RECORDING AND PRODUCTION

WORKBOOK 5

CHAPTER 3
PRODUCTION 🔘

CHAPTER 4
MANUFACTURE 🔘

CHAPTER 5
LIVE SOUND 🔘

Ⓔ Chapters that are essential to this workbook.
🔘 Chapters that are optional to this workbook.

Please note

MANUFACTURE

WHAT IS IT?

This chapter is about what you can do with your recordings once they are mastered.

We will start with an overview of the different destinations for recordings, from sending a demo to record companies to selling online.

We will look at packaging of your recordings, and then we will look at CD duplication, from doing it yourself with a computer to getting thousands of copies manufactured.

This will be continued by looking at DVD and surround sound, as these are the audio formats of the future.

The chapter will conclude by looking at MP3 and internet audio.

WHY DO I NEED TO KNOW ABOUT THIS?

If you are in a band, or are a composer, performer or producer, at some point you will want to send some CD's out, or get your songs or recordings on the internet.

There are a variety of ways of duplicating and manufacturing CD's, so this chapter will explain the differences and help you decide between them.

DVD, surround sound and internet audio are the growth technologies in the music industry and knowing about these will ensure you stay on top of the game as a producer, musician or engineer. If you can encode for the internet you can sell your music. It is that simple!

NAME

YOU MUST HAND IN YOUR WORK BY   TO

🕐	**HOW LONG** should this assignment take?	Every person works at his / her own pace. As a guide, spend 2 hours reading and making notes, another 2 hours to write your answers and a further hour to discuss them with your MOLP tutor.
☑	**HOW** will I be assessed?	Your tutor will assess your work. He/she will give you feedback on how you have done. If you have not completed the work, you will be given the chance to do further work to pass this assignment.
❓	**WHAT** do I do now?	Read the TASKS section below to get an overview of this project. Then read the NOTES AND GUIDANCE section for help. Carry out the TASKS.

TASKS

1 Tick the boxes below to show what stage you are at

☐ I have written my own music

☐ I have access to recording facilities

☐ Some of my music is recorded

☐ My music is recorded and mixed

☐ I already have my music on a CD

☐ My music is available on the internet

2 Recorded music, make a list here of 6 things you can do to take it further.

3 Answer the following questions, circling True or False for each

Dub plates can only be played once	True	False
CDs can be duplicated on most home computers	True	False
Packaging of a CD is unimportant	True	False
It is not possible to use DVD's as they are too expensive	True	False

4 Press packs are a good way of giving people information about yourself. In the box below write what you would include in a press pack.

e.g. Biography

5 Now in the box below write a brief musical biography of you or your band. Put in details of gigs you've played, recordings you've done, any special events etc.

6 Branding is as important for a band or artist as it is for a business. In the boxes below analyse two artists or bands branding and how they use it. For example, do they have a logo or special way of writing their name? Does it appear on all their promotional information?

BAND/ARTIST 1
Describe the branding

How is it used?

BAND/ARTIST 2
Describe the branding

How is it used?

7 For each of the types of packaging below, list 2 advantages and 2 disadvantages.

Format	Advantage	Disadvantage
CD Jewel Case		
Cardboard Sleeve		
Plastic Sleeve		

8 What is the cheapest way of duplicating CDs?

9 Answer the following questions, circling True or False for each.

Pressed CD's are of a lower quality than CDRs	True	False
You can label CDs with a special printer	True	False
It would cost roughly £200 to have CDs copied with jewel cases	True	False
A glass master is necessary for CDR duplication	True	False
It is cheaper to use CD manufacture for more than 1000 CDs	True	False

10 Give three reasons below why surround sound is becoming more popular.

1)

2)

3)

11 If you were to make a website for yourself or your band, plan below what you would include on it.

12 Answer the following questions, circling True or False for each.

You can make a website with Microsoft Word	True	False
Websites are uploaded using a FTP client	True	False
You have to pay for webspace	True	False
MP3's are larger than wave files	True	False
It takes 2 hours to download a wave file of a song with a dial up modem	True	False
MP3 uses technology called perceptual coding	True	False

13 Give three reasons why people like MP3s.

1)

2)

3)

14 Develop and cost a plan for producing 1000 CDs of your music, packaged in a jewel case with a 4 page booklet.
Remember to include design costs.

Now hand in this worksheet to your tutor. Go to the 'more tasks' section for extra projects.

WHAT WILL YOU DO WITH YOUR RECORDING?

Writing and recording music is often a labour of love. Once you have a completed recording of your blood, sweat and tears, what will you do with it? Clearly you want people to hear it, but how and where?

