KEYBOARDPARTNER UG

HX3 Drawbar Expander Version 5 (Firmware version 5.3)

HX3 Drawbar Expander is a tonewheel organ emulation with all B3 features in compact desktop format, creating the legendary unmatched HX3 sound. Controlled via MIDI, it offers selectable CC-sets for various keyboards. Unlimited polyphony, presets, parameters tweakable by simple menus. In addition, General MIDI sounds like piano and strings are available.

As an option (extended licence required), the new HX3 RealOrgan engine is capable of emulating all electromagnetic organs including the famous H100, combo organs, concert organs of the 70s and 80s like Böhm Orchester and Wersi Helios. This implies up to 15 harmonics, up to 12 drawbars per manual with individual mixtures, including phasing rotor (WersiVoice), mechanical and electronic keying available simultaneously. ADSR envelope available on all drawbars, also H100 percussion and "Harp Sustain". Various tone generator waveforms selectable, for "cheesy" combo organs as well as fully fledged concert organs.

Features

- Compact organ emulator with two sets of drawbars plus pedal
- Authentic reproduction of generator, tapering, key contacts, percussion and vibrato by FPGA (Field Programmable Gate Array) and physical modelling
- Tunable in range of A = 433 through 447 Hz
- Extremely low internal latency of 50 microseconds Key-to-Audio. However, MIDI transmission delays are about 1 ms per note played.
- Natural key click by "rattling" contacts
- Accurate Rotary simulation with separate 122 amp output
- Dual MIDI IN for 2 separate keyboards or bass pedal
- MIDI OUT sends NI B4® compatible control codes
- LCD display and menu system
- Swell (expression) pedal and footswitch jacks
- Separate outputs for amp and rotary simulation as well as plain organ
- Connector for 11-pin Leslie® Speakers
- USB for MIDI over USB, firmware updates, and parameter editing
- Effects DSP with 3 reverb levels
- 24 voices GM Synth

Default MIDI setting is channels 1/2/3 for upper/lower/bass, MIDI CC NI B4 with Sustain on CC #64.

DC input 9 to 12V, 500 mA min., 5.5/2.1 mm plug, plus on center.

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Please read this manual carefully before using the HX3 Drawbar Expander.

Only clean with damp soft cloth. Using detergents or solvents may deteriorate finish and lettering.

Wood parts are unique, so deviations in colour and texture may occur. Maintain finish by using medium dark wood wax or wood oil. Do not allow water spills to stain into wood.

Keep packaging in case of service shipment.

Only use appropriate power supply as advised. Input voltages exceeding 15V may damage the device.

Designed for indoor use only. Do not use HX3 Drawbar Expander in moist places. Do not spill liquids or solvents into unit.

No user-serviceable parts inside. Refer to qualified technician or service representative if problems occur.

EU conformity declaration

$C\,\epsilon$

The producer/distributor

KEYBOARDPARTNER UG
Entwicklung elektronischer Musikinstrumente
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hereby declares, that the product

HX3.5 Mainboard

has been designed, produced and examined in compliance with the DIN VDE 0580 standard and in accordance with the EU Low Voltage Directive.

Following directives, standards and guidelines have been used:

EMV-Richtlinie 2004/108/EG
Niederspannungsrichtlinie 2006/95 EG
RoHS-Richtlinie 2011/65/EU

Langenhagen, August 2018

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Carsten Meyer / Geschäftsführer

1.0 Jack Connections

HX3 Drawbar Expander connectors on back panel, left to right:

- **SWELL PEDAL** ¼" stereo jack. Expression pedal input is compatible with Yamaha FC-7 and similar expression pedals (direct connection preferred for speed/accuracy, but may also be remote controlled by MIDI control change, controller 11). Plug connection: Sleeve = ground / potentiometer start, ring = potentiometer tap, tip = potentiometer end.

- **FOOT SWITCH** ¼" stereo jack. Single or double footswitch controls simulated rotary speed as well as external rotary cabinet speed: SLOW/FAST on plug tip, RUN/STOP on plug ring. Please use latching foot switches; momentary (button type) switches are not supported. If single footswitch is used, Rotary is always on RUN (no plug ring, input grounded by plug sleeve).

