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Introduction

Why I wrote this eBook

My background is in Technology products (cameras, DVD's, sound systems and of course MP3 players etc). Over the last couple of years I've come across many people who need a little more help in understanding the idea of MP3's and the different types of MP3 players. So I set about learning more for myself, making notes as I went. A mate saw the notes and suggested I give them to customers to explain the ins and outs of MP3 players and to help with their choices. That worked well, so I've now developed it into this eBook.

Two of the questions I've been asked a lot are.

What is an MP3? &, How do I buy an MP3?

They sound like easy questions to answer. That's what I thought, until I listened and learned a bit more, they could buy a CD, a tape or a DVD and once bought, they would actually get a physical item. But you don't get that with an MP3. What many people don't realise is, what they get is only a storage medium, a piece of plastic with a WAVE or MPEG file on it.

We have changed from talking about a tape or CD to actually talking about the file that is stored on that medium. We now change the medium that the file is stored on, to suit the player that we are playing the file on, ie: a CD, a DVD, a computer hard drive or an MP3 player. The file is the same but used on different formats for different play back devices, entirely for our convenience.

People are now buying their 2nd or 3rd MP3 player, so this book has become more vital in helping them get the right MP3 player for their needs. They are starting to realise that what they bought a year ago wasn't for them. So what do they need? What was not right? Did it hold enough music, was the battery life long enough, or did it stop working because the hard drive could not handle the constant shaking while jogging? Or did they find someone with a "better looking" MP3 player?

Choose your next



MP3 Player

[On to the next chapter](#)

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**This eBook is designed to give you a background on MP3's.
and
What MP3 player is best for you.**

Let's start from the beginning.....

An MP3 is a compressed file format used on computers and portable MP3 music players, and playback devices, (there are many variations of these, which we'll describe further on).

The development was done at the Fraunhofer Institut Integrierte Schaltungen, in Germany, starting in 1987 and completed in 1989. The format was patented in Germany and became part of the MPEG standard in 1992, and was granted an American patent in 1996. The official name is 'MPEG layer 3' which has become abbreviated to MP3. From there the format was made popular through the file-sharing network of Napster and others, and the **illegal** music downloads over the next few years, checkout this [page of reviews](#) of legal music d/load sites.

Once compressed the file takes up only a fraction of the space of the original music file. As an example a CD holds 18-24 music tracks in the Standard (wave) format, whereas on the same sized CD in MP3 format you will get 200 - 300 music tracks, Depending on the file compression you choose. Have a look at the compression chart at the end of this ebook to compare.

File compression is what makes this format versatile and practical for almost anybody, you only copy the songs you like to your player not the whole album, which may only have 3-5 songs that you like.

Over the past 8 years:

Manufactures have been developing MP3 players, to enable these files to be more transportable and used in many places other than just our computers.

You can now buy MP3 players as part of your [home](#) stereo system, your [carstereo](#), [MP3/CD](#) players, MP3 Pens that hang around your neck, even in your PDA's, like Palm Tungsten handheld's. Now, units the size of a packet of cigarettes and much smaller, [portable](#) hard drive units which can hold 1000's of music tracks, like the [iRiver's](#), and [Apple iPod](#) 20Gig and bigger units. Most of these players still need to be loaded from a computer, but some of the car and home stereo units can be loaded directly from a CD, which makes transferring tracks easier for some.

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What are my Choices of Types of MP3 player?

Every month, manufacturers unleash even more MP3 players to an increasingly confused public. Not only do these devices have quite different features, but ongoing format wars mean the MP3 player you choose dictates where you **can** and cannot buy your digital music.

These devices are anything but one-player-fits-all and you are best to buy the suitable mp3 player for your usage, and if that means buying an mp3 player for exercise and one for holding the bulk of your collection or videos on, so be it. This way your mp3 players will last many trouble free years.

First, there's the question of design. A player can have every feature in the world, but if the design doesn't match your lifestyle (ie: short battery life) or if the interface is impenetrable, you still won't enjoy it. You'll want to look closely at performance; sound quality and battery life these can make or break a player, especially if you travel a lot or have the so-called golden ears of an audiophile.

Before you start checking out specific models, you should have a basic understanding of the types of MP3 players available. Note: All types of player mentioned below can play other formats besides MP3, such as WMA or AAC, but we still refer to them as MP3 players.

