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IOS Review

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# Alliedstar AS 200E



by Dr. Ahmad Al-Hassiny

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# Alliedstar AS 200E Review

The [AS 200E](#) by [Alliedstar](#) is one of the newest intraoral scanners released in 2023.

It builds on the success of the [AS 100 scanner](#) which we [reviewed last year](#). That was already a great scanner which we found had impressive scanning speeds.

The AS 200E is another low-cost, entry-level Chinese scanner that features something we have not seen yet from China - wireless scanning. Impressive to see this technology be available at a relatively low price and the scanner still is very lightweight.

This scanner ticks a lot of boxes and is cheaper than all other wireless scanners on the market. So what are the downsides?

We have been testing this scanner for months. The team at iDD was fortunate to receive one of the the first Alliedstar AS 200E IOS in the world. The following review goes over our experiences and how this scanner compares to all others on the market.

## Background

Alliedstar is a relatively new digital dentistry company based in China. The company was established in June 2019. Their founder & CEO has had previous experience as the R&D director at [Carestream Dental](#) for almost ten years. So, there is a lot of experience in IOS going into this company.

Besides intraoral scanners, Alliedstar has plans to develop dental x-ray machines, CBCT, IO cameras, and related software. Essentially, Alliedstar will be a dental imaging equipment and software producer, with a portfolio of intraoral scanners.

Their first was the AS 100 intraoral scanner and now their 2nd generation scanner is the 200E.

Because the company has profound experience in digital equipment and

# Alliedstar AS 200E Review

image management software, this has laid a solid foundation for the companies development. The company is headquartered in Zhanjiang City, Shanghai, China, with production facilities in Sichuan.

There has been a plethora of cheap intraoral scanners bursting onto the market in recent years - many of these coming from China. Over five different intraoral scanners are made in the country, the most popular brands being: [Runyes](#), [DentaLink](#), [Panda](#), [Shining 3D](#), and [Launca](#).

So how does this scanner compare to other scanners dominating the low-cost scanner space?

Keep reading to find out more below.

**Disclaimer - no conflict of interest.** This is an objective review of the Alliedstar AS 200E intraoral scanner. The team at iDD remains unwaveringly committed to providing you with impartial and trustworthy information. Alliedstar had no part in writing this review or restricting any conclusions iDD makes in our thorough analysis and clinical use of these products.

*Enjoy the review.*



# Alliedstar AS 200E Review



The Alliedstar AS 200E comes in a travel case.

## Review Overview

| Evaluation Ratings     | Additional Features   |
|------------------------|---|
| Scanning Speed ★★★★★   | USB/CART  Wireless USB Adapter  |
| Scanning Flow ★★★★★    | Wireless Scanner  |
| Scanner Size ★★★★★     | Caries Detection  |
| Ease of Use ★★★★★      | Software Apps  No apps  |
| Scanner Software ★★☆☆☆ | CAD/CAM Software  Relies on 3rd Party Software  |
| Investment Cost        | Subscription Requirements  No yearly fees for the scanner. Cloud Storage has a free 5GB limit |
|                        | Autoclavable Tips  60 times per tip   |

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## AS 200E Scanning Speed

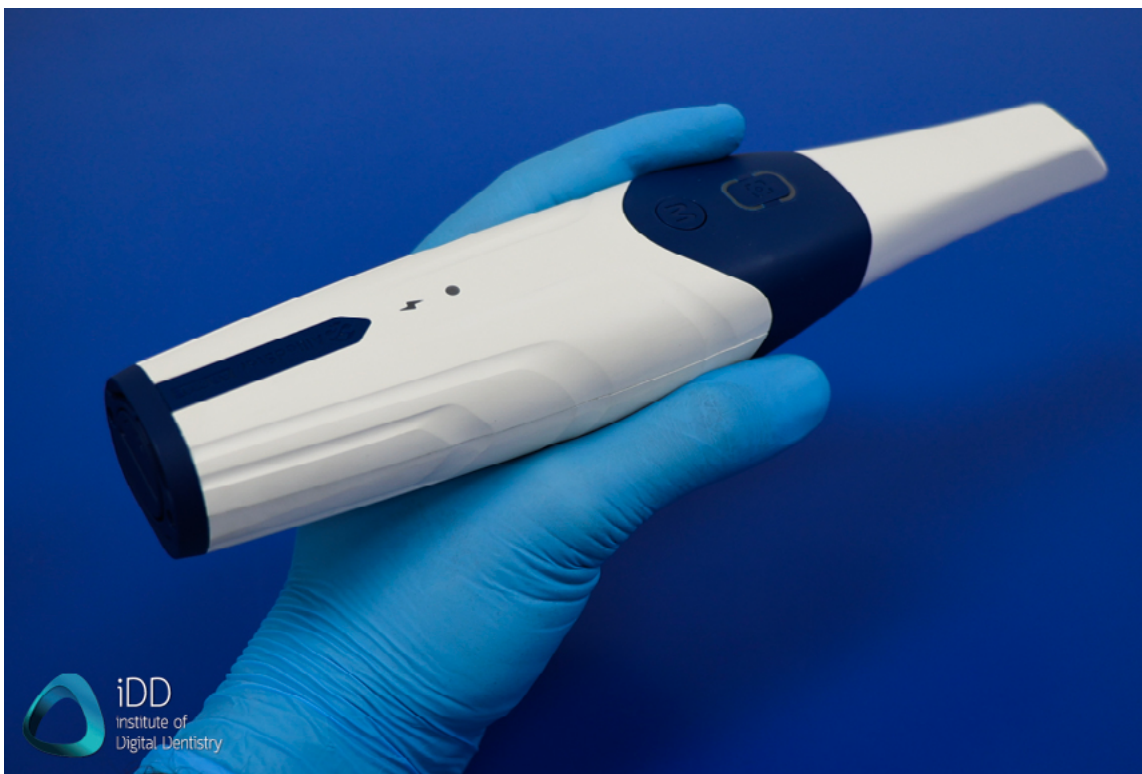
As with the previous generation AS 100, the 200E is an impressive scanner. It is a very fast and enjoyable scanner to use.