- **MIDI IN 1** Accepts MIDI data from master keyboard 1 or bass pedal

- **MIDI IN 2** Accepts MIDI data from master keyboard 2 or bass pedal

- **9V DC** Use stabilized DC wall wart 9 to 12V with at least 500mA current output, inner/outer plug diameter 2.1/5.5 mm on DC input jack. Polarity: Plus on inner tip.

- **BASS** Separate audio output for bass pedal sound

- **MAIN** Plain Organ output, as sent to external Leslie speaker

- **AUDIO 1/L** Audio output left channel of internal rotary simulation

- **AUDIO 2/R** Audio output right channel of internal rotary simulation

- **USB** USB B-type connector for MIDI over USB, for updates and configuration by *HX3.5 Editor* application.

- **MIDI OUT** Sends MIDI data of HX3 Drawbar Expander's own controllers

- **HEADPHONE** Stereo output of internal rotary simulation, headphone amplifier

- **ROTARY STATUS** 3 LEDs indicate status of external Leslie ®, green = on, red = slow, yellow = fast

- **EXTERNAL ROTARY** Standard 11-pin Leslie® speaker connector

1.1 Volume Control

Output level of all output channels is controlled by **Master Volume** rotary knob or MIDI CC #7 "Volume", whichever occurs last.

Organ's **swell pedal** position is controlled by an expression pedal or MIDI CC #11 "Expression", whichever occurs last. The loudness curve is similar to the swell pedal of a classic tonewheel organ, so expression volume will not reach zero. We recommend connecting an expression pedal **Yamaha FC-7** or similar (1/4" jack, 10k to 47k total resistance) directly to the HX3 module.

MIDI CC #11 and #7 may be altered via menu to any valid MIDI CC Number.

2. Panel Buttons

HX3 drawbar expander has two sets of drawbars for upper and lower manual as well as pedal and pedal sustain drawbars, and a set of 16 buttons. LED-illuminated buttons control main organ functions as found on a real B3:

- **Perc ON** toggles percussion on/off. When on, drawbar 1' is cancelled (see *No DB1 @Perc* parameter below to change cancelling behaviour)

- **Perc SOFT** toggles normal/soft percussion. Drawbar volume is muted in "normal" position

- **Perc FAST** toggles slow/fast percussion decay

- **Perc 3RD** toggles 2nd and 3rd percussion harmonic

Similar to Hammond® console organs, drawbar volume is muted in "normal" position to emphasize percussion effect. Muting level in "normal" position may be changed by menu.

- **VIBRATO UPPER** toggles vibrato on upper manual on/off

- **VIBRATO LOWER** toggles vibrato on lower manual on/off

Rotary buttons control both internal rotary simulation as well as a Leslie® speaker connected to 11-pin socket simultaneously. Rotary simulation may be controlled by footswitch or panel buttons alternatively. A flashing LED indicates rotary speed.

- **ROTARY RUN** toggles rotary motors on/off

- **ROTARY SPEED** toggles slow/fast rotary speed

Six vibrato/chorus variations are set by 4 buttons:

- **VIBRATO V1** sets vibrato/chorus depth 1 (shallow)

- **VIBRATO V2** sets vibrato/chorus depth 2 (medium)

- **VIBRATO V3** sets vibrato/chorus depth 3 (deep)

- **VIBRATO CHORUS** toggles between vibrato and chorus mode. Vibrato setting does not have any effect if VIBRATO UPPER and VIBRATO LOWER are both off.

- **REVERB I** and **REVERB II** select 3 different reverb settings and reverb off. Press I and II simultaneously to select reverb III.

- **CONFIG A/B** selects the pedal signal insert point before or after the Preamp simulation. In many cases it is desirable to limit the overdrive effect to the manuals.

- **CONFIG SPLIT** sets keyboard split mode on or off. See **3.2.1 Split Configuration** for details.

3.0 Menu Panel

On power on, the **presets/drawbar menu** is present. Pressing the rotary knob twice briefly will let you return to the presets/drawbar menu from any other menu position. The menu entry count depends on licence and menu configuration.

