




Bösendorfer
DER KLANG, DER BERÜHRT

CEUS USER'S GUIDE

V 1.34



<p>IMPORTANT NOTICE FOR UNITED KINGDOM</p> <p>Connecting the Plug and Cord IMPORTANT: The wires in mains lead are coloured in accordance with the following code: GREEN-AND-YELLOW : EARTH BLUE : NEUTRAL BROWN : LIVE</p> <p>As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured GREEN and YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or coloured GREEN and YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK . The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.</p>	<p>NEDERLAND</p> <div style="display: flex; align-items: center;">  <p>Alleen voor klanten in Nederland Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggoien maar inleveren als KCA.</p> </div>
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WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

CAUTION: This is a CLASS A electrical device and must be connected to a grounded power outlet.

Devices whose circuit breaker serves as an electrical separator must be properly labeled as to the position and function of the circuit breaker on the device. The circuit breaker must be accessible without difficulty.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1.) This device may not cause harmful interference
- 2.) This device must accept any interference received, including interference that may cause undesired operation.

Changes to the device that are not explicitly authorized by Bösendorfer are not permitted!

Objects with exposed flames, such as candles, should not be placed on the device.

The device may not be exposed to water.

Warning: This product must be connected to a grounded power outlet!

Instructions for insuring safe and proper installation and connection of devices in multimedia systems:

ELECTRICAL SEPARATION

Electrical separation of devices whose power plug/connector serves as an electrical separator must be useable without difficulty.



Devices whose circuit breaker serves as an electrical separator must be properly labelled as to the position and function of the circuit breaker on the device.

The circuit breaker must be accessible without difficulty.

PRODUCT SAFETY MARKINGS: Bösendorfer CEUS may have either labels similar to the graphics shown below or molded/stamped facsimiles of these graphics on the enclosure. The explanation of these graphics appears on this page. Please observe all cautions indicated on this page and those indicated on the safety instruction section.



SEE BOTTOM OF ENCLOSURE OR LOWER FRONT PANEL (KEYBED and UNDER KEYBLOCKS) FOR GRAPHIC SYMBOL MARKINGS.

 <p>The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.</p>	 <p>The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.</p>
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IMPORTANT NOTICE : Bösendorfer CEUS was tested and approved by an independent safety testing laboratory in order that you may be sure that when it is properly installed and used in its normal and customary manner, all foreseeable risks have been eliminated. DO NOT modify this unit or commission others to do so unless specifically authorized by Bösendorfer. Product performance and/or safety standards may be diminished. Claims filed under the expressed warranty may be denied if the unit is/has been modified. Implied warranties may also be affected.



SPECIFICATIONS SUBJECT TO CHANGE : The information contained in this manual is believed to be correct at the time of printing. However, Bösendorfer reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

BATTERY NOTICE: This product MAY contain a small nonrechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

WARNING: Do not attempt to recharge, disassemble, or incinerate this type of battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by applicable laws. Note: In some areas, the servicer is required by law to return the defective parts. However, you do have the option of having the servicer dispose of these parts for you.

DISPOSAL NOTICE: Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc.

NOTICE : Service charges incurred due to lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

MANUAL IN OTHER LANGUAGES:

We provide the CEUS Manual in German or English.

We believe that customers worldwide who are interested in a product like the Bösendorfer CEUS Reproduction System are able to use the manual in german or English to understand functionality and learn to handle the CEUS. If there are questions anyway, please contact us.

MIDI:

To guarantee trouble-free operation, please observe that only MIDI files provided and authorized by Bösendorfer should be played on the CEUS. MIDI files generated by other devices or downloaded from the internet from unknown, unsafe sources may cause a system crash.

NAME PLATE LOCATION: The picture below indicates the location of the name plate. The model number, serial number, power requirements, etc., are located on this plate.



IMPORTANT SAFETY INSTRUCTIONS

WARNING — When using any electrical or electronic product, basic precautions should always be followed. These precautions include, but are not limited to, the following:

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) This product shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall

be placed on the apparatus.

16) Do not place this product or any other objects on the power cord or place it in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind. The use of an extension cord is not recommended! If you must use an extension cord, the minimum wire size for a 25' cord (or less) is 18 AWG.

NOTE : The smaller the AWG number, the larger the current handling capacity. For longer extension cords, consult a local electrician.

17) WARNING - To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

18) Care should be taken that objects do not fall and liquids are not spilled into the enclosure through any openings that may exist.

19) This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

20) Some Bösendorfer products may have benches and/or accessory mounting fixtures that are either supplied as a part of the product or as optional accessories. Some of these items are designed to be dealer assembled or installed. Please make sure that benches are stable and any optional fixtures (where applicable) are well secured BEFORE using. Benches supplied by Bösendorfer are designed for seating only. No other uses are recommended.

21) This product shall be connected to a MAINS socket outlet with a protective earthing connection.

22) This product has a power switch for shutting off all system. The switch is located at the rear end of the Instrument at the lower surface in the proximity of the piano foot.

23) Make sure that the plug of the power cable can easily be disconnected from the AC outlet as a measure of precaution.

IMPORTANT PRECAUTIONS

Read the following before operating the Bösendorfer CEUS.

Warning

- Do not locate the Bösendorfer CEUS in a place subject to excessive heat, low temperatures, or direct sunlight. This could be a fire hazard and may damage the finish and internal parts.
- Excessive humidity or dust can lead to fire or electric shock.
- Connect the plug on the Bösendorfer CEUS power cable to a compatible AC outlet. Failure to do so will present a fire and electric shock hazard. If the power cable plug is not compatible with your AC outlet, consult your dealer.
- Do not plug several devices into the same AC outlet. This can overload the AC outlet, and lead to fire and electric shock hazard. It may also affect the performance of some devices.
- Do not place heavy objects on the power cable. A damaged power cable is a potential fire and electric shock hazard. If the power cable runs under a carpet, make sure heavy objects, including the Bösendorfer CEUS, are not placed on top of the cable.
- If the power cable is damaged (i.e. cut or a bare wire is exposed), ask your dealer for a replacement. Using the Bösendorfer CEUS in this condition is a fire and shock hazard.
- When disconnecting the power cable from an AC outlet, always pull by the plug. Never pull the cable. Damaging the cable in this way is a potential fire and electric shock hazard.
- The cover of the unit should be removed only by qualified service technicians.
- Do not place liquid containers such as vases, potted plants, glasses, cosmetic bottles, medicines, etc., on top of the Bösendorfer CEUS.
- Do not try to modify the Bösendorfer CEUS, as this could lead to fire or electric shock hazard.
- When moving the Bösendorfer CEUS to another location, turn off the power, remove the power plug from the AC outlet, and remove all cables connected to external devices.

Cautions

- Do not play the Bösendorfer CEUS at a high volume for extended periods; you may damage your hearing. If you think

your hearing ability is impaired, consult your doctor.

- If the Bösendorfer CEUS is worked extremely hard — that is, prolonged playback of very “busy” tracks — the Bösendorfer CEUS’s thermal relay may trip. The thermal relay will automatically reset when the Bösendorfer CEUS has cooled down.
- If you notice any abnormality — such as smoke, odour, or noise — turn off the Bösendorfer CEUS immediately, and remove the power plug from the AC outlet. Consult your dealer for repair.