We are getting close to the technological ceiling for scanning speeds. Many new products now have excellent scan speeds and I can easily use the 200E to take full arch scans within 30-35 seconds.

Scanning speeds these days is much less reliant on the scanner itself and more so on the operator. In saying that, it is nice to see how well a very economical product like the AS 200E works.

The AS 200E is one of the fastest scanners on the market. The software is smooth, the AI is good (and has gotten a lot better since the previous generation model), and it achieves all of this while being completely wireless.

This is a scanner with truly impressive scan speed and can compete in this aspect with some of main players on the market.



*The AS 200E intraoral scanner is fast and looks great.*

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Anyone familiar with IOS scan strategies will be able to use this scanner, as this scanner is used in the same way as any other scanner on the market. The software is simplistic but not terrible as it still looks modern. The AI built into the software is good and performs well to remove any soft tissue artefacts.

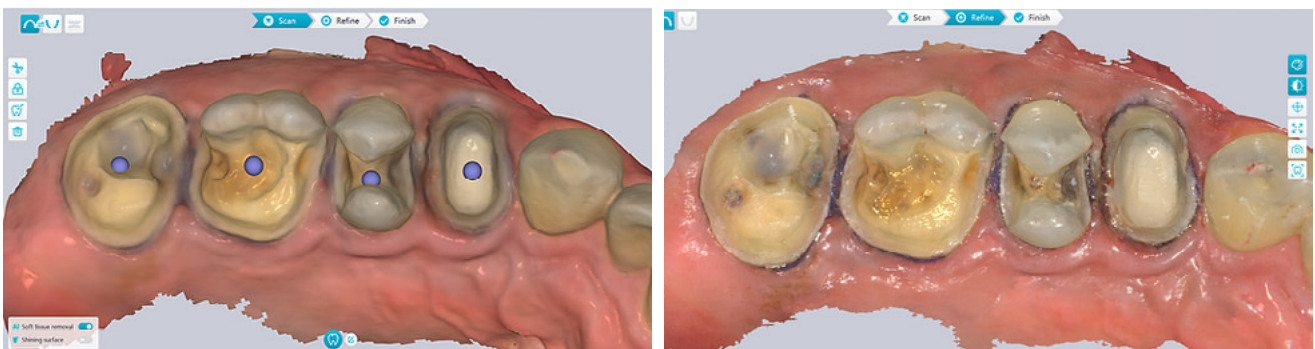
The scanner is quick to find its place again when the scan is paused and restarted, bite scans are stitched together quickly, and removing artefacts is done well. Although, it does not remove artefacts automatically during scanning like expensive mainstream scanners, it does a good job once the area is rescanned, effectively cleaning up any unwanted scan data.

When taking a scan using the Alliedstar AS 200E, the scanning image fabricated by the software has a life-like but not a completely realistic appearance. Similar to CEREC, the images appear a little cartoony. After a refinement phase of the workflow, the scans are processed.

Some artefacts are taken care of by the software, and the final scan images look more realistic.

When we reviewed the AS 100 there were some significant issues with the color texture mapping in the final scan, but these problems have been improved significantly. All major improvements in IOS devices seem to be focused on software now.

There are no loading screens between each scan stage which makes the workflow faster. Instead, all the processing occurs after all scans are completed. Overall, it's an excellent scanning experience.



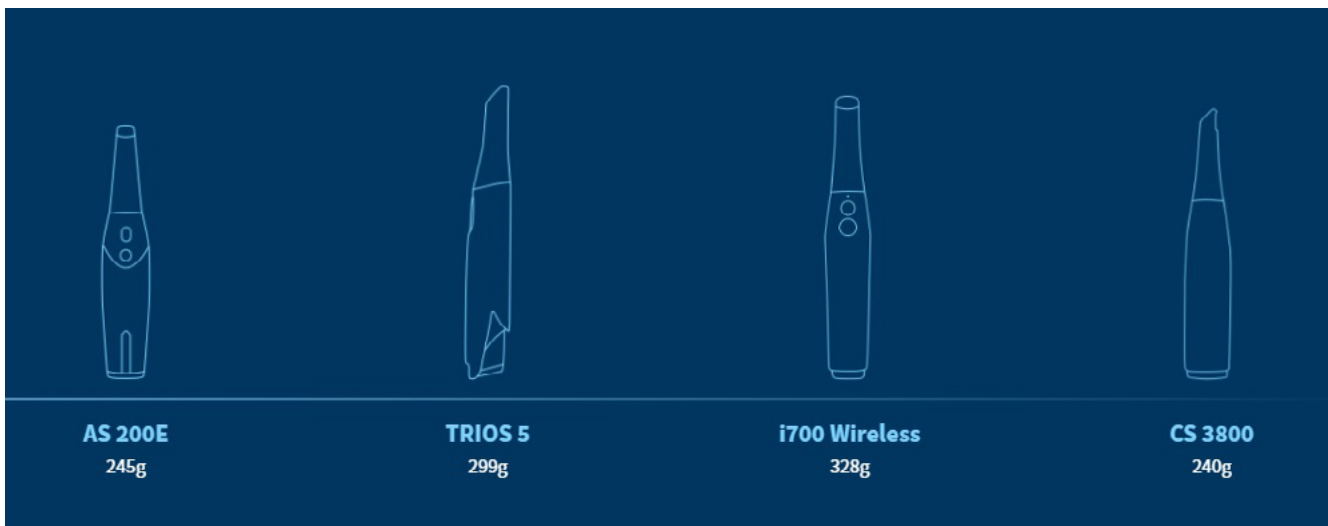
*Scans before and after post-processing. Note the difference in texture, colour and realism.*

