

How To Become a Pirate – A Primer

It's simple, really. Just start stealing things where there is little risk of being caught and punished. Pens and staples from work? Piracy. Eat grapes at the supermarket? Same thing. Break into and loot winterized cabins? It's theft, plain and simple.

When a person (like you) swaps part of the time remaining in their lives for the purpose of making money (like you do at your job), there is a reasonable expectation of being paid. If your employer decides not to pay you for your services already rendered, it's theft; he has stolen your time from you against your will.

The same is true of creative people who create works for you and I to enjoy, whether it is books, movies, songs, programs or anything at all. The only real difference is that once they perform their act of creation, they have little control over ensuring payment for such, particularly in this digital age. Any creative act can be virtualized and replicated at will, basically watering down the market for their wares. Unlike physical products like a can of beans or a BMW, a song or movie can be copied willy-nilly with no hope of compensation to the artist. If BMWs could be replicated like a song, BMW would have no further motivation to create vehicles and would very soon be out of business.

I have heard many rationalizations from people in which they try to diminish their moral culpability in this matter. And there is even a political Pirate Party which tries to believe that creative work is the property of all mankind, that it is actually morally wrong for the artist to expect compensation. But that doesn't wash unless we universally adopt the premises of Marxism and Chairman Mao. As long as the legal concepts of personal property and money exist, the taking of others' creative work without their permission and/or compensation is theft. That said, the risk vs. reward equation is still in full effect, and people being what they are they choose low risk high reward targets.

Given the desirability of free media, the relative ease of acquisition and the very low risk of real punishment, piracy has never been more popular in Canada. With little or no laws protecting artists (foreign or domestic) here, the common man takes what he can and enjoys it without regard to the artist, nor to the consequences of his theft upon the industry. This is why I have started this article with a stern lecture on the immoral nature of piracy, never let it be said that you were not warned: PIRACY IS THEFT.

HOW IS IT DONE?

So how does one go about becoming a pirate? One way is just to get a copy of all of your buddy's media. Every time you bluetooth a song from one device to another or borrow that external hard drive to glean its contents, you are pirating. But what people really want to know is how to download movies and music from the internet, just like their internet service providers advertise. In the past, P2P programs like Napster, Kazaa and Limewire were used to basically transfer one file at a time between users. It was quite effective for single songs, though difficult to collect whole albums or movies. The reason was that you had to count on



the person at the other end to maintain connection long enough for you to get the larger files from him, regardless of the speed of the connection.

The most common (and effective) way to steal media these days is using an internet protocol called bittorrent. The idea is that you use a client program built for bittorrent (just like your browser is built for surfing or your email program is built for doing email) to connect to groups of people who all have varying amounts of the media you're after. How does it work?

Very well, actually. When the media is first made available on the net, it is chopped up into a large number of little pieces. A one hour TV show stored as an .AVI file might be 1065 pieces altogether. You go to a website where you download a .torrent file that allows your client program to connect to a swarm of other users that have varying amounts of the media. Some of the people in the swarm have 100% of the file (all 1065 pieces that make it up), these people are known as seeds. Everybody else that has less than 100% of the pieces is called a leech. The minute your client has downloaded any one of those pieces, you become a leech (and a thief), but your client also starts uploading its pieces to other clients that don't already have those pieces. Basically you are uploading and downloading the whole time you are connected to the swarm. Once you become a seed, your client just keeps uploading the file to other clients. The whole time you are connected to the swarm you have a ratio of uploaded to download bytes, the longer you stay, the higher the ratio. If you upload just as much as you download, your ratio is 1.0. To keep a swarm relatively healthy, you need to aim for at least 0.6 on your ratio before you remove yourself from the swarm.

How does the .torrent file direct your client to the swarm? Via a tracker, a server that basically knows all of the IP addresses of the clients in the swarm. There are new trackerless systems and even programs you can use to "hide" your IP (Peer Guardian), but any reasonably determined law enforcement agency can still track you down. The only really foolproof way to get away with it without a trace is to download your files via someone else's internet connection, usually an open wireless router, But then you are endangering the people that actually pay for that connection, because when John Law comes knocking, it will be to the owner of the IP address of that router.

