

Reading & Counting Music

Time Signature

Reading: The top number tells you how many beats are in one bar, and the bottom number tells you what note value is used to measure one beat.

Counting: Most popular music (especially dance) has a **4/4** time signature = four beats in a measure, and each beat is indicated with a quarter note. Other time signatures you might recognize: Waltz = **3/4** (the main emphasis is on the **1** followed by two other beats); Polka = **2/4** (that up-and-down feeling with almost equal emphasis on both beats).

The definitions I give below are based on a **4/4** time signature.

Measure/Bar

Reading: This is the unit that holds the four beats. "Measure" is the technical term. It's most often called a "Bar" because it's denoted with a vertical line in written music.



Counting: Every time you count to four, you've counted one bar. Sixteen beats = four bars. A simple way to count beats and bars at the same time is to use the first beat to count the bar: **1-2-3-4, 2-2-3-4, 3-2-3-4, 4-2-3-4**. You probably already just feel the beat and count the bars.

One Beat / Quarter Note

Reading: A note value marked with a black circle with a stem.



Counting: There are four of them in one bar. They take up 1/4 of the time used in one bar of music.

In dance music there's generally a kick drum hitting on every beat. If you're tapping your toe, your foot hits the floor for each beat. The snare drum / clap is on the second and fourth beat. ([This](#) and [this](#) are articles that explain the cultural phenomenon of clapping on 2 and 4.)

Half Note

Reading: It looks like a quarter note that's hollow.



Counting: This is a long note – when the sound is played for the time it takes to count two beats or it's played for half of the time in one bar. It's twice as long as a quarter note, but half as long as a whole note (or half as long as one bar.)

Whole Note

Reading: It looks like a half note without the stem.



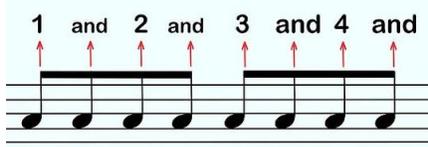
Counting: This is an even longer note – when the sound is played for the entire bar, or the duration of four beats.

Eighth Note

Reading: A note value that looks like a quarter note with a flag; the flag connects them when there are two played in succession (or over the course of one beat).



Counting: There are two of these for one beat. There are eight of these in one bar. One eighth note is half a beat. If you're tapping your toe, your foot hits on one eighth note and the second eighth note is when your toe is raised off the floor. "Up beats" are eighth notes; You might hear eighth notes counted out like this:



Sixteenth Note

Reading: Looks like an eighth note but has two flags.

Counting: There are four of these for one beat.

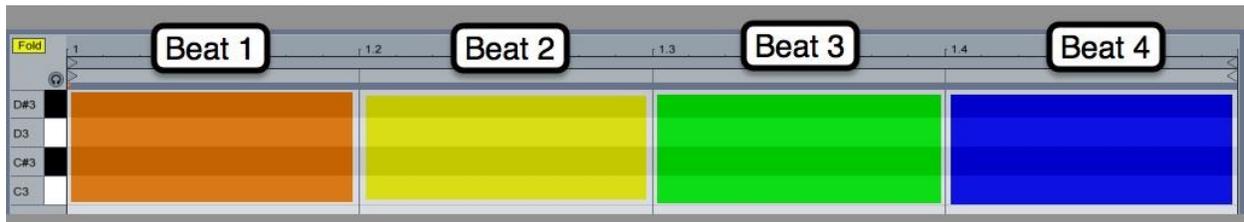
Comparing the Note Values

Note Value	How many in a bar	Relation to a beat
Whole Note	1 per bar	Held for 4 beats
Half Note	2 per bar	Held for 2 beats
Quarter Note	4 per bar	It is the beat
Eighth Note	8 per bar	Two per beat
Sixteenth Note	16 per bar	Four per beat

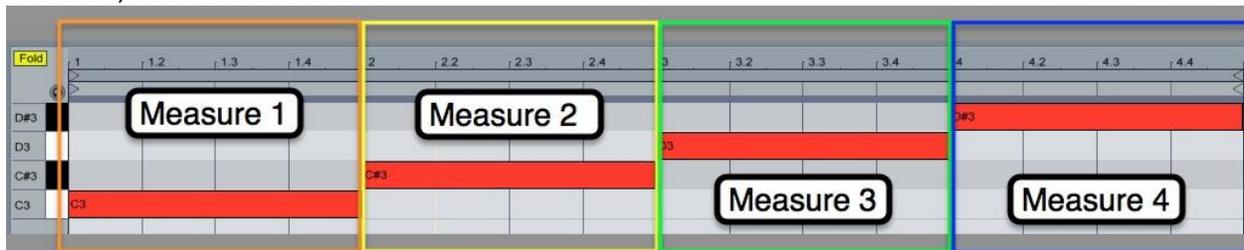


Or, you can ignore the classical written expression, and think of it this way...