## AS 200E Scanner Size & Ergonomics

While the previous generation AS 100 scanner looked quite industrial and dare I say, cheap, the AS 200E is a huge improvement in style and build quality. This scanner looks premium.

The Alliedstar AS 200E is surprisingly ergonomic and fits comfortably in the user's hand. It weighs 245g making it the lightest wireless scanner on the market.

For reference, the weight of other wireless scanners (with battery) on the market is as follows: [TRIOS 5](#) 299 grams, [Medit i700 Wireless](#) 328 grams, [CS 3800](#) 240 grams.



*The AS 200E intraoral scanner is fast and looks great.*

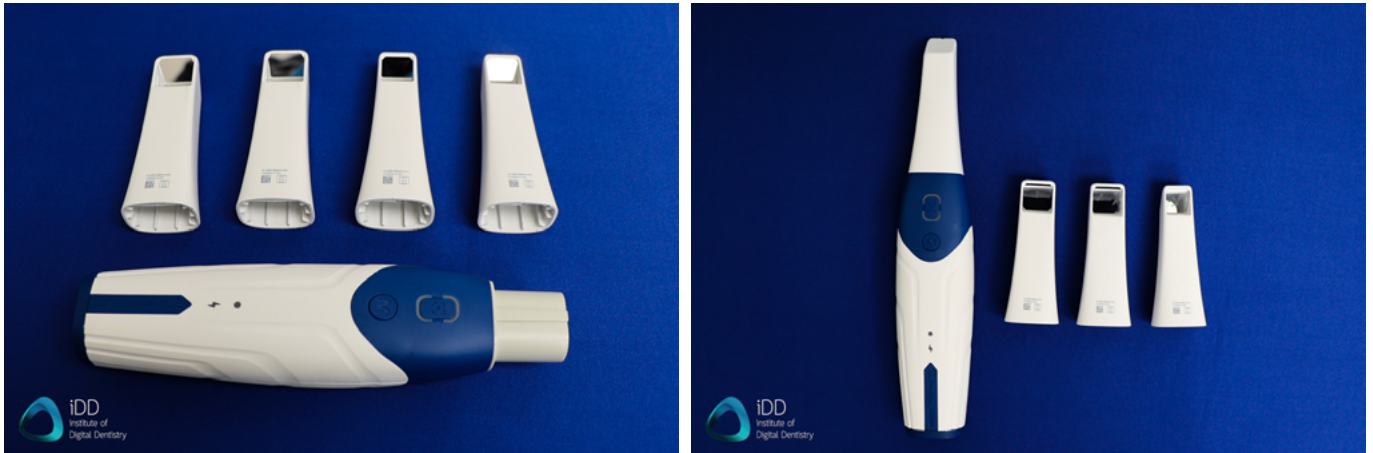
The exact dimensions of the scanner are 248 x 48 x 37 mm, making it one of the smallest scanners on the market and one of the lightest.

The scanner comes with two different scanning tips - large and small. These scanning tips are exactly the same as the AS 100. The size of these tips is 22 x 18 mm for large and 18 x 16 mm for small. Making them some of the smallest scanning tips on the market too.

Previously the weakest point of the Alliedstar scanners was the design and aesthetics. This is simply not the case anymore. The scanner looks great and futuristic.



# Alliedstar AS 200E Review



*The Alliedstar AS 200 comes with 4 scanning tips in the box.  
One small scanning tips and three large scanning tips.*

There are also a number of benefits when using the AS 200E such as it is calibration free. Not only that, but there have been some smart design decisions as well - similar to the AS 100. The AS 200E has a scanner button on both sides of the scanner. This makes it very ergonomic to start and stop the scanning process regardless of how you hold it.

A new addition compared to the AS 100 is the remote control button found in the AS 200E. This enables the user to go through the entire workflow from start to finish without having to touching the computer. You can also review a finished model, scale, pan and rotate at any direction, access the menu and more options simply by moving the scanner, thanks to the built-in motion sensor.

There is also an LED circle and lightening bolt indicator on the scanner. These show the user through visual feedback connection, charging and scanning status.



*The Alliedstar AS 200E is the smallest and lightest wireless scanner on the market.*

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*Scanner button on both sides. Mode button beneath the scanner button.*

## AS 200E Wireless Technology

While the AS 100 scanner used a single USB 3.0 cable to connect to the laptop, the AS 200E is now completely wireless.

This is possible because the AS 200E utilizes a TP-LINK wireless adapter that is plugged into the laptop with a USB 3.0 cable, and then the scanner can be used completely wirelessly. This simplified connection makes it easy to move between clinics/surgeries, and it does not seem to impact the performance at all.

