Analogue vs digital

Analogue
- Needs to be converted from analogue → digital (eg FLAC, MP3) via converter to a file that the PC can read
- **Analogue medium:** Stores music in an object being physically altered to produce sound
- *Examples*
    - A tape recorder changes the magnetization of magnetic tape in a cassette tape to record sound. Plugging a tape deck into a recording device makes a digital copy of the analog cassette tape.
    - A record cutter carves grooves in a vinyl record to make a physical representation of the sound. Ripping vinyl through a preamp and into a sound card makes a digital copy of the analog vinyl
- *Allowed*
    - o Vinyl (always)
    - o Cassette under strict conditions

Digital
- Already encoded as a PC readable format
- **Digital medium:** object storing music in digital files (a binary number string)
- *Examples*
    - CDs
    - DVDs
    - Super Audio CDs (SACD)
    - WEB store downloads (iTunes, Amazon, etc.)
- *Allowed*
    - o after using spectral analysis to check for lossy transcodes

Why analogue or digital?
- Some people prefer the "feel" of vinyl and think that music on vinyl records sounds "warmer" and "fuller"
- Others think that digital sources provide an unadulterated and pristine listening experience.

Audio format

- a type of computer file that stores music. Music formats are either uncompressed lossless, compressed lossless, or lossy
- **Bitrate:** number of bits conveyed/transferred within a unit of time. Units = kbps (kilobits per second). eg CBR file has 320kbps
- **Transparency:** When the audible quality of a lossy file is such that the difference between the lossless and lossy file cannot be a differentiated by a human ear. Usually MP3 192kbps CBR is considered transparent

	LOSSLESS		LOSSY
Types	UNCOMPRESSED	COMPRESSED	Always compressed
	The **biggest** format: ALL original data is stored including silence is given bits per second	The **second biggest** format: the silence is given almost no bits per second	smaller filesize because data that humans cannot normally hear is removed
Formats	WAV (PCM), AIFF (PCM)	FLAC, ALAC, APE	AAC/MP4/.m4a, Ogg vorbis, AC3, DTS, WMA, **MP3**, AC3
Transcoding	Both **UNCOMPRESSED** and **COMPRESSED** can be transcoded without data loss because they have **ALL of the data from the original recording**		Audio data is lost permanently upon transcoding to this format. Therefore, you should never convert lossy → lossy or lossy → lossless or anything else like that.
SPECTRALS	Frequencies extend to 22 kHz		Depends on the format

	MP3 (a type of Lossy audio)		
Bitrate	Constant bitrate (CBR)	Variable bitrate (VBR)	Average bitrate (ABR)
	When bitrate (bits per second) and quality is constant throughout the entire audio file	encoder targets and tries to maintain the selected quality across the file	A mixture of CBR and VBR – doesn't perform well on either so don't use this format!
Pros	Predictable filesize	Files are smaller, bitrate is allocated depending on complexity (silence gets a lower bitrate)	
Cons	Silence has the same number of bits per second → larger filesize		
Examples	CBR **320 kbps** MP3 CBR **192 kbps** MP3 CBR **128 kbps** MP3	**V0** (~245 kbps) **V2** (~190 kbps)	
SPECTRALS	20.5 kHz cutoff/16 kHz shelf – **320 kbps (CBR)** 20 kHz cutoff/16 kHz shelf – **256 kbps (CBR)**	19.5 kHz cutoff/16 kHz shelf – **V0→** (however cutoffs can now extend to 22 kHz in newer versions of LAME – don't worry about this in the interview) 18.5 kHz cutoff/18.5 kHz shelf – **V2**	

note that only the highest yield cutoffs have been included, the rest are on the interview page

Programs

- **Encoders**
  - **LAME (LAME Ain't An MP3 Encoder):** An open source encoder allowing customisable conversion and compression able to output high quality mp3s. You can dictate a constant, variable or average bit rate
- **Viewing Spectrals**
  - Spek, Adobe Auditions, Audacity
- **checking bitrate**
  - this is what the bitrate/preset the file *claims* to be
 - Audio Identifier or dbPowerAmp on Windows and dnuos or MediaInfo on Mac OS

Transcoding

- The conversion from one format to another, especially of music
- **Transcode** (noun). Means a file that has be transcoded (converted from one format to another). Can be a negative term