- If a foreign object or water gets inside the Bösendorfer CEUS turn it off immediately, and remove the power plug from the AC outlet. Consult your dealer.
- If you plan not to use the Bösendorfer CEUS for a long period of time (such as when you are on vacation), disconnect the electrical mains.
- Always remove the power plug from the AC outlet before cleaning the Bösendorfer CEUS. Leaving the power plug connected presents a risk of electric shock.
- Do not use benzene, thinner, cleaning detergent, or a chemical cloth to clean the Bösendorfer CEUS.
- Do not place metal objects with rubber feet on top of the Bösendorfer CEUS. The color and finish of the Bösendorfer CEUS can be damaged.
- Do not place heavy objects on the Bösendorfer CEUS. Doing so can damage the Bösendorfer CEUS.
- Use a soft, dry cloth to clean the Bösendorfer CEUS. However, if you discover a stain, carefully use a soft damp cloth to remove it.

Interference

- The Bösendorfer CEUS uses high-frequency digital circuits that may cause interference to radios and TVs placed close to it. If interference does occur, relocate the affected equipment.

Notes on Bösendorfer CEUS's Hard Disk Drive (HDD)**Making Backups on a Regular Basis**

Even with normal use, HDD may deteriorate over time. We therefore strongly recommend that you make backups of the track data on the HDD on a regular basis. Failure to do so may result in unrecoverable loss of any saved data.

Exclusion of Liability for Loss of Data

Bösendorfer assumes no liability for the loss of any profits incurred as a result of the loss or corruption of any saved data on the HDD, for any loss or damage caused by or arising out of extraordinary circumstances (including circumstances that Bösendorfer has foreseen or could foresee), nor for any damages incurred or claimed by a third party.

PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE.

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FOREWORD (PREFACE)

Congratulations to your decision for the Bösendorfer CEUS.

The CEUS system is primarily the expansion of artistic possibilities of a pianist. It is subordinated in all its functions to the music instrument, the Bösendorfer Concert Grand. We integrated the system very sensitively into the classical piano design and adapted also the operational components, so that piano technicians can work with it – nearly as if no electrical parts would be there.

We created the system to bring music into private homes. The play and record functions are all you need to reproduce the sound of concert stages into your living room or to compile your own personal piano concert library.

In addition, music conservatoires, professional recording studios and scientific institutions are among our customers. We decided for a development in an open architecture, which makes sure, that you will be able to reproduce and extract any detail of your play to analyze your performance, the development of the sound within the room or concert hall, or process even the data itself further.

Our company has 30 years of experience with player systems for highest requirements and more than 180 years of experience in the building of pianos for professional concert pianists. This combination is unique world-wide.

Now, you have the Bösendorfer CEUS in front of you.

Please read the Bösendorfer CEUS system operating instructions carefully and join us in a new era of enjoying piano music.

Yoshichika Sakai
L. Bösendorfer Klavierfabrik GmbH
Managing Director

QUICKSTART


Switch on

You find the main switch at the rear end of the Instrument at the lower surface in the proximity of the piano foot. After approximately 40 seconds the CEUS is operational.

Record

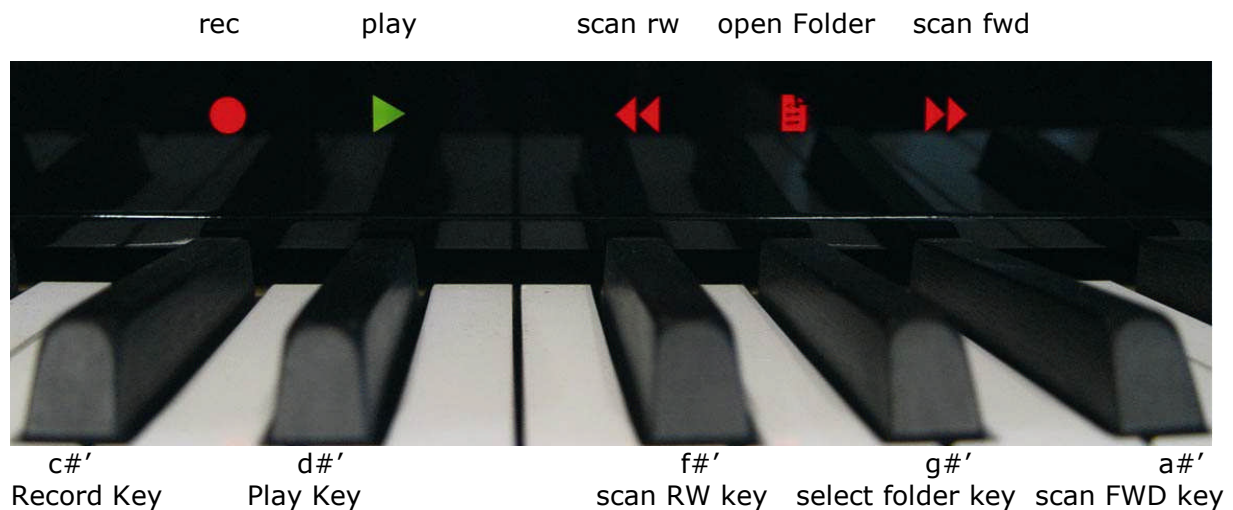
Before you record, select with the listing (black) keys f#, g#, a#(image.) a file in that you would like to store your piece. If you found the file, confirm your choice through to pressures of the "files selection key". Now you can begin with the record. Press for the start the key c# under the Record symbol (img.) After fading of the COUNT down display of 2 seconds CEUS records each movement of the keys and pedals.

Stop record

Press the Stop Button  which you will find on the left side at the fallboard. The track is now stored and available.

play track

To play back the track you recorded press the black key d# underneath the Play symbol.



SAFE TRANSPORTING CEUS

We know that the Bösendorfer CEUS is very heavy. The following [hints](#) will help you delivery a CEUS to our customers undamaged.

Never set the CEUS edgewise on the pedal lyre (upright)!

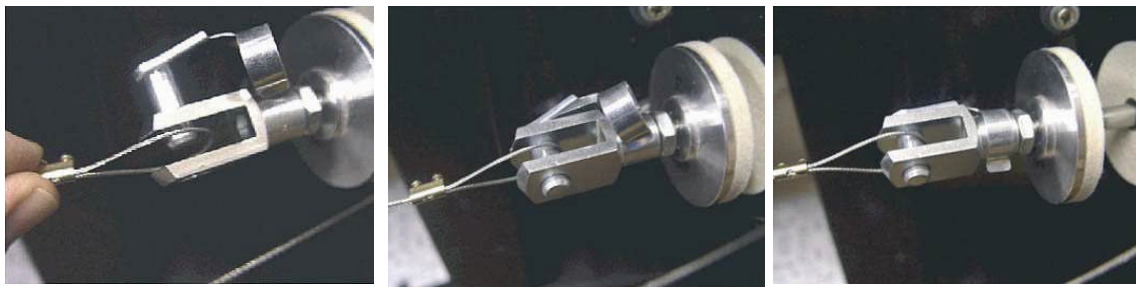
Caution: Only the corner of the piano near the bass leg (the left leg) is able to support the weight of the CEUS.

Set the piano down carefully after having removed the bass leg.
Use only standard piano tools for securing or moving the CEUS.
Take care while pulling or pushing the piano when it is lying upright! Under no circumstances should electronic components such as the pedal magnets be used as handles.

