

A Comparison of Arranger Pianos

[Pete Matthews Jr](https://3nt.xyz) – <https://3nt.xyz> – © December 8, 2021

An **arranger piano** is digital piano with 88 full-size keys and substantial “one man band” capabilities. As I write, there are three competitive models to consider:

- [Casio Privia PX-S3000 Digital Piano](#), \$849 from Amazon with prime shipping and free returns. The updated PX-S3100 may be available this Fall, with:
 - A plug-in Bluetooth adapter, adding MIDI support over BT.
 - Speaker changes to improve both bass and treble sound.
 - Unspecified improvements in tone quality.
- [Yamaha DGX-670 88-key Portable Grand Piano](#), \$850 from a Guitar Center store (where I bought mine).
- [Korg XE20 88-key Ensemble Digital Piano](#), \$900 from Amazon with prime shipping; model [XE20SP](#) includes stand, triple-pedal and perhaps more for \$1,000.

If you won't use the arranger functions, better value can be found in other pianos.

This article is primarily to help bring my own thoughts into order. It reflects my online research and my personal experience as a novice player of a still-returnable DGX-670. I hope it helps; please let me know of any errors.

Any of these pianos could be right for you. They have many comparable features, and I won't dwell on them. I'm going to run down their differences.

Portability

If you plan to take this piano out of your home to a gig, lesson or practice, portability may be crucial.

PX-S3000: The Casio is the smallest, only 9 inches deep and 24 lb. In addition to its AC adapter, it can run for up to four hours on six AA batteries.

DGX-670: The Yamaha is the largest, 17.5 inches deep and 47.2 lb. The best plan for this model is to affix it to a Yamaha stand in your home.

XE20: The Korg is 13.23 inches deep and weighs 25.1 lb.

Summary: The Yamaha DGX-670 is suitable mostly for stationary use. The Casio PX-S3000 can run on batteries. The Korg XE20 is a little bigger than the Casio.

Stars: PX-S3000=5, DGX-670=1, XE20=4.

Stand and Pedals

All three of these arranger models claim to be portable, and the prices above do not include a stand for the piano. You should expect the piano to sit solidly on the stand designed for the piano, with no wobble or sway like a portable stand. This is the way to go, if you will install the piano in your home and seldom move it. When you buy a stand, you can probably save some money by getting it bundled with the piano.

Each model comes with a single pedal that may wander around the floor if you use it much. An optional triple pedal is available for each, and each of those supports a “half damper” feature on the sustain (damper) pedal.

PX-S3000: The Casio CS-68 stand costs \$140, contains a steel bar under the length of the piano, and requires no tools to release the piano to carry it away. The Casio optional triple pedal is unattached, but may be substantial enough to not wander; it has a proprietary connector. The included simple pedal is a flat, hinged foot-switch. Any of the pedals can be configured using the Chordana app to trigger an action on the Casio, a potentially huge advantage when using arranger features.

DGX-670: The Yamaha L-300 stand costs \$100 and is made of particle board. The Yamaha LP1B 3-pedal unit costs \$80; it attaches to, and hangs down from, the Yamaha stand. I did not get this pedal yet; the included simple pedal is a flat, hinged foot-switch. There is a jack for an optional extra expression pedal. Any of the pedals can be configured to trigger an action on the Yamaha, a potentially huge advantage when using arranger features.

XE20: If you buy the Korg as model XE20SP for an extra \$100, it comes with the stand and the triple pedal on a horizontal bar that attaches to the stand. It appears the triple pedal can be detached from the stand and used for travel; it uses a proprietary connector. The base model has a real single pedal that supports half-dampering. There is also a ¼” pedal control jack, whatever that means. The Korg pedals cannot be configured. Half-dampering and sostenuto only support the German and Italian grand pianos [on the 120-note processor].

Summary: The PX-S3000 pedals cannot be attached to the stand. The pedals on the Korg XE20 cannot be configured to trigger arranger functions, a significant shortcoming.

Stars: PX-S3000=4, DGX-670=5, XE20=3.