Types of Players:

Portable Hard Drive - Personal Multimedia players - Flash Based - MP3/CD

Portable Hard Drive MP3 players:

The Portable Hard Drive MP3 players are bigger than the mini units described further on and store from 1Gb to over 80Gb, (from 500 to over 10,000 tracks). These are the best for the traveler who requires hours of music with not having to repeat any.

Pros:

- Large storage, 6Gig to 80 Gig.
- Will fit in your palm.
- Can be used to hold data, photos, M-pegs, movies (for transport between computers).
- Can be used as a backup to your existing computer files.
- Some can be loaded using memory cards, say off your camera while travelling like the

X'S DRIVE.

Cons:

- Battery life on some units may be as low as 2 hours, and others up to 20 hours. As the battery is built in, you may have to buy a later model after a couple of years of use. Some manufactures on some models have made the battery replaceable(great Idea).
- As these units have a spinning hard-drive they are not ideally suited to being used while exercising, jogging, skiing, snowboarding or playing a physical sport.

Personal Multimedia Players:

These are quite new, the Archos was probably the first but with the [iRiver mp3 players](#) we are seeing some great features. Complete with a screen they enable you to store and view photos directly from your camera (no PC required) while you're travelling around, no more need to buy another memory card or find a shop to burn a CD for you. D/load some DVD's to watch before you travel.

Many units of various makes are available to copy photos and movies onto as storage and you cant watch either on the unit. With others you can download photo's from your camera but can only store those photos until you have reconfigured them through your computer, on completion of your trip.

File your data, again reducing the items you need to travel with, and of course they will still play your MP3's or books for you to listen to.

Pros:

- Large storage, 1Gig to 80 Gig
- Will fit in your palm.
- Can be used to hold data, photos transferred from your camera (no PC), M-pegs, movies to watch.
- Can be used as a backup to your existing computer files.
- Some can be loaded using memory cards, say off your camera while travelling like the X'S DRIVE and now the iRiver units.

Cons:

- Battery life on some units is only 2 hours, with others up to 16 hours. As they are built in, you may have to buy a later model after a couple of years. (Hopefully the manufactures find a way around this.)
- As these units have a spinning hard-drive they are not ideally suited to being used while exercising, jogging, skiing, snowboarding or playing a physical sport.

Portable MP3 players: (solid state – no moving parts)

There are many of these portable MP3 players available, 64mb to 1Gig of storage, and they will hold about 1 hour of music per 64mb. These are probably the best if you want an MP3 player for jogging and exercise as they are small, light and some are suitable to hang around your neck or strap on your arm.

Pros:

- Small and light weight.
- Convenient.
- USB connection (no cables).
- Solid state, that means no moving parts, therefore more durable and can handle a few knocks.
- Some are big enough hold a large # of tracks and enable you to transfer data from one computer to another.(some up to 1200 + tracks)

Cons:

- Limited music storage on the 64 and 128mb units.
- If you want to change a stored song you usually need to unload and reload a complete new file, new software is making this so much easier and really no longer a problem.
- You cannot download unless you have a computer with the file/track you want.

MP3 CD players:

There are many MP3 CD players, useful as an introduction to the portable MP3 world, the MP3 CD can also be used in many car mp3 players.

Pros:

- The CD, as mentioned before can hold between 200 and 300 MP3 songs, on a 700mb CD.
- You only have to carry a few CD's to keep your large CD collection.
- When travelling and you come across a new track you like, buy the CD and play it.
- When playing MP3's you have over 80 hours of play back, and you can always change the batteries when they go flat.
- The CD can easily be remade if damaged.

Cons:

- Large because of the MP3-CD size.
 - You can damage the MP3-CD.
 - You need to sometimes change the MP3-CD, for more music
 - It's not as fashionable.
-

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Figure out what kind of MP3 player user you are and which units will suit you.

User Profiles:

Jogger or Gym Devotee - Commuter - Traveller - Audiophile - File hoarder

or

Audio recorder

MP3 players are definitely not one unit for all people and all purposes. They come in a range of shapes and sizes, use different formats and different types of memory. Choose the player that suits both your purpose and your Lifestyle.

The following are what I see as the main profiles of MP3 player users and some questions that will help you decide where you sit. Some people should consider buying more than 1 MP3 player for their various needs. For instance, you may need a small and compact MP3 player for running, the gym or snowboarding and a larger capacity hard drive-based unit for file transfer or day to day use.