To acquire .torrent files, you normally go to a website, public or private, search through a ginormous listing of torrents until you find what you want, and download the .torrent file which your client program will then go on to use to connect to the swarm. Private trackers are getting pretty rare now because they are easier for law enforcement agencies to shut down. They are very desirable though, you have to have a userid and password to get on and download .torrent files, but the quality of the available media is usually exceedingly good. On the public trackers there are all kinds of spurious torrents that either a) don't work or b) have virii and trojans, advertisements, etc. in them. You have to be very wary as you go through trying to pick out just the right torrent to connect to.

FOR MUSIC

You are normally looking for MP3 files, the higher the bitrate the better. Bitrates range from 128kbps to 320kbps, 192kbps being an optimal minimum (128s can sound crappy). Sometimes you will see VBR which means variable bit rate, it can be undesirable because



there may be low bitrate songs in there. Some people who think they are purists choose only FLAC files, which are practically the same size as the original rips from CD. A typical 3 minute song ripped and encoded to MP3 format at 128kbps bitrate is about 3 Mb in size; at 320kbps it is closer to 10Mb. The equivalent FLAC file would be 40Mb, a ridiculous amount of space for no perceivable difference in sound quality. One rationalization I've heard for using FLACs is to re-master new CDs. COME ON! Nobody wants a new audio CD these days, the technology is prehistoric. In fact, the trend is toward a physically media-less society, no removable disks at all. Besides all that, you typically have to have a special player or add-on for FLACs to work. I say AVOID.

When you download music torrents, you will be usually looking for albums or even entire discographies, though you can take the descriptions with a grain of salt. Frequently the uploader exaggerates the quality or completeness of his upload. The only way to find a rare individual track from a one hit wonder is in a collection album ie, hits of the fifties.

FOR MOVIES

The main descriptions of movies you will see on torrent sites are:

CAM - This is a movie that has been shot with a handheld video camera, the quality is always lousy, but it's the first thing available for new releases NOW. I say delay gratification and AVOID

TS – If you're not patient enough to wait for that new release to show up on DVD to be ripped, you can download a TeleSync, these usually show up within two weeks of the new movie's release date at the theatre. These are movies where a camera has been placed in the projectionist's booth at the theatre, and is jacked right in to the audio system of the projector. Picture quality is usually reasonable and the sound is usually excellent. It is quite rare to find a true English TS these days, most theatres in English-speaking countries are very well regulated to control this behaviour. Which brings us to:

R5 – An R5 is a TS (usually from Russia, hence the R) which has been re-dubbed with an English soundtrack. The titles are in Cyrillic and unfortunately, the English soundtrack is just recorded with a handheld recorder in an English theatre, so the sound tends to be crap. Video camera quality, inferior sound, I say AVOID, but they are very popular with people that just can't wait for the DVD.

SCR – Screeners are movies that are made from pre-awards screening disks which are sent out to members of say, the Academy. They are used to pre-screen a nominated film and usually have titles throughout saying things like, "Property of Paramount Pictures". I assume an assistant takes a rip of the disk and then uploads it to the net. These things can be great because the movies don't usually hit the theatres around here at all (unless they win big), and they are always excellent films, as evidenced by their nomination in the first place. They are widely available the last three months before the Academy awards.

DVDRip – These are the most common thing you will find these days, they are usually .AVI files that can be played on your PC. Additionally, they can be burnt to DVD-R (5 or 6 at a



time usually) and played in a \$60 Walmart DVD player, as long as it says DivX compatible on it. They can also be played on HDMI Media Players that you hook up to your big screen TV, provided that you give access to the file, either through a USB drive or your network.

There are quite a few variants of .AVI files which can lead to CODEC issues, either on your PC or with your media player. To rectify such issues you do one of three things, 1) Download a universal Codec Pack like K-Lite, 2) Use a codec-less player like VLC or KMPlayer (my fav) or 3) delete the stupid file and curse the creator who had to use his proprietary codec because he thinks it improves video or audio compression. To keep it simple when choosing torrents, choose XVID with AC3. The quality is quite good, but varies with the ripper. And of course it is not nearly good enough for those people with 55" LCD TVs that can't afford to spring for the actual media to play on them. You know who you are.