Pay attention to all cables!

In a moving van, never tie a CEUS standing perpendicular over the middle of the electronics cover. Instead, secure it above / below (in the treble or bass area).

Connecting the CEUS Pedal Wires



Depressing the pedals makes connecting the wires easier. Do not cross the pedal wires!

Make sure the cable pulleys are operating correctly.

The correct tension of the pedal wires has already been set at the factory and does not need to be set again.

For Piano Technician

Before each work turn off power and disconnect plug from wall socket. **Never** pull out Keyboard with power on. Caution with metallic articles, metal chips or metal dust. Voicing hooks must be isolate for CEUS service works with power on. Do not polish strings with steel wool.

Please consider also the following safety instructions.

IMPORTANT PRECAUTIONS

The CEUS is not only a high-quality music instrument but also electronic equipment! Treat therefore also with appropriate caution. Read the following before operating the Bösendorfer CEUS Grand.

Warning

- Do not locate the Bösendorfer CEUS Grand in a place subject to excessive heat, low temperatures, or direct sunlight. This could be a fire hazard and may damage the finish and internal parts.
- Excessive humidity or dust can lead to fire or electric shock.
- Connect the plug on the Bösendorfer CEUS Grand power cable to a compatible AC outlet. Failure to do so will present a fire and electric shock hazard. If the power cable plug is not compatible with your AC outlet, consult your dealer.
- Do not plug several devices into the same AC outlet.

This can overload the AC outlet, and lead to fire and electric shock hazard. It may also affect the performance of some devices.

- Do not place heavy objects on the power cable. A damaged power cable is a potential fire and electric shock hazard. If the power cable runs under a carpet, make sure heavy objects, including the Bösendorfer CEUS Grand, are not placed on top of the cable.
- If the power cable is damaged (i.e. cut or a bare wire is exposed), ask your dealer for a replacement. Using the Bösendorfer CEUS Grand in this condition is a fire and shock hazard.
- When disconnecting the power cable from an AC outlet, always pull by the plug. Never pull the cable. Damaging the cable in this way is a potential fire and electric shock hazard.
- The cover of the unit should be removed only by qualified service technicians.
- Before each work on the instrument turn off power and disconnect plug from wall socket. Never pull out Keyboard with power on. Caution with metallic articles, metal chips or metal dust.
- Do not polish strings with steel wool. Voicing hooks must be isolate.

- Do not place liquid containers such as vases, potted plants, glasses, cosmetic bottles, medicines, etc., on top of the Bösendorfer CEUS Grand.
- Do not try to modify the Bösendorfer CEUS Grand, as this could lead to fire or electric shock hazard.
- When moving the Bösendorfer CEUS Grand to another location, turn off the power, remove the power plug from the AC outlet, and remove all cables connected to external devices.

Cautions

- Turn off all audio devices when connecting to the Bösendorfer CEUS Grand. Refer to the user's guide for each device. Use the correct cables and connect as specified.
- Set the volume level on all the devices to minimum before applying power.
- Do not play the Bösendorfer CEUS Grand at a high volume for extended periods; you may damage your hearing. This is especially important when using headphones. If you think your hearing ability is impaired, consult your doctor.
- Strong halogen headlights (also Spots) shining directly into the instrument can affect the recording quality.
- If the Bösendorfer CEUS Grand is worked extremely hard — that is, prolonged playback of very "busy" tracks — the Bösendorfer CEUS Grand's thermal relay may trip. The thermal relay will automatically reset when the Bösendorfer CEUS Grand has cooled down.
- If you notice any abnormality — such as smoke, odor, or noise — turn off the Bösendorfer CEUS Grand immediately, and remove the power plug from the AC outlet. Consult your dealer for repair.
- If a foreign object or water gets inside the Bösendorfer CEUS Grand turn it off immediately, and remove the power plug from the AC outlet. Consult your dealer.
- If you plan not to use the Bösendorfer CEUS Grand for a long period of time

(such as when you are on vacation), disconnect the electrical mains.

- Always remove the power plug from the AC outlet before cleaning the Bösendorfer CEUS Grand. Leaving the power plug connected presents a risk of electric shock.
- Do not use benzene, thinner, cleaning detergent, or a chemical cloth to clean the Bösendorfer CEUS Grand.
- Do not place metal objects with rubber feet on top of the Bösendorfer CEUS Grand. The color and finish of the Bösendorfer CEUS Grand can be damaged.
- Do not place heavy objects on the Bösendorfer CEUS Grand. Doing so can damage the Bösendorfer CEUS Grand.
- Use a soft, dry cloth to clean the Bösendorfer CEUS Grand. However, if you discover a stain, carefully use a soft damp cloth to remove it.

Interference

- The Bösendorfer CEUS Grand uses high-frequency digital circuits that may

cause interference to radios and TVs placed close to it. If interference does occur, relocate the affected equipment.

Notes on Bösendorfer CEUS Grand's Hard Disk Drive (HDD)

Making Backups on a Regular Basis Even with normal use, HDD may deteriorate over time. We therefore strongly recommend that you make backups of the track data on the HDD on a regular basis. Failure to do so may result in unrestorable loss of any saved data.

Exclusion of Liability for Loss of Data

Bösendorfer assumes no liability for the loss of any profits incurred as a result of the loss or corruption of any saved data on the HDD, for any loss or damage caused by or arising out of extraordinary circumstances (including circumstances that Bösendorfer has foreseen or could foresee), nor for any damages incurred or claimed by a third party.

Please keep this manual for future reference.

START-UP

- Give your CEUS sufficient time to adapt to the room climate.
- Do not switch it on under any circumstances immediately after the discharge from (cold) truck. Condensation can cause damage.
- Examine the instrument before first switching on for possible damage.
- Play all pedals and keys. Make sure that everything duly functioned and no background noises are to be heard.
- If necessary please contact your local piano technician and show him this users guide

If everything works properly:

Connect the power cable into a 1700 watt-capable socket. This maximum power might be used only during start-up. The system works automatically with all currents from 110V to 240V.

Switch on the CEUS with the main power switch near the back side leg.

Wait a few seconds until "CEUS by Bösendorfer Version 1.xx" appears on the display. Wait about 40 seconds until the CEUS hard disk drive is ready and "Stop: no track selected!" appears.

Explore the CEUS with the User's Guide by your side to familiarize yourself with all its features and possibilities. Record and play back tracks, try out all the functions such as volume, etc. Copy files to and from USB. Change the names of tracks and directories.

