

User Manual



EUROGRAND EG2280USB/EG8280USB

Enjoy the Sound of a Concert Grand - Play Straight Away
with Included Piano Learning Software and Internal
USB Interface

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Thank you

Thank you for choosing the EG2280USB/EG8280USB digital piano from BEHRINGER. This versatile instrument combines the sound and feel of an authentic acoustic piano with the flexibility of modern technology such as RSM tone generation, digital effects and 2 track sequencing. 88 full-size, weighted, hammer-action keys, elegant finish and foot pedals give a professional look and feel for the home or stage. The addition of USB audio/MIDI connectivity opens up a whole new world of recording, performing and podcasting options. The keyboard also comes with a power cable, USB cable and DVD that contains a bundle of software such as eMedia Starter Piano and Keyboard Lessons, energyXT2.5 Compact BEHRINGER Edition and numerous podcasting programs. The EG2280USB/EG8280USB is the ideal piano for home or stage use.

EN Important Safety Instructions

Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality commercially-available speaker cables with ¼" TS plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

**Caution**

To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

**Caution**

To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.

**Caution**

These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

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. Use only 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. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

**Legal Disclaimer**

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ALL RIGHTS RESERVED.
© 2010 Red Chip Company Ltd.
Trident Chambers, Wickhams Cay, P.O. Box 146,
Road Town, Tortola, British Virgin Islands

Limited Warranty**§ 1 Warranty**

1 This limited warranty is valid only if you purchased the product from a BEHRINGER authorized dealer in the country of purchase. A list of authorized dealers can be found on BEHRINGER's website behringer.com under "Where to Buy", or you can contact the BEHRINGER office closest to you.

2 MUSIC Group* warrants the mechanical and electronic components of this product to be free of defects in material and workmanship if used under normal operating conditions for a period of one (1) year from the original date of purchase (see the Limited Warranty terms in § 4 below), unless a longer minimum warranty period is mandated by applicable local laws. If the product shows any defects within the specified warranty period and that defect is not excluded under § 4, MUSIC Group shall, at its discretion, either replace or repair the product using suitable new or reconditioned product or parts. In case MUSIC Group decides to replace the entire product, this limited warranty shall apply to the replacement product for the remaining initial warranty period, i.e., one (1) year (or otherwise applicable minimum warranty period) from the date of purchase of the original product.

3 Upon validation of the warranty claim, the repaired or replacement product will be returned to the user freight prepaid by MUSIC Group.

4 Warranty claims other than those indicated above are expressly excluded.

PLEASE RETAIN YOUR SALES RECEIPT. IT IS YOUR PROOF OF PURCHASE COVERING YOUR LIMITED WARRANTY. THIS LIMITED WARRANTY IS VOID WITHOUT SUCH PROOF OF PURCHASE.

§ 2 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase at behringer.com under "Support" and kindly read the terms and conditions of our limited warranty carefully. Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently. Thank you for your cooperation!

§ 3 Return materials authorization

1 To obtain warranty service, please contact the retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may contact the BEHRINGER distributor for your country listed under "Support" at behringer.com. If your country is not listed, please check if your problem can be dealt with by our "Online Support" which may also be found under "Support" at behringer.com. Alternatively, please submit an online warranty claim at behringer.com BEFORE returning the product. All inquiries must be accompanied by a description of the problem and the serial number of the product. After verifying the product's warranty eligibility with the original sales receipt, MUSIC Group will then issue a Return Materials Authorization ("RMA") number.

- ② Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by MUSIC Group.
- ③ Shipments without freight prepaid will not be accepted.

§ 4 Warranty Exclusions

- ① This limited warranty does not cover consumable parts including, but not limited to, fuses and batteries. Where applicable, MUSIC Group warrants the valves or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase.
- ② This limited warranty does not cover the product if it has been electronically or mechanically modified in any way. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. This limited warranty does not cover any such modification/adaptation, regardless of whether it was carried out properly or not. Under the terms of this limited warranty, MUSIC Group shall not be held responsible for any cost resulting from such a modification/adaptation.
- ③ This limited warranty covers only the product hardware. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the product. Any such software is provided "AS IS" unless expressly provided for in any enclosed software limited warranty.
- ④ This limited warranty is invalid if the factory-applied serial number has been altered or removed from the product.
- ⑤ Free inspections and maintenance/repair work are expressly excluded from this limited warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, guitar strings, illuminants and similar parts.
- ⑥ Damage/defects caused by the following conditions are not covered by this limited warranty:
- improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals;
 - connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used;
 - damage/defects caused by acts of God/Nature (accident, fire, flood, etc) or any other condition that is beyond the control of MUSIC Group.

- ⑦ Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the limited warranty.
- ⑧ If an inspection of the product by MUSIC Group shows that the defect in question is not covered by the limited warranty, the inspection costs are payable by the customer.

⑨ Products which do not meet the terms of this limited warranty will be repaired exclusively at the buyer's expense. MUSIC Group or its authorized service center will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, MUSIC Group will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

⑩ Authorized BEHRINGER dealers do not sell new products directly in online auctions. Purchases made through an online auction are on a "buyer beware" basis. Online auction confirmations or sales receipts are not accepted for warranty verification and MUSIC Group will not repair or replace any product purchased through an online auction.

§ 5 Warranty transferability

This limited warranty is extended exclusively to the original buyer (customer of authorized retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of MUSIC Group.

§ 6 Claim for damage

Subject only to the operation of mandatory applicable local laws, MUSIC Group shall have no liability to the buyer under this warranty for any consequential or indirect loss or damage of any kind. In no event shall the liability of MUSIC Group under this limited warranty exceed the invoiced value of the product.

§ 7 Limitation of liability

This limited warranty is the complete and exclusive warranty between you and MUSIC Group. It supersedes all other written or oral communications related to this product. MUSIC Group provides no other warranties for this product.

§ 8 Other warranty rights and national law

- ① This limited warranty does not exclude or limit the buyer's statutory rights as a consumer in any way.
- ② The limited warranty regulations mentioned herein are applicable unless they constitute an infringement of applicable mandatory local laws.
- ③ This warranty does not detract from the seller's obligations in regard to any lack of conformity of the product and any hidden defect.

§ 9 Amendment

Warranty service conditions are subject to change without notice. For the latest warranty terms and conditions and additional information regarding MUSIC Group's limited warranty, please see complete details online at behringer.com.

* MUSIC Group Macao Commercial Offshore Limited of Rue de Pequim No. 202-A, Macau Finance Centre 9/J, Macau, including all MUSIC Group companies

1. Before You Get Started

1.1 Shipment

Your EG2280USB/EG8280USB was carefully packed at the factory, and the packaging was designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage that may have occurred during transit.

- ◆ If the unit is damaged, please do NOT return it to BEHRINGER. Instead, notify your dealer and the shipping company immediately. Otherwise, claims for damage or replacement may not be honored.
- ◆ Always use the original packing carton to prevent damage during storage or transport.
- ◆ Make sure that no children are left unsupervised with the EG2280USB/EG8280USB or its packaging.
- ◆ Please ensure proper disposal of all packing materials.

1.2 Initial operation

Be sure that there is enough space around the unit for cooling and please do not place the EG2280USB/EG8280USB on high temperature devices such as radiators etc. to avoid overheating.

- ◆ Blown fuses must be replaced by fuses of the same type and rating! Please refer to the "Specifications" for details.

The mains connection of the EG2280USB/EG8280USB is made by using the enclosed mains cable and a standard IEC receptacle. It meets all of the international safety certification requirements.

- ◆ Please make sure that all units have a proper ground connection. For your own safety, never remove or disable the ground conductor from the unit or of the AC power cord.
- ◆ The EG2280USB/EG8280USB is an electronic piano. Unlike an acoustic piano, this instrument does not need to be tuned.
- ◆ The sound quality may diminish within the range of powerful broadcasting stations and high-frequency sources. Increase the distance between the transmitter and the device and use shielded cables for all connections.

1.3 Online registration

Please register your new BEHRINGER equipment right after your purchase by visiting <http://behringer.com> and read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, it is our intention to have it repaired as quickly as possible. To arrange for warranty service, please contact the BEHRINGER retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (<http://behringer.com>).

Registering your purchase and equipment with us helps us process your repair claims more quickly and efficiently.

Thank you for your cooperation!

2. Quick Start

2.1 Power on/off

The EG2280USB/EG8280USB is a digital, i.e. electronic, piano. Therefore, mains power is required to operate the instrument and it has to be switched on or off. The following section describes how to connect the unit to the mains.

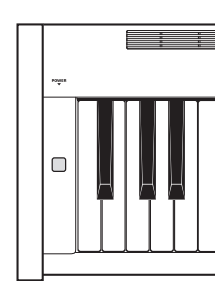
- ◆ The POWER switch to the left of the keyboard must be in the "off" position when you connect the unit to the mains.

FUSE HOLDER / IEC RECEPTACLE

The EG2280USB/EG8280USB is connected to the mains using a standard IEC receptacle. All required safety regulations have been adhered to. A matching power cable is included with the unit. Blown fuses must be replaced with a fuse of the same type and rating.

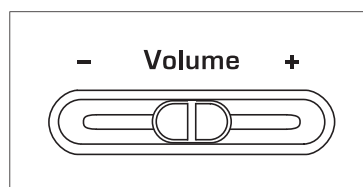
- 1) Connect the power cable supplied with the unit to the connector provided on the underside of the instrument and to a wall socket.
- 2) Press the POWER switch to the left of the keyboard to switch the instrument on or off. The LED on the front panel lights up when the EG2280USB/EG8280USB is ready for operation.

- ◆ After playing, switch off the unit with the POWER switch. The POWER LED on the front panel will go out. Please note: Merely switching the unit off does not mean that it is fully disconnected from the mains. If you do not plan to use your piano for a prolonged period of time, please disconnect it from the mains by unplugging the power cable from the wall outlet.



2.2 Adjusting the volume

The volume of the built-in loudspeakers and headphones can be adjusted as follows:



- 1) Set the VOLUME control to mid-travel position, between MIN and MAX.
- 2) Adjust the volume as desired by moving the control to the right (up) or left (down).



Caution

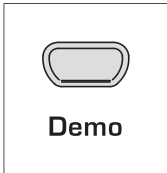
- ◆ The EG2280USB/EG8280USB is capable of producing extreme volumes. Please bear in mind that high sound pressures not only temporarily affect your sense of hearing, but can also cause permanent damage. Be careful to select a suitable volume at all times, particularly when you are playing with headphones.

2.3 Demo playback

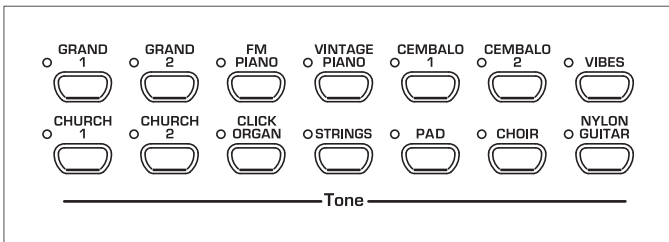
The EG2280USB/EG8280USB offers you 14 sound and 15 piano music demos. These music pieces give you an impression of the instrument's versatility and range of sounds.

2.3.1 Playing back the sound demos

This section describes how to play back the 14 sound demos. These demos are specially designed to highlight the various sounds and their features and show you what can be done with your instrument.



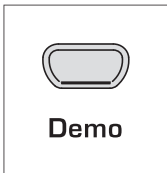
- 1) Press the DEMO button.
- 2) Press one of the 14 buttons in the TONE section to play back an audio demo of the selected sound color.



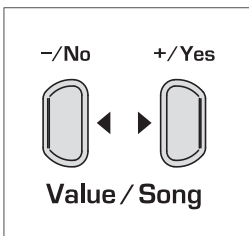
- ◆ Press the DEMO button again to quit DEMO mode.
- ◆ During demo playback, the EG2280USB/EG8280USB does not receive or send MIDI data.
- ◆ The music sequencer (see chapter 5.5) must not be set to playback or record-ready mode when you switch to DEMO mode.

2.3.2 Playing back the piano music demos

The following section describes how to play back the 15 piano music demos. These demos show you the versatility of the GRAND PIANO sounds.



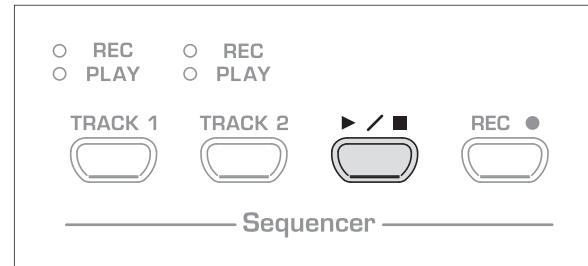
- 1) Press the DEMO button.
- 2) Use the -/NO and +/YES buttons in the VALUE/SONG section to select the music piece of your choice.



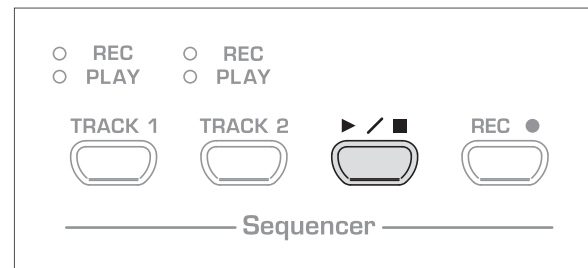
The display reads:

- 1 . . . 15:** Number of the selected music piece.
- ALL:** Playback of all music pieces. The pieces are played in chronological order.
- ShF:** Playback of all music pieces. The pieces are played in random order.

- 3) Press the ► / ◄ button in the SEQUENCER section to start playback.



- 4) Press the ► / ◄ button again to stop playback.

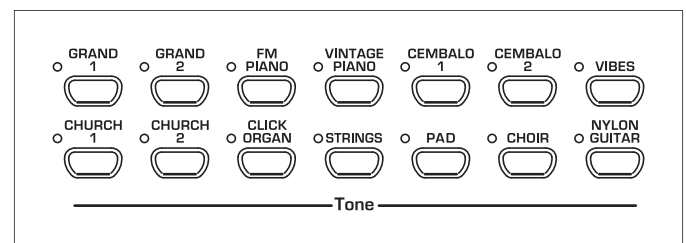


- 5) Repeat steps 2 to 4 to play back other pieces.
- ◆ Press the DEMO button again to quit DEMO mode.
 - ◆ A list of all the music pieces can be found in chapter 9.3.
 - ◆ The music sequencer (see chapter 5.5) must not be set to playback or record-ready mode when you switch to DEMO mode.
 - ◆ You can adjust the playback tempo of the piano music demos (see chapter 5.4).
 - ◆ Select any sound you like to accompany the piano music demos; you can also add the room, modulation and brilliance effects (see chapter 4.2). Select and set the sound colour before you enter DEMO mode.

2.4 Selecting and playing sounds

The EG2280USB/EG8280USB comes with 14 different sound colours covering a wide spectrum of sounds. You can select a sound in the TONE section.

- 1) Press one of the 14 buttons in the TONE section to select the sound of your choice.



The LED above the sound button lights up to show that the corresponding sound has been selected. The selected sound can be played over the entire keyboard.

- ◆ The volume of the sound depends on how heavily you play the keys (not applicable to CEMBALO 1 and 2, CHURCH 1 and 2, and CLICK ORGAN).
- ◆ TIP: You can also select two sounds at the same time.