The menu is either brief (better suitable for live performance) or elaborate (offering many parameters for fine tuning). Configure the menu to desire by using the HX3.5 Editor and running either the script "config.ini" for the brief version or "config_a.ini" for the elaborate version. In the following description the parameters that show up only in the elaborate menu are marked by the symbol "(a)".

Turn the rotary know to select overall **Common Presets** 0 to 15. Overall presets consist of voice numbers for upper manual, lower manual, and pedal, tab switch settings (percussion, vibrato etc.), volume and 122 tube amp gain as well as all other sound defining parameters, except rotary run/fast/slow. LEDs show current percussion and vibrato setting.

Press rotary knob once briefly to scroll through the menu. Up/down arrows are white (active) and parameter arrow is outlined (inactive) in this mode. Press rotary knob again briefly to change an entry. A white "<" arrow indicates the selected entry that may be altered.

Alternatively you may use the up/down buttons to step through the menu (autorepeat when you keep the button pressed).

Turn the rotary knob counterclockwise (or press the down button) to access upper (U), lower (L) or pedal (P) **Voice Presets**.

40 voices (0 … 39) are available for each manual and pedal. Voices 0 to 15 contain the organ drawbar settings. Voices 16 to 39 select a General MIDI (GM) preset. GM presets may be predefined by use of the HX3.5 Editor application.

Common Presets only contain the Voice Preset number of each manual, not the drawbar setting itself. This allows for saving a voice number from 16 up (GM voice) on a particular manual to a Common Preset.

Scrolls upwards in the menu to the **TubeAmp Gain** setting. TubeAmp Gain sets volume of the internal rotary tube amp simulation from 0 to full (overdriven tube amp). The simulated Amp will get into decent saturation on increased swell amount and higher gain values as seen on 'real' amps. Amount of distortion is controlled by swell pedal.

A "*" star appears on the display, if a parameter value has been changed and now differs from the stored preset. To **store** values as **preset**, keep the encoder knob pressed until the prompt "Saved to Preset #XX" appears on the display. ("XX" representing the current preset number). Parameters tagged by the letter "D" in the display may be stored **as defaults**. These parameter settings will be applied to all other presets as well.

Voice settings will be stored along with the overall preset. Drawbar settings are being saved as voices under the same number, while GM instruments will retain their selected numbers. You may select any stored voice by choosing its number in the voice menu, and then modify the voice as you like and play it live or store it again along with an overall preset.

3.1 Menu Upper/Lower/Pedal

Menu entry count depends on selected basic organ model (default: B3). Other organs (H100, Böhm/Wersi, Versatile Electronic Gating, Conn Single Note Generator, CheesyCombo) are available with extended licence only. Navigate to **Organ Model** in the menu to alter the basic organ model. On B3 and Combo organ models, mixture drawbars are not active.

Starting from the preset/drawbar menu turn the rotary know counterclockwise (or press the down button) to navigate to the voice settings for upper manual, lower manual, and pedal. The white „<" arrow points to the selected manual.

- **DrbXXXXXXXXXXX** - voice menu, shows upper/lower or pedal drawbar settings as numbers 0 … 8 (here represented as "X") for 12 drawbars (9 harmonics plus 3 mixtures). Turn the rotary knob to alter a voice setting. To alter individual drawbar settings, step further in the menu.

3.1.1 Upper Manual

Scroll upwards, starting from the preset/drawbar menu, to navigate to percussion, vibrato und drawbar settings for the upper manual. Drawbars settings will be saved as voice presets for the upper manual.