Jogger or Gym devotee:

If you spend time in the gym or pounding the pavement, you need an MP3 player that suits this purpose. It should be compact and easy to operate. Instead of looking for one with a hard drive (shaking will damage a hard drive), choose a flash-based model (up to a 1GB of storage) that can also handle the same workouts that you do. You should find one that has an armband, an option on many compact units, and get a set of headphones that will stay in place rather than the standard included earbuds.

One of the best is the acclaimed iFP-190T, this iRiver's compact model is small, light and a rugged design, with a 256MB of memory, all make it the perfect running, snowboarding or gym partner.

Commuter:

The commuter falls into 2 types, the first one travels on public transport and could very easily use the same units as he or she would for going to the gym, with a radio added, they're small, compact and hold enough music. Bearing in mind the background noise of the subway, a train or bus, I would strongly suggest the purchase of a set of comfortable, noise - cancelling headphones.

The other would travel to work by car therefore being able to carry a bigger unit or at least one which holds more tracks, or a built in full car stereo MP3 player. If you decide on a portable unit an FM transmitter will enable you to listen to your favourite tracks through your existing car radio/stereo.

The [iRiver iFP 599](#) or the [Sony Bean](#) similar would be a great choice, not too big, not too small but quite suitable for a commuter as it has 512mb of storage and a radio (about 6 hours of music).

Traveller:

If you travel a lot, your best companion is an MP3 player that can double as your data storage unit to transfer your data and programs, and save you the trouble of having to carry your laptop everywhere. Where as, if your travelling on holiday one of the new [portable](#) media players would suit, as you can download photo's directly from your camera, sans computer, or transfer compressed DVD's to it before you travel. Again accessories worth considering (virtually a must) is noise-cancelling head phones for the plane or train, and an [FM transmitter](#) for use in the rental car.

The [Apple iPod](#) 20Gig is the smallest high capacity hard-Disc player around. Although long-distance travellers, should look for a model with a longer battery life. Like the iRiver hard drive units [found here](#) they are slightly larger but do have many more features than the iPods including a 16 hour or better playback time

Audiophile:

Although often misused, the term audiophile refers to those users who prize sound quality above all other factors. Audiophile stereo systems often run upward of \$10,000 and include pro-level components connected with gold-plated cables. Audiophiles have been reticent to adopt the MP3 format, due to its lossy compression, but if they choose high-enough bit rates and look for lossless codecs in their MP3 players, their portable needs can be satisfied. It goes without saying that audiophiles would never use bundled headphones, so high-end replacement 'phones are a must.

Rio Karma (40GB) Rio Karma (20GB)

Within this player's small, square chassis sits capabilities worthy of audiophile ears, such as a 95dB signal-to-noise ratio and an extremely high output of 60mW per channel. In addition, the Karma supports the FLAC format, which compresses music files by about 50 percent without losing a single bit of sound quality.

File Hoarder:

If your appetite for digital music has your computer's hard drive(s) bursting at the seams, you fit the description of the file hoarder. While sound quality and features are important to you, what you need most is an enormous capacity: at least 40GB but maybe even more. Today's portable music devices max out at 60GB or so, which should be enough to keep you satisfied until manufacturers can fit more memory into the 1.8-inch drives used by high-capacity MP3 players.

Creative Nomad Jukebox Zen Xtra (60GB) Creative Nomad Jukebox Zen Xtra (60GB). The Zen Xtra was the first MP3 player we reviewed to have a 60GB capacity, yet it costs less than the 40GB iPod. Those who hoard files as well as batteries will appreciate the Zen Xtra's rechargeable cell, which can be replaced in a matter of seconds by an average person (unlike the internal batteries that come with most other hard drive-based players).

Audio recorder:

For some reason, MP3 player manufacturers have been loath to embrace tapers and other portable-recording aficionados and rarely include a mike-level input. That said, a number of players on the market can record from line-level sources such as CD players or stereo outputs, so they're great for converting CDs, tapes, and vinyl records to digital formats such as MP3, WAV, or WMA. Those wishing to record live audio can do the same, although they'll need a powered microphone that can output a line-level signal.

Not only can these [iRiver 20 or 40 GB](#) MP3 players record from line-level analog sources, they also accept a digital optical input. This means you can use the expensive sound-processing hardware in your stereo system to convert analog signals to digital ones that transfer directly onto the player's hard drive.