3. Control Elements and Connections

3.1 Control panel

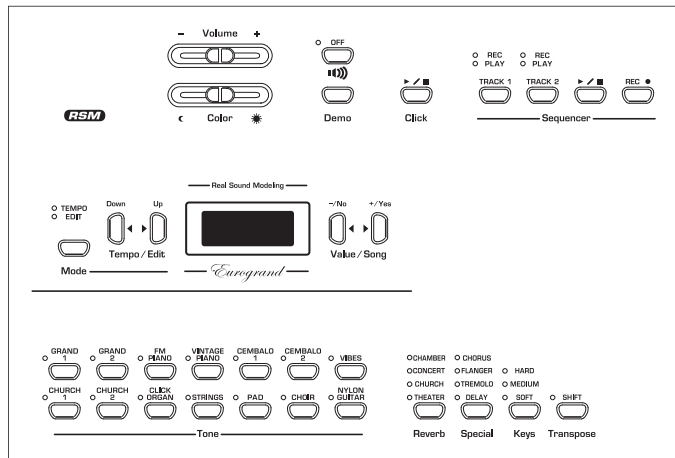
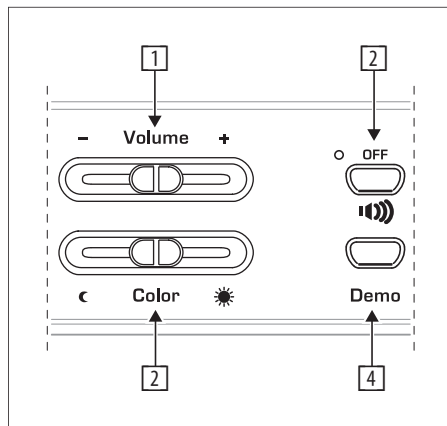


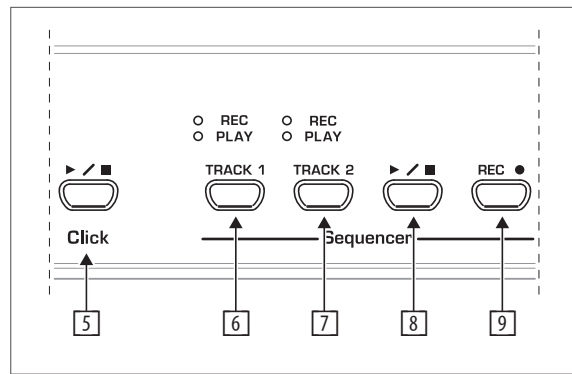
Fig. 3.1: Control elements of the EG2280USB/EG8280USB

The control elements of the EG2280USB/EG8280USB are described below. To give you a clear overview of the control panel, its elements have been grouped in separate sections.

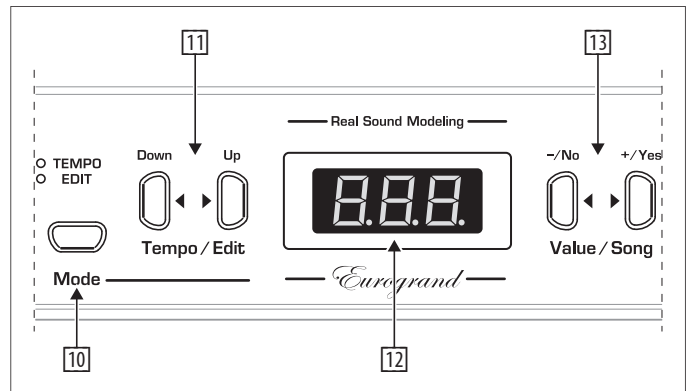


- 1 **VOLUME:** is used to adjust the volume of the built-in loudspeakers and headphone outputs.
- 2 **COLOR:** Varies the sound character from soft (left) to bright (right).
- 3 **SPEAKERS OFF:** Switches the built-in loudspeakers on and off. The MUTE LED lights up only when the built-in loudspeakers are switched off. When you insert your headphones this will automatically switch off the built-in loudspeakers.

- 4 **DEMO:** Enables/disables DEMO mode.

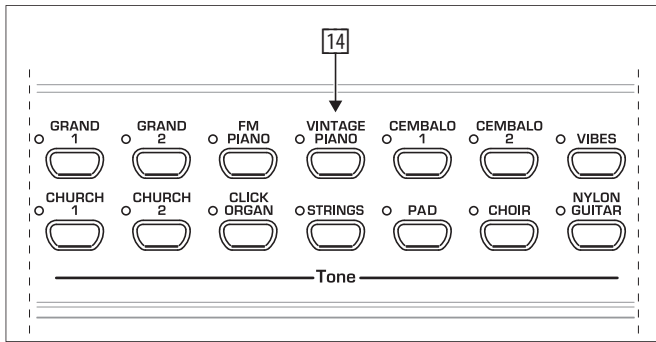


- 5 **CLICK:** Is used to start/stop the metronome click.
- 6 **TRACK 1:** Selects track 1 for playback or recording. The REC LED lights up when the track has been activated for recording. The PLAY LED lights up when the track has been set for playback and already contains musical data.
- 7 **TRACK 2:** Selects track 2 for playback or recording. The REC LED lights up when the track has been activated for recording. The PLAY LED lights up when the track has been set for playback and already contains musical data.
- 8 **Sequencer:** Is used to start/stop playback or recording of the music sequencer.
- 9 **REC:** Activates record mode.

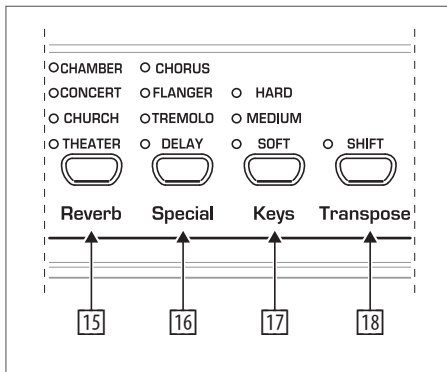


- 10 **MODE:** Selects the TEMPO parameter and menu pages for EDIT mode. The EDIT MODE LED shows in EDIT mode, the TEMPO LED in TEMPO mode.
- 11 **Down/Up:** Depending on which mode you have selected with the MODE button, these two buttons can be used to enter the tempo or to scroll through the EDIT mode menu pages.
- 12 **Display:** Depending on the function used, the display reads the tempo, menu numbers or parameter values.

- 13 **-/NO, +/YES:** Is used to raise/lower the parameter values shown in the display. Additionally, the +/YES button executes certain EDIT functions.



- 14 **TONE:** These 14 buttons are used for sound selection. In DEMO mode they are used to select individual sound color demos.



- 15 **REVERB:** Selects one of four room effects (CHAMBER, CONCERT, CHURCH, THEATER) for the selected sound. An LED shows which effect is currently active. If no LED lights up, no room effect is active.
- 16 **SPECIAL:** Is used to select one of four modulation effects (CHORUS, FLANGER, TREMOLO, DELAY) for the selected sound. An LED shows which effect is currently active. If no LED lights up, no modulation effect is active.
- 17 **KEYS:** Is used to set the key velocity to SOFT, MEDIUM or HARD. An LED shows which setting is currently active. If no LED lights up, no key velocity has been selected and playing a key always triggers a fixed volume level, irrespective of how hard you play the key.
- 18 **TRANPOSE:** Is used for setting keyboard/pitch transposition.

3.2 Connectors

The connectors of the EG2280USB/EG8280USB are located on the back panel (EG2280USB) or bottom side (EG8280USB) of the keyboard.

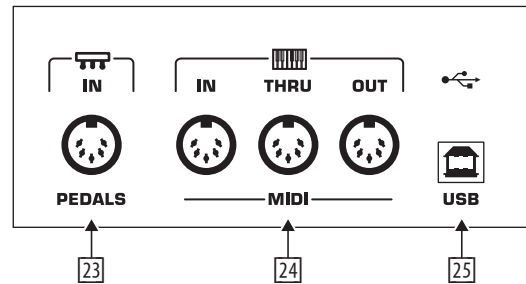
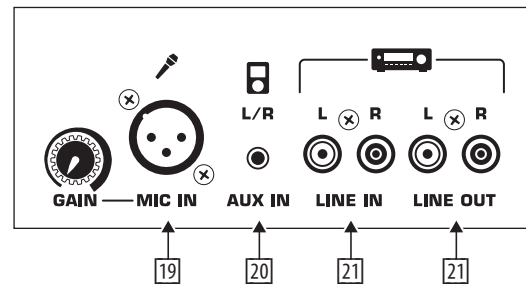
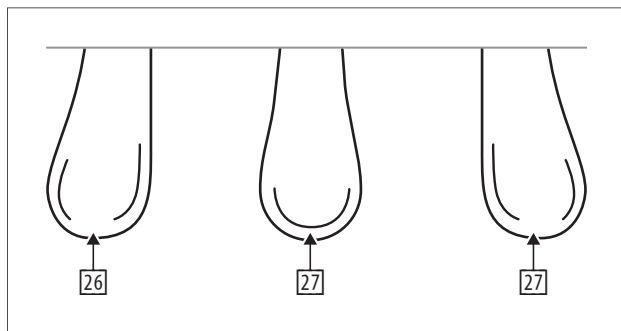


Fig. 3.2: Connectors of the EG2280USB/EG8280USB

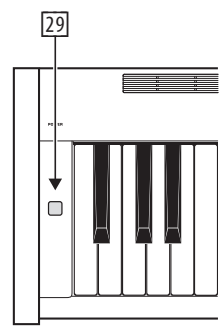
- 19 **MIC IN:** Connect a dynamic or condenser microphone to this input using a standard XLR cable. The jack automatically supplies 15 V of phantom power. Adjust the input sensitivity with the adjacent GAIN control.
- NOTE: If the microphone signal begins to distort, turn the GAIN knob counter-clockwise.**
- 20 **AUX IN:** Connect external sound sources such as a CD or MP3 player using a 1/8" plug.
- 21 **LINE IN:** Connect external sound sources such as CD players, mixers or drum machines using RCA cables.
- 22 **LINE OUT:** Connect the EG2280USB/EG8280USB to an external sound system or recording device using RCA cables.
- 23 **PEDALS:** Connect the foot pedals of the EG2280USB/EG8280USB to this jack using the included 5-pin cable.
- 24 **MIDI:** Connect external devices such as synthesizers, sequencers, etc. to the EG2280USB/EG8280USB using 5-pin DIN cables (MIDI cables).
- **MIDI IN** receives data that controls the EG2280USB/EG8280USB internal sound generator.
 - **MIDI OUT** sends controlling data from the EG2280USB/EG8280USB's keys and pedals to other MIDI devices.
 - **MIDI THRU** transmits data from the MIDI IN jack to other MIDI devices without altering the data.
- 25 **USB:** Connect the EG2280USB/EG8280USB to a computer using a type B USB connector. This connection will transmit both the audio from the internal sound generator and the input connectors as well as MIDI data. You may use this to record performances or control software on your computer via MIDI.

3.3 Foot pedals

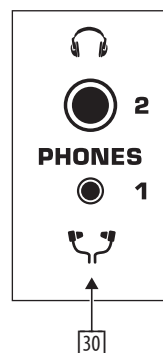
The EG2280USB/EG8280USB has three pedals similar to those found on acoustic grand pianos.



- 26 Soft/Piano pedal:** Use this to reduce the volume of a particular passage.
- 27 Sostenuto pedal:** This pedal sustains notes that allow distinct advantages:
- Play a note or chord on the keys
 - While holding the note(s), press the sostenuto pedal
 - Notes played before the pedal was pressed will continue to sustain, while those played after the pedal was pressed decay normally
- 28 Damper/Forte pedal:** All notes sustain when the damper/forte pedal is pressed, even if you release the key(s).



- 29 Power:** Press this button to turn the EG2280USB/EG8280USB on and off.



- 30 Phones jacks:** Connect headphones to these jacks using 1/4" and/or 1/8" plugs. The jacks may be used simultaneously, but the volume cannot be controlled separately.

4. Basic Operation

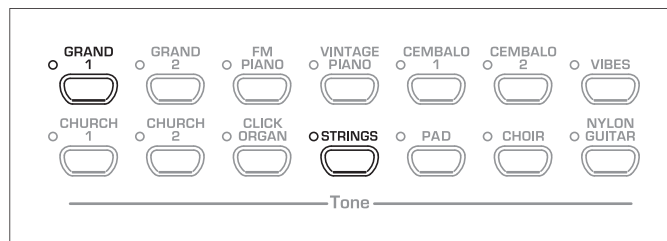
The following chapters describe some further basic functions which you can use in addition to those already explained.

4.1 Using two sounds (layer mode)

Instead of a single sound you can also play two sounds simultaneously on the EG2280USB/EG8280USB. These sounds are layered and can be played together over the entire keyboard.

- 1) In the TONE section, simultaneously press the buttons of the sounds to be layered.

The LEDs above the buttons light up to show that the associated sounds have been selected.



In our example the sounds "GRAND 1" and "STRINGS" are layered.

- ◆ To quit layer mode, press any button in the TONE section. This will also select one single sound again.

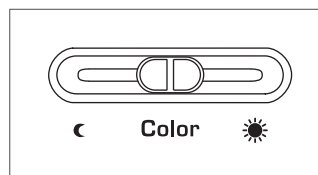
4.2 Changing the sound character

You can change the sound character by using a room and a modulation effect as well as a color equalizer.

4.2.1 Color equalizer

Use the Color equalizer to change the sound character and make it softer or more brilliant.

- 1) Change the sound character with the COLOR control as follows:



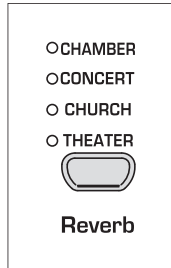
- Move the control to the left (C) for a softer sound that is darker in tone.
- Move the control to the right (☀) for a more brilliant sound.

4.2.2 Room effects

The EG2280USB/EG8280USB provides room effects simulating four reverb rooms of different sizes. When you select a sound, the EG2280USB/EG8280USB also selects an appropriate effect. If required, however, you can always select any other effect. The following reverb room simulations are available:

- CHAMBER:** Simulates a small room.
CONCERT: Simulates a small concert hall.
CHURCH: Simulates a large concert hall.
THEATER: Simulates a typical stage ambience.

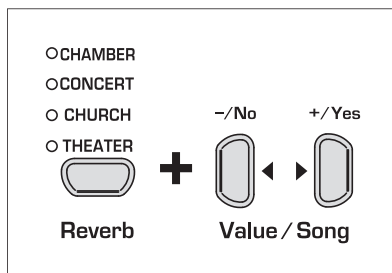
- 1) Keep pressing the REVERB button until the effect of your choice has been selected.



The active effect is shown by an LED lighting up next to the effect name.

◆ If none of the four LEDs lights up, the room effect is disabled.

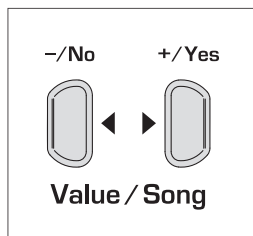
- 2) Keep the REVERB button pressed while adjusting the original vs. effect signal ratio in the VALUE/SONG section using the -/NO and +/YES buttons.



The display reads:

0 . . . 20: Effect intensity
 (0 = no effect, 20 = maximum effect)

- 3) If you want to restore the default settings, keep the REVERB button pressed, then press -/NO and +/YES simultaneously.