Good transcodes	Bad transcodes
Where either: 1. The file has never been converted to lossy before (lossless → lossless only) The lossless can either be uncompressed or compressed it doesn't matter 2. Loss conversion (lossless → lossy) occurs only at the end of a chain of lossless conversions	**Where either** 1. Conversion to lossy has occurred more than once eg lossless → lossy → lossless → lossy (where the conversion is occurring more than once) or lossy → lossy **NOTE:** doesn't matter what bitrate the lossy is! eg if you have a 320 kbps CBR MP3 it shouldn't be converted to a 192 kbps CBR eg if have a 320 kbps CBR MP3 you aren't allowed to convert it into a 320 kbps MP3. Lossy → FLAC is also bad. 2. lossy has been converted to a lossless
In summary **Good transcode** **Lossless → Lossless** **Lossless → Lossy**	**In summary** Bad transcode Lossy → Lossy Lossy → Lossless

Spectral analysis

- **Allows you to determine whether or not a file is a TRANSCODE by visualising data in music**
- lower notes have lower frequencies, higher notes have higher frequency
- Signs of a transcode
  - **especially in old versions of LAME:** The shelf/cutoff is lower than it should be and there are grain holes in the data (this can be quite difficult to see but if you create your own transcodes and flip between them it is much more obvious DO NOT WORRY ABOUT THIS FOR THE INTERVIEW, ONLY CARE ABOUT THE CUTOFFS)
    - The only obvious features you should worry about are on this page: https://interviewfor.red/en/spectrals.html
  - gaps in the webrip https://i.imgur.com/Wqnwr87.png
  - noticeable blockiness/lack of a smooth gradient https://i.imgur.com/fg2IWuN.gif
  - So for example if you have a FLAC that has a cutoff at 20 khz this suggests that it is actually a 256 kbps MP3 and not a FLAC (because a real FLAC should go up to 22 khz) please refer to https://interviewfor.red/en/index.html for the full list

- **A lossy master** is when the recording has been converted to a lossy format before it is sold to the public – this means that it's basically a transcode (however this was allowed on PTH as long as it is approved by the moderators)
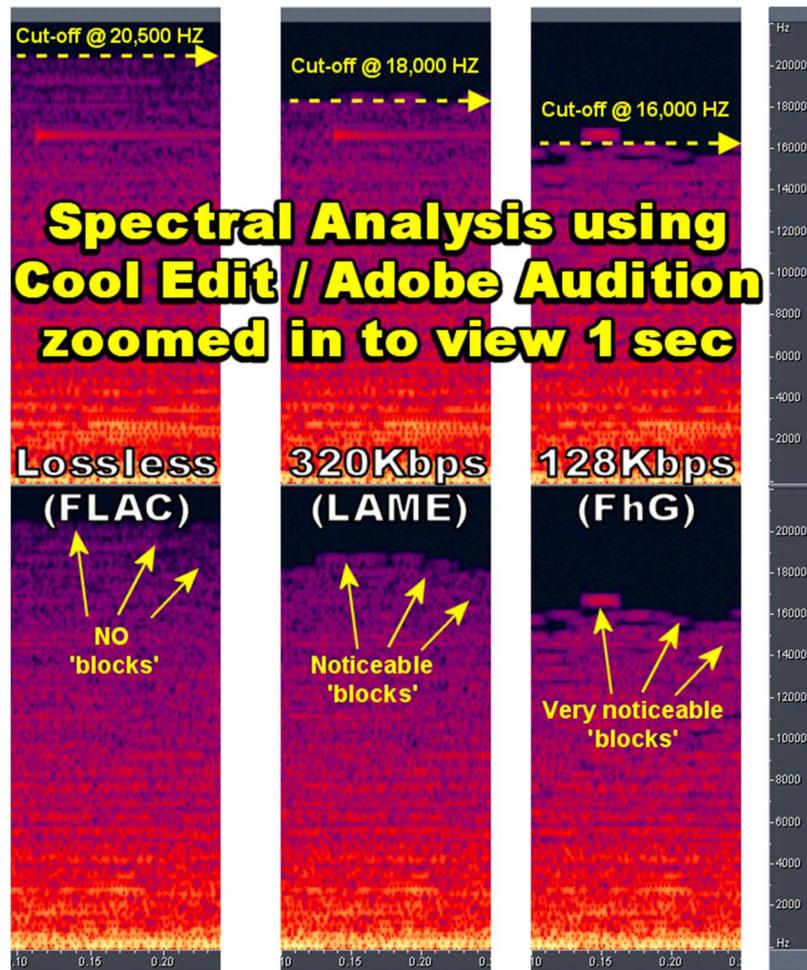
CD Burning and CD Ripping

