User Manual for the
VARIO Digital System

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Further information, as well as audio and video examples
are available on our website:

https://www.bechstein-digital.com/

This document is always the latest version,
as well as in other languages also available as PDF file.

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INDEX

1. WELCOME

Hello and a big thank you right at the beginning for the purchase of the C. Bechstein VARIO digital system.

The system is based on a comprehensive concept of creative and musical possibilities. And a product that we have designed and built with the intention to meet the special experience of playing your C. Bechstein instrument also on the digital level.

You may already be familiar with the basic technologies: a sensor system translates the movements of the keys and pedals during the playing into an electrical signal, which can then be played by a digital sound device (the sound module of the VARIO system or an app) via headphones.

A mute bar, customized for each instrument, also silences the acoustic sound of your piano so you can play for yourself when you need to.

With an extensive connectivity and a consistent integration to the possibilities of mobile devices, as well as a modular architecture throughout, the new VARIO digital system starts where many other "silent solutions" stop ...

THE BASIC IDEAS BEHIND THE VARIO DIGITAL SYSTEM.

For a good understanding of the various other possibilities of your VARIO instrument, it is helpful to take a look at the basic ideas and concepts behind the system:

EXPERIENCE MORE WITH THE INSTRUMENT

We believe in the additional creative value of modern and high-quality music software. Well-made "apps" can add many more facets to the experience of playing our acoustic instruments. With our VARIO App we want to make digital functions which are relevant for your piano playing as easy to access as possible. In addition, the VARIO digital system is open to third-party applications and supports the exchange and interaction with them in many different ways.

Learn more about apps and their use from page .

FLEXIBLE CONNECTIVITY

The "experience more" described above is also made possible by connecting mobile devices that you are very likely to have already in your household: Smartphones, tablets or laptops. In order to be able to use as many different devices as possible today and in the future, the VARIO digital system supports the USB-C standard. In addition, so-called MIDI connections can also be established wirelessly via Bluetooth.

More about the connection options from page .

EASY TO USE

Despite all enthusiasm for technical-creative solutions, the use of day-to-day basic functions must be as simple and convenient as possible. Therefore, you can use the VARIO digital system very quickly right after power-up and control the most important things with just two controls - even without apps or connected devices.

Read more about the basic operation on page .

A SUSTAINABLE PRODUCT

The VARIO digital system should remain with you for many years. In the world of acoustic instruments, a wish that usually refers to periods of several decades often depends on many other aspects in the context of modern technology. Nevertheless, with a modular system structure, easy maintenance and the possibility of software updates, we have already created many prerequisites today for a coming generation of digital environments to interact with your instrument.

More on software updates from page .

Speaking of next generation: with as many system components as possible, we use recyclable materials. And we rely on a regional supply chain as far as possible, including circuit board manufacturing and all housing parts.

We would like to invite you to get to know your VARIO digital system in detail for the first time with the help of this manual. Do you have any questions or suggestions about your C. Bechstein VARIO? We are looking forward to any feedback and promise to be at your disposal as soon as possible and individually for any concerns you may have.

The entire C. Bechstein team wishes you lots of fun and creative hours with your instrument and the VARIO digital system.
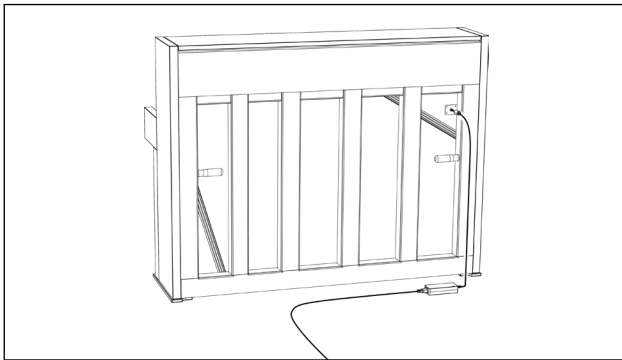
Berlin, September 2019

2. GETTING STARTED
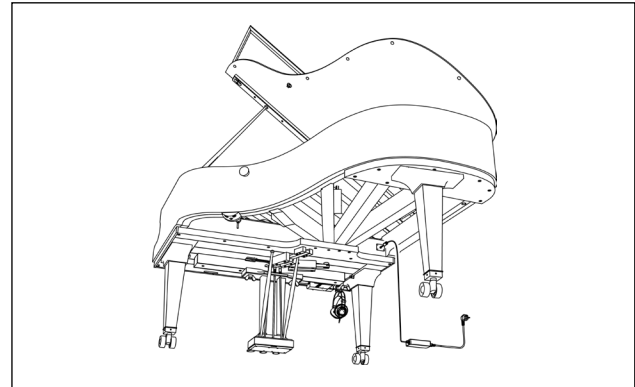## 2.1 Power on: The first contact with your new VARIO

This section assumes that you have an instrument – upright or grand – including VARIO Digital System that is ready to play. In most cases, your dealer has already ensured that the entire instrument is in perfect condition and you have already been able to enjoy its acoustic facets. So let's explore the digital possibilities of your piano together – let's get started.

POWER SUPPLY & START UP

The VARIO requires a power connection for operation. The power supply which is included in the package is connected to the rear of the piano. Please do not use any power supply other than this one. For grand pianos, you will find the appropriate socket on the bottom, about an arm's length behind the two VARIO control modules.


Position of the power supply connection on grand pianos

Switch on the VARIO digital system by pressing the button. If the LED on the control unit lights gold after a few seconds, the system is ready.

Position of the power supply connection on upright pianos
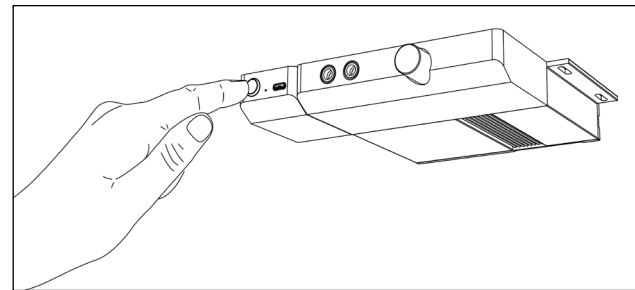

Switching on by pressing the button

Below the keyboard you will find a lever that you can use to activate the hammer stop bar and thus mute the acoustic instrument.
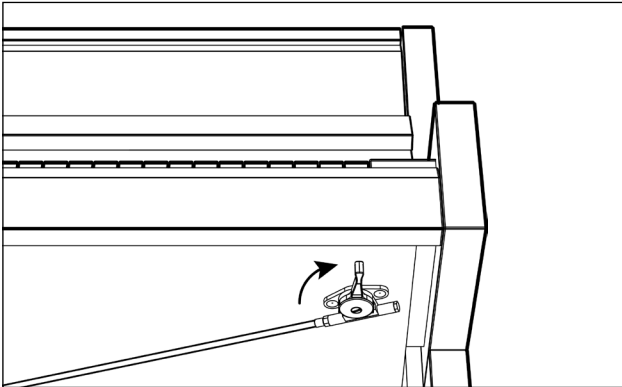

Activating the Silent Mode

The piano is silenced? Put the headphone on - it will be connected to one of the two jacks. Adjust the volume with the knob next to it. Attention: as with the acoustic instrument, the overall volume can become very loud during forte play.
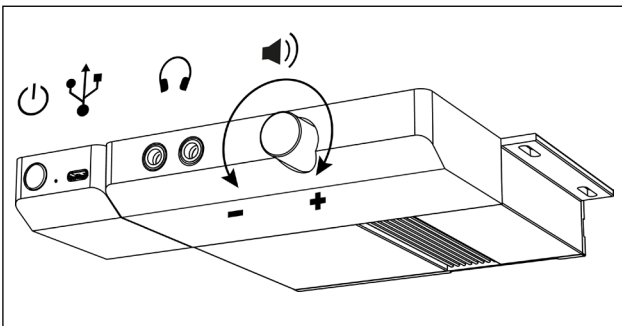
Front panel connectors and volume knob

Once you've enjoyed the first notes, you'll certainly be looking forward to more sounds from the VARIO System: press the button once ... and play sound No. 2. press it again ... No. 3 and again ... No. 4.
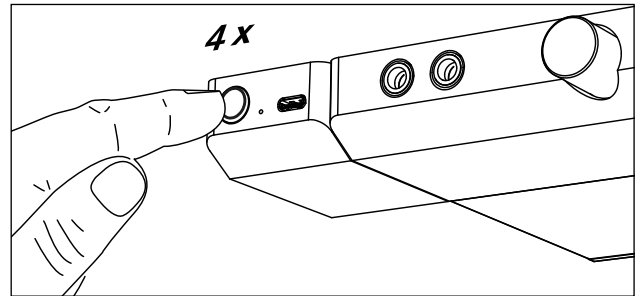
With a short press on the button (4 times) you can switch between four different sounds - even without an app.

The fifth press on the button will bring back the first sound. With the VARIO App you can store any sound in the four memory slots which we call „favorites".

Read more about the favourites and how to create them on page .

Speaking of apps, let's connect your smartphone, better yet a tablet to the VARIO now:

We recommend that you place the device directly on the music desk of your instrument. For upright pianos, you will find two tablet stands included with the system, which hold devices of different sizes on the music stand.

Hint: Whether you place the display vertically (portrait) or horizontally (landscape) does not matter for the VARIO App. We recommend horizontal placement for ergonomic reasons – if, on the other hand, sheet music is frequently used on your tablet, the vertical position naturally offers you more space.
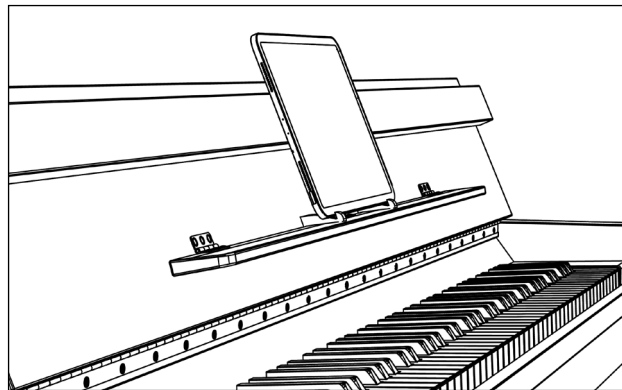
Download the VARIO App (see the following sections for details) and launch it on your device.

Details on the connection options (different cable types, Bluetooth) can be found in the section Connectivity starting on page .

Optimum view and operation:
A Tablet (with tablet stands, see page on the piano's music desk.

