play whatever you hear in your head without having to think about the 'how'.*
-

CHAPTER 8

The Cheap Seats

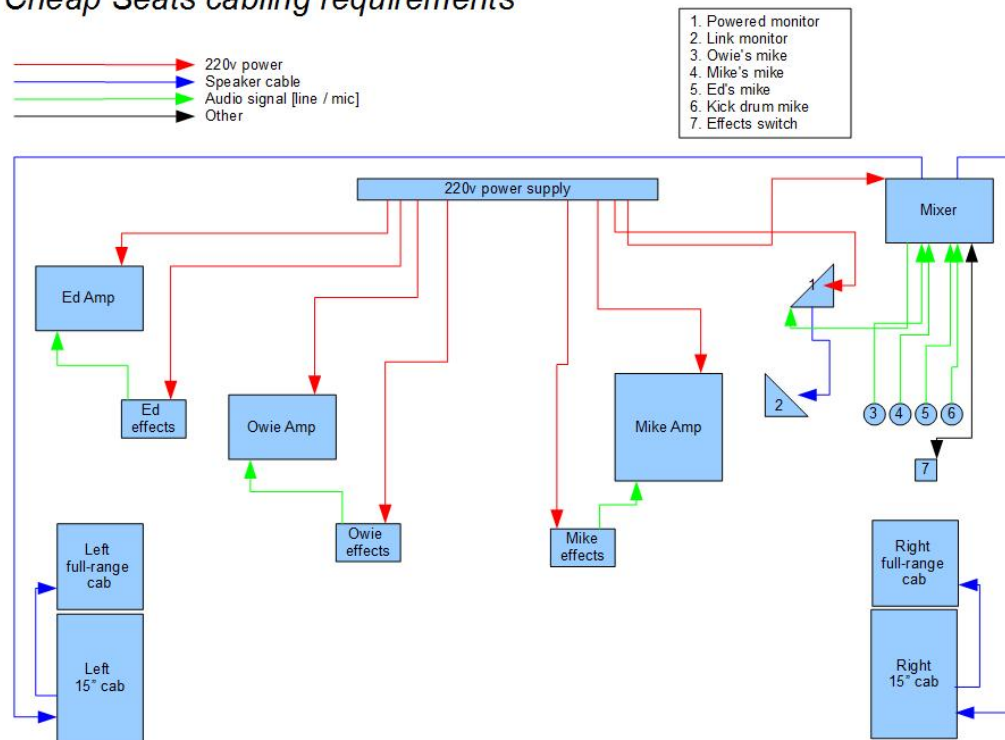
Throughout this manual I will use the band ‘The Cheap Seats’ as an example for us to consider. This is [was] an actual band I played in [see <https://www.youtube.com/watch?v=u0ZI4sF6OP0>] and will serve as a standard model for the application of ideas / processes I propose.



As you can see the line-up is straight-forward: two guitars, bass guitar, drums, and everyone has a mike.

Our cabling requirements for the stage setup can be depicted as follows:

Cheap Seats cabling requirements



A broad subject, but necessary as an understanding of the challenges involved in getting good quality sound to the listeners is essential.

9.1 On Stage

This section addresses some of the issues with regard to:

1. on stage sound
2. back-line sound and
3. front-of-house sound

9.1.1 Terminology

I use terms like muddy, woolly, fuzzy, thin, hard, warm, crunch/y, bite, edge, middy, bottom, tops etc. to describe how I ‘feel’ sound. If you have any questions as to the exact meaning please let me know. At some point I may have to put a glossary together that explains all this.

The first thing you need to understand is that ‘everyone is a sound engineer’. And everyone hears sound differently. I have only one basic criteria for a good front-of-house sound, that is: Listeners **MUST** be able to hear everything that is played / sung on stage at all times. Achieving this is sometimes not that easy.

10.1 Know your gear!

To round out your musical education you must gain an understanding of what your gear is, what it does, and how to put it all together. To this end ...

10.1.1 The Mixer

The mixer is the heart of your live sound. Everything on stage either sends a signal to it [input] or receives a signal from it [output].

For a very good overview click this [link](#).

[Sample input types and associated jacks] XLR 1/4"

10.2 Sound-chain from source to speaker

10.2.1 On stage

Connecting the stage sound sources to the mixer

- Mike and line sources
- DI - When to use it [and when not to].
- Cables and jacks

10.2.2 Off stage

Mixers

Line-in or -out

Amps

Headroom

What it is, and why you need it!