GIVE AWAY CDs

SELL CDs

UPLOAD it to your website

Get it played on the **RADIO**

Get it on **TV** or **FILM**

Look for record **CONTRACT**, **MANAGEMENT** or **PUBLISHING DEAL**

Sell it on a **DIGITAL DISTRIBUTION** website

Film some video footage and put the two together on a **DVD**

Make some **RECORDS** for DJs to play in clubs

If you are going to chase a record contract, or look for a manager, then you need CDs and accompanying material (photos, press cuttings, biographies etc) to send out. This can be costly, and often produces no result. You need to be careful where you are sending your work, and ensure you have a contact name or person waiting to receive it, or it may end up in a bin.

If you are going to try to reach more people and promote yourself, which of course can be done whilst trying to obtain a record contract, then you have a wide variety of options.

≫ WORKBOOK 6 – MARKETING, PROMOTION AND DISTRIBUTION

You could get some CDs manufactured and sell them at your gigs.
You could send your CD to music venues and bars to help get gigs.
You could sign up with one or more online distribution services, who will put your music on their website for paid download (or free download) and then you can direct people there to buy your music.
You could put your music and some video content on a DVD and sell or give that out to fans and venues.

If you want to give your track to a DJ to play out in clubs, then you will probably want it on a record. You can get an acetate made for about £50 that will play around 20 – 50 times. These are also called dub plates.

Pretty much all of the above require money and / or time, so bear that in mind when choosing what to do. The following sections will help to inform you of the costs of these activities and what to consider when choosing.

PACKAGING

If you are going to make a physical product, such as a CD or DVD, then you need to decide how to package it. CDs can come in a jewel case, a slim case or a sleeve. DVDs come in a DVD case, or any of the CD options.

If you are going to send the recording to record companies or to venues then it is a good idea to accompany it with a Press Pack. Press packs include your demo, a biography of the band or artist, photo's, gig and demo reviews and gig dates. They give people more information than a CD on its own would, and if they are presented well they can help attract people to your band.

If you are going to put your recording online rather than making a physical product then you may still need the press pack materials, as photos, biographies etc can often be uploaded to the digital distribution websites.

Look in workbook 6 for more information on how to design, brand and market your package.

≫ WORKBOOK 6 – MARKETING, PROMOTION AND DISTRIBUTION – CHAPTER 3

ON BODY DESIGN

You will probably want to put some information or images on the face of the CD, and this is called on body printing. For more information on how to do this, go to

≫ WORKBOOK 6 – MARKETING, PROMOTION AND DISTRIBUTION – CHAPTER 3

I DON'T WANT TO PAY FOR JEWEL CASES

If you aren't using jewel cases, then your options are clear plastic or paper sleeves, or a slim case with a j-card in.

If you are using a sleeve (whether paper or clear plastic), a cheap way of putting your information on is to print onto a sticker, and stick the sticker to the sleeve.

WHAT INFORMATION DO I NEED?

What you decide to put on your packaging is totally up to you, but most CDs tend to have similar information.

Band/artist name
CD title
Tracklist
Details of members of band/artist
Details of who composed what
Contact information
Pictures
Copyright statement

It is a good idea to put a copyright statement on a CD that will be given away or sold. Generally copyright statements say something like;

©2004 The Band. Unauthorised copying, hiring, lending, public performance and broadcasting of this prohibited. The copyright in this sound recording and artwork is owned by The Band.

This statement merely says that The Band owns the recording and people are not allowed to copy, lend, perform or broadcast it.

Copyright is a very important subject in the recording industry.
≫ WORKBOOK 7 – COPYRIGHT, LEGAL AND MANAGEMENT

JEWEL CASE

SLIM CASE

PLASTIC SLEEVE
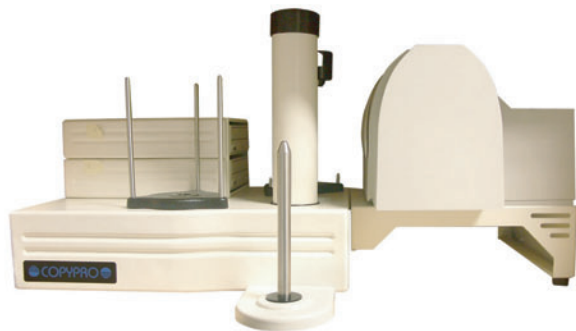
CARD SLEEVE

DVD CASE

CD DUPLICATION

The cheapest method of duplicating CDs is to do it yourself. You can use a computer with a CD writer in it, and print the artwork on a computer printer. Alternatively, if you have some money to spend, you could buy a CD duplicator which will copy one disc onto blank discs automatically.
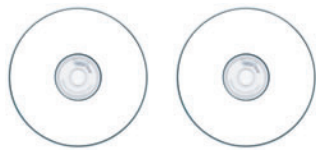
CD duplicator