- Burning – making a CD from music files
- Ripping – extraction of music from a CD

Log files: .txt file with the extension .log recording the ripping process and records errors which have occurred. NEVER modify it

Cue files: .txt file with the extension .cue which acts as a catalog or table of contents of a CD. Enables the burning of a CD identical to the original.

- Programs: EAC (Exact audio copy) on Windows or Linux (w/ WINE) and XLD on MAC.

Torrenting

- this section is literally filler as you can get all the answers from the rules/interview notes on the site as long as you know how to use a torrent client – some of the stuff is missing but is on the https://interviewfor.red/en/torrenting.html and you should already know it

Bittorrent

- **.torrent:** Contains data you want to download do not modify it
- **peers:** people who have added the same **.torrent** to their torrent client
- **partial seeder:** they only have only part of the files but aren't going to download the rest yet they appear like a leecher
    - **DO NOT DOWNLOAD MASSIVE FILES SHOWING LEECHERS with the intent of seeding back the buffer**
- **leeching:** the act of downloading the file
    - *required* in order to receive upload credit
        - the amount of upload credit received depends on <u>peering</u> (how likely it is for other people are to ask you for a piece: can depend on your geography aka a seeder and leecher in the same country may be more likely to share data) and <u>upload speed</u>
- **seeding:** the act of sharing data during after the torrent download has completed
- **BitTorrent client:** something that allows you to download and upload
    - only certain clients/versions are allowed, check the client whitelist

Ratio

$$Ratio = \frac{Amount\ downloaded}{Amount\ uploaded}$$

- Ideally you should stick to a ratio of 1 or more
    - **less than one** = you downloaded more than you shared
        - Refer to the **required ratio** page in rules (you can be penalised if your ratio falls too low) and put on **ratio watch** where your ability to download (leech) is removed – to get them back you will need to fill requests or upload new torrents
        - **required ratio** can also be lowered by seeding 100% of the torrents you download for at least 72 hours each week
    - **more than one =** you uploaded more than you shared
        - If your ratio is too high this means that you are hoarding the amount uploaded and are not giving enough back to the community

Freeleech

- The amount of data downloaded is not recorded in your ratio but your upload is

Neutral leech

- The amount of data downloaded and the amount of data uploaded is not recorded in your ratio

Connecting

- **Port forwarding:** Allows computers on the public internet to connect directly to your computer
    - if you are not port forwarding, the amount of data you can upload will be significantly limited
- **Distributed Hash Table (DHT):** How torrent clients find each other
    - Enabling this is bad for private trackers as it allows people who are not members of the community to find private torrents and download from private tracker users
        - However, any torrent client approved by PTH will automatically respect the private flag inside PTH torrents and will not share information with people who don't have a copy of the .torrent with a private flag
        - Still, you should disable DHT in your client
- **Marking torrents as private:** You should mark your PTH torrents as private to prevent users who are not PTH members from finding your torrents

Additional resources

Redacted.ch interview (tips to passing on the first go)

- this is literally the same as the what.cd interview but apparently easier because the circulating internet copies are missing the spectral section

What you must know – the two most highly failed errors

- How to detect if a spectral doesn't match up to the supposed bitrate (which apparently isn't on the leaked copies of redacted interviews circulating around BUT YOU MUST KNOW THIS JUST IN CASE)
  - o Analysing spectrals is easy. The cutoff point indicates what bitrate the music actually is (If it's a transcode from a lower bitrate then it will have a lower cutoff than it should normally have). If the cutoff is slightly fuzzy go with whatever most looks like a horizontal cutoff point
    - ▪ look at the example in the right
- **What transcodes are allowed**
  - o these questions will show a series of transcodes marked by arrows, you must be able to tell which transcodes allowed and which aren't and be able to explain why
    - ▪ if you don't know how to explain it – read Sleepysaint's guide https://pastebin.com/eMEQGFMJ
  - o if you consistently fuck up the transcoding questions, you will 100% fail!
- Do not insult/swear at the interviewer, do not insist that you want to commit another holocaust, do not be a Trump retard and do not pursue autistically a line of thought that contradicts the interviewer