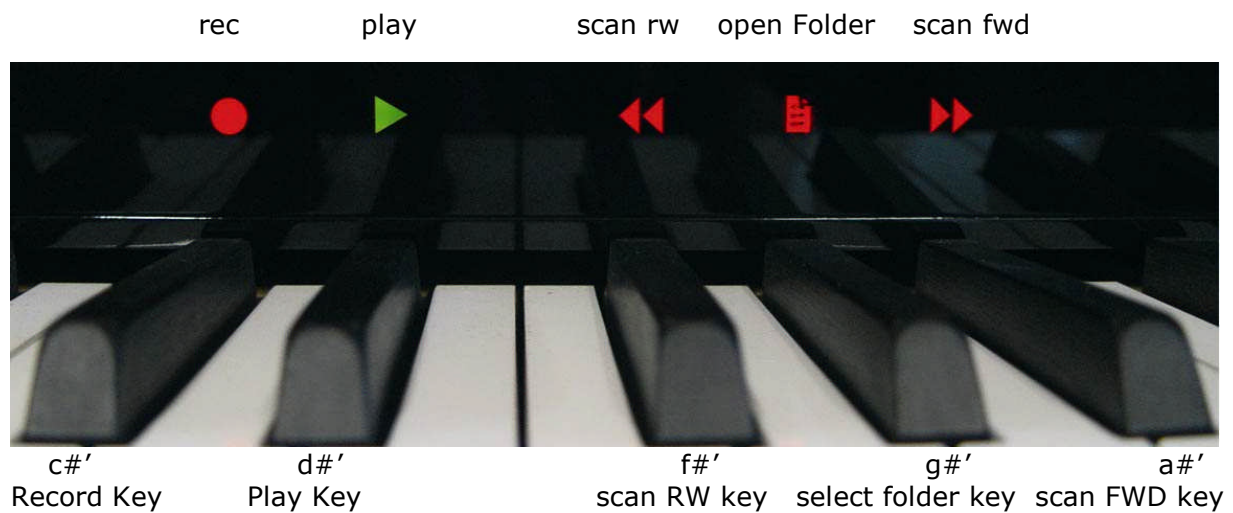
Is everything fine? Do you feel confident with the CEUS?

Now it is time to maximize your knowledge and the CEUS's performance...

CONTROL KEYS

BLACK KEYS

The Bösendorfer CEUS is designed for two main purposes: to record your performance and to replay it in the highest possible fidelity. In order to operate CEUS, the piano keys control the system. A symbol is located above each key that has a controlling function. Below is a photo displaying the basic functions Play, Record, Previous, Select Folder, Forward



Additionally, you can find on the left side of the fallboard four buttons, which are necessary for further control. These four buttons have a similar functionality to those used on cell phones.

BRASS BUTTONS

Please note: To avoid unattractive external noise, we chose these contact-free brass buttons. A light touch with your fingertip is enough to select the desired function.



Scroll up / change



Pause/Stop/Back/Leave menu / Upper application level



Select / OK / Apply



Scroll down / change

MAIN FEATURES

RECORD (c#') PLAYBACK (d#')


Record (c#')

Please note: Some recordings can only be saved in certain folders. This will help you find your recordings quicker later on. Please follow the instructions on the display. Also note the "Select track" section on page 20.

By pressing the piano key c#' under the record symbol, a countdown of 2 seconds is initiated and displayed before recording begins.

Record starts in 2 sec

Then you can play your track.

If you want to stop recording, press the Back button on the fallboard. 

The following message then appears:

Saving track, please wait...

Your track was saved to the CEUS hard disk drive in the Bösendorfer format for further use.

It can be exchanged with external computers via USB or Ethernet.

You can also record directly onto a USB flash drive (or so called thumbnail drive) . Please read the "Copy track or folder" section for further instructions.

Attention:

You cannot save more than 96 tracks in a single CEUS folder.


Not every USB flash drive on the market is compatible with CEUS (see troubleshooting, page 47).




Play (d#')

To reproduce the track you have just recorded, press the key under the Play symbol (d#').

If you wish to pause the playback, press the Cancel/Back button  once.

If you wish to stop, press the Cancel/Back button  twice.

To resume playback, press the brass button with the  symbol.

Features which can be changed while playback using the brass buttons  
 :

Volume
 Transpose
 Change adjustments
 Set Default *
 Auto Stand By **
 Set Damper ***

* Set Default resets the volume, transpose and damper settings to their defaults.

**Auto Stand By

„Yes“: CEUS automatically switches to stand by after every recording or playback.

„No“: CEUS switches to input mode.



*** Set Damper allows the adjustment of the point at which the dampers touch the strings. This function is only needed when MIDI recordings from different devices result in unusual behaviour.

[Please note](#): Playback mode / Auto Play Mode See page 27

REWIND/FAST FORWARD (f#', a#')

Pause playback (Brass button  once).

You can then rewind or fast forward the piece

with the piano keys  f#' or a#' , respectively.

If you press the keys longer, the track winds faster.

To resume playback from the selected point, press the piano key under the Play


button (or the brass button with the  symbol).

PRACTICE MODE AND INPUT MODE

After a recording or playback, CEUS automatically switches to practice mode (stand by).

The display is shut off; however a red LED on the left corner of the display indicates that the main switch of the CEUS is still powered on.

Reactivating CEUS:

To activate the input mode on CEUS, press the brass button  (or quickly press the middle (sostenuto) pedal twice, similar to double-clicking a mouse button of a computer).

The CEUS control displays will appear once again and the keys will regain control of the system.

Be sure not to play any music if the controls are active, since doing so will activate the functions assigned to those keys.

Deactivating CEUS:

To switch to practice mode (i.e. switch the CEUS system off) press the middle (sostenuto) pedal once.

You can now play the piano without controlling the CEUS features with the keys unintended.

Please note:

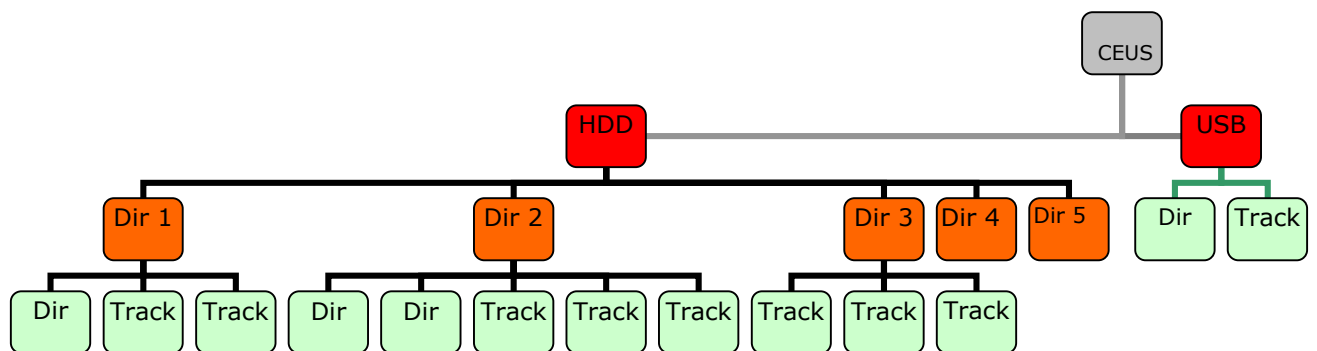
You can deactivate "Auto Stand By " in general settings page 31).

SELECT DESIRED TRACKS (f#', g#', a#')





To store music, CEUS manages your tracks similar to a computer operating system such as Microsoft Windows.


You can use folders or drives, in which you can store your tracks.

Example of a storing structure: (pic 5)




Browsing the CEUS:


You can scroll through the levels with the f#'  or a#'  keys, or by the brass buttons  and .

To enter a selected drive or folder, press the piano key under this symbol  (gis1).

To leave a drive or a folder, press the brass button with the  symbol.

On the left side of the display, there is a symbol showing if you have selected a file or folder. Drive names are HDD (Hard Disc Drive) or USB (for USB flash drive if plugged in)

The function, track or folder is activated when a red arrow  next to it blinks

To change from Main Features to system settings, press the brass button with the  symbol or press any piano key under a symbol.