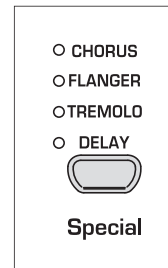


4.2.3 Modulation effects

The EG2280USB/EG8280USB provides a modulation effect featuring four different types of effect. When you select a sound, the EG2280USB/EG8280USB automatically adds an appropriate effect for some of the sounds. If required, however, you can always select any other effect. The following modulation effects are available:

- CHORUS:** Chorus effect. "widens" the sound.
FLANGER: Time-shifted layering of sounds. Produces a "floating" sound.
TREMOLO: Rapid, constantly repeated changes in the volume of the sound.
DELAY: Echo effect. Produces time-shifted repetitions of the sound that decay over time.

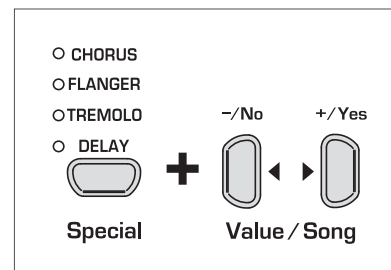
- 1) Keep pressing the SPECIAL button until the effect of your choice has been selected.



The selected effect is shown by an LED lighting up next to the effect name.

◆ If none of the four LEDs lights up, the modulation effect is disabled.

- 2) Keep the SPECIAL button pressed while adjusting the original vs. effect signal ratio in the VALUE/SONG section using the -/NO and +/YES buttons.



The display reads:

0 . . . 20: Effect intensity
 (0 = no effect, 20 = maximum effect)

- 3) If you want to restore the default settings, keep the SPECIAL button pressed, then press -/NO and +/YES simultaneously

4.3 Using the pedals

The EG2280USB/EG8280USB is equipped with three foot pedals performing the same functions as the pedals on an acoustic grand piano. Normally, the pedals are used in accordance with the instructions given in the music, where they are marked by special symbols. It is useful to know how sound is produced on an acoustic piano to better understand how the pedals work.

When you strike a key, a hammer hits several strings for each note; the strings produce a tone with a defined pitch. When you let go of the key, a damper felt falls down on the strings to stop them from vibrating any longer. As a result, the tone decays quickly. However, if the key is held down, the tone is sustained for a while before it decays completely. In this case, the tone decays only after a certain time.

This decay characteristic can be influenced using the three foot pedals.

- **Soft/piano pedal (left):** The soft pedal produces a soft and intimate sound. Use this pedal for particularly soft musical passages (pianissimo).

On an acoustic piano this soft sound results from a smaller distance between hammer and strings. On a grand piano, however, the position of the hammer changes, so that the hammer does not hit all strings.

- 1) Press the pedal to dampen all tones played afterwards with the pedal down.
- 2) Let go of the pedal for normal playing.

◆ You can adjust the effect of the damper pedal (see chapter 5.6.2).

- **Sostenuto pedal (middle):** Use the sostenuto pedal to sustain individual tones. The notes already played – as long as they have not yet decayed – will be sustained as soon as you press the pedal. All notes played subsequently will be dampened as described above. This allows you to play and sustain a certain note using the pedal, while all subsequent tones will be played in a staccato (detached) manner.

When you sustain single notes on an acoustic piano using the sostenuto pedal, the damper felts of the notes already played do not dampen the strings when you release the keys, but are held in their position.

- 1) Play the notes to be sustained.
- 2) Press the pedal to sustain the tones you just played.
- 3) Play the next notes. These are played with normal decay.
- 4) Release the pedal for normal playing.

- **Damper/Forte pedal (right):** The damper pedal allows you to sustain the notes already played (and held) plus all subsequent notes, without having to hold the keys down. The damper pedal is often used to achieve a richer sound. This is the pedal that is used most often. You can also use it very subtly, for example, by holding it down only half-way.

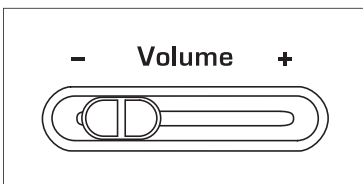
On the acoustic piano notes are sustained by keeping all the damper felts in their raised position even after releasing the keys. This allows the notes played to decay quite naturally.

- 1) Play the notes to be sustained.
- 2) Press the pedal to sustain the notes you just played plus all subsequent notes.
- 3) Release the pedal for normal playing.

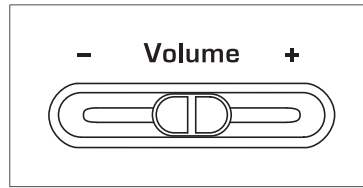
4.4 Using headphones


The EG2280USB/EG8280USB is equipped with two headphone jacks located on the underside of the playing console (front left). Headphones are ideal for practicing without disturbing others. The second headphone jack allows another person, for example a music teacher, to listen as well so that piano lessons can also be held using headphones. Both ¼" and ⅛" inputs are available.


- 1) Use the VOLUME control to turn the volume down (move the slide control to the left half of its control range).




- 2) Connect your headphones to a free headphone jack on the underside of the playing console.
- 3) While playing, adjust the volume as desired using the VOLUME control.



- 4) If required, the  button allows you to switch the built-in loudspeakers of the EG2280USB/EG8280USB on or off.

- ◆ The built-in loudspeakers of the EG2280USB/EG8280USB are switched off as soon as you connect a pair of headphones; the MUTE LED above the  button lights up.



- ◆ When you disconnect your headphone from the headphones jack, the built-in loudspeakers of the EG2280USB/EG8280USB are switched on again and the MUTE LED above the  button goes out.

5. Advanced Operation

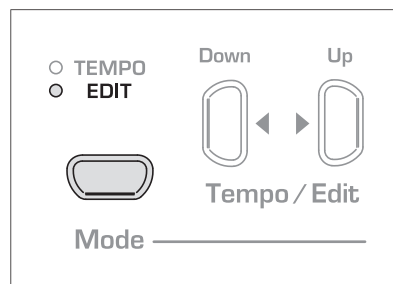
The following chapters provide information on advanced operating functions of the EG2280USB/EG8280USB.

5.1 Using EDIT mode

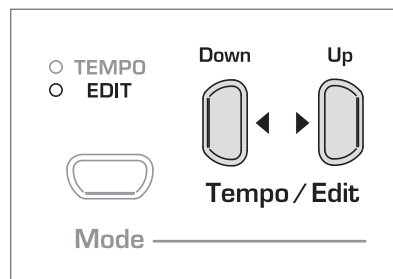
Many advanced operating functions of the EG2280USB/EG8280USB are available in EDIT mode. The following sections describe how to adjust these functions in EDIT mode.

- ◆ Whenever you are prompted to enter EDIT mode, please follow the step-by-step instructions given below to select a function and adjust its parameters.

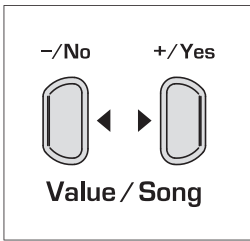
- 1) Keep pressing the MODE button in the TEMPO/EDIT MODE section until the EDIT MODE LED lights up.



- 2) Scroll through the functions using the Down/Up buttons, until the appropriate function (e.g. *E* *f*) has been selected.



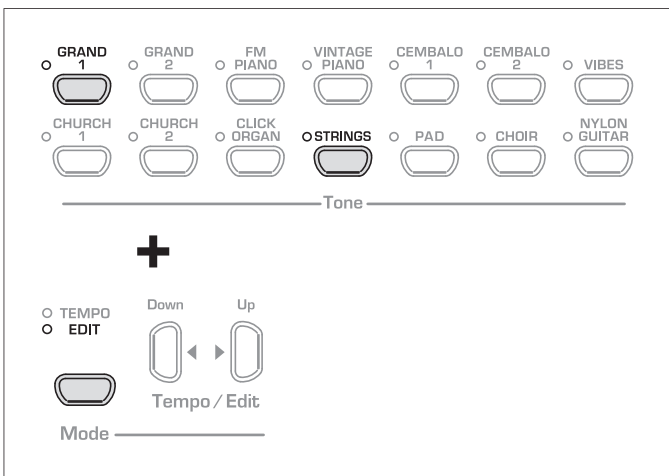
- Use the -/NO- and +/YES buttons in the VALUE/SONG section to adjust the value of your choice.



5.1.1 Quick access to layer mode functions

Use the following operating procedure for direct access to the layer mode menu pages.

- Press and hold down the two sound buttons selected for layer mode (e.g. GRAND 1 and STRINGS) and press the MODE button in the TEMPO/EDIT MODE section.



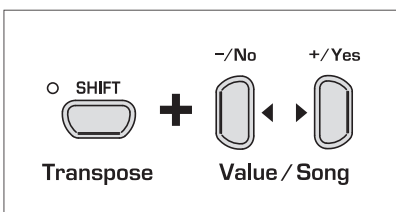
The EDIT LED lights up and the EDIT page E3.1 is displayed.

5.2 Transposition

The sounds produced by the EG2280USB/EG8280USB can be transposed up or down by half-tones (key by key). This is useful, for example if you want to play a piece in a key that is easier to play because it has few or no accidentals at all (e.g. C major), but intend the piece to sound in a difficult key with lots of accidentals (e.g. D flat major).

Example: D flat major has five flats (accidentals). In this key you would have to play a lot of black keys. However, if you transpose the sounds up by one half-tone, you can easily play the piece on the white keys (C major). It can be helpful to transpose the keyboard by an octave (12 halftones), for example to play low notes in the middle register where they can be played more comfortably.

- Press and hold the TRANSPOSE button and use the -/NO and +/YES buttons in the VALUE/SONG section to adjust the transposition value of your choice in half-tone steps.



The display reads:

- 0: No transposition (default setting)
- 1 ... 12: Keyboard is transposed up by the number of half-tones selected.
- 1 ... - 12: Keyboard is transposed down by the number of half-tones selected.

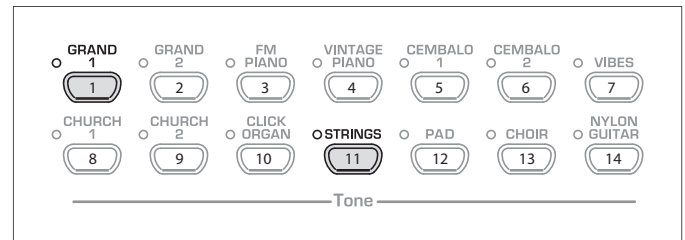
- Release the TRANSPOSE button when the desired value has been selected.

- ◆ The LED above the TRANSPOSE button lights up when the transposition feature is active, i.e. when a value other than zero has been set.
- ◆ If a transposition interval has already been set, you can enable/disable the transposition function using the TRANSPOSE button.

5.3 Layer mode settings

In layer mode you can effect additional settings for advanced playing with two sounds at the same time.

All sounds are numbered internally from 1 through 14. This order of sounds determines which sound is addressed internally as voice #1, voice #2, etc., which in turn is important for making changes to the sounds selected.



In our example the two sounds GRAND 1 and STRINGS are being used in layer mode. Internally, GRAND 1 is #1, STRINGS is #11. The sound with the lower number is addressed internally as voice #1 (here: GRAND 1), the sound with the higher number as voice #2 (here: STRINGS).

- ◆ Please note the order of voices used in the sound combination selected, in order to understand which settings apply to which voice in the examples below.
- ◆ A layer combination consisting of two sounds must be set up before you can adjust the following functions (see chapter 4.1).

5.3.1 Volume ratio

Use this function to adjust the volume ratio of the selected sounds.

- ◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E3.1

Value: 0 . . . 20

Description:

- 10: Same volume for voice #1 and voice #2
- < 10: Voice #2 louder than voice #1
- > 10: Voice #1 louder than voice #2

5.3.2 Detune

This function allows you to detune the selected sounds slightly against each other.

◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E3.2

Value: -10 . . . 10

Description:

□: Same pitch for voice #1 and voice #2

<□: Voice #2 higher than voice #1

>□: Voice #1 higher than voice #2

5.3.3 Transposition

Use this function to transpose the selected sounds up or down by one octave. Depending on which sounds are used in a combination, the transpose function can help make the sounds more homogeneous.

Example:

In a combination of GRAND 1 and STRINGS, the STRINGS sound too low. In this case, it helps to transpose the STRINGS up by one octave.

◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E3.3 (voice #1 transposed by an octave)

E3.4 (voice #2 transposed by an octave)

Value: -1 . . . 1

Description:

□: No transposition

-1: Transposition down by one octave

1: Transposition up by one octave

5.3.4 Effect intensity

This function allows you to edit the effect intensity of the modulation effect for the selected sounds.

◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E3.5 (effect intensity voice #1)

E3.6 (effect intensity voice #2)

Value: 0 . . . 20

Description:

1 . . . 20: Effect intensity (default setting)

□: No effect

5.3.5 Reset

Use this function to reset all settings in layer mode.

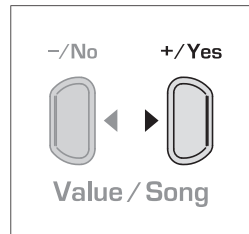
◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E3.7

Value: -

Description:

Press the +/YES button to execute this function.



5.4 Using the metronome

The EG2280USB/EG8280USB features a built-in metronome which can be used for practising or to make recordings with the internal music sequencer.

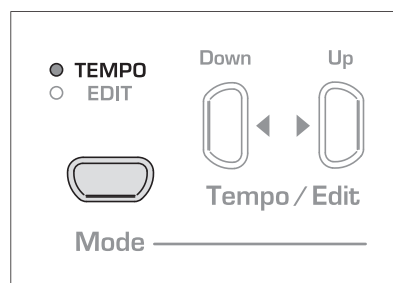
To use the metronome, please proceed as follows:

1. Press the CLICK button to start or stop the metronome.

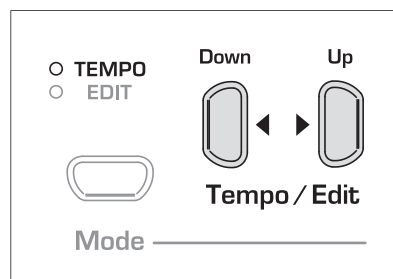


The metronome beats are shown by flashing dots on the display. At the beginning of a measure all dots light up simultaneously.

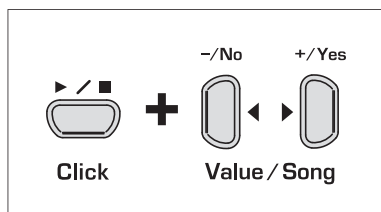
- 2) Keep pressing the MODE button in the TEMPO/EDIT MODE section until the TEMPO LED lights up.



- 3) Use the two Down/Up buttons to adjust a tempo of your choice.



- 4) Press and hold the CLICK button while adjusting the number of beats per measure using the -/NO and +/YES button in the VALUE/SONG section.



The display reads:

04: No stressed beats (default setting)

24, 34, 44, 54, 64, 74: Quarter meter (e. g. 2/4)

38, 68, 78, 98, 128: Eighth-note meter (e. g. 3/8)

5.4.1 Metronome volume

Use this function to adjust the metronome volume.

- ◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E5

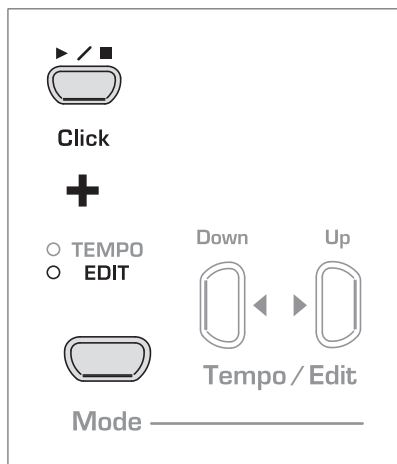
Value: 1 . . . 20

Description:

1 . . . 20: Metronome volume (1 = low, 20 = high)

Proceed as follows for direct access to the metronome volume menu page.