'320 kbps CBR'
20.5 KHz

16KHz

transcode
(16kHz = 128 kbps CBR)

real
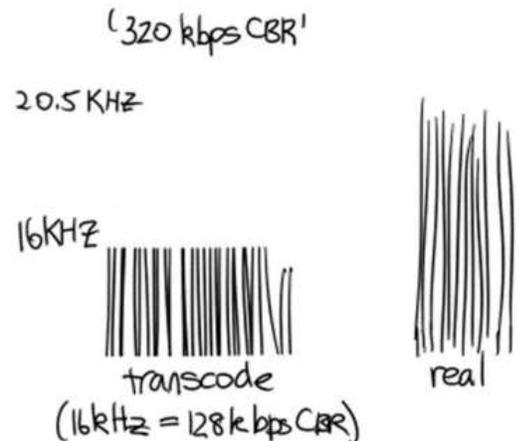
Interview tips

- Use a computer – phones won't cut it because you will be waiting for hours
- Figure out how to make your client notify you when your name is mentioned or else you will be watching your IRC client for hours
  - o eg **mIRC:** http://forums.mirc.com/ubbthreads.php/topics/223016/HELP!_Make_mIRC_notify_on_your
- You do not need to know everything off by heart unless you are slow at locating information in a document
  - o When the interview begins you will be asked to take a screenshot of your desktop – just open your notes after it or print them out

All the questions on the leaked redacted interview answered
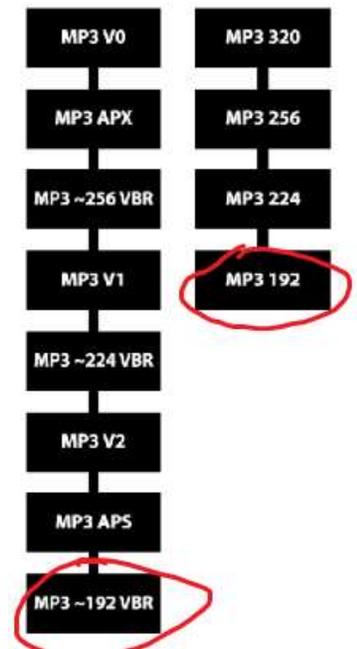
What does the bitrate of an audio file tell you?

Regurgitate the bitrate definition.

What do CBR and VBR mean? What is the difference between the two?

Regurgitate the differences.

What are the minimum CBR/VBR bitrate that redacted allows to be uploaded?

- CBR is basically the MP3 320, 256, 224, 192 etc
- VBR is typically denoted by V0, V1, V2 etc
- Answers are circled on the right

MP3 V0   MP3 320
MP3 APX   MP3 256
MP3 ~256 VBR   MP3 224
MP3 V1   MP3 192
MP3 ~224 VBR
MP3 V2
MP3 APS
MP3 ~192 VBR

What are the lowest and highest possible (not just on RED) VBR presets?

- read http://wiki.hydrogenaud.io/index.php?title=LAME
- Highest V0, lowest V9 (lowest fractional is 9.999)
- low yield useless question

What are some advantages and disadvantages of VBR over CBR?

Regurgitate the pros and cons in my table.

What is the difference between a lossy and a lossless encode? Why would you choose one over the other?

Filesize vs quality. Just a regurgitation again.