Because the AS 200E scanner only requires one cable to the computer via the TP-Link adapter, this makes cable management much easier and minimalistic.

Wireless scanners generally come in 2 flavors. Those with battery charging stations (Medit and 3Shape) or those that have the battery charger within the scanner base itself (Dexis and Alliedstar).

Whenever the AS 200E is docked into the scanner base it can charge the scanner. Note that this does require the scanner base itself to be plugged in with a USB C cable to a laptop for charging, but the scanner base does not need to be

# Alliedstar AS 200E Review

plugged in use of the scanner.



*The scanner base and wireless charger of the AS 200E shown above.*

The company claims their charging technology is one-of-a-kind due to it being a completely wireless charging station, rather than using any metal connectors etc. This does not make a huge impact on usability of the scanner but it is a nice innovation.

The scanner base itself also looks a lot better than the one with the AS 100. It is ergonomic, looks modern and futuristic and fits the scanner well and securely. It is made of two pieces - a metal base and a plastic scanner dock. The scanner base itself also has a LED indicator to show the user when the scanner is charging.

## AS 200E Battery Performance



*The two piece scanner base and charger is easy to assemble and looks great. Note that a spare scanner battery can be stored at the base of the white plastic part.*

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## Alliedstar AS 200E Review

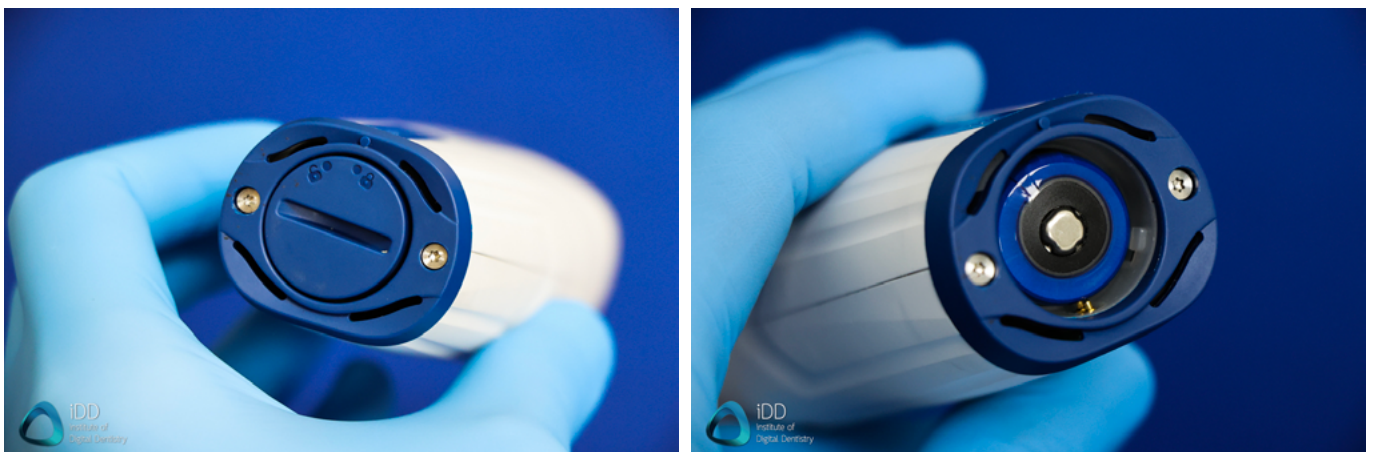
The AE 200 has great battery performance for day to day use. The company claims up to 2-hours continuous scanning. It also has a sleep mode to preserve battery. When in sleep mode it has an instant wake-up feature which is a common power management feature in most wireless scanners. Basically, it can be ready to scan almost immediately when you pick it up.

The company says a single battery can be used to scan an equivalent of 60 typical cases, so you can use for full day without the needing to charge. Even if you need to charge the battery, simply just plug in the dock and leave it on the side to charge without having a separate battery charging station.

In total to charge the battery from empty to 100% takes about 5-6 hours. However, it can be used before a full charge.

On top of this the AS 200E comes with a spare battery when can be easily switched in case the battery has died. A really cool design feature is that this spare battery can be stored on the bottom of the charging station. Neat!

In our usage of the scanner we never had any issues day-to-day. We did find that the battery can sometimes discharge overnight if not plugged in. This is a little annoying but the company has resolved this for the most part with a software update and continues to check this.



*The battery is inserted at the base of the scanner*

# Alliedstar AS 200E Review



*Everything that comes with the AS 200E. Note two batteries are included.*

## AS 200E Inbuilt Fan

The Alliedstar AS 200E IOS has an inbuilt fan in the scanner to prevent fogging. Like virtually every scanner on the market, this makes it much easier to scan in the mouth without condensation issues on the scanner tip.

What is impressive about this inbuilt fan is that it seems to require no warm-up time. We could start the scanner completely cold and scan a patient with no fogging at all.