3.1.1.0 B3 Organ Model

- **Organ Model** selects basic organ model

3.1.1.0 H100 Organ Model

- **UpperDB Mix1 to UpperDB Mix3** – mixture drawbar settings for upper manual. Mixtures consist of up to 3 higher harmonics in individual levels. Please note: As opposed to the original H100, HX3.5 provides three mixtures instead of two.
- **Perc/2ndV Vol** – controls percussion and 2nd voice volume.
- **H100 HarpSust** - activates Harp Sustain effect, 4' harmonic decays after key has been released
- **H100 2ndVoice** – selected percussion harmonics will not decay. As on H100, all percussion voices are bypassing the vibrato circuit. If drawbar voices are on vibrato and 2nd Voice is active, this will yield a nice chorus effect.
- **Perc/EG Mask** – selects harmonics to enter the percussion/2nd Voice circuit. Each "o" symbol represents a single harmonic from 16' to Mixture 3. An underscore indicates the harmonic to be changed. If activated, the "o" symbol is filled white.
- **Organ Model** – selects basic organ model

3.1.2 Lower Manual

Scroll downwards - starting from the preset/drawbar menu - to navigate to the vibrato und drawbar settings for the lower manual. Drawbars settings will be saved as voice presets for the lower manual.

Menu entry count depends on selected basic organ model (default: B3). Other organs (H100, Böhm/Wersi, Versatile Electronic Gating, Conn Single Note Generator, CheesyCombo) are available with extended licence only. Navigate to **Organ Model** menu to change basic organ model.

- **LowerDB Mix1 to LowerDB Mix3** – (non-B3 organs only) mixture drawbar settings for lower manual. Mixtures consist of up to 3 higher harmonics in individual levels. Please note: As opposed to the original H100, HX3.5 provides three mixtures instead of one.

3.1.3 Pedal

Pedal drawbars including ADSR setting are saved to active pedal voice preset.

- **Pedal Attack** - changes pedal ADSR envelope attack time.
- **Pedal Decay** - changes pedal ADSR envelope decay time
- **Pedal Sustain** - changes pedal ADSR envelope sustain level
- **Pedal Release** - changes pedal ADSR envelope release time (often called string bass "sustain" on other organs)
- **Pedal Harmonc** – sets harmonic breakup of individual harmonics over time. Set to lower values to obtain a „picked bass" effect.

3.2 Defaults Group

Step downwards to navigate to various default settings; change to desired value by turning incremental encoder knob. Save changes to current overall preset by pressing knob for more than 2 seconds.

- **ToneTrimPot** – mimics TONE pot on simulated AO28 amp; well, a little bit more on high values.
- **TubeAmp Insrt** – activates 122 amp simulation, otherwise amp is bypassed. TubeAmp Gain has no effect if off.
- **SpkrSim Insrt** – activates rotary cabinet simulation, otherwise horn/rotor simulation is bypassed (recommended for use of external rotary cabinet).
- **Reverb Lvl 1** reverb amount of reverb program 1
- **Reverb Lvl 2** reverb amount of reverb program 2
- **Reverb Lvl 3** reverb amount of reverb program 3
- **Transpose** – allows transposition by up to +24 or -24 half note steps. Notes beyond 5 octave limits of console organ will not produce any sound due to accuracy of physical model.

3.2.1 Split Configuration

Keyboard split default is "pedal mapped to lower manual" on first 25 keys (console organ pedal range, two octaves). Default split modes may be changed by menu:

- **Split Manual** – switches split mode on or off.
- **Split Mode** – default split setting on power-up, engaged when split set to ON.
  - o 'PedalToLower', map pedal to lower manual up to split point
  - o 'LowerToUpper', map lower to upper manual up to split point
  - o 'PedalToUpper', map pedal to upper manual up to split point
  - o 'LowerToU +1', map lower to upper manual up to split point, transpose lower +1 octave
  - o 'LowerToU +2' map lower to upper manual up to split point, transpose lower +2 octave
- **Split Point** – sets split point (when split is on) as key number (24 is second „C" on manual).

Split point and split mode may also be changed by one of the following procedures:

- Pedal to Lower: Press a **single key** on lower manual key while switching SPLIT on to obtain a custom split point (useful for playing pedal bass lines on dual manual keyboards without bass pedals).

- Lower to Upper: Press a **single key** on upper manual while switching SPLIT on to map lower to upper manual up to this key (useful for playing 16' bass lines or 4' backing chords on single manual keyboards).

- Pedal to Upper: Press **two keys** simultaneously on upper manual while switching SPLIT on to map pedal to upper manual up to highest of both keys pressed (useful for playing pedal bass lines on single manual keyboards without bass pedal).