STANDBY MODE

A longer press on the button switches the VARIO digital system off or puts it into a special type of standby mode: the system is almost completely shut down and only the built-in Bluetooth LE module remains accessible (for MIDI apps).

However, Bluetooth LE is designed to consume minimal power. In this mode, the VARIO digital system requires less than 0.3 watts. Thus it needs less energy per year than your smartphone if you charge it every 1 to 2 days on average.

3. THE VARIO APP FOR iOS AND iPadOS
3.1 Introduction

Apps are an essential part of the VARIO digital system and its entire concept.
Apps are part of the user interface, i.e. (virtual) buttons or control elements.
However, apps do not only provide purely technical communication with the hardware: they also allow musicians to discover their instrument far beyond the musical experience - with tens of thousands of applications for practicing, learning, sharing and much more.

The VARIO App - Bechstein's own core application - was designed and developed to be an organic part of our acoustic instruments. With Apple's mobile operating systems, the 3D user interface unfolds different function blocks as needed, and the app blends seamlessly into the overall impression of your piano, for example with a tablet placed on the piano's music desk.

An outstanding musical ecosystem has grown up among Apple's mobile operating systems iOS (for iPhone or iPod touch) and iPadOS in recent years: professional users appreciate the numerous software tools for notation, training, recording or sound design. And beginners can expect a creative world of apps for learning and playfully exploring the broad subject of music (and piano in particular). In addition, there are the many „everyday applications" such as e-mail and messenger, or streaming platforms such as YouTube, with their almost inexhaustible potential of explanatory films (tutorials) and other musical inspiration.

We have developed the VARIO Digital System and the VARIO App to interact with as many of these applications as possible: to exchange data (music), to further process, or to share between apps.

This part of the manual explains the basic steps and setup options. We assume that you are already familiar with the fundamentals of using your mobile device.
Good to know: the VARIO App communicates via MIDI with the hardware of the VARIO digital system. MIDI (Musical Instrument Digital Interface) is a standard used for decades for communication between electronic music instruments, components and software applications. (aka: „Apps").
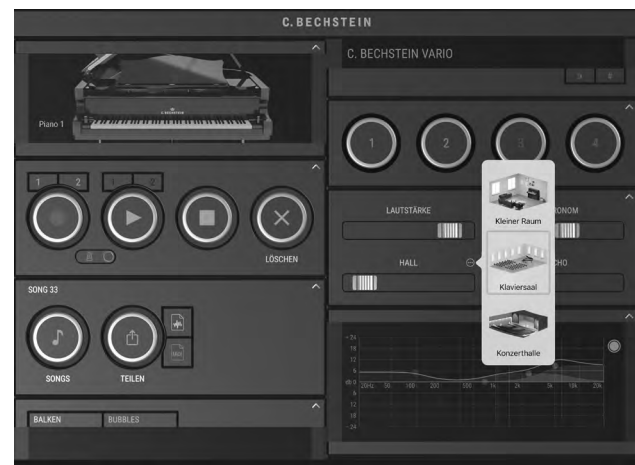
3.2 Installation

The VARIO App for iOS and iPadOS is available free of charge in the Apple App Store and thus requires a customer account – the so-called Apple ID, also available for free.

To download the VARIO App for iOS and iPadOS:

- Open Apple's App Store app on your iPad, iPhone or iPod touch.
- ap on „Search" to find our app using the keywords BECHSTEIN VARIO.

This QR code will also take you to the VARIO app: scan it directly with the camera function.

- Open the VARIO App product page and tap „Load".
- You may be prompted to log in with your Apple ID and password or - if you have set up the appropriate functions - with your Touch ID or Face ID.

Apple's App Store info page:
https://support.apple.com/en-us/HT204266
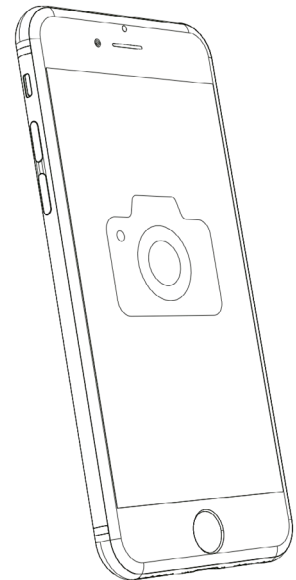
3.3 Basic features

Blocks and gestures

The VARIO App for iOS / iPadOS presents its numerous functions in individual blocks. These are arranged in columns on the screen according to their zoom and available space and can be opened or closed individually.

Tap on a block title to expand the element.

Tap on the arrow icon (in the upper right corner of a block) to close the element in a space-saving way. Interconnected sub-blocks are automatically closed (and reopened).

Swipe (or „scroll") up and down, left and right to navigate freely. Some elements, such as the pendulum of the metronome or the equalizer curve, prevent scrolling due to their function. In such areas, it is best to use the outer edges of the blocks.

On smartphones, only one column of the VARIO app is displayed. By turning the smartphone to the side position (landscape mode), the display zooms out to display two columns again.

Hint: if you want to switch between the columns, you can also use the permanently visible C. Bechstein logo bar at the top of the screen.

The user interface elements in the blocks are intuitive to use: simply press, drag, push or nudge them - we are sure that you will enjoy easy handling, so we don't have to tell you more about it here. ;-)
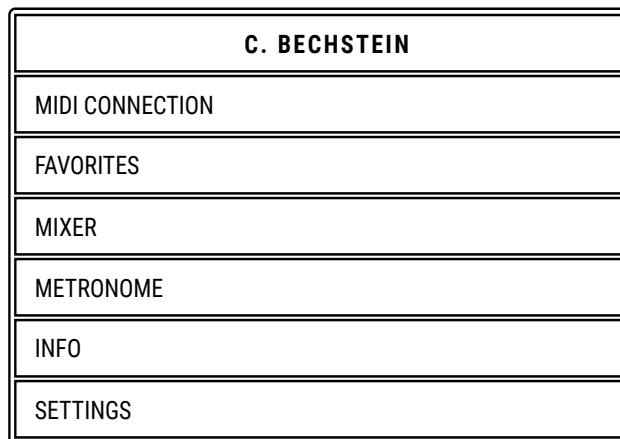
Closed blocks at the right column
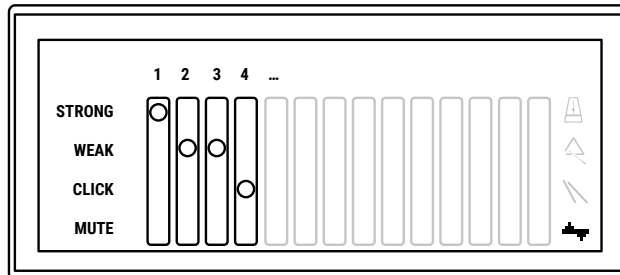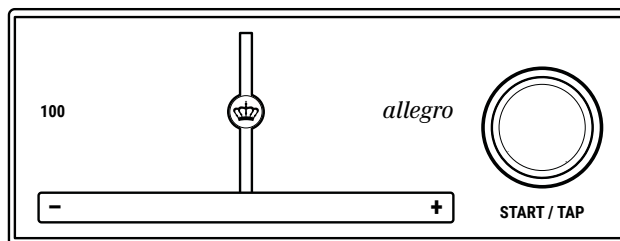
Opened METRONOM block

3.4 Connection to the app and initial setup of the VARIO digital system
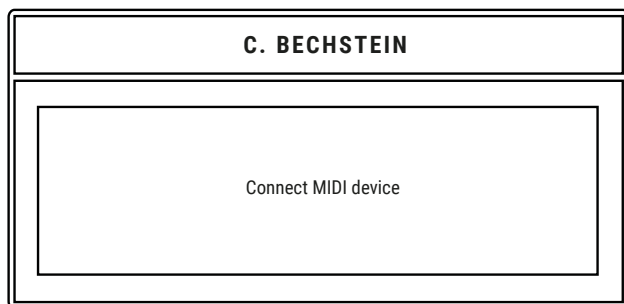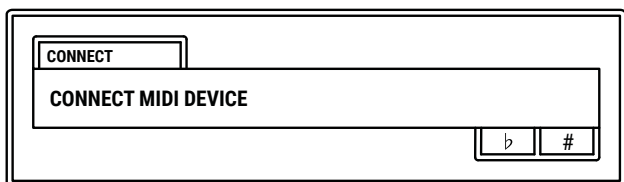
The VARIO App can generally be used with and without a connected VARIO digital system and also works on instruments that establish a standard MIDI connection to your mobile device (such as most digital pianos do).

However, some features are only available to VARIO users, including (VARIO) system settings.

```
┌─────────────────────────────────────────┐
│              C. BECHSTEIN               │
│  ┌───────────────────────────────────┐  │
│  │                                   │  │
│  │         Connect MIDI device       │  │
│  │                                   │  │
│  └───────────────────────────────────┘  │
└─────────────────────────────────────────┘
```

So first establish a connection between the app and the VARIO, if this has not already been done:

With a USB cable connection, the connection will usually be established automatically, immediately after plugging in. Further information on the possible USB cable connections can be found in section "Connectivity" on page 36.

```
┌──────────────────────────────────────────┐
│ ┌──────────┐                             │
│ │ CONNECT  │                             │
│ ├──────────┴───────────────────────────┐ │
│ │ CONNECT MIDI DEVICE                  │ │
│ │                          ┌────┬────┐ │ │
│ │                          │ ♭  │ #  │ │ │
│ └──────────────────────────┴────┴────┘ │
└──────────────────────────────────────────┘
```

CONNECTING TO MIDI

In the MIDI CONNECTION block, tap CONNECT MIDI DEVICE.