- 1) Press and hold the CLICK button, then hit the MODE button in the TEMPO/EDIT MODE section.



The EDIT MODE LED lights up and the EDIT page E5 is displayed.

5.5 Music sequencer

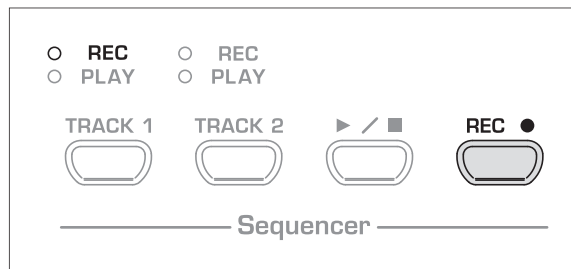
The EG2280USB/EG8280USB provides a built-in 2-track sequencer which allows you to record and play back a piece of music. For each of the two tracks you can select one or two sounds for recording. This means that the music sequencer can play back up to four sounds at the same time. While playing back a music piece you can also play on the keyboard to produce complex performances with up to six different sounds.

What is more, you can use the music sequencer for practicing. For example, you could record the left and right-hand parts of a piece separately on the two tracks. During playback, switch off one track (=hand) and play the muted part yourself. Thus, you can practice each part individually within its musical context.

5.5.1 Recording pieces of music

This section describes how to record music pieces with the built-in music sequencer.

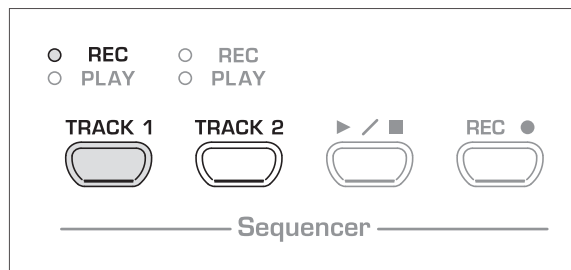
- 1) Press the REC button. The REC LED above the TRACK-1 or TRACK-2 button lights up. The dots in the display start flashing in the adjusted metronome tempo, thus indicating the beat. Now, the EG2280USB/EG8280USB is set to record mode.



- ◆ The memory of the music sequencer can store up to 10,000 notes. However, this number can decrease depending on how much pedaling information is stored.

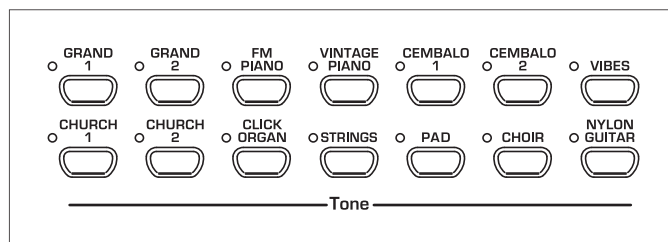
- ◆ You can quit record mode by pressing the REC button again.

- 2) If necessary, adjust the metronome tempo and meter as described in chapter 5.4.
- 3) Keep pressing the TRACK-1 button until the REC LED above the corresponding button lights up red. Now, track 1 is selected for recording. If you did a recording take before, the last track selected will be used for recording. Depending on which track is currently used, you will have to select the other track for recording.



- ◆ TIP: If the PLAY LED for one of the tracks lights up, this warns you that notes have already been recorded on this track. If you select this track again for recording (REC LED lights up red), the previous recording will be lost.

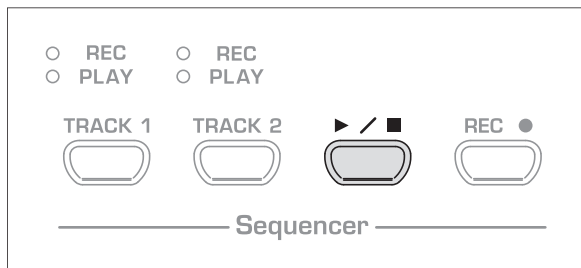
- 4) Select a sound in the TONE section. You can also use a sound combination (see chapter 4.1) for recording.



- Switch on the acoustic CLICK signal by pressing the CLICK button, if you want to make a metronome backed recording.

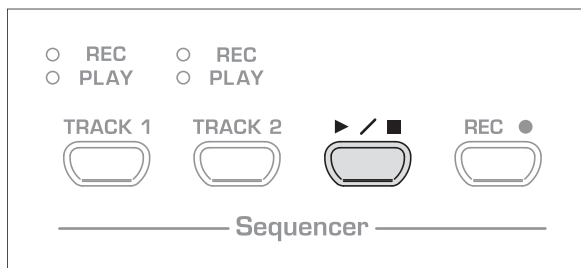


- Start recording by pressing the play/pause button or simply start playing on the keyboard. The current meter is counted in the display.



- If the display starts flashing during recording and reads the message *FULL*, this is to warn you that the recording memory has been used up. All data recorded up to this point will be stored, but the recording process will be terminated.

- Once your recording is finished stop the sequencer by pressing the play/pause button again.



- Recording mode will thus be canceled automatically.

- Repeat the whole procedure to record a second track. This time, however, select TRACK 2 instead of TRACK 1 in step #3.

- TIP:** If the right-hand part of a music piece you want to practice has been recorded on track 2 and the left-hand part on track 1 (for example, by your piano teacher), you can mute one of the two tracks during playback to practice the corresponding part.

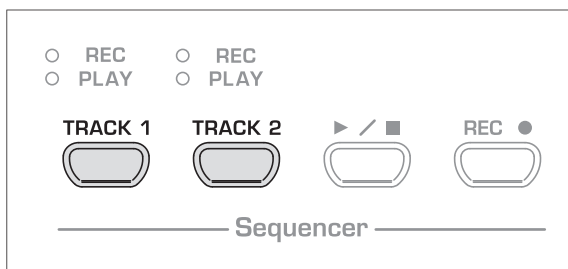
- TIP:** Press the CLICK button again to stop the metronome click.

5.5.2 Editing pieces of music

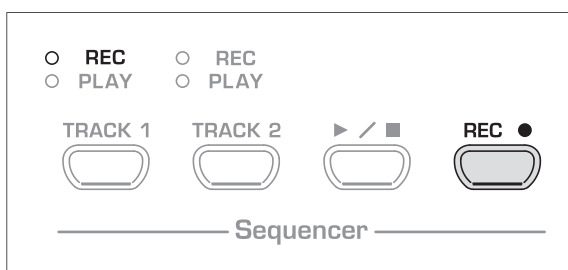
This section describes how to edit a recording by replacing a recorded track with a new recording. What is more, you can see how to record a track without playing back the second track, which can be useful when you record two different pieces of music.

- You must have recorded at least one track before you can carry out the steps described below.
- If you are not sure whether a track has been recorded or not, check this by pressing the TRACK 1 and TRACK 2 button, BEFORE you enter record mode. If one of the PLAY LEDs above the TRACK buttons light up, this shows you that something has been recorded on this track.

- If you do not want to hear the previously recorded track while you record the second one, press the TRACK button of the track until its green PLAY LED goes out. Do this BEFORE you enter record mode. If you want to hear the previously recorded track, continue with step #2.



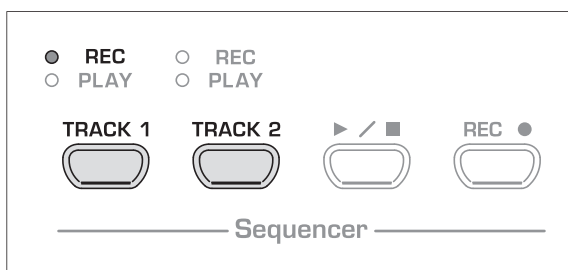
- Press the REC button. The REC LED above the TRACK 1 or TRACK 2 button lights up. The dots on the display start flashing in the metronome tempo that has been set, thus indicating the beat. Now, the EG2280USB/EG8280USB is set to record mode.



- The memory of the music sequencer can store up to 10,000 notes. However, this number can decrease depending on how much pedaling information is stored.

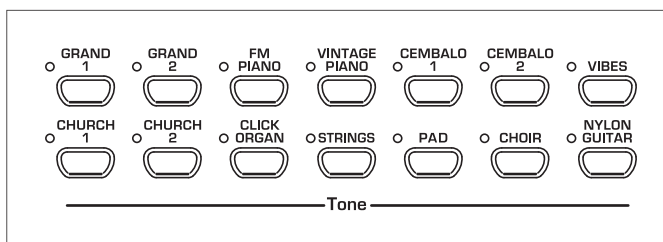
- You can quit record mode by pressing the REC button again.

- Press the TRACK button of the track you want to record until the REC LED above the button lights up red. Now the selected track is record-ready. If you did a recording take before, the last track selected will be used for recording. Depending on which track is currently used, you will have to select the other track for recording.



- Tip:** If you select a track for recording, which already contains note information, all previously recorded notes on this track will be erased!

- Select a sound in the TONE section. You can also use a sound combination (see chapter 4.1) for recording.

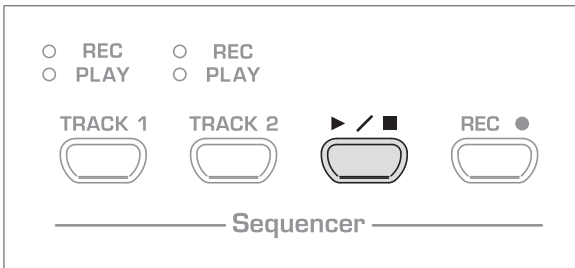


EN

- 5) Switch on the acoustic metronome signal by pressing the CLICK button, if you want to make a metronome-backed recording.

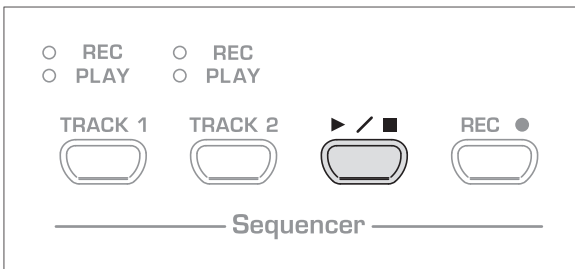


- 6) Start recording by pressing the ▶ / ▢ button or simply start playing on the keyboard. The current meter is constantly shown in the display.



- ◆ If the display starts flashing during recording and reads the message **FULL**, this is to warn you that the recording memory has been used up. All data recorded up to this point will be stored, however, but recording process will be terminated.

- 7) Once your recording is finished stop the sequencer by pressing the ▶ / ▢ button again.

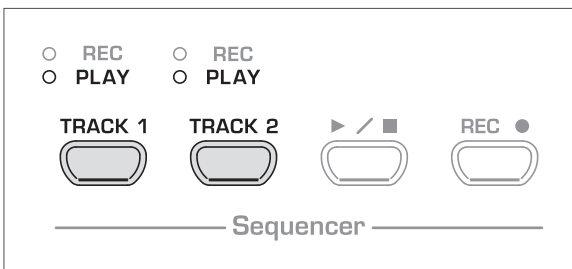


- ◆ Recording mode will thus be canceled automatically.

5.5.3 Playing back pieces of music

This section describes how to play back the music piece you have just recorded.

- 1) Press the TRACK 1 and TRACK 2 buttons until the green PLAY LED above the buttons lights up. This is to activate the tracks for playback.

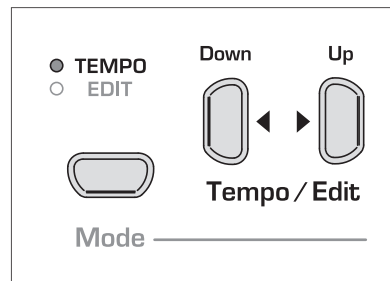


- ◆ You can only activate those tracks for playback which actually contain note information.

- 2) If you want to have a metronome-backed playback, press the CLICK button to switch on the metronome.

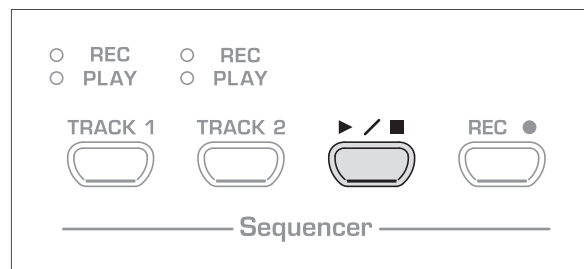


- 3) Press the MODE button in the TEMPO/EDIT MODE section until the TEMPO LED lights up, then use the two Down/Up buttons to adjust the playback tempo.



- ◆ You can play back a recording at its original tempo by pressing the two Down/Up buttons at the same time.

- 4) Press the ▶ / ▢ button to play back the recording. The current meter is constantly shown in the display.

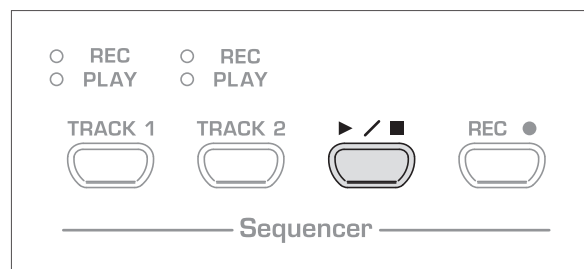


- ◆ During playback the two tracks can be switched on/off at any time.

- ◆ You can accompany the music sequencer playback with the currently selected sound.

- ◆ TIP: If the right-hand part has been recorded on track 2 and the left-hand part on track 1, you can switch off either of the tracks and practice its part live during playback. The volume of the muted track is adjustable. If necessary you can play it back in the background at low volume for support (see chapter 5.5.5).

- 5) To stop the playback, press the ▶ / ▢ button

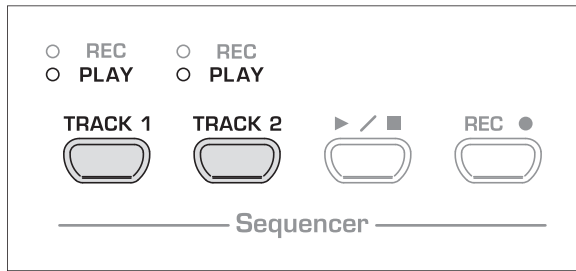


5.5.4 Repeating musical passages for practicing

The following section describes how to play back a specific passage of a recorded music piece repeatedly. This function is ideal for practicing a specific difficult passage recorded by your piano teacher.

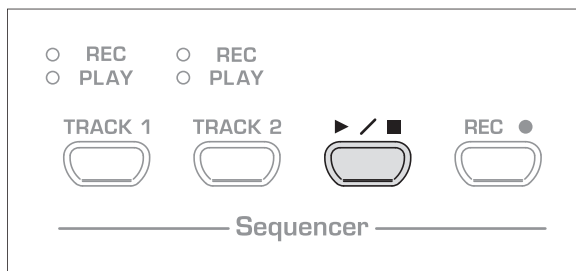
♦ To make the best use of this function, the left and righthand parts should be recorded separately on tracks 1 and 2. In this case, you can play back one part only with the music sequencer, while you practice the other part.

- 1) Select the track to be played back, so that the PLAY LED above the corresponding TRACK button lights up.

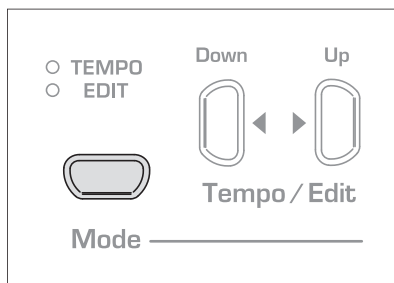


♦ The volume of a muted track is adjustable (see chapter 5.5.5).