Appearance and Interface Usability

PX-S3000: The appearance of the Casio is slick, with most features hidden under a plastic overlay that is black when powered off. The price of that: the menus have many levels that make it nearly impossible to make quick changes to arranger functions; this can be ameliorated by downloading the free Chordana app and running it on an iOS or Android tablet. However, according to Jeremy See, there can be a lag between making the change and having it take effect. At home, you can take the time to sort this out. On the road, if you only use a few different settings, you can save them as registrations. If you want to be ready for anything on short notice, the Korg may serve you better. The Casio has a pitch bend wheel, two assignable knobs and a basic LCD display.

DGX-670: The appearance of the Yamaha is a bit geeky, with lots of buttons and lights on top. However, these buttons make using the arranger features easy. The Yamaha has a pitch bend wheel and a superior, detailed LCD display.

XE20: The appearance of the Korg is a bit geeky, with buttons and lights on top. This interface is reported to be good, once you get used to it; however, some useful functions that can be performed with a single finger on the Yamaha require two hands on the Korg – perhaps better than the Casio, but still.... The Korg has no pitch bend wheel and only a basic LCD display.

Summary: The Casio PX-S3000 has a slick appearance; however, its complex interface can impede making quick changes. The Korg interface works better, but some important arranger functions require both hands. The Yamaha interface has superior usability. [The star ratings ignore appearance.]

Stars: PX-S3000=2, DGX-670=5, XE20=3.

Style Registrations

Once you configure a style, you will want to save all the settings as a registration. The features for storing, editing, saving, restoring and especially naming registrations are important for an arranger piano. I don't have any experience with these features, but here is what I have learned:

PX-S3000: The Casio can store up to 92 style registrations, but they cannot be named, a significant shortcoming. The ratings assume other management features are acceptable, an issue to investigate.

DGX-670: Yamaha has a large number of additional preset styles which you can download onto the piano; the only limit to the number of style registrations is available memory; these registrations can be *named*, a huge advantage.

XE20: Additional preset styles for the Korg can be downloaded from the internet, but saving and reloading your collection of up to 40 style registrations is clunky. It is not clear if and how they can be edited.

Summary: Korg provides downloadable styles for its otherwise limited, clunky registration system. The Casio PX-S3000 has more registration slots, but I did not discover if they can be downloaded from Casio or managed. Yamaha has accumulated a large collection of registrations that you may download. Among these arranger pianos, only the DGX-670 allows registrations to be named.

Stars: PX-S3000=3, DGX-670=5, XE20=2.

Speakers

This section was updated in December 2021 (from October), but the star ratings were not changed.

PX-S3000: The Casio speakers face the rear of the keyboard; this makes it hard for the person playing to hear the music, but should help to keep dust out. From online videos, bass response from the two 8W speakers is clearly lacking. This problem is easily remedied, if you already have good powered external speakers in the room that can be connected to the line out of the PX-S3000.

DGX-670: The Yamaha speakers face up and are covered by metal grills; the sound from the two 6W pairs of speakers is plenty loud for me, but I expect dust to eventually collect inside. I listened to every note on the piano, both with the speakers and with new \$50 Audio-Technica ATH-M20X headphones. I have very good pitch; to this untrained ear, very low notes do not “rhyme” well with corresponding notes in higher octaves, to coin a term. There is too much ancillary bass noise on these low notes, and I don’t find the notes pleasing. A detailed study of the problem, in my article [Piano Notes, Speakers & Headphones](#), determined the problem to be the inadequate Yamaha speakers and my modest headphones. (My Bose QC2 headphones were only a little better.) The lack of line out ports locks in the problem.

XE20: The Korg speakers face up and have cloth covers; these will be dust magnets, but should keep that dust out. The sound from the two 18W speakers is reported to be superior to that of the competition, although 36W is not a lot.

Summary: The speakers on the Casio PX-S3000 are inadequate; plan to live with it, use headphones, attach external speaker(s), or check out the forthcoming PX-S3100. The speakers on the Yamaha DGX-670 are acceptable within the range of a 61-key keyboard, but the only practical improvement is expensive headphones. The speakers on the Korg XE20 are superior – but check that bass!