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What features do I need?

Almost every day manufacturers are adding new features to new models to grab a different part of the MP3 market or extending the abilities of the units to find more people who will have a need for the MP3 format.

All this, to win the sales race and improve the units, the good thing is, we as consumers are getting MP3 players that suit our lifestyle and or pocket. Read on to find the features becoming available on the newer units to see which suits you.

Camera - Radio - Inline Remote - Data Storage - Voice recording - Optical input

Music recording - Equaliser options - Address book / Basic Diary

Physical Compatibility - Playback Features

Camera

Various models have either just appeared or are about to appear that have a small built in camera.

The resolution is really only suitable for a computer, not really suitable for printing - but that will no doubt come - these units are great for the young party goer. Music to and from the party, photo's at the party and sending copies to your friends via email afterwards. These units could be used by sales reps, for taking photos of product displays for emailing to head office. There are just so many convenient uses for these units. Also see Personal Multimedia Players.

Radio (FM)

Quite a few have radios fitted as standard but they are mostly the Flash drive type, as the radio signals can be interfered with by the spinning hard drive in some units. This is where units like the [iRiver](#) and [Creative](#) work very well with no interference and you can record directly from the radio to the hard drive.

Inline Remote

Comes as std with some MP3 players, optional extra with others. They enable you to control the MP3 player that maybe in your backpack or carry-bag or pocket, it's just more convenient. The remote should give you full control over your player and have a detailed screen showing track info, much like the unit that comes with the [iRiver](#) and [Creative](#) mp3 players.

Storage of Data

Most MP3 players weather they are the 128MB or 40GB, can be used for data storage and transfer of files between computers. Fantastic if you're forever travelling and at present only carry your laptop because it's got your files, not because you have to use it in transit. All you need to do before you travel is confirm that someone has a compatible computer where you're going, and you're in business, so to speak.

Voice Recording

Many MP3 players have the ability to record with an inbuilt mike, great for recording an interview, a meeting, memos or a lecture. As the mike is only mono don't plan to record a concert as the recording will not be anything special.

Optical input

This is the best to use when you need to record directly from your stereo - which has a matching optical output - of your vynal or CD collection.

Music Recording

This is quite possible, but best done with a powered mike, as you have more control over the input volume and better acoustics from those type of mikes.

Equaliser options

Some units have a choice of preset equaliser options (Pop, Jazz, Rock, Bass boost etc), where as a unit where you can customise the EQ setting to suit yourself is probably the best, as I feel that music played through headphones is sometimes so clean that it sounds too pure. Being able to change it is personalising the music to suit.

Address book / basic diary

You can D/load (synced) from your PC or Mac your schedule, address book and or travel itinerary, you can view these items but cannot modify these on the MP3 player. This feature can reduce the need to carry other forms of diary or PDA if you only use it for these purposes, but will not replace The PDA for many people.

Physical Compatibility

This is just for you to think as to what connections your present computer or stereo uses, is it USB1 or 2, or firewire. Would bluetooth or wi-fi be more suitable. Do I have an optical output on my stereo? Basically buy what suits your existing equipment but be aware of what may be available and work for you better.

Playback Features

Features like repeat, resume, pause, shuffle are pretty well std on most MP3 players. The more recent models offer the ability to make playlists on the player, ie, no computer required. They can select a mix of various genre's or specific years ie the 70's or 90's. Automatic Volume control which brings al songs to the same volume.



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Mp3 Players for Exercise.

Whether we are jogging or working out in the gym we like to do it to music. To our favorite music or music we've chosen for what we're doing - possibly vigorous music for aerobics, soothing music for weightlifting, or a good beat for jogging, snowboarding or skiing, whatever works for you, is the best for you.

One of the easiest ways to carry that music is with a suitable MP3 player that is light, compact and loaded with your choice of music.

Mp3 players for Exercise, as we all know over many years people have carried radio's, cassette players and CD players while they were exercising. All of these were either awkward to carry, they were limited by the length of tape or CD, or the CD would skip, or the radio reception was varied or non-existent.

The MP3 player has changed a lot of that but not all, it has become noticeable that some MP3 players are not best used for vigorous activity. Over the years we've been told that computer hard drives are temperamental and deserve to be looked after, shaking or dropping them, we've been told will damage them, as a minimum cause bad sectors and ultimately cause loss of data, and therefore your music.

