

Best Value Digital Audio Workstation

Recommendation Report

Written by

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for

Intermediate Technical Writing¹

¹ *Note to instructor:* This recommendation report is intended for the management of a new, hypothetical audio production studio seeking the lowest cost digital audio workstation with the most functionality. It compares three of the most popular options, REAPER, Mixcraft, and Waveform. It is assumed that the reader will understand what a digital audio workstation is and what they will be using it for. It is also assumed that they can confidently use computers and understand basic computer terminology.

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Date: September 1, 2022

To: Head of Budget Sound Studio Ltd.

From: Joseph Canning

Subject: Recommendation on best value digital audio workstation for studio work.

Introduction

The following recommendation report makes a determination between three of the most popular budget digital audio workstations (DAW's) currently available for purchase online. This report is intended for the management of Budget Sound Studio Ltd. so that they may ensure the success and financial solubility of their company going forward. The selection of audio software will determine the foundational workflow and capabilities of the studio and is therefore of the highest concern to the company.

Clients will present different sorts of projects to the studio that will have different production needs. These diverse needs must be addressed by the DAW. However, studio workflow and budget concerns must be weighed against the software's flexibility and power. Ultimately, the company should seek the best compromise available.

Three DAW's have been selected for comparison. These are REAPER by Cockos, Mixcraft Recording Studio by Acustica, and Waveform Free by Tracktion. All of these options are well-known budget DAWs at a similar price that have been around for several years. Other software options are either too new, too old, gimmicky, or not well-documented enough to be a sound investment.

Background

REAPER is developed by the company Cockos Inc. and was first available in 2006. Cockos was founded by Justin Frankel who was a developer of the popular Winamp audio software [3]. The current software version is 6.66, released on August 17, 2022. Its website claims that it is in "constant evolution" and that it allows users to "do anything," touting stability, flexibility, and performance [2].

Mixcraft is made by Acustica Inc. The company was founded in 1998 with the motto "software should be easy to use!". Naturally, their website advertises their software as being intuitive for all users as well as powerful. Mixcraft is currently in version 9 build 458 which released in April 2020. A budget and a premium option are offered, but this report will consider only the budget option, Mixcraft Recording Studio.

Waveform is the DAW made by the Tracktion Software Corporation. The software was formerly known as Tracktion but was later rebranded to Waveform. Like Mixcraft, a budget and premium skew are offered. This report is concerned with Waveform Free, the budget option. The company's website claims that Waveform Free is the "most fully featured" free DAW for music production [4]. It is the newest of the three options.

Requirements

In order for a DAW to have good value, it must cost a minimum amount of money while still having a diverse set of features and capabilities. Therefore, low cost is required. A high number of built-in effect and instrument plugins is also a requirement, as they are needed to handle different tasks and separately purchasing these software plugins can quickly become prohibitively expensive for a new studio. High plugin quality is also a requirement. High OS compatibility is required to facilitate remote work and project sharing. To keep up with big projects on budget hardware, the CPU efficiency of the DAW should be very high. Additionally, the GUI (graphical user interface) is required to have maximum visual appeal.

Comparison

Based on the requirements specified in the requirements section of this report, the three DAW's (REAPER, Mixcraft, and Waveform) will be compared. For each comparison, a conclusion will be reached as to which software most closely meets the requirement.

Price

Each DAW has its own pricing scheme. REAPER is the most straight-forward, offering one skew at a single price point with no additional expansions: \$60 for full use with an essentially unlimited trial period [2]. Mixcraft Recording Studio costs \$99 but is perpetually on sale for \$50 and can be later upgraded to the Pro Studio skew for an additional \$79 [1]. Waveform Free is free with purchasable modules that add more functionality to the base program for \$50 each [4].

Being free to download and use right away, Waveform Free has the lowest price of the three DAW's.

Number of bundled plugins

REAPER includes 18 plugins in total [2]. Only one of those plugins is an instrument. Mixcraft Recording Studio includes a high number of plugins with several instruments and effects including over 7,500 loops [1]. Lastly, Waveform Free includes over 15 effects and a few instruments with some more free instruments available on their website [4].

Though its website does not list the exact number of plugins and bundled sounds, it's apparent that Mixcraft has the most effects and instruments bundled with it.

Plugin quality

The bundled plugins for all three DAW's do not have detailed reviews or tests available online, so I tested trial versions myself. REAPER's effects are limited and have very poor quality interfaces that make them unpleasant to use. That said, REAPER still has all the essential plugins except for a good instrument—the provided ReaSynth plugin is too basic to be useful. Mixcraft has several very good quality instruments with nice interfaces and most of the effects sound professional. Waveform Free also has professional effects, but the included synthesizer and drum machine are limited in their usefulness.

Overall, Mixcraft edges out Waveform Free because it offers a variety of solid instruments.

OS compatibility

REAPER runs on Windows XP to 11 (32 and 64 bit), Mac 10.5 to 12.x, and Linux [2]. Mixcraft is only available for Windows 7 to 11, 32 and 64 bit [1]. Waveform runs on 64 bit Windows 8 to 11, Mac 10.11 or later, and Ubuntu 18.04 [4].