Stars: PX-S3000=2, DGX-670=2, XE20=5.

Arranger Capabilities

Arranger keyboards allow you to **split** the keyboard in two, and play different instrument **voices** with each hand. The quality and, to a lesser extent, the quantity of the voices are important, especially the grand piano. One or more **layers** (backing tracks) of instrument voices and rhythms can be added. The system may provide multiple **variations** for a configuration, plus **intro** and **ending** configurations. Finally, you need sufficient **polyphony**, the maximum number of simultaneous sounds, to prevent sounds from dropping out. Frankly, I have no experience using arranger features; but I want them, and I hope that what I have will prove enjoyable. Here is what I discovered:

PX-S3000: The Casio has excellent grand piano sound and a great many instrument voices. The Casio's 192 note polyphony should be enough to prevent dropouts. The Casio appears to have three variations for each voice and two layers. After a head-to-head demonstration of the Casio vs the Korg, a commenter wrote, "The Korg definitely has better accompaniment with more choices. But the Casio piano sound has more presence."

DGX-670: The Yamaha has excellent grand piano sound and a great many instrument voices. The Yamaha's 256 note polyphony should be more than enough to prevent dropouts. The Yamaha has only two style variations and two layers. Many of the 600+ voices of the Yamaha are reported to have better quality than the 700+ of the competition. The Yamaha can record up to 16 *independent* MIDI tracks, a strength. The DGX-670 has three intros, three endings and four rhythm fills. It also has adaptive unison and accent styles that keep backing tracks from sounding like a drum machine. Jeremy See misses these when he plays his Korg. Plus, he judges the Yamaha voices "sound richer, thicker and more detailed."

XE20: The Korg has good grand piano sound and a great many instrument voices. The Korg has 120 notes of polyphony on the two grand pianos and 64 notes for all other sounds combined. Calling this 184 note polyphony is a mistake. Their 120-

note processor should easily handle either grand piano voice. It stands to reason that other voices, especially if you supersede your choice of grand piano with something else, may be subject to dropouts from the 64-note processor. In my opinion, this issue reduces the value of the extra third layer that the Korg has. The Korg has four variations on each style. The Korg can record up to 12 *simultaneous* MIDI tracks, a weakness. The XE20 has only two intros, two endings and two rhythm fills. Tim Praskins gave an example: the XE20 can be configured so that a single finger on the right hand will produce five notes from three instruments – not counting the left hand.

Summary: The Yamaha DGX-670 beats the Korg XE20. If you care about recording, avoid the Korg. I give the nod to the Casio PX-S3000 over the Korg, which has been assembled from old processors and sounds.

Stars: PX-S3000=4, DGX-670=5, XE20=3.

Bluetooth

If present, Bluetooth supports connecting a device containing audio (a computer, tablet or phone) to the piano to play that audio on the piano. I use this to watch my video piano course on my tablet and listen on headphones plugged into the piano – and I play along at times. I score this limited Bluetooth capability as only three stars, when present. [None of these arranger pianos supports audio output to Bluetooth headphones or speakers, and none supports MIDI on Bluetooth. The forthcoming PX-S3100 may support these capabilities, but there will be transmission lags.] Bluetooth audio is handy, but a USB connection may suffice.

PX-S3000: The Casio has Bluetooth.

DGX-670: The Yamaha has Bluetooth. I do have to re-connect my tablet more often than I would like, but not at random; the drops are caused by things such as powering down the tablet or perhaps entering Piano Room on the piano.

XE20: The Korg does not have Bluetooth.

Summary: The Casio PX-S3000 and the Yamaha DGX-670 have Bluetooth audio input, a useful feature that the Korg XE20 lacks.

Stars: PX-S3000=3, DGX-670=3, XE20=0.

Ports

All ports are on the back of all three pianos and include one ¼" headphone jack, unless otherwise noted.