Then what happens - we are sold MP3 players that are run from hard drives (spinning disc's). Yes, we know they have shock protection built in, but this is so we don't hear the skipped music tracks - not to stop the hard drive from being damaged.

My advice is to only use solid State MP3 players for exercise [like these](#) that will carry from 2 to over 16 hours of music (from 128Mb to 1Gig of storage). These units have no moving parts, therefore shock movement will not damage the music quality or there long life.

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Mp3 Players for travel.

Read on to find which MP3 players for travel are best for you.

Deciding to travel is the simple choice - choosing the destination and accommodation, searching for the best price and the most convenient time to travel are your next thoughts. Once you've done that you're off - well not quite - you still have to decide what you're going to take with you and how.

Travel documents, suitable clothing of course, and entertainment for travel - a portable DVD player or a CD player, maybe you have or want an MP3 player. Your camera, don't forget your memory cards (spare ones if need be) or your laptop to download photo's to, your palm pilot or voice recorder (for recording notes of your trip) and of course in many cases much more.

That seems how it is for many people these days but the burden can be reduced.

When thinking through your purchase of an MP3 player do contemplate what you will be using it for. A solid state unit is great for listening while commuting, at the gym or jogging. Great while your on the plane or bus while travelling, yet when you get to your destination it gets put in your bag and left there till you leave for home.

Imagine combining your CD player, DVD player, Laptop, voice recorder and extra memory cards all into one small unit.

Read through your [choices here](#).

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Compatibility of MP3 players and the track formats.

Prior to MP3 players we never had to think about our music files needing to be compatible with the playback devices like Record players, Cassette players (walkman) or even CD players that we own. Imagine buying a cassette with your favourite music on, to find it did not work on our specific cassette or CD player, we would not have accepted it.

These units all recognise analogue files, which we generally regard as a wave format and this made it simple for manufactures to make and the public to purchase their chosen track or player.

Now days, with the digital world, and the want to reduce wasted space on our computers and filing systems companies have developed various music compression formats. The Fraunhofer Institut Integrierte Schaltungen, in Germany, was the first and they developed the 'MP3' compression format, followed by others who either wanted their own format or didn't want to pay for the rights for the MP3 as already developed. From there, at least 6 different compression formats have become available over the last few years, others are available and as they become proven and MP3 player suppliers use this codec I will add more information.

AAC - AUD - Atrac3 - FLAC - MP3 - OGG - WMA - WAV/AIFF

The Main File Formats:

AAC - Advanced Audio Coding,

Dolby Laboratories developed this format and is the format used by Apple for their iPods. Apple and Real player use their own separate Digital Rights Management technology to secure **AAC** downloads for iTunes and Real Rhapsody respectively. **The iPod is the only player that will receive copy-protected AAC files from the iTunes Music Store.** This is a problem, which the question as to whether Apple is starting to TAKE too much control by stopping our buying choice as to where we buy our music.

AUD - Audible,

This format is used by Audible.com, and was designed for the spoken audiobooks and talk radio programs. Most portable music players also support **AUD**.

ATRAC 3

Is Sony's music compression system, used in making files for their CD players and items like the NWMS70D. This format has a good sound quality but is only supported by Sony music players, in some respects a pity, It works very well.

FLAC - Free Lossless Audio Codec,

A very new Compression format that seems to be very good but is at present only available

for use with a very small # of players. This I'm sure will increase, as more audiophiles become aware of this format and its quality.

MP3 - Motion Pictures Experts Group Layer 3 (MPEG-3)

I think we're all thankful that the abbreviation has become more popular and as it was the 1st compression format developed it seems to have become the catch all phrase as a description for all compression format players even though they may not use MP3 as their format. MP3 became very popular through it's use in the early days (Late 90's, not long ago) of file sharing through the likes of the original Napster, Winmx and other P2P systems.

OGG - Ogg Vorbis

Another very good quality codec of the newer breed of music compression formats. To date only a couple of players are available that uses this format. As it is proving to be a wanted format, partially as it is an open source format - therefore no licensing fees - which helps keep developers costs down. This alone could make other producers of compression formats cautious and therefore good for us all.