- 2) Press the ▶ / / ■ button to play back the selected track.



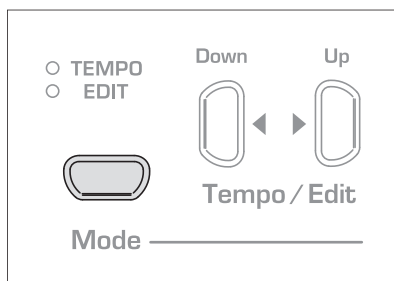
- 3) Press the MODE button in the TEMPO/EDIT MODE section when the playback has reached the point from which you want to start repeating a passage.



The display reads:

⌘-: Starting point of the loop is set.

- 4) Press the MODE button again when the playback reaches the point where you want to end the repetition of a passage.

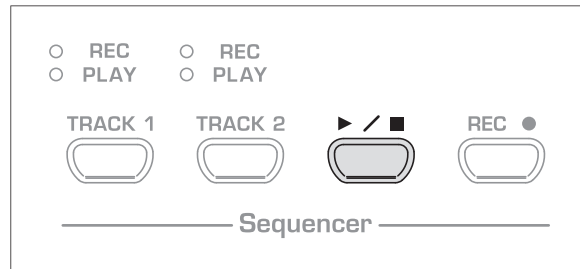


The display reads:

⌘-b: Ending point of the loop is set.

The musical passage is now repeated continuously, so that you can practice it to perfection.

- 5) When you want to stop practicing, press the ▶ / / ■ button again to stop the playback.



♦ Press the MODE button again to quit repetition mode.

♦ The passage marked as a loop for repetition is automatically erased when you quit music sequencer mode.

5.5.5 Setting the volume of muted tracks

- 1) This function allows you to set the volume of muted tracks.

♦ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: **EE**

Value: **0 . . . 20**

Description:

1 . . . 20: Volume of muted track

0: Muted tracks are not audible

5.5.6 Editing the music sequencer settings

The following paragraphs explain how to edit the playback settings of recordings made with the music sequencer.

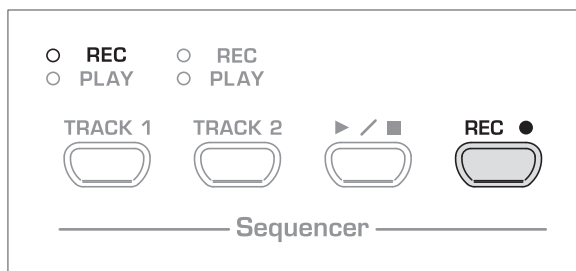
The following settings can be edited separately for each of the two tracks:

- Sound (see chapter 2.4)
- Room effect intensity (see chapter 4.2.2)
- Modulation effect intensity (see chapter 4.2.3)
- Layered sounds (see chapters 4.1 and 5.3)

The following global settings can be made for the whole music piece:

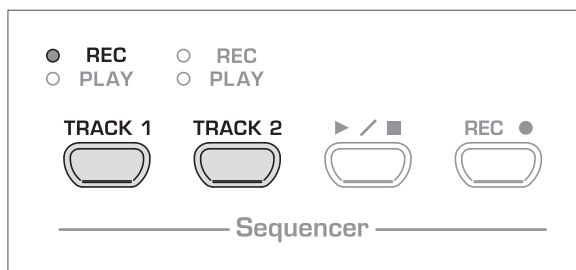
- Tempo (see chapter 5.4)
- Meter (see chapter 5.4)
- Type of room effect (see chapter 4.2.2)
- Type of modulation effect (see chapter 4.2.3)

- 1) Press the REC button in the SEQUENCER section to enter record mode. The REC LED above the TRACK 1 or TRACK 2 buttons lights up and the dots in the display start flashing in the rhythm of the selected metronome tempo, thus indicating the beat.

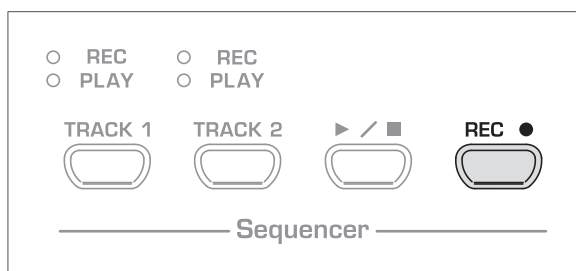


- ⚠ Be sure not to press the ► / ■ button during the following steps. Otherwise, a new recording would be made on the selected track erasing all the data recorded before.

- 2) Use the TRACK button to select the track whose settings you wish to edit. If you want to edit global settings (e.g. tempo, measure, etc.) you can select either one of the two tracks.



- 3) Edit the settings as described in the chapters mentioned above.
- 4) If necessary, repeat step 2 for the second track.
- 5) Press the REC button to quit record mode.

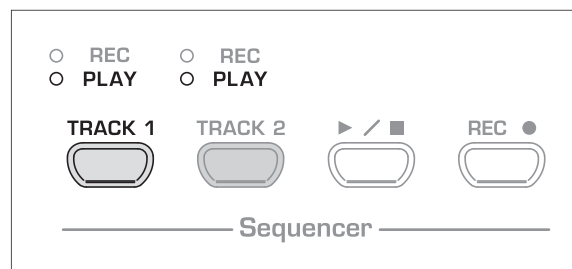


The changes made have now been stored in the music sequencer. When you play back the music piece, the new settings will be effective. All previous settings are deleted.

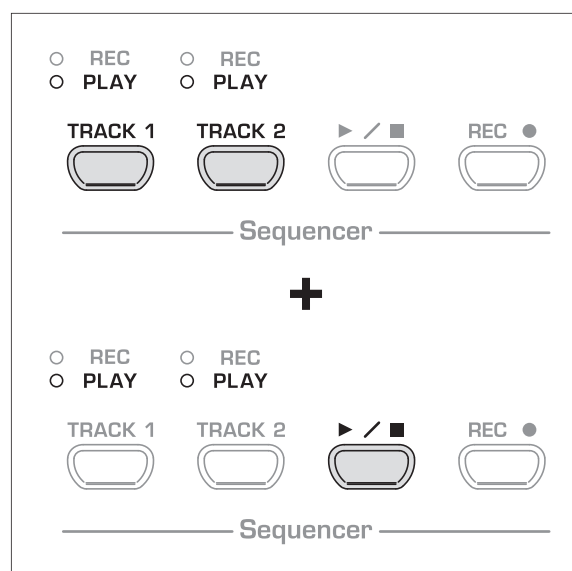
5.5.7 Sync start

You can set the music sequencer playback-ready, so that it will start playback as soon as you play a key on the keyboard. This function can be very helpful when the music sequencer is used as an "accompanist". The function is also available in DEMO mode.

- 1) Make sure that the playback tracks are active (PLAY LED above the corresponding TRACK button lights up green). If necessary, activate the tracks by pressing their TRACK buttons in the SEQUENCER section.



- 2) Press and hold one of the active TRACK buttons, then press the ► / ■ button in the SEQUENCER section.



A dot in the lower right-hand corner of the display starts flashing in the tempo of the metronome, thus signaling that the instrument is set to sync start mode. The sequencer starts playback as soon as you play a key on the keyboard.

- ⚠ If you want to quit sync start mode, simply repeat step 2.

5.5.8 Start the music sequencer with foot pedal

This function allows you to reprogram the left soft pedal, so that it can be used to start/stop the music sequencer. This is useful when you are playing a music piece live and want to start a sequencer accompaniment at a later point during the piece. When the pedal has been set accordingly, you can also use it to start/stop playback in DEMO mode.

- ⚠ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E4.1

Value: 1, 2

Description:

- 1: Soft pedal function (default setting)
- 2: Music sequencer ► / ■

5.6 System settings

The EG2280USB/EG8280USB provides several setting options to control the global functions of the instrument. Please read below which options are available and how you can edit their settings.

5.6.1 Key velocity

This parameter determines the volume of the sounds with reference to the key velocity applied, i.e. you can set here how hard you have to strike a key to achieve maximum volume.

The following section describes how to change the key velocity.

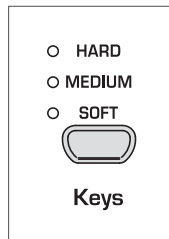
1) Press the KEYS button to select one of the following settings:

HARD: The keys must be played very hard to achieve maximum volume.

MEDIUM: The keys must be played with medium velocity to achieve maximum volume (default setting).

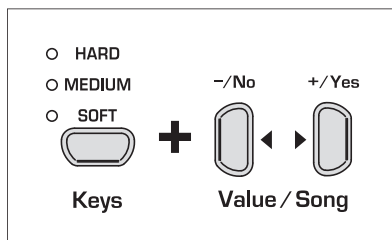
SOFT: The keys must be played only lightly to achieve maximum volume.

OFF: If none of the LEDs lights up, each key stroke will produce a defined volume, irrespective of how hard you play the keys.



An LED above the button lights up to show the current setting. If all LEDs are out, key velocity is switched off. In this case you can adjust a fixed volume level as follows:

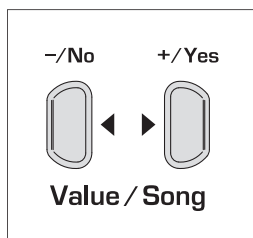
2) Press and hold the KEYS button, then use the -/NO and +/YES buttons to set the volume level to be produced when you play a key on the keyboard, irrespective of the key velocity applied.



The display reads:

1 . . . 127: Fixed volume level produced when you play a key on the keyboard (default setting: 64)

3) Keep the KEYS button pressed, then press the -/NO and +/YES buttons simultaneously to recall the standard setting.



◆ The key velocity setting has no effect on the following sounds: CEMBALO 1 and 2, CHURCH 1 and 2, and CLICK ORGAN.

◆ TIP: young pianists might find it easier to use a SOFT key velocity setting.

5.6.2 Soft pedal intensity

Use this function to adjust the intensity of the soft pedal effect.

◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E 4.2

Value: 1 . . . 5

Description:

3: Normal soft pedal intensity (default setting)

1: Low soft pedal intensity

5: High soft pedal intensity

◆ The function will be effective only if the left pedal is used as a soft pedal, but NOT to start/stop the music sequencer (see chapter 5.5.8).

5.6.3 Fine tuning

The EG2280USB/EG8280USB can be detuned slightly to adapt it to other instruments or tunings. The setting made here affects the pitch of all keys.

The following section describes how to adjust the fine tuning of the EG2280USB/EG8280USB. The tuning shown in the display is referenced to the EG2280USB/EG8280USB pitch "A" in Hertz (Hz).

◆ Please enter EDIT mode (see chapter 5.1) and select the following function.

Function: E 1

Value: 427 . . . 453

Description:

440: Western European equal tuning (default setting)

453: Maximum detuning upwards

427: Maximum detuning downwards

1/5-Hz steps are shown as follows (figures separated by one or two dots):

440: 440 Hz

440: 440,2 Hz

440: 440,4 Hz

440: 440,6 Hz

440: 440,8 Hz

5.6.4 Tunings

The EG2280USB/EG8280USB provides different tunings developed during the past few centuries. The tuning used most often today is called equal tuning and has been a characteristic element of the music composed from the 19th century up to the present. However, for some baroque pieces (e.g. by J. S. Bach) it can be interesting to use an older tuning system.

In the history of music, the development of the individual tunings can be traced back to the development of scales and polyphony and the resulting adaptation of instruments and their tuning. Apart from these historical reasons, the limited tuning aids available in former times played an important role for the practical implementation of tunings.

The EG2280USB/EG8280USB provides the following tunings:

- **Equal tuning (default setting)**

Equal tuning divides one octave into twelve intervals of equal size or spacing. Thus, each half-tone is detuned slightly to the same extent, with the octave being the only perfect interval. This has been the most common tuning since the 19th century, as it makes it possible to play all twelve major/minor keys.

- **Pure major/minor intonation**

This tuning is based on the perfect tuning of the seven notes of one scale (e.g. C major). Triads played one fifth above or below are also perfect, since they use the notes of the basic key. However, all other keys are not playable, since their frequency relationships change depending on the basic note.

This tuning can only be used for music that strictly follows a classical cadence comprising tonic, dominant and subdominant.

- **Pythagorean tuning**

The Pythagorean tuning is based on perfect fifths. As a consequence, all thirds are impure.

This tuning was used for early music up to the late Middle Ages. The homophonic or two-part polyphonic music of the time did not use any thirds, but only perfect unison, fourth, fifth and octave intervals.

- **Meantone tuning**

Meantone tuning resulted from the change in the perception of dissonant intervals during the Renaissance period and from the beginnings of chromaticism and polyphony. Polyphony made the third the most important interval in music. Therefore, meantone tuning is based on perfect thirds rather than perfect fifths to tune the twelve notes of a scale. However, this also means that some scales are unplayable.

Today, the meantone tuning can still be used for works from the early 16th and 17th centuries (e.g. G. F. Handel).

- **Werckmeister/Kirnberger tuning**

The Werkmeister and Kirnberger tunings result from first attempts to realize a well-tempered tuning which – unlike the Pythagorean and meantone tunings – allows for playing in all twelve keys. The advantages of the Pythagorean and meantone tunings, i.e. the slight detuning of some fifth intervals, have also been included in the Werkmeister/Kirnberger tunings.

Both tunings are interesting to use for works from the baroque period (e.g. J. S. Bach). Werkmeister is a popular tuning for organ works.

The following section describes how to change the tuning of the EG2280USB/EG8280USB.

◆ **Please enter EDIT mode (see chapter 5.1) and select the following function.**

Function: *E2.1*

Value: *1 . . . 7*

Description:

<i>1</i> :	Equal tuning (default setting)
<i>2</i> :	Pure major tuning
<i>3</i> :	Pure minor tuning
<i>4</i> :	Pythagorean tuning
<i>5</i> :	Meantone tuning
<i>6</i> :	Werckmeister tuning
<i>7</i> :	Kirnberger tuning

With the exception of equal tuning, all tunings must be marked by a basic note.

Here's how to set the basic note:

Function: *E2.2*

Value: *c . . . b*

Description:

Altered notes are marked by dashes above or below the note name. A dash above the note name raises a note, a dash below the note lowers it.

The display shows:

c -: c sharp (C[♯])

E -: e flat (E_b)

5.6.5 Saving parameter settings

The EG2280USB/EG8280USB allows you to save the changes made to the instrument's settings, so that they won't get lost when the unit is powered down. When the save function is not active, all changes made to the settings – except for the music sequencer data – will be lost when you switch the piano off. When switched back on, the EG2280USB/EG8280USB recalls the factory default settings.

The save function can be activated separately for the following groups of functions: sounds, MIDI, tuning and damper pedal.