Vol vs Gain

Speakers

Which would best fit your needs?

CHAPTER 11

The Sound field

As the sound engineer your job is to mix the sound coming off stage in such a way that it sounds good anywhere in the room. Once this is achieved you can focus on what is known as the 'sound field'. This is the spatial placement of each element in the mix into a three-dimensional matrix in such a way that they complement each other. It is a broad subject, but the basic concept is easy to grasp. It works as follows: - Left and Right panning of a channel gives the matrix width - Reverb can create a sense of depth - Volume can create the effect of height

Starting off with a standard MONO mix ie. all the channels are panned to the centre so that the sounds are coming equally from the left and right speakers. They are in effect clumped together in the centre of the sound field. There will be a varying amount sound coming off stage from the monitors [if the musicians aren't using in-ear-monitors] as well as the guitar amps and more importantly, the kit. You will have to deal with these on an individual basis.

Imagine a horizontal line running across the front of the stage from left to right situated at the point where musicians start to hear the PA above the stage volume.

11.1 Where to put them all

11.1.1 Vocals:

While you should leave the lead vox in the centre you can create some lateral space around them by panning the backing vox further to left or right while adding some reverb to push them back from the front of stage a little [not enough to muffle them completely, mind].

11.1.2 Kit:

Start with the kick at centre, the snare off-set slightly left and the hats right. Pan the toms left, centre and right [if there are 3 toms].

11.1.3 Guitar and bass:

Pan them away from their side of the stage ie. if the guitar or bass amp is on stage left pan their channel slightly right and vice versa.

These are some very basic guidelines – you will have to use your discretion in all cases.

11.2 Balancing acts

Sometimes there is a fine line between “Should I turn the lead vocal up?” and “Should I turn the instruments and / or kit down?”. Or the answer might be neither - perhaps all that’s required is for you to clean up the eq on the vocal to lift it out of the mix enough. The answer will be situation dependent, and you need to decide for yourself.

CHAPTER 12

Mixers

12.1 Analog / digital desks

- How mixers work
- How a channel on the mixer works
- Auxiliaries

CHAPTER 13

Things to consider

- The placebo effect
- The subjectivity of listeners
- Prima donnas / Divas

CHAPTER 14

Monitoring

The simplest way to achieve this without any additional cost is to angle your PA speakers across the front of the stage just enough so that the front-line singer/s and musician/s can hear them. This can become a balancing act between room coverage and stage volume.

Speakers

In-ear

CHAPTER 15

Microphone choice and usage

Voice

Instruments

Kit

CHAPTER 16

Effects

Reverb

Delay

Compressor

CHAPTER 17

Equalisation

EQ

Room

PA

Voices

Instruments

CHAPTER 18

Using your instrument

(or: What goes where? And how? And when? ;-)

18.1 Lead / rhythm guitar issues

Knowing how to really play the guitar is the first step. Once you can follow a chord sheet, play the chords, and string them together in a meaningful way, you are at the bottom of the stair-case. There is a long way to go to get to the top. The target is to learn how to use the guitar in context.

For instance, you can play a standard A-E-D or C-F-G sequence in hundreds of different ways. Once you have the changes down you can start looking for contrasting ways to attack the chords. Try different sounds [if you use an electric guitar with effects], or strumming patterns, legato or staccato, make each note stand out or play them all at once, a brighter or a warmer sound / tone, open chords or play higher up the neck - so many possibilities. Which one/s you use depends entirely on context.

This breaks down into three areas of concern: 1. The sound you will use 2. Which inversions of the chords you will use, and 3. The way you will play those notes / chords

But you have to have a reason for which methods you use because merely playing along mindlessly has no point. At all.

CHAPTER 19

Rhythm guitar

The rhythm guitarist bridges the gap between the rhythm section and the melody, and therefore forms an integral part of any guitar-band's sound. If he cannot hack it the band will sound bad. The rhythm guitar however must keep the background moving continuously, he's constantly on the front line, and must know what he's doing if he wants to maintain credibility. Accurate chord work, tight chord changes, perfectly timed breaks are part of his standard repertoire - without any of which the band sound suffers.

There are good lead and good rhythm guitarists, and often a good lead player cannot hold things together from a rhythm perspective [B.B.King never plays chords!] and vice versa. One should focus on becoming well rounded in all areas.

CHAPTER 20

Lead guitar

There are some lead guitar players who want to get up there and blast away on lead all night - this does not make for good listening and will destroy a bands sound. Aggression is good, but so is finesse, and when it comes down to it remember that tasteful lead playing is mostly a case of 'less is more'.