WMA - Windows Media Audio,

This is of course Microsoft's format, and is delivered with every new windows operating system. Because this is available on most computers the suppliers of MP3 players are best not to ignore it, and they haven't as most players recognise this format. One thing we need to remember is that most tracks recorded or bought through **WMA** will be copy protected, this can be overridden in the **WMA** options. Check out these [online music stores](#).

WAV/AIFF

This format is what you find on CD's, record's (vinyl) and cassettes and recognised as an analogue file and is what MP3's are converted to so our headphones can understand and give us the sound.

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Where Do I get MP3 music?

Music already on your computer - Your Compact discs - P2P networks

Your vinyl/cassettes - Online music stores

Music already on your computer:

Like most of us you've probably already copied music to your computer or downloaded music from the 'Net'. If so you need to choose an MP3 player that files and replays the format(s) you've already stored. If it's MP3, virtual y any MP3 player will do the job. Be wary as I once used a DJ program that made my music files into a format that I've never come across again, it was great for that program but I could not convert it any other format that did not cause any loss of clarity. Then I started using **Musicmatch**, which I prefer, I had to start from scratch and rip all my music from CD's again.

Your Compact Discs:

If you've kept your music on CDs, you can purchase any MP3 player, as you'll need to rip your CD's to your computer using software that comes with your new MP3 player. In doing this the format will suit your player weather it be MP3, WMA, OGG, or one of the other formats that are becoming available.

If your player did not come with software I've found that **Musicmatch** will rip, file, burn or transfer your MP3 files to virtually any MP3 player, but do check some manufacturers are making it difficult to download songs from anywhere but their preferred site.

Online music stores:

Here's where it gets entertaining. If you intend to buy music from online music stores such as [iTunes](#), [Musicmatch](#) or [Napster Premium](#) the legal Napster, you need to make sure your MP3 player will work with the appropriate format. In a perfect world any MP3 player will play all legal downloaded music, but the world is not perfect and certain MP3 players will only work with specific formats.

With some CD manufacturers putting anti-copying software (not stopping - yet - but limiting the # of copies we can make) on the music CD, in the future we may only be able to transfer music to our MP3 player from the recognised supplier of our specific MP3 player. Apple and Sony have already done this with their respective websites Apple with the [iTunes](#) website and Sony with 'Sony Connect' that suits their new mp3 players. Generally if you have a Sony MP3 player you cannot use it with 'iTunes' and visa versa. All the other MP3 player suppliers generally use Windows media player, which enables you to buy and download from most of the other download sites like Yahoo's **Musicmatch** or **Napster Premium**, BuyMusic, Dell, Microsoft, MusicNow, RealNetworks' Rhapsody and Wal-Mart.

Check out these [online music stores](#).

Downloaded music files are normally copywrite protected and can only used on a limited # of play back devices. This is designed to enable you to say, have a copy on your Computer, your MP3 player and maybe your car or a CD for your partner, but not enough to make a copy for each of your mates. This gives the Music Labels confidence to allow the tracks to be traded legally online.

P2P networks (peer-to-peer)

Most of these are done by copying off someone else's computer through P2P services like the original Napster, Winmx (which have both been disbanded) and Kazaa over the Internet and most of these music files are already in the MP3 format and suit most players. What you do need to watch out for is the quality of the audio through both the ripping and the downloading of these files, and as this can be seen as breaking copywrite laws you may be prosecuted, as a number of people have been already.

Records (Vinyl)/Cassettes

If you have music on Records, cassettes, or even cartridges, you can record these to your computer as you would a CD, mind you this will take time as you will have to play each track at the normal playing speed, converting them to MP3's as you go. Once this is done you can listen to them from your computer or transfer them to your MP3 player. Purchasing a unit like the [iRiver mp3 players](#) or similar will make life easier as these units will encode directly to MP3 from your stereo or CD player.

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Accessories that work with my MP3 player

By now, you should have a pretty good idea of how to choose an MP3 player. But the fun isn't over yet. You can pick from an endless number of accessories that will enable you to use an MP3 player as your car stereo, protect your hardware, improve your player's sound quality, and much, much more. Here are the main types of add-ons for portable audio players.

Headphones - Carrying cases - FM Transmitters - Docking stations – Batteries

Car adaptors - External Speakers

Headphones:

The headphones that are standard with most MP3 players are very basic. Whilst they can be quite uncomfortable they fit under helmets or headgear, and are great for cycling or snowboarding, but not really for use in a train, plane or anywhere where there is background noise.