◆ **Please enter EDIT mode (see chapter 5.1) and select the following function.**

- **Sounds**

You can save the following settings for this group of functions:

- **Sounds** (see chapter 2.4)
- **Layer mode settings** (see chapters 4.1 and 5.3)
- **Type of room effect and intensity** (see chapter 4.2.2)
- **Type of modulation effect and intensity** (see chapter 4.2.3)
- **Key velocity** (see chapter 5.6.1)
- **Metronome meter and tempo** (see chapter 5.4)
- **Dimmed volume** (see chapter 5.5.5)

Function: *EB.1*

Value: *00, 0FF*

Description:

0FF: Save function for sounds is disabled (default setting)

00: Save function for sounds is enabled

- **MIDI**

You can save the following settings for this group of functions:

- **All MIDI settings** (see chapter 6.3.3)

Function: *EB.2*

Value: *00, 0FF*

Description:

0FF: Save function for MIDI settings is disabled (default setting)

00: Save function for MIDI settings is enabled

• Tuning

You can save the following settings for this group of functions:

- Transposition (see chapter 5.2)
- Fine tuning (see chapter 5.6.3)
- Tuning (see chapter 5.6.4)

Function: EB.3

Value: on, off

Description:

off: Save function for tuning settings is disabled (default setting)

on: Save function for tuning settings is enabled

• Soft pedal

You can save the following settings for this group of functions:

- Soft pedal function (see chapter 5.5.8)
- Soft pedal intensity (see chapter 5.6.2)

Function: EB.4

Value: on, off

Description:

off: Save function for soft pedal settings is disabled (default setting)

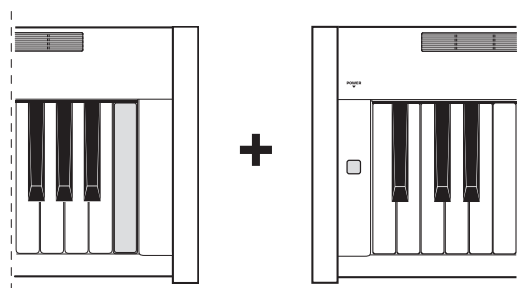
on: Save function for soft pedal settings is enabled

5.6.6 Restoring the factory default settings

Use the following procedure to recall the factory default settings.

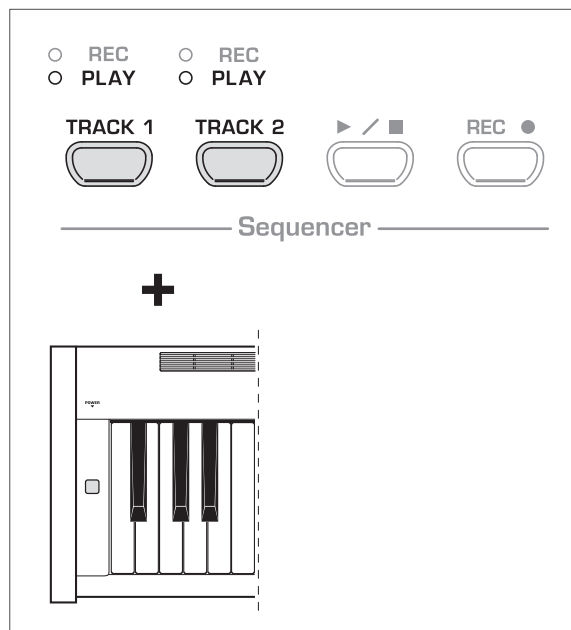
♦ **Tip: All saved parameters as well as the music sequencer data will be lost during either one of the following procedures.**

- 1) Use the POWER switch to switch the instrument off (if not already done).
- 2) Play and hold down the top C key on the keyboard, then switch the EG2280USB/EG8280USB back on.



An alternative procedure is described below:

- 1) Use the POWER switch to switch the instrument off (if not already done).
- 2) Press and hold down the TRACK 1 and TRACK 2 buttons, then switch the EG2280USB/EG8280USB back on.



- 3) Let go of the TRACK buttons after about 5 seconds.

6. Connection to External Equipment

The EG2280USB/EG8280USB provides a variety of connectors for connecting the instrument to external devices.



Caution

- ♦ Be sure that all devices are switched off before you make any connection.
- ♦ NEVER connect the LINE IN connectors of the EG2280USB/EG8280USB to its LINE OUT connectors. This will cause a feedback loop producing high volume levels which could damage both the instrument and your hearing!

6.1 Connecting external sound sources

The EG2280USB/EG8280USB is equipped with a stereo LINE IN connector for connecting external sound sources to your digital piano. These signals are reproduced through the internal loudspeakers and connected headphones. If you wish to practice with musical accompaniment, you can use this input to connect a CD player or drum computer. In the same way, you could connect an external synthesizer or sound module and use its sound generator with your instrument. An additional MIDI connection enables you to play an external sound generator from the keyboard of the EG2280USB/EG8280USB (see chapter 6.3.1). The keyboard also has a MIC input for the connection of dynamic or condenser microphones, and an AUX IN jack for sound sources that use 1/8" plugs.

6.1.1 LINE IN jacks

The LINE IN jacks can be used to connect external sound sources such as CD players, DVD players, or external sound modules that are being controlled by the EG2280USB/EG8280USB's MIDI function (see fig. 6.3). The following diagram shows a wiring example comprising the EG2280USB/EG8280USB and a CD player. You need one or two cables fitted with RCA plugs (see chapter 9.1.3). As an alternative, you can also use a 1/4" cable with an appropriate adapter plug.

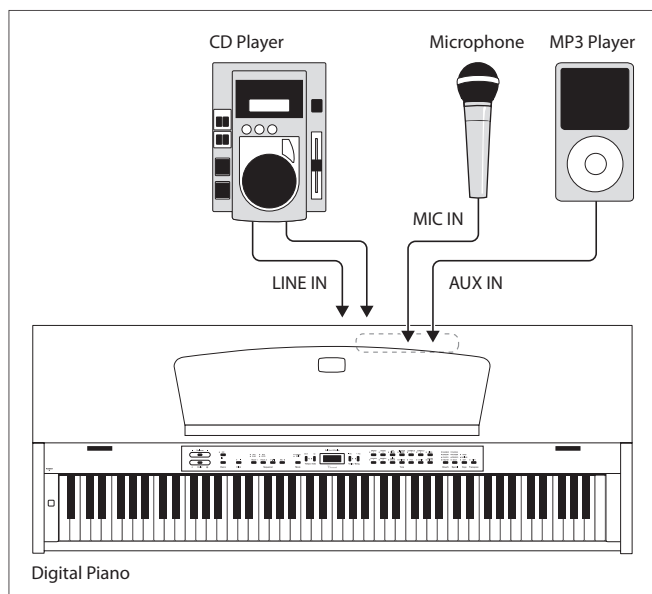


Fig. 6.1: Connecting external signal sources

- 1) Connect the outputs of the CD player to the LINE IN jacks of the EG2280USB/EG8280USB.

6.1.2 AUX IN jack

This 1/8" jack is ideal for the connection of MP3 players, portable CD players, MD players, etc. Most applications will require a 1/8" TRS cable, but adaptors may also be used.

6.1.3 MIC IN jack

Connect a microphone to the MIC IN jack using a standard XLR cable. You may use dynamic (handheld) or condenser microphones. The jack always supplies 15 V of phantom power to enable the use of most condenser mics.

Adjust the input signal of the microphone with the GAIN knob. If your voice begins to distort, turn the GAIN knob down.

NOTE: The internal effects do not affect the microphone input.

6.2 Connection to amplifiers and recording equipment

The EG2280USB/EG8280USB is equipped with LINE OUT connectors for connecting the digital piano to external keyboard amplifiers, P.A. systems or home stereo systems. For performances in larger rooms (e.g. stages, hall) it can be necessary to use external amplifiers.

You can also use the outputs to connect recording equipment (e.g. computer, cassette recorder, MD recorder). Unlike the built-in music sequencer, recording on external audio equipment gives you the advantage that you can play back your music completely independently of the EG2280USB/EG8280USB. For example, you can give your friends a recorded CD or MP3 or archive music pieces on any recording medium.

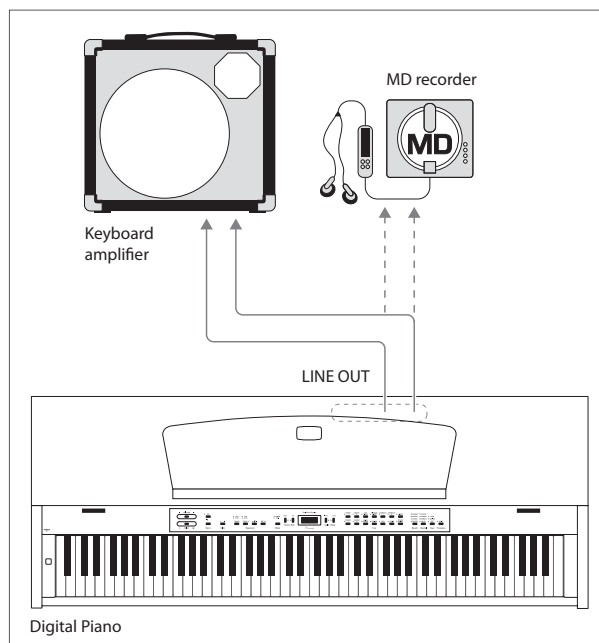


Fig. 6.2: Connecting amplifiers and recording equipment

- 1) Connect the LINE OUT jacks to the inputs of an external amplifier or recording device.



Caution

- ◆ Be sure to switch the EG2280USB/EG8280USB on BEFORE you switch on the external amplifier, so as to avoid switch-on thumps being amplified. Such signals could damage the amplifier and the loudspeakers. Switch off the equipment in reverse order.

6.3 MIDI functions

MIDI is an interface and protocol for transmitting of playing data to other MIDI equipment. The most important playing data are pitch and length of notes, key velocity and channel volume, program changes and various controller data generated, for example, by controllers such as the pedals.

The MIDI interface does not transmit electrical audio signals but control data only. The MIDI protocol provides for the transmission of data on 16 independent channels. Playing data are always channel-specific data.

The EG2280USB/EG8280USB is equipped with three MIDI jacks for connecting additional MIDI sound modules or software/hardware sequencers:

- Use the MIDI OUT to connect additional synthesizers or a music computer receiving MIDI data from the EG2280USB/EG8280USB.
- Use the MIDI IN to send playing data from other MIDI controller keyboards or a music computer to the sound generator of the EG2280USB/EG8280USB.
- The MIDI THRU jacks passes on the MIDI data received via the MIDI IN jack without modification. In combination with a music computer you can thus integrate another keyboard or sound module into the MIDI chain comprising EG2280USB/EG8280USB and music computer.

6.3.1 MIDI connection to other sound modules

You can use the EG2280USB/EG8280USB to control external sound modules via MIDI. This allows you to use the keyboard and pedals of the digital piano to control the sound generators of other synthesizers or sound modules not equipped with a keyboard. When you also connect the audio signal of the external sound module to the EG2280USB/EG8280USB, as described in chapter 6.1, all sounds played in addition to the sounds of the EG2280USB/EG8280USB can be heard through the internal loudspeakers.

The following illustration shows a set-up comprising the EG2280USB/EG8280USB and an external sound module.

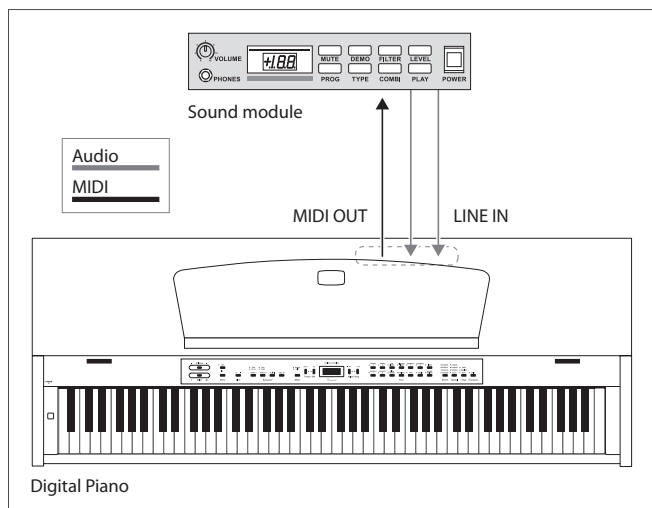


Fig. 6.3: Controlling external MIDI sound modules

- 1) Connect the MIDI OUT jack of the EG2280USB/EG8280USB to the MIDI IN jack of the external sound module.
- 2) Be sure to set the MIDI transmit/receive channels of both instruments to the same number (see chapter 6.3.3).
- 3) Connect the audio outputs of the sound module to the LINE IN jacks of the EG2280USB/EG8280USB, if you want to play back the sounds of the external device through the digital piano loudspeakers.

6.3.2 USB connection to a computer with sequencing software

You can operate the EG2280USB/EG8280USB in combination with a sequencing program such as "Cubase", "Logic" or the included "energyXT2.5 Compact BEHRINGER Edition." Sequencing software gives you a wealth of powerful functions to record and process MIDI data. For example, you can record several tracks to create complex music pieces. Additional options are the production of sheet music or playback of music pieces. What is more, you can transfer the data of the built-in music sequencer to your computer for permanent archiving.

The following illustration shows a set-up comprising the EG2280USB/EG8280USB and a music computer. The connection of an external sound module is optional.

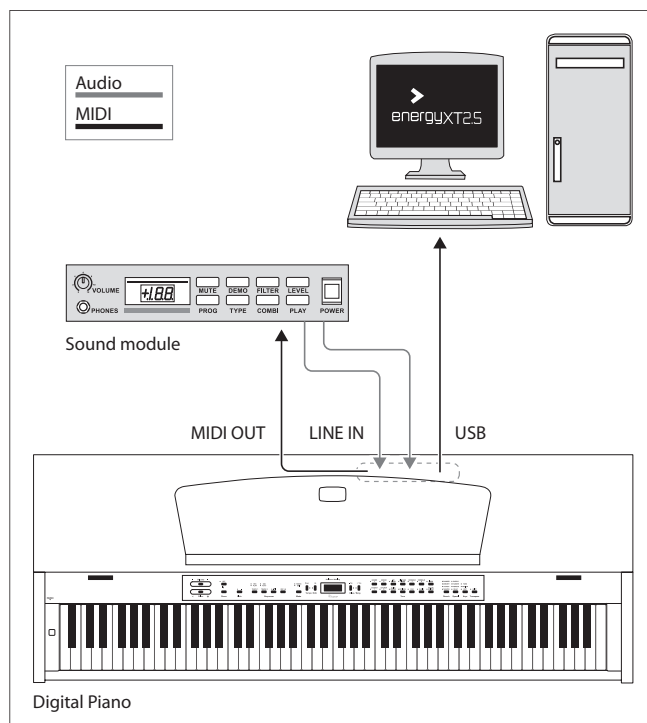


Fig. 6.4: USB connection with an external sound module.

- 1) Connect the piano's USB jack to a free USB port on your computer.
- 2) Connect the MIDI IN jack of the sound module to the MIDI OUT jack of the EG2280USB/EG8280USB.
- 3) Connect the audio outputs of the sound module to the LINE IN jacks of the EG2280USB/EG8280USB if you want to play back the sounds of the external device through the digital piano loudspeakers.

6.3.3 MIDI settings

The EG2280USB/EG8280USB provides eight different functions to determine how the instrument processes MIDI information.

◆ Please enter EDIT mode (see chapter 5.1) and select the following functions.

• Setting the MIDI transmit channel

Use this function to set the transmit channel on which the EG2280USB/EG8280USB is to send MIDI data. MIDI devices must send and receive on the same MIDI channels to ensure successful MIDI communication.

Function: E 7. 1

Value: 1 ... 16, OFF

Description:

1 ... 16: The EG2280USB/EG8280USB transmits MIDI data on the specified MIDI channel. (Default setting: 1)

OFF: The EG2280USB/EG8280USB transmits no MIDI data

◆ In layer mode voice #1 transmits MIDI data on the specified MIDI channel, while voice #2 transmits on the next higher channel.

- ◆ Demo song and music sequencer data are not transmitted via the MIDI output. However, you can transmit a music piece recorded with the built-in music sequencer using the MIDI dump feature (see "Sending music sequencer data" below).