- Lower to Upper +1: Press **three keys** simultaneously on upper manual while switching SPLIT on to map lower to upper manual up to highest of all keys pressed. Lower notes range is transposed one octave up (useful for left-hand 8' backing chords on single manual keyboards).

- Lower to Upper +2: Press **four keys** simultaneously on upper manual while switching SPLIT on to map lower to upper manual up to highest of all keys pressed. Lower notes range is transposed two octaves up (useful for left-hand 16' backing chords on single manual keyboards).

3.2.2 Generator Group

- **TG WaveSet** (a) – selects harmonic content of tone generator. Will be changed according automatically with organ model selection, but may be overridden by this menu:
  - **0…3** – B3, clean to rich harmonics (new to old organ), increasing harmonic distortion on lower notes
  - **4** – Clean LSI/transistor sine generator
  - **5** – Sawtooth-like tone
  - **6** – Squarewave-like tone
  - **7** – Cheesy Combo organ

- **TG CapSet** (a) – sets tone generator age and characteristic:
  - 1955 (very aged caps, mellow sound)
  - 1961 (aged wax caps, jazz-type sound)
  - 1972 (new "red" caps, rock-type sound)
  - Recapped (more aggressive)
  - Straight (no tapering, equal loudness)
  - Cheesy (emphasises higher notes)

- **TG Gears Tune** – sets organ generator tuning in range from A = 433 through 447 Hz

- **TG Flutter** (a) – adjusts tone generator "sloppyness" (spring clutch tension, bearing precision).

- **TG Leakage** (a) – sets tone generator leakage (crosstalk noise of adjacent notes, "growl")

- **ContSpringFlx** (a) – adjusts key contact spring flex, affects click frequency

- **ContSpringDmp** (a) – adjusts key contact spring damping, affects click length

- **No DB1 @Perc** – enables 1' drawbar cancelling when percussion ON (as original B3®)
- **DB16 Foldback** – controls foldback behaviour on 16' lowest octave. Foldback is configurable in 4 settings:
  - foldback with full level,
  - foldback with muted level (original B3 behaviour),
  - no foldback ("all way down") with full level (like H-100®) or
  - no foldback ("all way down") with muted level.

3.2.3 Preamp Group and Misc.

Along with ToneTrimPot (see above), adjusts behaviour and response of the emulated AO28 preamp chassis and transformer/tube saturation.

- **Swell Type** – controls preamp loudness behaviour on swell pedal changes:
  - Hammond AO28 ("deep" loudness curve)
  - Böhm/Wersi (shallow loudness curve)
  - Linear
- **SwellTrimCap** – adjusts organ output volume like the trim cap in B3 swell pedal control. Higher values add more punch and output transformer saturation effects.
- **AO28 TubeAge** – controls emulated AO28 preamp tube aging (higher triode distortion k2 in 12BH7 output stage).

3.2.4 Commons Group

- **MIDI Channel** – sets MIDI base receive channel 1 to 10 (upper manual, lower manual is on +1, pedals on +2).
- **MIDI Option** – sets MIDI routing behaviour to:
  - Local Tx – own MIDI events are sent on MIDI OUT
  - Inp 1 Thru – MIDI IN 1 is routed to MIDI OUT as THRU
  - Inp 2 Thru – do not use
  - USB InThru – USB MIDI IN is routed to MIDI OUT as THRU
- **MIDI CC Set** – sets recognized MIDI CC set to
  - NI B4 d3c - Native Instruments B4, Doepfer d3c controller (default),
  - VoceDrawbar,
  - KeyB/Duo,
  - Hamichord,
  - Hammond XK,
  - Hammond SK (Note: Hammond changed MIDI CC set between XK and SK series, so try out which will fit)
  - BoehmSempra (full MIDI implementation of all parameters, see MIDI documentation)
  - Custom CC (not implemented yet).
- **MIDI Swell CC** – sets accepted swell/expression CC number (default #11).

- **MIDI VolumeCC** – sets accepted overall volume CC number (default #7).