Which of the following are lossless encodes? List the letters only – WMA, WAV (PCM), ALAC, AC3, APE, MP3 320 (CBR), FLAC, AIFF (PCM)
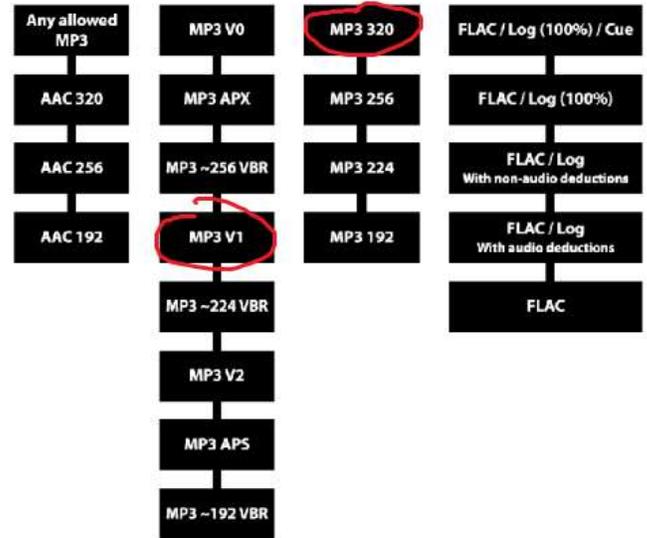
Don't panic and look up the table. WAV (PCM), ALAC, APE, AIFF, FLAC.

This is a rote memorisation question which you can obviously look up your notes on unless you are a very slow reader/memoriser.

Now they can throw you a curveball by adding things you might not have heard of (basically impossible) but don't worry just google it if it's something weird like that.

Which of WMA, AC3, FLAC, MP3 128 CBR, MP3 V4, MP3 V1, MP3 320 CBR are allowed to be uploaded to redacted?
Don't panic the answer is very obvious. Consult the chart

Any allowed MP3	MP3 V0	MP3 320	FLAC / Log (100%) / Cue
AAC 320	MP3 APX	MP3 256	FLAC / Log (100%)
AAC 256	MP3 ~256 VBR	MP3 224	FLAC / Log With non-audio deductions
AAC 192	MP3 V1	MP3 192	FLAC / Log With audio deductions
	MP3 ~224 VBR		FLAC
	MP3 V2		
	MP3 APS		
	MP3 ~192 VBR		

(MP3 320 and MP3 V1 are circled in red)

What is LAME? What does it do?
LOW YIELD QUESTION. Regurgitate the answer.

What might be a reason for someone to transcode from a WAV (PCM) or AIFF (PCM) to FLAC?
Doesn't exactly get fully covered by the notes.
Reason 1: Silence is given almost no bits per second with no data loss resulting in a smaller file size and preserved quality
Reason 2: Your program/device can only play FLAC and not WAV or AIFF.
Reason 3: Redacted only lets you upload FLAC.

If you have an MP3 but are unsure what VBR preset/CBR bitrate it is, what options do you have to find out?
−   Audio Identifier or dbPowerAmp on Windows and dnuos or MediaInfo on Mac OS
−   But really you should also look at the spectrogram to confirm that what it claims is the same as it actually is

What is a transcode? What is it used for?
Regurgitation. Transcoding is the conversion of music from what format to another typically with removed data as in the case of lossless to lossy in exchange for a smaller file size. Also some devices not be able to play certain lossless music formats.

For the following which are good transcodes and which are bad? If the transcode is bad explain why.
A) Retail CD -> WAV (PCM) -> APE -> MP3 256 (CBR) -> MP3 V2 (VBR)
MP3 256 (CBR) -> MP3 V2 (VBR)
lossy → lossy results in avoidable DATA LOSS → BAD!
Ever time a lossy encode occurs the quality decreases so a lossless → CBR 256 → MP3 V2 is worse quality than lossless → V2
B) Retail Vinyl -> WAV (PCM) -> MP3 320 (CBR)
Good lossless → lossy only at the end of the chain
C) Retail Vinyl -> ALAC -> MP3 V0 (VBR) -> AAC 192
MP3 V0 (VBR) -> AAC 192
lossy → lossy results in avoidable DATA LOSS → BAD!
D) Retail Vinyl -> ALAC -> MP3 V0 (VBR) -> ALAC

BAD! – No mention of why this is so on the interview notes but basically once a lossless → lossy has occurred the loss of data is irrevocable and even if you convert lossy → lossless the data is not restored. Basically your file is now larger for no purpose whatsoever.

Hydrogenaudio lists the following cases for why lossy → lossless encoding may occur (but do not mention any of these as one person on /ptg/ has already gotten in trouble for trying to argue for it and making the interviewer feel inadequate)

- Archiving audio originally in an obsolete or proprietary lossy format, without introducing additional loss.
- Editing audio that can't be directly edited in the lossy format.
- As an in-between format for lossy-to-lossy encoding.