21.1 Bass players

Stick with the bass-drum. If you and the drummer are not together the whole band gets loose. You are the foundation of the music, laid down so solidly that the other instruments can walk all over the place without falling over. Sounds odd but that's how it is, really. I've heard too many 'lead' bass players in my time. If you're into experimental stuff then great, but most players want a solid foundation - so give it to them.

21.2 Drummers

Two Basic Rules :

- RULE 1: Keep Time
- RULE 2: Keep It Simple

You won't believe how many kit players don't follow these rules! If you cannot play a straight 4/4 for 32 bars at a time without resisting the impulse to do a blazing 5-drum/4-cymbal break in 32nd notes, and your name is not Dave Weckl or Steve Gadd, give it a miss. Listen to any Toto or Level 42 song and you'll get the picture.

CHAPTER 22

Getting better at it

22.1 Practise

This involves knowing the chords (obviously) then learning the scales relevant to those chords. If you know your Major, Minor and Pentatonic scales you are on your way, but this is only the beginning.

Practising partly involves listening to and copying those guitarists who appeal to you most, ‘borrow’ their riffs, learn their techniques, then spend regular practise time on your own where you can experiment with what you learn. Discover your instrument; the feel of it, the sounds you can get out of it, which combination of guitar / amp / effects / pick-ups / tone settings / plectrum / playing styles etc. work for you. Keep in mind that it’s no good trying to get your sound right while using headphones or playing softly - an amp reacts totally differently when cranked up. You’ll get this great sound in your room, get to the rehearsal and everything will sound just horrible - no really!

22.2 Playing

Take what you have learned, and through playing with other musicians (backing tracks and/or midi files are a poor substitute) and interacting with them in rehearsal and live situations you can learn how to step up to the edge, look over, close your eyes and jump. When your time comes don’t think about what you are going to play or where you’re going next, live in the moment and just play. Don’t get technical, and unless you want to impress propeller-heads, play from your heart.

There are some lead guitar players who want to get up there and blast away on lead all night - this does not make for good listening and will destroy a band’s sound. Aggression is good, but so is finesse, and when it comes down to it remember that tasteful lead playing is mostly a case of ‘less is more’.

23.1 At the gig ...

Note: Be there on time to set EVERYTHING up and test it all before the band guys start setting up.

23.1.1 Cabling

Tip: Make sure you have enough power and audio cables for everything, then add at least two spare power, speaker and audio cables.

There are many different ways of cabling a stage setup as there are musicians, but adhering to certain rules when supplying power to amps and routing sound-signal cables from amps and mikes to the mixing desk will make this a simple task.

In most small-stage environments the signals generated by the various cables should not interfere with each other too much, but in some environments routing cables correctly can improve sound problems dramatically. This is especially true when you are using a single-phase power supply to drive your sound equipment as well as lighting.

Lighting can cause real problems with your PA sound if you are powering your light rig from the same source as your sound equipment. Where possible you should find out if the venue has more than one power phase available. Most actually have a three-phase system and you should make sure that you separate the power for lighting from the power for the sound system and backline. This obviously requires adequate cabling.

Where possible find ways to distinguish between cable types - a guitar cable has braided insulation around a plastic-coated core while speaker cables are made up of two wires - no braid. Open one of the jack covers if you are not sure. Using a speaker cable as a guitar lead will work, but your tone will definitely be way off.

23.1.2 Backline

The term 'backline' usually refers to all the equipment the musicians use on stage. This includes the amps, monitors, drum kit, mikes, mike-stands as well as any mixers and other paraphernalia required.

From this link we can deduce the following basic requirements:

- Power for three amps and three effect units
- Seven mikes with stands and cables

This excludes any power required for the monitors, PA and lights.

I will use a typical configuration for our band - a drum kit, bass guitar, two lead / rhythm guitars, a lead singer, some mikes for

1. Guitars 1 and 2 as well as the bass player use a typical setup ie. guitar plugged through effect pedals into an amp which is miked or lined-out and the signal sent to the mixer.
2. The kit has two mikes, one for the kick and one for overhead - not normally used.
3. The lead singer uses a mike for vox and sometimes mouth organ.
4. All three guitarists sing backing vox.