REAPER has the highest OS compatibility, as it can still be run on older computers.

CPU efficiency

The reported CPU requirement for a DAW is indicative of how efficiently it runs. Higher recommended clock rates and core counts mean that more expensive hardware will be needed to run the software.

On its website, Cockos boasts that REAPER has “outstanding multiprocessing capabilities for systems with 2 or more cores” [2]. Testing confirms that REAPER fully utilizes multicore CPU's, which are standard even in budget computers. Mixcraft recommends a quad core or higher CPU [1]. Waveform does not list any CPU recommendation, but testing confirmed that it used more CPU than REAPER or Mixcraft with an identical project.

REAPER is the most CPU efficient of the three DAW's.

Note: CPU efficiency is in general only a concern for ultra-budget or old hardware if using bundled plugins. External plugins may use exponentially more CPU power and benefit greatly from a CPU-efficient DAW.

Visual appeal

Each of the DAW's have slightly different looks and layouts. An effective interface looks nice but is still functional. Additionally, some interfaces can be customized to adapt to the job that the user needs to perform.

REAPER's default interface is very bland and devoid of color (Figure 1). Every aspect of the interface can be customized and rearranged to suit the user's taste, so with some effort, the GUI can be transformed into something much better (Figure 2).



Figure 1. REAPER's default GUI.



Figure 2. REAPER with a customized GUI.

Mixcraft's GUI is not able to be modified, but it has a pleasant aesthetic and a smart layout (Figure 3) that makes working in the program quick.

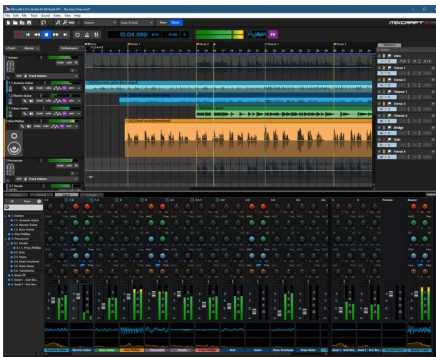


Figure 3. Mixcraft's GUI.

Lastly, Waveform’s interface has a clean, modern look with bright colors and subtle graphical effects (Figure 4). Like Mixcraft, the GUI cannot be altered.

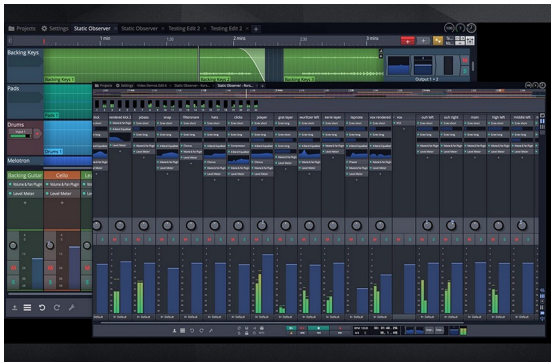


Figure 4. Waveform's GUI.

Due to the customization features alone, REAPER has the most visually appealing and effective interface. If any detail is not desirable, it can be altered or, in many cases, removed. Windows can be freely rearranged and nested. This flexibility is intended to improve workflow [2].

Summary Table

Table 1. Requirements summary.

	REAPER	Mixcraft	Waveform
Price			X
Number of plugins		X	
Plugin quality		X	
OS compatibility	X		
CPU efficiency	X		
Visual Appeal	X		
TOTAL	3	2	1

Conclusions

The following list contains the conclusions made hereto in this report:

1. The best option for a budget DAW is among REAPER, Mixcraft, and Waveform.
2. Waveform, a free program, has the lowest price of the three options.
3. The DAW with the most bundled effects and instruments is Mixcraft.
4. The DAW with the highest quality bundled plugins is Mixcraft.
5. REAPER is compatible with the most OS's. Specifically, it retains compatibility with older computers.
6. The most CPU efficient of the DAW's is REAPER, meaning it is most suitable for use with budget hardware.
7. The most visually appealing DAW is REAPER due to its customization options.
8. The best budget DAW is REAPER because, despite a lack of bundled software plugins, it runs on virtually any hardware, can be thoroughly customized, and is still cheap.

Recommendation

The conclusions of this report support the recommendation of REAPER as the best budget option for a DAW. Although REAPER does not come bundled with quality plugins like Mixcraft, external plugins can be purchased over time as necessary. The costs incurred by purchasing plugins are offset by the still low price of REAPER at only \$60—much cheaper than most other professional options. The features and plugins included in REAPER are enough to get work done, and the customization features mean that workflow can be optimized for each engineer in the studio.

Sources

- [1] Acustica Inc. *Mixcraft*. N.d. <https://acoustica.com/mixcraft>. September 1, 2022.
- [2] Cockos Inc. *REAPER*. N.d. <https://www.reaper.fm/>. September 1, 2022.
- [3] Pro Musician Hub. *What Is Reaper? History, Features, Pros & Cons of the DAW*. August 11, 2022. <https://promusicianhub.com/what-is-reaper/>. September 1, 2022.
- [4] Tracktion Software Corporation. *Tracktion*. N.d. <https://www.tracktion.com/>. September 1, 2022.