PX-S3000: The dual ¼" line out jacks are suitable for gigs. A mini jack supports audio input. A USB-A port allows plugging in a memory stick. A USB-B2 port allows MIDI and/or audio connection to another device. There are *two mini* headphone jacks on the *front* left side of the unit, perhaps for student and teacher. Tim Praskins found that you can plug a microphone into an audio in jack, but you would need to add an inexpensive mixer to fully control it.

DGX-670: The Yamaha has no true line out. The ¼" headphone jack is also labeled output, but the signal has headphone strength; I had to crank my external powered speakers to the max, to produce a volume comparable to the Yamaha speakers. If you use this jack for speakers, you must unplug to plug in headphones – and remember to turn down the volume of the speakers if you use them for other purposes. A USB-A port – in a protected cavity on the top of the system – allows plugging in a memory stick. A USB-B2 port allows MIDI and/or audio connection to another device. I used a "USB to Go" converter to connect a Samsung (Android) tablet to the USB-B2 port and play audio on the piano. Unfortunately, the sound would randomly drop, and I'd have to fool around to restart it. I switched to Bluetooth, and that fixed the problem – and I now get to use the tablet's USB-C port to continuously charge it. The Yamaha has a microphone input, and you may control mic functions using the piano.

XE20: The Korg dual ¼" line out jacks are suitable for gigs, although with its better speakers, this model needs these jacks less than the competition. A USB-A port allows plugging in a memory stick. A USB-B2 port allows MIDI and/or audio connection to another device.

Summary: The Casio has two headphone jacks on the front, but they are 1/8" minis, so some headphones cannot be used. Support for a microphone is designed into the Yamaha, a plus for me that is canceled out by the lack of line out port(s). The Casio can be caused to use a mic (preferably with a mixer), and maybe the same method would work on the Korg. All three systems support MIDI and audio in via USB, although USB audio gave me some trouble on the Yamaha.

Stars: PX-S3000=4, DGX-670=3, XE20=4.

Music Rest

All three pianos include a music rest.

PX-S3000: The Casio music rest attaches to the back of the unit. It may be problematic, and you need it to hold a tablet, if you will run Chordana.

DGX-670: The Yamaha plastic music stand slips into a slot on the top rear of the keyboard. I consider it essential, and I'm quite happy with it.

XE20: The Korg music stand slides into two slots on the back of the unit and appears acceptable in Jeremy See's video.

Summary: The Casio PX-S3000 music rest may be inferior.

Stars: PX-S3000=3, DGX-670=5, XE20=4.

Where the Action Is

Usually, the action is the most important single aspect of a digital piano.

However, with only three competitive arranger pianos and imperfect actions, we need to compromise to get the arranger features.

PX-S3000: Casio implemented their "Smart Scaled Hammer Action" for the PX-S3000 and its non-arranger cousin, the PX-S1000, to support the small form factor. This action has textured key tops (an advantage) and is reported to be the lightest of the three competitors. The action does get significantly heavier as you move your hand inward. The keys (including what's under the top cover) are quite short. Casio engineers have apparently created a fine product that is controversial, due to the compromises required by the physics of such short keys. Many people, including experts, love this action. However, James Pavel Shearcross, also known as ThePianoForever or JPS, finds the compromises unacceptable. He tested the keys with piano gram weights, and found that significantly less pressure is required to play the black keys, compared to the white keys. This can mean that the black notes play louder (for example, in an evenly struck chord), or play sooner than expected (going down more quickly). For JPS and others, this is a big deal. Also, it appears that the key travel – how far it goes down – may be less than that of its competitors. A suitable fix for these problems would probably require lengthening the keys; Casio's responses demonstrates that ain't gonna happen. I was not able to lay my hands on a PX-S3000 in the Boston/Canton area, although I did not make an exhaustive search. The unbundled PX-S3000 is currently available with free returns from Amazon.

