

PT 101 Lesson 1 Review / Discussion Questions - Answers

Yellow is my original answers Green is the changes

1. Name and describe five types of production tasks that ProTools can be used for.

A: Audio, MIDI, Notation, Mixing, and Post-Production

2. What's the frequency range of human hearing?

A: 20Hz to 20KHZ

3. What does the frequency of a sound wave affect in terms of how we perceive the sound? How is frequency measured? A higher frequency means a higher pitch.

A: Frequency is measured in hertz and cycles per second. It effects the pitch of a sound

4. What does the amplitude of the sound wave affect? How is amplitude measured?

A: volume or loudness, it's measured in decibels: it affects the intensity of sound

5. How does the sample rate of a system relate to the frequency of audio it can capture? What is the name of the law that specifies the relationship between sample rate and audio frequency?

A: a system must sample at twice the frequency it wants to capture. Nyquist Theorem: Sample each cycle at least twice to capture the audio frequency.

6. How does the bit depth relate to the dynamic range of audio it can capture? How can you estimate the dynamic range of a system?

A: it determines the dynamic range of the signal; you take the maximum signal level and divide it by the minimum signal level/ the number of binary digits use to represent each sample. Higher bit depth = Higher dynamic range. 4 bit x 6 = 24dB. 8 bit = 48dB 16 bit = 96dB. 24 bit x 6 = 144dB. 32 bit x 6 = 192dB.

7. What are some common digital connections available on Pro Tools audio interfaces? What type of connector jack does each use?

A: S/PDIF uses RCA jack or coaxial jacks. AES/EBU uses XLR-type connectors.

8. Name some audio interfaces that are compatible with standard Pro Tools software.

A: Quantum, Ultralite Hybrid Mk3, Ultralite AVB: Mac, Windows; often powered by the USB bus Up to 32 channels of simultaneous I/O.

9. Name some Avid audio interfaces that are compatible with Pro Tools | Ultimate software.

A: SC48, eleven rack, fast track duo HD OMNI, HD MTRX < HD I/O

Notes:

44.1kHz/ 16-bits = ~5mb of disk space.

Software Options

- Pro Tools|First – Free version with limited tracks and I/O
- Pro Tools (standard) – Full-featured stereo audio production tool
- Pro Tools|Ultimate – Provides advanced automation, video editing, and surround mixing

Host-Based Systems Versus DSP-Accelerated Systems

DSP stands for Digital Sound Processing

- Host-Based Systems: Rely solely on the processing power of the host computer
- Include Pro Tools|First, standard Pro Tools, Pro Tools|Ultimate software, and Pro Tools|HD Native hardware systems
- DSP-Accelerated Systems: Computer processing is supplemented by digital signal processing (DSP) chips for mixing and real-time processing
- Include Pro Tools|HDX hardware systems with 1 or more HD-series audio interfaces

- Keyboard Commands

Mac	Windows
Command key	Ctrl (Control) key
Option key	Alt key
Control key	Start (Win) key
Return key	Enter key on main (not numeric) keypad
Delete key	Backspace key

File-Naming Conventions:

Current Pro Tools session extension: .ptx

Older Pro Tools session extensions: .ptf, .pts, .pt5

Audio file extensions: .wav, .aif