CEUS only permits recordings to be located in the prescribed folders. The red area in the above diagram is disabled and the green enabled. This allows for a better overview and helps you to find recordings more easily later on. Please note the respective indications on the display.

Drive level (red level in pic 5 page 20):

Recordings cannot be saved in these locations.

HDD represents the CEUS hard disk drive drive.

USB represents the USB flash drive. (The drive name USB appears only when a USB flash drive is plugged in.)

Drives cannot be renamed or erased.

Folders may be renamed but not erased.

Please note that after renaming, the first title in alphabetical order will be displayed upon restart.

Folder / Tracks level (orange/green levels in pic 5 page 20):

Recordings may be saved and managed in these locations.

- Tracks and folders are arranged in alphabetical order. In automatic track naming, tracks are arranged by recording number (00 – 96). Numerals are ordered before letters: 0 – 9 before A – Z. The first title in alphabetical order is always displayed upon restart. (Please note this fact when renaming tracks.)
- Empty folders are named New Folder 1-9 by default and may be changed later.
- Do not exceed the capacity of 96 tracks in one folder, as tracks can otherwise disappear. Please note the warning on the display!

It is not possible to create folders on the CEUS.

Remarks for advanced users with PC skills:

It is, however, possible to copy tracks and entire folders of tracks from the USB flash drive into the red CEUS folder levels.

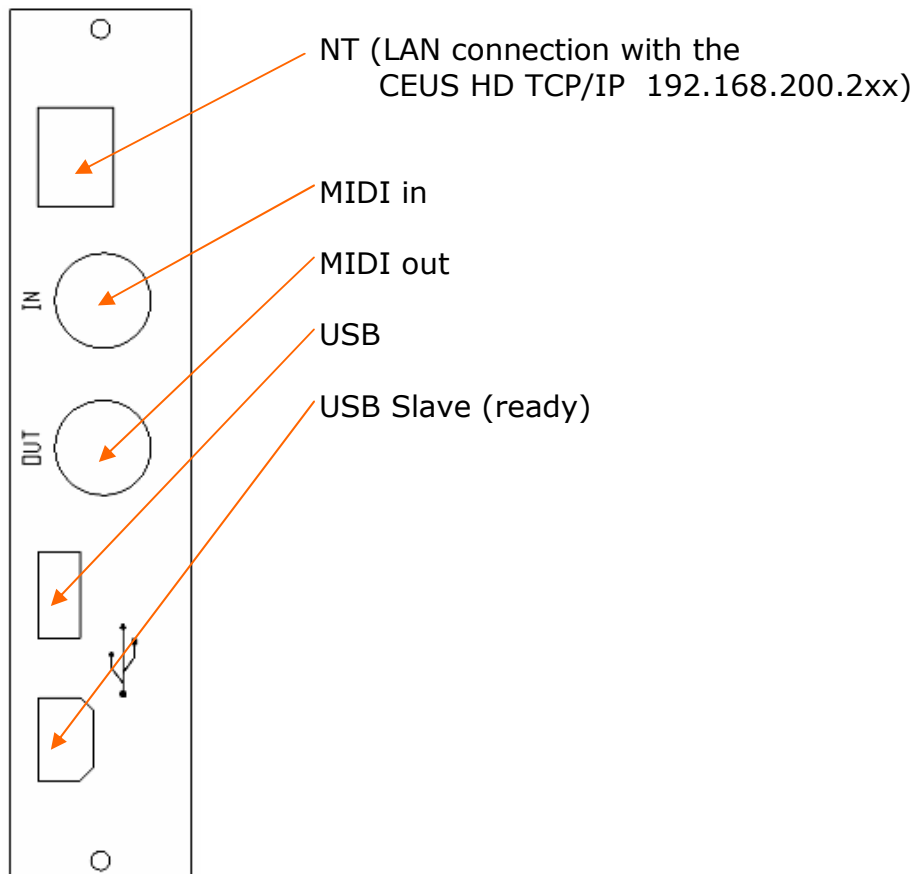
Thus, you can create a folder structure of your own choosing and transfer it to the CEUS HDD. For the sake of clarity, it is recommended that the red level be kept empty and that not too many subfolders be created within the green level.

You can also connect a PC or laptop with the CEUS HDD via network/remote desktop and manage data accordingly (TCP/IP 192 168 200 2xx).

For changing and manipulating the CEUS HDD we do not assume liability.

INTERFACE BOX

The Interface Box is behind the music stand in the bass area:



ERASE / RENAME


Erase track

To erase a track, press the piano key C#1 under the track menu symbol twice.

Erase track ?

To erase the track, press the OK button . The track name will appear on the display:

trackname erase OK?

To confirm erasing this track, press the OK button again .

Rename track or folder

To rename a track or folder press the piano key C#1 under the track menu symbol.


Rename track or folder?


If you wish to rename the track, press the OK button .


To enter characters and numbers, Bösendorfer CEUS uses the piano keyboard:



Press the corresponding keys to enter the name of your track.

 Piano key f#': deletes character

 Piano key a#': enters blank


Press the OK button  when you have finished entering the name.

COPY TRACK OR FOLDER

Select the track or the folder you want to copy. See also page 20: Select track. To copy the track or the folder that is currently displayed press the piano key C#1 under the track menu symbol several times or scroll with the brass buttons




Copy track or folder ?

Press the OK button . The display will show the file name for a brief moment before changing to:

Choose a destination folder

As in "Select track" mode, you can locate the folder or the drive into which you wish to copy your track with the piano keys (f#, g#, a#) under the symbols



After selecting the folder or the drive you wish to copy the file into, press the OK button  to copy the file. It is not necessary to open the folder or the drive.

Attention:

If you want to copy a file onto a USB flash drive.

Connect the USB flash drive with the CEUS Interface Box.



Select USB and the folder.

Press the OK button.


When copying very large files, CEUS displays the progress on the screen for about 60 seconds, before switching back to main mode. CEUS continues to copy the file in the background. Watch the "in progress" signs from USB flash drive (blinking etc.) before you go ahead. Copying 1MB from some USB flash drives can take about 8 minutes.

MOVE TRACK OR FOLDER




Select the track or the folder you want to move. See also page 20


To move the track that is currently displayed, press the piano key C#1 under the track menu symbol several times or scroll with the brass buttons  .

Move track or folder?

Press the OK button . The display will show the file name for a brief moment before changing to:

Choose a destination folder

As in "Select track" mode, you can locate the folder into which you wish to move your track with the piano keys (f#, g#, a#) under the symbols   .

When you have located the proper folder, press the OK button  to move the track.







Attention:

To move a file onto a USB flash drive, follow the same instructions as on the previous section ("Copy track or folder").

SYSTEM SETTINGS


Each symbol on the left side (contra / sub-contra section) of the fallboard represents a function menu for the Bösendorfer CEUS settings.

MENU OVERVIEW

Power Setup	Play Menu	Track Menu	Record menu	MIDI Menu	
					
A 0	A# 0	C# 1	D# 1	F# 1	G# 1
Main switch On - Off Control	Volume Transpose Playmode single all Playpause xx sec Playdisplay Title Time off	Track Folder rename Track Folder copy Track Folder move Erase Track	Record display Title Time off	MIDI: Activate MIDI? Yes No Active MIDI channel 1-16 all MIDI THRU Not active active	Language Deutsch Francais English Contrast + - 16 Date/Time Servicemenu locked unlocked



OPERATING


By pressing the key corresponding to the above menu symbols, the first function within this menu will appear. If the key is pressed again, the next function within this menu will be displayed, and so on.