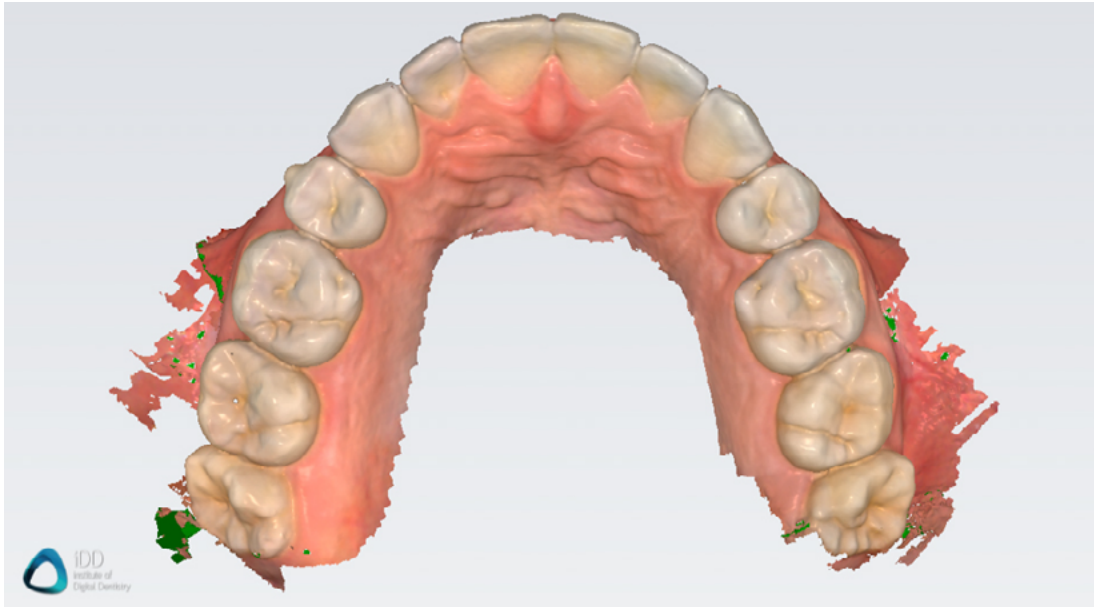
## Full Arch Scanning with the AS 200E

The Alliedstar AS 200E handles full-arch scans very well. Much like the previous AS 100. As mentioned above, this scanner can compete with much more expensive scanners on the market.

The scanner has an impressive scan speed, impressive AI, picks up where it is stopped quickly, and an inbuilt fan that prevents fogging and enables long periods of uninterrupted scanning. It is used with a similar scanning protocol as all other scanners. Using the AS 200E, we could carry out full arch scans within 35 seconds.

We tested full arches, quadrants, metals, edentulous areas. It did a good job regardless.

## Alliedstar AS 200E Review



*Full arch scan with the Alliedstar AS 200E.*

Regarding accuracy, no research exists about the Alliedstar IOS, which can be said about the majority of new scanners. The technology is simply outpacing research. We have personally used the scanner to fabricate crown and bridge restorations within our clinic with no problem.

The company states that the scanner can achieve full arch accuracy of 20 microns. When we compared scans taken using the AS 200E to other IOS devices and even a lab scanner (using Geomagic Control software), we could not see a significant difference.



*The AS 200E handled this quadrant work easily.*

### Is the AS 200E Calibration-free?

The Alliedstar IOS does not come with a calibration tool for the scanner. This is becoming a market trend, with many low-cost scanners claiming no calibration is required as long as the scanner is not damaged/dropped. Even some premium scanners like the TRIOS 5 are moving this way.

Being calibration-free is a concept first seen in Carestream Dental scanners. It relates to the fact that the optical components of the scanner are fixed in place and never move during operation.

Alliedstar claims that calibration is not required for the AS 200E IOS unless there is an external shock to the scanner (such as dropping it). In these cases, the company will need to replace the scanner. The scanner also does not come with a color calibration tool.

The benefit of not needing a calibration tool is that the user does not have to worry about calibrating the scanner before cases and will save time. The downside is that the user will not know if scanner accuracy is optimal and whether the scanner is performing correctly.

### ScanPro Software

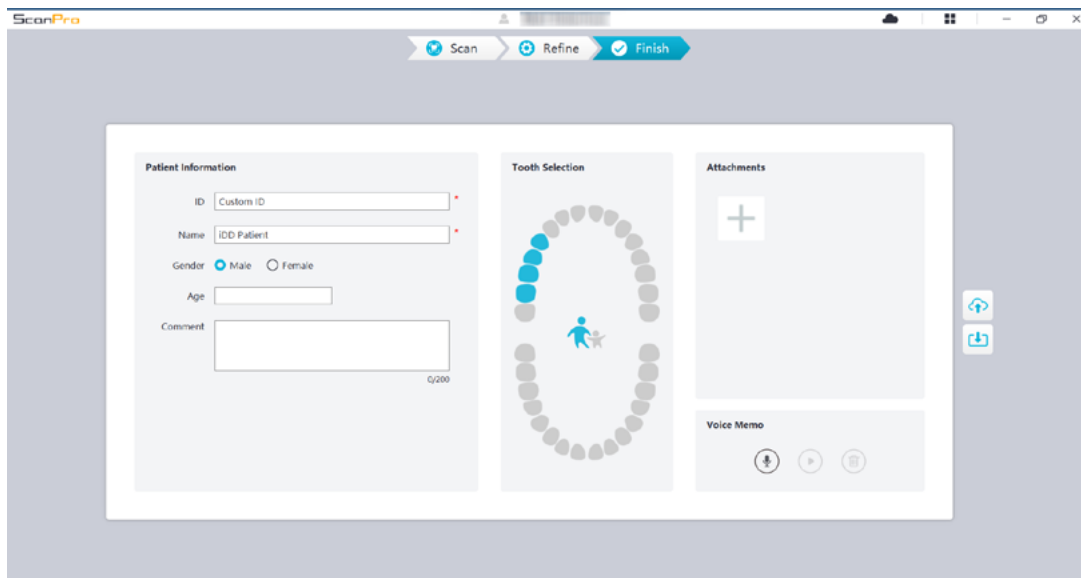
The software that runs the Alliedstar scanner is called ScanPro. It is intuitive and easy to use, but it is still somewhat the achilles heel of the entire product. Last year when we reviewed the AS 100, it was the part that needed work. The company has added new features and improved the cloud, but is yet to implement good patient management software. We are told it is coming very soon.