COPYPRO CD duplicator

VESTAX VRX 2000 Vinyl Recorder

COMPUTER DUPLICATION

If you have a PC or a Mac with a CD writer built in, then you can simply buy a spindle of 100 blank discs for £15 and put one after another into the CD writer. It is time consuming, but saves a lot of money.

STANDALONE DUPLICATORS

Alternatively you can buy standalone CD or DVD duplicators that have 1, 3, 5, 7 etc drives for copying on to. 1 to 3 CD copiers cost around £350.

If you know you will be copying lots of CD's, then you can buy an automated copier. These have robot arms and one or two drives. You load a spindle of 50 CDs at once, and the copier will automatically copy one or two discs at once, then pick another off the pile with the robot arm. However, these cost around £1000, and more with a printer.

HOME LABELLING

You can buy CD labels and an applicator to help put labels on, which you print on with a normal inkjet printer.

Another option is to buy a CD printer, which come in a variety of shapes and sizes. The cheapest is a one disc thermal printer, which prints one colour only (although you can choose the colour). These need special coated discs (£25 for 100), but if you keep the design simple the results can be very good. These are around £60.

For full colour on body printing you need an inkjet CD printer, and these start at £300.

Some standalone duplicators come with cd printing as well, but these start at £1500.

Obviously you can use your normal printer to print the booklet and inlay for the CD case, but you should get fairly thick paper so it isn't too flimsy. Paper is measured by weight, and you will want something like 100gsm weight.

There is one further option, which is to buy pre-printed blank CDs, and buy printed booklets. Then all you need to do is to copy the CDs. Pre-printed blank CDs cost around 90p per CD, and printed booklets cost around 85p for a four page booklet.

SHORT RUN CD DUPLICATION

Short run CD duplication is when a company uses standalone duplicators and printers to produce your CD's.
A short run is anything less than 500, so for 500 or more CD's you should choose CD manufacture.
Duplicated CD's aren't quite as good as manufactured CD's, as they are based on CDR's which don't last as long, and aren't as compatible as manufactured CD's. However, they are cheaper and are used by many bands, artists and companies.
Prices for duplication are based on the quantity of CD's required, the printing required and what packaging you have chosen. The prices below are to give an indication, and are sourced from www.amstore.co.uk. As can be seen, it is more cost effective to get more done at once.

Packing	Plastic Sleeve	Slim CD Case	Jewel Case	Card Wallet	No packaging
Printing	2 page booklet (No book deduct £0.12)	2 page booklet or J-card (No book deduct £0.12)	4 page book	On-body & Wallet printed	On-body printed
Quantity					
25+	£2.44	£2.50	£3.21	N/A	£2.06
100+	£1.97	£2.07	£2.46	£3.35	£1.56
300+	£1.79	£1.92	£2.17	£1.99	£1.37

These prices are per CD, and are correct at time of printing, including VAT.

LARGE RUN CD MANUFACTURE

CD manufacture is a completely different process.
As the process involves making a glass master and stamping discs, it is not cost effective to make less than 500. Prices for manufacture are based on the quantity of CD's required, the printing required and what packaging you have chosen. The prices below are to give an indication, and are sourced from www.amstore.co.uk

Packing	Plastic Sleeve	Slim CD Case	Jewel Case	Card Wallet	No packaging
Printing	2 page booklet (No book deduct £0.12)	2 page booklet or J-card (No book deduct £0.12)	4 page book	On-body & Wallet printed	On-body printed
Quantity					
500+	£1.47	£1.62	£1.70	£1.80	£1.26
2000+	£0.65	£0.73	£0.76	£0.69	£0.43
5000+	£0.56	£0.63	£0.67	£0.56	£0.39

These prices are per CD, and are correct at time of printing, including VAT.

DVD AND SURROUND SOUND

WHAT WILL I NEED TO SEND?

Once you have chosen whether you will have your CD's duplicated or manufactured, and decided on the packaging, you need to send the manufacturer the contents of the CD and artwork. The easiest way to send this is in the post, on CDR. Ensure you send at least 2 copies of the CD as it is to be duplicated (i.e. the master), and the easiest way to send the artwork is as data on a CD. Each manufacturer is different in terms of what formats of artwork they will accept, so its best to ask them. Generally PDF or Adobe Photoshop files are accepted. You may need to sign a disclaimer to say that you own the copyright to the recording and composition before they will process your order.