In order to change values within a function, the function must be activated with the OK button .

The function, track or folder is activated when a red arrow  next to it blinks.

Values can be changed with the following buttons:

With the up or down buttons  .

To confirm, press the OK button .

If you wish to cancel the function instead, or leave the menu, press the Cancel/Back button .

PLAY MENU (A#0)



Within the Play menu you can control the settings while playing back recorded tracks. For details about features, which can be used while playback, see the "Playback" section on page 17.

Volume

When this function is activated, you can adjust the values with the Up and Down buttons as usual. A value of zero indicates that the original recording level is reproduced.

Volume: 0 <0>

Transpose

When this function is activated, you can adjust the values with the Up and Down buttons as usual. A value of zero indicates that the original recording level is reproduced.


Transpose: 0 <0>


Playback mode / Auto play mode

To play all tracks in a certain folder select and confirm

Playmode: all

After pressing the play piano key (d#') all tracks in the current folder will be played.

To pause playback press the brass button  once.

To resume playback press the OK button .

To stop, press  twice

With this function you can copy tracks of your choice into a folder and create your own playlist. This function also works with a USB flash drive.

To select single tracks, select and confirm:

Playmode: single

Playpause

With this setting you can adjust the pause between tracks played in auto play mode (min. 2 seconds).

Playpause 2 sec

Play display

With this function you can select whether the name of the track will be displayed during playback, or the display is left blank. For recitals in particular you might wish to switch off the title display.

Play display: Title - Time

TRACK MENU C#1



Within the track menu you can manage your recordings on the CEUS hard disk drive (See also pages 20-25)

- Rename a track or folder
- Copy a track or folder
- Move a track or folder
- Erase a track

RECORDING MENU D#1



In this menu you can change the recording settings.

Record display

Here you can select if you want to have the track and time displayed while recording.

Record display: Title - Time

MIDI MENU F#1



The MIDI menu allows the CEUS to be controlled by an externally connected computer or another MIDI device connected with the CEUS's MIDI IN or MIDI OUT input or output ports. (See page 22)

MIDI on or off

By setting MIDI to "on", CEUS will receive and execute MIDI commands via the MIDI IN ports and will send data to the MIDI OUT port. If set to "off", MIDI signals will not be processed.

Activate MIDI no/yes

When this function is activated you can adjust the values with the brass buttons as usual.

Volume

Transpose

Change adjustments

/ set standard adjustments
/ Active MIDI channel 1-16
/ Auto Stand By
/ Set Damper

For more information see the "Play" section on page 17

Active MIDI channel

If MIDI is set to "on", you can select the MIDI channel (1-16), that CEUS should use to receive and execute commands. If set to "all", CEUS will accept signals from all channels simultaneously. When this function is activated, you can adjust the values with the Up and Down buttons. To confirm, press the OK button; to cancel, press the Cancel/Back button. A value of zero indicates that the original recording level is reproduced.

Active MIDI channel: all

MIDI Thru on or off

On/Active:

Data arriving at the MIDI IN jack is merged with data being played by CEUS, and both sets of data appear in a single stream at the MIDI OUT jack.

Hint: For overdubs etc. thru should be turned off in some sequencer software.

Off/not active:

Data arriving at the MIDI IN jack is replayed but data does not appear at the MIDI OUT jack. When external data is being received, CEUS does not generate it's own data to the MIDI OUT jack.

MIDI THRU: active/not active

CEUS SETTINGS (G#1)



Language

When this function is activated, you can select either English or German using the Up or Down buttons as usual.

Language: deutsch

Contrast

When this function is activated, you can adjust the visibility of the CEUS display using the Up or Down buttons as usual. The default setting is 0.

Contrast: 0 <0>

Date and time

When this function is activated, you can set each pair of data shown in the picture using the Up or Down buttons. Additionally, you can use for data entry the keys corresponding to the numbers on the right of the fallboard.

Date/Time: 17.06.2007 10:37:11




Service menu

The Service menu should be used by advanced CEUS technicians only, to perform calibrations for the sensors and the solenoids. Please leave this menu closed.

Servicemenu: locked

GENERAL SETTINGS WITH THE BRASS BUTTONS.

Structure overview:

Changing from Main Features to system settings: press  or press any piano key under a symbol, and then  .
 Start scrolling with  if you want to follow the ranking listed below.

Menus: (Service menu locked)

Volume
 Transpose
 Change adjustments
 Set standard adjustments
 „No“
 „Yes“ (sets Transpose, Volume, Damper to 0)
 Set Damper

 Auto Stand By
 „Yes“ (CEUS switches to main mode after start up, playback and recording)
 „No“ (CEUS always switches to input mode)

Menus: (Service menu unlocked)

Value for keys/solenoids yes? OK
 Science Mode (optional)
 On (min. key value 1, a timestamp is sent every 10 milliseconds)
 Off

Keynumbers

Head: 103-> 12 345 -H- HV: 16

Key: 103-> 0 (-250) Time:

Key: 103 Sensorvalue:2345

Key: 103 Regulatorver.: 010

Temperature: Brightness:

Piano configuration (only with service jumper A. Incorrect usage can brake down the system!)

Piano model
 Serial number
 Deckelheber not installed (Hollein option)
 Hammer velocity sensor short / long
 Number of keys

Piano software-updates: ok?

Firmware update mainprocess ok?

Update firmware solenoids ok? (only with service jumper A. Incorrect usage can brake down the system!)

Calibrate keys: yes?

Define solenoid and key numbers

Select first key

Rough calibration of the keys

Fine calibration of the keys

Manual calibration of the keys

Manual key scanning

Manual low – calibration

Manual high – calibration

Calibrate keypress: yes?

Balance keys

Calibrate hammer velocity: all

Select first key

Calibrate hammer velocity: soft

Select first key

Calibrate hammer velocity: medium

Select first key

Calibrate hammer velocity: loud

Select first key

Calibrate lost motion of damper (To readjust after piano regulation)

UNLOCKING THE SERVICE MENU



Warning:

Please be careful when you are not familiar with a certain setting. Never leave the CEUS in unlocked service mode unattended.

Changes made without adequate technical knowledge can lead to system failures.

Select with the piano key in bass section under the symbol  (GIS-1) :


Service menu: locked

Touch . The display now reads: (arrow  is blinking)

Service menu:  locked

Select with  :

Service menu: unlocked

Confirm with 

Back . The display now reads:

Stop HDD : . .

Now the service menu is unlocked.

CALIBRATION

When should you calibrate?

- After long transportation
- After regulation of the piano
- After intensive hammer maintenance with disassembly of the hammer sensors
- After a long period of non-use
- Calibration is not really necessary after tuning and a little voicing (without removing the hammer sensors).

All **recordings** you store without calibrating are **not** affected! Calibration affects only playback.

The CEUS hits a given key, sometimes at triple forte, several times. This could be very painful for your ears and heavy demanding on the instrument. There is no harm in having a piano technician available during calibration (and subsequently for tuning).