3.2.5 Vibrato Group (a)

Detailed modelling of scanner vibrato features lots of adjustable parameters. Avoid randomly changing parameters; they are intended for real organ enthusiasts – you should know what you're doing.

- **Scanner Gears** – adjusts scanner drive gear and thereby vibrato frequency.
- **Scanner Leak** – adjusts leakage of higher notes in scanner compartment due to parasitic capacitances.
- **VibCh ModFac** – adjusts amplitude modulation caused by delay line on all vibrato/chorus knob settings.
- **VibCh PreEmph** – adjusts treble increase when vibrato/chorus is switched on. Effect on chorus is obvious, while increase on Vibrato is more subtle.
- **VibCh Reflect** – sets amount of reflected signal on LC linebox due to aged caps. Higher values lead to a ‚celeste'-like effect as found on model M100.
- **VibCh Respons** – sets upper frequency response of LC linebox.
- **Ch LineboxLvl** – adjusts ‚wet' modulated amount when in chorus mode.
- **Ch BypassLvl** – adjusts ‚dry' unmodulated amount when in chorus mode.

3.2.6 Percussion Group (a)

- **PercNormLvl** – adjusts percussion level in PERC ON, NORMAL tab setting.
- **PercSoftLvl** – adjusts percussion level in PERC ON, SOFT tab setting.
- **PercLongTm** – adjusts percussion decay rate in PERC ON, SLOW tab setting (higher value = faster).
- **PercShortTm** – adjusts percussion decay rate in PERC ON, FAST tab setting (higher value = faster).
- **PercMuteDB** – sets drawbar muting amount while in Perc NORM. No mute will happen if value set to 125.
- **PercPrecharge** – sets percussion circuit recovery time; if set to lower values, staccato notes yield muted percussion.

3.2.7 Rotary Group (a)

- **HornSlowTm** – Rotary simulation horn revolution time when set to SLOW
- **RotorSlowTm** – Rotary simulation rotor revolution time when set to SLOW
- **HornFastTm** – Rotary simulation horn revolution time when set to FAST
- **RotorFastTm** – Rotary simulation rotor revolution time when set to FAST
- **HornRampUp** – Rotary simulation horn acceleration from SLOW to FAST.
- **RotorRampUp** – Rotary simulation rotor acceleration from SLOW to FAST.
- **HornRampDown** – Rotary simulation horn brake time from FAST to SLOW.

- **RotorRampDown** – Rotary simulation rotor brake time from FAST to SLOW.
- **Rotary Throb** – Rotary simulation "throb" modulation factor
- **Rotary Spread** – Rotary simulation stereo spread (width).
- **Rotary Balnce** – Rotary simulation volume balance horn/rotor.

3.3 Updates/Scripts

Update installation instructions and firmware images are made available through our HX3.5 Github repository on https://github.com/keyboardpartner/HX35. For your HX3.5 Drawbar Expander, use file *UPDATEDrawbar Expander.zip* and follow instructions given on the Github page.

- **Setup File** – Selection of an update oder setup script from a SD card. For details please see http://wiki.keyboardpartner.de/index.php?title=HX3.5_DSP-Updates

3.4 Factory Reset

To retrieve the factory defaults, press the MenuPanel encoder knob when powering on until "Factory Reset" prompt appears, then confirm by pressing "up" button. Note: A factory reset will void your presets.

3.5 Serial Numbers and Licences

HX3 is protected against forgery by licence numbers. If not set appropriately after firmware update, HX3 will refuse to work after 2 minutes. Licences may be re-installed at any time. Please contact KeyboardPartner to obtain a valid licence key. We need your serial number (issued on startup and by *HX3 Editor* application) to generate new licences for you.

4.0 MIDI Control

HX3 Drawbar Expander accepts MIDI key on/off events (default: channel 1 to upper manual, 2 to lower manual, channel 3 to bass pedals) as well as various MIDI CCs with selectable compatibility sets. MIDI dynamics slightly influences key click noise. SysEx data is always ignored. HX3 drawbar expander has 2 independent MIDI inputs for connection of two master keyboards or keyboard and bass pedal. MIDI OUT on Extension board (optional) transmits all MIDI CC controller data according to NI B4 standard, independent of selected MIDI receive CC set.