The software is still basically the same and is designed to make the workflow as efficient as possible. When starting the software, you are met instantly with a patient creation dialogue box to input case details. Alternatively, this can be completely bypassed, and you can start scanning straight away and fill out patient information later. We love to see the option to fill in details later as it can make the scanning workflow much faster.

# Alliedstar AS 200E Review

All the usual scanner software functions such as analyzing occlusion or reduction space, editing scans, removing any scan data, checking undercuts etc, are all present in the software.

The software still doesn't have any software applications such as orthodontic simulator, model builder etc. It is just a simple and easy-to-use impression replacement device.



*Simple software that runs both the AS 100 and 200E.*

## AS 200E Ease of Use

As with almost every scanner on the market, the Alliedstar software makes the workflow as easy as possible.

The workflow follows the standard step-by-step progression that is identical across every system on the market nowadays.

The typical workflow is as follows:

- Filling out the patient details
- Scanning the preparation
- Scanning the opposing teeth
- Scanning the bite

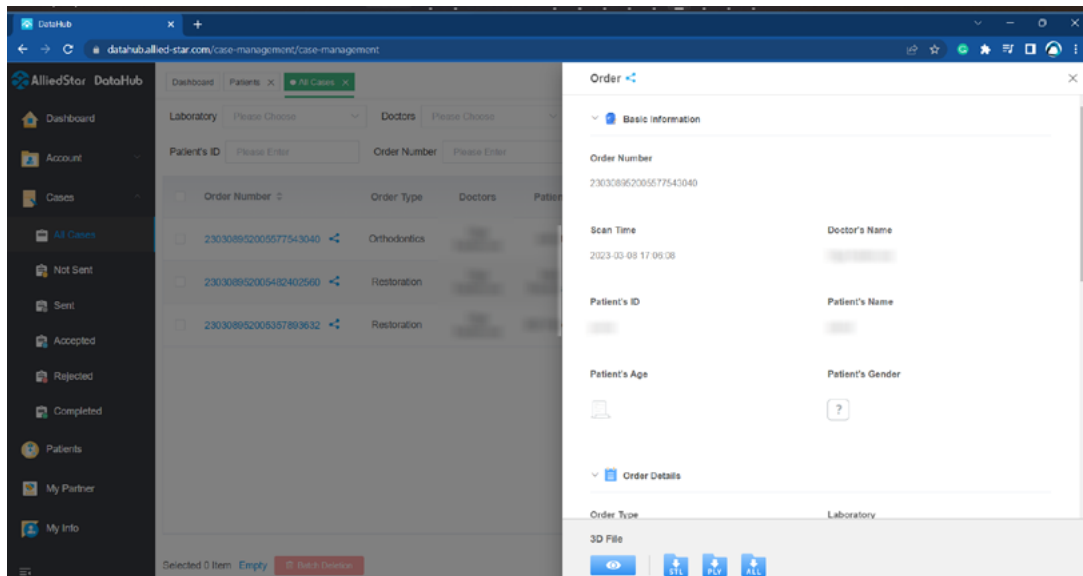


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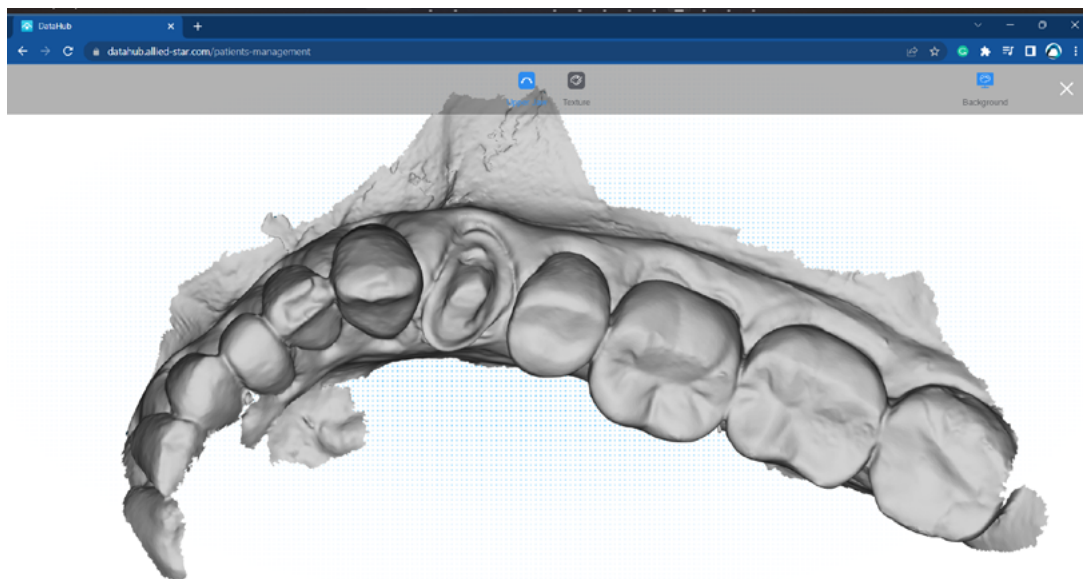
Using the software is easy and the processing of scans is done quickly.