CHAPTER 24

Guitars

Enough guitar stands for all guitars on stage

Backup guitars, tuners, sticks, cables, strings, mike, mike-stands, power-supplies

CHAPTER 25

Kit

Drummer must have carpet large enough to place the entire drum kit on, but no bigger than that [unless you like the 'loungy' feel and rolled up carpets climbing the walls]! This is critical when you're expected to play on a bare floor, and can be used as a basic template around which all your back-line gear can be arranged.

Once cabling is taken care of the drummer should set up centre-stage [yes, he should].

If playing in a corner [often happens] and the kit sound is bouncing around [messy], try to pad the area around the kit with speaker covers, guitar cases etc. Can make a huge difference.

On small stages never mike the whole kit up, mike only the kick drum and perhaps snare / hats - the vox mikes will pick up the kit and amplify it through the PA. [This presupposes you have a reasonable kit sound to start with. If you don't it might be a good idea to mike it so you can at least tweak the EQ some, but perhaps the long view is that you should look into learning something about kit sound ?! See the Kit Sound page!]

CHAPTER 26

Band placement on stage

Where the band is going to be placed is usually the last thing on the club owner / manager's mind. This means you often find yourself in an unsatisfactory situation - pre-empt this as much as possible by visiting the venue and finding the best possible place to play. You need to know how much floor area you require for a minimal setup [when you're all on stage and nobody is being side-swiped by the person next to them's guitar]. Discuss the options with the manager / owner. Given a logical argument they will usually agree with your demands.

CHAPTER 27

Personal Responsibility

Everyone should have a basic understanding of where everything goes, and how it is cabled

Get all gear close to where it will be set up

Never place your monitor or PA speakers where a stage mike might point directly at the speaker. Try it if you want to find out why not.

Note: Rule of thumb: the source of the sound must be as good [clean, noiseless, pleasant] as possible - amplifying a bad sound only makes things exponentially worse

Loud does not equal better or more powerful - usually it's just loud.

In cases where everything on stage is miked up, avoid the situation where backline sound is constantly interfering with front-of-house. Rule of thumb: set up the stage and front-of-house sound then turn the monitor system off while the band is playing - if the stage system is too loud you will notice a drop in level up front. This should never happen. In our case this is not possible - we run the guitar and bass amps without mikes, mixing only the kick and vox through the PA [it really works well when controlled tightly from stage].

Note: Rule of Thumb: Look after your ears - when driving to a gig don't play your sound system full blast, and especially not your iPod, and don't keep the window rolled right down for the fresh air. These items affect your hearing over time, you'll get to the gig and wonder why your sound isn't cutting through. It's not your sound, it's your ears bru.

Tip for drummers from George Axiotis: You can use your cymbals as a clear indicator to show whether or not your ears are in good shape, works like this: Sometime during a break from playing [when your ears are rested] set your crash up, then hit it sort of medium hard. Do this muchly over a period of days until you are very familiar with the sound. When you get to the gig, do the same thing and try to ascertain if the sound is any different. If it is, say brighter, then you need to realise that your ears are not picking up tops as clearly as they should - you must then make any EQ adjustments you feel are necessary [front-of-house] based on the fact that you're not hearing the tops clearly. Same goes for bass / mids. This test is particularly important when you do gigs back to back for days - your hearing will definitely be affected negatively and you need to be aware of how they are reacting.

To emulate this from a guitar perspective: Plug your guitar in clean ie. no effects at all, just guitar + cable + amp. Get familiar with the sound on lead pickup / full tops and rhythm pickup / full bass. When you get to the gig do it again, but bear in mind this can be somewhat subjective as your strings might be crudded up, or old. Use the EXACT same cable though [it's amazing the difference a cable can make to your sound - more on this later].

CHAPTER 28

Pricing

Always ascertain the procedure for drinks beforehand, and find out if you get discount / write offs etc. Same goes for food. We always run a band tab and pay it at the end of the night. That way everyone's got money when it's time to cough up! And the worst that can happen is you pay full price for everything. The best is [on a really good night] the club owner might write the bill off completely. Now isn't that nice?

Find out if you are required to provide background music or MC functionality - if so, depending on the parameters, you might consider re-negotiating your price.

Never do additional sets beyond the already agreed number without negotiating an additional fee. Ever.

Pitch the cost of the band correctly, but don't sell yourself short by dropping your price. Ever.

Private functions always fetch a higher price - anything from 20-400% higher than club gigs! Know your client. We did a gig where we were paid 4 times the price of a whole night for only one hour on stage - and we got to spend the night in a 5 star hotel up in the mountains. They paid happily. Know your client.

CHAPTER 29

Indices and tables

- `genindex`
- `modindex`
- `search`