Avoid touching any piano key during the calibration process.

Tip: You (or better yet, your piano technician) can dampen the strings with a soft cloth. This helps considerably to dampen noise. In most cases it works with soft / medium calibration.

For operating the brass buttons and the control piano keys see pages 16, 25, 31
Unlock the service menu
(Page 34)

CALIBRATE KEYS

Select:

Calibrate keys: yes? OK



Select:



Fine calibration of the keys



The display reads:

Select first key: 12

(12, 17 or 21 may be displayed depending on your pianos model)

If necessary, you can change the key number by touching the up and down brass buttons   .

Model 290; first key: 12

Model 225; first key: 17


Models 170 | 185 | 200 | 214 | 280; first key: 21


Key numbers meet the MIDI standard.




Calibration starts with the selected key and ends with the damper (sustain) pedal. The display reads:

Fine calibration of the keys

You can interrupt the calibration if necessary by touching  .

To continue, touch  .

If you wish to go back to the main menu touch  two times the display now reads:

Stop HDD

CALIBRATION OF HAMMER VELOCITY

For operating the brass buttons and the control piano keys see pages 16, 25, 31

Select:

Calibrate keypress: yes? OK



Balance keys



The keys move down a little one by one and return on their normal position after a few seconds. Progress is show by key numbers. When complete, the display reads:

Balance keys

Select desired: (in most cases soft / medium is adequate)

Calibrate hammer vel.: all

Calibrate hammer vel.: loud



Calibrate hammer vel.: medium

Calibrate hammer vel.: soft



Select first key 12

(12, 17 or 21 may be displayed depending on your pianos model).

Hint: If necessary you can change the key number by touching the   brass buttons.

Model 290; first key: 12

Model 225; first key: 17



Models 170 | 185 | 200 | 214 | 280; first key: 21

Touch .

Calibration starts.


The duration of **calibrate: all** is about two hours. In some cases it can be up to four hours depending on changes of the piano action, regulation etc.

Soft, medium or **loud** about 30 minutes each.

You can interrupt the calibration if necessary by touching the brass button with the  symbol. To continue, touch the brass button with the  symbol.

When complete, the display reads:

Calibrate keypress.

If you wish to return to the main menu touch  two times. The display reads:

Stop HDD : . .

Attention! Don't forget to lock the Service menu.

LOCK THE SERVICE MENU

(Same manner as unlocking)

Select with the piano key in bass section under the symbol  (GIS - 1) :


Service menu: unlocked

Touch . The display now reads: (arrow  is blinking)

Service menu:  unlocked

Select with  :

Service menu: locked

Confirm with 

Back . The display now reads:

Stop HDD : . .

Now the service menu is locked.

After the next main power on the Service menu will be locked automatically.

CALIBRATE THE PEDALS INDIVIDUALLY:

For operating the brass buttons and the control piano keys see pages 16, 25, 31
Unlock the service menu. See page 34

Select:

Calibrate keys: yes? OK



Select:

Fine calibration of the keys



Select first key: 12

(12, 17 or 21 may be displayed depending on your piano's model).


Change the key number to 109. The display (blinking) reads:

Select first key: 109



Calibration starts with the soft pedal and ends with the damper (sustain) pedal.
The display reads:

Fine calibration of the keys

If you wish to return to the main menu, touch  two times. The display reads:

Stop HDD

Attention! Don't forget to lock the Service menu. See page 38.

After the next main power on, the Service menu is locked automatically.

SOFTWARE UPDATE

We gladly send you the newest CEUS Software by e-mail on request. Alternatively, you can just visit the download area on our web site at www.bösendorfer.com. We recommend you to use the Bösendorfer USB flash drive when updating your CEUS.

Just copy the **two** files:

rom.mot
combo.exe

directly on the USB flash drive.
Plug it in the correct USB slot on your piano. (see page 22).

For operating the brass buttons and the control piano keys see pages 16, 25, 31
Unlock the Service menu (see page 34)

Select the menu item:



Piano software-updates OK?



Firmwareupdate mainprocess Ok?



Load firmware

After successfully loading the new firmware a checksum is performed;
the display will turn itself off for about 60 seconds, before restarting the system:



CEUS by Bösendorfer Version 1.XX



Stop HDD:..

You have now successfully updated your Bösendorfer CEUS.

Just in case the firmware for solenoids in your CEUS is older as the current version, the display will read:



Update firmware solenoids? OK



Execute update for solenoids OK?



Load firmware xx%

About one minute later, the display will now read:



Load firmware 100% end



Stop HDD :..

The Service menu is now locked.

You have now successfully updated your Bösendorfer CEUS.

The version number is shown at every start up on the display. You can also check it up by closing the fallboard for about 10 sec. and then reopening it.

Now CEUS should be calibrated to get the improved replay performance. See page 35

Visit our web site at www.bösendorfer.com and check out the CEUS download area for the newest firmware updates and informations!

MAINTENANCE

Care

CEUS needs the same environmental conditions as any Bösendorfer grand piano. Please ensure that the humidity does not drop below 40% and that the temperature does not change suddenly.

Technical maintenance

The Bösendorfer CEUS was designed to enable tuning, action adjustments and voicing as similarly as possible to other grand pianos.

Due to the wireless fallboard, the action can be pulled out easily
To pull out the keyboard, you have to first remove a data cable from the interior bass wall left side.

Detailed descriptions can be found in the Bösendorfer CEUS Technician's Guide.
See www.boesendorfer.com CEUS Download area

TECHNICAL DATA

- Supply voltage 100-240 V. (Automatic commutation)
Current drain: (approximate values)
Normal use: 90 Watt
Heavy use: 500 Watt
Switch-on current: 1700 Watt
Fuses: 220 V: 6,3 x 32 8 Ampere, T
110 V: 6,3 x 32 12 Ampere, T
- Touch keys on the fallboard(contact-free)
- Integrated display in the fallboard. The fallboard can be pulled out without removing any wires.
- Display shuts down automatically when closing the fallboard
- Fully MIDI-compatible
- Interfaces: USB, LAN, MIDI data transfer with a USB memory stick.
- Storage medium: USB or CEUS hard disk drive.
- Automatic calibration
- Measurement error: Recording of key position: <+ -1 millisecond;
- Measurement error: Recording of key movement: <+ - 1 millisecond
- Accuracy of measurement of hammer velocity: 0,001 millisecond. (= speed of the hammer 1mm before hitting the string)
Dynamic range internal from 17000 to 25000 steps every millisec. Interpolated and stored as 250 linear steps.
- Accuracy of hammer strike record / replay+ - 2 millisec.
- Accuracy of length of tone (timing damper set off) record / replay + - 4 millisec
- Movement of keys and pedals: 250 stages every 2 milliseconds

We have patents pending for a number of new inventions and developments in collaboration with the Vienna University of Technology.

- We from the Bösendorfer team have capitalized on the leading position we have held since 1985, and CEUS has considerably increased our head-start in computer piano technology.
- CEUS is available for all Bösendorfer grand pianos from sizes 5'8" to 9'6". Customized fitting into all Bösendorfer grand pianos is possible (models 170 to 290)

TEAM

In alphabetical order:

Aigner Andreas, Aiwasian Mario, Bräu Ferdinand, Braun Christoph, Brosche Hermann, Brunner Christoph, Gnadenberger Markus, Goebel Werner, Haller Otto, Holzer Ewald, Jagschitz Robert, Lachnit Friedrich, Maurer Richard, Noisser Robert, Piribauer Herbert, Pretl Wolfgang, Rode Erwin, Sauerzapf Jan, Tranker Günter, Urschler Harald, Zainzinger Gerhard, Zumpf Anton.