In the upper part of the dialog all available devices (but not necessarily already connected devices) are displayed. Tap on an entry BECHSTEIN-USB or the model number of your piano if it appears in the upper part. The connection is active if it is marked with a checkmark.
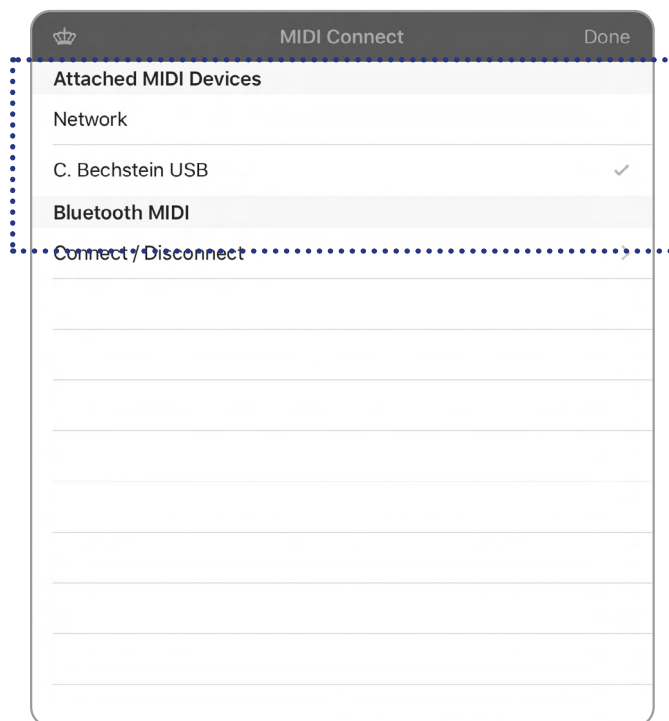
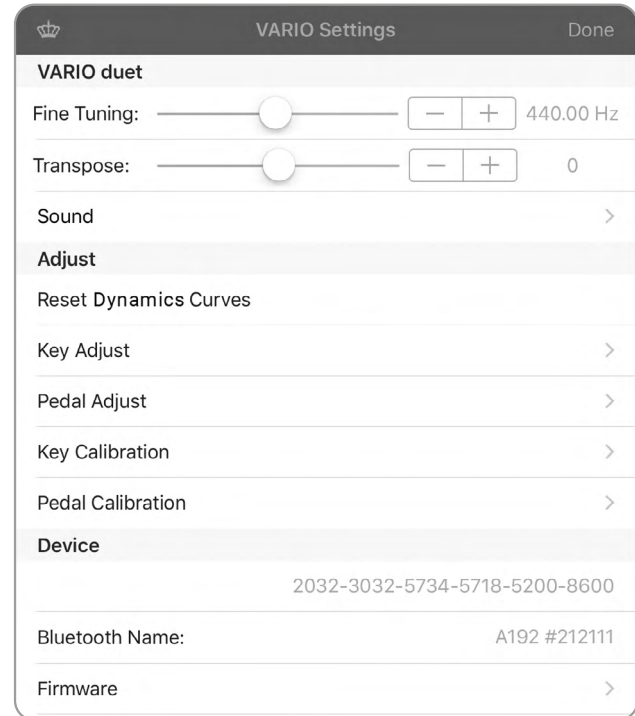**A Bluetooth-MIDI connection** can be established in the lower part:

Tap on "Connect / Disconnect" and select your instrument from the list of Bluetooth devices.

Black entries are "visible" devices via Bluetooth-MIDI, grey entries refer to earlier, unavailable connections. The dialog closes automatically as soon as the connection has been established.
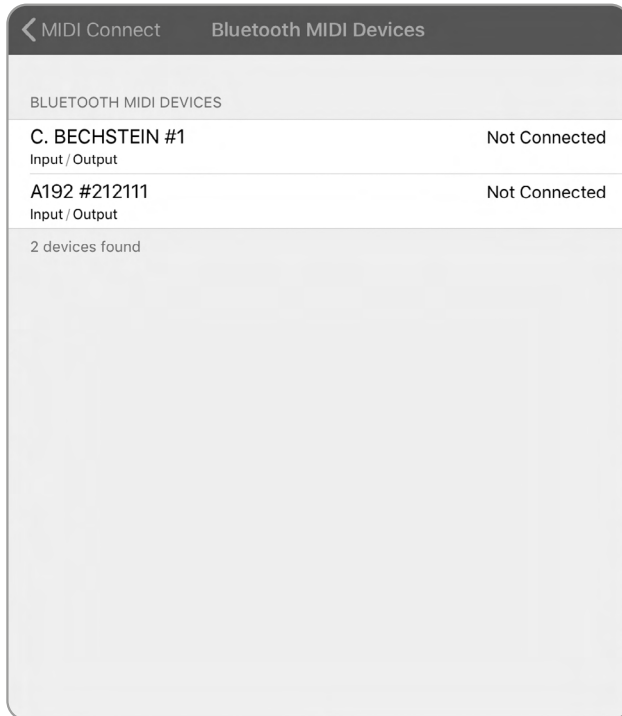
VARIO SETTINGS

Now open the SETTINGS of the VARIO digital system in the lower right block of the app.

‹ MIDI Connect	Bluetooth MIDI Devices	
BLUETOOTH MIDI DEVICES		
C. BECHSTEIN #1 Input / Output		Not Connected
A192 #212111 Input / Output		Not Connected
2 devices found		

♕	VARIO Settings	Done
VARIO duet		
Fine Tuning:	— ⊖ ⊕	440.00 Hz
Transpose:	— ⊖ ⊕	0
Sound		›
Adjust		
Reset Dynamics Curves		
Key Adjust		›
Pedal Adjust		›
Key Calibration		›
Pedal Calibration		›
Device		
	2032-3032-5734-5718-5200-8600	
Bluetooth Name:		A192 #212111
Firmware		›

3.5 *Calibration of the keys*

Precise detection of key acceleration enables expressive play and control of dynamics for each note. The VARIO system works with optical sensors, that means contact-free and therefore without any influence on the playing experience. The highly sensitive electronics detect even the smallest movements and changes in the distance between the sensor surface and the key above it.

Just like your acoustic instrument during tuning, intonation and maintenance, this part of the digital system therefore occasionally requires a little attention. We recommend that you calibrate the keys as part of the initial setup, for example after transporting and setting up the instrument. But don't worry: in combination with a small number of parameters (see the sections "Adjusting the keystroke" and "Dynamics curve"), even novice users can optimally adjust their VARIO system.

It's that simple:

Go to the "Calibration Keys" section.

- **Press Start** - the keyboard in the graphic will be colored.

- **Now play one key at a time** and "uncolor" the keyboard-graphic in this way.

- **Ready?** Then please press Save to finish.

Hints:

- Play as normal but without special "expression" (Staccato ... Legato ... Forte-Fortissimo ... Repetition, etc.). So the best thing to do is just as if you were practicing a simple scale.

- It is only important that you move the keys from the rest position to their lowest point - but without "squeezing them into the felt".
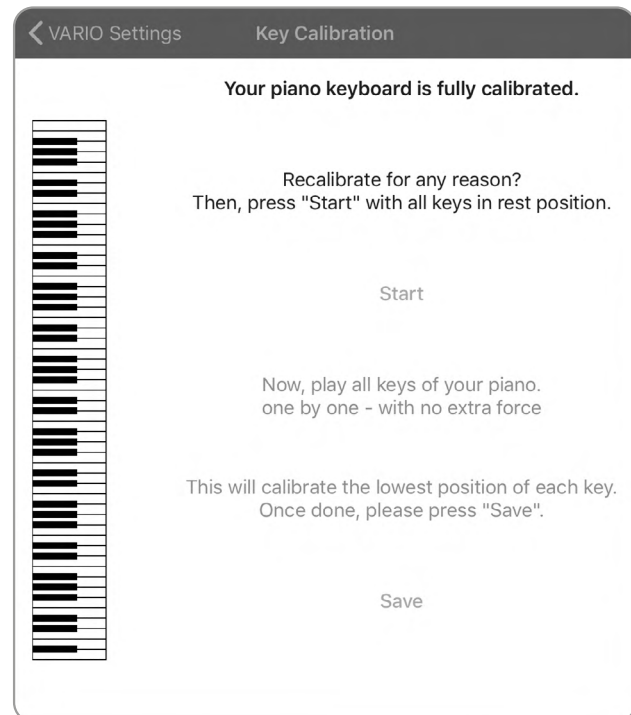
- The order does not matter. It is also possible to press a key several times, perhaps if you have slipped from a key or if you have only partially hit a key.

The next step is to adjust the keystroke, which is used to calculate the velocity (see next section).

3.6 Keys Adjustment

In order to convert the key movement into a digitally usable signal, your VARIO digital system takes (among other things) into account the distance that a key must move on a certain partial section. This range can be adjusted for both downward and upward movement.

When moving down, you first define the key depth used to complete the calculation and trigger a note via MIDI protocol.

Note that dynamic fine-tuning is performed in a later step using the DYNAMICS block (see page). The settings for hammer and damper trigger should therefore be interpreted as a kind of frame in whose boundaries you can then adjust the settings to your desired dynamic behavior of the keyboard.

The following tips and hints will help you:

If the value of the hammer release is too high (with many keyboards this means about 40% or less) you need more power to play the keyboard to achieve a sound result in the forte / fortissimo range.

Vice versa, if the value Hammer release is very low (about 70% and more) you may get too fast "into the forte" – please adjust it back.

The damper release has an effect on the possibility of repeating. If both values – hammer and damper – are too far apart, the key may have to fall back too far in order to trigger again. With many instruments a distance of about 15–20% has proven to be optimal.
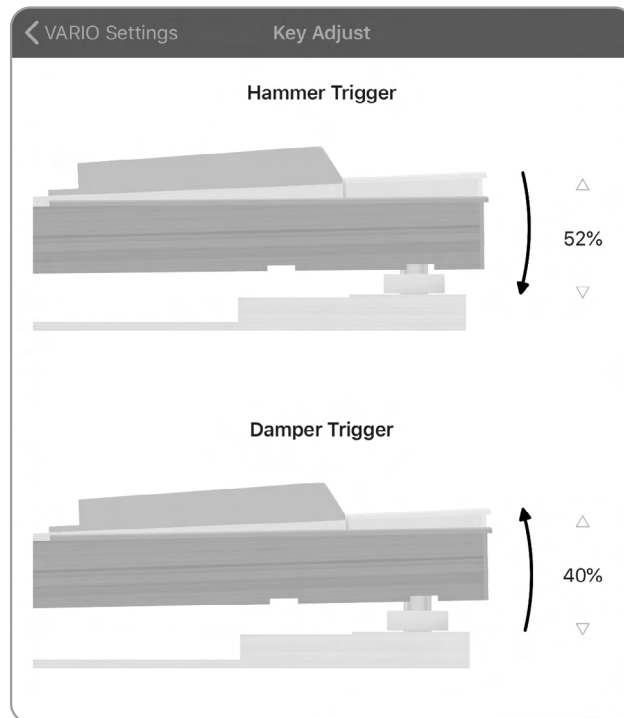
3.7 Calibration of the pedals

Sensors near the three pedals detect the movement of the (left) Una Corda-, (middle) Sostenuto/ Moderator and (right) Sustain- or Forte-Pedal.