The ScanPro software itself is simplified. For instance, although you can choose teeth in the lab sheet, there are no material or indication options. Instead, presumably, you are expected to type out your indications in the comment box.

The software comes with a fully functioning cloud feature. All cases are automatically sent to the cloud, and a web-based page can be used to open/export any case from any device.



*Cloud Storage that comes with the AS 200E called "Data Hub"*



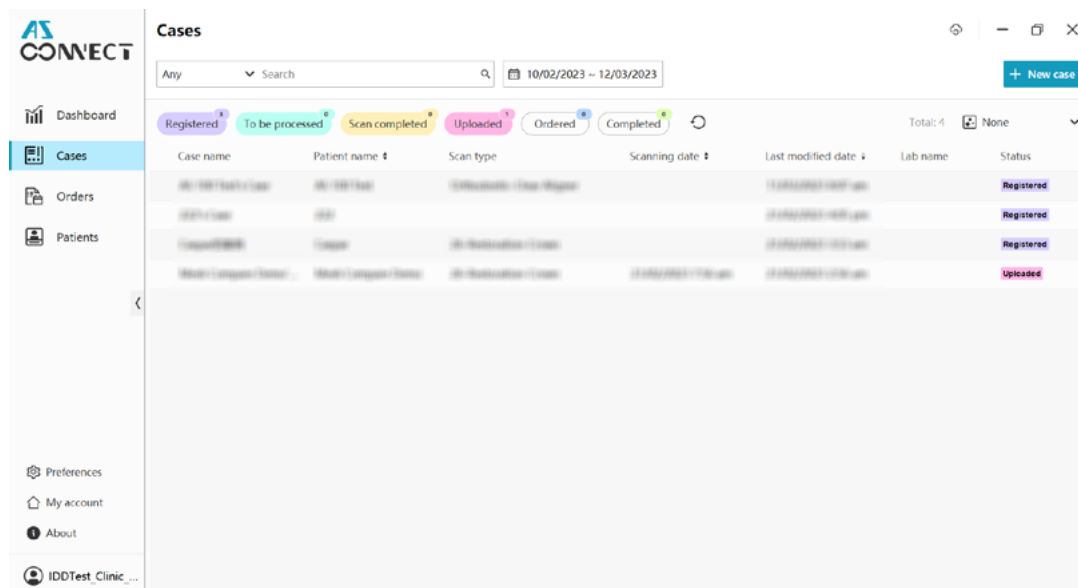
*Scans can be viewed within the browser.*

# Alliedstar AS 200E Review

Although the software works well, the downside is that it still doesn't offer much patient management or apps. The market for scanners has heated up as of late and now many companies are focusing on their software. The lack of software applications may be acceptable for you if you have no interest in them but if software features are essential for you, then this may be a significant downside of this scanner.

Furthermore, the software does not design any prosthetics. This is a scan and send solution. The Alliedstar AS 200E IOS is just a scanner with no CAD software. For those looking to carry out the entire workflow in-house, this scanner will need to be combined with third-party CAD software (like exocad).

The company is fully aware that their scanner software needs to be better and needs to have some form of patient management within it. This is why they are currently developing a new software called AS Connect which we have beta-tested. I have personally had a sneak peak and it looks good.



*Proper patient management software is finally coming soon, called AS Connect.*



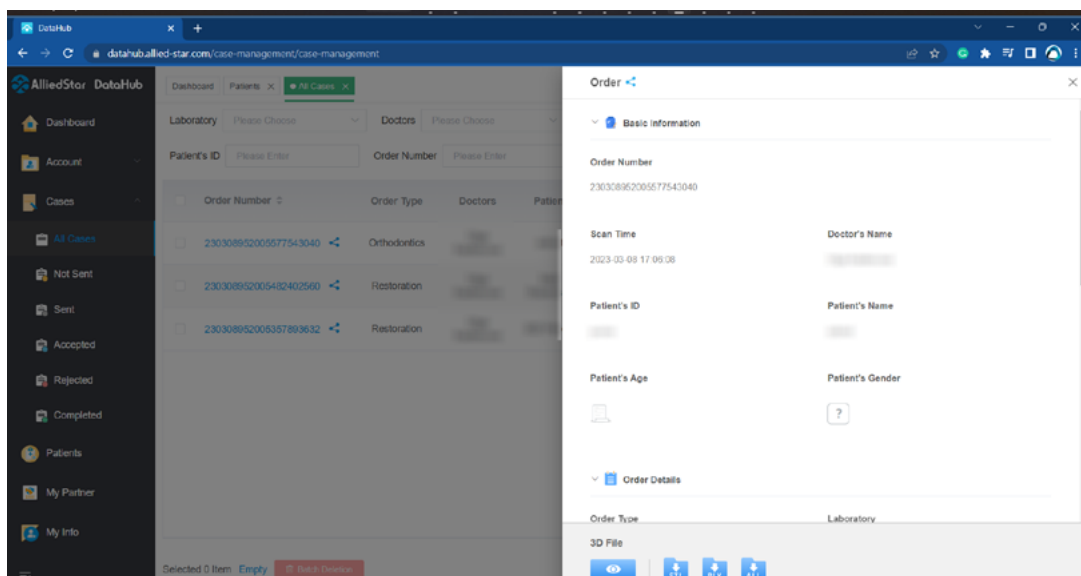
## Does the AS 200E have Open or Closed Architecture?