One bar of music with four beats:



Four bars, each with four beats:



Structure of Music

It's all based on those note values and bars.

BPM = Beats Per Minute

This is the tempo, or speed, of the music. It tells you how many beats are played in 1 minute. Some general BPM ranges for different genres:

Dub = 60-90

Hip Hop = 60-100

Techno/trance = 120-140

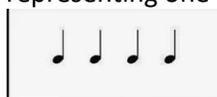
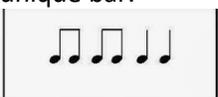
House = 115-130 (128 is common now, but [this mix](#) shows House was originally 122)

But, really, all electronic dance music tends to fall between 118-128.

Rhythm

Rhythm is patterns created in time by combinations of notes and rest (silence is measured/denoted the same way as sound). It can be repetitive or have variations. It's a big factor in creating the feel, it's the foundation for electronic/dance music (as opposed to Classical, whose foundation is in melody and harmony.)

Here are samples of different rhythm patterns, using only the note values listed above and each box representing one unique bar.

Phrase/Break

Counting: A "phrase" is a set of beats that sound the same and have a structural completeness. It's like a chapter in a book. Phrases are often 4 bars (16 beats), 8 bars (32 beats), or 16 bars (64 beats).

A "break" is when there's an audible change, like a new instrument or rhythm change.

A "drop" is when there's a quieter, calmer phrase (longer notes) that maybe builds up and then a break happens with more bass and higher energy (more quarter and eighth notes).

Phrases have different purposes at different points in a track. They are what make the song structure.

Intro: Often the song starts with drums then other instruments are added in

Verse 1: Sets up the theme for the song

Chorus 1: The main theme of the song; Where you find the hook (which is fairly short).

Breakdown: Transition to the next verse

Verse 2: If there are lyrics, they're probably different here.

Chorus 2: Could be the same as the one before or a variation.

Bridge: Another transition, towards the end of the track

Chorus 3: An optional repeat or variation on the previous chorus

Outro: Closing it up, fading out or breaking down to simpler beats.

[This article](#) had an interesting way to look at song structure, assuming there are three categories:

A: Can mean verse, alternative section, break, or common build-up

B: Can mean drop or chorus – main section

C: Bridge, main breakdown, or section of song that differs musically

Examples:

ABAB - intro, verse/breakdown, chorus, repeat the verse and chorus

BCB - long intro, a drop starts main breakdown which builds to a section similar to the first

ABCB - start with 16 bar verse, then a longer breakdown

Common structures:

Tech House: ABCB or BABCB

Deep House: ABCB or BABAB

House: ABAB or ABCB

Techno: BCB

Pitch/Frequency/Volume

Pitch is how we understand higher or lower notes and how we assign sounds on a musical scale.

Frequency is a scientific, measurable thing. Pitch is subjective. But, for all intents and purposes, pitch and frequency are the same.

Higher pitched notes make the air vibrate more quickly and so the sound wave has more oscillations than lower pitched notes. Higher notes have a wave that's more squished together, with less space between each peak; deeper notes have more space between each peak.

Visualize:

- **String instruments:** With all of them, you change the length of the string to change the pitch. You need a shorter string to get a higher note, whether you are on a guitar or stand-up bass or cello. When plucked with the same force, a shorter and/or thinner string will have more oscillations than a longer/thicker string. These string instruments are physical representations of sound waves.
- **Bottles with liquid:** when you blow across a bottle that has a little liquid in it, the sound is lower than when bottle had more liquid. The bottle with less liquid has is a larger amount of air space, so the sound wave is more drawn out.

The volume of a note is seen in how high each peak is. Louder notes have a taller peak than quieter notes.

Horizontal / Y Axis = Pitch, specific note

Vertical / X Axis = Volume