The pedal sensors - like the keyboard sensors - are factory calibrated. However, a recalibration from time to time can be useful. Proceed as follows:

Navigate to the "Pedal Calibration" area.

- **Press Start** - the pedals in the graphic turn grey.

- **Now step down** the three pedals of your piano one after the other - and release them as you would with normal playing.

- **Ready?** Then press the Save button.

The next step is to adjust the pedal position, which is used to calculate the switching point (see next section).
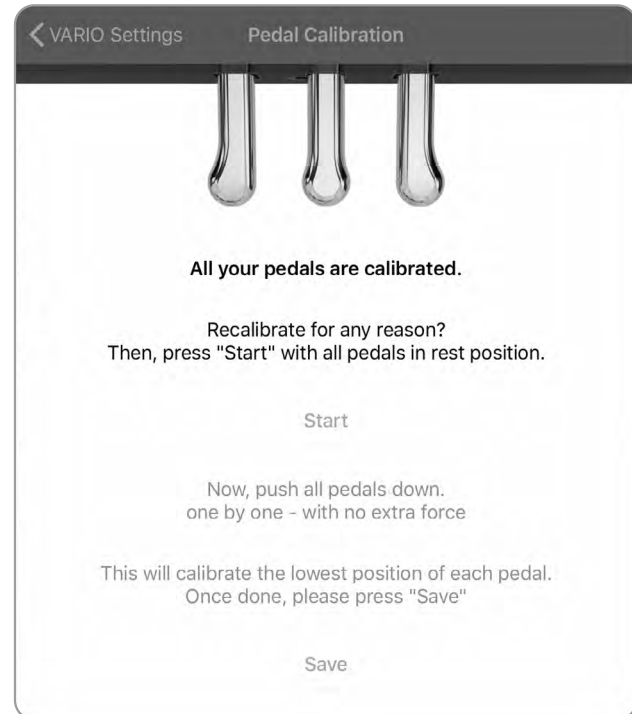
3.8 Pedal Adjust

With this option you can determine the switching point of the pedal, i.e. you determine the position of the mechanical pedal at which the digitally generated output reacts.
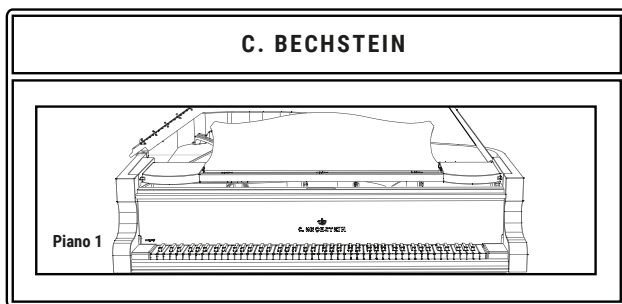
The two graphics are interdependent: the value Pedal Up Trigger (bottom) cannot be higher than the trigger point above, just like in the acoustic model.

The lower the value (in %), the "higher" (in the sense of a higher position) is the corresponding switching point.

3.9 Select sounds

C. BECHSTEIN	
Piano 1	
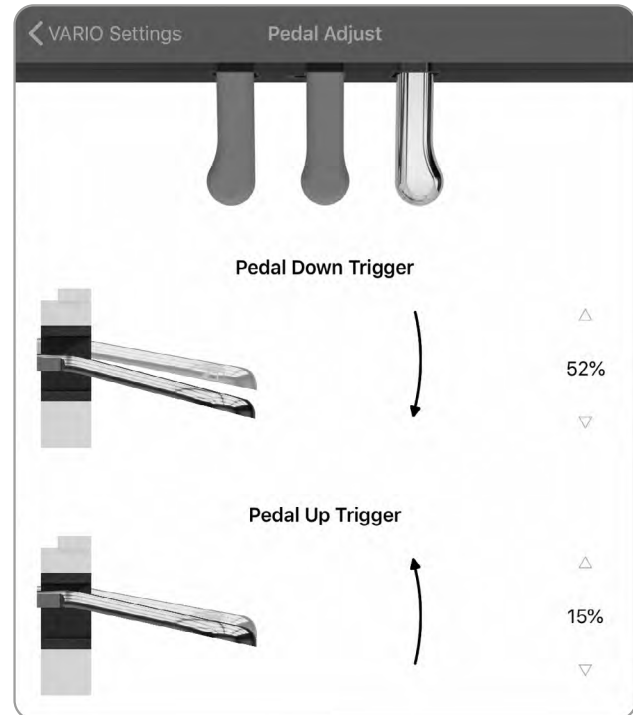
In the SOUNDS block, top left, select the sounds of the VARIO digital system by swiping them.

The sound choices differ depending on the connected device. In the case of the VARIO classic (models from 2012 to fall 2019), all sounds are available within the app that are also in the hardware of the VARIO classic. Unfortunately, it is not possible to switch sounds (in the sense of a remote control) – please change the sound as you normally would on the touch display of the VARIO classic.

You do not yet own a VARIO digital system and have only downloaded the free VARIO App so far?

In this case, a single sound (Grand Piano) is available to you here.

The sounds of the VARIO digital system (2019)	
1	Grand Piano 1 (Concert)
2	Grand Piano 2 (Warm)
3	Grand Piano 3 (Practice)
4	E-Piano 1 (Main)
5	E-Piano 2 (Bell)
6	E-Piano 3 (FM)
7	Cembalo
8	Church Organ 1 (Flute)
9	Church Organ 2 (Tutti)
10	Jazz Organ
11	Choir
12	Strings 1
13	Strings 2 (Slow)
14	Warm Pad 1
15	Warm Pad 2 (Slow)
16	Grand Piano 1 + Strings (Layer)
17	Grand Piano 1 + E-Piano Main (Layer)
18	Grand Piano 1 + E-Piano FM (Layer)
19	Grand Piano 1 + Choir (Layer)

## 3.10 *Make your playing visible - the monitor*

The MONITOR block of the VARIO App can be useful for the further adjustment of the dynamic translation of your piano playing into digital sound generation.

The so-called MIDI velocity values of all incoming and outgoing key signals (like notes recorded with the recorder) are displayed as vertical bars. They are moved to the left by newer bars and disappear over time.

This type of display helps, for example, to find the optimal values for key adjustment (see page 15): if you can play both very low and very high bars effortlessly, the system is perfectly tuned.
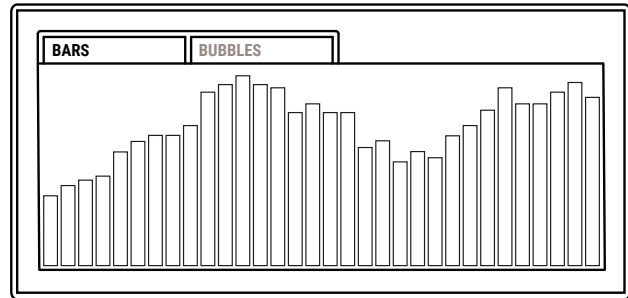
PS: The BUBBLES display is certainly less useful for inspecting MIDI information - but it's even more fun). ;-)
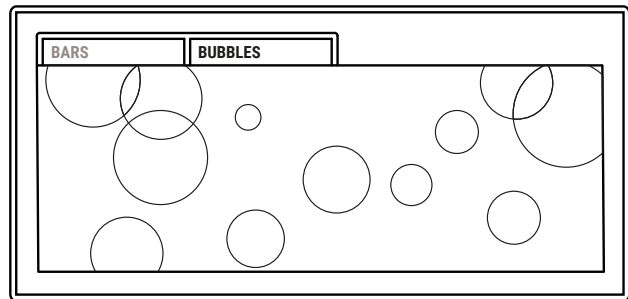
3.11 Adjusting dynamics and playing feel

You can adjust the dynamic characteristics of your VARIO digital system in the DYNAMICS block. Its possibilities are perhaps most reminiscent of the intonation of an acoustic instrument – so you may be surprised by the tonal potential that lies behind the inconspicuous line of this control element. But step by step:

On the line you see 4 points: two at the outer edges, two inside.
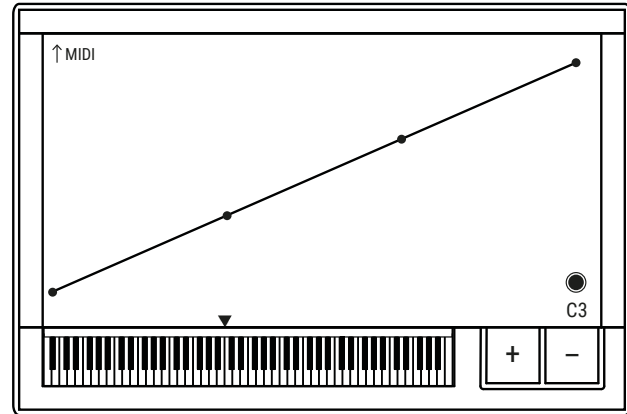
By moving these points you change the "translation" of the keystroke into the tonal development.

Changing the height of the two outer points limits (compresses) the dynamic range.

This means in terms of sound: a gentle play (pianissimo / ppp) sounds more in the direction of the mezzo forte (mf) when the left point is moved upwards. And vice versa: if you pull down the right point, you will not achieve a forte-fortissimo (ff-fff) even with a very hard keystroke.
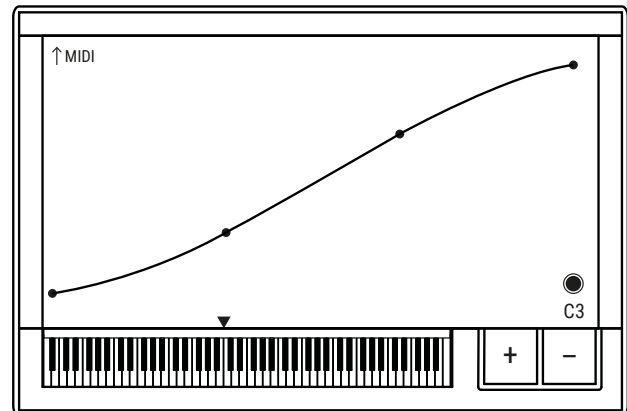
Tip for users of DAWs, MIDI sequencers & Co: in extreme settings you can fix the dynamics to a certain value – or you can reverse the translation in such a way that gentle playing executes a forte sound (high velocity) and a powerful forte performs a pianissimo (low velocity).
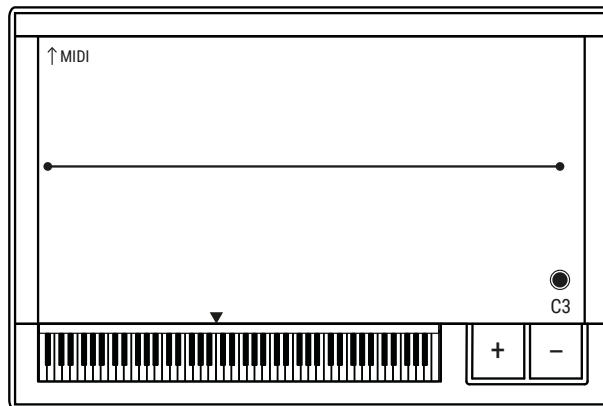
The two inner points now affect the slope of the curve. How quickly do you want to get from Pianissimo to Forte? We would like to invite you to experiment with the values and to find your preferred setting yourself.