Using a good quality set of headphones will truly improve your listening experience. An MP3 player's sound quality does vary, but not to the extent of the variation in headphones. Good headphones will make the average MP3 player sound fantastic.

If you travel, be it as a commuter or around the world, the best thing you could buy is a set of "Noise-cancelling" or "sound isolating" headphones. We do not suggest you use these when you're cycling or snowboarding, as you will need to hear that skier or car getting closer to avoid any nasty accidents.

Carrying cases:

These are many and varied; some MP3 players are supplied with them others not. If yours does not have one I would definitely get one as they protect your valued possession.

FM Transmitters:

These are ideal if you travel by car or want to play through any audio system that has an FM receiver, and want to take your music collection with you. They are available to either suit specific models like the iPod or are available as generic units as they plug into the headphones socket.

Docking stations:

These are used as convenience when connecting to your computer as both the power supply and computer port are left connected to the dock, so you only need to sit your MP3 player into the dock to charge or transfer music tracks.

Batteries:

Most of the MP3 players use rechargeable lithium-ion batteries. The problem is that these cannot be replaced by most owners, and have a life expectancy of 2 to 4 years. Some manufacturers are offering a battery replacement service, and in some new models the manufacturers are making the batteries replaceable. You can also purchase external battery packs for some players, for extra play life especially if you are travelling.

Car adaptors:

These let you connect to a car stereo where a cassette deck is fitted; the kits are normally complete with a remote control and power adaptor that plugs into the cigarette lighter. It is best to use the matching kit for your specific player, as this will be compatible with the voltage, the plugs and the polarity.

External Speakers:

These are a boon when you're away from your computer or audio system, just plug them in and listen, great when you're travelling or just in your bedroom. Again so many to choose from, I've found the best at [Creative Labs](#) where there is an extensive range.

These are the most useful and popular accessories, other accessories can be purchased for MP3 players like the Ten Technology [Navipod](#) for controlling your iPod from across the room and others for around your house.

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How many tracks can I get on my MP3 player?

This chart shows the number of tracks -- with an average length of three and a half minutes -- that can be stored on a specific memory size once it has been compressed as an MP3 (or your chosen format).

This is in comparison to what you get on a standard CD (in the right hand column), on which music is stored as a wave file. The greater the compression the more tracks you can file, but there is also a greater possibility of distortion or lack of quality. To guard against this I compress my music to 128bps or 96bps and find it works well.

| Number of MP3 tracks compressed to | | | | | STD CD |
|------------------------------------|--------|-------|-------|-------|-----------|
| | 128bps | 96bps | 64bps | 48bps | WAVE File |
| MEMORY SIZE | | | | | |
| 64 MB | 16 | 21 | 32 | 42 | |
| 128 MB | 32 | 42 | 64 | 84 | A maximum |
| 256 MB | 64 | 84 | 128 | 168 | of |
| 512 MB | 128 | 168 | 256 | 336 | 20 |
| 1 GIG | 255 | 336 | 510 | 670 | Tracks |
| 2 GIG | 510 | 670 | 1020 | 1340 | |
| 4 GIG | 1020 | 1340 | 2040 | 2680 | |
| 10 GIG | 2550 | 3350 | 5100 | 6700 | |
| 20 GIG | 5100 | 6700 | 10200 | 13400 | |

| Number of playable HOURS per Memory Size | | | | | STD CD |
|------------------------------------------|--------|-------|-------|-------|-----------|
| | 128bps | 96bps | 64bps | 48bps | WAVE FILE |
| MEMORY SIZE | | | | | |
| 64 MB | 1 | 1.3 | 2 | 2.6 | A |
| 128 MB | 2 | 2.6 | 4 | 5 | Maximum |
| 256 MB | 4.9 | 5 | 7.5 | 10 | Of |
| 512 MB | 7.8 | 9.8 | 15 | 20 | 1 hour |
| 1 GIG | 15 | 19.6 | 30 | 40 | playback |
| 2 GIG | 29.8 | 39.2 | 60 | 80 | |
| 4 GIG | 59.5 | 78.3 | 120 | 158 | |
| 10 GIG | 148 | 195 | 297 | 390 | |
| 20 GIG | 297 | 390 | 595 | 780 | |

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