Our thanks also go out to everyone else who supported us!

Fa. TVE:
Hardware development, production,
Software development

TU Wien: Institut f. Automatisierungs- u. Regelungstechnik
KI Institut Wien OFAI

Bösendorfer WN
Development and adaptation of pianos for CEUS electronics – Mass production
Installation of electronic systems

Bösendorfer Wien
Coordination of development: Electronics - Hardware –
Software – Piano making – Mass production – Installation of electronics
Product Management

Sub-contractors:

Fa. Reiterer:	Gravure, brass buttons
Fa. Tmej:	Special springs
Fa. Hohler:	Rubber metals
Fa. Wüstner:	Pedal ropes
Fa. Otto Heuss	Pedal solenoids
Fa. Pan Electronics	Key solenoids
Fa. Persicaner	Cell caoutchouc

Without the creativity, enthusiasm and outstanding skill of all the involved, it wouldn't have been possible to build the greatest and most exclusive self-playing piano in the world!

Fritz Lachnit
CEUS Research

Thank's Mario for supporting the creation of the manual.
Thank's Attila for translation.

TROUBLESHOOTING

Does not turn on / does not start up / Display remains blank

Electricity in socket? (mostly on stages...)

Fuses? For 220 V: 6,3 x 32 8 Ampere, T
 For 110 V: 6,3 x 32 12 Ampere, T

Is the CEUS Action cable plugged in? (Pull out the fallboard and check the ribbon cable in the bass area) **Attention:** First, turn it off before plugging in the cable!

Is the red power LED lit? (above the first white piano key (A-2) in the bass)

If not: see above

If yes: Auto stand by is activated. Press the back button 

Screen does not switch to track display, is stuck at: System is starting up

Wait at least 1 minute.

The system should switch to track display after max. 2 minutes.

Causes: Non-compatible USB flash drive. (Use the Bösendorfer USB flash drive).

 The system connection to the CEUS hard disk drive failed.
 combo.exe crashed.

Restart (Turn off power switch – wait 30 seconds – turn it on again)

Check the cable between the system and the CEUS hard disk drive (PC):

 Network cable

 The current for PCs is 12 V

Check the CEUS hard disk drive (PC):

 Are the control LEDs lit? Was the power button pressed (instead of reset)?

Connect screen, mouse, etc. **Hint:** Press Ctrl-Alt-F1 for monitor drivers.

Playback does not sound like recording

Hardly noticeable

- The perception of volume is mostly psychoacoustic while recording (i.e. the sense of hearing perceives sounds differently when actively playing the piano.)
- The listening position
- Volume perception at single keys

- Psychoacoustic perception
- Piano service – calibration necessary

Clearly noticeable

- Repetitions are irregular or fail completely, side noise like clicking, chattering etc, pedals squeak:
The piano mechanics (or CEUS mechanics) are highly misadjusted.
- If these errors continue after calibration, a full service is urgently necessary.

Extremely bad

The newly recorded piece is hardly recognizable. The keys seem to move randomly. The hammer intensity is wrong. Old recordings are OK.

Some hammer sensors send wrong or no information. Causes may be:

- Interferences (strong light shining on the hammer sensors) while recording or playback
- Connection flat cable unplugged (or damaged)
- Sensors are broken or bent
- Flags (shutters) on the hammer shanks are missing

Do not calibrate!

Visual inspection.

One single key will not replay any more.

Replay of one single key 2 – 3 times a second about 10 minutes long in a higher velocity can trip the key relay. Will automatically reset when key cooled down.

Playback of single piano keys. Some work, some don't.

Thermal key relay may trip. Test single keys by transposing. Thermal key relay will automatically reset when key cooled down.

Wrong key numbers. Run Rough calibration, Fine calibration. If necessary
Manual key scanning

Very loud playback of virtual generated files (MIDI) is getting softer.

Power supply's limit is reached by pressing more than about 40 keys simultaneously in full volume. Order an optional CEUS power supply for your special requirements.

Define solenoid and key numbers will not work

Run Manual key scanning.

Keys hit extremely loud at new recordings.

The key velocity is not being recorded correctly. (-> Key movements are not authentic).

The mechanical cable to the piano keys is not plugged in. Key prints are not connected.

No pedal works

Pedal strings are not connected. Pedalprint is damaged.

Individual pedals do not work: pedal string is not connected.

Cable connection or pedalprint is damaged.

No playback

The 48 V power supply unit does not provide any voltage. (Hammer sensors damaged?)

Display shows 0 when playing back (no playback)

File name is too long.

Invalid .boe file

Connection with HDD is interrupted (combo.exe crashed -> Restart)

Copy / move is interrupted:

When copying large files, CEUS displays the progress on the screen for about 60 seconds, before switching back to main mode. CEUS continues to copy the file in the background.

Recording / Track is lost:

More than 96 files (old version)

Track unintentionally saved in a different folder.

USB not recognized

Wait until the HDD finds and installs the new device

Display is on a wrong level. USB only shows up on the HDD level

Not all USB flash drives on the market are compatible with the CEUS

Symptoms:

Does not switch to track display,

Continues to show: System is starting up.

Cannot be updated

If possible, try to solely use the Bösendorfer USB flash drive.

Pedal or key is pressed immediately after starting the system.

Remains pressed in stand by.

Immediately shut down the CEUS -> Service required

ERROR MESSAGES ON DISPLAY:

No answer from solenoid xx

A firmware update of the magnets would be harmful -> damages the magnet software!

Try to completely run **define solenoid and key numbers** .

Eventually hardware problem -> Service

Err. 2

Memory is full

USB (or HDD) has low disk space. Delete or move data to free up some.

Err. 74

Corrupted memory

USB flash drive (or HDD) is damaged

Err. 5

File is already opened

If a track is played through a remote connection, it is not possible to call it up again with the play key.

Err. 7

File cannot be found.











The USB flash drive was removed while playback, or the file was erased or moved to a different location by a remote connection.





Err. 8

Error with file access rights

Read-only files cannot be erased or moved.

PIANO KEY / BRASS BUTTONS FUNCTIONS TABLE

Key	Symbol	Function(s)
c#'		Record
d#'		Play
a#'		Scan fwd / Menue
f#'		Scan rw / Menue
g#'		Select / Open Folder
G#1		Setup Language Deutsch Francais English Contrast + - 16 Date/Time Servicemenu locked unlocked
F#1		MIDI Menue Activate MIDI? Yes No Active MIDI channel 1-16 all MIDI THRU Not active active
D#1		Record menue Record display Title Time off
C#1		Track Menue Track Folder rename Track Folder copy Track Folder move Erase Track
A#0		Play Menue Volume Transpose Playmode single all Playpause xx sec Playdisplay Title Time off
c'' to a''		1- 9
h'' to c''''		Letters A - Z

Brass Buttons	Function
	Scroll / change
	Stop recording / Pause / Stop/ back / Leave Menue / upper application level
	Select / OK / apply
	Scroll / change

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