SET UP DYNAMIC ZONES.

As you play, you will have noticed that the note display in the DYNAMICS block follows. In this way, you can select any point on your keyboard where you can then use the + key to set another so-called breakpoint.

For each added breakpoint, you can define different values and slopes as you like – the app interpolates between the individual curves so that soft transitions are created automatically.

Press the –(Minus) key when a breakpoint is selected to delete it again.

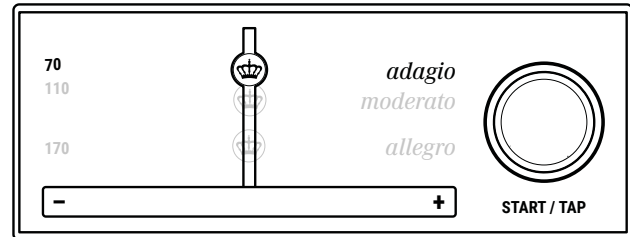Press – without a previously selected breakpoint – to reset all settings.
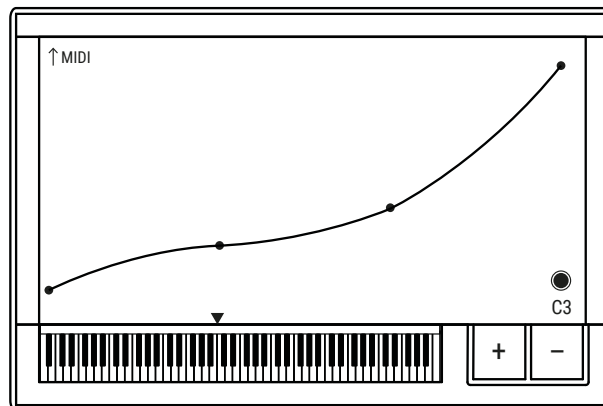
3.12 The Metronome

SETTING THE TEMPO

The metronome's handling is based mainly on the mechanical original: move the crown up and down on the pendulum to adjust the tempo. Nudge it with your finger to start it – or use the corresponding button.

So-called Tap Tempo is also possible: tap the START / TAP button several times one after another at the desired time interval. As long as the color of the outer ring remains the same, the button is in "Tap Mode". If you let the metronome run a few beats, the color starts to pulsate.
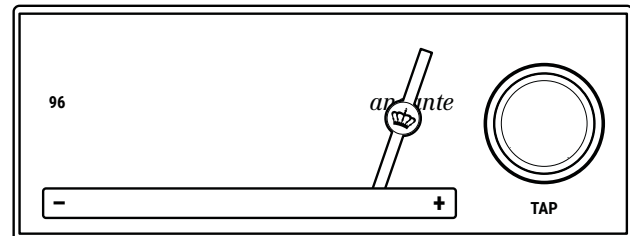
A fine adjustment of the tempo is also possible with the bar below the pendulum (–/+).

You set the volume of the metronome in the MIXER block. (see "Volumes and Effects" on page 27)
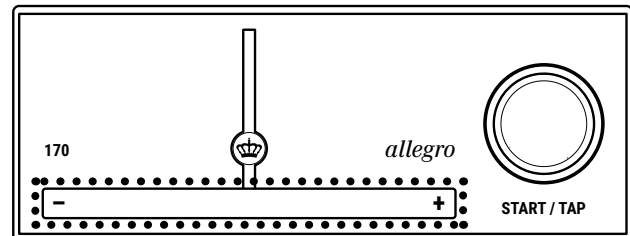
3.13 Time signature and metronome sounds

The TAKT block below the metronome lets you set a desired number of beats per bar, as well as their accents.

Tap on the numbers to set the desired number of beats.

Tap within the vertical bars for the desired accentuation of each beat.

Want more sounds? With ...

• a traditional Metronome

• a triangle

• wooden claves and

• a nerd sound

... you can choose between four tonal alternatives by tapping on the respective symbol on the right.

COMBINATION WITH THE RECORDER

You can also use the metronome with the recorder (see page) and sync your recording to the set tempo and time signature. To do this, set the mode selector on the RECORDER block to the metronome symbol (below the record and play buttons).
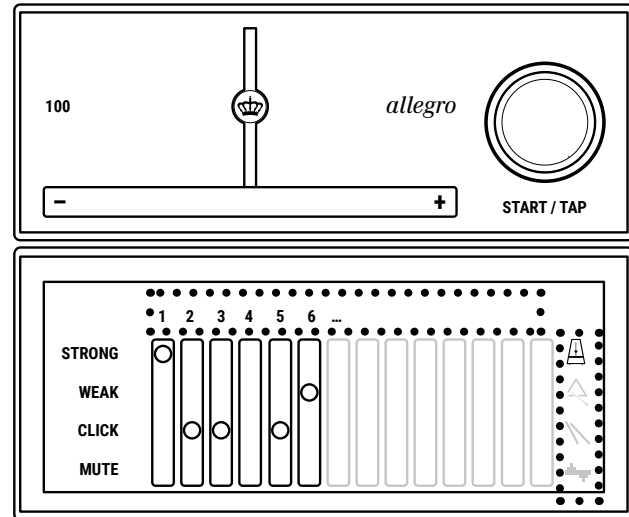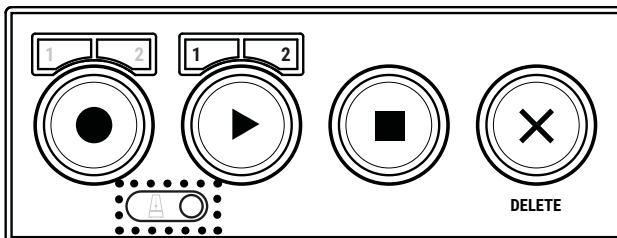
In combination with the recorder, a few special rules apply:

The set tempo and the number of beats set in the TAKT block are automatically saved with a song.

If you change the tempo while playing a song, the newly set tempo is automatically (re)saved (overwritten).

While the recorder is running, you can mute the audio playback of the metronome. Simply tap the Metronome button in the Metronome block (the name of which has changed to MUTE). And of course the function works the other way round.

3.14 Recording music - the recorder

The VARIO App recorder is designed to record your music as easily and free from distractions as possible. The playback also follows this principle.

In addition, the recorder offers a number of functions to support you in practicing, recording musical notices and ideas in the best possible way. Your piano playing is always in the foreground - and explicitly not the post-production of recordings. For this purpose, you can pass on your recordings to other apps, for example to create music scores or to edit audio (for details see section "Sharing music" on page).

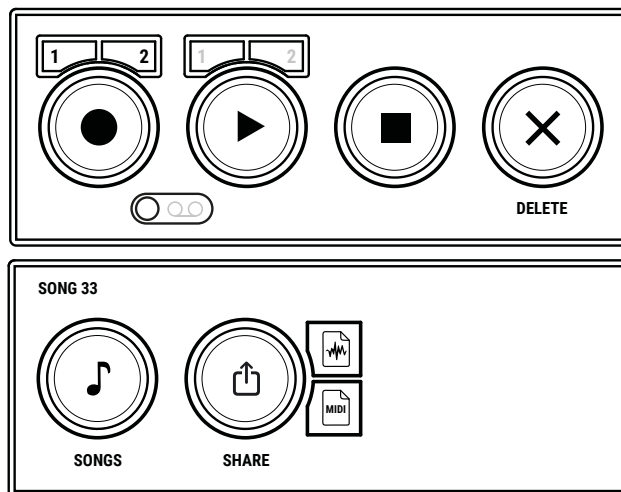**RECORDING & PLAYBACK**

The recorder offers two recording modes:

In Tape mode, the recorder operates without a time reference and records from the first note played if you activate the recorder with the Record button.

In Metronome mode, you add the metronome to the recording and playback, linking it to the set tempo and time signature.

The Tape/Metronome Mode selector is located underneath the Record and Play button.

Each recording creates a new song. This is a special feature of the recorder, because it saves you the usual steps of "Create new", "Save", "Name" and so on. All your recordings (including the failed ones ;-)) can then be found in the SONGS block - more on this later.

By the way: of course you can also delete a recording directly if something went wrong. Press (or hold) the DELETE button. You can start a new attempt immediately.

TWO TRACKS

You can also use the recorder to record in two tracks, for example, separately for Left and Right Hand.

To select one of the two available tracks, use the number buttons 1 and 2 above the record button.

The same applies to playback after your recording: the number buttons 1 and 2 above the playback button activate a track (or mute it).

If neither of the two digits is selected for recording, the recording button starts a new song as usual.
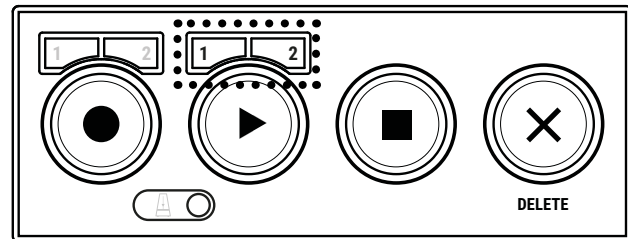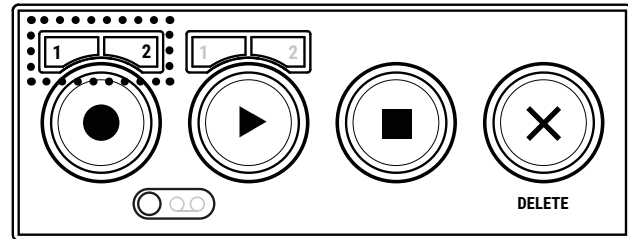
ORGANIZE SONGS

You will find your recordings in the SONGS block. Press the Songs button to open the library. Here you can rename tracks and move them to folders by dragging and dropping them. Folders are created with the + button.

To load a song into the recorder (and then play it back), tap the Open icon on the right.

To rename a song, touch its name.