As for bitrates and file sizes, many .AVI files are 700mb, a holdover from the days when CD-R media was cheap compared to DVD-R, now they're both cheap. The idea was that you could fit one movie per disk, or if it was a particularly long movie it would be cut into two disks. This practice still exists today, nonsensical as it is. Many release groups (pirate associations) have release standards which call for two disk sets, using a compression protocol called RAR, so when you download these things you end up with two directories full of RAR files that you then have to decompress back into two AVI files, CD1 and CD2. Crazy!

If you are trying to be diskless, it is better to hunt for single AVI files in as high a bitrate as possible, up to about 1000kbps, even 1500kbps. Such files tend to be 900 Mb to 1300 Mb in size.

BDRip – The latest kid on the block is the Blu-Ray Disk rip. Most of the ones that I have seen are in what is called Matroska format, a container format with an extension of .MKV. Some hardware will play these natively, the Western Digital TV Live HD being one (\$169 at Intrex). Windows Media Player does not play these (not that I have actually tried very hard). On a PC, VLC and KMPlayer both play this format well. This format is usually encoded using a video codec called H.264 along with audio codec AC3, this gives the best combination of video and sound playback in a reasonable file size. Real BDRips will vary in size from about 2.5 Gb to about 17 Gb, depending on the size of the original and the resolution it was ripped at. With this format it is common for the ripper to try and describe the torrent in terms of TV lines of resolution (that's another whole essay) but true 1080p format video files are always going to be 10Gb plus. If you see something described as a BDRip but it is only 700Mb, it is a DVDRip. Lying about one's uploaded torrents is innate with the kind of people that actually do this recreationally. Be prepared to see a lot of whoppers.

ISO and other image formats – An image file is a snapshot of an entire disk. When you burn these back to disk it should be an exact replica of the original. This format is popular with people that like to collect disks that are complete with menus and commentary. Typically these files will be 4.7Gb for single layer DVDs, 9.4 Gb for dual layer DVDs, up to some 50 Gb for a full-size Blu-Ray disk. When you start downloading these things, you are seriously ruining the internet for the rest of us. Go buy the disk, ya cheapskate.



FOR PROGRAMS

Programs are probably the most dangerous things to try and download from the net. I would guess that fully 60% of them are either bogus or have spyware, malware or viruses attached. Reading the comments is crucial, and frankly, if you're not familiar with using your Windows Explorer and the file system of your computer, you should probably stay away. The instructions that come with these things are too complex for most users.

A NOTE ON FILE SIZES

Your single best defence against downloading illegitimate files is knowing and understanding your file sizes. A BIT is just a single chunk of info, a 0 or a 1. Think of a light switch off or on, 0 or 1. A BYTE is 8 bits, think of 8 light switches in a row, some on, some off. A KILOBYTE is 1024 bytes, a MEGABYTE is 1024 kilobytes, a GIGABYTE is 1024 megabytes and a TERABYTE is 1024 gigabytes.

Bit	0 or 1		
Byte	8 X 0s or 1s		
Kilobyte (Kb)	1024 bytes		
Megabyte (Mb)	1024 Kb=	1048576 bytes	
Gigabyte (Gb)	1024 Mb=	1048576 Kb=	1073741824 bytes
Terabyte (Tb)	1024 Gb=	1048576 Mb=	1073741824 Kb

A Word document is normally about 20 kb. This document you are reading is 88 kb. A text file made in Notepad with the same text as this Word document is only 13 kb.

A picture on a website can normally be anywhere from 6 – 80 kb, much bigger than that and the website is too slow to load.

A JPG picture off of your 10 megapixel camera at normal resolution is usually around 3.5 Mb, 50 times larger than a typical picture on a website. This is why you should never be sending pictures to your friends and relatives without resizing them first. Google up Image Resizer Powertoy, rightclick your photos to instantly resize them to more reasonable file sizes. That 3.5Mb picture off of your camera will now be 80 kb.

A RAW picture off of your 10 megapixel camera is usually about 10 Mb.

A typical album ripped to MP3 at a decent bitrate should never be less than about 40 Mb in size, usually closer to 70. FLAC would be 700Mb.

A discography of an artist with 30 albums could easily be 2 Gb in MP3 format, 20 Gb in FLAC.

A typical XVID DVDRip will be 700Mb and up.

A typical BDRip will be 2.5 Gb and up.

ISO movies are 4.7 Gb and up, depending on original format.