E) Retail CD -> AIFF (PCM) -> MP3 V4 (VBR) -> MP3 V0 (VBR)
MP3 V4 (VBR) -> MP3 V0 (VBR)
lossy → lossy results in avoidable DATA LOSS → BAD!

F) Retail CD -> AIFF (PCM) -> AAC 320 -> AAC 320
AAC 320 -> AAC 320
lossy → lossy results in avoidable DATA LOSS → BAD!

G) Retail Vinyl -> ALAC -> FLAC -> MP3 192 (CBR)
Good the lossless → lossy only at the end.

1) What is a .log file, and what is its purpose on a site like redacted? When do we edit these files?
Regurgitate and never edit it.

2) What OS are you on, and what ripping program would you use?
Shitty regurg question.

3) What is the purpose of a CUE file? Does your CD rip have to have one?
Regurg and no you don't have to have one but it will prevent trumping. Look at the trump chart

True/false explain reasoning
A) You cannot upload a duplicate for an existing torrent (bitrate, format, and edition are the same)
False. Regurgitate rules.

B) A torrent with the format AAC can ALWAYS be trumped by any allowed MP3.
AAC encodes can be trumped by any allowed MP3 format of the same edition and media. (This does not apply to AAC torrents with files bought from the iTunes Store that contain iTunes Exclusive tracks.) False.

C) You can trump a lossless torrent with a .log less than 100% with a torrent with a greater scoring .log file (a 90% log trumps a 32%)
no log scoring less than 100% can trump an already existing one that scores under 100% (for example, a rip with a 99% log cannot replace a rip with an 80% log).
False.

D) You can upload your CD Rip even if there already exists a WEB release.
True. Torrents that have the same bitrates, formats, and comparable or identical sampling rates for the same music release are duplicates. Also they can have different tracks

E) Having a different catalog number means you have a different edition than a Rip already uploaded.

Merely having different catalog numbers or CD packaging is not enough to justify a new, distinct edition, though differences in year and label (imprint) do determine distinct release
False.

1) What is a 'partial seeder'? How can it help you to know what a partial seeder is?
Regurg or google. Person with only a percentage of the files.

2) How does one calculate their ratio on a torrent site? What is a required ratio?
R E G U R G

3) What bittorrent client do you use?
O N THE WHITELIST

4) What are the advantages of freeleech and neutral leach torrents?
Regurg
Don't sound greedy over freeleech ratiowhoring

5) Why is it important that you port forward?
To become connectable REGURG

True/false explain
I will not explain it should be obvious
A) Huge torrents should be downloaded when able because they can increase your ratio with even one snatch.
False.
B) DHT should be enabled on your torrent client because it helps you download faster.
False.
C) Torrents must be marked private before they are uploaded.
True.
D) You can only start seeding a torrent (upload to other members) when it has finished downloading
False
E) Your required ratio is zero until you download more than 20 GB if you seed all your torrents.
True
F) You gain a small amount of upload credit simply for seeding your torrents.
False.
G) A FLAC with a 100% log is untrumpable.
True unless you stop seeding it or there are problems with tags, folders etc.
Torrents that have been inactive (not seeded) for two weeks may be trumped by the identical torrent (reseeded) or by a brand new rip or encode of the album. If you have the original torrent files for the inactive torrent, you should reseed those original files instead of uploading a new torrent.

Is a format trump a bad thing?
No

DO NOT SELL OR TRADE OR OFFER INVITES ON PUBLIC WEBSITES OR SHARE ACCOUNTS EVER EVER EVER EVERE EVER
Unless you want to be banned.

NEVER EVER MODIFY .TORRENT FILES OR UPLOAD THE .TORRENT FILES
The contents of torrents are okay but not the .torrent

Music you upload should never be compressed in a .rar or a .zip
No.

1) What made you want to become a member of redacted?
Say something about how you enjoy music and want it the best, like job interviews praise them.

You're trapped on an island and you can bring one song with you, link me to the song you would take. (No judging don't worry)
Don't answer something plebeian it's a trap. If in doubt answer something classical that isn't widely known

What is your favorite genre of music?
Answer whatever.

What is your biggest hobby?
Include music somewhere.

If you could have any super-power what would it be?
Filler.

What's your favorite book?
Filler