You can delete a song by wiping the row from right to left, as is familiar from many iOS apps.
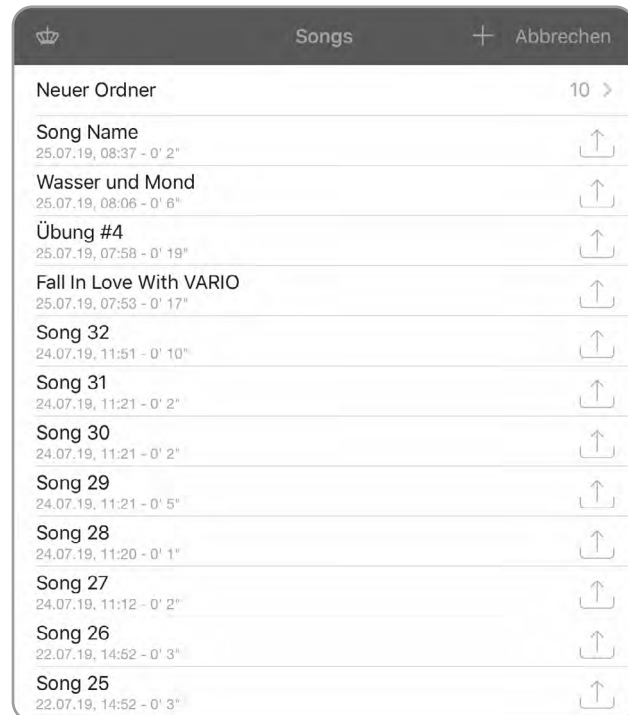
SHARE MUSIC

Share your recorded music directly with other people or with apps installed on your iOS/iPadOS device. The SHARE button opens the system dialog with all the options provided by Apple:

- Via AirDrop you can send your music directly to a nearby Apple device that is ready to receive(!*) data from your device.

- Use other apps such as Messenger, Mail or music notation programs to send or edit your music.

- Use the many iOS/iPadOS system services like iCloud ("Save to Files") or "Shortcuts".
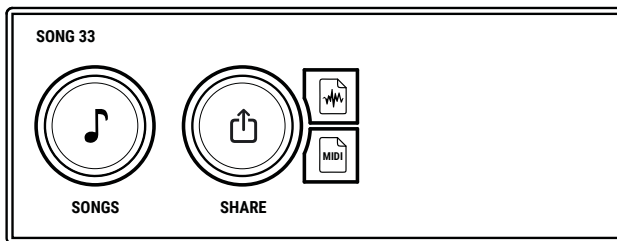
With the adjacent button you can choose between the data formats "Audio" (m4a/AAC) or "MIDI" (SMF 1 with two separate tracks).
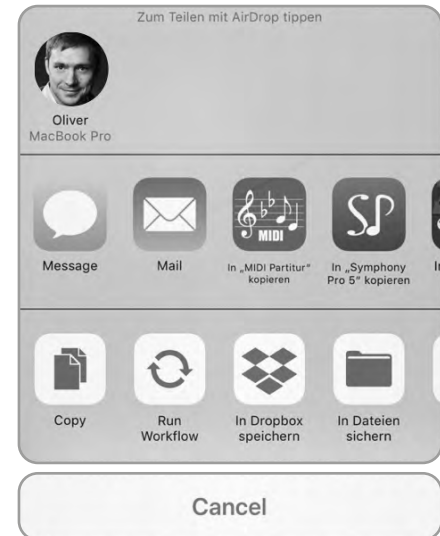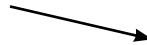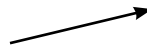
*You set the visibility of an iOS/iPadOS device for the AirDop function in the system settings of the device under General -> AirDrop.

3.15 Volume and Effects

In the MIXER block, you control the volume of the sound selected in the app and the effects applied to it. The metronome can be adjusted independently of the playable sound.

Use the multi-symbol (three dots) on the **REVERB** to select from different reverb algorithms. The amount of this effect signal is adjustable. If you adjust it beyond the middle, the sound is additionally moved further away and a sound impression is created that more closely corresponds to the viewer's perspective.

The **ECHO**, Echo ... Echo ... depends on the selected metronome tempo.
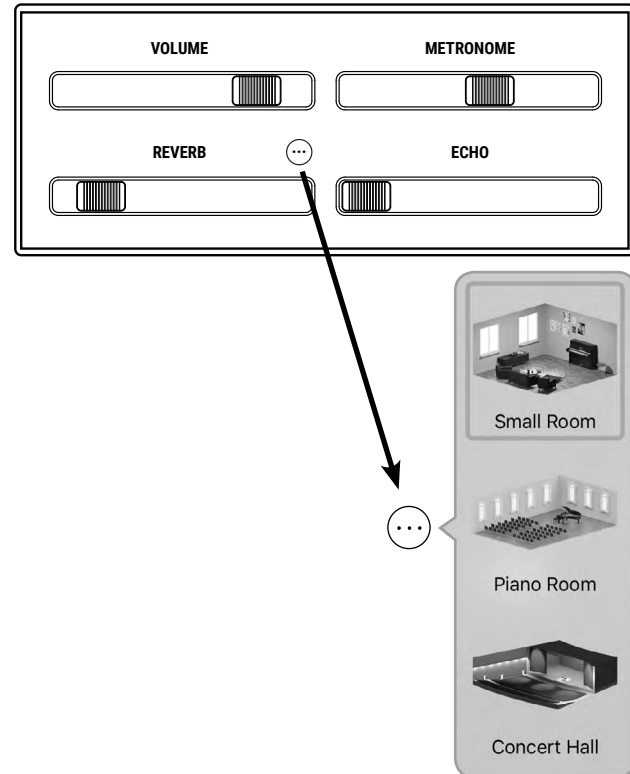
3.16 Equalizer

The graphic equalizer allows an in-depth adjustment of the tonal foundation of your VARIO digital system. It works fully parametric, which means that in addition to the frequency of its four bands and their reduction / amplification, you can also adjust their slope.

All bands can be controlled over the entire frequency range, whereby the two outer points (red and blue) are designed as low shelf and high shelf and fixed accordingly.

So move the points around freely and listen to their tonal impact. You determine the slope (Q) by drawing the thin, colored lines of a band.

The round button at the bottom right of the EQUALIZER block switches between processed and unprocessed sound (bypass function).

Good to know: the equalization takes place directly behind the digital sound generation, thus before the stereo sum with its effects. For example, the reverb remains free from being processed by the equalizer.
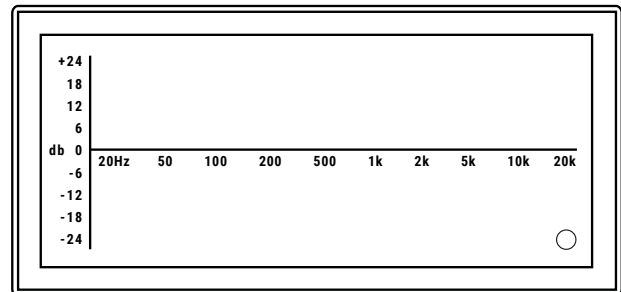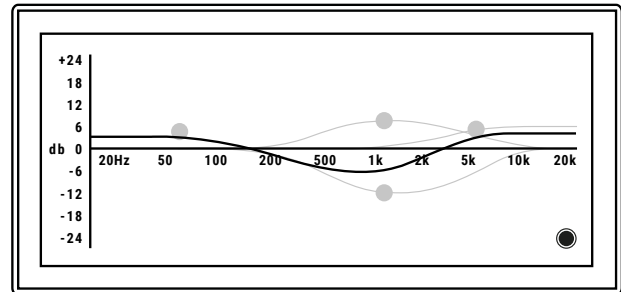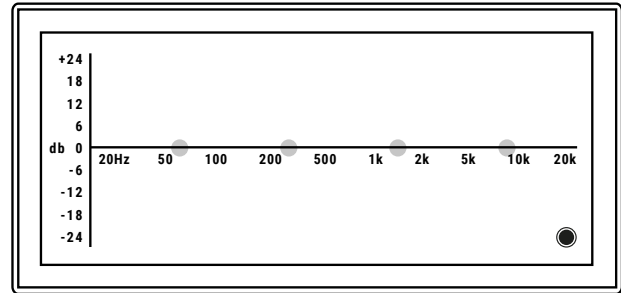
3.17 Transpose & Tuning

You can shift (transpose) the sound output (MIDI signal) of the VARIO system in half tone-steps.

We write "MIDI signal" because a transposition takes into account not only the live piano playing, but also the recorder and the keyboard at the bottom of the VARIO app.

In the MIDI CONNECTION block you can transpose up to 24 semitones up or down.

A double tap on the value immediately resets the setting.

CONNECTION

C. BECHSTEIN VARIO   TRANSPOSE: +2

♭   #
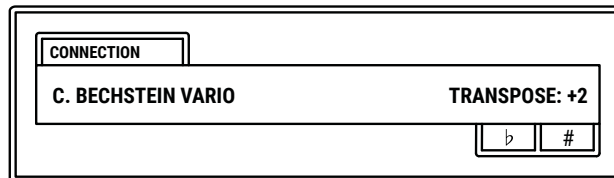
The transpose function is also available (identically) in the settings menu of the VARIO App. There you can also fine-tune the entire sound output in cent steps.