WARNINGS AND ADVICE

Use Firefox or Google Chrome with Adblock when going to torrent sites. These things run entirely on donations and advertising revenue, you definitely want to block all the banner ads. Many of these sites are not actually torrent sites at all, they exist only to infect your PC with some kind of extortionware or other advertising software. Do NOT click on stuff without thinking!

Once your download is complete, beware of links inside the storage folder of the download, these links frequently lead to very undesirable places and outcomes. The same goes for cheats and cracks that come with executables, games and programs. These people are PIRATES, don't trust them!

If you download a movie that asks you to go to a website to download a codec, DON'T DO IT! This is a scam. The same goes for passworded downloads, delete the file and move on.

Read the comments associated with each torrent with a wise eye. Be aware that there are many lies, many arguments and racial slurs, lots of profanity, misleading links going to bad places and such. But this is frequently the only way to tell if this torrent is a quality download.

When trolling for torrents be aware of the files sizes, that 12 Mb Blu-Ray rip is not a video at all.

When choosing a torrent, it is wise to sort the list according to the number of seeders. Most decent torrent site will allow you to sort by upload date or number of seeders, etc. Don't just choose the one with the most seeders though; check the comments and the description, make sure it is what you are looking for. It is not unusual to see hundreds of leeches trying to pull down a file that is just spyware.

Always check your download after loading the torrent file. The description on the torrent site could be a total lie or may have left out some crucial information. In your bittorrent client, look at the file descriptions and sizes to make sure they are what you want before completely downloading it. Also, check AVAILABILITY, if this number is less than 1, there is no complete copy of the file in the swarm. This is typical for a very new torrent, because the uploader has not completely uploaded his file yet. But if it is an old torrent, it is on the verge of dying, no one will come to top it off. Delete the torrent and move on.

A MAXSpeed release of that movie that just came out last Friday advertising itself as a DVDRip ISN'T, don't waste your time and bandwidth unless you want to watch a cam with bad audio and half the screen missing. Pay attention to the comments, especially a few days after the torrent has been uploaded. Don't just glom in because it looks like there a lot of people in the swarm.

When shopping for a bittorrent client, make sure it is lightweight on memory. Too many of these things are giant fat pigs gobbling up your system resources. Since they usually run in



the background all the time they will adversely affect how well your computer runs overall. I strongly recommend utorrent.

When configuring your bittorrent client's bandwidth, do not let it exceed 80% of your total available bandwidth. If you do, you won't be able to do anything else on the internet while it is running. It will suck the entire pipe if you let it.

Manage your torrents properly, don't try to download 15 things at once, don't leave 15 things uploading in perpetuity, remove torrents when they hit .6 on your UL/DL ratio.

Under no circumstances abandon a torrent. If your client shows you that there is 1 seed, 2 leeches and a total availability of 1.7 and you have 100% of the file; that means if you leave it will kill the torrent forever. The two remaining seeds only have .7 of the file between them. Stay until there is at least one other seed and then get out.

The same rule roughly applies to under-supported torrents. If there are only 2 seeds and 93 leeches, stick around for a bit and help out.

Be patient, torrent speed is entirely dependent on the total available upload bandwidth within the swarm. Some are blazing fast, some are dog slow. A movie can take anywhere from an hour to a week. Don't download Friday afternoon expecting to watch after supper, it's not that reliable.

Don't get into uploading original torrents, sooner or later John Law will come looking for you, and on the comparative legal scale the original uploader is the real culprit. Keep in mind though, you are an uploader too, even if it just by participating in the swarm.

The list of available torrent sites is constantly changing, and is usually getting shorter as they are shut down. The Pirate Bay is still the world's largest public tracker (www.piratebay.org), but there are many others, www.btjunkie.org, www.isohunt.com, etc.

Finally, nothing is free, support the artists you consume. Buy their products, send them a paypal, do anything you can to help them keep working. One of the most popular types of downloads these days is TV shows, particularly from premium cable channels like HBO and Starz. These channels run primarily on revenue from the satellite and cable companies, subscribe to these channels or risk losing their excellent content forever.

Even for regular TV networks, their sole source of revenue is advertising. How can they afford to pay for good programming if the public no longer watches the commercials? Nobody will advertise with them if it is no longer cost effective to do so. Big changes are on the way for us all; don't be surprised if it suddenly becomes very dangerous to download media.

I welcome all questions and comment, Intrex@sasktel.net

Sean Mellor
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