A big growth area in the music industry at the moment is DVD audio and surround sound. This is partly due to the increase in online sales and the corresponding drop in CD sales. The second reason is that home cinema is dropping in cost all the time, and you can now buy a DVD player complete with 5.1 surround sound for less than £100.

Producing a DVD with stereo audio and video can now be done with a digital camcorder and a PC or Mac with a DVD writer.

Once you have created your DVD you can duplicate or manufacture it in the same way as described for CDs above, although the costs are slightly higher for DVD.

SURROUND SOUND

If you are interested in recording and mixing in surround sound, then you will have to use DVD Video, DVD Audio or SACD as the master. The easiest of these formats to use at home, and the most playable is DVD Video (normal DVD's).

There are a variety of formats of surround sound, but the most common and the one that is compatible with most home cinema systems is Dolby Digital 5.1.

The 5.1 refers to the amount of speakers. The positioning of the speakers is shown in the diagram alongside, and although this diagram is for DVD-Audio, it works very well for Dolby Digital as well.

The 5.1 refers to the subwoofer, which handles just bass (below 100Hz), and when mixing you can decide how much you send to the sub.

Most sequencers support surround sound mixing, although you will need some more advanced hardware for your computer to hear the mix.

SURROUND SOUND DIAGRAM
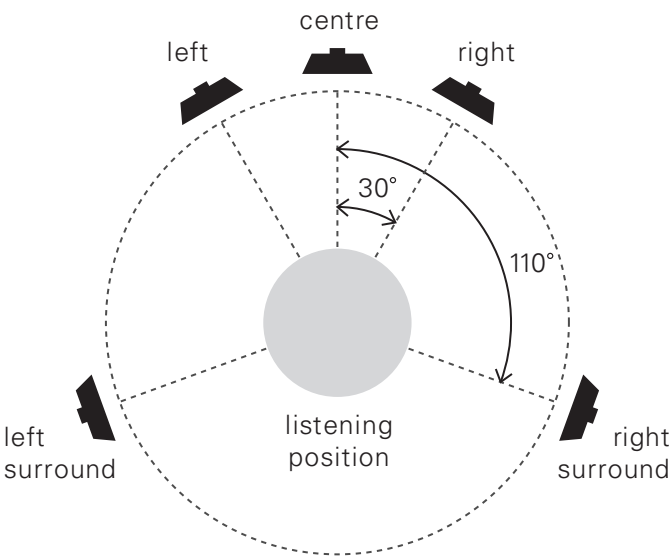
MP3
AND
INTERNET AUDIO

Another popular option for getting your music out there is the Internet. Most bands and artists have their own website, and many choose to put free downloads of their songs on them. Obviously having your own website is a good thing in many ways; it is a central place for people to find out information about you, you can list your gig dates on it, photos and other info. Having free downloads of your music is an incentive for people to come to your website, and it may help persuade them to buy other tracks from you.

HOW DO I CONVERT MY MUSIC INTO MP3'S?

Most audio editors and some sequencers have the ability to convert wave files into MP3's, and you can also download programs just for the job. Generally it is just a case of loading the wave file in, setting the type of MP3 (as there are varying qualities of MP3 file) and setting a name for the MP3. It doesn't take long to compress an MP3.

WHAT QUALITY SHOULD I CHOOSE?

MP3's can be made in a range of qualities, from ones that sound almost as good as the wave files, to ones that sound bad. The higher the quality, the bigger the file size.

If you want good quality MP3's, for example to be sold over the Internet, then choose 192 Kbps.

If you want MP3's for streaming over the internet (i.e. that download whilst they are playing) then choose 64Kbps.

WHY DO PEOPLE WANT MP3'S?

MP3's are becoming more popular for a range of reasons;

- They are small files, and so take up less disk space than wave files
- They can be easily bought and downloaded from the internet
- They can be played on computers, some DVD players and the ever more popular portable MP3 players, such as the iPod

WHAT OTHER FORMATS ARE THERE?

There are a range of other formats that compress audio files in a similar way to MP3. The beauty of MP3 is that it is the most widely used and all computer audio players (such as iTunes, Media Player, Winamp) can play them. Other formats include WMA (Windows Media Player files), Real files (for playing with Real Player) and AAC files (as used by iTunes).