VARIO Settings		Done
VARIO duet		
Fine Tuning:	— ⊖ ⊕	440.00 Hz
Transpose:	— ⊖ ⊕	0
Sound		>
Adjust		
Reset Dynamics Curves		
Key Adjust		>
Pedal Adjust		>
Key Calibration		>
Pedal Calibration		>
Device		
	2032-3032-5734-5718-5200-8600	
Bluetooth Name:	A192 #212111	
Firmware		>
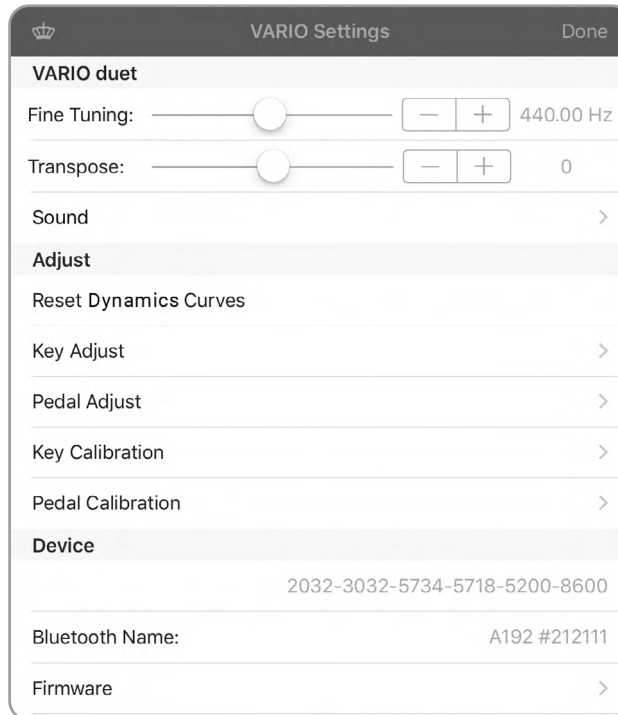
3.18 Favourites / Sound colours

With the VARIO App you can save four different combinations of different sound and volume settings as favourites and easily recall them. The favourites are stored in the VARIO digital system and are therefore also available without being connected to the VARIO App. Press the button on the front module of your VARIO digital system several times to switch between the favourites (see also section Getting started, page 6). The colour of the LED corresponds to the colours of the App button.
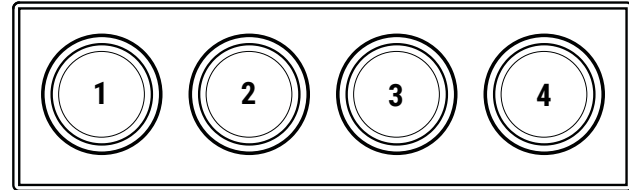
The following parameters are stored in the favorites memory:

- Volume
- Hall algorithm and volume
- Echo
- Equalizer
- Sound settings of the piano sounds

You can save your settings simply by pressing one of the four buttons for a longer time: wait until the colour of the outer ring swells and then fades out - done.
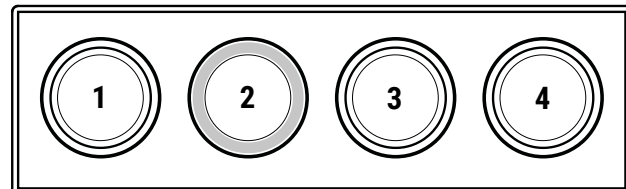
3.19 Updates

With updates your VARIO gets to know new features. Updates are imported into the system via the VARIO App. It does not matter whether the connection is via Bluetooth or USB.

If the VARIO App also contains new software for the hardware components of the VARIO digital system (after an update via the Apple App Store), you can import this into the system in the Firmware section.

Compare the versions. If a new version is available, the VARIO App recommends an update. **Start** it via the corresponding button - this process usually only takes a few minutes.

Do not intentionally disconnect the connection during the update process. In the event of a power failure or a temporary loss of the Bluetooth connection, please restart the process.

For some updates it may be necessary to restart the VARIO digital system.

‹ VARIO Settings	Firmware	
Installed		
Mainboard		0.9.23
Sense boards		0.9.7
Available		
Mainboard		1.0.0
Sense boards		1.0.0
State		update recommended
Update		
Start		
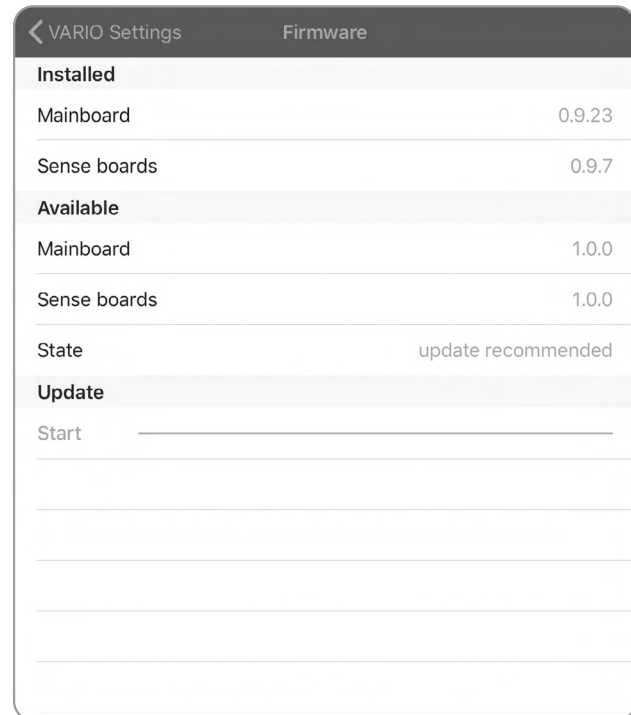
4. VARIO HEADPHONES

DESIGNED FOR THE VARIO

The headphones of the VARIO system were created for the entire system. We have attached great importance to a high fidelity of sound, especially when used for piano sound, as well as a high wearing comfort. The headphones should be particularly comfortable for both adults and children.

The system headphones were therefore designed in a semi-open design - a construction that meets all the above requirements.
The C. Bechstein headphones also let some of the ambient noise through to the ear, but provide enough isolation to play without being disturbed.

Note: Please be careful of your hearing.

The different sounds have their own dynamic characteristics. You should therefore also adjust the volume according to the sounds when changing them.

Via headphones, the perceptual loudness is different from when listening to the acoustic instrument.
While it may be a fun to play, we recommend that you always use your VARIO digital system at a moderate volume setting. Also keep in mind that high signal levels from headphones are often underestimated and children tend to adjust the volume too loud.

We would like to suggest the following procedure for setting the optimal headphone volume - we use the natural volume of your acoustic instrument as a reference:

- First set the volume knob to the left position.
- Place the headphones so that only one ear is completely covered.
- Leave the stop bar of the piano out (!) and ...
- Play some notes acoustically with moderate touch (mezzopiano / mezzoforte).
- Then turn up slightly (turn clockwise) and continue until the volume on the "headphone ear" roughly corresponds to the volume of your acoustic instrument.
- Then adjust the potentiometer back a little (see note above).

Technical specifications

Transducer design	Dynamic, open, ear-enclosing
Driver	50 mm ø, Neodymium driver
Audio transmission range	20 Hz–20 kHz
Dynamics	95 dB (1 mW)
Input impedance	32 Ω
Pressure force	~ 3,5 N
Connections	3.5 mm socket on the headset
	3.5 mm stereo jack gold-plated on cable
Colors (headphones / cables)	Black / Black or White / Grey

Frequency Response Curve, Headphone 1S/1W
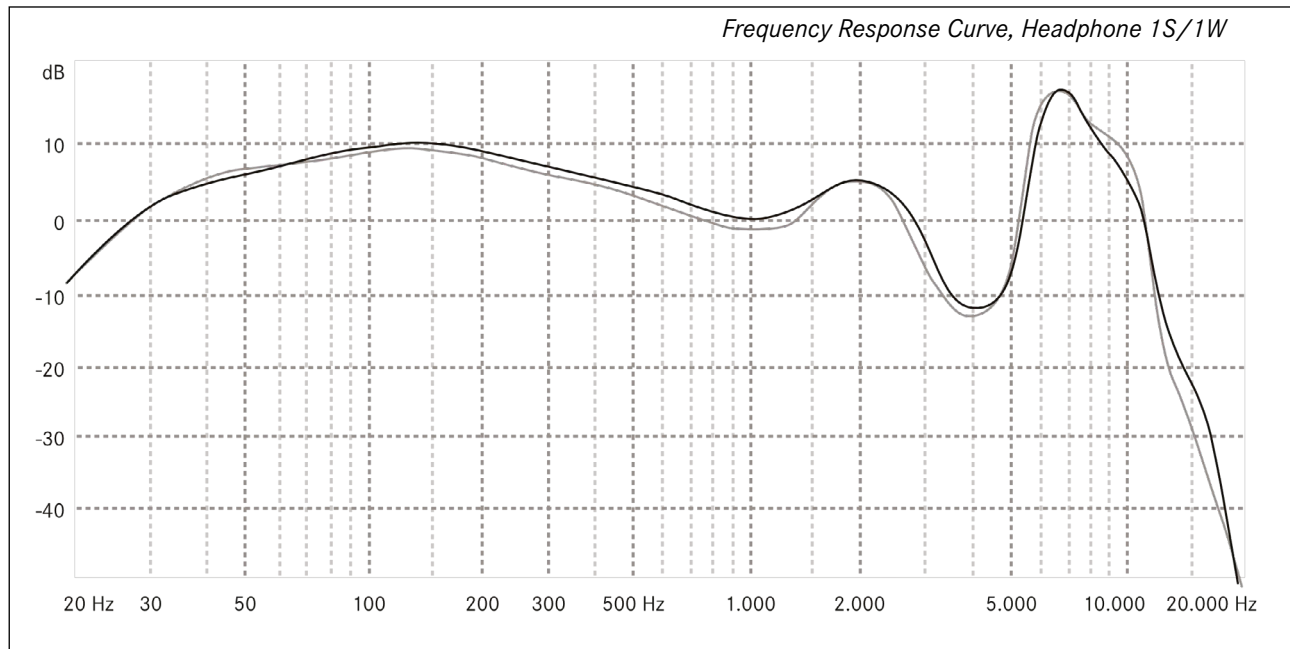
CABLES AND JACK ADAPTERS

The length of the cable has been designed so that you can use the headphones not only at the outputs of the VARIO, but also on a tablet positioned on the piano.

The adapter from 3.5 mm to 6.3 mm stereo jack is also provided for this purpose. When you do not need the adapter temporarily, place it in the circular slot on the headphone holder.

For use with a smartphone or tablet you will need an additional adapter (depending on the mobile device, e.g. from mini jack to USB-C or to Apple-Lightning). Such an adapter is often included with mobile devices or available from electronics retailers. In the case of Apple devices, we recommend that you only use original parts or Apple-certified adapters (the so-called MFI program): the connectors contain additional electronics that are not always compatible with all versions of iOS or iPadOS.

See https://support.apple.com/en-us/HT204566

HANG UP THE HEADPHONES WHEN NOT IN USE

Please remember to always remove or hang up the headphones before leaving the piano. Abrupt jerks can cause damage both to the headphone cable and to the sound module.
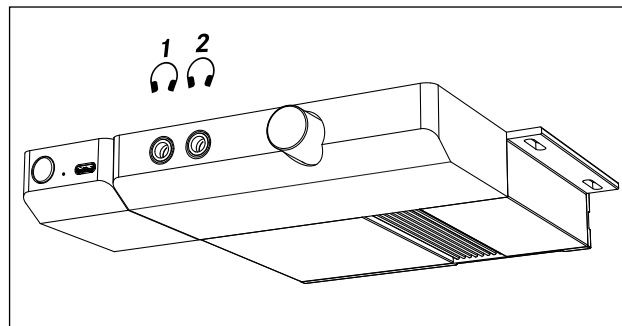
USE A SECOND HEADSET

You can use two headphones on the Duet module, which is advantageous for music lessons, for example. We recommend that you choose the same model as your other headphones. This ensures that both players share an identical sound and dynamic experience.