DGX-670: Yamaha's Graded Hammer Standard (GHS) action has been around for many years and is used on their P-45, P-125 and DGX-670. This action has smooth key tops; of the three competing arranger pianos, this action is the heaviest. Tim Praskins at [AZ Piano Reviews](#) reviewed the much older DGX-650 (with GHS), and basically dismissed it for its action; elsewhere he wrote that with the GHS action, a key is hard to press and tends to kick back on the way up (I agree). On his new

site, [Digital Piano Expert](#), he walks this back some, praising the DGX-670 for its arranger features. On my DGX-670, it is difficult for me to play keys softly; a prominent example for me is, playing the C below middle C with my left pinky; I'm not pleased. This issue with the GHS action was confirmed in a video by Stu Harrison at Merriam Pianos. You should be able to test the GHS action for yourself at a piano store near you.

XE20: Reviews of the Korg contain only praise for its NH key action, as far as I know. This action has smooth key tops and is the middleweight of the three competing arranger pianos. I was not able to lay my hands on an XE20 in the Boston/Canton area, although I did not make an exhaustive search. (At Guitar Center, I did briefly try the Korg B2, which I since discovered has the same NH action. I went back and tried it again, and enjoyed it.)

Summary: None of these pianos has a great action, which would cost much more. On the other hand, a great action is not really needed for an arranger piano. The Casio PX-S3000 has a light action that many people love, but with anomalies that some hate. The Yamaha DGX-670 action feels heavy and is weak on playing notes softly. The Korg has a medium, enjoyable action.

Stars: Your preference. You may have to accept the action on the piano that has the other features you need. Any of these models may be right for you.

Still Deciding?

The engineers have made their compromises, and now we have to make ours.

You have likely eliminated either the Yamaha DGX-670 for its size and weight, or the Korg XE20 because the Yamaha DGX-670 is an overall better arranger piano. Try to get your hands on a piano that has the same action as each of your candidates, such as a Yamaha P-45 or P125; a Korg B2; or a Casio PX-S1000 or PX-S1100.

The following Excel spreadsheet, posted with this article, shows how a computer professional might decide. My weightings are shown with superscripts, to leave you space to pencil in your importance weightings. Portability has no value for me; if it's big for you, weight it 25 or 50, or just ignore the Yamaha. Plug in your weights and action ratings, change any of my ratings you disagree with, fill in the Weighted Stars by multiplying weight by stars, and add the last three columns.

Arranger Pianos		Stars			Weighted Stars		
Feature	Weight	Casio PX-S3000	Yamaha DGX-670	Korg XE20	Casio PX-S3000	Yamaha DGX-670	Korg XE20
Portability	0	5	1	4	0	0	0
Stand/Pedals	5	4	5	3	20	25	15
Interface	5	2	5	3	10	25	15
Registrations	10	3	5	2	30	50	20
Speakers	10	2	2	5	20	20	50
Arranger	10	4	5	3	40	50	30
Bluetooth	5	3	3	0	15	15	0
Ports	10	4	3	4	40	30	40
Music Rest	5	3	5	4	15	25	20
Action	20	3	3	3	60	60	60
Total Score					250	300	250

Good luck with picking a traveling piano! The Yamaha DGX-670 wins for me, even if a test of either of the other actions should earn five stars. Still, I'd like good low bass notes; a true line out; and a better action, especially for soft notes.

Final Thoughts

Jeremy See did a head-to-head video comparison of [Yamaha DGX 670 vs Korg XE20](#). Bottom line, he likes the Yamaha better for many reasons. Watch the entertaining video – and his others. He is the prominent proponent of arranger pianos on the web.

Jeremy See offers a video course on [playing an arranger piano](#). I will probably try this when I give myself permission. First I have to pay my debt to history, over six years of mostly-forgotten lessons in my youth. I'm working my way through [How to Play Piano](#) from The Great Courses. This is a college level course, no kid stuff, and I find it real work. (Don't pay list price; wait for a sale for \$25 to \$50 – or try Jeremy See's course free for 14 days.)

Get a surge protector for your new piano, at least 900 joules. The cords mostly have either 14-gauge wire (as in a 15-amp circuit), or 18-gauge wire (lamp cord, but plenty for a piano), rather than the 16-gauge wire used in most basic extension cords for decades. I got a [14-gauge Trond](#) with a charging port for my tablet) for \$19 (now \$28), fearing an accidental overload down the road.