HX3 expander may be remote-controlled via given MIDI CC set, but some settings are available via menu system only. If a valid MIDI CC command is received (despite expression/volume changes) for current MIDI CC set, MenuPanel will briefly show the changed parameter.

Connect MIDI out of your MIDI controller or master keyboard to HX3 MIDI input. HX3 does not introduce any audio latency, so delays are only due to MIDI transmission.

Since MIDI is a one-way interface, HX3 cannot determine the setting of any MIDI controller value until you touch/use it once. As default, all HX3 controllers are OFF. Do not use any controller button or drawbar unless HX3 is ready to accept its data; it is a good idea to power up HX3 first and later your MIDI master keyboard or master controller.

A valid MIDI CC received will override HX3's own analog controllers and switches until they are touched again. If you use your HX3-attached swell pedal, any MIDI expression message will be

overwritten. Otherwise, by not using the directly attached swell pedal, MIDI expression messages are accepted.

Note: Some MIDI controllers as well as organ keyboards (like Hammond® XK and SK series) allow 2nd and 3rd harmonic percussion ON at same time. HX3 implementation regards "2nd ON" as "Percussion ON" tab in this case.

5. HX3 Apps

HX3.5 Editor for Windows application is a convenient way to update or maintain your HX3 Drawbar Expander. It allows for firmware and sound engine updates, parameter tweaking and preset setup for experienced users.

Programs and complete documentation are available through our wiki pages on

http://wiki.keyboardpartner.de/index.php?title=HX3.5_Main_page

Join the HX3 community at http://forum.keyboardpartner.de

6. How to …

How do I store drawbar settings as preset?

Once you have adjusted the drawbars just keep the rotary knob pressed until "Saved to Preset #XX" appears on the display. ("XX" representing the current preset number). Drawbar settings are stored as voice along with the overall preset carrying the same number.

Voices may be selected individually by their numbers. Alter the voice number to recall other drawbar settings for the manual the voice is assigned to, while all other settings will remain unchanged as stored in the preset. If you recall the preset the voice will regain its former settings.

How do I copy a stored voice to another preset?

In the menu, select the voice to be copied. Keep the rotary knob pressed until "Save Voice to Preset #XX" appears on the display. ("XX" representing the target preset number). Turn the rotary knob to select the target preset number to desire. Press the rotary knob until "Saved to Preset #XX" appears on the display.

How do I copy a stored preset to another preset?

Press the rotary knob twice to navigate to the preset/drawbar menu. Keep the button pressed until "Save Preset #XX to #XX" appears on the display. ("XX" representing the current preset number and the target preset number, respectively). Turn the rotary knob to select the target preset number. Press the rotary knob until "Saved to Preset #XX" appears on the display.

How do I access the General MIDI instruments?

In the menu, select the voice for the manual you wish to assign a GM instrument to. Turn the encoder knob to select a voice number in the range of 16…39. These are the available GM voices, which may be preassigned using the HX3.5 Editor. You may store the selected GM voice as preset just like the drawbar settings. However, the GM voice will retain its voice number.

How do I store my TubeAmpGain setting as preset?

You may store the TubeAmpGain setting as well as any other effect parameters as part of the active preset by simply keeping the rotary encoder knob pressed until "Saved to Preset #XX" appears on the display. ("XX" representing the current preset number). However, Rotary Motor ON/OFF and Rotary FAST ON/OFF are always live and not part of a preset.

In which way does the live preset 0 differ from other presets?

Traditionally, the live preset 0 is not a real preset, but instead applies the current "live" settings of the drawbars and control switches. This is also true for the HX3 Drawbar Expander that is controlled by an external keyboard via MIDI. If you select a preset different from 0, your live settings will remain stored. If you return to preset 0, the live settings will be recalled and the current drawbar settings will be applied. In addition to that, the HX3.5 preset 0 preserves other parameter settings, which are cannot be set "live" by drawbars or other controls. It also determines the power-up settings.

KEYBOARDPARTNER UG

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