Hint: VARIO headphones are available in two colours, black and white. If you choose two different colours for your purchase, the cables will be easier to separate.
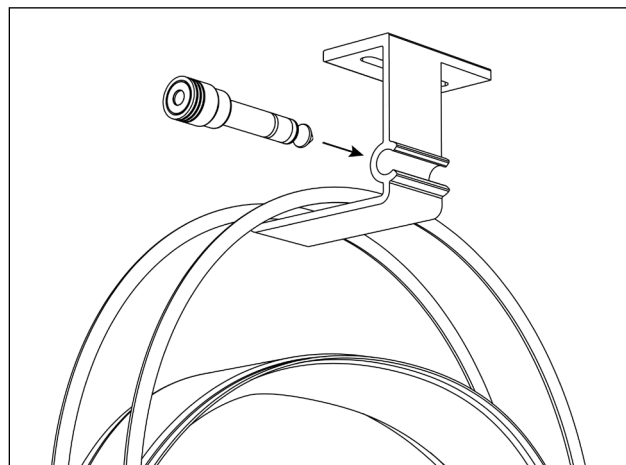
5. DISPLAY STAND FOR THE PIANO MUSIC STAND

The two display stands supplied with the VARIO digital system enable a tablet (or smartphone) to be held in place on the piano's music stand (C. Bechstein family, W. Hoffmann, Zimmermann). The rubberized material is non-slip and can easily be hooked in between the music stand and the keyboard lid (see illustration).

Please note that your mobile device will not be completely secured against falling down by (for example) pulling the USB or headphone cable.

Hint: The display stand is also available as an optional accessory from your dealer.
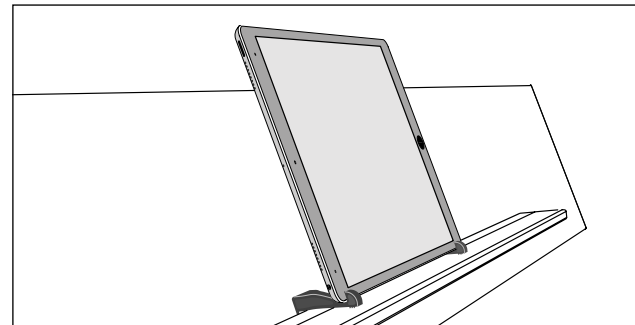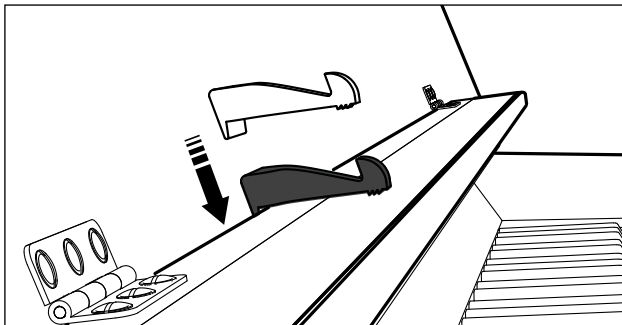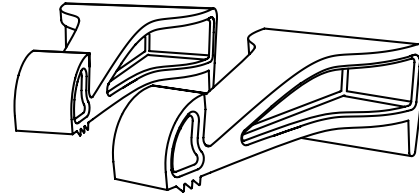
6. CONNECTIVITY OPTIONS

❶ Lightning + Camera Connection Kit: MIDI
iPad mini (5th. gen.), iPad Air (3th. gen.), iPad (5th. gen. 2017),
iPhone (iPhone 6S, 2015 and later), iPod touch (7th. gen.)

❷ Lightning: charging & MIDI via Bluetooth
iPad mini, iPad Air, iPad, iPhone, iPod touch

USB-C

Apple Camera
Connection Kit

Lightning

Lightning

USB-C

USB-A

❶

❷

❸

❹
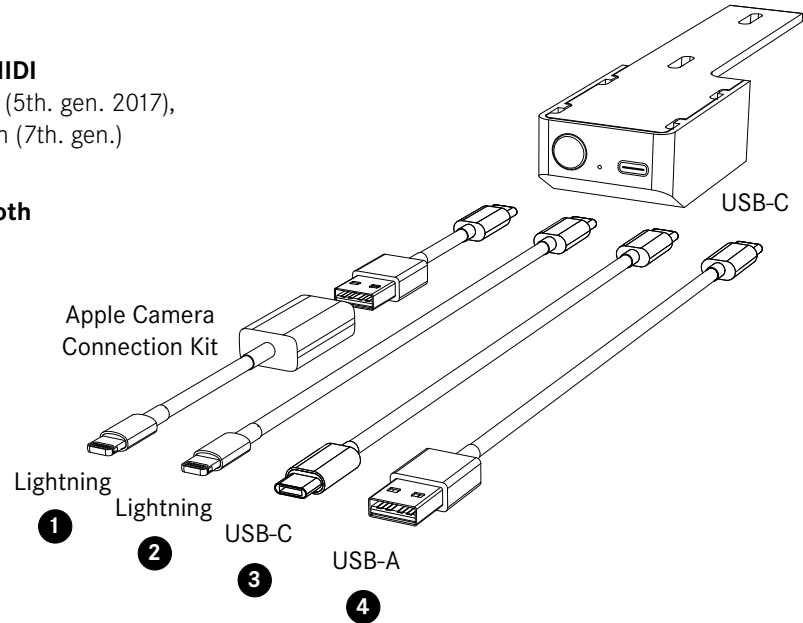
❸ USB-C: MIDI and charging (Power Delivery)
Many Notebooks (Windows/Linux) and Apple MacBook (2015),
MacBook Air (2018), MacBook Pro (2016), iMac (2017), Mac
mini (2018), iMac Pro, iPad Pro (all models),
smartphones and tablets with Android OS (many models since
2017)

❹ USB-A: MIDI (no charging)
Many Notebooks (Windows/ Linux) MacBooks and Macs with
USB A (also older models)

Without cable: via Bluetooth MIDI LE
Compatible with all devices mentioned above

7. IMPORTANT NOTES

INFORMATION FOR SAFE HANDLING

During the development of the C. Bechstein VARIO, we consistently took care to avoid risks during operation. However, we ask you to observe and follow the following safety instructions:

- Only use the enclosed power supply unit.
- Only connect the unit to an outlet that complies with the specifications on the nameplate of the power supply unit.
- Never damage the power cord or place heavy objects on it. Also avoid crimping, bending or jamming the cable.
- Avoid that someone can trip over the power cord.
- Never open or modify the individual modules or the power supply unit.
- Make sure that no items such as paper clips, needles, coins, liquids, or fluffy pets get inside the electronics or on the sensor bar under the buttons.
- The device may generate a sound level in conjunction with headphones or connected devices that will cause permanent hearing damage or damage to connected equipment. Never use the unit at a high sound level.

- Do not turn on the system if:
  - Liquids or other objects have got into the front modules or the instrument.
  - the power supply unit is damaged.
  - Smoke is coming out of the system or it smells of smoke.
  - the appliance has become cold, damp or wet.
  - The unit does not behave as expected or its performance is degraded.

- Keep products containing solvents such as nail varnish, spray cans, alcohol, cosmetics, etc. away from your C. Bechstein VARIO.
- The device and the power supply unit must be operated in such a way that sufficient ventilation is always provided.
- When loosening the connections such as external and internal cables, system connections, mains connection and the power supply unit, pull only on the plug, not on the cable.
- Never handle the devices, cables or the power supply unit with wet hands.
- Ensure that all cables are properly connected after transportation and that the system has not been damaged, damp or cold.
- In the event of a thunderstorm, unplug the power cord.
- Before leaving the instrument, unplug the headphones and hang them on the holder provided.

8. TECHNICAL DATA

General information	
Operation	1-button user interface, volume control, app for smartphones & tablets
User Presets / Favorites	4, wählbar via App und Taster
Silent function	Hammer stop bar, activated via Bowden cable
Sensor System Keyboard	Optical, contactless, continuous detection
Sensor System Pedals	Optical, contactless, continuous detection

App functions (iOS & iPadOS, main functions)	
Calibration	Calibration of the sensor system
Dynamic adjustment / Velocity curve	Flexible setting options for conversion into MIDI note ON velocity, 5 zones (keyboard ranges)
Recording function	2-track sequencer, virtually unlimited capacity
Sharing music	Share via email, messages, cloud services, etc.; MIDI & Audio
Metronome	Flexible setting options, freely selectable clock types, multiple sounds
Software update	VARIO App via App Store Firmware update via App

Sound generation	Sampling
Source of the main sound	C. Bechstein Concert D 282
Number of sounds	19
Polyphony	256
Pedal sounds	Yes, adjustable

Key noises	Yes, adjustable
Release samples	Yes, adjustable
Sympathetic String Resonance	Yes, adjustable
Sympathetic Damper Resonance	Yes, adjustable
Una Corda	Yes
Sostenuto	Yes
Forte pedal half position	Yes
Tuning / Tuning	+/- 100 Cent
Transpose	+/- 24 semitones

Effects	
Hall (Reverb)	Small room, piano hall, concert hall
Echo	Tempo (metronome) dependent delay
Equalizer	4-band fully parametric

Connectivity	
Bluetooth	Bluetooth-MIDI via Bluetooth Low Energy (BLE), Single Mode, practical usable range approx. 15 m
USB	Type-C USB 3.0, USB-MIDI PD (Power Device Management; support for power supply of connected devices)
Audio, headphone jacks	2x 6.3 mm (jack, stereo)
Audio Outputs	2x Cinch (L/R), -10 dBV
Audio Inputs / AUX In	2x Cinch (L/R), -10 dBV

Power supply unit / power supply	
Input voltage power supply unit	110-240 V
Power consumption	6.3 W in normal operation (plus connected devices if required, see below)
Optional power supply for connected mobile devices	5 V / 0.9 A, 9 V / 1 A, 15 V / 1 A, 20 V / 2.5 A
Standby	0,285 W
Energy saving / Auto-Power-Off	Yes

Dimensions (mm)	Front modules side by side 190 x 190 x 27 mm

Package contents	Power adapter, power cord, headphones (incl. cable and adapter), display stand, manual