The Alliedstar IOS is entirely open. The software enables easy exporting of scans in multiple different formats. This includes the popular STL file type but also PLY. OBJ is not supported. Files can be exported locally or from the cloud.

You will primarily use STL, as this is the most widely accepted scanning format across labs and software, however PLY is becoming more popular too for the colour.

One key distinction is that the STL file is NOT a color file. Although the scanner scans in color, you will be designing on a monochrome model when exporting in STL and opening in design software. PLY files include color details, and it is great to see this being offered as an export option. The software makes exporting scans straightforward.

**Invisalign users:** for those of you who provide Invisalign treatment for their patients, Align will NOT accept Alliedstar IOS scans for Invisalign treatment. You will need to consider other aligner options. This is no reflection of the scanner itself.



*Files can be saved in monochrome STL or colour PLY.*

# Cost of the Alliedstar AS 200E Intraoral Scanner

The Alliedstar AS 200E scanner is the most affordable wireless scanner on the market.

**The recommended retail price of the scanner is \$16,000 USD.**

This makes it one of the most economical IOS on the entire market - not just amongst the wireless products. Impressive for its performance.

The batteries are also economical at 60 USD per battery if you happen to need to replace them. Note that you do get two with the scanner.

An ongoing cost you need to consider is the scanning heads. AS 200E IOS has removable and autoclavable scanning heads, which provide ideal cross-infection control. This feature has become the norm across the entire IOS market.

The autoclavable scanning heads have a limit of 60 autoclave cycles at 134 degrees Celsius, after which they will need to be replaced. The cost of each scanning head is \$20 USD (\$0.33 USD per scan).

Lastly make sure you buy a computer/laptop with sufficient specs to run the scanner.

## AS 200E Yearly Fees / Subscription

The Alliedstar IOS has no yearly fees or subscription costs.

The omission of subscription/yearly fees is becoming increasingly common in the IOS market. Low cost and subscription-free is the way these Chinese scanners are going to penetrate the market.

Alliedstar also has a cloud storage service with the scanner. New registered users will get 5 GB of free space, and activating scanners under that account will add an additional 10 GB free space per device.

# Alliedstar AS 200E Review

More cloud storage space will be paid annually but the price is not yet determined by the company.

There are no ongoing fees for using the scanner itself, only the cloud storage. Similar to Medit scanners.

## Review Summary

- ✓ Very fast
- ✓ Most economical wireless scanner
- ✓ Lightweight and ergonomic
- ✓ Wireless
- ✗ No software apps such as model builder or smile design
- ✗ Patient management still lacking in the software



To summarize, this is our in-depth review of the Alliedstar AS 200E intraoral scanner. We have focused on the clinical aspects rather than technical specifications.

Like its predecessor, this scanner is impressive. Simple as that. The price wars are well in place and if there was ever an example of that, it is the AS 200E - an excellent wireless scanner option for a fraction of the cost of others.

This scanner performs well, especially compared to other low-cost scanner options we have tested, which fail to match its speed or general smoothness of the scanning experience.

The main concern I had with the AS 100 is how cheap it looked, this has completely been improved. The scanner feels and looks like a premium product.

## Alliedstar AS 200E Review

The AS 200E scanner offers an attractive price tag at \$16,000 USD with no yearly fees and cheap scanning heads and batteries. The wireless connection works well and it is all very seamless with the software. The battery life is decent for day-to-day use. We did have some batteries lose charge over night as mentioned in the review, but the company is working on this. For those looking for the most affordable wireless scanner that money can buy that works, this is it.

However, there are some downsides. The scanner does many things right for an impression replacement tool. It scans well and is easy to use, comes with a cloud storage feature, has intelligent AI and aligns bites quickly, but it is seriously lacking on the software side of things.

There are no software applications like smile design, ortho simulator, model builder. This makes the scanner software quite basic in comparison to the competition right now. The scanner software itself has quite average patient management system as it is today. In saying that, the company is currently developing a new software which we beta-tested and it improves a lot of these issues. It is still behind in this aspect.

As a stand-alone scanner option, the merits of the AS 200E IOS are clear. We are once again impressed by the performance given its affordability and the new wireless technology. It will be interesting to see if this product can make a impact on the market.

If there is anything we did not cover, or if you have a question, please leave a comment below.



## Meet the Author

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**Dr. Ahmad Al-Hassiny**

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Institute of Digital Dentistry Director

Dr. Ahmad Al-Hassiny is a global leader in digital dentistry and intraoral scanners, carrying out lectures as a KOL for many companies and industry. He is one of the few in the world who owns and has tested all mainstream scanners and CAD/CAM systems in his clinic.

Dr. Ahmad is also the Director of The Institute of Digital Dentistry (iDD), a world-leading digital dentistry education provider. iDD offers live courses, masterclasses, and an online training platform, with a mission to ensure dentists globally have easy and affordable access to the best digital dentistry training possible.

Having graduated from the University of Otago with First Class Honours and being awarded many clinical and research prizes, Dr Ahmad has continued his pursuit of excellence in dentistry.

He has carried out many aspects of complex digital dentistry, including CAD/CAM full mouth rehabilitation and digital smile design, all done in-house. He has seen first-hand through his work how CAD/CAM and digital dentistry can positively change daily dental practice.

As the director of iDD, Ahmad is happy to see dentists around the world develop the confidence of adopting modern techniques and reap the many benefits of CAD/CAM and digital dentistry. iDD's vision is "a world where more people have access to cutting-edge dentistry."

# Meet our Educators

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