THE FUTURE

There is no doubt that compressed audio is here to stay.

What is also true is that video is going the same way. There are a variety of compressed video formats available, but the most common for the home user is DivX, which is the trade name of MPEG-4 (MP4).
Many DVD players will now play DivX discs as well as DVD's, and with DivX you can get an entire film on a CD rather than DVD, which makes it easier to download. Soon enough you will be able to watch a film trailer online and then pay for a download of the movie to your computer.

Ringtone sales are also becoming a popular way of distributing music, as with Puretones and MP3 playing phones it is possible to have an entire song in good quality as your ringtone. Revenue from these sales is making its way to the artists and composers, so it is one to watch out for.

Whatever the case, as a musician or producer it is best to embrace the new technology and try to keep on top of it.

WANT TO KNOW MORE?

LINKS

New Deal for Musicians has no responsibility for or control of the following sites. The inclusion of any site does not necessarily imply New Deal for Musicians approval of the site. To access any of the sites please type in the address into a browser or search using keywords from the name of the link.
www.dfes.gov.uk/ukonlinecentres Find Internet access that's close to you.

MORE INFORMATION AND LINKS

☐ **www.futuremusic.co.uk**
Specialises in modern music technology, reviews, tips and techniques. Occasionally will contain competitions. Links to equipment manufacturers. Second hand gear listed.

☐ **www.soundonsound.com**
More general studio equipment and techniques. Reader's ads for second hand gear. The "Search" for articles from past issues is very useful.

☐ **www.computermusic.co.uk**
Good info on the basic computer based set up for music. Tutorials on music software. Reviews of readers demos.

☐ **www.cd-uk.co.uk/information /templates_main.htm**

☐ **www.worldlabel.com/Pages /cd_template.htm**
Downloadable templates for cd booklets and inlay

☐ **http://cdrworld.co.uk/acatalog/CDR_World_ CD_Jewel_Cases_15.html**
Website selling cd and dvd packaging

☐ **www.uk.neato.com**
Suppliers of cd labels and software for printing them

☐ **www.cd-writer.com**
Suppliers of cd duplicators and printers

☐ **www.amstore.co.uk**
CD duplication and manufacture

☐ **www.sounds-good.co.uk**
CD duplication and manufacture

☐ **http://electronics.howstuffworks.com /cd.htm**
Information on how CD's work

☐ **www.marcpeters.co.uk/How-to-make-a- DVD.html**
Information on authoring DVDs

☐ **www.marcpeters.co.uk /free-dvd-creation.html**
Free software for authoring DVDs

☐ **www.digital-digest.com/dvd/downloads /softencode.html**
Information and demo of Sonic Foundry Soft Encode

☐ **http://entertainment.howstuffworks.com /mp3.htm**
Information on how MP3's work

☐ **www.coolnerds.com/Newbies/kBmBgB /SizeAndSpeed.htm**
Information on file sizes, internet connection speeds and more

☐ **www.ftpx.com**
shareware FTP client

☐ **www.xcalibre.co.uk**
webhosting from £40 per year

☐ **www.freewebspace.net**
searchable guide to free webspace

☐ **www.audigist.com**
digital distribution website

☐ **www.vitaminic.co.uk**
digital distribution website

☐ **http://news.bbc.co.uk/1/hi/sci/tech/774615.stm**
information on MP4 - DivX

☐ **Future Music**
All the latest hi tech equipment is reviewed, plus studio and remixing tips.

☐ **Sound On Sound**
More general studio technology features. Good tips and techniques from professionals.

☐ **Computer Music**
Magazine specifically for making music with computers. Usually has a free CD with samples and software.

☐ **The Mix**

MORE TASKS

1 Read workbook 6 – marketing, promotions and distribution for lots more information on how to make a good product.

2 Do some research on the many types of CD packaging available and make a fully costed action plan to produce a sophisticated product with a run of 500 units.

3 Develop your own website and upload all your music to it.

4 Gather prices and other information for pressing 1000 white label vinyl EPs.
Compare this information from 2 UK based vinyl pressing businesses and from non-UK competitors.

TIP

Look at Eastern European businesses.

5 Gather prices and other information for duplicating 500 CDs with on-body printing of your own design, with either cardboard packaging, jewel cases or plastic wallets. Compare this information from 2 UK based duplication businesses – both local and national.

6 Find audio files in the following formats and listen to them
- MP3
- AIFF
- FLAC
- SHORTEN
What is the difference in quality of sound?
What is the difference in file size?
How would YOU save your audio for best effect in digital format?