- **Setting the MIDI receive channel**

Use this function to set the receive channel on which the EG2280USB/EG8280USB is to receive MIDI data. MIDI devices must transmit and receive on the same MIDI channels to ensure successful MIDI communication. Select the default setting *RLL* for proper operation in combination with a music computer.

Function: E 7.2

Value: *RLL, 1-2, 1 ... 16*

Description:

RLL: Simultaneous multi-timbral reception of MIDI data on all 16 MIDI channels. Also known as "Omni" mode. (Default setting)

1-2: Reception of MIDI data on channels 1 and 2

1 ... 16: Reception of MIDI data on the specified MIDI channel

- ◆ The multi-timbral reception of MIDI data allows you to use the EG2280USB/EG8280USB in combination with a sequencing program as a sound generator for multi-track recordings (see chapter 6.3.2).

- **Enable/disable sound generator (Local on/off)**

This function allows you to determine whether the built-in sound generator directly plays the notes you play on the keyboard or whether it only responds to MIDI note information received via the MIDI IN jack. The latter setting is quite useful, for example, in sequencer mode. A closed MIDI chain may cause the EG2280USB/EG8280USB to play the same sound twice, before and after it is sent to an external device.

When the EG2280USB/EG8280USB is set to Local Off, the MIDI data is only sent to the sequencer. The notes are played only once when the MIDI signals come back from the sequencer.

Function: E 7.3

Value: *on, off*

Description:

on: Sound generator responds to keyboard and MIDI notes (default setting)

off: Sound generator does not respond to the keyboard but to MIDI notes only

- **Accept/ignore program changes**

Use this function to determine how the EG2280USB/EG8280USB responds to MIDI program change commands. These commands are used, for example, to select sounds of the EG2280USB/EG8280USB using MIDI commands sent from a sequencing program. Conversely, program change commands can be sent via the MIDI output of the EG2280USB/EG8280USB whenever you select a sound in the TONE section (see chapter 9.2).

Function: E 7.4

Value: *on, off*

Description:

on: Program change commands are sent and received (default setting)

off: Program change commands are neither sent nor received

- **Accept/ignore MIDI controller information**

Use this function to determine how the EG2280USB/EG8280USB responds to MIDI controller data. MIDI uses a variety of controller information to control sound changes (e.g. pedal status, volume, effect intensity).

Function: E 7.5

Value: *on, off*

Description:

on: Controller data are sent and received (default setting)

off: Controller data are neither sent nor received

- ◆ The EG2280USB/EG8280USB only responds to the commands listed in the MIDI implementation chart if controller data are enabled (see chapter 9.4).

- **MIDI transposition**

This function determines whether outgoing MIDI data are transposed independently of the built-in sound generator. This can be useful to play the sounds of an external sound module whose sound generator is controlled from the keyboard of the EG2280USB/EG8280USB in a different pitch than the internal sounds of the EG2280USB/EG8280USB.

Function: E 7.6

Value: *-12 ... 12*

Description:

0: No transposition of the pitch at the MIDI output (default setting)

1 ... 12: Pitch is transposed up by the number of halftones selected

-1 ... -12: Pitch is transposed down by the number of halftones selected

- ◆ This setting has no effect on the sound generator of the EG2280USB/EG8280USB.

- **Send control panel settings (snapshot)**

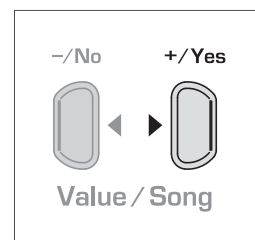
Use this function to transmit the current settings of the EG2280USB/EG8280USB (e.g. sounds and effects, channel volume) via the MIDI output. This type of transmission only includes system-exclusive data packages (MIDI dump).

Function: E 7.7

Value: -

Description:

- 1) Connect the EG2280USB/EG8280USB to a computer or hardware sequencer as described in chapter 6.3.2.
- 2) Set the MIDI sequencer to reception-ready mode.
- 3) Select the function E 7.7 in EDIT mode.
- 4) Press the +/-YES button to execute the transmission.



When the transmission is complete, the display shows *End*.

- ◆ You can send the data back to the EG2280USB/EG8280USB at a later date. To do this, use the MIDI IN jack to connect the EG2280USB/EG8280USB to the device that received the data before. As soon as you start the transmission from the MIDI sequencer, the EG2280USB/EG8280USB will automatically receive the data. Make sure that neither DEMO, EDIT or music sequencer mode is active!

• Sending music sequencer data

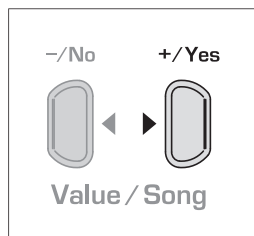
Use this function to send music sequencer data via the MIDI output of the EG2280USB/EG8280USB. This allows you to archive recorded music pieces on your music computer or hardware MIDI sequencer. This type of transmission is only for system-exclusive data packages (MIDI dump), but not for MIDI playing data.

Function: E 7.B

Value: -

Description:

- 1) Connect the EG2280USB/EG8280USB to a computer or hardware sequencer as described in chapter 6.3.2.
- 2) Set the MIDI sequencer to reception-ready mode.
- 3) Select the function E 7.B in EDIT mode.
- 4) Press the +/YES button to execute the transmission.



When the transmission is complete, the display shows *End*.

- ◆ You can send the data back to the EG2280USB/EG8280USB at a later date. To do this, use the MIDI IN jack to connect the EG2280USB/EG8280USB to the device that received the data before. As soon as you start the transmission from the MIDI sequencer, the EG2280USB/EG8280USB will automatically receive the data. Make sure that neither DEMO, EDIT or music sequencer mode is active!

6.4 USB connection

The EG2280USB/EG8280USB features a built-in USB audio/MIDI interface to open up a world of computer software compatibility. The audio portion allows you to record your performances using studio software such as the included energyXT2.5 Compact BEHRINGER Edition, as well as play back audio from your computer through the keyboard's speakers. You can also send MIDI data to a sequencer software program on your computer to trigger synth tones, drum beats, transport functions, etc. The USB connection can also receive MIDI data from the computer, allowing your sequencer software to utilize the EG2280USB/EG8280USB's sound generator and speakers.

6.4.1 Audio routing

The USB audio output of the EG2280USB/EG8280USB includes the tones generated by the keys and internal sound generator, as well as the signals connected to the LINE IN, AUX IN and MIC IN jacks. However, the VOLUME control and SPEAKERS OFF button do not affect this signal.

The USB audio input returning from the computer is not affected by the EG2280USB/EG8280USB's sound generator or effects engine, and goes directly to the LINE OUT jacks, PHONES jacks and internal speakers. The VOLUME control and SPEAKERS OFF button only affect the PHONES and speakers.

6.4.2 USB audio and MIDI settings

When you connect the EG2280USB/EG8280USB to your computer for the first time, you will likely need to perform certain setup procedures in your software to ensure proper audio and MIDI interface. Once the USB cable is connected, the computer will recognize two different USB devices: Audio and MIDI. This example will use the included energyXT2.5 Compact BEHRINGER Edition software, but most recording and sequencing programs use a similar procedure.

NOTE: PC users are encouraged to install the ASIO driver for low-latency USB connection. The driver is included on the DVD. Mac computers do not require any additional drivers to achieve low-latency operation.

Follow these steps to connect the EG2280USB/EG8280USB to your computer.

1. Connect the included USB cable to the EG2280USB/EG8280USB and to a free USB port on your computer.
2. Your computer should automatically recognize the USB audio and MIDI connection. If so, you may continue to the software setup. If not, you must manually select the audio and MIDI connections.
3. If using a PC, click on the Start menu and select Control Panel.
4. When the new window opens, select Sounds and Audio Devices.
5. In the next window, click the Audio tab.
6. Select USB AUDIO DEVICE in the Sound playback, Sound recording and MIDI music playback menus. Your computer is now set to send and receive audio and MIDI signals from the EG2280USB/EG8280USB.

Follow these steps to set up the audio connection in your music software.

1. Open energyXT2.5 Compact BEHRINGER Edition.
2. Click the 'File' tab and select 'Setup.'
3. A window will pop up with several options. Click the 'Audio' tab.
4. Select 'ASIO' in the 'Device' pull down menu. In the next menu, select the 'BEHRINGER USB Audio' driver.
5. In the 'Sample Rate' menu, we recommend selecting '44100.'
6. In the 'Record' menu, select '16-bit.'
7. In the 'Audio inputs' menu, select 'USB AUDIO DEVICE.'
8. In the 'Audio outputs' menu, select 'USB AUDIO DEVICE.'

Follow these steps to set up the MIDI connection for the EG2280USB/EG8280USB.

1. Repeat steps 1 and 2 above.
2. Once the Setup window appears, click the 'MIDI' tab.
3. For both MIDI inputs and MIDI outputs, select 'USB AUDIO DEVICE.'

NOTE: When USB MIDI is connected to the EG2280USB/EG8280USB, it overrides the MIDI IN and THRU jacks. Only the MIDI OUT jack can be used in conjunction with USB MIDI.

7. Troubleshooting

Problem	Remedy
The instrument cannot be switched on	<ul style="list-style-type: none"> Check the connection between mains plug and wall outlet (see chapter 2.1).
No sound	<ul style="list-style-type: none"> Check the position of the VOLUME control (see chapter 2.2). Check the SPEAKER OFF button status (see chapter 4.4). Check that the sound generator is switched on (see chapter 6.3.3).
The foot pedals do not work properly	<ul style="list-style-type: none"> Check that the pedal cable is properly connected to the PEDAL jack on the underside of the piano (see chapter 3.3).
The left foot pedal has no effect	<ul style="list-style-type: none"> Check in EDIT menu $E4$ that the soft pedal function is enabled (see chapter 5.4.8).
Audio signal is distorted	<ul style="list-style-type: none"> Cut back the volume using the VOLUME control.
Sound is too low/high	<ul style="list-style-type: none"> Check whether the LED above the TRANSPOSE switch is lit. If so, transposition is active. Press the button to switch it off.
Effect is not audible	<ul style="list-style-type: none"> Perhaps no effect has been selected or its intensity is too low. Check that the REVERB and SPECIAL LEDs are lit and select an appropriate effect intensity (see chapters 4.2.2).
Music sequencer/DEMO mode cannot be selected	<ul style="list-style-type: none"> DEMO mode must not be active when you switch to music sequencer mode. Conversely, the music sequencer must be off before you can switch to DEMO mode.
The music recorded with the music sequencer has been lost	<ul style="list-style-type: none"> When you re-record a track, this will automatically erase the previously recorded data on this track.
Music sequencer playback cannot be started	<ul style="list-style-type: none"> Playback can only be started when the memory of the music sequencer contains data. Perhaps no data has been recorded. Perhaps no tracks have been activated for playback. Proceed as described in chapter 5.4.3.
The music sequencer has not stored the entire recording	<ul style="list-style-type: none"> The music sequencer is limited in its capacity (approx. 10,000 notes). When the memory is full, all further data will be lost. Play only as many notes as the sequencer can store before the display starts flashing, thus signaling that the memory is full.
The display shows FULL	<ul style="list-style-type: none"> The memory of the music sequencer is full. If you do not want to erase/re-record your recording, be sure to save the recorded song via MIDI to a music computer (see chapters 6.3.2 and 6.3.3) before you start a new recording.
The music piece recorded on the music sequencer plays back too slow/fast	<ul style="list-style-type: none"> The playback tempo of the music sequencer follows the current tempo setting. Press the MODE button until the TEMPO LED lights up, then simultaneously press the DOWN and UP buttons to play back the recording at its original tempo.
The tuning of the instrument does not match the tuning of other instruments	<ul style="list-style-type: none"> Check the settings in the EDIT menus $E1$ and $E2$ and adjust them if necessary, as described in chapter 5.5.3 and 5.5.4. Standard setting: 440 Hz, equal tuning.
Key velocity does not work properly	<ul style="list-style-type: none"> Check whether one of the LEDs above the KEYS button is lit. If necessary activate the dynamic response of your choice by pressing the KEYS button (see chapter 3.1). Some sounds do not respond to key velocity (see chapter 9.2).
When the instrument is switched off all settings are lost	<ul style="list-style-type: none"> When first switched on, the piano always uses the default settings. To save your personal settings please set the memory function as described in chapter 5.5.5.
The piano does not play back notes received via MIDI IN	<ul style="list-style-type: none"> Set the receive channel on which the piano is to receive MIDI data in the EDIT menu $E7.2$, as described in chapter 6.3.3.
The piano does not transmit MIDI data via MIDI OUT	<ul style="list-style-type: none"> Set the transmit channel, on which the piano is to send MIDI data, in the EDIT menu $E7.1$, as described in chapter 6.3.3. Demo and music sequencer data are not transmitted via MIDI.
The piano does not respond to all MIDI commands	<ul style="list-style-type: none"> The piano supports only those commands listed in the MIDI Implementation Chart. Be sure that the device sending MIDI data and the piano do not have a MIDI filter activated (see chapter 6.3.3).
The piano sounds strange	<ul style="list-style-type: none"> Check whether one of the LEDs above the SPECIAL button is lit, i.e. whether a modulation effect is active. If so, press the button until all LEDs are off, i.e. no effect is active. Perhaps you have selected two sounds at the same time. Press one of the sound buttons in the TONE section to select a single sound.
The display shows Err	<ul style="list-style-type: none"> An internal error has occurred. Switch the instrument off, wait for about 30 seconds, then switch it back on. If the error message shows again, please contact your BEHRINGER support desk. Further information can be found at: behringer.com.

8. Specifications

Keyboard	
88 weighted keys with hammer action (A-1 to C7)	
Sound Generation	
RSM (Real Sound Modeling) dynamic stereo sampling	
Polyphony	
64 notes max.	
Sounds	
14	
Effects	
Room effects	4 types (CHAMBER, CONCERT, CHURCH, THEATER)
Modulation effects	4 types (CHORUS, FLANGER, TREMOLO, DELAY)
Sequencer	
Type	2-track
Memory	1 Song, approx. 10,000 notes
Pedals	
3 (soft-, sostenuto-, damper)	
MIC IN	
Connector	XLR, balanced
Phantom Power	15 V
AUX IN	
Connector	1/8" TRS jack
LINE IN	
Connectors	RCA jacks, unbalanced
Impedance	approx. 10 k Ω
LINE OUT	
Connectors	RCA, unbalanced
Impedance	approx. 100 Ω , unbalanced
Max. output level	+7 dBu
Phones	
Connectors	1/4" TRS jack, 1/8" TRS jack
Max. output level	+13 dBu/120 mW @ 100 Ω load
MIDI	
Connectors	IN, OUT, THRU

USB	
Connector	Type B
Converter	16-bit
Sample Rate	48 kHz
MIDI	IN, OUT
Audio	Stereo In/Out

Amplifier	
Output power	2 x 40 W

Power Supply	
Mains voltages and fuse values	100 - 120 V~, 50/60 Hz T 2,50 A H 250 V 220 - 230 V~, 50/60 Hz T 1,25 A H 250 V
Power consumption	approx. 135 W

Dimensions/Weight

EG2280USB	
Dimensions (H x W x D)	34.65 x 55.31 x 20.67" 880 x 1,405 x 525 mm
Weight	151.7 lbs / 68.8 kg

EG8280USB	
Dimensions (H x W x D)	33.2 x 54.3 x 39.6" 843 x 1,378 x 1,005 mm
Weight	199.7 lbs / 90.6 kg

EN 9. Appendix

9.1 Cables

Below you will find an overview of all cables you need to connect your digital piano. The cables are not supplied with the piano. Depending on the intended use, adapter cables will be necessary to interface the various connectors. You can use adapter cables or plugs (e.g. 1/4" to RCA). Cable adapters are better than adapter plugs, as the latter may affect the signal quality due to insufficient contact of the plugs with each other.

9.1.1 Unbalanced 1/4" cable

Unbalanced 1/4" cables are equipped with a 1/4" TS plugs at each end. They are used to connect external keyboard amps and devices with 1/4" outputs (e.g. synthesizers, drum computers) to the EG2280USB/EG8280USB.

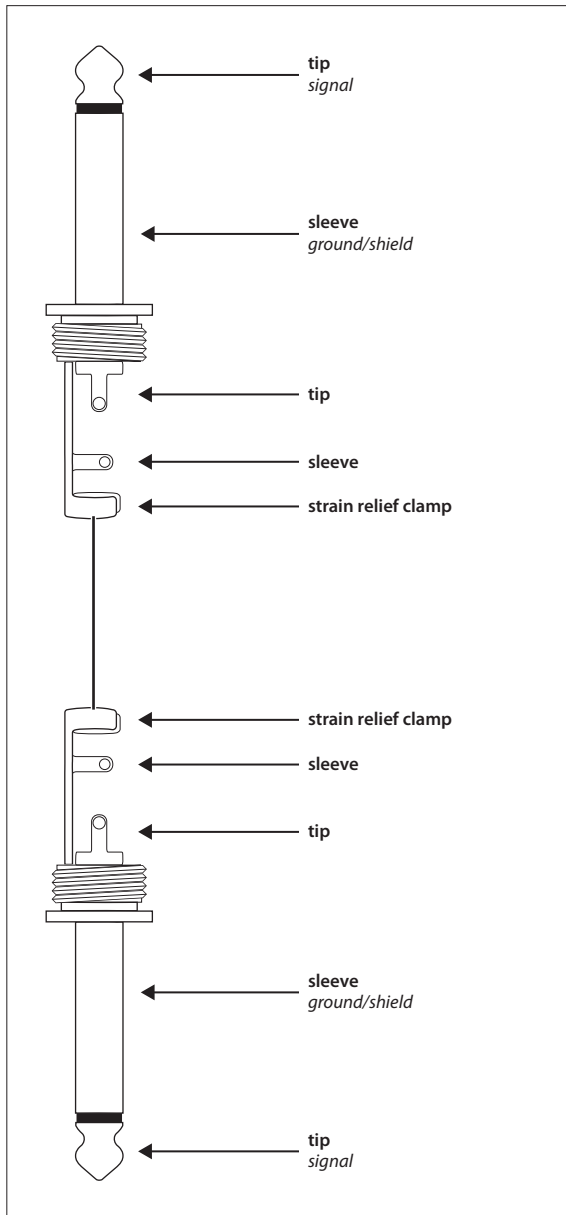


Fig. 9.1: Unbalanced 1/4" cable with 1/4" TS plugs

9.1.2 RCA cables

RCA cables are often used for hi-fi applications to connect CD players, MD recorders and other devices to home stereo systems. You will need this type of cable to connect the EG2280USB/EG8280USB to hi-fi recording equipment. Usually, these cables are supplied in pairs to form one stereo cable. The plugs are in most cases red (right) and white (left). Make sure that the wiring between recording device and EG2280USB/EG8280USB follows this color code, so as not to mix up the left/right signals.

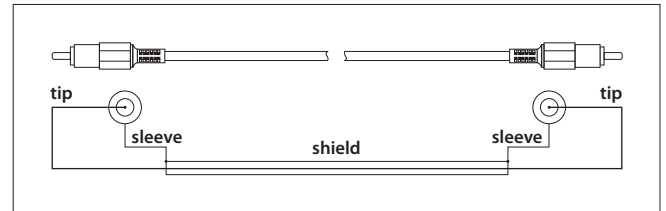


Fig. 9.2: Hi-fi RCA cable

9.1.3 1/4" to RCA cable

1/4" to RCA cables are required for connecting a hi-fi playback device (e.g. CD player) to the EG2280USB/EG8280USB. As an alternative, you can also use an unbalanced 1/4" cable with an appropriate RCA adapter.

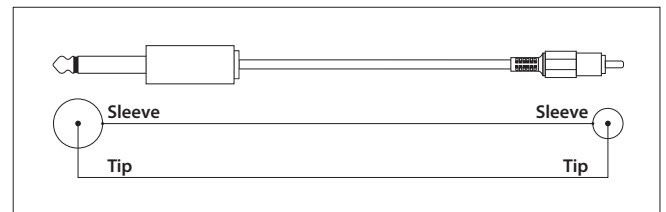


Fig. 9.3: 1/4" to RCA cable

9.1.4 MIDI cables

MIDI cables are required for connecting MIDI equipment. These cables have a 5-pin DIN plug at each end. Be sure to use cables marked as MIDI cables (wiring as shown), since there are also similar cables with a different wiring available for hi-fi equipment. MIDI cable lengths should be as short as possible. Avoid cable lengths exceeding 10 m, as these could lead to errors during the transmission of signals.

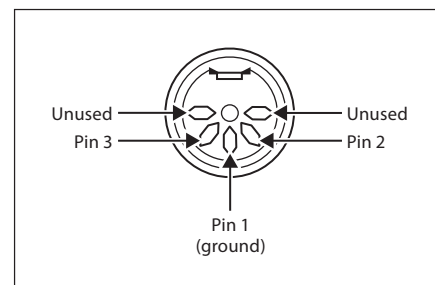
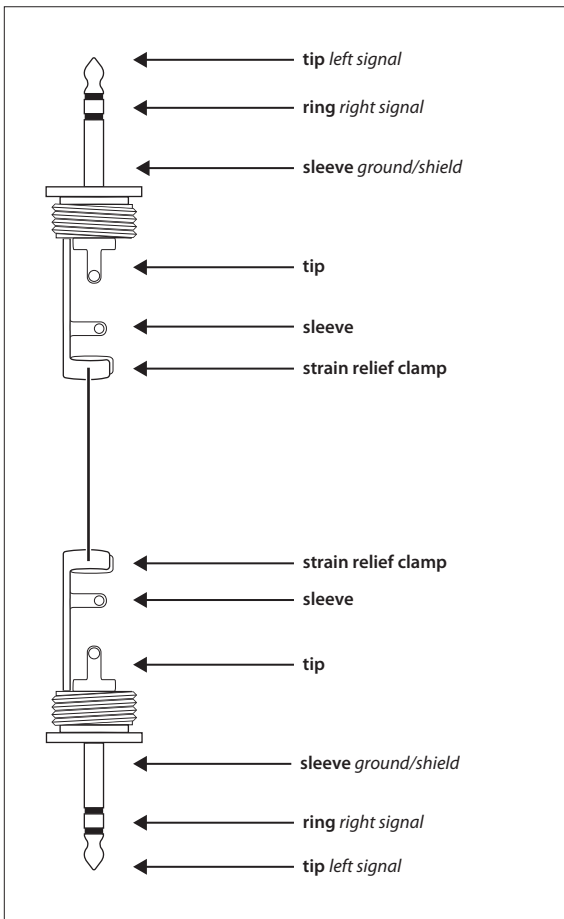


Fig. 9.4: MIDI plug pin assignment

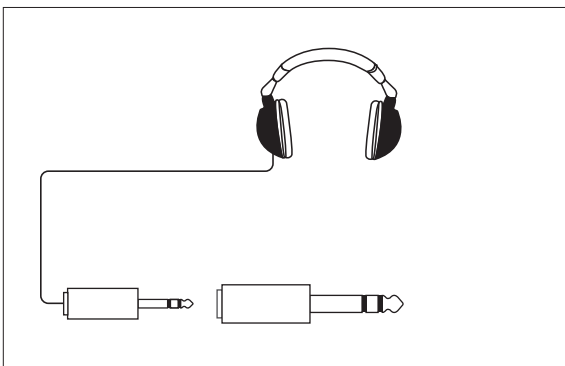
9.1.5 1/8" TRS cable

A 1/8" to 1/8" TRS cable is necessary to connect a CD or MP3 player to the EG2280USB/EG8280USB AUX IN jack. This carries a stereo signal in a single cable.



9.1.6 Headphones

The PHONES inputs of the EG2280USB/EG8280USB accept both 1/4" and 1/8" plugs. To use both jacks simultaneously, you may need an adapter.



9.2 Presets on the EG2280USB/EG8280USB

Sound	Description	Key velocity	Release samples	MIDI commands	
				MSB/LSB	Program change commands
GRAND 1	Classic sound of a concert grand piano with a soft tonal character	✓		0/122	0
GRAND 2	Brilliant sound of a concert grand piano, particularly suited to pop and rock music	✓		0/112	0
FM PIANO	Typical bell-like FM electric piano of the 80's	✓		0/122	5
VINTAGE PIANO	Nostalgic retro sound of a classic electric piano	✓		0/122	4
CEMBALO 1	Typical sound of a baroque harpsichord		✓	0/122	6
CEMBALO 2	Full dual-octave harpsichord sound		✓	0/123	6
VIBES	Extremely dynamic vibraphone sound	✓		0/122	11
CHURCH 1	Soft wooden pipe sound of a small baroque organ			0/123	19
CHURCH 2	Sound of full-size church organ with all registers			0/122	19
CLICK ORGAN	Sound of a typical jazz organ with percussive attack			0/122	16
STRINGS	Natural sound of a big string orchestra	✓		0/122	48
PAD	Soft sound of a string ensemble with slow attack	✓		0/122	49
CHOIR	Mixed choir with pitch-dependent combination of voices	✓		0/122	52
NYLON GUITAR	Sound of a classical concert guitar with a warm character	✓		0/122	24

9.3 List of demo music pieces included

No.	Piece	Composer
1	Invention no. 1, C major, BWV 772	Johann Sebastian Bach
2	Piano sonata no. 16, 1st movement, C major, KV 545	Wolfgang Amadeus Mozart
3	Piano sonata, op. 13, no. 8 "Pathétique", 2nd mvt., A flat major	Ludwig van Beethoven
4	Piano sonata, op. 49, no. 2, 1st movement, G major	Ludwig van Beethoven
5	Impromptu, op. 90, no. 2, E flat major	Franz Schubert
6	Frühlingslied ("Spring Song"), op. 62, no. 6, A major	Felix Mendelssohn Bartholdy
7	Fantasie Impromptu, op. 66, c sharp minor	Frédéric Chopin
8	Prelude, op.28, no. 15 "Raindrop", D flat major	Frédéric Chopin
9	Etude, op. 10, no. 12 "Revolution", c minor	Frédéric Chopin
10	Waltz, op. 64, no. 1 "Minute Waltz/Petit chien", D flat major	Frédéric Chopin
11	Waltz, op. 64, no. 2, c sharp minor	Frédéric Chopin
12	Liebstraum no. 3, A flat major	Franz Liszt
13	Arabesque no. 1, E major	Claude Debussy
14	Children's Corner: Golliwog's Cakewalk, E flat major	Claude Debussy
15	Maple Leaf Rag, A flat major	Scott Joplin

9.4 MIDI implementation chart

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1	1	
	Changed	1 - 16	1 - 16	
Mode	Default	3	1	Poly mode only
	Messages	X	X	
	Altered	X	X	
Note Number	True Voice	9-120, v=1-127 X	0-127, v=1-127 0-127	
Velocity	Note ON	0	0	
	Note OFF	X	X	
After Touch	Keys	X	X	
	Channels	X	X	
Pitch Bend		X	X	
Control Change	0.32	0	0	Bank select
	7	0	0	Volume
	11	0	0	Expression
	64	0	0	Damper
	66	0	0	Sostenuto
	67	0	0	Soft pedal
	91	0	0	Reverb depth
	94	0	0	Effect depth
Program Change		0	0	
System Exclusive		0	0	
System Common	Song Pos.	X	X	
	Song Sel.	X	X	
	Tune	X	X	
System Real Time	Clock	0	0	
	Commands	0	0	
Aux Messages	Local ON/OFF	X	0 (122)	
	All notes OFF	0	0 (123-125)	
	Active Sense	0	0	
	Reset	X	X	
	All sound off	0	0 (120, 126, 127)	
	Reset all ctrl	0	0 (121)	

Notes

0 = YES, X = NO

Mode 1:

OMNI ON, POLY

Mode 3:

OMNI OFF, POLY

9.5 EDIT parameter

Category	Abbreviated name	Description	Function	Values	Default setting
Tuning	Fine tuning	General fine tuning in 1/5-Hz steps	E1	427 - 453	440
Tuning	Tuning	Selection of temperament (scale)	E2.1	1 ... 7	1 (equal temper)
	Basic note	Selection of basic note of temperament	E2.2	c ... b	c
Layer mode	Volume	Volume ratio of voice #1 vs. voice #2	E3.1	0 ... 20	-∞
	Detune	Detuning of voice #1 vs. voice #2	E3.2	-10 ... 10	-∞
	Octave transposition voice #1	Octave position of voice #1	E3.3	-1, 0, 1	-∞
	Octave transposition voice #2	Octave position of voice #2	E3.4	-1, 0, 1	-∞
	Effect intensity voice #1	Portion of voice #1 volume channeled to the effect	E3.5	0 ... 20	-∞
	Effect intensity voice #2	Portion of voice #2 volume channeled to the effect	E3.6	0 ... 20	-∞
	Reset	Reset of layer mode settings	E3.7	-	-
Soft pedal	Function	Function of soft pedal: 1) soft pedal, 2) music sequencer	E4.1	1, 2	1
	Effect	Intensity of soft pedal on sound	E4.2	1 ... 5	3
Metronome	Volume	Volume of metronome click	E5	1 ... 20	10
Sequencer	Dimmed volume	Volume of the muted track in music sequencer mode	E6	0 ... 20	0
MIDI	Transmit channel	MIDI channel on which MIDI data are transmitted	E7.1	1 ... 16, OFF	1
	Receive channel	MIDI channel on which MIDI data are received	E7.2	ALL, 1-2, 1 ... 16	ALL
	Sound generator (Local on/off)	Enables/disables the built-in sound generator for keyboard data	E7.3	ON, OFF	ON
	Program change	Accept or ignore program change data (send/receive)	E7.4	ON, OFF	ON
	Controller commands	Accept or ignore controller commands (send/receive)	E7.5	ON, OFF	ON
	Transposition	Transposition of notes during MIDI transmission	E7.6	-12 ... 12	0
	Control panel settings	MIDI transmission of all current settings (dump)	E7.7	-	-
	Music sequencer data	MIDI transmission of music sequencer data (dump)	E7.8	-	-
Save	Sounds	Permanent saving of sound settings	E8.1	ON, OFF	OFF
	MIDI	Permanent saving of MIDI settings	E8.2	ON, OFF	OFF
	Tuning	Permanent saving of transposition and tunings	E8.3	ON, OFF	OFF
	Soft pedal	Permanent saving of soft pedal settings	E8.4	ON, OFF	OFF

*Default settings depend on the selected sound combination

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION



Responsible party name: **MUSIC Group Services USA, Inc.**
Address: **18912 North Creek Parkway,
Suite 200 Bothell, WA 98011,
USA**
Phone/Fax No.: **Phone: +1 425 672 0816
Fax: +1 425 673 7647**

EUROGRAND EG2280USB/EG8280USB

complies with the FCC rules as mentioned in the following paragraph:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Important information:

Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.



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